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Measuring and Explaining Subjective Well-being in Korea

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| Preface |

Subjective well-being has attracted more and more attention among researchers, policy makers, and the public in recent years. Many researchers advocate using subjective well-being measures as an important index of human well-being, complementary to material well-being measures. Some countries such as the United Kingdom have already started to do it. The Korean government also places the happiness of Korean citizens at the top of its main agenda.

This study is the first comprehensive investigation into subjective well-being in Korea based on the vast majority of available data. It shows a clearer and fuller picture of Korea's subjective well-being, including its past and current status, its distribution over time, cohorts, and regions, and its determinants. It can increase the understanding of Korea's subjective well-being among the public and policy makers, and attract more researchers to move forward along this way. It might also offer a starting guide towards concrete and specific policy uses for subjective well-being data.

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Joon-Kyung Kim
President of KDI

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Summary

Subjective well-being has attracted sharply increasing attention among researchers and policy makers in recent years. The public also pays a lot of attention to it, evidenced by the heavy use of the word “happiness” in media. Some researchers argue that subjective well-being measures should serve as important and reliable measures of human well-being, complementary to the more traditional, more material well-being measures such as Gross National Income (GNI). The *World Happiness Report 2012* and *2013* strongly support the idea. The Organization for Economic Co-operation and Development (OECD) published *Guidelines on Measuring Subjective Well-being* in 2013 to help governments planning to measure subjective well-being, and to provide standards for how it is done. The Korean government seems to move in this direction: One of the main agenda of the government of Korea is to increase the happiness of each citizen. However, there is no comprehensive study on Korea’s subjective well-being to guide policy makers. For example, Korea is often labeled as an unhappy society, as reported by media and perceived by the public, based on some scattered evidence. Is it true? Existing studies do not provide a clear answer. This study is the first comprehensive investigation into subjective well-being in Korea. We aim to show a clearer and more complete picture of Korea’s subjective well-being, including its past and current status, its distribution over time, cohorts, and regions, and its determinants, based on the vast majority of available data. We then offer a few tentative policy suggestions. There are six chapters in this report. The main points are summarized as follows.

In the first chapter we discuss the three broad categories of subjective well-being measures: life evaluations, emotions (or affect, i.e., hedonic well-being), and meaning of life (eudaimonic well-being). We argue that subjective well-being data provide important, valid, and reliable measures of human well-being, complementary to more traditional material well-being measures. We also explain why life evaluations provide the richest and most informative means of comparing life in different communities and countries. We then review a few sources on measuring subjective well-being in Korea. We compare the sample size and time periods of each category of subjective well-being measures for each survey, and find out that the data often differ in terms of types of question, the scales used for answers, and the time coverage. Though all surveys have questions on some form of life evaluation, many of them have limited coverage on emotional well-being and eudaimonic well-being. Moreover, the coverage of time periods is often very short.

In the second chapter we place Korea's subjective well-being levels and changes in an international context using the Gallup World Poll survey data. The subjective well-being measure used is the Cantril ladder, a type of life evaluation. We find that in recent years Korea's happiness is not as low as often perceived. The Korean average ladder score in 2010-2012 is 6.27, on the 0 to 10 point scale, 41st among the 156 countries. Among the 34 OECD countries with survey data in the same period, Korea ranks 24th, slightly lower than Czech Republic but higher than Japan. Though Korea's happiness is still much lower than the top countries', such as Denmark's (7.69), this is not very surprising considering its level of GDP per capita and other happiness-supporting factors. Moreover, we find that Korea has achieved a significant improvement in happiness in recent years. Korea experienced an increase of 0.73 points on the 0-10 point scale from 2005-2007 to 2010-2012, the ninth largest increase among the ranked countries in the *World Happiness Report 2013*.

In the third chapter we look into more details of subjective well-being in Korea. We present the facts on time trends, variations by age and cohort, and the regional distribution of life satisfaction in Korea. The data we use for this chapter are drawn from the Korean Labor & Income Panel Study (KLIPS). KLIPS is a nationally representative

longitudinal survey of the labor market and income activities of households and individuals in urban Korea. Consistent with the pattern of increasing happiness found in Chapter 2, we find that the average life satisfaction in Korea rose by 0.52 points on the 1-5 point scale from 1998 to 2012. This increase is about 18% of the 1998 level. We find that as people grow older (in the meantime economy is also growing, between 1998 and 2012), people in all age cohorts are becoming happier as they age. The phenomenon that older respondents are less happy at any given year (or all years pooled together), is mainly driven by the fact that each new age cohort is systematically happier than its predecessor. We thus infer that while the improved conditions of life are sufficient to permit average members of every cohort to increase their life satisfaction as they age, some significant fraction of the total gains in living conditions flows more to those in the younger cohorts. We also study the correlations between macroeconomic variables (including national income measured by GDP per capita, unemployment and inflation) and life satisfaction at both national and regional levels. We find that GDP per capita is about 3 times as important as unemployment and the latter is about twice as important as inflation. We also find that the three macroeconomic variables well explain the trend of life satisfaction rather than the cross-region variation.

In the fourth chapter we identify several important factors, both economic and non-economic, that are closely related to subjective well-being in Korea. Three repeated cross-sectional datasets, including the World Values Survey, Gallup World Poll, and Asian Barometer, are used for the cross-sectional analysis. Consistent with other studies in various regions and countries, household income is an important determinant of individual subjective well-being. Education is also a very important factor supporting happiness. The quality of government institutions is another important factor in citizens' happiness. Feeling safe, having less corruption in government, being able to enjoy a good welfare system, and having freedom in life choices all contribute to a high happiness level, and all these experiences require effective efforts by government. It is also noteworthy that social trust and pro-social behaviours such as helping strangers, making donations, volunteering are significantly and positively correlated with individuals' subjective well-being.

In the fifth chapter we examine the determinants of subjective well-being in Korea using a panel survey, the KLIPS. In addition to looking into trends of overall life satisfaction as we have done in the third chapter, we extend our analysis to people's satisfaction with several domains of life. We find that satisfaction with income, leisure activities and social relations all have risen rapidly for most cohorts over time, similar to the pattern of life satisfaction. The rapid evolution of economy and society over the last decade and a half appears to have led to major gains in life satisfaction in large part due to income changes, in addition to improving social relations and leisure options. Under our specification of individual and regional effects at the province or city level, Korea fits a pattern found elsewhere in which the negative psychological spillovers of generally high incomes act as a social cost on others, apparently reducing the overall benefit of income growth. Importantly, we looked for consistency and variation in the pattern of estimated effects for different groups in the population. It appears that marriage may, overall, still be a less good deal for women than men. More significantly, the transition to widowhood for women who outlive their husbands appears to be a highly positive outcome for the survivors. We suspect that this might represent the social and economic inequality across genders in the older generation. We also study the impact of private tutoring on parents' and children's happiness and find some suggestion of positive effects on future outcomes for tutored children, along with possible strong negative spillover effect of the expenditure.

In the last chapter we briefly summarize the main ideas of former chapters and provide some policy recommendations. As for measurement, we recommend the implementation of a comprehensive survey measuring all the dimensions of the subjective well-being in a consistent way, with large sample size, and for a long period in Korea, so that we could better understand the distribution of happiness over regions, time, and age groups and explore factors influencing happiness, to support more informed policies. We also suggest collecting data for the supporting factors of subjective well-being, especially those non-economic factors such as personal and community-level social connections, as well as social and political trust, which are closely correlated with subjective well-being but are often missing from current surveys. As for macro-

economic policy, we think government might try to lower the unemployment rate at the cost of inflation, since unemployment has a larger impact on happiness than inflation. Policies encouraging firms to adopt “burden-sharing” during economic difficulties might be one choice. From the study we find that the old cohort needs more care. Their life evaluations are lower than the younger cohort, and do not increase as fast as those of younger cohorts. Evidence of gender inequality may suggest a range of policies; for example, the domestic burden on women who are caring for their elderly husbands needs attention from social support systems and from new policies.

In summary, we try to show a clear and encompassing image of Korea’s subjective well-being in this report. Naturally, this report can only offer a starting guide towards concrete and specific policy recommendations, but we hope it at least can increase the understanding of Korea’ subjective well-being among the public and policy makers, and attract more researchers to move forward along this way.

CHAPTER 1

Measuring Subjective Well-being: Theory and Practice in Korea

John F. Helliwell and Shun Wang

1. Introduction

Over the past century, for a mixture of reasons, economics has come to be mainly concerned with, and guided by, purely material measures of progress. This need not have been so. One broad and long-taught definition of economics describes it as the search for the best ways of making use of scarce resources. Over the past century, there has been too little systematic consideration of what ‘best use’ might be, and too ready recourse to narrow definitions of economic efficiency. Even where welfare has been the primary focus of attention, the measures of sources and distribution of well-being have emphasized monetary income and consumption of goods and services.

About the same time as Easterlin (1974) was first proposing that measures of subjective well-being should be used to measure the quality of human progress, Nordhaus and Tobin (1972) were commencing their influential work attempting to improve and broaden the national income accounts to move towards a more appropriate Measure of Economic Welfare (MEW). These are quite separate issues, as was still evident more than thirty-five years later in the influential Sarkozy Report (Stiglitz, Sen and Fitoussi, eds. 2009), where both issues: the need for welfare measures beyond the economic, and the need to improve the welfare basis of the national accounts of income and expenditure, were

augmented by the need to measure and account for long-term sustainability to form the three main poles of their report.

In this chapter we will discuss recent research using subjective well-being measures to evaluate the quality of life and examine the available data on subjective well-being in Korea. The rest of this chapter is organized as follows. We first introduce the ways of measuring subjective well-being in Section 2. In Section 3 we discuss the reliability of subjective well-being measures. In Section 4 we show how different types of measures may be used for different purposes. In Section 5 we review the practices of measuring subjective well-being in Korea. In the last section we draw the conclusions.

2. How Can Subjective Well-being Be Measured?

Among various measures of subjective well-being, the primary distinction to be made is between cognitive life evaluations (represented by questions asking how happy or satisfied people are with their lives as a whole), and emotional reports.¹ Early modern attempts to classify different types of subjective well-being in psychology have also made a distinction between two types of emotional reports: positive affect (a range of positive emotions) and negative affect (a range of negative emotions).² The primary distinction between life evaluations and emotional reports continues to be accepted today. It is also accepted³, although less generally⁴, that measures of positive and negative affect carry different information, and need to be separately measured and analyzed. How does happiness come into this classification? For better or worse, it enters three ways. It is sometimes used as a current emotional report - ‘How happy are you now?’, sometimes as a remembered emotion, as in ‘How happy were you yesterday?’, and very often as a form of life evaluation, as in ‘How happy are you with your

1 Kahneman *et al.*, eds. (1999) and Kahneman and Krueger (2006).

2 e.g. Andrews and Withey (1976), Diener (1984).

3 Cohen *et al.* (2003), Lyubomirsky *et al.* (2005), Schimmack (2003), Wiest *et al.* (2011).

4 Russell and Carroll (1999).

life as a whole these days?’ People answer these three types of happiness question differently, so it is important to keep track of what is being asked. The good news is that the answers differ in ways that suggest that people understand what they are being asked, and answer appropriately. Thus when people are asked about their happiness now or yesterday, the answers are closely correlated with current activities and events in people’s lives today or yesterday. By contrast, when people are asked how happy they are with their lives a whole these days, their answers match very closely the answers to other similar evaluations of life as a whole.⁵

2.1. Building the Case for Measuring Subjective Well-being

Although forty years have passed since Richard Easterlin (1974) first advocated using measures of happiness to assess the quality of people’s lives⁶, systematic collection and use of subjective well-being data at the population level have been slow to follow.⁷ In the meantime, several decades of research, mainly in psychology, have dug deeper into the meaning, reliability, and validity of various measures of subjective well-being. The results of this research strongly support wider collection and use of subjective well-being data.⁸

Why has it taken so long for subjective well-being to become more widely and routinely measured as part of the statistical base for public information and decision-making? One reason is that in the absence of

5 This is shown by the similarity between the European Social Survey happiness and life satisfaction data in Figures 2.7 and 2.8 of the first *World Happiness Report*, and between life satisfaction and the Cantril ladder in the Gallup World Poll, in Helliwell *et al.* (2010) Table 10.1.

6 See Easterlin (1974). Empirical welfare functions based on measures of domain satisfaction data were being estimated about the same time in Europe, e.g. van Praag (1971).

7 Ed Diener has estimated that in 1984, when he entered the field, ten years after Easterlin’s first paper was published, there were 50 publications on subjective well-being, compared to 12,000 in 2013.

8 For surveys and examples, see Stiglitz *et al.* (2009), Diener *et al.* (2009), Krueger *et al.* (2009), and Layard (2010).

some crisis in existing ways of collecting and using information, people tend to simply and often unconsciously⁹ apply and use information and decision rules that have served them well in the past.¹⁰ It took many decades to establish national systems of accounts for income and expenditure, and even then the developments were often driven by the imperatives of wars or depressions, and the meaning and uses of the data were frequently contested. Hence it should be no surprise that it has taken many years to raise baseline awareness to the point where widespread official and private collection of subjective well-being is happening.

Nor should it be surprising that there are many skeptical questions posed about what the data mean and whether they are useful. We consider a number of these in the following section.¹¹

3. Are Subjective Well-being Measures Reliable?

Within psychology, reliability is gauged by the extent to which the same questions yield identical answers when administered in the same conditions. This replicability of subjective well-being measures has been tested in a variety of ways, all of which combine to produce a reassuring picture.¹² For example, between-survey correlations of life evaluations asked of the same person in a sequence of surveys start high,¹³ and fall

⁹ Bilalić *et al.* (2008).

¹⁰ Nickerson (1998).

¹¹ This material is adapted and updated from Helliwell and Wang (2012), Chapter 2 of the first *World Happiness Report*. We have made extensive use of this material, and this footnote is to acknowledge this use, and to give credit to the original source, without using specific quotation marks for the phrases that are identical with those in Helliwell and Wang (2012). We have carried forward into this chapter only those parts that seem to us important to support the general argument we are making for the importance and validity of life evaluations.

¹² Diener *et al.* (2009).

¹³ Eid and Diener (2004) find that the imputed stability for life satisfaction was very high, around 0.90, when assessed three times with four weeks. Krueger and Schkade (2008) find that both life satisfaction and affective experience show a serial correlation of about 0.60 when assessed two weeks apart. Miret *et al.* (2012) find similar result for emotions in a one week window.

as the intervening time grows.¹⁴ This is just what should be expected, since underlying circumstances are more likely to have changed over a longer period. Furthermore, multi-item measures average over random errors, and hence produce higher reliability at the individual level.

At the group or national level, reliability is very high even for single-item life evaluations, since individual-level random variations and personality differences are averaged away, while the underlying year-to-year changes in average life circumstances are relatively modest. Hence the year-to-year correlations of country rankings of the ladder in the Gallup World Poll are very high, averaging between 0.88 and 0.95. Similarly the wave-to-wave country-ranking correlations of both happiness and life satisfaction in the European Social Survey are between 0.92 and 0.98. These correlations gradually drop, as they ought to do, when the comparison dates become further apart.

3.1. Are Subjective Well-being Answers Valid?

There are three quite different ways of judging the validity of happiness measures. The first is to see to what extent they are plausibly explained in terms of life circumstances and other candidate variables. The second is to assess the extent to which they are correlated with other subjective and objective measures of well-being. The third is to see whether and how the measures predict subsequent outcomes and behavior.

More than three-quarters of the cross-country differences in national average measures of happiness can be explained by variables already known through experimental and other evidence to be important. The fact that different measures of subjective well-being are explained by different patterns of other variables represents a strength rather than a weakness, because in general the differential patterns take exactly the form they should if the measures are valid.¹⁵

14 Fujita and Diener (2005) find the coefficient of correlation 0.56 in one year, falling to 0.24 over sixteen years.

15 e.g. Kahneman and Deaton (2010). A fuller explanation of the evidence supporting the validity of life evaluations is presented in Helliwell and Wang (2012, p. 17-18).

3.2. How Sensitive Are Results to Question Wording and Placement?

A well-known study¹⁶ hypothesized, following influential philosophical work on the logic of conversation, that if a general question follows a related specific one, the answer to the specific question will help set the context for the general question, and will hence be likely to influence the answer to it.¹⁷ When students in Illinois were asked about how happy they were with their recent dating experiences and how happy they were with their lives as a whole, the answers were more closely correlated when the dating experience question was asked before the general question. But when the two questions were presented as relating to one another, the ordering effect shrank to insignificance. The first part of the result has been used by some to question the reliability of subjective assessments, but the two parts seen together show that respondents are adept at seeing the conversational context and giving answers that are most useful when seen in that context.¹⁸ In addition, experiments suggest that the priming effect is fairly small, as evidenced by the strong correlation between the initial happiness report with the reported life evaluations after exposing respondents to a variety of distracting tasks and asking respondents questions on recent positive and negative life events.¹⁹

Three other examples help to show that respondents are generally able to understand the questions asked, and to give the answers requested. The first relates to subjective health evaluations. Some surveys have asked respondents to report the state of their physical health, with 0 being very poor and 5 being very good. The answers to this question always show a significant decline as age increases. The designers of one large Canadian survey, trying to be more precise, used the same response scale but asked respondents to compare the state of their health with that of others of the same age. The answers showed no

16 Strack, Martin and Schwarz (1988).

17 Grice (1975).

18 As argued by Grice (1975).

19 Sgroi *et al.* (2010).

age trend at all. This shows that respondents are able to assess the states of their own health, and to make appropriate comparisons with the age-adjusted states of health of others in the same community.

The second example comes from the Gallup Daily Poll. These data show strong day-of-week effects for affect questions that apply specifically to ‘yesterday’, but no daily patterns for life evaluations.²⁰

The third example shows the reality and importance of context and ordering effects, but also shows that they can be accounted for without losing the information content of survey responses. Each year the Canadian General Social Surveys changes focus (with topics repeating on a five-year cycle). In those years where the focus is on time use, with many questions about the incidence of time crunch, life satisfaction answers are systematically lower, by about 0.3 on the 0 to 10 scale.²¹ Since the same question is asked every year in the Canadian Community Health sample, it is easy to prove that this GSS shift is indeed context-driven, since it has no echo in the health survey data.

This context dependence has been considered by some as evidence against the use of survey data to represent the quality of life. There is, however, a reassuring answer to this worry. When the data from the different rounds of the GSS are used to find the likely correlates of well-being, they all show remarkably similar patterns. So much so that it is preferable to enlarge the sample size by pooling data from the different waves. It is also possible to correct time series with an allowance for the estimated contextual effects.

There has also been a substantial literature testing and assessing order effects, with one meta-analysis of 16 studies showing small effects.²² But they can in some cases be dramatically large, as recently found in the Gallup-Healthways US Daily Poll.²³ Split samples showed that respondents who were asked about their attitudes to government (which were very negative at the time) immediately before the ladder question gave significantly lower answers (by almost 5%), than when

20 Helliwell and Wang (2014).

21 See Bonikowska *et al.* (2013).

22 Schimmack and Oishi (2005).

23 See Deaton (2012) and Agrawal and Harter (2011).

the political questions were absent, or were separated from the ladder question by some less upsetting buffer questions. This effect is very large relative to the modest changes in national average happiness that would normally happen from day to day or year to year, even during a major recession. These results are very useful in demonstrating three points. First, the day-to-day and year-to-year changes in national average subjective well-being are likely to be very small relative to the differences across individuals, communities and nations. Second, although incomes are important supports for life evaluations, their effects are relatively small compared to other factors, especially in terms of national average changes from one year to the next. Third, shared changes in sentiment, whether triggered by question order or changes in the stock market, can have large effects on average scores. The daily frequency of the Gallup-Healthways poll, and Gallup's use of split samples, made it easy to spot and correct the issue, and to convince others to test for question order and other framing effects.

Framing effects are important, but they exist for behavior as much as for survey answers. For example, experiments showed that student subjects exhibited some modest tendency (less than 7%, but nonetheless greater than the 5% noted in the previous paragraph) to mark in their own favour, but had no tendency to cheat if they had previously been asked to write down as many as they could remember of the Ten Commandments.²⁴ All human behavior, whether evidenced by thought, opinions or action, is influenced by the social norms and contexts in which people live. This does not diminish the validity of subjective answers, but does show the need for careful and experimental data collection, and demonstrates the advantages of large and repeated samples.

3.3. Can Happiness Be Compared across Individuals, Nations, and Cultures?

Because the social and institutional contexts are such central supports for well-being, we would expect to find corresponding differences in

²⁴ Mazar *et al.* (2008), experiment 1.

reported well-being across communities, nations and cultures. But what about cultural differences in response styles, so that people in different cultures might report different answers to the same question, even if in other respects their life quality is the same? If these differences in the interpretations of questions, or in response scales, were very large, they might affect subsequent judgments about where and why subjective well-being is higher.²⁵

More generally, it has been argued that for a broad range of psychological findings, conclusions are based on experiments undertaken using WEIRD subjects (those from Western, Educated, Industrialized, Rich Democracies), and do not represent fully what happens in the much larger populations in other countries and cultures.²⁶

Thus it is important to assemble data from different cultures and nations in ways that permit researchers to make judgments about the validity of cross-cultural comparisons in happiness. One basic check, once comparable data are assembled, is to see to what extent answers drawn from different nations and cultures appear to be influenced by the same factors. The cross-national commonality of the correlates of life evaluations is substantial.²⁷ Studies show that “Average self-reported happiness varies considerably across nations. These differences cannot be denounced as mere measurement bias, nor can they be explained as a result of cultural differences in the evaluation of life. The observed differences in happiness rather denote that not all societies meet universal human needs equally well.”²⁸

An example may help to show the potential difficulties of cross-cultural comparisons, and also how different measures can provide cross-checks that increase the overall power of the evidence. Sometimes the choice of one term rather than another can have big effects on international comparisons.²⁹ For example, the Gallup World Poll questions on positive and negative affect ask people whether or not they

25 Oishi (2010) and Oishi *et al.* (2009).

26 Henrich *et al.* (2010).

27 As shown in Figure 10.3 of Helliwell *et al.* (2010).

28 Ouweneel and Veenhoven (1991) and Veenhoven (2012).

29 For collaboration in the preparation of the Danish example, we are grateful to Kjartan Andsbjerg, Jon Hall, Eva Jespersen, and Meik Wiking.

‘experienced the following feelings during a lot of the day yesterday...’. The available answers are either ‘yes’ or ‘no’, and the emotions included happiness, which in the case of the Danish survey was rendered as ‘Lykkefølelse’ a term understood by most Danes as happiness at almost a giddy or exultant level. The combination of the zero/one scale, the question’s reference to ‘most of the day’, and the fairly extreme form of happiness connoted by the term meant that only 63% of Danes answered ‘yes’, significantly below the global average of 70%, putting Denmark in 102nd spot out of 156 countries. This is in sharp contrast with the ladder life evaluations, where Denmark ranks at the top, and also some other positive emotions yesterday, such as enjoyment (at 89%) and laughter (at 77%) where Denmark is far above the global averages and very near the top of the global rankings. Evidence from the European Social Survey (ESS) speaks to the same point. The ESS asks about both happiness and satisfaction with life, and uses the same Danish word for happiness that the Gallup World Poll does. For the ESS countries on average, happiness with life is significantly above satisfaction with life, while the reverse is true for Denmark.³⁰ This suggests, consistent with the Gallup evidence, that the Danish word connotes a more intense form of happiness than do the corresponding terms used by the survey for other countries.

Our interpretation of this example is to note that when anomalous rankings arise, they are often due to specific circumstances of vocabulary and question wording. Although, as we have shown, differing linguistic choices can materially affect average answers, and hence influence international comparisons, these effects can be explained and accommodated. This is because the availability of multiple measures and question forms usually reveals an internal consistency among the answers to alternative questions, thus increasing our confidence in the

30 The overall ESS means (n=180,000) are 6.81 (se=0.006) for SWL and 7.16 (se=0.005) for happy with life. The corresponding means for Denmark (n=6000) are 8.48 (se=0.019) for SWL and 8.34 (se=0.018) for happy with life. Despite the fact that the SWL and happy with life distributions have different means, they tell consistent stories about what produces better lives, so much so that the most empirically robust explanations are provided by averaging the two scores.

ability of respondents to consistently assess their emotions and life experiences.

3.4. How Much Do Aspirations and Standards Change?

Endowment effects, changing aspirations, adaptation, and relativities pose complications rather than road-blocks to the use of happiness data as measures of the quality of life. Life on earth has, at least on average, become much less brutish, nasty and short over the past five hundred years.³¹ The evidence for this ranges from falling murder rates to rising life expectancies. There are no long-standing happiness measures available to track these life improvements, but it would be no surprise if individual and community-level aspirations and standards have risen over the same centuries, even if at a lower rate. A summary view of the available research is that adaptation and relativities can truncate the average happiness increases that accompany human progress, that some comparison effects are helpful and others harmful to average happiness, and that both across communities and over time happiness tells a valid story.

3.5. Is There a Set Point for Happiness?

Some have argued that human capacities for adaptation are so strong that even major changes in life circumstances will have no lasting impact on subjective well-being.³² The most cited reference to this effect is a study of subjective well-being among accident victims and lottery winners.³³ Subsequent research has consistently confirmed that individuals with long-term disabilities have lower subjective well-being, to an extent that varies with the severity of the disability.³⁴ The extent to which a disability affects subsequent well-being depends not just on the

31 This is carefully documented in Deaton (2013).

32 For related survey-based empirical studies see Lucas *et al.* (2003) and Clark and Georgellis (2013).

33 Brickman *et al.* (1978).

34 Lucas (2007).

severity of the disability, but also on the extent to which patients can maintain their social connections.³⁵

Furthermore, and perhaps more fundamentally, if each individual had his or her own set point, and eventually returned to that point after any change in circumstances, there could not be such large and long-lasting international differences in subjective well-being as are shown in the Gallup World Poll. For example, average life evaluations in the top ten countries are twice as high as in the bottom ten countries, and these differences are largely explained by differences in life circumstances.³⁶ Nor would there be such a systematic U-shape in happiness over the life course for each individual, as shown in many studies.³⁷

Comparison of the happiness of identical and fraternal twins have been used to estimate the extent to which happiness depends on genetically based personality differences rather than differing circumstances. Some studies of US twins have estimated that one-third to one-half of within-country variance of happiness can be explained by genetic differences between individuals.³⁸ But at the global level, the genetically based share of differences in life satisfaction are much smaller, since life circumstances differ much more among people around the globe than among people living in the same country. Genetic differences thus have little or nothing to contribute to explaining the very large international differences in average life satisfaction, often amounting to several points on a 0 to 10 point scale.

If most inter-personal happiness differences were personality-driven, and life-evaluations returned to set-point levels after a period of adaptation, then there could be no sustained trend differences in the relative happiness of different groups within larger populations. But data from a series of Canadian General Social Surveys spanning 25 years reveals that francophone residents of Québec have had, in the decades following Québec's Quiet Revolution, steadily growing life satisfaction

35 Haslam *et al.* (2008).

36 It can be calculated from the data reported in Helliwell and Wang (2013).

37 See Blanchflower and Oswald (2008, 2009) and Stone *et al.* (2010) for reference.

38 See for example Lykken (1999) and De Neve *et al.* (2012). This share includes the role of any environmental factors that may be correlated with the genetic differences. De Neve *et al.* (2012) also identify one of the candidate genes involved (the 5HTT).

compared to residents of the rest of Canada.³⁹ The accumulated trend difference is large, equivalent in life satisfaction terms to more than a doubling of household incomes. Thus life satisfaction captures much more than temporary departures from personality-driven set points. The Quebec evidence also shows that social changes can cause sustained trends in well-being far beyond those explicable by conventional economic measures.

4. Can Subjective Well-being Research be Taken Seriously?

In most social and policy sciences, the focus of attention is on eradication of disease, crime, poverty and war. In a world where there is still so much hardship left, is it a luxury to be concerned with measuring and building happiness? The case for taking happiness seriously in a world still marked by evils of many types, is based on a belief that the science of subjective well-being provides a broad range of ways to build a better world. Happiness research is sometimes seen as being too frivolous for serious study. But there is now convincing evidence that measuring and understanding positive states of mind can suggest new routes to longer and healthier lives, above and beyond conventional medical care.⁴⁰

Another related issue, with deep philosophical roots, is the contrast between a hedonistic life spent in the pursuit of pleasure, and a eudaimonistic life aimed at achieving excellence.⁴¹ This distinction is captured in modern psychology as the difference between hedonic and eudaimonic well-being, where the hedonic approach has a focus on positive emotions and the eudaimonic approach emphasizes flourishing, meaning and purpose.⁴² Does this distinction support a skeptical view of

39 See Barrington-Leigh (2013).

40 For representative surveys of these results, see Steptoe *et al.* (2005), Diener and Chan (2011), and De Neve *et al.* (2013).

41 For more on the philosophical underpinnings of happiness research, see Bok (2010), Kenny and Kenny (2006), Nussbaum and Sen, eds. (1999) and Graham (2011, chapter 2).

42 e.g. Ryan and Deci (2001).

happiness as too frivolous? Does happiness unduly emphasize current pleasures and ignore the deeper and more fundamental aspects of life? These questions hark back to the distinction between emotional reports and life evaluations. Whether framed as questions about happiness or life satisfaction, life evaluations have been shown to take pleasures and purpose both into account, just as Aristotle suggested they should and would. This is somewhat less so for short-term emotional reports, including those on happiness. This difference can be illustrated by data available from the UK ONS well-being surveys. Four questions are asked. One asks about life satisfaction, one asks about the respondent's sense of life purpose (a eudaimonic question), and two relate to emotions yesterday: one about happiness and the other about anxiety. The results show that the eudaimonic answers are correlated with both emotional measures, but more closely to life satisfaction than to either emotion.⁴³ Even emotional reports are likely to depend on more than current pleasures. Life evaluations, whether based on happiness, life satisfaction, or the Cantril ladder,⁴⁴ are well-placed to attach an even greater weight to the deeper features of a good life.

4.1. Happiness Measures Are Part of a Larger Effort to Understand Well-being

Although there is always intrinsic interest in finding out how happy people are, such measures need to be combined with sufficient other information to build an understanding of what makes for better lives. Thus many national and international efforts to measure and promote happiness have been set within broader frameworks involving the measurement and reporting of variables that have themselves been used as indicators or supports for well-being.⁴⁵ The OECD's recent accounting for well-being in OECD countries includes many other variables.⁴⁶

43 The correlation between a sense of life purpose and satisfaction with life is $r=0.67$ ($n=329,000$) compared to $r=0.51$ between purpose and happiness yesterday and $r=-0.25$ between life purpose and anxiety yesterday.

44 See Cantril (1965).

45 For a survey, see Møller *et al.*, eds. (2008).

46 OECD (2011).

And in the United Kingdom, although most attention has been given to subjective well-being there is also recognition of the need to collect a much broader set of information relevant to the understanding and improvement of well-being.

Within the broader framework of well-being measures, what is special about indicators of subjective well-being? The distinctive feature of happiness and other SWB measures is that they allow people to report on the quality of their own lives, as shaped by their own histories, personalities and preferences. These are the most democratic well-being measures, since they reflect not what experts or governments think should define a good life, but instead represent direct personal judgments. Thus the subjectivity of happiness is to be seen as a strength rather than a weakness. The most fundamental indicator of your happiness, or indeed your pain, is what you feel, and not whether others see you smiling or grimacing, whether your family thinks you are happy or in pain, or whether you have any or all the material advantages of a good life.

When collected for a neighborhood, community or nation, subjective well-being scores can thus be seen as democratic measures of the quality of individual and community life within that geographic area. Other measures of well-being, and of the presumed supports for happy lives, can then provide the evidence required to explain why some lives, and some communities, are happier than others.

4.2. Different Measures for Different Purposes

What can be learned by measuring and tracking happiness on different time scales? Time use surveys involving the diary-based daily reconstruction method (DRM)⁴⁷ or the pager-based experience sampling methods each have their own most appropriate uses.⁴⁸ Experience sampling and diary methods can be used in complementary ways to track happiness and its correlates in the context of daily life.⁴⁹

47 Kahneman and Krueger (2006) and Krueger *et al.* (2009).

48 Csikszentmihalyi and Larson (1987).

49 Kahneman (2011), Stone *et al.* (2002).

There is a vital distinction between life evaluations (whether ladder, SWL or happiness) and emotional reports. Life evaluations, positive affect, and negative affect are ranked in that order in terms of what they tell us about the relative importance of different life circumstances, as documented by evidence from more than 150 countries in the *World Happiness Report 2013*. But for analyzing the fabric of daily life, the situation changes, with the most valuable information being provided by momentary and remembered emotions and reactions during the daily course of activities and events.⁵⁰

How do the different life evaluations compare to one another? Thanks to surveys asking two different formulations of life evaluation questions, using the same respondents,⁵¹ it has been possible to show that while the three different forms used have national average responses with different mean values, they tell structurally identical stories about the supports for a good life (so much so that they can advantageously be averaged in estimation).

Another advantage of asking several questions is that it helps to expose issues that might be problematic for a single measure. We showed earlier how multiple measures could be used to explain why the Danish ranking for happiness yesterday in the GWP, and happiness with life in the GWP, are systematically lower than for other measures asked of the same respondents. By having several measures asked in the same surveys, it becomes easier to discover and allow for linguistic and other differences that might otherwise make international comparisons more difficult.

There is a growing international consensus, as reflected in OECD (2013), that life evaluations provide the most welfare-relevant ways to measure individual well-being, and to support international comparisons. There is also agreement that these evaluations should ideally be collected in tandem with emotional reports and a range of key variables

50 Krueger, eds. (2009).

51 The European Social Survey (ESS) asks about satisfaction with life (SWL), and happiness with life as a whole, on the same 0 to 10 scale. The Gallup World Poll usually asks only the Cantril ladder life evaluation, on a 0 to 10 scale. But for almost all countries, in at least one survey round, the GWP also asked the same SWL question as used in the ESS, on the same 0 to 10 scale.

likely to be important supports for well-being, as only with that range of data available can the links between the measures be more fully understood.

5. Measuring Subjective Well-being in Korea

In this section we review the current range of survey data recording subjective well-being. We will cover one longitudinal survey, Korean Labor & Income Panel Study (KLIPS), and a few repeated cross-sectional surveys: Korean General Social Survey (KGSS), Gallup World Poll (GWP), World Values Survey (WVS), Asian barometer, and Korean Social Survey. We compare the sample size, time periods of each type of subjective well-being measures for each survey.

5.1. KGSS

The KGSS is an annual individual interview survey of Korean households conducted by the Social Research Center (SRC) at Sungkyunkwan University, Seoul, Korea. This is a nationally representative survey. The KGSS data released cover 2003 to 2010. The intended sample size for the KGSS is 2,000, with valid sample size between around 1300 and 1650 in different waves. The data contain all the three aspects of subjective well-being.

• Life Evaluations

Two questions on life evaluations were surveyed in KGSS, one for general happiness, and another for life satisfaction.

The happiness question was asked in 2007-2010, “If you to consider your life in general these days, how happy or unhappy would you say you are, on the whole?” The response to the question in 2007 and 2008 is on a 4-point scale, “1” for “very happy”, “2” for “fairly happy”, “3” for “not very happy”, and “4” for “not at all happy”. In 2009 and 2010,

the response is changed to be on a 5-point scale, “1” for “very happy” and “5” for “very unhappy”.

The life satisfaction question was surveyed in 2006, 2007 and 2009. The question is “All things considered, how satisfied are you with your life as a whole these days?” The response is on a 5-point scale, “1” for “very satisfied” and “5” for “very dissatisfied”.

- **Affect**

Survey questions on emotions were asked in both 2009 and 2010, but using different set of questions. In 2009, there are 9 questions on affect, but all for negative affect: “Over the last 2 weeks, how often have you been bothered by any of the following problems? Trouble falling asleep, staying asleep, or sleeping too much”, “Feeling tired or having little energy”, “Poor appetite or overeating”, “Little interest or pleasure in doing things”, “Feeling down, depressed, or hopeless”, “Feeling bad about yourself, feeling that you are a failure, or feeling that you have let yourself or your family down”, “Trouble concentrating on things such as reading the newspaper or watching television”, “Moving or speaking so slowly that other people could have noticed. Or being so fidgety or restless that you have been moving around a lot more than usual”, “Thinking that you would be better off dead or that you want to hurt yourself in some way”. The answer is on a 4-point scale, “1” for “not at all”, “2” for “several days”, “3” for “more than half the days”, and “4” for “nearly every day”.

In 2010, there are 3 questions on frequency of having affect, 2 for positive and 1 for negative asked together: “These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks, 1) Have you felt calm and peaceful? 2) Did you have a lot of energy? 3) Have you felt downhearted and depressed?” The response to each question is on a 5-point scale, “1” for “all of the time”, “2” for “most of the time”, “3” for “some of the time”, “4” for “a little of the time”, and “none of the time”. In addition, there is one question on stress: “People sometimes get stressed in their daily life. How stressed

do you usually get in your daily life?” The answer is on a 4-point scale, “1” for “Very much stressed”, “2” for “Not stressed much”, “3” for “Somewhat stressed”, and “4” for “Almost never stressed”.

• **Eudaimonic Well-being**

Eudaimonic well-being questions were only asked in 2009. There are 4 questions on this aspect of subjective well-being: “Please answer whether each of the following statements applies to you or not. I still have many things left to do”, “I believe I can find the purpose of life, i.e., a reason to live for”, “have future plans I am looking forward to carrying out” and “I believe that I have control over my life and destiny”. The answer to each question is either “yes” or “no”.

5.2. KLIPS

KLIPS is a longitudinal survey of the labor market and income activities of households and individuals in urban areas. It was designed to interview 5000 households and their family members (aged 15 and over). The final number of individuals successfully interviewed during the 1st Wave (1998) was 13,321. The most recent data released is for 2012. It only contains one subjective well-being measure, a life evaluation. The question is “How satisfied are you with your life in general?” The response is 1-5 point, “1” for “very satisfied” and “5” for “very dissatisfied”.

5.3. GWP

GWP is an annual global survey covering most countries in the world starting from 2005. There are 8 waves available for Korea, from 2006 to 2013. There are about 1000 nationally representative respondents surveyed for each country in each wave. As for Korea, the sample size is around 1000 for each year, except for 2000 in 2012. The data cover all the three aspects of subjective well-being.

• Life Evaluations

Two questions on life evaluations were surveyed in GWP, one for the Cantril ladder asked in each wave, and another for life satisfaction which was only asked in 2007.

The Cantril ladder question is “Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?”

The question on life satisfaction is “All things considered, how satisfied are you with your life as a whole these days? Use a 0 to 10 scale, where 0 is dissatisfied and 10 is satisfied.”

• Affect

GWP covers a large set of questions of both positive and negative affect. The question on affect is “Did you experience the following feelings during a lot of the day yesterday? How about _?” The words include those for positive affect, “happiness”, “enjoyment”, “love”, “high energy”, and those for negative affect, “worry”, “sadness”, “stress”, “boredom”, “depression”, “anger” and “fear”. There is another question on affect asking the question, “Now please think about yesterday, from the morning until the end of the day. Think about where you were, what you were doing, who you were with, and how you felt. Did you smile or laugh a lot yesterday?” The answer to the questions is either “yes” or “no”.

The data for most emotions are available in each Korean wave, except that “happiness” is missing in 2006, 2007, and 2013, “stress” is missing in 2007, “depression” is missing in 2011-2013, and “boredom” is missing in 2008-2013.

• Eudaimonic Well-being

The question on eudaimonic well-being, only asked in 2007, is “Do you feel your life has an important purpose or meaning?” The response to the questions is either “yes” or “no”.

5.4. WVS

The WVS consists of nationally representative surveys conducted in almost 100 countries using a common questionnaire. The survey, which started in 1981, focuses on beliefs, values and motivations of people throughout the world. There are 6 rounds of data available now for Korea, conducted in 1982, 1990, 1996, 2001, 2005, and 2010 respectively. Sample size in Korea is around 1,200 in each round.

The data only include questions on life evaluations, one for general happiness, and another for life satisfaction. The question for happiness is “Taking all things together, would you say you are (read out and code one answer): 1. Very happy, 2. Rather happy, 3. Not very happy, 4. Not at all happy.” The question for life satisfaction is “All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are ‘completely dissatisfied’ and 10 means you are ‘completely satisfied’ where would you put your satisfaction with your life as a whole?”

5.5. Asian Barometer

The Asian Barometer Survey (ABS) is an applied research program on public opinion on issues such as political values, democracy, and governance across Asia. Three rounds were conducted in Korea in 2003, 2004, and 2006 respectively. Sample size is designed to be 1000 in each round. Only the 2006 round includes a question on subjective well-being, equivalent to the WVS happiness question: “All things considered, would you say that you are happy these days?” The response is 1 to 5 point, in which “1” for “very happy”, “2” for “quite happy”, “3” for “neither happy nor unhappy”, “4” for “not too happy”, and “5” for “very unhappy”.

5.6. Korean Social Survey

The Korean Social Survey has been conducted annually since 1977 by Statistics Korea to measure peoples' needs and living standards so as to better inform policy decisions. It covers individuals aged thirteen and above in about 17,000 households in recent survey. The question on life evaluations is "In general, how satisfied are you with your life?" The response is 1 to 5 point, in which "1" for "very satisfied" and "5" for "very unsatisfied". The question was only included in the 2003, 2006, and 2008-2013 waves. The question on emotions was only surveyed in 2013. The question is "Through the whole day yesterday, have you felt the following emotion a lot? Please answer for each emotion." The emotions include "enjoyment", "peacefulness", "worry", "sadness". The response to the questions is either "yes" or "no".

6. Conclusions

In summary, subjective well-being data provide important, valid, and reliable measures of human well-being, complementary to more traditional material well-being measures. We already have a few sources on measuring subjective well-being in Korea, however the data differ in terms of types of question, the scales used for answers, and the time coverage. Though all surveys have questions on some measures of life evaluations, many of them have limited coverage on emotional well-being and eudaimonic well-being. Moreover, the coverage of time periods is often very short, with the major exception of KLIPS, which covers 15 years so far. Ideally we would like to have a survey measuring all the dimensions of the subjective well-being in a consistent way, with large sample size, and for a long period in Korea, so that we could better understand the distribution of happiness over regions, time, and age groups and explore factors influencing happiness, to support more informed policies.

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CHAPTER 2

Korea's Subjective Well-being in a Global Context

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1. Introduction

In this chapter we present comparable life evaluations from around the world to help situate recent Korean experience in a global context. We shall consider first the levels of global ladder scores, as presented more fully in Chapter 2 of the *World Happiness Report 2013 (WHR 2013)*. At the same time we shall consider the extent to which the large international differences in average life evaluations are explained by the six key factors identified in the *WHR 2013*, compared to an explanation based on international differences in GDP per capita. Then we shall turn to consider the size and explanation of changes in average national well-being scores following the global financial crisis of 2008. In particular, we shall first show how life evaluations have changed between the 2005-2007 base period and the 2010-2012 period data that underlie the national rankings in the *WHR 2013*. We shall at the same time consider how well these changes were predicted, both by country and by global regions, by changes in the six main explanatory factors used in the *WHR 2013*. Finally, we shall survey other possible reasons, beyond these six factors, why some countries, including Korea, have been able to maintain or even increase their subjective wellbeing during the financial crisis, while others have seen well-being drops much larger than can be explained by even their substantial losses in income and employment.

Chapter 1 has already explained why life evaluations provide the richest and most informative means of comparing life in different communities and countries, and that the Gallup World Poll provides annual

monitoring for the largest number of countries. One price of this regular sampling in more than 160 countries is that the annual sample size in each country, normally 1,000 respondents, is small enough that year-to-year changes contain a lot of sampling variance, and would change rankings among very similar countries simply because of inadequate sample size. This would suggest combining data from a number of years to get more stable and precise averages. However, we also wish to present data that are reasonably up-to-date, and also to be able to explain changes. We attempt to meet all of these needs by using three years of data, 2010-2012, in our level comparisons, thus giving a typical sample size of 3000 respondents. Changes from the pre-crisis period are then obtained by comparing the 2010-2012 levels to those based on the 2005-2007 pre-crisis surveys.

The life evaluations reported are national average answers to a question that asks each respondent to think of their life as a ladder¹, with the best possible life (for them) as a 10 and the worst possible as a 0. They are then asked to rate their lives at the present time, and subsequently to answer the same question about their lives five years previously, and to forecast a similar score for the time five years hence. Our analysis makes use of the estimates relating to life today. The same survey also asks questions about a range of positive and negative emotions relating to the previous day. These show much less systematic variation from country to country, and are much less closely related to the six factors used to explain international differences, so we concentrate here on the life evaluation data.

¹ This question is known as the Cantril ladder, as it was proposed by Cantril (1965), and described by him as the self-anchoring striving scale, since it was intended to be more centred about its mid-point than is typically the case for satisfaction with life scores. Subsequent experience has confirmed a more symmetric and centred shape for the global sample of ladder scores, with a global mean less than for Satisfaction with Life (SWL) answers from the same respondents. This does not affect the general use of SWL questions, either alone or in combination with other life evaluations, as research has shown that the different evaluations all tell the same structural story about what supports higher life evaluations (Helliwell *et al.* 2010).

2. Comparing Levels of Subjective Well-being around the World

The Korean average ladder score in 2010-2012 is 6.267, 41st among the 156 countries ranked as shown in the Figure 2.3 in the *WHR 2013*. Korea ranks 24th among the 34 OECD countries with data, as shown in Figure 2.1, which is slightly lower than Czech Republic but higher than Japan. Considering the fact that Korea's average GDP per capita (PPP adjusted, in constant 2005 international dollar) in 2010-2012 ranks 21st among the 34 OECD countries, the ladder score ranking for Korea is if anything higher than would be expected from income alone. Korea also ranks above most other East Asian economies. The top East Asian country is Singapore (in 30th position among the 156 countries ranked, with an average ladder score of 6.546). Korea is followed immediately in the country rankings by Taiwan (6.221) and Japan (6.064), and later by Hong Kong (5.523, in 64th position) and China (4.978, in 93rd position).²

Figure 2.2 shows the national average ladder scores 2010-2012 for 123 countries,³ plotted against predicted values based on six key explanatory factors:⁴ GDP per capita, social support (having someone to count on in times of trouble), healthy life expectancy, freedom to make life choices, generosity⁵ and corruption.⁶ Korea is marked by a large blue circle, and the other East Asian countries are marked with blue squares, to show how Korea fits into both the regional and global contexts. It can be seen that the six national variables together account for three-quarters of the differences among countries in their average life evaluations for 2010-2012.

2 All these data are taken from Figure 2.3 of *WHR 2013*.

3 This is less than the 156 countries ranking in Figure 2.3 of *WHR 2013* because we wish to show predicted and actual values, restricting the sample size to those countries having all of the required data.

4 See Chapter 2 of *WHR 2013* for reference.

5 As measured by the share of respondents who donated money in the past month, adjusted to remove variation caused by income differences among countries.

6 As measured by the average of answers to questions about whether the levels of corruption in business, and, separately, in government, were problematic.

Figure 2.1 | Ranking of Happiness in OECD Countries: 2010-2012

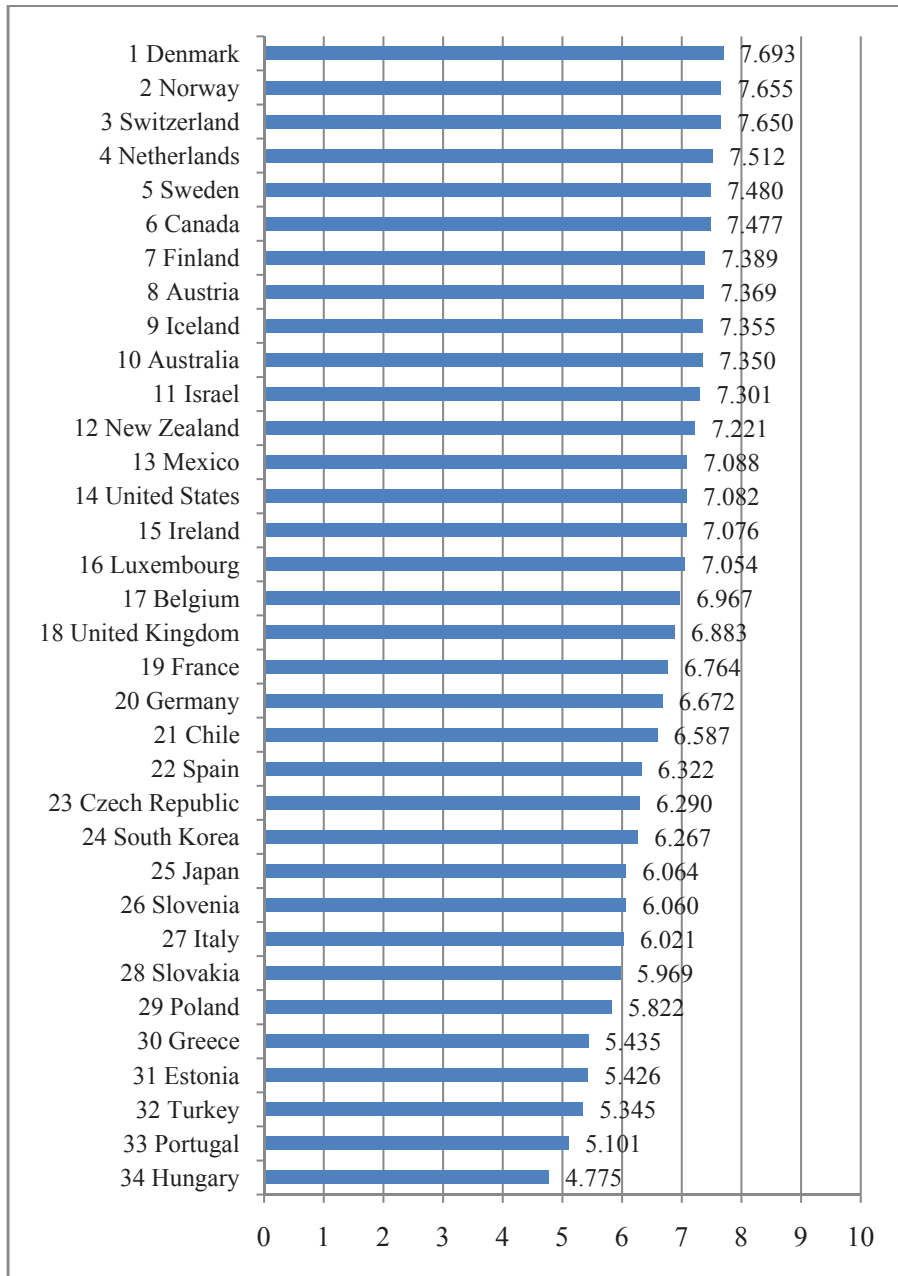
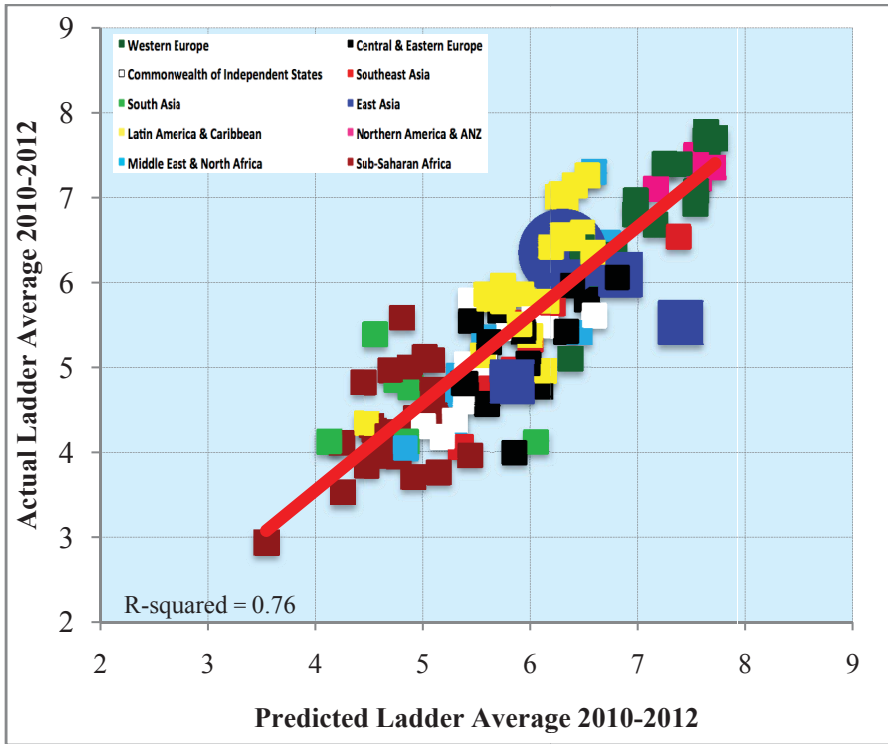


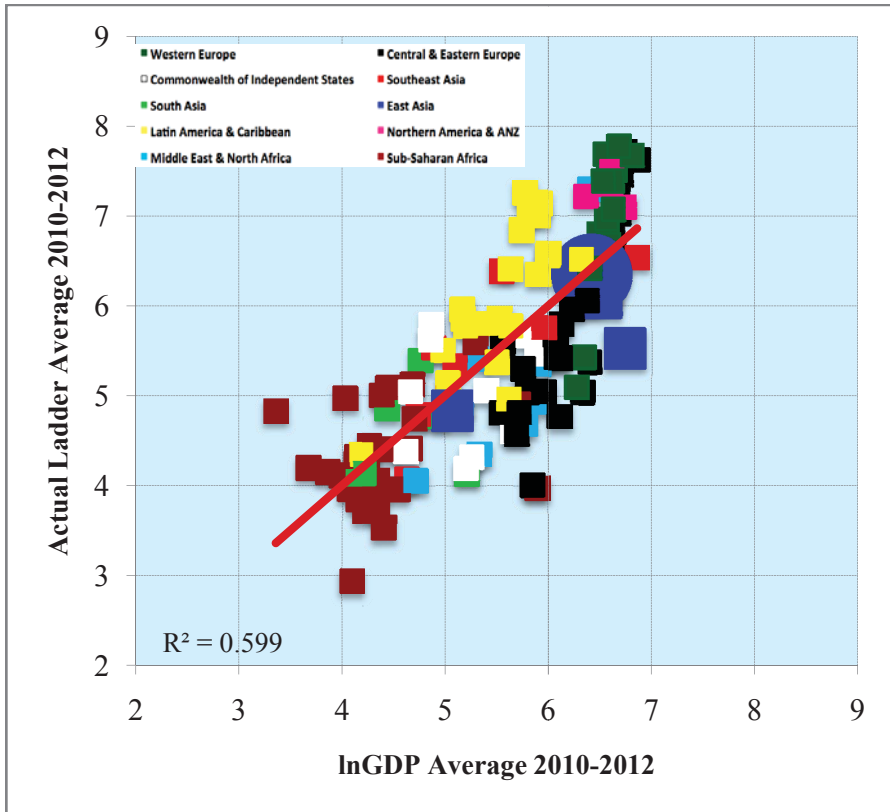
Figure 2.2 | 2010-2012 Actual Ladder vs. 2010-2012 Predicted Ladder
(6-Factor Model, 123 countries)



There are two regional differences that stand out in the data: Latin American countries (as shown by the yellow squares) tend to have average life evaluations that are slightly higher than is predicted by the six variables, while East Asian countries, with the exception of Korea, have life evaluations that are slightly lower than predicted. Korean life evaluations are higher than predicted, as shown by the blue circle.

To illustrate the differences between predictions flowing from the six variables and those based on GDP per capita alone, Figure 2.3 shows actual ladder and predicted ladder based only on log GDP per capita. The first thing to note is that the overall fit of the model is much looser when GDP per capita alone is used, with 60% of the cross-country differences explained, compared to 76% for the six-variable model. The second thing to note is that Korean life evaluations are very close to the level predicted by GDP per capita alone.

Figure 2.3 | 2010-2012 Actual Ladder vs. 2010-2012 Predicted Ladder
(Only Controlling for Log GDP Per Capita, 123 countries)



3. Comparing Changes in Subjective Well-being during the Global Economic Crisis

In Figure 2.4 we turn to consider how life evaluations have changed from their averages in 2005-2007, before the economic crisis, to 2010-2012, the more recent period for which the averages are shown in Figures 2.2 and 2.3. Remarkably, the same model used to explain cross-country differences in life evaluations also explains their changes, although understandably with less precision (about a quarter of the change is explained). Figure 2.5 shows the same changes at the level of ten global regions, adding in the countries of East Asia as separate

observations. This shows that at a regional level the six-factor model predicts almost two-thirds of the changes in average life evaluations from 2005-2007 to 2010-2012.⁷ Both Figures 2.4 and 2.5 show that Korea has had, in these Gallup World Poll data, a significant improvement in both actual and predicted life evaluations, an actual increase of 0.73 points on the 0-10 point scale, the ninth largest increase among the ranked countries.⁸ The other East Asian countries show much smaller changes, although mostly in a positive direction. China had an increase of 0.26, followed further down the list by Taiwan (+0.03) and Hong Kong (+0.01). Singapore's average ladder score was reduced between 2005-2007 and 2010-2012 (-0.09)⁹.

What might explain why some countries have shown significant increases in life evaluations even during the worst global economic recession of the past 75 years? The successful control of unemployment rate might be one answer.¹⁰ We contrasted Korea with the unfavorable outcomes for the four hard-hit European countries, Greece, Italy, Spain and Portugal (marked by red rings) in Figure 2.4. Although the four red-ringed Eurozone countries were all predicted by the six-factor model to have suffered drops in average life evaluations, the actual drops were

7 The squared correlation coefficient of 0.67 shown in Figure 2.5 is for the ten global regions, and not for the mixture of regions and countries pictured in the table. But it can be seen by inspecting the table that for the individual East Asian countries, with the exception of Korea, the model explains the changes in life evaluations very closely.

8 These calculations are based on the averages for 2010-2012. The 2010-2012 three-year average includes a value for 2011 that is almost a full point higher than for 2010 and 2012. However, using 2011-2013 would give a very similar result, since the 2013 survey average ladder score is very close to that for 2010 and 2012. If 2011 should eventually prove to be an exceptional observation, then the estimate of the Korean post-crisis happiness increase may be reduced accordingly. However, as shown in Chapter 3, other survey measures of Korean SWL, especially KLIPS, show a pattern of continuing increases after 2011 such that we might also expect higher GWP scores in 2014 and beyond.

9 All of these data are drawn from Figure 2.6 of *WHR 2013*.

10 Many previous studies show that unemployment has negative impact on happiness (Di Tella *et al.* 2001, 2003; Wolfers 2003). Our later analysis in Chapter 3 using regional panel data in Korea also supports the idea. Unemployment not only has direct impacts on those unemployed, but also has a negative well-being externality on those employed (Helliwell *et al.* 2014).

Figure 2.4 Actual vs. Predicted Happiness Changes in 130 countries, 2005-07 to 2010-12 (0 for missing values)

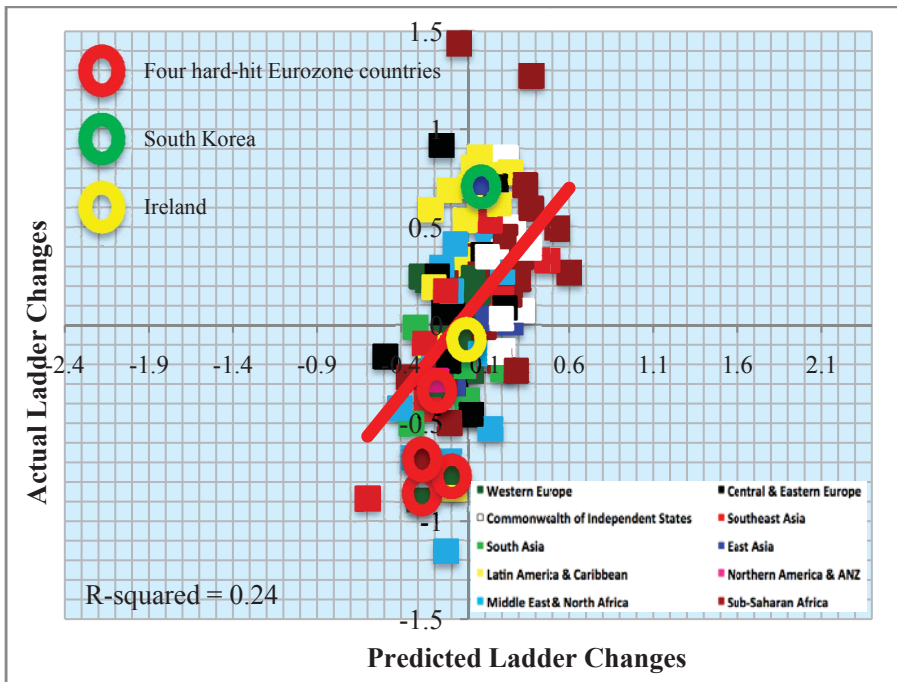
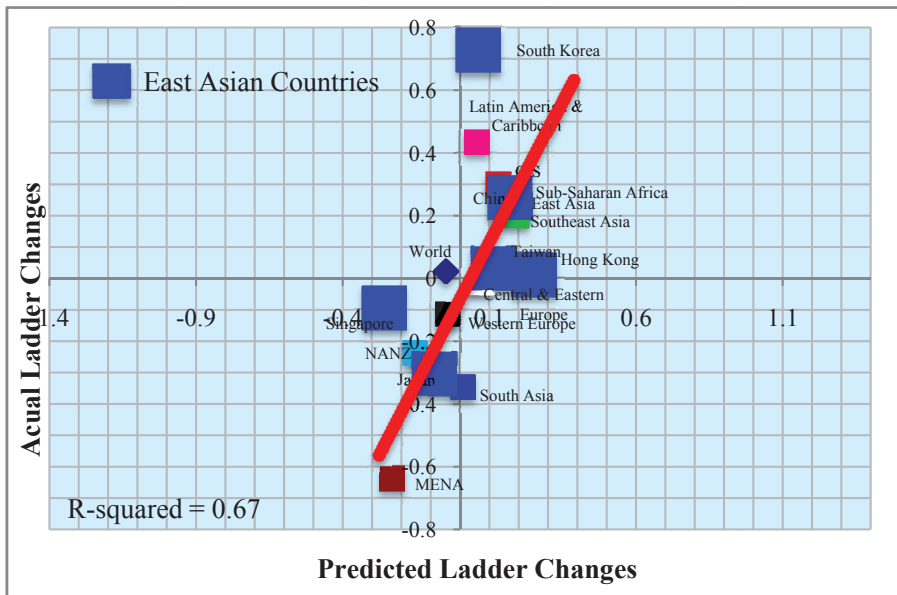


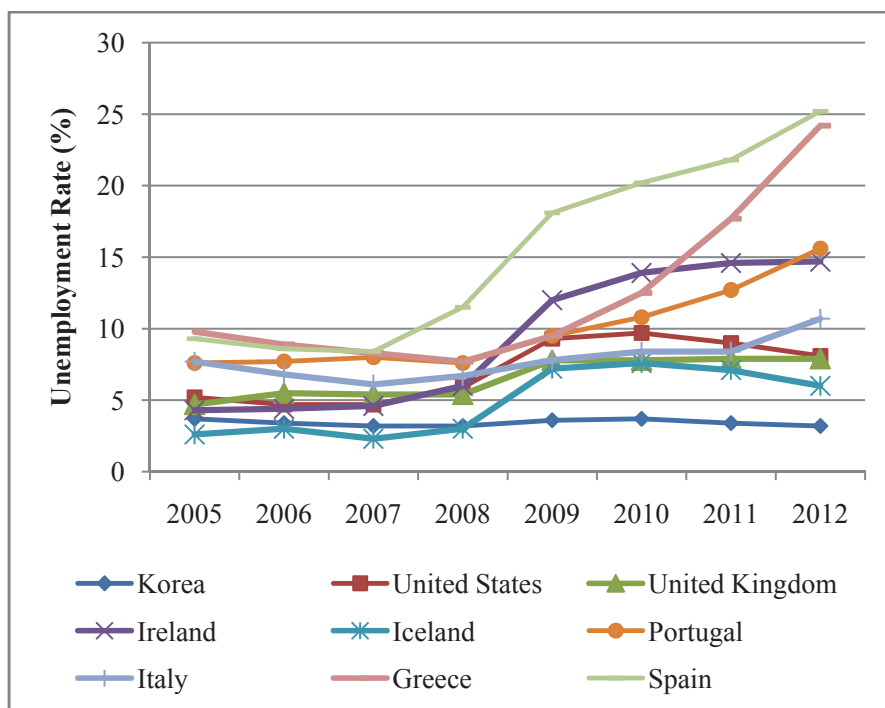
Figure 2.5 Actual vs. Predicted Ladder Changes at Regional Level



much greater than those predicted by the model. About half of this discrepancy could be traced to the happiness effects of rising unemployment¹¹, which grew significantly in each of the four countries, and is not included among the six factors.¹²

To clearly show the point, in Figure 2.6 we show the trends of unemployment rates in Korea and some selected OECD countries (United States, United Kingdom, Portugal, Italy, Greece, Spain, Iceland, and Ireland) for the period of 2005-2012. Korea continued to maintain a remarkably low unemployment rate (3.2-3.7% during the period). The

Figure 2.6 | Unemployment Rate: Comparing Korea with Some Other OECD Countries

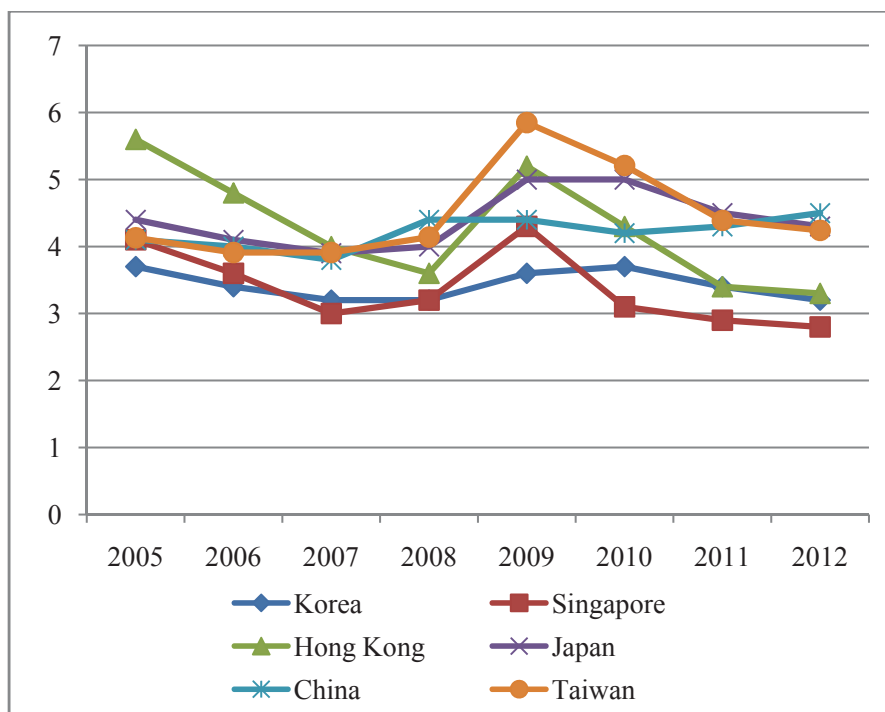


11 In this chapter “happiness” refers to the evaluative measure of subjective well-being.

12 See Table 2.2 of *WHR 2013* for the data for these four countries, shown separately and together. Comparable national unemployment rates are not available for the full global sample of GWP countries, so the calculations reported in Table 2.2 of *WHR 2013* were based on data from a sample of European countries.

unemployment rate was slightly higher than the lowest one (in Iceland) before 2008, but remained the lowest between 2008 and 2012. Other countries showed in the figure all experienced large increases in unemployment rates, especially in Spain, Greece, Ireland, and Portugal. At its peak, the unemployment rate reached 25.2% in Spain in 2012. The exceptional unemployment performance of Korea certainly contributed to the large increase of happiness after the 2008 financial crisis.

Figure 2.7 | Unemployment Rate: Comparing Korea with Other East Asian Countries



We also compare the dynamics of unemployment in Korea with other East Asian countries (or regions), including Japan, Singapore, Taiwan, Hong Kong, and China, in Figure 2.7. From the figure we find that unemployment rates in East Asia were relatively low during the study period. All countries experienced a slight increase in unemployment rates in 2009, but then decreased from 2010. This might indicate more efficient policy response to the crisis in the region, as well as explaining

why most countries in the region had an increase of subjective well-being after the crisis. Even if there was a decrease in Singapore, the size was much smaller than in other countries, such as the four hard-hit countries in Europe. Among this Asian group, Korea's unemployment rate was still lower than most others, though in some years Singapore was slightly lower than Korea.

In an earlier paper on social capital and well-being in times of crisis we contrasted the favorable post-crisis experience of Korea with that of several other countries.¹³ The earlier research divided OECD countries into three groups according to their subjective well-being performance after the 2008 financial crisis. The group with rising happiness included countries less directly affected by the crisis, and with policies well chosen to enhance the well-being of their residents. The case of South Korea was given special attention as embodying policy changes that could be seen as likely to enhance subjective well-being. The group with falling happiness included those countries worst hit by the original crisis, and by its subsequent spillovers in the Euro zone. In that earlier research we included Ireland as one of the worst-hit countries. In our current analysis as shown in Figure 2.4, we treat Ireland as a separate case, along with Iceland,¹⁴ as countries whose financial systems and economies were initially as hard-hit as any, but where the levels and resiliency of the social fabric were sufficient to maintain shared identities and support more appropriate and shared policy responses. As evidence that Ireland and Iceland were among the countries with the strongest social fabrics, and hence most likely to show resiliency in the face of even politically divisive economic shocks, we find that when all the countries in the Gallup World Poll are ranked in terms of the proportion of people who respond that they have someone to call on in times of crisis, Iceland and Ireland are the top two countries.¹⁵

13 Helliwell *et al.* (2014).

14 There were not comparable pre-crisis Gallup World Poll surveys for Iceland, so it is not shown in Figure 2.4. Other surveys support the points made in the text- that Iceland was heavily affected by the banking crisis but experienced only a small drop and quick recovery in life evaluations. See Gudmundsdottir (2013).

15 The data may be found in the on-line data appendix for Chapter 2 (Helliwell and Wang 2013) of *WHR 2013*. See <http://unsdsn.org/wp-content/uploads/2013/09/>

Among the four countries marked by red circles (Greece, Italy, Spain and Portugal), however, we can see that average happiness drops have been far greater than could be explained by their lower levels of GDP per capita, suggesting that social capital and other key supports for happiness were damaged during the crisis and its aftermath. In three of the four countries, and for their average, the main non-economic variables that might signal social resiliency in the face of crisis all suffered declines in the post crisis period.¹⁶

The idea is that a social or economic crisis can lead people to work together and hence to increase the strength and values of social ties, and to support subjective well-being if the original levels of trust and social capital are sufficiently high.¹⁷ On the other hand, a crisis occurring in the absence of sufficiently robust social networks can turn individuals and groups even more strongly against each other, leading to overall drops in subjective well-being much greater than would be indicated by the economic consequences. And the economic consequences themselves would also be worse in the absence of collaborative responses. Thus Desmukh (2009) found that the 2004 Tsunami, although causing similar amounts of physical damage in Aceh (Indonesia) and Jaffna (Sri Lanka), had very different effects on subjective well-being. In the former case there was a ‘peace dividend’ in well-being, as religious tensions were submerged in the course of post-Tsunami collaborative efforts to save lives and rebuild. By contrast, in Sri Lanka the pre-existing climate of ethnic conflict was so toxic that it was worsened by the tsunami, with new tensions arising over the distribution of aid from abroad. A recent study of trust and happiness in the wake of the great 2011 earthquake in East Japan provides another case where social capital was initially great enough that trust and subjective well-being both grew rather than declined in those areas most affected by the earthquake.¹⁸

Korea seems also to provide an example where the gains in happiness were larger than predicted by the higher incomes, suggesting improve-

Chapter-2_online-appendix_9-5-13_final.pdf

16 See Table 2.2 of *WHR 2013*.

17 See the discussion of social capital in mitigating the negative impact of unemployment on happiness in Helliwell *et al.* (2014).

18 See Yamamura *et al.* (2014).

ments in the quality of the social fabric, possibly linked to the shift towards a policy orientation more closely linked to well-being. Seen in this light, the Korean pairing of demand-sustaining policies with a pro-social focus on a ‘Green Korea’ (Lim 2010) might have played a part in the striking rise in post-crisis subjective well-being in Korea.

Korea’s well-being performance during the crisis was even better than would have been predicted from its economic performance, but the economic performance was itself exceptionally good.¹⁹ Korea’s economic policies and performance were strikingly different, and better, during the recent crisis, than during and after the 1997-1998 banking crisis. Cho (2012) and Cho and Shin (2011) argue that the better results were due to faster, stronger and more appropriate policies, which were in turn made possible by much more robust pre-crisis fiscal and financial frameworks. Kwon *et al.* (2010) argue also that much was done after the earlier crisis to build a better system of social safety nets in Korea, and that these were in place to help digest the more recent crisis.

In our earlier analysis of the Korean post-crisis macroeconomic policies and consequences,²⁰ we argued that the well-being consequences of the macroeconomic policies were themselves due to the way in which the policies were designed and delivered, to reflect, in the words of President Lee to the OECD World Well-being Forum in Busan in October 2009, that Korean companies and workers chose to “share the burden”.²¹

Elinor Ostrom, in her Nobel address, argued that “a core goal of public policy should be to facilitate the development of institutions that

19 See the unemployment dynamics in Figures 2.6 and 2.7 as an example.

20 See Helliwell (2011) and Helliwell *et al.* (2014).

21 A longer excerpt from his opening address to the OECD Forum follows: “As the economy worsened many economies opted to lay off workers in massive numbers in order to survive and of course in a market economy this may be considered as something very natural but our companies in Korea chose a different path. We decided to share the burden. Employees chose to sacrifice a cut in their own salaries and companies accepted to take cuts in their own profits because they wanted to save their employees and co-workers from losing their jobs. ... As you can see Korea is recovering more quickly than expected and is one of the fastest recovering economies in the world. I believe one of the reasons for this is the cooperation between management and labour.” (As translated and reproduced in Helliwell *et al.* (2014)).

bring out the best in humans.”²² Her own decades of research showed the human capacity and inclination to work together to solve questions relating to the use of shared resources. Related research in psychology, evolution and economics is showing that the pro-sociality of humans provides an evolutionary advantage, and achieves part of its power through increasing the happiness of those who exhibit pro-social behavior.²³ This would lead us to expect that the collaborative Korean approach to macroeconomic policies in the wake of the recent global crisis not only produced better macroeconomic outcomes, as compared to other countries and to Korea itself in the wake of the 1997-1998 banking crisis, but also contributed to increased life evaluations above and beyond what would have been expected from the economic outcomes themselves.

4. Conclusions

In this chapter we place Korea in the international context, comparing both levels and changes (after the 2008 financial crisis) with other countries. In terms of level of subjective well-being measured by Cantril ladder in 2010-2012, the Korean score, though well below the top global score (6.267 in Korea vs. 7.693 in Denmark on the 0-10 point scale), is very good among East Asian countries. Moreover, the ranking among OECD countries and globally is compatible with the economic performance, as measured by GDP per capita. However, Korea had experienced a big increase of subjective well-being from 2005-2007 to 2010-2012, reflecting exceptional improvement, whether viewed in regional or global terms. Our analysis suggests that these improvements in well-being were attributable both to exceptional economic performance (especially in GDP per capita and unemployment rate) and to a general policy orientation that included a collaborative well-being focus likely to have supported higher life evaluations.

²² See Ostrom (2010, p. 435).

²³ For references to the underlying literature, see Helliwell (2011).

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CHAPTER 3

Life Satisfaction in Korea: Trends, Distributions, and Explanations

John F. Helliwell and Shun Wang

1. Introduction

Complementary to Chapter 2, where we placed Korea's happiness level and change in the international context, in this chapter we look into domestic issues. We shall present the facts on the time trends, variations by age, and the regional distributions of life satisfaction in Korea. We also study the correlations between macroeconomic variables, including national income measured by GDP per capita, unemployment and inflation, and life satisfaction at both national and regional levels.

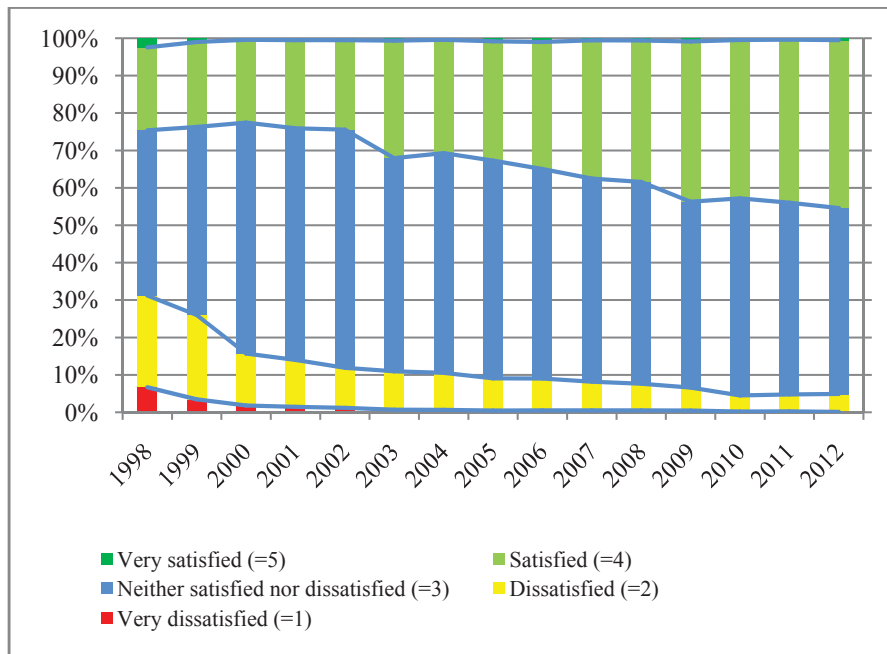
The data we mainly use for this chapter are drawn from the Korean Labor & Income Panel Study (KLIPS). KLIPS is a nationally representative longitudinal survey of the labor market and income activities of households and individuals in urban areas, covering around 5000 families each year. The survey started in 1998, and the most recent data publicly available are from 2012. Since the first wave of the survey, KLIPS consistently asked one question on life evaluations, "How satisfied are you with your life in general?" The response is 1-5 point, "1" for "very satisfied" and "5" for "very dissatisfied". The answer is reverse-coded in this study, so that "5" represents "very satisfied" and "1" for "very dissatisfied". Because of the large sample size and long span of coverage, we mainly use these data to show the time trends for happiness in Korea. The respondents considered in the study are aged 15+ by default, unless otherwise specified.

The rest of this chapter is organized as follows. Section 2 shows the time trend of life satisfaction during the period of 1998 to 2012. Section 3 discusses the age-related differences in life satisfaction. Section 4 discusses the correlation between macroeconomic variables and life satisfaction at national level. Section 5 shows the regional rankings, regional trends, and the correlations between macroeconomic variables and life satisfaction at a regional level. Section 6 concludes.

2. National Trend of Life Satisfaction

In this section we show the trend of the life satisfaction in Korea, 1998-2012. We first show the time trend of each category of answers to the life satisfaction question in Figure 3.1. In 1998, the percentage of respondents reporting “very dissatisfied” and “dissatisfied” was 6.7%

Figure 3.1 Overall Trend of Life Satisfaction (KLIPS 1998-2012)



and 24.5% respectively. From the figure we can see clearly that the two numbers dropped rapidly. Less than 1% of respondents reported “very dissatisfied” in and after 2003. The percentage of respondents reporting “dissatisfied” dropped to less than 12% from 2002, and further reduced to about 5% in 2012. Correspondingly, respondents reporting “satisfied” doubled as a share of the total, from 22.2% in 1998 to 44.8% in 2012. Respondents reporting “very satisfied” have always been rare, ranging between 0.4% and 2.4%. The majority of respondents have always been neutral to the life satisfaction question (reported “neither satisfied nor dissatisfied”), ranging between 44.2% in 1998 and 63.7% in 2002. The rapid increase of “satisfied” respondents and the decline in the number of “dissatisfied” and “very dissatisfied” respondents imply a rising time trend for average life satisfaction.

We then use the 1-to-5 point scale, corresponding to the 5 categories of response, to calculate the average level of life satisfaction and corresponding standard error for each year¹. We show this time trend in Figure 3.2. The dotted line illustrates the original average values for each year. The grey area surrounding the line is the 95% confidence interval. We can see a clear increasing trend, with the level of life satisfaction rising from 2.9 in 1998 to 3.4 in 2012. Moreover, the speed of increase seems to be decreasing, as seen more clearly from the quadratic trend line. The slope of the trend line is higher in the first few years than in more recent years.

We next show the time trend for different groups of respondents to see if the trend is common to all groups. We consider the trend by gender, age group, and marital status respectively. In Figure 3.3 we illustrate the time trend for male and female respondents. The two groups have very similar trends, which implies that the increasing trend of life satisfaction has been equally achieved by both genders.

¹ Ferrer-i-Carbonell and Frijters (2004) and Blanchflower and Oswald (2011) find that there is no substantial difference between treating the happiness answers as cardinal and ordinal.

Figure 3.2 Time Trend of Average Life Satisfaction (KLIPS 1998-2012)

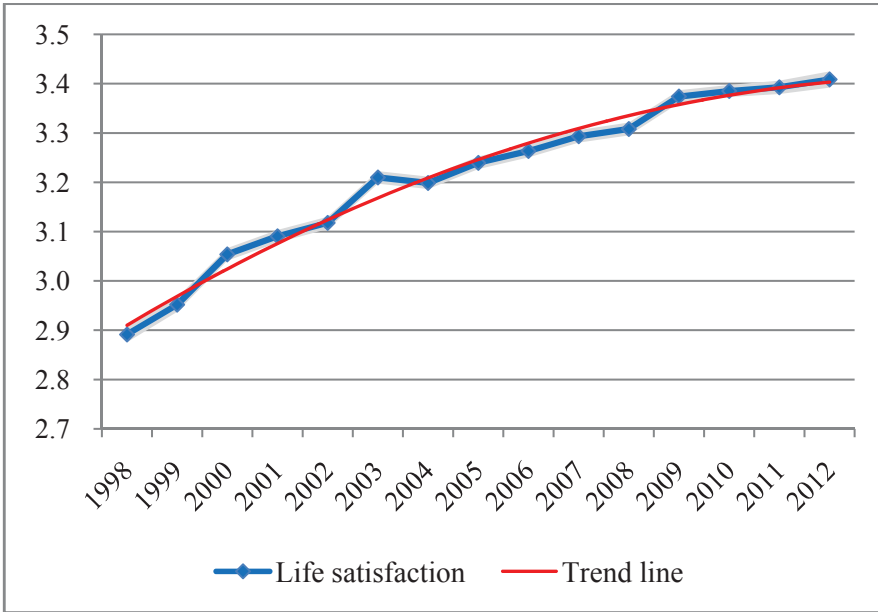
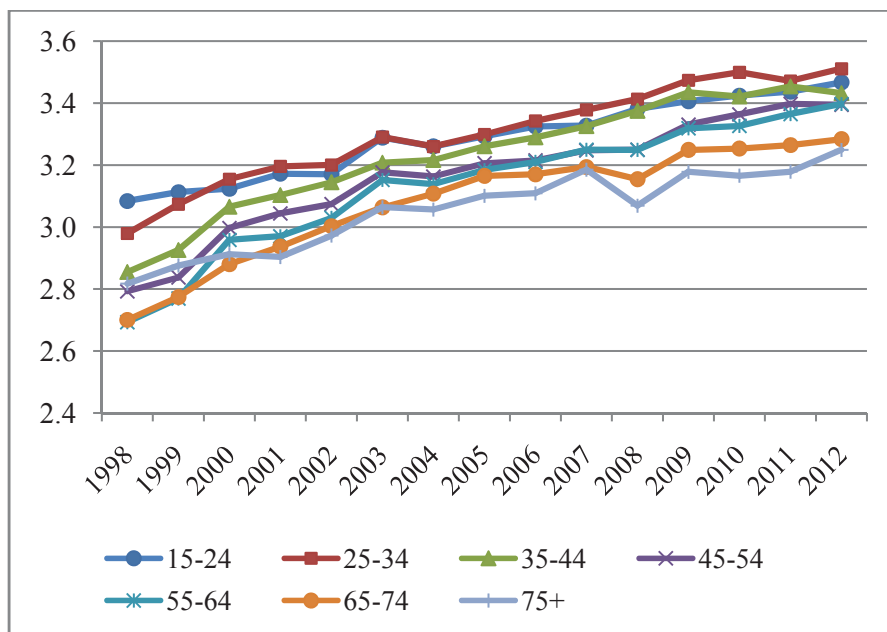


Figure 3.3 Time Trend of Average Life Satisfaction by Gender (KLIPS 1998-2012)



In Figure 3.4 we show the time trend for different age groups, specifically, 15-24, 25-34, 35-44, 45-54, 55-64, 65-74, and 75+. We can see very similar trends for the different age groups, however, it seems that the elderly (65+) have experienced the largest hit during the 2008 financial crisis and their recovery from the shock is not as good as for younger respondents.

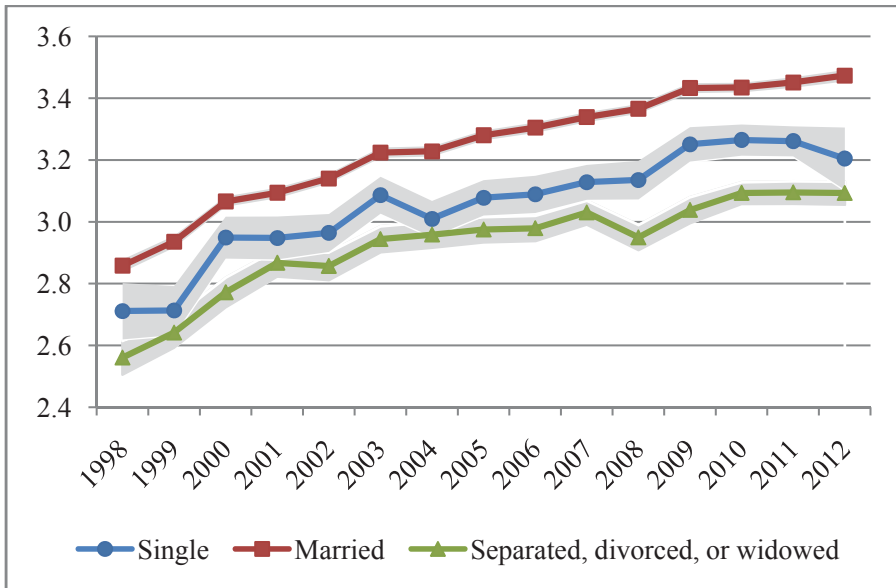
Figure 3.4 Time Trend of Average Life Satisfaction by Age Group (KLIPS 1998-2012)



In Figure 3.5 we show the time trend for respondents by marital status. The grey area surrounding the dotted line is the 95% confidence interval. We divide respondents into three sub-groups, 1) married, 2) single, and 3) separated, divorced, or widowed. Since the average age when Koreans married for the first time was 32 for men and 29 for women (2010 data from Statistics Korea), we only consider the people aged 30+ for these sub-groups. Throughout the period, the married are always significantly happier than the single, while the latter are often significantly happier than the group of separated, divorced, or widowed.

The married group shows similar patterns to the national trend, but the other two groups, though also showing increasing trends, have more fluctuations. The group of separated, divorced, or widowed has less increase in life satisfaction after 2003, comparing to the married. Moreover, this group is more affected by the 2008 financial crisis.

Figure 3.5 Time Trend of Average Life Satisfaction by Marital Status (KLIPS 1998-2012, Age 30+)



In Figure 3.6 we show the time trend by education level. We show it for five levels of education, junior high school or lower, high school, two-year college, four-year college, and graduate school. All five groups of respondents have very similar increasing trends, but respondents with higher levels of education always have higher levels of life satisfaction (with no significant difference between graduate school and four-year college, and between four-year college and two-year college in some years). The education advantage has been large but declining, with the differences between graduate high school and the junior school groups dropping from 0.8 points in 1998 to less than 0.6 points in 2012.

Figure 3.6 Time Trend of Average Life Satisfaction by Education Level (KLIPS 1998-2012, Age 30+)

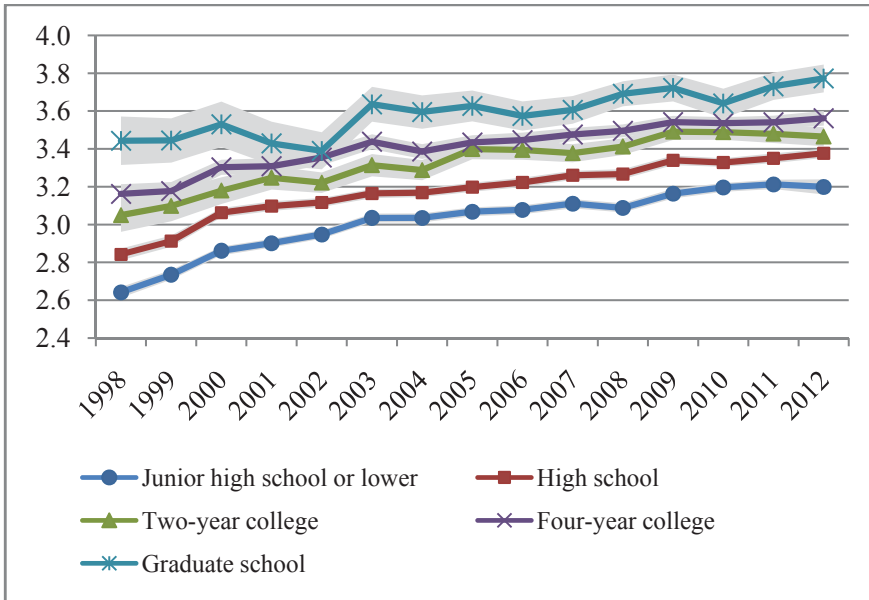
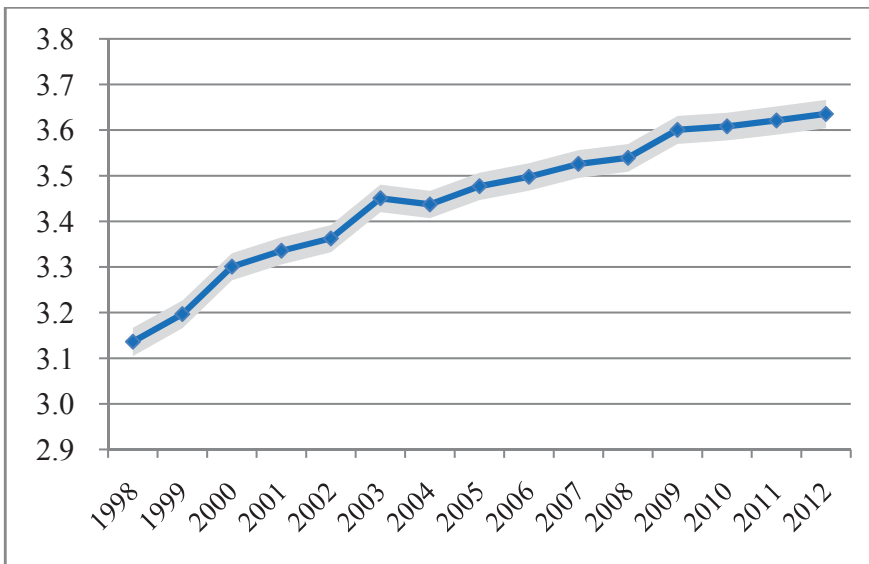


Figure 3.7 Time Trend of Average Life Satisfaction Adjusted for Demographic Composition (KLIPS 1998-2012, Age 15+)



Since the level of life satisfaction varies across social-demographic groups, as shown in Figures 3.4-3.6, people may worry whether the time trend shown in Figure 3.2 is caused by the changing composition of survey respondents. To get rid of the potential impact of social composition, we run a simple OLS regression of life satisfaction on a set of social-demographic variables including gender (=1 if female), age, age squared divided by 100, marital status (“single” omitted), education levels (“junior high school or lower” omitted) and all year dummies, excluding intercept. The coefficients of the year dummies thus show the average level of life satisfaction unaffected by demographic composition. We illustrate the coefficients as the dotted line and its 95% confidence interval as the shaded area in Figure 3.7. The pattern is very similar to that in Figure 3.2 which uses the raw average. Thus we may conclude that the increasing trend of life satisfaction during the period of 1998 and 2012 is not caused by the changes of demographic composition during the period.

Lastly in this section we show the time trend of the inequality of life satisfaction. We show two measures of inequality: the first one is the standard deviation,² and the second one is the coefficient of variation.³ The left axis in the Figure 3.8 is for the standard deviation, and the right axis is for the coefficient of variation. Both measures show a substantial decline of inequality. The decrease in inequality was particularly large from 1998 to 2000.

2 Kalmijn and Veenhoven (2005) show that standard deviation is a proper statistics to measure the inequality of happiness.

3 The COV is defined as the standard deviation divided by the mean. It is used to remove the impact of increasing trend of life evaluations.

Figure 3.8 Time Trend of Inequality of Life Satisfaction (KLIPS 1998-2012, Age 15+)

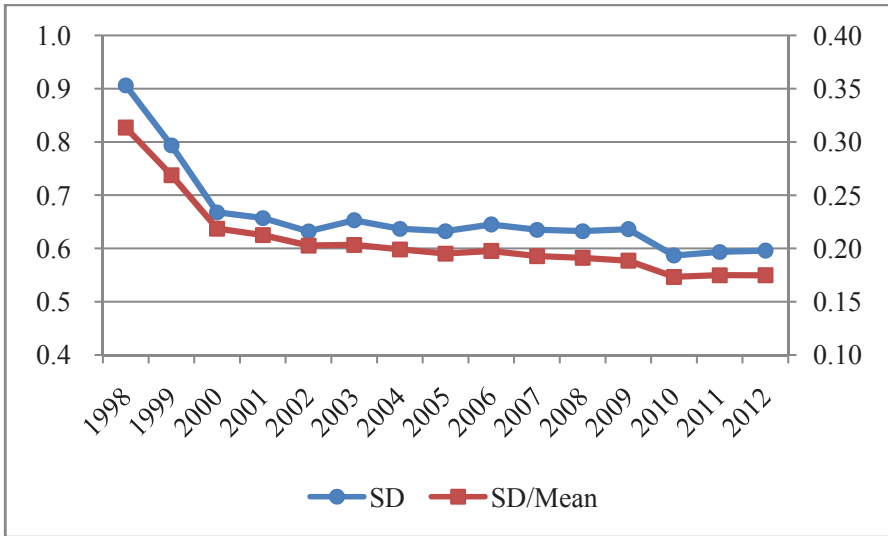
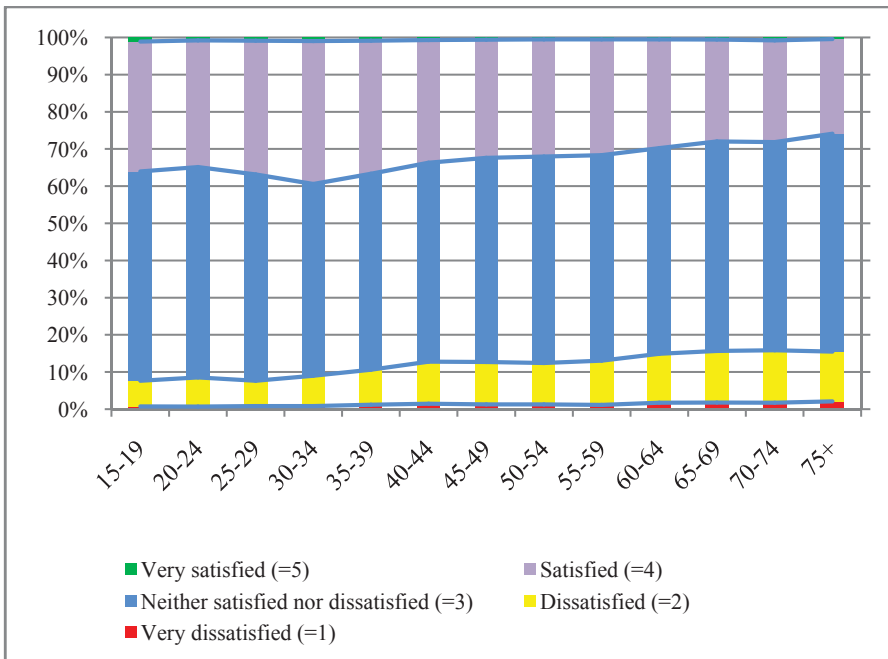


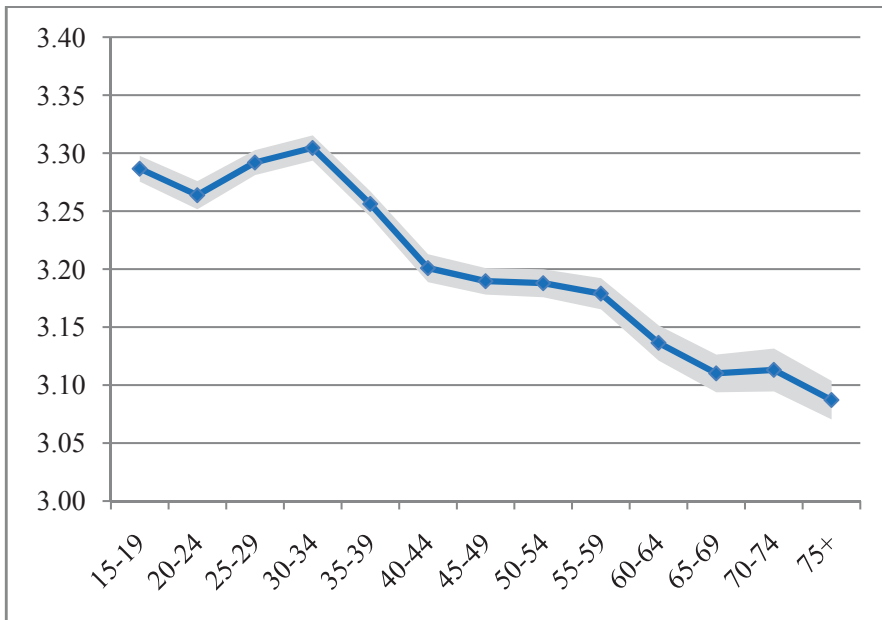
Figure 3.9 Life Satisfaction by Age Group (KLIPS 1998-2012)



3. Distribution of Happiness by Age Group

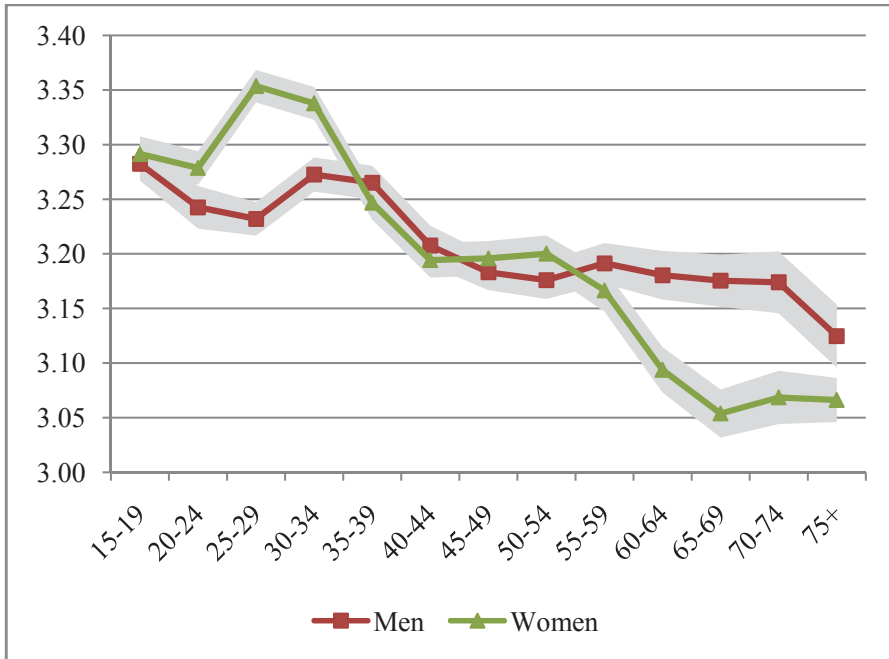
In this section we present evidence on the distribution of happiness, measured by life satisfaction, by age group. In this analysis, we use all the data from 1998 to 2012.⁴ Respondents are separated into 13 age groups, specifically 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, and 75+. We first show the percentage of each category of answer to the life satisfaction question by age group in Figure 3.9. The percentages of respondents reporting “very dissatisfied” and “dissatisfied” are roughly the same for those 15-29, at about 8%. The number starts to rise since 30, from 9% for 30-34 to 15% for 60+. Correspondingly, the percentage of respondents reported “satisfied” first slightly rose to 38.5% at 30-34 from 35% at 15-19, but after 35, it continues to decline, until 25.5% for aged 75+.

Figure 3.10 | Average Life Satisfaction by Age Group (KLIPS 1998-2012, Age 15+)



⁴ We also conduct similar analysis by using only recent years' data, and find similar results.

Figure 3.11 | Average Life Satisfaction of Men and Women by Age Group (KLIPS 1998-2012, Age 15+)



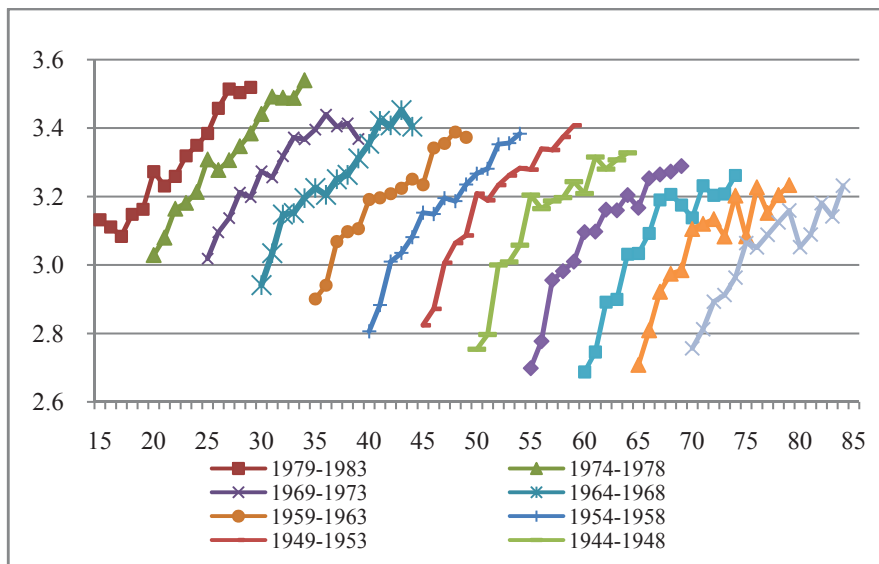
Then we show the average level of life satisfaction by age group. In Figure 3.10, the dotted line represents the level of life satisfaction for age groups, and the dark area is the 95% confidence interval. We see that level of life satisfaction is roughly stable before 34, but starting from 30-34 the level of life satisfaction becomes lower and lower as age increases. The average score for 75+ is 3.087, which is 6.1% lower than the highest score, 3.305 at aged 30-34.

Next we show the average level of life satisfaction by age group, for men and women respectively in Figure 3.11. We find very similar declining patterns for men and women, especially when older than 30-34. But there are also some difference between men and women. In general, women’s life satisfaction drops more rapidly than men’s as age increases. Men and women have same level of satisfaction at 15-19, but women are happier than men starting from 20-24 to 30-34. The levels of satisfaction are the same for women and men at middle age, 35-59. But older men are happier than older women, which contrasts with findings

in other countries such as North America and Europe⁵. This may reflect the gender inequality within family in the older cohorts who keep more of the traditional Confucian values. The declining trend with age seems to be different from many studies which sometimes find a U-shape of happiness in the life course, with the lowest point at about 35 to 50 years old.⁶

The increasing trend of life satisfaction over time together with the declining trend with age in Korea seems to be a puzzle. If all the people become happier as time goes (in the meantime, they become older), why are the older less happy? Is it because people tend to be less happy as they become older, or the older cohorts are less happy than the younger cohorts in Korea? The 15-year period covered by KLIPS enables us to explore this issue. We thus show the time trend of average life satisfaction by 5-year cohort in Figure 3.12. The youngest cohort was

Figure 3.12 Time Trend of Life Satisfaction by Cohort
(KLIPS 1998-2012, Age 15+)



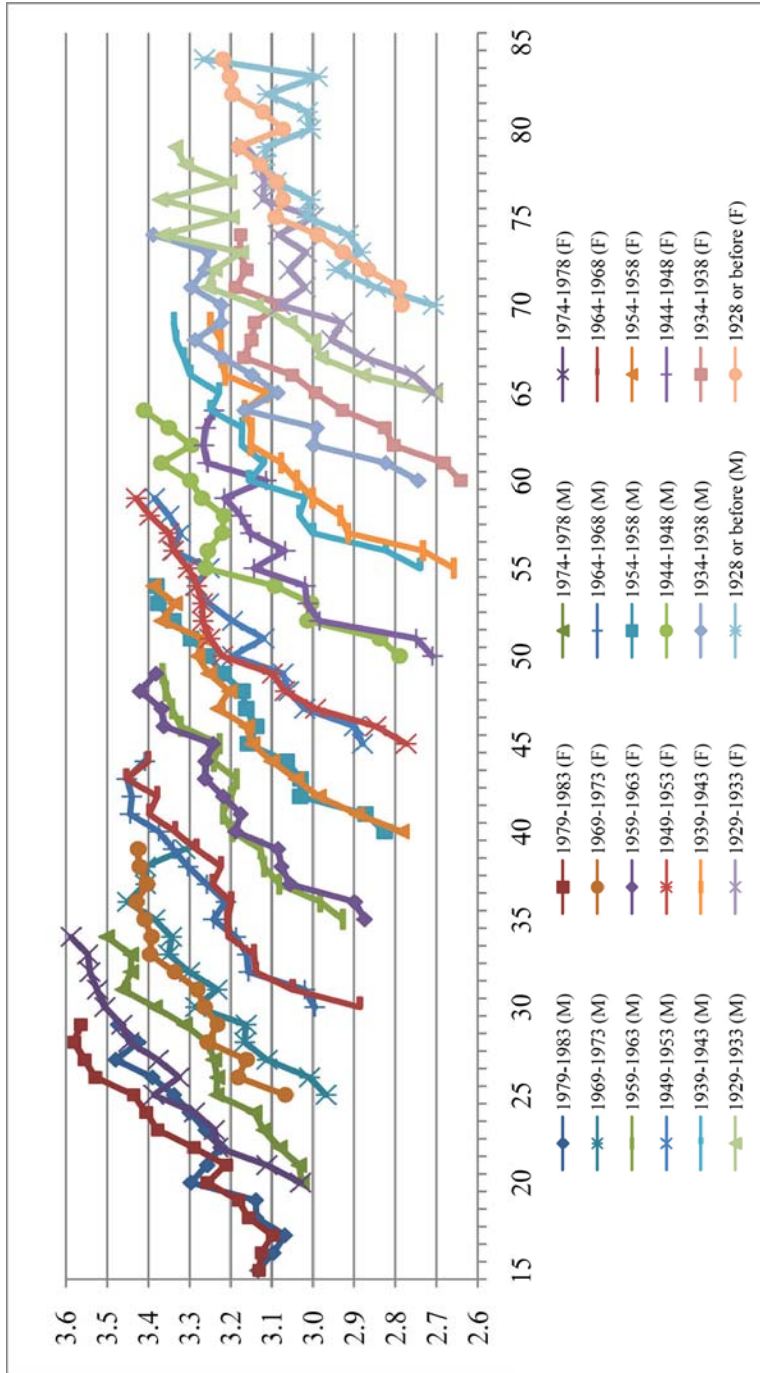
⁵ See Graham and Chattopadhyay (2013) and Helliwell *et al.* (2010).

⁶ See Blanchflower and Oswald (2008, 2009) and Stone *et al.* (2010) for reference. Though some recent studies argue that there is no such U-shape (Frijtersa and Beaton 2012; Glenn 2009).

born in 1979-1983 (aged 15-19 in 1998) and the oldest cohort was born in 1928 or before (aged 70+ in 1998). We can find two facts from the figure: first, there is a clear increasing trend of happiness within each cohort as they grow older, and the trend is similar for all cohorts; second, the younger cohorts are generally more happy than the older cohort (with rough equivalence between some neighboring cohorts). From the first fact we may not be able to draw the conclusion that life satisfaction is always increasing with age in Korea, since there is also a period effect, that is, the economic and social environment is very likely to be different across years. However, we can see in Figure 3.12 that there are very few cases where there were year-to-year drops in life satisfaction for any cohort. We would not in any case expect many of these reversals, as they do not appear in the aggregate data. However, we can see in Figure 3.12 that some cohorts were more affected by the 2008 recession than were others. In particular, those in their late 40s or over age 65 saw average decreases in their life satisfaction between 2007 and 2008, while other groups did not. Looking at Figure 3.13, which replicates the cohort analysis by gender, we can see that the 2008 drop among the cohort in their late 40s was concentrated among the female respondents.

We can also use Figure 3.13 to explain the difference between men and women illustrated in Figure 3.11. For the younger cohorts, specifically those born in 1974-1983, women reported higher life satisfaction than men when they are older than 20. In the middle-age group, those born in 1949-1969, there is no statistical difference between men and women in life satisfaction, even as they grow older (the oldest individual in this group was 63 years old in 2012). However, among those who were born in 1929-1948, men older than 55 report higher life satisfaction than women. The difference is particularly large for those born in 1929-1938, who were 60-69 years old in 1998 and became 75-84 years old in 2012. There is also much difference for the very old group, those born in 1928 or before, as time goes on. On average men are happier than women in the older cohorts, which confirms the finding shown in Figure 3.11, which may reflect the gender inequality in Korea.

Figure 3.13 | Time Trend of Life Satisfaction by Cohort and Gender (KLIPS 1998-2012, Age 15+)



4. Macroeconomic Dynamics and National Life Satisfaction

In this section we examine the correlation of a few important macroeconomic variables and national average life satisfaction. The three macroeconomic variables are GDP per capita, unemployment rates, and inflation rates respectively. The relation between national income and happiness has been much studied in the literature. Some researchers find that cross-sectionally a richer country tends to have higher happiness, however, happiness may not increase as a country's income rises. This is the so-called "Easterlin Paradox", named for the economist Richard Easterlin who discussed the factors contributing to happiness in 1974.⁷ However, some recent studies argue that increase of national income does increase national happiness, for most countries⁸. We thus want to see how well economic growth contributes to the increase of happiness in Korea.

Another strand of literature examines the impact of other macroeconomic variables such as inflation and unemployment on happiness. Studies often find that both unemployment rates and inflation rates have negative effects on happiness, and the former tend to have larger impact than the latter.⁹ We shall also present how the two variables correlate with happiness in Korea. Since we have only 15 years' data, it is not appropriate to conduct a formal multivariable regression analysis at the national level. We will only show the correlation between each macroeconomic variable and life satisfaction in figures separately. The three macroeconomic variables are drawn from World Development Indicators (WDI) published by the World Bank. GDP per capita is PPP-adjusted, in constant 2011 international dollar. Inflation rate is measured by the percentage change of consumer price index (CPI).

⁷ See Easterlin (1974) and a following discussion on the same issue in Easterlin *et al.* (2010). Easterlin (1995) finds similar pattern within a country, that is, within a country at a given time, richer people tends to happier, however, raising the income for all may not increase the happiness of all. Easterlin (2008) argues that it is because increased income leads to increased material aspirations.

⁸ See Sacks *et al.* (2012, 2013) and Stevenson and Wolfers (2008).

⁹ See Di Tella *et al.* (2001, 2003) and Wolfers (2003).

We first illustrate the relation between national income, measured by Log GDP per capita, and national average life satisfaction in Figure 3.14. In the scatter plot, log GDP per capita is shown on the horizontal axis, and life satisfaction is on the vertical axis. The fitted model and 95% confidence interval is also shown on the figure. The R-squared of the model is shown in the bottom of the figure. From the figure we can see that all plots stay very close to the fitted line, which suggests that the trend of life satisfaction and log GDP per capita is highly matched. The very high R-squared of the model (0.980) confirm the finding. We may conclude that the increase of life satisfaction during the study period 1998-2012 can be largely attributed to the increase of national average income, or in the increase of other related variables, including the variables used in our analysis in Chapter 2.

Figure 3.14 | Log GDP Per Capita and Life Satisfaction (1998-2012)

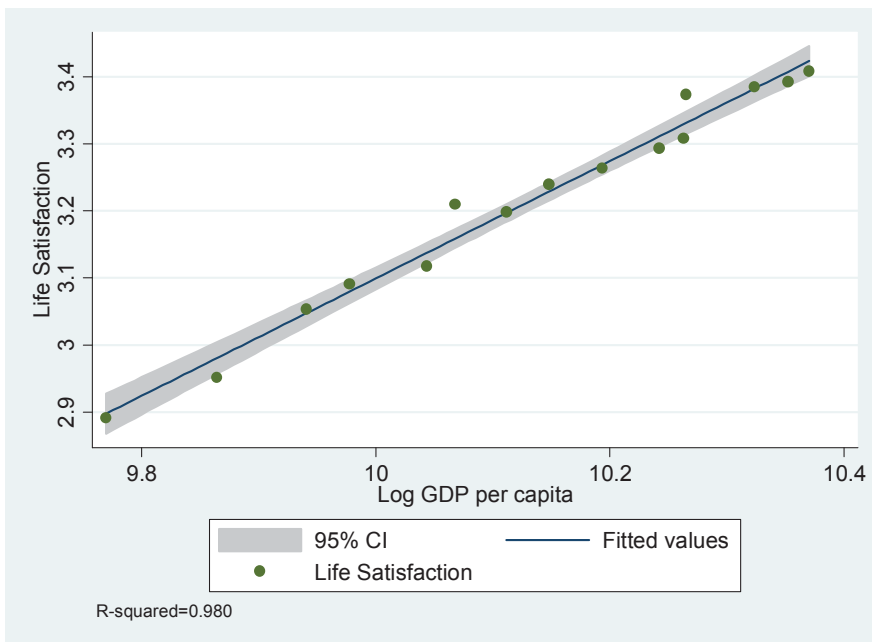
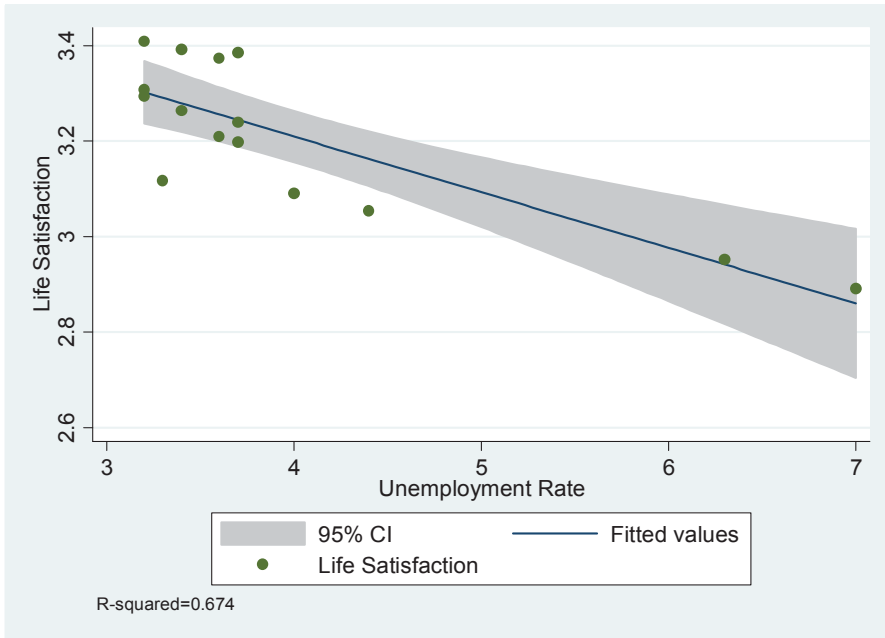


Figure 3.15 Unemployment Rate and Life Satisfaction



Next we illustrate the correlation between unemployment rate and life satisfaction in Figure 3.15. Not surprisingly we see a negative correlation as other studies find. But the explanatory power of unemployment rate is lower than GDP per capita. The R-squared of the model is 0.674, which is much lower than that in the model for log GDP per capita. The 95% confidence interval is wider than that in the Figure 3.14. In most years of the study period the unemployment rate is low, with only two years of unemployment (1998 and 1999). The life satisfaction in 1998 and 1999 is clearly lower than in other years. The reason why unemployment significantly reduces happiness is that not only the unemployed have lower happiness than the employed, but also the employed have lower happiness when unemployment rates are higher (Helliwell *et al.* 2014).

Lastly we depict the relation between inflation rate (based on CPI index) and life satisfaction in Figure 3.16. We find that there is almost no correlation between the two variables, as we see a very flat fitted line with wide 95% confidence interval. The R-squared of the model is only

Figure 3.16 | Inflation Rate and Life Satisfaction

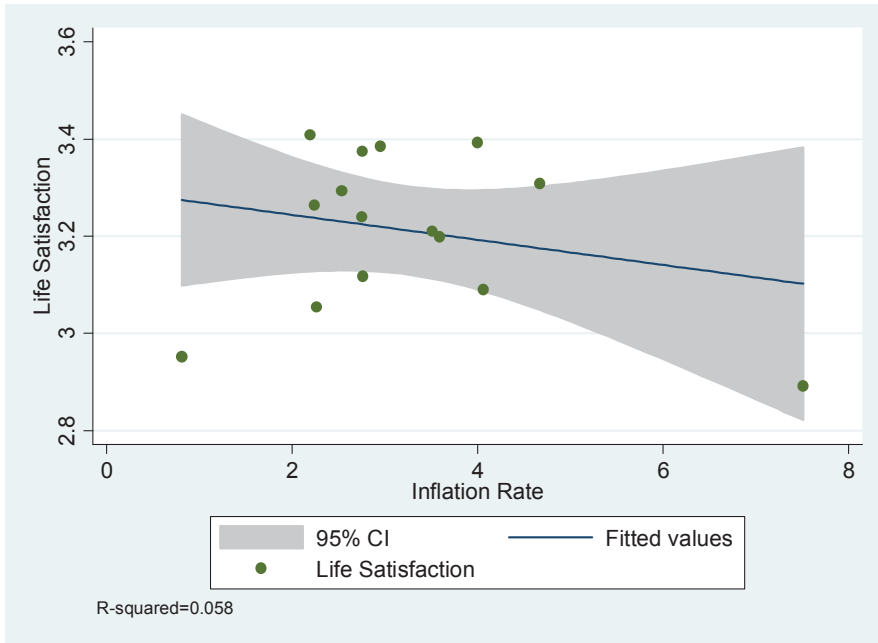
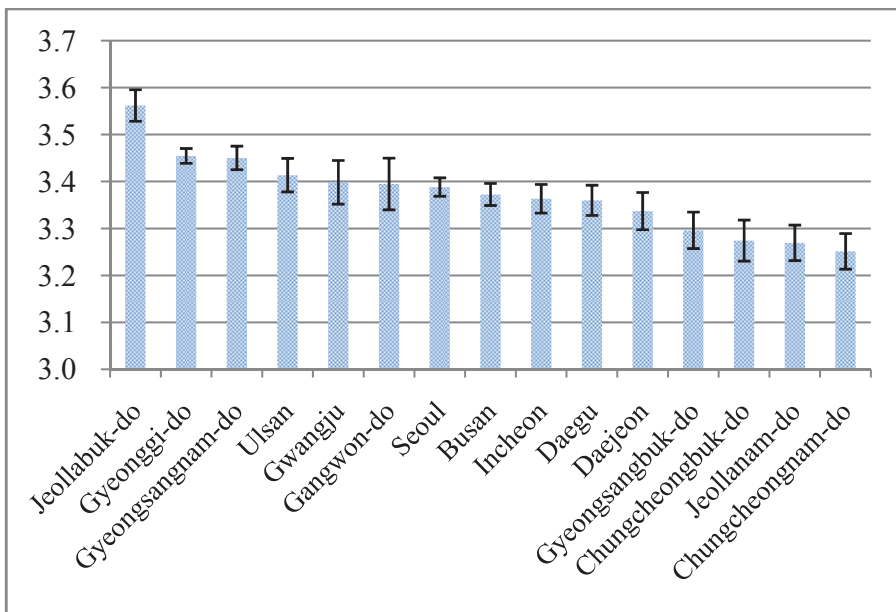


Figure 3.17 | Ranking of Life Satisfaction by Region (KLIPS 2010-2012, Age 15+)



0.058, which indicates that inflation rate has very small explanatory power for the national level of life satisfaction. This might be because the inflation is always very low in the study period, and the variation across years is also fairly small, as are the year-to-year variation in average life satisfaction.

5. Regional Rankings and Trends of Life Satisfaction

In this section we examine the regional variations of life satisfaction in Korea. The large sample size makes such rankings possible. We first show the regional rankings using the recent three-year data. We then show the regional time trend of life satisfaction. Lastly we study the relation between macroeconomic variables and life satisfaction using macroeconomic analysis made possible by the larger sample of pooled data for years and regions.

5.1. Regional Rankings

In this section we make regional rankings for the 15 provincial-level administrative units in Korea. Jeju Island is excluded due to the small number of observations. The number of observations in the other regions in any given year varies from about 300 to 3,300¹⁰, with 500 being a typical number. In order to get more precise estimation of average life satisfaction by region, we calculate the three-year average, using data in 2010-2012, which is most up-to-date. We illustrate the ranking in Figure 3.17. The level of life satisfaction and 95% confidence interval are both shown in the figure. Jeollabuk-do and Chungcheongnam-do ranks the highest (3.562) and the lowest (3.251) respectively, but the difference is relatively small (0.311). Seoul and Busan are ranked in the middle. Though average life satisfaction is different across regions, there is no statistical difference among those ranking in the middle, such as Ulsan, Gwangju, Gangwon-do, Seoul, Busan, Incheon, Daegu, and Daejeon. The

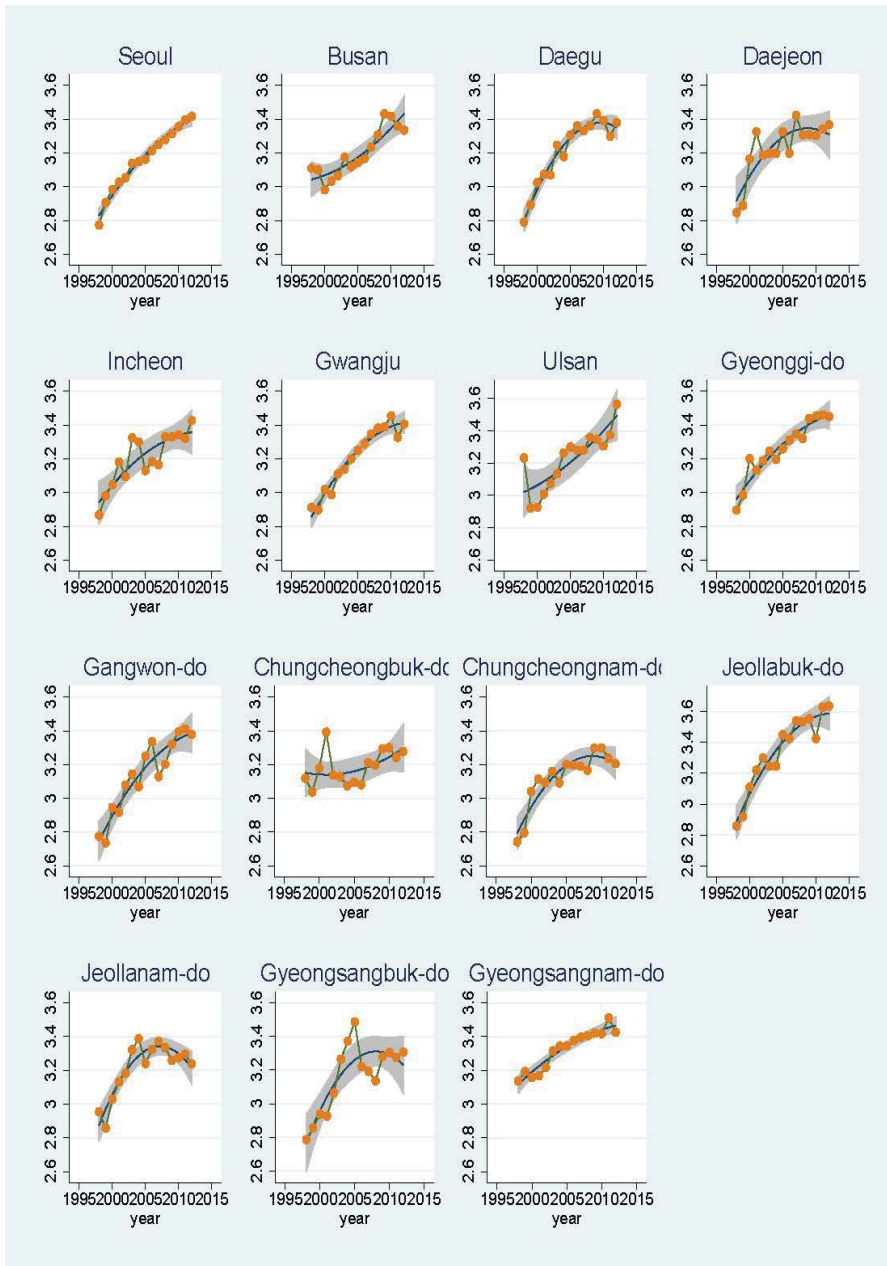
10 For example, in 2012, Gyeonggi-do has the largest number of respondents, 3,248, and Gwangju has the smallest, 331.

difference among the bottom four regions, Gyeongsangbuk-do, Chungcheongbuk-do, Jeollanam-do, and Chungcheongnam-do, is also not statistically significant. Comparing the bottom four regions to the top four does show a significant difference of about 0.2 points.

5.2. Regional Trends

In this section we present the time trends of life satisfaction for the 15 provincial-level administrative districts in Korea, once again excluding Jeju Island because of limited sample size. The results are illustrated in Figure 3.18. The connected dots represent the average level of life satisfaction in each year. The curve is the fitted trend by fractional polynomials. The shaded area represents the 95% confidence band of the fitted trend. We show the dynamics for the 7 municipalities first, followed by the 8 provinces (“do”). Inspecting the figure we find that most regions experienced a rapid increase in the average level of life satisfaction, similar to the national trend. Seoul is very much similar to the whole nation in trend. This is not surprising, since the national trend is largely determined by Seoul’s trend due to the significant agglomeration of Korean population and economy in Seoul. However, not all regions had same trend as the whole nation. For example, Chungcheongbuk-do and Gyeongsangnam-do experienced smaller increases in life satisfaction (as shown by the flatter trend), and Jeollanam-do and Gyeongsangbuk-do show stagnating or decreasing life satisfaction in recent years.

Figure 3.18 Time Trend of Life Satisfaction in the 15 Provincial-Level Districts



5.3. Macroeconomic Variables and Life Satisfaction at the Regional Level

We see in most regions there is an increasing trend of life satisfaction in the previous section. Here we exploit the regional breadth of experience to further analyze the links between macroeconomic variables and life satisfaction using regional panel data covering the period from 1998 to 2012. All original data are taken from the “Statistics Database” constructed by Statistics Korea.¹¹ GDP per capita (unit: 1,000 Korean won) is calculated by author, dividing regional total GDP (in constant 2005 price) by regional population. Regional population is projected population, based on the Population Census conducted every five years. Regional inflation rate is calculated from the CPI data by author. In the analysis, the unemployment rate and inflation rate is the three-year moving average, centered at $t-1$.¹²

We first show the relation between each of the three macroeconomic variables and life satisfaction in each region. In Figure 3.19 we show the scatter plot and fitted model for log GDP per capita and life satisfaction in each region. Similar to what we find in Figure 3.14 for the national-level data, we observe a positive correlation in each region, but differing among regions. Most squared correlation coefficients (r-squared) are greater than 0.5, and 5 of them are greater is than 0.9. The lowest R-squared is 0.171, observed in Chungcheongbuk-do. It is highly influenced by an outlying observation. The R-squared would be 0.491 if the outlier were excluded.

We then illustrate the correlation of unemployment rate and life satisfaction in each region in Figure 3.20. We see a negative correlation in each region. The R-squared ranges from 0.253 (Daejeon) to 0.710 (Jeollabuk-do). We also show the correlation between inflation rate and life satisfaction in Figure 3.21. Similar to what we find for unemployment

11 The website is <http://kosis.kr/eng/>.

12 The formula is $Inflation_t = 100 * \left\{ \left(\frac{CPI_t}{CPI_{t-3}} \right)^{\frac{1}{3}} - 1 \right\}$ and $Unemployment_t = 100 * (ur_{t-2} + ur_{t-1} + ur_t)/3$, in which ur means the original data of unemployment rate.

Figure 3.19 | Log GDP Per Capita and Life Satisfaction in Each Region

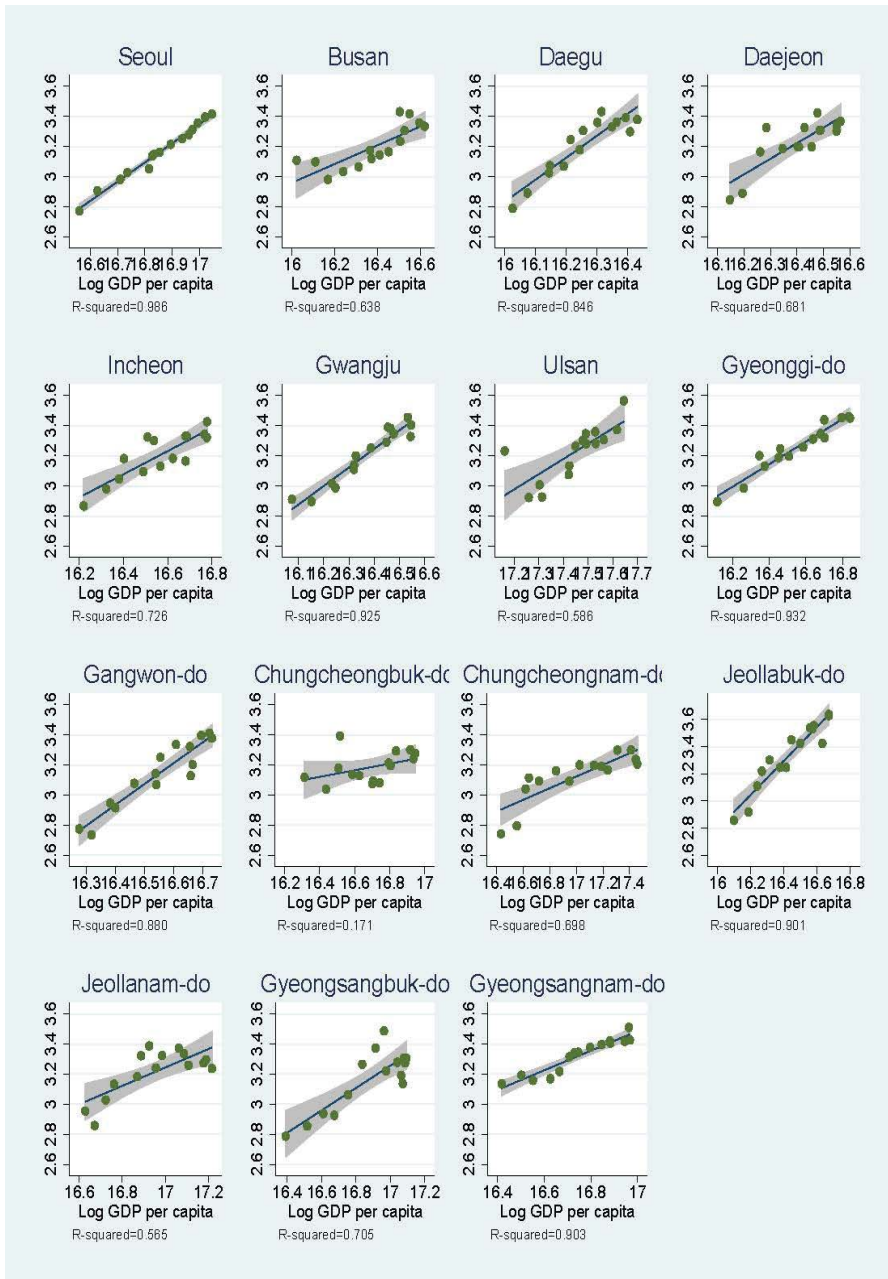


Figure 3.20 | Unemployment Rate and Life Satisfaction in Each Region

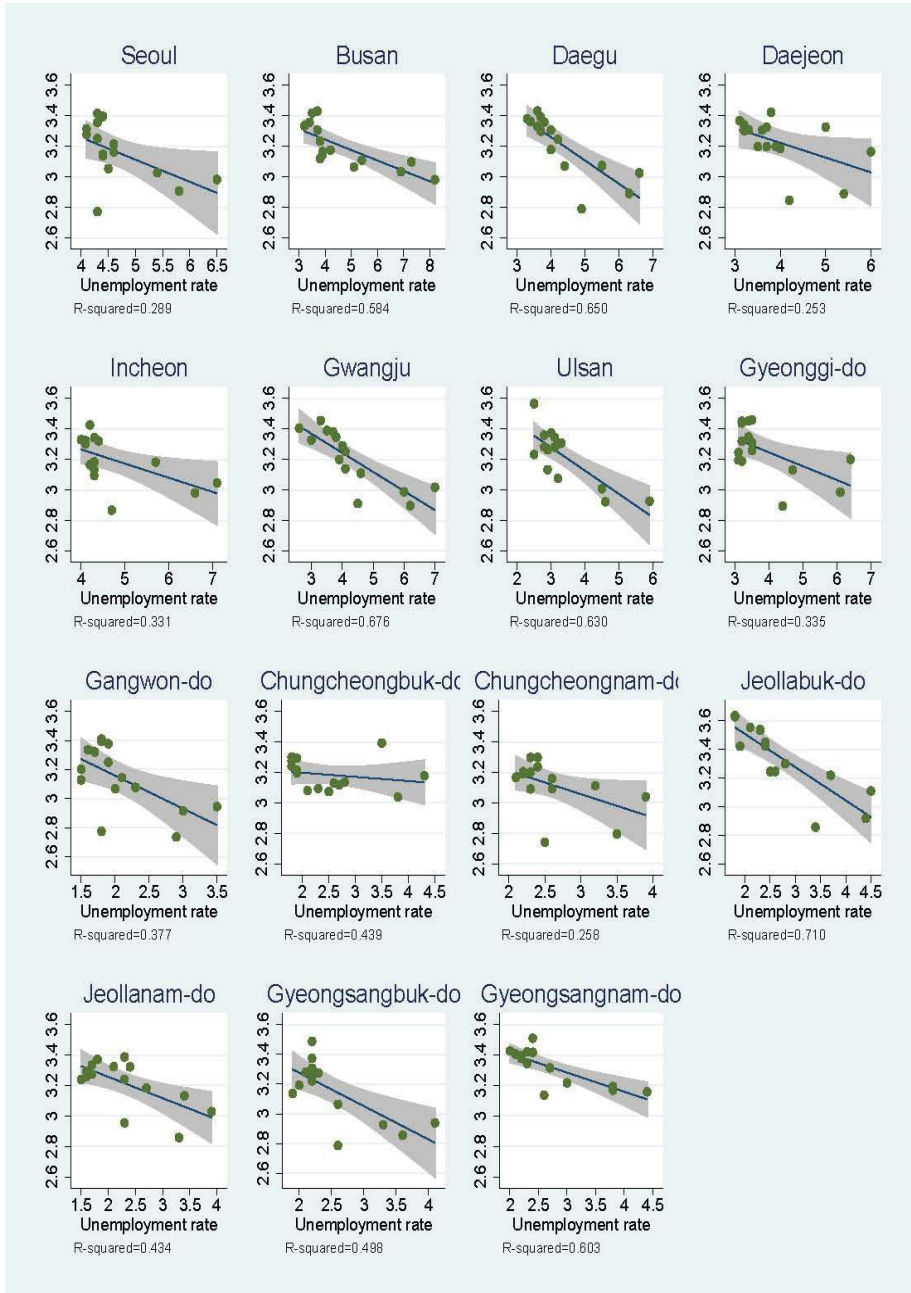
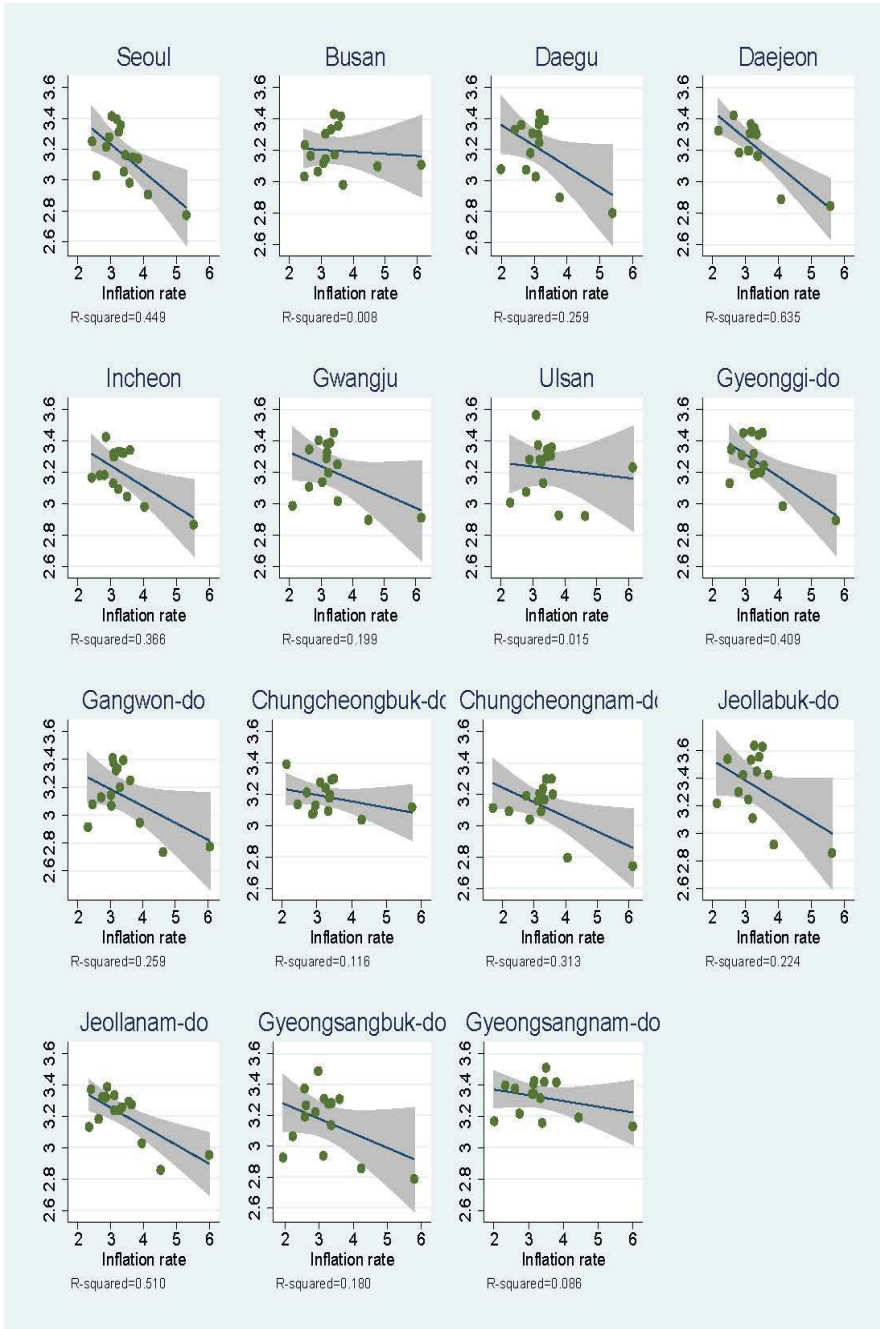


Figure 3.21 | Inflation Rate and Life Satisfaction in Each Region



rate, we see a negative correlation in each region, though in some regions the R-squared is pretty low (e.g. in Busan and Gyeongsangnam-do).

Lastly we conduct a pooled OLS analysis using the panel data. The coefficients and corresponding robust standard errors are reported in Table 3.1. We include Log GDP per capita in Models (1) and (2), unemployment rate and inflation rate together in Models (3) and (4), and all three variables together in Models (5) and (6). Regional dummies are included in Models (2), (4), and (6), not in (1), (3) and (5). The large differences in R-squared between the even and odd models imply that large regional differences are not explained by the three macroeconomic variables. Note that running a pooled OLS model with individual dummies (in our case, regional dummies) leads to the least square dummy variable (LSDV) estimator, which is equivalent to a fixed effect (FE) estimator. So the coefficients reported in column (2), (4) and (6) are just FE estimators.

Table 3.1 | Macroeconomic Variables and Life Satisfaction (Pooled OLS Model)

	(1)	(2)	(3)	(4)	(5)	(6)
Log GDP per capita	0.170*** (0.030)	0.745*** (0.048)			0.054+ (0.031)	0.521*** (0.058)
Unemployment rate (%)			-0.052*** (0.007)	-0.111*** (0.010)	-0.045*** (0.009)	-0.047*** (0.011)
Inflation rate (%)			-0.086*** (0.015)	-0.080*** (0.012)	-0.082*** (0.015)	-0.037** (0.012)
Regional dummies	N	Y	N	Y	N	Y
Obs.	225	225	225	225	225	225
Adjusted R ²	0.109	0.657	0.321	0.567	0.326	0.699

Notes: Robust standard errors in parentheses; + p<0.1, * p<0.05, ** p<0.01, *** p<0.001.

The coefficients of log GDP per capita in Model (1) and (2) are highly significant. The coefficient 0.170 implies that 1% increase of GDP per capita is associated with 0.0017 increase of average life satisfaction, which is 0.05% of the average level of life satisfaction (3.211, from the summary statistics reported in Table 3.2). If controlling

Table 3.2 | Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Life satisfaction	225	3.211	0.180	2.736	3.636
Log GDP per capita	225	16.671	0.355	16.022	17.646
Unemployment rate (%)	225	3.417	1.296	1.5	8.2
Inflation rate (%)	225	3.334	0.833	1.69	6.17

regional dummies, the coefficient becomes 0.745, which means 1% increase of GDP per capita is associated with 0.007 increase of average life satisfaction (0.23%). The large difference in coefficient may imply that GDP per capita can better explain time-series rather than regional variations in life satisfaction. In Models (3) and (4) we find that both unemployment and inflation have negative impacts on life satisfaction, significantly at 0.1% level. This is consistent with Di Tella *et al.* (2001)'s results generated from European countries.

If we include all three variables, as shown in Models (5) and (6), we still find positive impact of GDP per capita and negative impacts of unemployment and inflation. The coefficients of log GDP per capita and unemployment are significant at 0.1% level, and the coefficient of inflation is significant at 1% level. We take Model (6) as our main model to explain the impacts of macroeconomic variables. In the model we observe that 1% increase of GDP per capita is associated with 0.005 (0.16%) increase of life satisfaction, however, 1% increase of unemployment and inflation rate is associated with the reduction of life satisfaction by 0.047 (1.46%) and 0.037 (1.15%), respectively. The well-being cost of a 1% increase in the unemployment rate equals 1.27% (=1%*0.047/0.037) increase of inflation rate. Hence 1.27 is the marginal rate of substitution between inflation and unemployment.

To find out the relative importance of the three variables, we also calculate the beta coefficients for each variable.¹³ The standardized coefficients will remove the impacts of the differences in standard

13 It is also called standardized coefficient. It is calculated by multiplying independent variable x 's regular regression coefficient by its standard deviation and being divided by the dependent variable's standard deviation. The beta coefficient can thus be explained as the standard deviations a dependent variable will change in response to a one standard deviation increase in the independent variable.

deviations among the three macroeconomic variables. The beta coefficient for log GDP per capita, unemployment rate and inflation rate is 1.028, -0.337, and -0.173 respectively. This suggests that the effect of log GDP per capita on life satisfaction is approximately 3 times as large as that for unemployment rate, and 6 times as large as that for inflation rate. This reflects, among other things, that inflation and unemployment have been rather stable in Korea over most of the sample period, while GDP growth has been large and variable.

6. Conclusions

In this chapter we show the distribution of subjective well-being, measured by life satisfaction, within Korea. We examine the time trend for the whole nation and for each provincial-level administrative district separately. We find a strongly increasing trend of life satisfaction across time in the whole country, and in most regions, which applies almost equally to all cohorts and for men and women.

In studying the variations of life satisfaction over age, we find that the older group has lower level of life satisfaction. However, we may not conclude that people are less happy as they become old in Korea. Instead, we find that as people grow older (in the meantime economy is also growing, between 1998 and 2012), people in all age cohorts are becoming happier as they age. The phenomenon that older respondents are less happy at any given year (or all years pooled together), is mainly driven by the fact that each new age cohort is systematically happier than its predecessor, in the sense that those aged 40 in 2010 were happier in 2010 than were 40-year-olds in the year 2000. We also find that within the old cohorts, the male respondents are on average happier than the females (not conditional on other factors), which is different from the younger cohorts. We suspect that this may represent the social and economic inequality across genders in the older generation. We thus infer that while the improved conditions of life are sufficient to permit average members of every cohort to increase their life satisfaction as they age, some significant fraction of the total gains in living conditions flows more to those in the younger cohorts. Deeper analysis of these

data, and extensions to the range of data, is required to explain why more of the gains are flowing to those in more recent cohorts.

We then study the correlation between three key macroeconomic variables and average life satisfaction, at both national and regional levels. We find that income levels, indicated by log GDP per capita, are closely correlated to the time trend of national happiness. Unemployment rates are also highly correlated with national happiness, but with a negative sign. Inflation is also negatively correlated with national happiness, but the explanatory power is smaller. We also show the correlations for each region and find similar pattern to the whole nation. Since the time trends of GDP per capita and of life satisfaction are so smooth, it is difficult with these small national samples to test the GDP explanation against the effects of other variables with similar trends. We thus turn to the regional panel data to study the impacts. In the panel data analysis, we find results consistent with national results. Log GDP per capita is positively correlated with life satisfaction, while unemployment and inflation have negative impacts. A comparison of the beta coefficients in the model controlling regional dummies reveal that Log GDP per capita is about 3 times as important as unemployment and the latter is about twice as important as inflation. We also find that including regional dummies largely increase the R-squared, which might suggest that some variables other than the three macroeconomic variables mainly cause the cross-region variation of life satisfaction. Deeper analysis will require a larger set of explanatory variables, perhaps along the lines of those seen earlier to explain international differences in life evaluations.

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CHAPTER 4

Determinants of Korean Happiness: A Cross-Sectional Analysis

Weina Zhou

1. Introduction

What are the factors that can affect people's happiness? The literature has already provided extensive evidence that demographic factors such as income, education, age, marital status, and employment status are important determinants of happiness (Kahneman and Krueger 2006, Bjørnskov *et al.* 2008, Helliwell 2011, Helliwell *et al.* 2012). Individual values such as social trust are also highly correlated with happiness (Helliwell and Wang 2011). In addition, the influence of general economic performance and the quality of formal institutions (such as government) on happiness has also attracted much attention (Frey and Stutzer 2010, Bjørnskov *et al.* 2010).

Chapter 4 investigates the factors that could affect happiness in Korea and considers to what extent each of these factors is associated with happiness. I compare the effect of these factors by using multiple surveys—the World Values Survey, Gallup World Poll, and Asian Barometer—in search of consistent findings. By comparing the magnitudes of each associated factor, this chapter seeks to determine what factors are most strongly correlated with happiness and therefore to offer policy implications as to potential ways to improve levels of happiness.

I first focus on demographic factors, finding that education and social trust are positively correlated with happiness. In addition, the data show that females are happier than males, married persons are happier

than singles, and divorced or separated persons are less happy than married persons or singles. Happiness also declines with age, but then starts to increase again later in life. Happiness is positively correlated with relative income, but only for low-income and middle-income people; a further increase in income beyond median levels does not appear to bring more happiness for the rich.

Happiness is also correlated with religious activity, occupation, social security, and the quality of government. I found that religious people are happier than non-religious people; specifically, those people who said that they frequently spent time with people in church or attended a religious service recently were significantly happier than those who did not.

Regarding occupation, I found that people with professional occupation have the highest happiness level. People in managerial or non-manual occupation have equal levels of happiness, while those with manual occupations have the least happiness.

The quality of government also affects happiness: people who feel that they have freedom to make life choices or believe that there is less government corruption have a higher happiness level.

I also considered how closely happiness is related to satisfaction with several aspects of life following van Praag *et al.* (2003). I found that individuals' life happiness is most closely related to their satisfaction with income, family life, and housing. It is also less strongly related to satisfaction with friendships, personal health, one's job, and the social welfare system. Interestingly, the results suggest a high correlation between happiness and socially generous behaviors such as helping strangers, making donations, and volunteering.

The remainder of this chapter is organized as follows. The following section provides a brief introduction to the literature on the determinants of happiness. Next I discuss the data, using graphs to illustrate comparisons of happiness levels across different socioeconomic groups. I then present the results of regression estimations and provide a brief conclusion.

2. Literature Review

The literature has suggested several key factors that can impact life satisfaction, the strongest of which are income, education, age, marital status, and social trust (Kahneman and Krueger 2006, Bjornskov *et al.* 2008).

Income is the first factor in which most researchers and policymakers are interested. We usually expect income to be highly correlated with happiness, but happiness levels are not always covariant with increased absolute income. Easterlin (1974) described a paradox in that, regardless of the substantial increase in real income over the last 50 years, reported happiness levels have remained relatively constant. By contrast, relative income or socioeconomic status is associated with increased well-being according to virtually all studies (Clark *et al.* 2008). An increase in income may not raise people's happiness significantly if they see everyone around them also becoming richer. On the other hand, what does seem to matter is one's rank in income relative to the surrounding society. Also, there is a positive and significant correlation between income and happiness within various countries. In the United States, every additional \$1,000 of income is associated with an increase of happiness of 0.00246 point (out of a three-point scale of happiness level), according to estimates by Blanchflower and Oswald (2011) using General Social Survey data.

Education is also widely recognized as affecting happiness. Education makes people more informed about the structure of and new developments in society, helping them to make correct decisions in daily life. The knowledge and skills obtained from schooling enable people to better understand and assess potential risks and opportunities (Bjornskov *et al.* 2008). In addition, on top of the direct effect of obtaining knowledge and skills itself in improving happiness, education also has an indirect effect on happiness because it generally leads to increased income.

Compared to the strong evidence for the impact of education and relative income, there is an ongoing debate as to whether and to what extent gender affects individual happiness. Researchers have reported different results across countries and sometimes even within a particular country. However, in general females are equally happy as or happier

than males. Bjornskov *et al.* (2007) used data from 70 countries to suggest that females are generally happier than males. Aldous and Rodney (1999) and Blanchflower and Oswald (2011) reported similar findings. Kahneman and Krueger (2006), in contrast, indicated that gender was not correlated with life satisfaction and happiness. On the other hand, gender inequality in social status does make people less happy. Bjornskov *et al.* (2007) suggested that gender discrimination reduces well-being.

Age generally has a U-shaped relationship with happiness. Individual happiness tends to decline after age 18, but then after people reach middle age (i.e., age 35 to 50) their happiness levels increase again. This U-shaped age-happiness relationship holds for the United States, Germany, Britain, Australia, and South Africa (Clark and Oswald 1994, Gerdtham and Johannesson 2001). However, there is a debate on this issue, as some recent studies find that there is no such U-shape (Frijtersa and Beatton 2012, Glenn 2009).

Marriage and employment status are also well-confirmed indicators of happiness. Married people are happier than singles; joblessness is associated with a huge amount of unhappiness (Bjornskov *et al.* 2007, Blanchflower and Oswald 2011).

Recently, researchers have focused on the effect of social capital and trust on well-being. Communities and nations with better social capital and trust display greater happiness in situations of transition or crisis (Helliwell *et al.* 2013). Cross-country analysis has shown that political factors such as the presence of democratic institutions can also affect citizens' life satisfaction. Bjornskov *et al.* (2008) suggested that the degree of democracy increases life satisfaction, and a history of independence is conducive to citizens' well-being.

3. Data

The literature has suggested several key individual characteristics that could affect well-being, such as income, education, age, gender, and marital status. I use three different surveys in this chapter to investigate the determinants of well-being in Korea: the World Values Survey, Asian

Barometer, and Gallup World Poll. Each survey has different questions regarding well-being. By utilizing multiple surveys, we can compare the results across surveys and see what findings are consistent. Furthermore, each survey examines different aspects of individuals' behaviors, values and beliefs, so using them in combination allows us to explore the determinants of happiness from different perspectives.

The World Values Survey asks the following happiness question: "Taking all things together, would you say you are: not at all happy (coded as 1), not happy (coded as 2), quite happy (coded as 3), or very happy (coded as 4)?" Results for this question are available from surveys conducted in 1990, 1996, 2001, and 2005. The Asian Barometer, meanwhile, has 2003, 2004, and 2006 waves. The happiness question in this survey is: "All things considered, would you say that you are happy these days?" A respondent can choose answers from 1 (very unhappy) to 5 (very happy). Finally, the Gallup World Poll has the following question: "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you

Figure 4.1 | Happiness Level in the World Values Survey and Asian Barometer

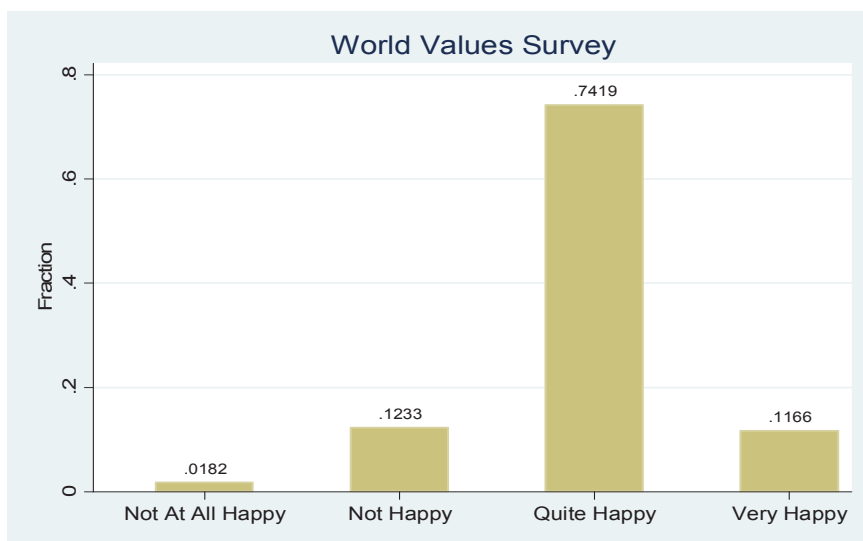
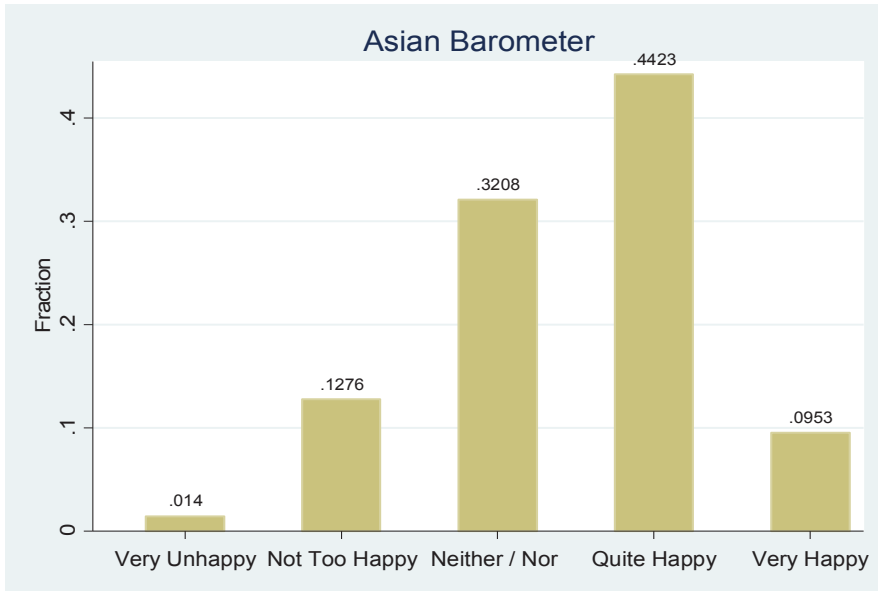


Figure 4.1 | Continue



personally feel you stand at this time?”

In this section, I use the World Values Survey and Asian Barometer to compute basic statistics of well-being across different socioeconomic groups. Figure 4.1 presents the happiness levels chosen by respondents. In the World Values Survey, almost three-quarters of respondents said that they were “quite happy”; the options of “not happy” or “very happy” were each selected by about 12% of participants; and fewer than 2% of respondents chose “not at all happy.” On the 5-point happiness scale happiness level in the Asian Barometer survey, 44% of respondents chose “quite happy,” with the middle option, “neither happy nor unhappy,” being the second most common choice.

The first socioeconomic factor on which I focus is income (see Figure 4.2). In the World Values Survey, where income is divided into 10 deciles, we see that income is positively correlated with happiness for low-income and middle-income people; that is, as income increases, happiness also increases. However, when income rises above the middle, the happiness level does not increase any further. Similar results are found from the Asian Barometer.

Figure 4.2 | Happiness Level by Income

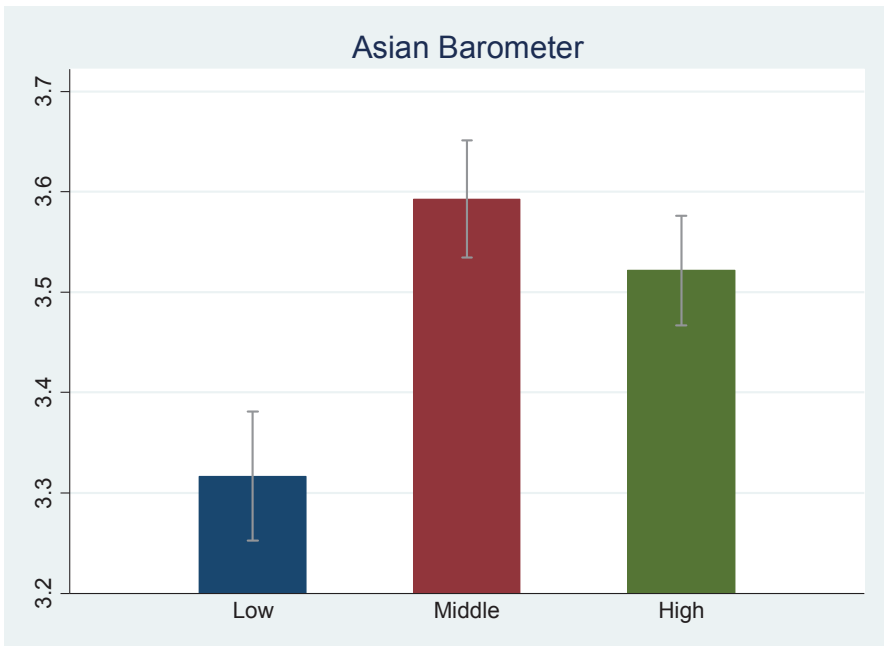
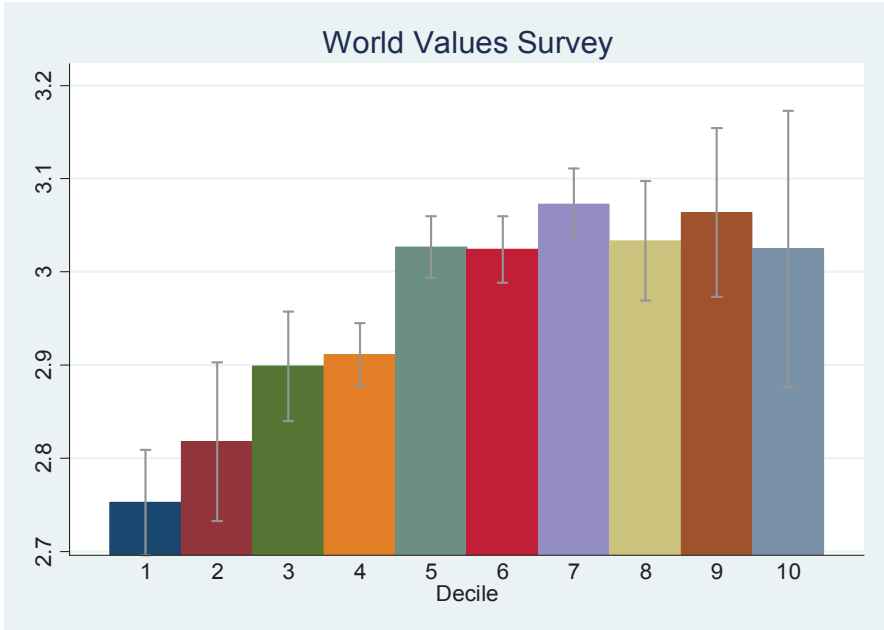


Figure 4.3 | Happiness Level by Education

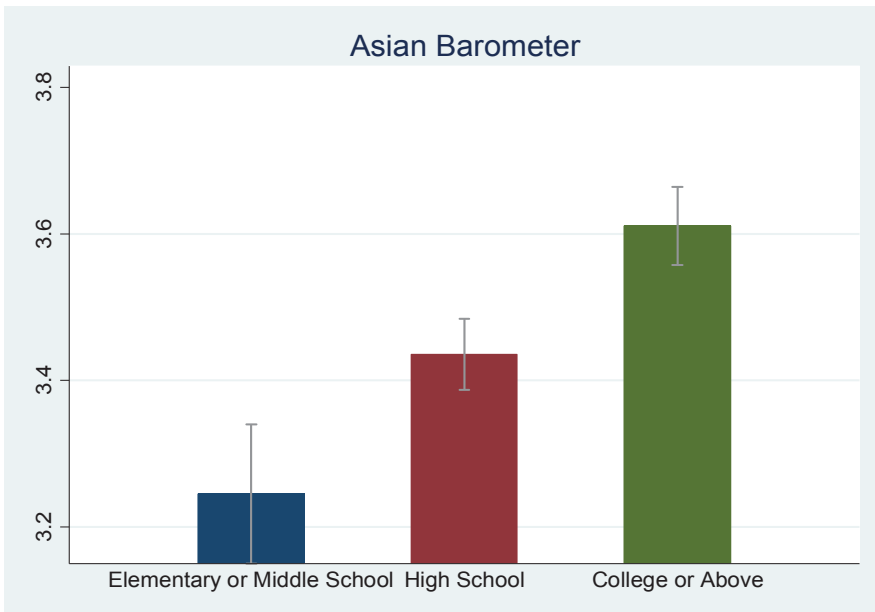
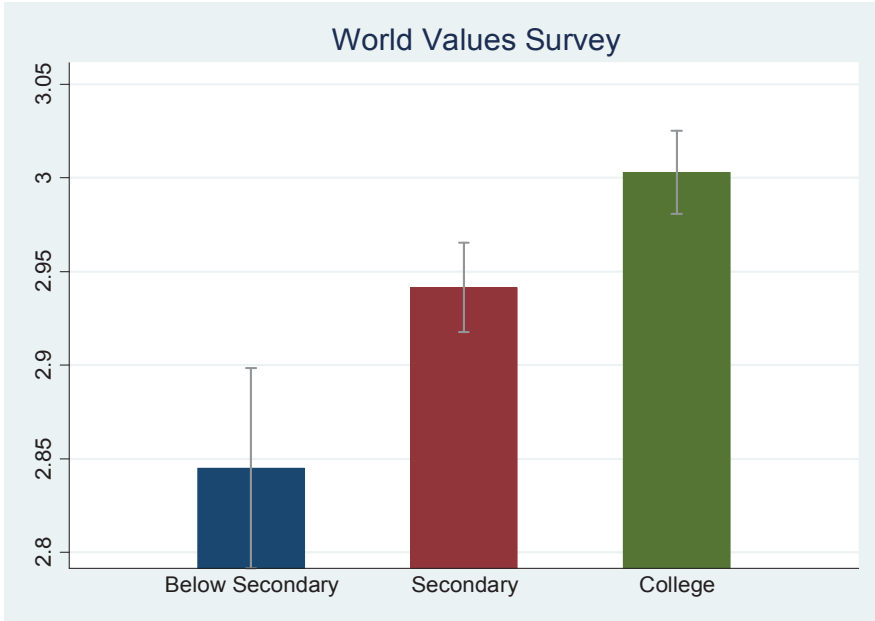


Figure 4.4 | Happiness Level by Marital Status

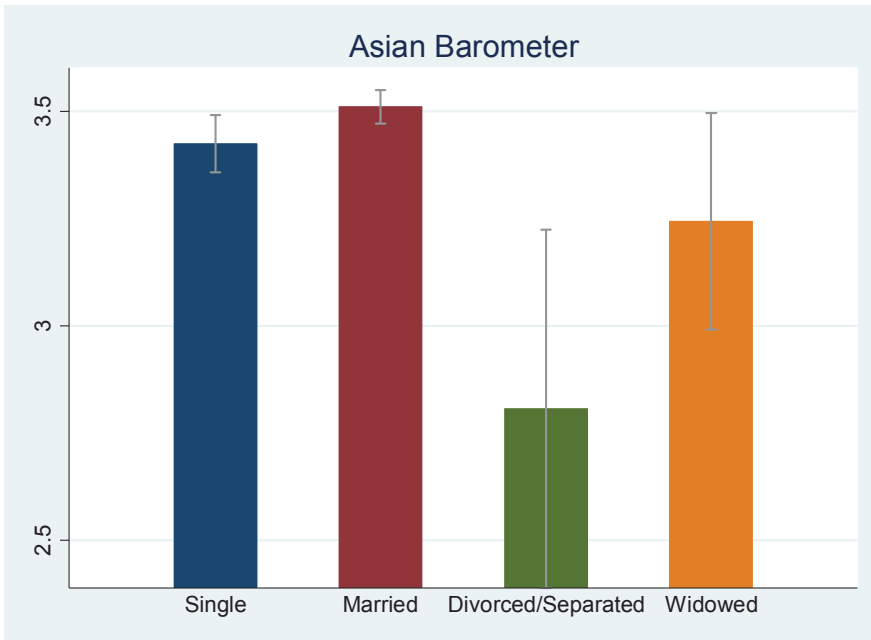
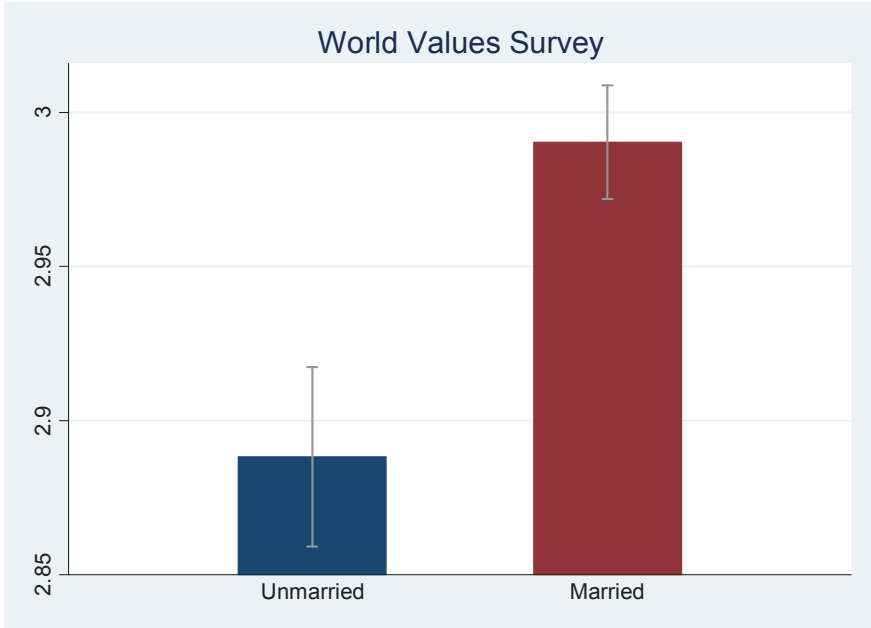
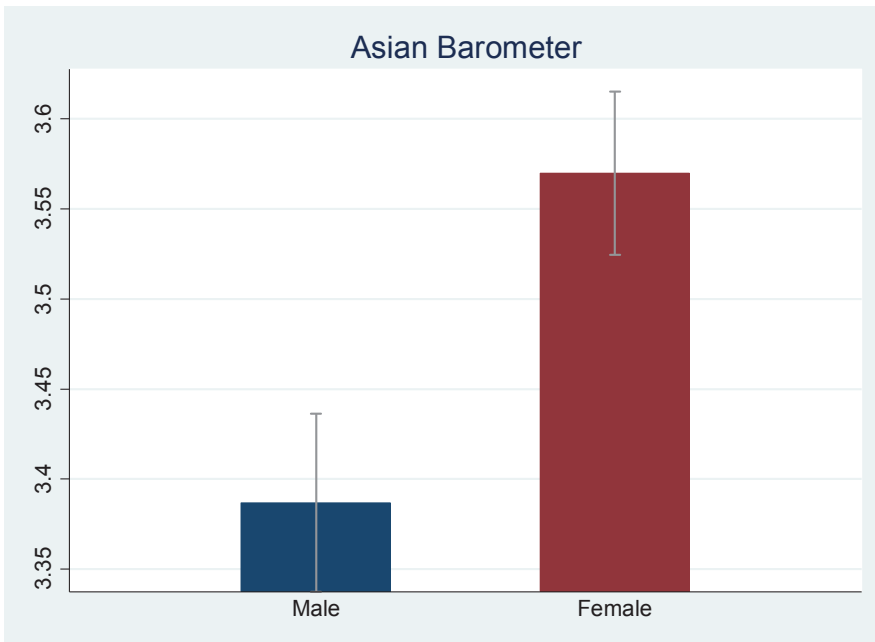
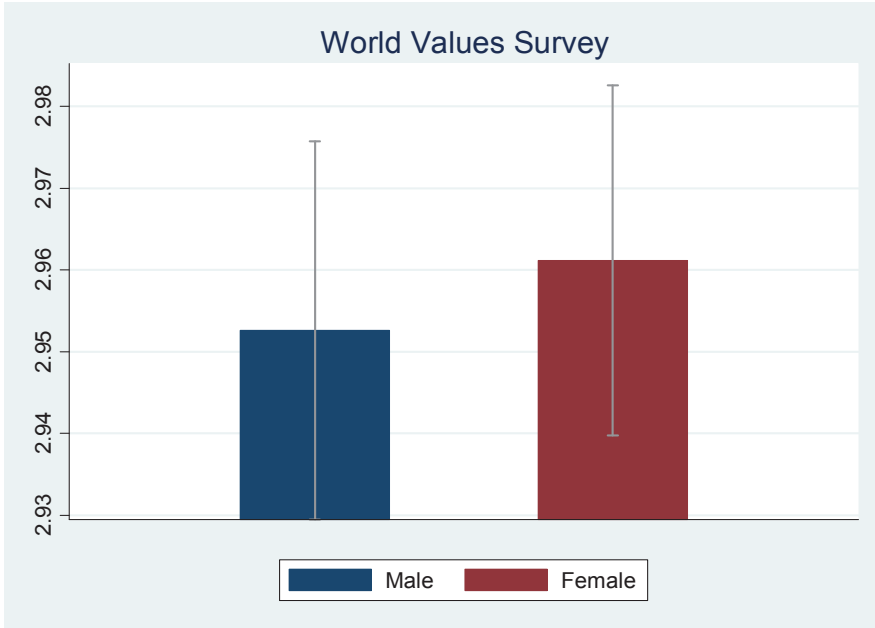


Figure 4.5 | Happiness Level by Gender

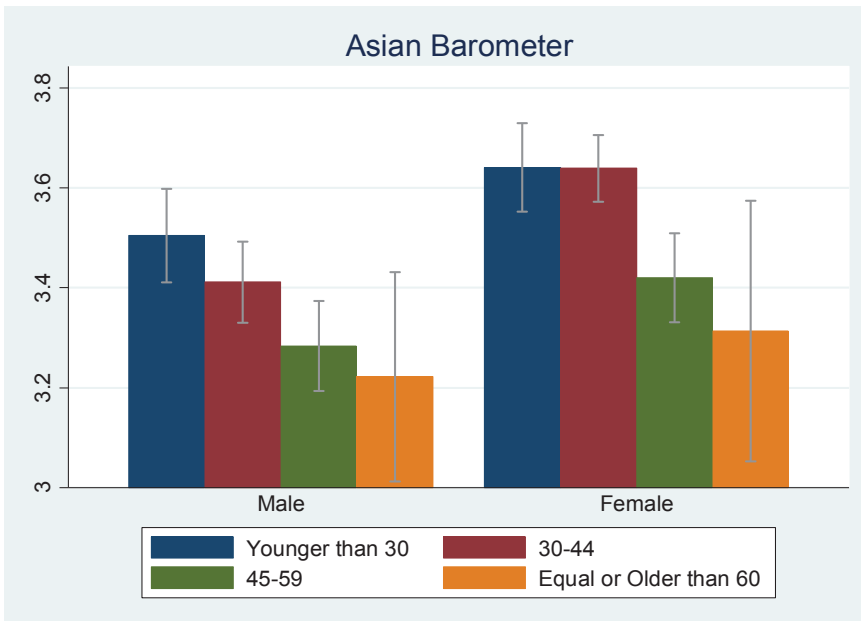
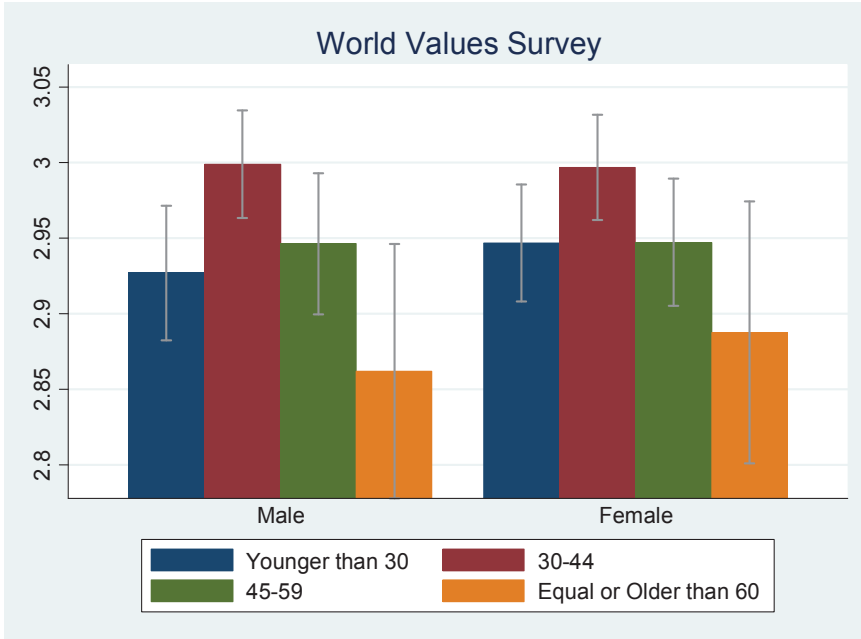


Here we have divided individuals equally into three groups based on income: low, middle and high. We can see a similar pattern here as in the World Values Survey: the middle-income group has a higher happiness level than the low-income group, but the upper-income group is not statistically different from the middle-income group at the 95 percent confidence interval.

Individual happiness by educational attainment is reported in Figure 4.3. Consistent with most findings in the literature, people are happier if they have received more schooling. The data in both the World Values Survey and Asian Barometer also suggest that the happiness gap between those with and without secondary schooling group is relatively large, whereas the gap between college graduates and those who have completed only secondary school is comparatively small. Figure 4.4 shows that married people are happier than unmarried people; in particular, the divorced, separated, and widowed are less happy. Figure 4.5 reports the happiness level by gender. The World Value Survey data suggests that over all from 1990 to 2005, the happiness level of both gender is quite similar. However, when we use the relatively recent data, the Asian Barometer, females tends to have a higher happiness level than male. We can also confirm the similar pattern in Figure 3.3, where we observe higher happiness level of female in middle 2000s. Females are happier than males overall in Korea (Figure 4.5). The difference is more significant in the Asian Barometer, which uses a 5-point scale to evaluate happiness, compared to the 4-point scale in the World Values Survey.

Figure 4.6 presents the happiness level of each age group, distinguished by gender. In the WVS individuals aged below 30 tends to be less happy than people aged 30-44, however the difference is not statistically significant. In general, the data suggests that both males and females appear to be happiest when young and then become increasingly less happy after middle age. This evidence is different from the U-shaped relationship suggested in the literature, according to which happiness usually declines after individuals have reached 18 years old and through middle age (i.e., 35 to 50 years old), and then starts to increase again. Figure 4.6 shows that in both World Values Survey and Asian Barometer data, average happiness becomes lower as age increases. This result

Figure 4.6 | Happiness Level by Age



suggests that seniors are relatively less happy in Korea than seniors in other countries. On the other hand, both the World Values Survey and Asian Barometer provide cross-sectional data, observing each individual only once; in other words, these surveys do not track the same individuals as they get older. To confirm the relationship between age and happiness, we would need to explore evidence from longitudinal data (Please see Chapter 5 for a detailed discussion of the correlation between age and happiness).

4. Estimation

Using the data in the World Values Survey, Asian Barometer, and Gallup World Poll, I also investigate how happiness is associated with personal and family characteristics. I conduct OLS analysis on the following model:

$$\text{Happiness}_i = X_i' \beta + \varepsilon_i$$

X_i is a vector of personal and family characteristics of each individual i ; ε_i is an error term; β , the coefficient of X , is a vector which measure the effect of X on happiness. Though ordered probit (logit) models seem to be more appropriate to conduct regression analysis given categorical dependent variable, a long line of papers such as Blanchflower and Oswald (2011) and Ferrer-i-Carbonell and Frijters (2004) suggest that there is little difference between treating happiness cardinal and ordinal. Moreover, the former method has an attractive feature that it is straightforward to interpret the size of coefficients.¹

I first analyze the results in the World Values Survey. The summary statistics of all variables used in the regression are reported in Table 4.1. The regression results are presented in Table 4.2. The advantage of running regressions instead of comparing means, as was done in the previous section, is that we can isolate the effect of each factor and minimize potential concerns regarding correlations across factors.

¹ I also did robustness checks to use ordered probit and logit model to re-do all the estimations and all the linear regression results are consistent with the results in ordered probit (logit) model.

Table 4.1 Summary Statistics (World Values Survey)

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Happiness	4835	2.957	0.558	1	4
Female	4835	0.511	0.500	0	1
Secondary school	4835	0.446	0.497	0	1
College	4831	0.437	0.496	0	1
Age	4833	39.061	13.057	17	91
Age squared/100	4833	16.962	11.171	2.89	82.81
Marriage	4828	0.670	0.470	0	1
Income decile	4764	4.797	2.223	1	10
Manager	4835	0.148	0.355	0	1
Professional	4835	0.104	0.305	0	1
Non-manual	4835	0.119	0.323	0	1
Trust	4797	0.305	0.460	0	1
Spend time with parents or other relatives	1172	2.153	0.854	0	3
Spend time with fiends	1182	2.151	0.845	0	3
Spend time with colleagues	1102	1.752	1.064	0	3
Spend time with people in church	1099	1.104	1.200	0	3
Spend time with people at communal organization	1099	0.718	0.985	0	3

In the first column, personal and household basic characteristics are included in the regression. Individuals' education level is divided into three groups: below secondary, secondary, and college or above. The group omitted is the individuals with less than secondary school education. The coefficient for secondary school is positive, but the result is not statistically significant. The coefficient for college is positive and statistically significant at the 10% level; the magnitude of this coefficient is also much larger than the coefficient for secondary school. These results suggest that individuals with college education or above are much happier than individuals without college education.

The coefficient for age is negative and the coefficient for age squared is positive, indicating that the age profile for happiness is U-shaped.²

² We observe an inverted-U shape age profile in the upper panel of Figure 4.6. However, the youngest age group is not statistically different from all other age

However, the age at the bottom of the U is almost 60. It appears that the rate of decline in happiness decreases with age, and that at around age 60 happiness starts to increase again. As suggested before, a detailed discussion of the correlation between age and happiness is provided in Chapter 5, where panel data is used for analysis.

Rich people are, on average, happier than the poor. Note that this linear regression model imposes a linear relationship between income and happiness, and it suggests that moving up one income decile is associated with a 0.03-point increase (out of 4) in happiness.

The coefficient for females is positive but not statistically significant. Comparing the coefficients of all regressors within column 1 suggests that marriage has a strong correlation with happiness; in fact, this correlation is stronger than having a college degree or income moving up by five deciles.

In the second column, I investigate the happiness level of each occupation. Occupations are divided into four groups: manual, non-manual, professional, and managerial. The omitted base group is the manual group. The estimation results suggest that individuals in the professional, managerial, and non-manual occupations are all happier than those in manual occupations; in addition, the professional occupations have the highest happiness level of all. These results are especially interesting in that, because we have already controlled for income and education, the estimation essentially is comparing individuals with the same level of education and income but different occupations. The reasons why individuals in professional occupations are happier, therefore, are not limited only to the fact that they have higher income or education; there may exist an additional job-related premium leading to happiness in these occupations.

The literature has indicated that social trust is highly correlated with happiness; the World Values Survey suggests that this is also the case in Korea. The survey asks, “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?” A respondent can choose either “most people can be trusted” or “need to be very careful.” I define the value of trust as equaling 1 if a

groups, which makes the invested-U shape in Figure 4.6 not statistically significant.

Table 4.2 | Happiness Regression (World Values Survey)

	Dependent Variable: Happiness			
	(1)	(2)	(3)	(4)
Female	0.007 (0.016)	0.021 (0.023)	0.018 (0.023)	0.003 (0.043)
Secondary school	0.025 (0.033)	0.069 (0.052)	0.058 (0.052)	0.075 (0.146)
College	0.067* (0.034)	0.067 (0.056)	0.053 (0.056)	0.067 (0.152)
Age	-0.014*** (0.005)	-0.013* (0.008)	-0.014* (0.008)	0.013 (0.014)
Age squared/100	0.012** (0.006)	0.013 (0.009)	0.013 (0.009)	-0.02 (0.017)
Marriage	0.179*** (0.025)	0.197*** (0.036)	0.197*** (0.036)	0.063 (0.061)
Income decile	0.033*** (0.004)	0.026*** (0.006)	0.026*** (0.006)	0.025* (0.014)
Manager		0.082** (0.035)	0.088** (0.035)	0.099 (0.063)
Professional		0.169*** (0.040)	0.163*** (0.040)	0.126* (0.073)
Non-manual		0.091** (0.036)	0.091** (0.036)	0.099* (0.060)
Trust			0.119*** (0.024)	0.112** (0.044)
Spend time with parents or other relatives				0.029 (0.026)
Spend time with friends				0.046 (0.029)
Spend time with colleagues				-0.022 (0.025)
Spend time people in church				0.063*** (0.018)
Spend time with people at communal organization				0.007 (0.021)
Observations	4,755	2,337	2,322	641
R-squared	0.048	0.065	0.074	0.085

Notes: Robust standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

respondent chooses “most people can be trusted” and as 0 otherwise. The regression result in the third column of Table 4.2 suggests that social trust is indeed positively associated with happiness. However, like many papers in the literature, we are identifying only a correlation; we still do not know whether a person’s trust level can cause an increase in happiness.

The last column of Table 4.2 further investigates the correlation between happiness and people’s allocation of time. The World Values Survey asks individuals how often they spend time with parents or relatives, friends, colleagues, and people at church. Respondents choose from the following alternatives: not at all, only a few times a year, once or twice a month, and weekly. The regression results in the last column suggest that individuals who spend more time with people at church are happier than people than those who spend less time or no time with people at church. This evidence may suggest that religious people are happier than non-religious people. The coefficient for spending time with friends is also relatively large, and the significance level is close to 10%, indicating that people who spend more time with their friends tend to be happier. On the other hand, interestingly, spending time with parents, other relatives, or colleagues is not significantly correlated with happiness.

In summary, the findings in the World Values Survey are consistent with the literature: high education, high income, marriage, and high social trust levels are associated with high levels of happiness. Furthermore, among the four occupation categories defined in the World Values Survey, professional occupations have the highest happiness level and manual occupations have the lowest. Individuals with managerial or non-manual occupations have approximately equal levels of happiness. Individuals spend more time with friends or people in church are likely to be happier.

The R-squared in Table 4.2 is quite small, only about 5% to 10% (same as Table 4.4 and 4.6 in this chapter). This may suggest that the variables used in the regression only explained a small amount of the variation in happiness. In other words, there are potentially many other factors that could have effect on happiness.

Table 4.3 Summary Statistics (Asian Barometer)

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Happy	2634	3.477	0.883	1	5
Female	2634	0.494	0.500	0	1
Years of education	2631	12.783	2.663	0	18
Log household income	2525	4.802	2.183	2.708	9.048
Age	2634	39.181	11.770	20	69
Age squared/100	2634	16.736	9.778	4	47.61
Marriage	2634	0.729	0.445	0	1
Satisfied with household income	2626	3.026	0.847	1	5
Satisfied with family life	2631	3.651	0.779	1	5
Satisfied with housing	2632	3.443	0.886	1	5
Satisfied with friendship	2628	3.810	0.736	1	5
Satisfied with health	2631	3.549	0.912	1	5
Satisfied with job	2546	3.196	0.906	1	5
Satisfied with welfare system	2578	2.623	0.879	1	5

I will now turn to the Asian Barometer data. The summary statistics and estimation results are reported in Tables 4.3 and 4.4, respectively. Education is defined in terms of years of education and household income is defined as log household income. As with the estimation results in the World Values Survey, education and marriage are positively correlated with happiness, and age has a U-shaped relationship with happiness. An increase in one year of education is associated with an increase in happiness of 0.035 points out of 5 (column 1 of Table 4.4). Because income uses a logarithmic formula, the coefficient for log of income can be interpreted as stating that a 1 percent increase in household income is associated with an increase in happiness of 0.0018 points (column 1 of Table 4.4).

Table 4.4 | Happiness Regression (Asian Barometer)

	Dependent Variable: Happiness	
	(1)	(2)
Female	0.159*** (0.035)	0.159*** (0.031)
Years of education	0.035*** (0.008)	0.020*** (0.007)
Age	-0.059*** (0.011)	-0.033*** (0.011)
Age squared/100	0.057*** (0.013)	0.027** (0.012)
Marriage	0.440*** (0.056)	0.340*** (0.051)
Log of household income	0.185*** (0.036)	-0.045 (0.033)
Satisfied with household income		0.173*** (0.024)
Satisfied with family life		0.161*** (0.024)
Satisfied with housing		0.153*** (0.021)
Satisfied with friendship		0.090*** (0.024)
Satisfied with health		0.069*** (0.019)
Satisfied with job		0.057*** (0.021)
Satisfied with welfare system		0.040** (0.018)
Constant	2.506*** (0.347)	1.525*** (0.325)
Observations	2,522	2,380
R-squared	0.076	0.280

Notes: Robust standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

In the Asian Barometer, we also observe a gender difference in happiness. Females are much happier compared to males. This gender effect is almost equal to the impact of three years of education (the coefficient for the female dummy is almost three times the coefficient for years of education). The reason why a more significant gender difference is observed in the Asian Barometer than in the World Values Survey could be related to differences in sampling design and the scale of happiness provided to respondents (again, the Asian Barometer uses a 5-point scale as compared to the 4-point scale on the World Values Survey). Furthermore, the Asian Barometer data come from more recent years, namely 2003 through 2006, whereas half of the World Values Survey observations come from before 2000 and the other half were obtained in 2001 and 2005. Comparing the two sets of survey results may imply that females are happier in recent years when compared to earlier years. However, further evidence from time series data would be necessary to support this argument.

I then estimate how happiness is correlated with satisfaction in several life areas, such as income and family life. The Asian Barometer asks, "Please tell me how satisfied or dissatisfied you are with the following aspects of your life." The aspects listed are household income, family life, housing, friendship, health, job, and welfare system. A respondent can choose from 1 (very dissatisfied) to 5 (very satisfied). I investigate whether and to what extent satisfaction with each life aspect is related to happiness.

The estimation results are reported in column 2 of Table 4.4. Note that the estimation controls for all basic characteristics used in column 1, and therefore the estimation essentially compares individuals with the same income, education, gender, age, and marital status. Satisfaction with all these life aspects is positively correlated with happiness. Among the various factors, satisfaction with household income, family life, and housing has the largest correlation with happiness. This suggests that among comparable individuals, those who are more satisfied with their household income, family life, and housing are significantly happier than those who are not satisfied with these life aspects. The coefficients

for these areas of satisfaction are almost three times the coefficients for satisfaction with one's job or with the welfare system, underscoring the relative importance of these three life aspects when compared to others.

Table 4.5 Summary Statistics (Gallup World Poll)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Happiness (Cantril ladder)	8,945	5.900	2.137	0	10
Female	9,101	0.512	0.500	0	1
Married or common-law	9,086	0.591	0.492	0	1
Separated, divorced, or widowed	9,086	0.045	0.208	0	1
Age	9,089	41.167	17.790	15	99
Age squared/100	9,089	20.112	16.087	2.25	98.01
Secondary	9,057	0.570	0.495	0	1
College	9,057	0.299	0.458	0	1
Log of income	5,856	10.384	1.315	0	14.315
Not enough money for food	9,028	0.158	0.364	0	1
Not enough money for shelter	8,970	0.230	0.421	0	1
Having friends to count on	7,933	0.795	0.404	0	1
Freedom in life choices	7,573	0.641	0.480	0	1
Confidence in judicial system	7,315	0.324	0.468	0	1
Confidence in national government	7,535	0.293	0.455	0	1
Perceived corruption in government and business	7,886	0.810	0.348	0	1
Feeling safe when walking alone at night	8,732	0.627	0.484	0	1
Donations	7,084	0.308	0.462	0	1
Volunteering	7,083	0.245	0.430	0	1
Helped strangers	7,034	0.420	0.494	0	1
Whether attended religious service recently	5,094	0.351	0.477	0	1

Table 4.6 | Happiness Regression (Gallup World Poll)

	Dependent variable: Happiness (Cantril ladder)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.386*** (0.062)	0.356*** (0.061)	0.312*** (0.066)	0.451*** (0.074)	0.407*** (0.074)	0.373*** (0.089)	0.420*** (0.102)
Married or common-law	0.512*** (0.114)	0.562*** (0.113)	0.524*** (0.125)	0.536*** (0.133)	0.563*** (0.133)	0.769*** (0.159)	0.716*** (0.170)
Separated, divorced, or widowed	-0.458** (0.209)	-0.19 (0.201)	-0.288 (0.245)	-0.133 (0.298)	-0.248 (0.271)	0.129 (0.346)	0.276 (0.464)
Age	-0.081*** (0.013)	-0.068*** (0.013)	-0.073*** (0.014)	-0.075*** (0.016)	-0.099*** (0.016)	-0.132*** (0.020)	-0.097*** (0.024)
Age squared/100	0.070*** (0.013)	0.056*** (0.013)	0.062*** (0.015)	0.054*** (0.017)	0.084*** (0.016)	0.124*** (0.021)	0.091*** (0.027)
Secondary school	0.509*** (0.129)	0.380*** (0.128)	0.288** (0.140)	0.354** (0.161)	0.401*** (0.149)	0.711*** (0.202)	0.461* (0.243)
College	0.990*** (0.136)	0.803*** (0.134)	0.744*** (0.148)	0.763*** (0.169)	0.826*** (0.156)	1.380*** (0.214)	0.937*** (0.255)
Log of income	0.298*** (0.047)	0.212*** (0.048)	0.241*** (0.052)	0.267*** (0.068)	0.243*** (0.049)	0.316*** (0.052)	0.257*** (0.063)
Not enough money for food		-0.862*** (0.105)					-0.792*** (0.203)
Not enough money for shelter		-0.583*** (0.077)					-0.434*** (0.124)
Having friends to count on			0.979*** (0.097)				0.695*** (0.147)
Freedom in life choices			0.688*** (0.069)				0.394*** (0.101)
Confidence in judicial system				0.195** (0.087)			0.135 (0.119)
Confidence in National government				0.246*** (0.094)			0.059 (0.136)
Perceived corruption in government and business				0.403*** (0.111)			-0.105 (0.142)

Table 4.6 | Continue

	Dependent variable: Happiness (Cantril ladder)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Feeling safe when walking alone at night				0.365*** (0.075)			0.238** (0.102)
Donations					0.281*** (0.081)		0.071 (0.112)
Volunteering					0.379*** (0.088)		0.230** (0.116)
Helped strangers					0.157** (0.078)		0.175* (0.098)
Whether attended religious service recently						0.288*** (0.092)	0.225** (0.106)
Constant	3.247*** (0.528)	4.237*** (0.532)	2.760*** (0.580)	3.627*** (0.723)	4.087*** (0.557)	3.582*** (0.619)	2.906*** (0.754)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,735	5,655	4,520	3,853	4,013	2,494	1,745
R-squared	0.155	0.197	0.206	0.156	0.183	0.159	0.16

Notes: Robust standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

Finally, I analyze results from the Gallup World Poll. The summary statistics are reported in Table 4.5, and the regression results are shown in Table 4.6. Note that the coefficient in Table 4.6 is much larger than the analogous coefficient in Tables 4.2 and 4.4 for the common factors such as income, gender, and education. This is because happiness in the Gallup World Poll has a scale of 0 to 10, whereas the World Values Survey and Asian Barometer have scales of only 4 or 5 points. The estimation using basic personal characteristics yields similar results as previously. Females are happier than males; higher education indicates a higher level of happiness. Increase of income by 1 percent increases happiness by 0.3 points.

The omitted group in the marital status regression is singles. The large negative coefficient for separated, divorced, or widowed persons suggests that those individuals' happiness is much lower when compared to

that of singles. The happiness gap between these two groups is about the same as the gap between the secondary school and college education group. However, singles are not as happy as married persons; there is a large positive coefficient for the “married or common-law” group.

The regression in column 2 investigates how the availability of basic life-support items such as food and shelter affects happiness. As expected, individuals who don’t have enough money for food or shelter have significantly lower happiness, the effect is particularly strong with regard to food.

The estimation in column 3 indicates the importance of friends in life. Individuals who have friends to count on are significantly happier than those who do not. The coefficient for this variable is by far the largest one among all the covariates. Freedom in life choices is another element highly correlated with happiness. This finding is consistent with the suggestion in the literature that people who have a sense of control over their own lives also have high life satisfaction.

Column 4 focuses on relationships between the quality of government and individual happiness. The estimation suggests that corruption in government and business could substantially damage happiness. Having confidence in the judicial system and national government is associated with a high level of happiness. If local security is good enough for people to feel able to walk around at night, this could also contribute to individual happiness.

Column 5 shows that people who make donations, volunteer, or help strangers are happier than those who do not. Although in this analysis the causal relationship is unclear—i.e., we do not know whether engaging in such behaviors helped those individuals to become happier, or if persons are more likely to donate, volunteer, or help others because they are already happy—the large coefficients do suggest a close relationship between kind behaviors and happiness. On the other hand, literature does provide evidence that volunteering has a causal effect on happiness, which further supports the suggestion here. Meier and Stutzer (2008) find that volunteering causes happiness (not only vice-versa) from their finding that when people lost volunteering opportunities, subsequent happiness ratings declined.

Column 6 shows that people who answered attended religious services

recently are happier than those who did not. This result is consistent with the findings in the World Values Survey that people who frequently spend time in church are happier than those who don't. Both results suggest that religious people could be happier than non-religious people.

5. Conclusions

This chapter has identified several important factors that are closely related to happiness. Raising people's income may improve their happiness. However, a policy to assist in this regard would be relevant and efficient only if lower-income people were targeted, since raising people's incomes from middle to high levels does not cause a further increase in income. Education is also a very consistent and important factor impacting happiness. It can be influential not only by leading to increased income, but also by making people more informed about the structure of and developments in society, helping them to assess potential risks and opportunities in their daily lives.

The quality of government institutions is another important factor in citizens' happiness. Feeling safe when walking alone at night, having less corruption in government, being able to enjoy a good welfare system, and having freedom in life choices all contribute to a high happiness level, and all these experiences require effective efforts by government.

It is also noteworthy that behaviors such as helping strangers, making donations, volunteering, and social trust are significantly and positively associated with happiness levels. Although the direction of causality is still unclear, we can presume that encouraging people to be more considerate of others could have an additional bonus effect in enhancing happiness.

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CHAPTER 5

Rising Life Satisfaction in Korea: A Panel Data Analysis

*Christopher P. Barrington-Leigh*¹

1. Life Course Overview: Life Satisfaction in a Rapidly-Changing Society

South Korea presents an important global example for understanding satisfaction with life (SWL), for at least three reasons: (1) life satisfaction in South Korea has been well measured in recent years, (2) average life satisfaction in South Korea has undergone a dramatic rise, significant both in magnitude and statistical surety,² and (3) South Korea has simultaneously undergone dramatic industrialization, making it of particular interest in the debate about the relationship between economic growth and subjective well-being (Easterlin *et al.*, 2010).³ Indeed, South Korea's significant, sustained, and steady rise in SWL stands as a relatively rare documented case along with, for example, the one undergone in Quebec, Canada over 25 years (Barrington-Leigh, 2013).

There is a third empirical stylized fact about South Korea which we may use to embark on the analysis below. While *average* SWL appears to be rising fast, mean SWL by age group declines steadily with age.

1 Thanks to Jung Hwan Kim for assistance with the research, and to John Helliwell and Shun Wang for helpful comments.

2 See Chapter 3.

3 Based on World Values Survey data, Easterlin *et al.* (2010) characterize South Korea's growth in subjective well-being as a "not statistically significant increase". Clearly, in light of earlier chapters in this volume, that view is out of date.

That is, in comparing people of different ages who responded in cross-sectional or panel surveys, older people report, on average, lower life satisfaction. This gives the superficial appearance that the elderly are not faring as well as others in this rapidly changing society.

This is true if we look at the population at a moment in time, and it is also true if we look at a sample of the population pooled over several or many years. However, it turns out not to be true if we follow particular individuals over time. In this chapter, we make use of the KLIPS panel survey to bring to light aspects of the changes in life satisfaction over the 15 years from 1998 to 2012 which are best addressed by following the lives of specific individuals from year to year.

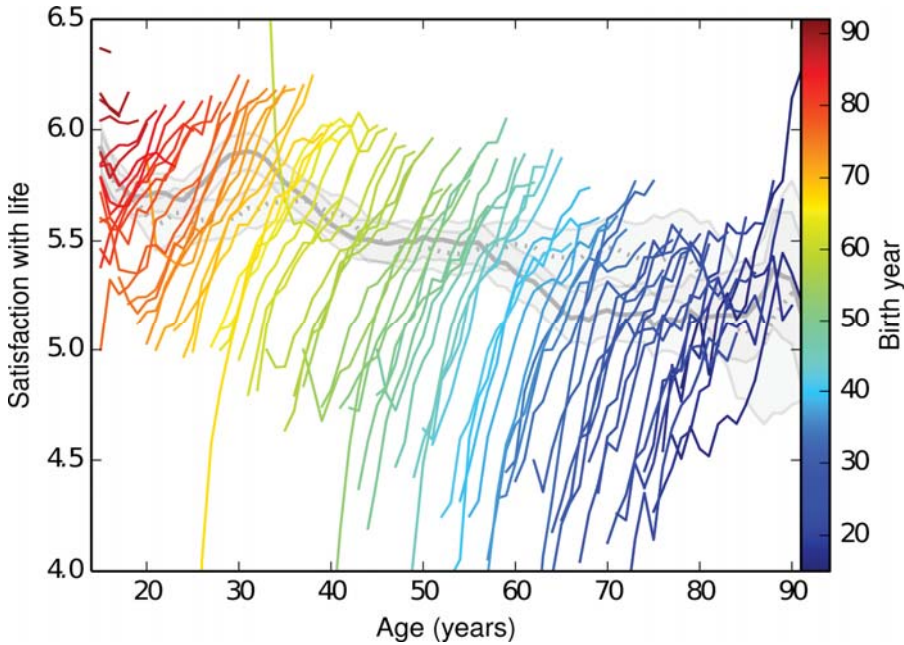
1.1. Increases over Time and Decreases with Age

It is a result of the rapidity of rising income changes and shifts in the social and institutional environment that it becomes easy to confuse a downward trend with age with an underlying shift across cohorts of the population. That is, if people from earlier generations are dramatically less happy overall than those of more recent generations, it will appear as though the currently older are less happy than the currently young. This should not be interpreted, without more careful inspection, as a prediction for the trend in subjective well-being that an individual is likely to experience throughout her life course. In fact, as we shall see, it is instead the case that life satisfaction can be expected to rise over time for individuals over their future lives, regardless of their current age.

Figure 5.1 shows this discrepancy. While individuals are experiencing rising well-being, older cohorts are starting out from a lower well-being level. This difference across generations is so strong as to overwhelm the positive trend experienced by individuals. As a result, in a population cross-section, it appears the elderly are less happy than middle-aged and young people. In fact, SWL reports of individuals of all ages are rising at an astonishing rate. That is, it is likely the case that current middle-aged and elderly people were considerably less happy in their youth than their offspring are in theirs. This realization may immediately relieve some policy concerns that one way or another, shortfalls in state, family, and financial supports for the elderly are putting an undue

burden on them as a collateral effect of the rapid, development-related changes in household structure and savings patterns.

Figure 5.1 | Life Satisfaction Trajectories by One-Year Birth Cohort



Notes: Each coloured line shows the mean life satisfaction (scaled 0–10) for respondents of the same birth-year cohort, each year over the first 15 years of the KLIPS panel. Grey lines show the population-averaged means for males (dashed) and females (solid), with bands showing 95% confidence intervals. All data are smoothed with a 5-year exponentially weighted moving average.

1.2. Why the Cohort Trend?

If SWL is not decreasing for individuals as they age, we are left to explain why earlier cohorts are less satisfied with their lives than more recent ones will be at the same age. We may imagine several possible circumstances which could differentiate the generations:

(1) It could be that people from earlier cohorts are simply less well-off since they have spent less of their lives living in the relatively high-income recent period.

(2) More specifically, it could be that they have in particular less appropriate preparation for retirement, i.e. less security in store for their

non-working years and old age, as a result of a shift in old age security from an informal dependence on family to a more individualistic system based on capital accumulation.

(3) On the other hand, the relevant form of capital affecting life satisfaction reports could be more embodied in humans themselves: if life satisfaction reflects the past, rather than just future expectations, then relative hardships in one's youth, infancy, and epigenetic makeup could be behind "set-points" in life satisfaction that persist despite the generally improved conditions of modern life and the universally-shared public goods that it has brought along.

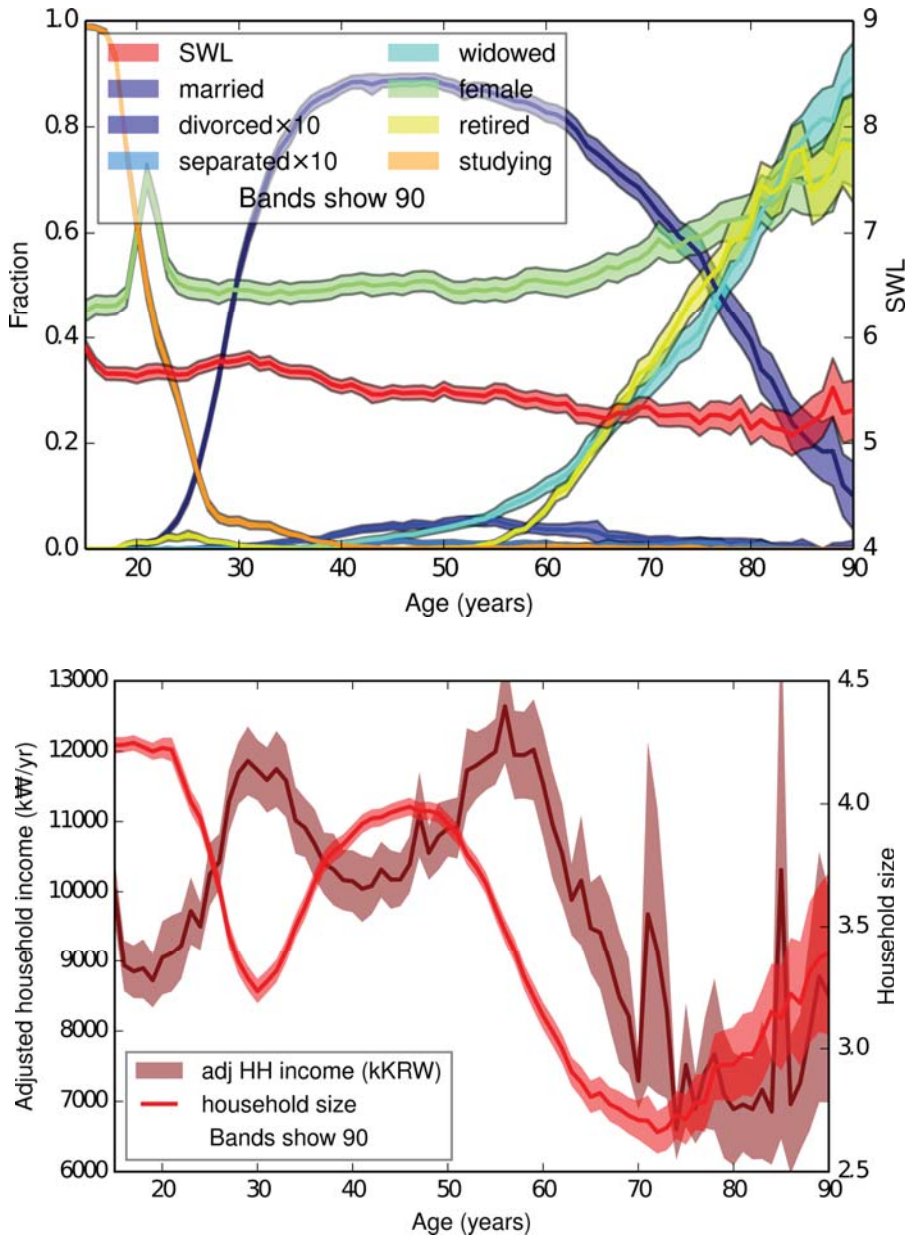
In the sections which follow, we partly address this question by estimating the influence of factors over the life course and, where possible, across cohorts. While this is in general a difficult distinction to identify econometrically, it is made easier in the case of South Korea by the fast rate of change underway across generations.

2. Changing Circumstances throughout the Life Course

In order to give an overview of the context and complexity of life cycle effects impacting life satisfaction, Figure 5.2 presents mean values by age for several variables. In red, and using the right hand side scale, is SWL shown again declining nearly monotonically over the range of ages. The width of each trace in this plot shows its 95% confidence intervals. The remaining traces show the fraction of respondents falling into each dichotomous category. As we shall see, gender is an immediately important factor in understanding life course events, and therefore matters when characterising life changes surrounding retirement.

Gender fractions in KLIPS diverge twice. First of all, during the ages of military service for men, the response rate for men declines steeply, leading to the first, temporary spike in the female fraction. Later in life, the longer life span of females leads to a dramatic difference in gender fractions by age 90.

Figure 5.2 Life Circumstances over the Life Course



Notes: The upper panel shows life satisfaction (in red, declining, with scale on the right) and several demographic conditions (shown as fractions of the population, with scale on the left) averaged by age of respondents. The lower axes show household size and a measure of real (price-corrected) household size-adjusted income, calculated as annual income divided by the square root of the household size.

The marital states are strong predictors of subjective well-being outcomes, and their prevalences vary significantly over the life course. Therefore, when considering the family, domestic, and financial supports experienced by the retired and elderly, these relationship changes will be important context. For instance, the rate of widowhood rises with similar rate and timing to the retirement fraction, making it important to account for both effects on SWL independently.

It is common practice to assume that household incomes, rather than individual incomes, are the most salient measure in accounting for individual differences in life satisfaction. This reflects both the collectivity (pooling of resources) of households as well as the economies of scale in accommodation and living costs. In order to account best for these economies of scale, household income is scaled to an individual income equivalent, often by dividing by the square root of the number of household members. As can be seen in Figure 5.2, there is some natural inverse correlation between this corrected income and the household size. Moreover, the dynamics of cohabitation and household size are complex over the life course, with visible swings as children depart from their parents, as they marry and raise families, as their own children leave, and then, in their old age, as they once again join other households or group living environments.

2.1. Age-pooled Model

Next, we may consider the estimated contributions of these naturally time-varying life-course conditions towards explaining the overall progression of life satisfaction. For this purpose, SWL is modeled according to a simple linear equation, as is used nearly universally in accounting for life satisfaction differences, except that in this case age is not explicitly included:

$$SWL_{it} = b_0 + bX_{it} + (\mu_i + \varepsilon_{it}) \quad . \quad (1)$$

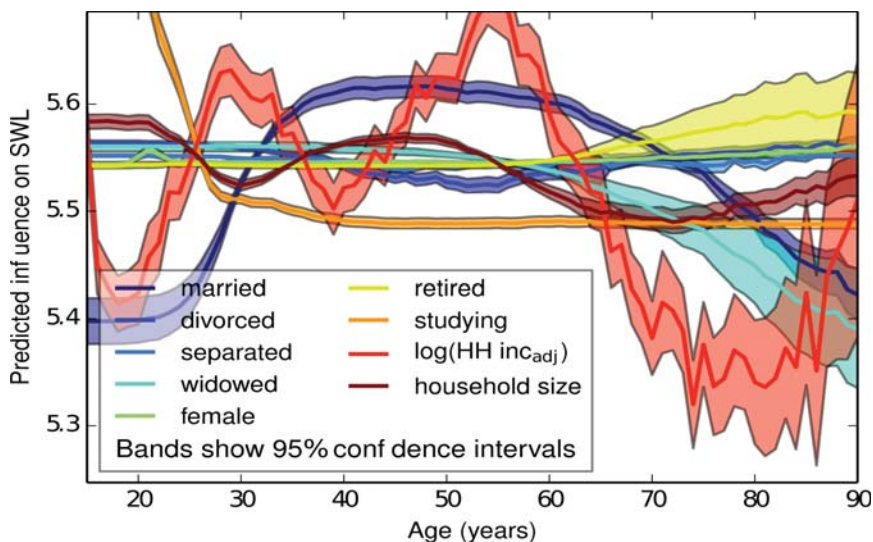
Here, X_{it} represents a vector of the variables⁴ shown in Figure 5.2 for

⁴ In place of the real adjusted income shown in Figure 5.2, this specification uses an

individual i 's response during year t , and the error term includes an individual-specific cluster term μ_i in addition to the observation-level error ε_{it} .

An OLS estimate of Equation (1) yields highly significant coefficients on each term.⁵ Combining these coefficients with the estimates shown in Figure 5.2 provides the explained contributions⁶ of each variable over the life course, which are shown in Figure 5.3.

Figure 5.3 | Predicted Age Dependence of SWL



Notes: Based on the life cycle patterns shown in Figure 5.2 and on an age-free model of SWL, traces show the predicted influence of different life circumstances on the average SWL for each age group.

These estimated influences show the overall role of each condition in explaining SWL differences across the population; that is, they reflect both the incidence of each state (as shown in Figure 5.2) and the

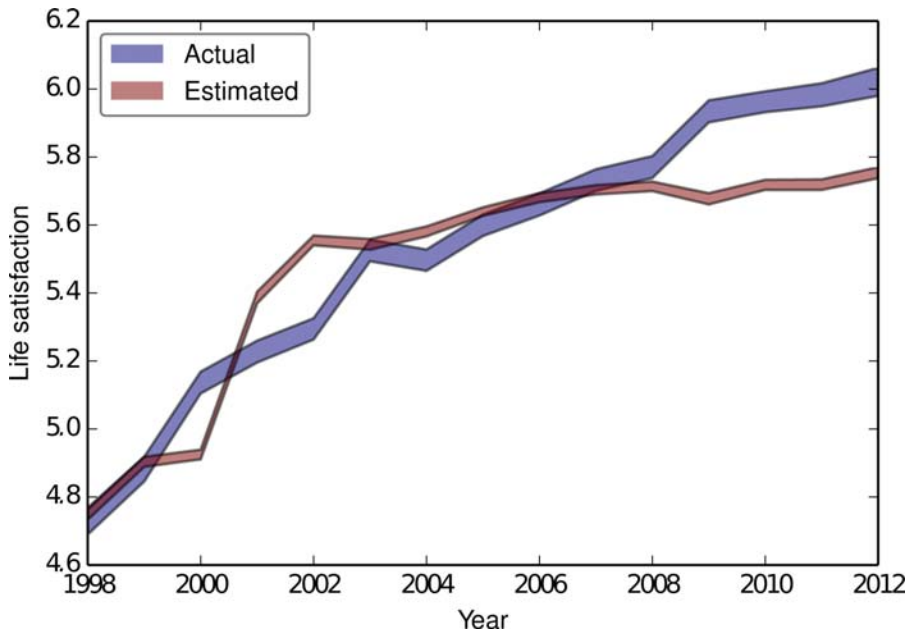
inverse hyperbolic sine transformed version of the real adjusted income in order better to capture the variation and the concavity in income's effect on SWL, and in order to incorporate nonpositive income values (See Burbidge, Magee, and Robb, 1988; Johnson, 1949). The \sinh^{-1} transformation is: $\sinh^{-1}(x) = \log(x + (x^2 + 1)^{1/2})$, and is similar to a simple logarithm for values well above zero.

5 See Table 5.5 in appendix for details.

6 The estimate shown for each variable assumes that all other variables are held at their population average.

magnitude of its effect on SWL. However, a key assumption facilitating this decomposition is that this marginal effect of each condition on an individual's SWL does not change significantly over the life course, nor over time. For instance, it assumes that the impact of being widowed can be expected to be the same for a 30 year old and an 80 year old. In addition, the estimate pools together people of the same age but different cohorts. As we have seen above, there may be significant differences in terms of the experience of successive cohorts. Nevertheless, as shown in Figure 5.4, with just this simple model we are able to capture the majority of the increase in SWL experienced by South Koreans over the period of the KLIPS panel. We next consider another possibility for comparing the relative contributions of different sorts of changes to life over this period.

Figure 5.4 Prediction of Population Mean SWL



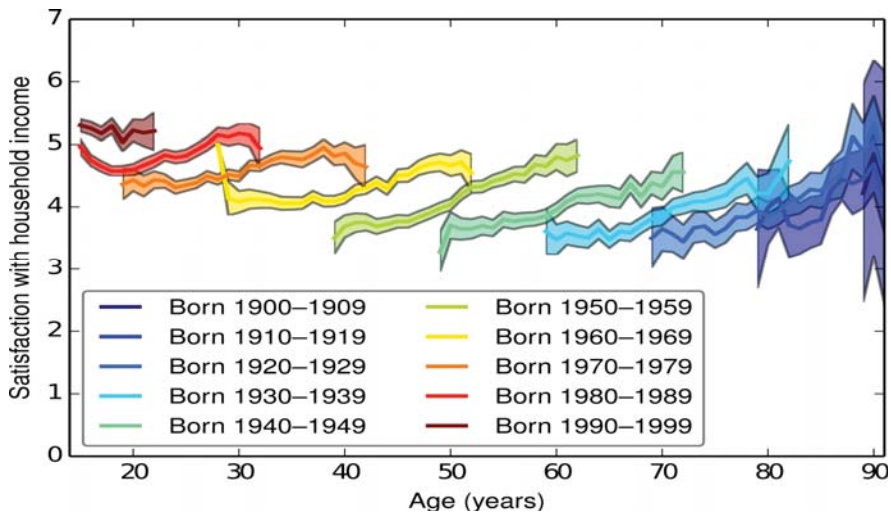
Notes: An age-free model of SWL and the life cycle patterns shown in Figure 5.2 are able to capture much of the rise of SWL since the beginning of the KLIPS survey.

2.2. Domain Satisfactions

One place to seek insight into the drivers of such a prominent increase in life satisfaction is to appeal to other subjective evaluations. The KLIPS survey asks respondents to rate their satisfaction with several domains of life. By separating out, once again, individuals into different birth cohorts, we may assess qualitatively the degree to which systematic national shifts in certain life circumstances are contributing to better lives overall and across cohorts, and the degree to which preexisting differences across cohorts persist with respect to each circumstance. Four representative domains are shown in Figures 5.5 to 5.8. For clarity of the confidence bands, we consider 10-year cohorts.

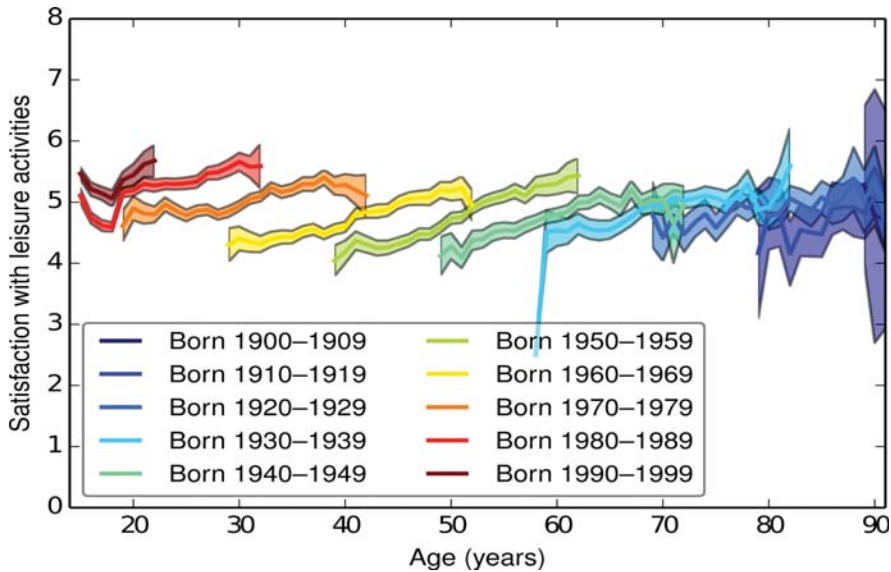
According to these measures, satisfaction with income has risen rapidly for most cohorts over time, including those who have been transitioning into retirement age, and even those who are in their later years. While an overall U-shape in satisfaction with income over the life course is visible in Figure 5.5, it is unclear from these data than any individual cohort is likely to experience such a dip in middle (or retirement) age. For most successive cohort groups, there is again a very significant difference between satisfaction levels at a given age.

Figure 5.5 | Evolution of Satisfaction with Income by Cohort



Notes: Bands show 95% confidence intervals.

Figure 5.6 Evolution of Satisfaction with Leisure by Cohort

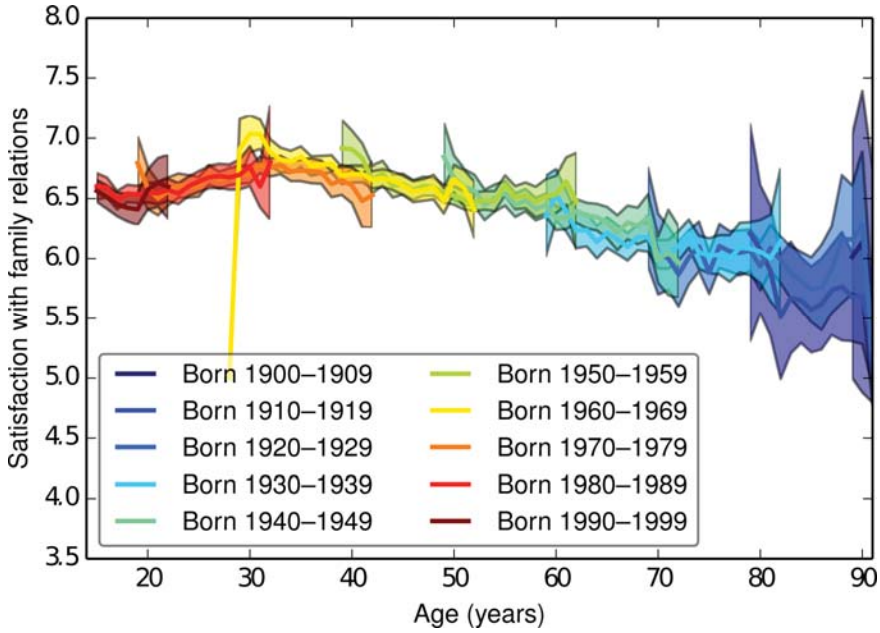


Notes: Bands show 95% confidence intervals.

Interestingly, satisfaction with leisure activities, in Figure 5.6, shows a similar overall pattern of increase for every cohort. By contrast, Figure 5.7 gives evidence that some things are not changing over time. Successive cohorts experience a remarkably similar life cycle progression of subjective experience with respect to their family relations. This suggests a fairly robust pattern in which satisfaction peaks in the early thirties when, according to Figure 5.2, many people have recently married and are starting their own families. The subsequent decline in satisfaction with family relations is particularly pronounced among the most elderly respondents. These data show that population average satisfaction with family relations is not likely to be increasing nor decreasing over time except insofar as it is driven by changes in the age distribution.

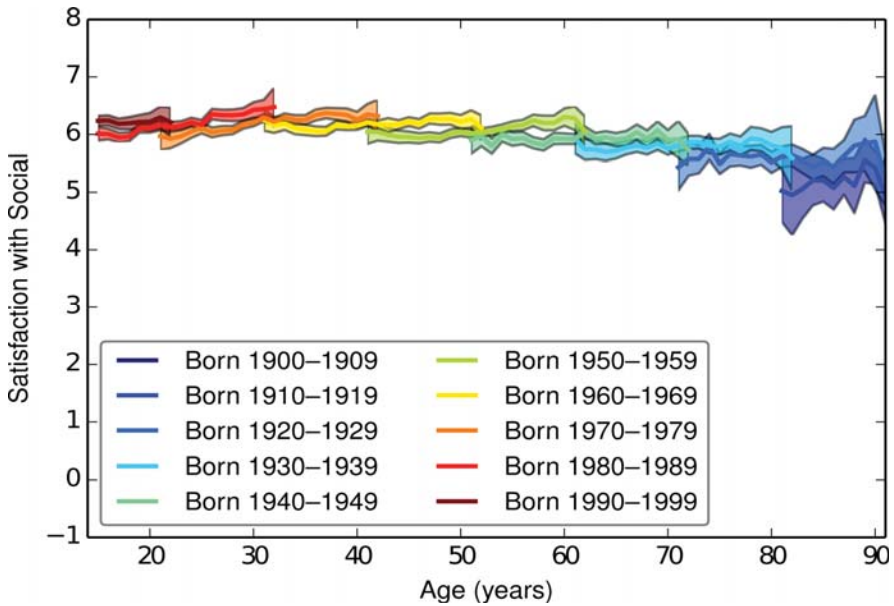
Lastly, satisfaction with social relations, depicted in Figure 5.8, shows signs of significant increases for individuals over time, above what appears to be the underlying life course curve. While both the trends for individuals and the differences between cohorts are much more subtle, there are still significant rises over time for most cohorts until retirement age.

Figure 5.7 Evolution of Satisfaction with Family Relations by Cohort



Notes: Bands show 95% confidence intervals.

Figure 5.8 Evolution of Satisfaction with Social Relations by Cohort



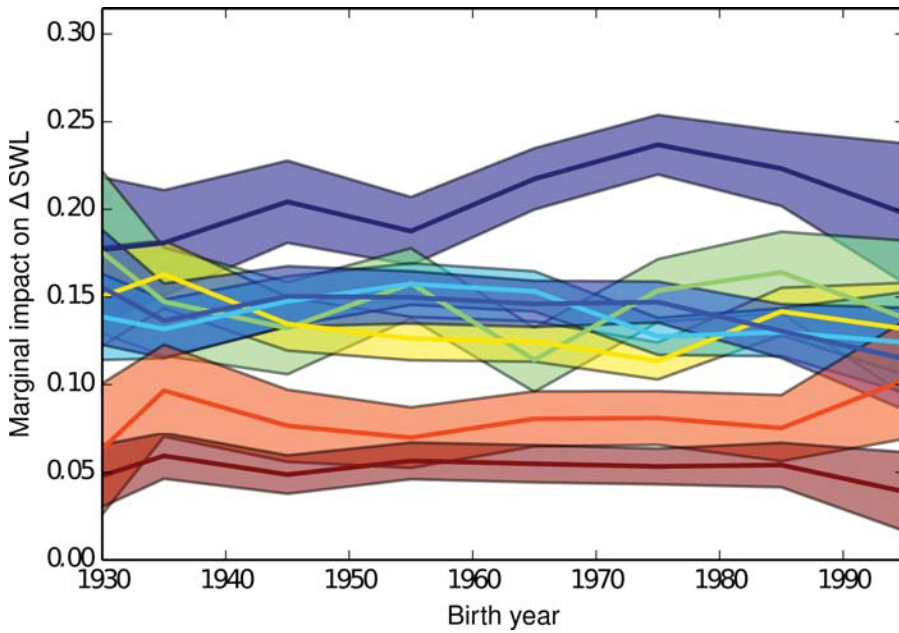
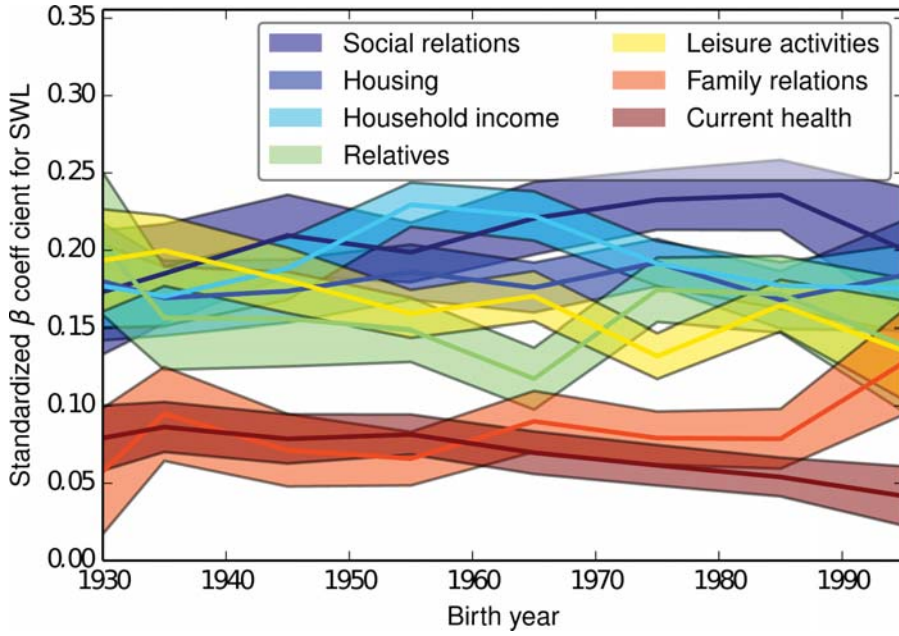
Notes: Bands show 95% confidence intervals.

Overall, the evidence from these domain satisfactions indicates a heavy role for income growth in accounting for the SWL gains experienced by South Korea since 1998. The KLIPS panel does not have a large collection of more objective indicators of the social and institutional experiences of respondents, and evidence from international data suggests that these non-market measures play dominant roles in explaining differences in life satisfaction around the world (e.g., Helliwell and Wang, 2013). Without explicit measures for changes in the social fabric and experience, effects of such missing variables may appear in SWL regressions as a result of their covariance with income and income changes. Nevertheless, from the vantage point of the measures at hand, the rapid evolution of economy and society over the last decade and a half in South Korea appears to have led to major gains in SWL in large part due to income changes, in addition to improving social relations and leisure options. Above all, there is still no strong evidence, after perusing the domain satisfaction data, that the elderly are experience a very different outcome than the positive changes reported by the rest of the population.

3. Relative Weight of Domains

One key piece of context for interpreting the findings on domain satisfaction in the previous section is the relative importance of different domains in accounting for overall life satisfaction (van Praag, Frijters, and Ferrer-i-Carbonell, 2003). On the surface, it may seem that estimating the dependence of a subjective variable, like SWL, on a set of other subjective variables, like domain satisfactions, is liable in principle to incur arbitrarily large measurement error problems. On the other hand, in contrast to the warnings given by Bertrand and Mullainathan (2001) for explaining subjective outcomes with objective conditions, it is in the accounting to follow precisely the subjective couplings between one report and another which are to be identified. Rather than being the source of endogeneity, a subjective bias causing a high or low report of one domain satisfaction and a corresponding shift in an individual's report of SWL may in fact be seen as a subjective shock to that domain, which is the object of study. Even to the extent

Figure 5.9 | Domain Satisfaction Weights



Notes: Bands show 95% confidence intervals.

that such subjectivity in assessments can philosophically or psychologically be considered a mistake, we are interested in the relative linkages between any shifts (“mistakes” or otherwise) in the various domain satisfactions and their corresponding shifts on SWL. Regardless of the possible subtleties in interpreting such an exercise, we can look for consistency of estimates across groups of respondents, and for systematic differences in the estimated weights across domains.

Accordingly, the upper panel of Figure 5.9 shows the relative importance of seven subjective domain reports in explaining individual life satisfaction responses. These include six domain satisfactions, along with respondents’ subjective assessment of their current health status. In order to look for cultural shifts in priorities (or in salience), we have separated respondents based on their birth year, and carried out completely independent estimates for each ten-year birth cohort group.⁷ Because of this coarse resolution, we make no distinction here between cohorts and age.

The vertical axis shows the standardized OLS regression coefficient, which indicates the effect on SWL, measured in standard deviations of SWL, of a one standard deviation change in the subjective domain report. The prominent features of this analysis are that (1) there is a great deal of consistency across cohorts or age groups, and (2) that social, income, and housing satisfactions show the tightest link to SWL, while variation in current health and satisfaction with family relations explain the least of the cross-sectional variation in SWL.

The same domains of life appear to figure strongly in respondents’ subjective assessment of life overall, regardless of which generation the respondent was born into — or, equivalently, over more than six decades of age. There may be weak trends, such as a declining importance of leisure satisfaction and health status for the older respondents, but these are not strong.

A more convincing way to interrogate the relationship between changes in domain satisfactions and overall life evaluation may be to look at changes in each respondent’s evaluations across successive

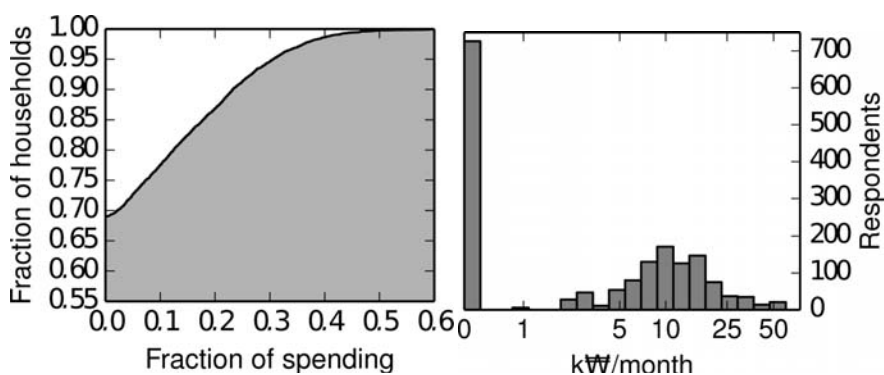
⁷ The specification is otherwise as in Equation (1), with X_{it} denoting the vector of domain satisfactions, except that coefficients are now reported as standardized β coefficients. The estimation results are provided in tabular form in the Appendix Table 5.2.

survey cycles. The results of such a fixed effects estimate⁸ are shown in the bottom panel of Figure 5.9. Now the primary importance of social relations becomes even more distinct. Overall, the results are remarkably consistent with the cross-sectional estimate of the upper panel, and the magnitudes are remarkably steady throughout the life course.

4. Private Tutoring

Next we turn to an issue somewhat particular to South Korea, on which the KLIPS data are well-suited to shed some light. Payments for private, supplementary schooling and tutoring have become a considerable part of overall household expenses, and in total they rival government expenditure in the public education system (Dang and Rogers, 2008); see Figure 5.10. In order to look at this practice from the lens of subjective well-being, we consider two questions: (1) Does increased spending on a child’s education contribute to the child’s later

Figure 5.10 Distribution of Household Spending on Private Education



Notes: The left panel, (a), shows the cumulative distribution of household spending on private education in the 2012 cycle of KLIPS. The private education spending is shown as a fraction of total household expenditures. While about 70% of households do not spend on supplementary private education, for those who do, it comprises a large fraction of their overall spending. Panel (b) shows the distribution of spending in 2000 (nominal currency) on select categories of private education enjoyed by respondents who were children in 2000 and are adults in the KLIPS panel in recent years.

8 The specification is now a model of changes in SWL:

$$\Delta SWL_{it} = c + b\Delta D_{it} + (\mu_i + \varepsilon_{it}), \quad (2)$$

where D_{it} is a vector of the domain satisfactions, and Δ denotes changes from one year to the next.

overall quality of life? (2) Do families suffer from the burden of high expenditures on their children's education?

The first addresses the long term benefits of investing in supplemental, private education. By linking panel respondents who were in their late 20's and early 30's in the last three waves of KLIPS to the households in which they grew up in Wave 3 of the panel, one can identify the private educational expenditures made on each child. These expenditures may be expected to impact young students in lasting ways through effects on socialization, academic performance and success, and through future job market outcomes. Of course, such expenditures may also represent proxy measures for other household and family resources, parental attention, and so on which are not independently measured in the survey. In fact it is difficult — due to the dearth of variables measuring social outcomes in KLIPS — to assess adequately the non-market benefits of childhood investment such as private tutoring. In the absence of a full set of outcome measures, we are also more likely to misattribute benefits towards those measures which are available.

Nevertheless, using the available data we can triangulate on the potential benefits of private schooling. The first eight columns of Table 5.1 show estimates of adult respondents' life satisfaction⁹ in one of the years 2008–2012, when they were between 26 and 31 years old. Each respondent included in this recent sample was between 14 and 19 and living in a KLIPS sampled household in 2000, when the questionnaire included a detailed characterization of household expenditures on schooling.¹⁰

9 The estimates in the first section of this table are of the form

$$SWL_{it} = b_0 + b_1X_{it} + b_2C_{it_0} + (\mu_i + \varepsilon_{it}), \quad (3)$$

where subscript t_0 denotes the year 2000, while t corresponds to the observed cycle or cycles since 2008. The X_{it} are contemporary observed characteristics while C_{it_0} are circumstances from childhood. The clustered error μ_i allows for multiple recent observations t to be used. In accordance with standard findings, the OLS model, which relies on an unlikely cardinality assumption for SWL, is used here because it provides nearly identical estimates to those derived from an ordered logit model, which relaxes that assumption (Ferrer-i-Carbonell and Frijters, 2004).

10 Only waves 3 (in 2000), 4, and 5 include breakdowns of households' private education expenses for each child. The first of these has the natural advantage that more children have grown up to labour market age before 2012, our most recently available data. The following categories of private education are included in the

Column (1) shows that controlling only for the exogenous characteristics of age and gender, family expenditure on a child in 2000 predicts a higher response to the SWL question from that grown child in recent survey waves. This effect remains unchanged when the social outcomes of marriage status are included (column 2). In column (3) we control for both the household's overall adjusted income in 2000 and the highest level of education among all household members in 2000. Including these indicators of educational resources leaves the importance of the private education expenditures nearly unchanged (column 3). This suggests that the specific nature of the child-focused spending may have significance beyond the general affluence and resources which enable it.

In order to investigate private education effects on well-being beyond those which come through income, we first model life satisfaction as dependent on childhood education expenditure specific to the respondent, along with measures of the respondent's current income (individual and household) later in life. This is shown in columns (4) and (5). We notice, first of all, that contemporary income benefits come primarily through collective (household) income for the adult offspring, rather than through individual earnings. Secondly, it appears that the education investments delivered in childhood may have no net well-being benefits beyond those accounted for by income. This follows from the fact that the coefficient estimates for private education expenses are significantly reduced and no longer statistically different from zero, after one has controlled for adult income.

Higher eventual educational attainment is a natural, causally-proximate outcome of extra effort and investment in childhood education. Below we find that it is the most likely channel through which benefits to income and well-being are flowing. In columns (6) and (7) we include a

present analysis when they are paid for, while several other categories more related to "childcare" are excluded: (1) family or relatives who live together with respondent; (2) family or relatives who live together with respondent; (3) family or relatives who don't live together with respondent; (4) non-relatives who live together with respondent; (5) non-relatives who don't live together with respondent; (6) private academies; (7) personal/ group tutor; (8) study guides; (9) after school programs (in school); (10) after school programs (outside of school); (11) away-from-home language courses; (12) paid internet/online courses; (13) cultural centre; and (14) other.

Table 5.1 | Adult Outcomes of Children Who Were Tutored

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
				SWL							
male	-.11 (.11)	-.055 (.10)	-.058 (.10)	-.15 (.11)	-.12 (.10)	-.069 (.097)	-.095 (.099)	.071 (.060)	.079 (.061)	.069 (.096)	.054 (.085)
married		.69 [†] (.12)	.72 [†] (.12)	.76 [†] (.11)	.72 [†] (.11)	.80 [†] (.10)	.78 [†] (.10)	.16 (.081)	.16 (.082)		
sep/div/wid		-1.33 [†] (.25)	-1.34 [†] (.22)	-1.02 [†] (.17)	-.87 [†] (.13)	-1.00 [†] (.23)	-.68 [†] (.16)	-.88 [*] (.33)	-.89 [*] (.34)		
age 26-30		6.2 [†] (.080)	4.9 [†] (.36)	3.9 [†] (.64)	1.73 [*] (.66)	3.2 [†] (.37)	.60 (.69)	7.2 [†] (.050)	6.7 [†] (.20)	6.3 [†] (.072)	4.8 [†] (.39)
age 31-35		6.1 [†] (.38)	5.9 [†] (.41)	4.6 [†] (.51)	3.8 [†] (.74)	2.9 [†] (.53)	.54 (.81)	7.5 [†] (.20)	6.9 [†] (.28)	6.1 [†] (.25)	4.7 [†] (.46)
log(own after-tax income)				.23 [*] (.079)	.004 (.092)		-.008 (.089)				
log(HH inc _{adj})				.55 [†] (.088)	.52 [†] (.085)		.52 [†] (.085)				
education level						.32 [†] (.054)	.24 [†] (.062)				
2000: priv. educ. expense		.009 [*] (.003)	.010 [*] (.003)	.007 (.003)	.003 (.004)	.002 (.003)	.0003 (.003)	.003 [†] (.002)	.002 (.002)	.014 [†] (.004)	.009 [*] (.003)
kW/m											
2000: log(HH inc _{adj})			.22 [†] (.060)	.15 [*] (.058)	.11 (.055)	.18 [†] (.055)	.091 (.056)		.018 (.038)		.10 ⁺ (.056)
2000: parents' education			.045 (.055)	-.0010 (.057)					.076 (.034)		.20 [†] (.058)
obs.	1783	1783	1747	1257	1210	1747	1210	1287	1262	1793	1757
R ² (adj)	.952	.954	.954	.959	.960	.956	.961	.990	.990	.983	.985
N _{clusters}	690	690	678	511	508	678	508	523	513	690	678

Notes: Standard errors in parentheses are clustered at the individual level. Significance: * 10%, 5%, * 1%, † 0.1%.

measure of educational attainment¹¹ and find that, like the contemporary income measures, it might account completely for the effect of childhood educational investments, which are no longer significant. However, parental family income remains important at least until both contemporary income and education are included (column 7).¹²

To further test the apparent role of adult income or adult education levels in mediating the positive influence of childhood education investments on adult SWL, columns (8)–(9) and (10)–(11) show estimates of adult respondents' own income and education level, respectively, based on their circumstances in childhood. These results do not provide strong evidence for an effect of private educational investments on the future income of students, though they also cannot rule out a ~3% rise in income for each ~₩ 10k spent per month. A stronger relationship is estimated for the final educational outcomes of children.

Taken together, the estimates show, somewhat intuitively, that well-being is correlated with parental investments in private education and that this particular effect comes through better educational outcomes and possibly higher incomes. However, two caveats limit the causal interpretation of this finding. First, while we chose the earliest cohort with available data in order to maximise the size of the corresponding adult sample, the model can also be applied to children identified in waves 4 and 5. Estimates for these overlapping sets result in somewhat smaller samples but give smaller and insignificant indications of any benefit to later subjective well-being from educational investments by the household.¹³ Secondly, as already mentioned, educational expenditures likely represent a proxy measure not only for household financial means, which are controlled for in our estimates, but also for other, non-pecuniary investments by family in their children's upbringing and

11 This is a numeric scale with the following levels: (1) no schooling; (2) elementary school; (3) lower secondary; (4) upper secondary; (5) 2-years college, vocational, technical; (6) university (4 years or more); (7) graduate school (master's); (8) graduate school (doctoral).

12 Similar results are obtained with matched samples from model to model.

13 While smaller and insignificant, estimates from waves 4 and 5 cannot rule out the large main effect found in column (3) for private expenditure, which suggests a ₩ 10k/month expenditure may have an outcome on SWL similar to a ~15% increase in adult household income. Estimates are available from author upon request.

education.¹⁴ As a result, our approach may be most useful as an estimate of upper bounds for the direct or specific effect of private education supplements.

4.1. Contemporary Expenditures on Education

Secondly, we investigate the effects of childhood educational investments on the family members at the time the investments are made, rather than later in the life of the supported child. We consider households paying for private education for one or more children, and model the life satisfaction of household members who are older than 27 years and not currently students.

In order to investigate correlations between such expenditures and SWL, we proceed with a cross-sectional model because educational expenditures, in particular, are usually foreseen and sustained. Column (1) of Table 5.2 reports estimates of a linear model of SWL as a function of each household's (HH) income in log adjusted form and measures of total expenditure on children's private education as well as on all other household expenditures. In principle, some expenditures may be experienced as burdens on a household's finances, while others may represent discretionary consumption. Differentiating between such psychological dispositions, along with those related to income and savings, in a reduced-form model of SWL is not a feasible objective, but we can nevertheless speculatively identify some noteworthy trends.

Interesting, all three coefficients have positive estimates. Expenditures are measured in ₩ 1M/month,¹⁵ so that the coefficient on private

14 This is not altogether obvious, as private educational expenditures are also likely to *substitute* to some degree for time with parents or family. In addition, we do control for parents' education, which is likely to be an even better proxy for non-pecuniary investments.

15 Expenditures enter into the model linearly, so that effects of the two categories may be added, while income is log-transformed in the canonical way. In principle, if expenditures correspond to consumption, we might expect them to relate more closely to utility than would measures of income, which is more typically all that is available in social survey data. However, given what is known about the role of social preferences over income—for instance, in the form of income comparison effects—we agnostically include both income and expenditure measures in the model.

Table 5.2 || Life Satisfaction and Expenditure on Education

	2012		2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	1999	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
log(HH inc _{adj})	.57 [†] (.041)	.58 [†] (.040)	.59 [†] (.040)	.50 [†] (.034)	.54 [†] (.034)	.57 [†] (.032)	.57 [†] (.035)	.55 [†] (.034)	.53 [†] (.037)	.42 [†] (.036)	.52 [†] (.034)	.48 [†] (.037)	.50 [†] (.033)	.26 [†] (.026)	
PR: log(GDP/capita)		-.21 [†] (.093)		-.18 [†] (.085)	-.34 [†] (.076)	-.49 [†] (.081)	-.40 [†] (.082)	-.30 [†] (.083)	-.019 [†] (.078)	.23 [*] (.087)	-.25 [*] (.090)	-.17 ⁺ (.094)	-.32 [*] (.10)	-.22 ⁺ (.12)	
private edu. spending	.35 [†] (.092)	.34 [†] (.093)	.33 [†] (.093)	.47 [†] (.075)	.44 [†] (.068)	.44 [†] (.070)	.45 [†] (.062)	.55 [†] (.066)	.47 [†] (.070)	.37 [†] (.074)	.45 [†] (.079)	.52 [†] (.078)	.70 [†] (.10)	1.15 [†] (.14)	
PR: private edu. spending		1.53 ⁺ (.89)		2.1 [*] (.66)	1.25 [*] (.56)	-.16 [†] (.63)	-2.3 [*] (.77)	2.3 [*] (.96)	-2.1 [*] (.75)	-2.1 [*] (.76)	-2.1 [*] (.76)	.23 [†] (.76)	-.82 [†] (.76)	.81 [†] (.80)	
other spending	.24 [†] (.030)	.23 [†] (.030)	.23 [†] (.030)	.25 [†] (.026)	.24 [†] (.029)	.23 [†] (.028)	.22 [†] (.026)	.23 [†] (.026)	.34 [†] (.033)	.33 [†] (.034)	.25 [†] (.036)	.36 [†] (.033)	.27 [†] (.035)	.52 [†] (.039)	
PR: other spending		-.12 (.12)		-.26 [†] (.11)	-.25 ⁺ (.13)	-.008 (.14)	.17 (.16)	-.73 [†] (.17)	-.73 [†] (.19)	-.57 [*] (.19)	-.96 [†] (.16)	-.96 [†] (.22)	-.62 [*] (.23)	-1.12 [*] (.38)	
constant	1.50 [†] (.26)	5.1 [*] (1.56)	1.28 [†] (.27)	5.2 [†] (1.44)	8.0 [†] (1.30)	10.0 [†] (1.45)	8.1 [†] (1.37)	8.5 [†] (1.40)	3.4 [*] (1.30)	-4.1 [†] (1.44)	7.4 [†] (1.48)	5.8 [†] (1.48)	7.7 [†] (1.66)	7.3 [†] (1.90)	
Region f.e.			✓												
obs.	9245	9243	9245	9133	9189	9225	9192	9005	9122	8954	8850	8580	8198	7912	8517
R ² (adj)	.139	.141	.154	.153	.137	.142	.171	.152	.153	.158	.127	.129	.152	.138	.098
N _{clusters}	5244	5242	5244	5145	5140	5055	4942	4841	4784	4635	4526	4314	4092	3958	4220

Notes: Expenditure measures have units of ₩ 1M/month. "PR." denotes a mean value in the household's province or city in the year of the survey. The first three columns focus on 2012 data; the remaining columns correspond to different years. Data are not available for 1998 nor 2000. Standard errors in parentheses are clustered at the individual level. Significance: * 10%, 5%, * 1%, † 0.1%.

education expenditures in column (1) can be interpreted by saying that a ₩ 1M/month higher rate of expenditure predicts a 0.35/10 increase in life satisfaction, or as much as a near-doubling of household income. Because the children receiving the private instruction are not in the sample, one might not expect such a strong or positive association between this expenditure and SWL. Indeed, it is a stronger effect than that of the other combined expenses incurred by households. The positiveness of all coefficients may reflect the fact that expenditure measures account for some of the measurement error in reported income, or that parents derive altruistic pleasure from investing in children's education, or that they derive benefit from such expenditure as a form of conspicuous consumption.

In the second column we also include a measure of the local social convention, in the form of mean expenditure on private education in the province or city of the household, as well as mean expenditures on other things, along with the average GDP per capita in the province or city of the household. These three aggregate measures represent possible reference levels in individuals' preferences, as well as a measure of standards set, for instance, in the contest of scholastic performance. From this description, we might expect all three estimated coefficients to be negative. We do estimate a negative coefficient on others' aggregate income; it is a large fraction of (yet significantly smaller than) the individual income coefficient. Comparable coefficients are consistent with a large literature on income comparison effects at various spatial scales (e.g., Luttmer, 2005; Barrington-Leigh and Helliwell, 2008) and important in the context of explaining the "Easterlin Paradox" (Easterlin, 1974).

Similarly, the coefficient on others' spending is large and negative; in fact, it outweighs the effect of own spending, suggesting that, holding all else equal, a uniform increase in expenditures across the population would leave all worse off in terms of well-being. This finding of a Veblen effect (consumption externality) on expenditures has been less frequently reported (e.g., Fafchamps and Shilpi, 2008).

However, the comparison level of others' expenditures on private education does not attract a negative coefficient in our estimate for 2012. We would understand a negative sign of the coefficient in one of two

ways. The first is as a reflection of the competitive externalities in education; that is, by the fact that relative performance of students may matter most, so that one household's investments raise the standard for actual student achievement in their academics. In addition, this coefficient could capture the general income comparison effect, if education expenditure is, as mentioned above, a proxy for income or wealth, which again has an externality due to comparison, or "Veblen" effects. We return to this possibility below. Nevertheless, a positive coefficient implies instead, at least in a causal interpretation, a *positive* externality of others' private education expenditures ultimately benefiting household members' own SWL. Possibly, this could come about through education spillovers arising from a generally high level of attainment and expectations in the public education system, which could benefit children in the household, general levels of economic opportunity in the locale, or even general levels of social capital and public investment.

In column (3) we provide a robustness check against the existence of other important regional factors which covary with the three local standards of income and spending levels. This is accomplished by including fixed effects at the province/city level.¹⁶ We find unchanged coefficients across all three of the first columns, indicating that the income and spending reference levels are capturing the salient features of regions well, and that households are fairly well mixed across regions, at least in terms of income levels.

Curiously, however, the structure of estimated coefficients in this simplistic model is not constant over survey cycles. The remaining columns show estimates of the model from column (2) applied to other years of the KLIPS survey. The apparent effects of income and, except for the earliest two years, both expenditure variables, are remarkably consistent. The estimates of comparison level effects, on the other hand, vary considerably. Of particular interest are the coefficients on average private educational spending, which may have been large and negative

16 These regions are: (1) Seoul; (2) Busan; (3) Daegu; (4) Daejeon; (5) Incheon; (6) Gwangju; (7) Ulsan; (8) Gyeonggi-do; (9) Gangwon-do; (10) Chungcheongbuk-do; (11) Chungcheongnam-do; (12) Jeollabuk-do; (13) Jeollanam-do; (14) Gyeongsangbuk-do; (15) Gyeongsangnam-do; (16) Jeju-do.

— in agreement with the hypotheses articulated above — in some earlier years and trended towards positive in recent years. The negative coefficient on others' education investments, which greatly outweigh the positive coefficients on own expenditure (in 2003–2005 and 2008) may imply the existence of a highly inefficient “rat race” in which the social norm greatly overemphasizes this kind of expenditure, beyond the socially efficient level. That is, since the sum of these coefficients is negative, life satisfactions of all may be higher if everyone scaled back spending in this category. However, the estimated effect varies more than credibly over time so that further investigation beyond what can be accomplished in the present study is needed to shed light on the question.

The estimated effect of the rest of household spending is, while variable, nearly consistently negative and extraordinarily large. Again, a significantly negative sum of coefficients on own and others' spending is consistent with a truly inefficient equilibrium and immiserating growth. While all incomes and expenditures are corrected for price level changes over time, geographic variation in costs are part of the variation in expenditures, so one might interpret these coefficients by saying that in terms of experienced well-being, the benefits of living somewhere expensive in South Korea are far outweighed by the costs. In order to shed more light on the important question of consumption externalities in the context of a broader set of predictors of life satisfaction, we next proceed with a more general specification and individual fixed effects estimates of the KLIPS panel.

5. Geography, Gender Differences, Reference Effects, Education, and Labor Force

In the sections above we have investigated the subjective experience of individuals throughout the period of the panel and we have found evidence of consumption externalities in estimating the effects of own and others' income and expenditure on SWL. We now broaden the scope in order to include a wider set of explanatory factors in accounting for variation in SWL, in order to shed light on the general question of what

has given rise to happier individuals and to individuals becoming happier in South Korea, throughout the years of KLIPS coverage. However, as mentioned earlier, the selection of survey questions in KLIPS determines the set of statistical questions we may pose. In this regard, there is relatively little scope for due representation of the non-market components of life which have been emphasized throughout the SWB literature.

In Table 5.3 we show a representative cross-sectional estimate for SWL. The large KLIPS sample allows for a relatively large number of regressors, including indicators for each province/city area, age profiles, and occupation and employment effects. The first four columns incorporate an increasing collection of fixed effects: in column (1) there are no regressors beyond those shown, while column (2) includes 5-year age group fixed effects, column (3) adds calendar year fixed effects, and column (4) adds year \times region fixed effects. We use the column (3) estimate as our baseline because it allows for the inclusion of region-level contextual effects of per capita GDP, average household income, and average household spending.

Strong consistency exists among these four estimates, giving support to the general patterns described below. In columns (5) and (6) we estimate a very similar model of changes — rather than levels — in reported SWL and corresponding changes in individual and regional circumstances. Column (6), which includes year fixed effects in addition to respondent fixed effects, is our baseline panel model.

Table 5.4 repeats the two baseline specifications in columns (1) and (2) and then shows reestimates of the baseline models for a number of subsamples: two genders, the two years of the financial crisis, youth, the retiring age group, and the post-retirement age group. Below we discuss the estimates from all models of levels (X.S.) and changes (F.E.) of SWL in Tables 5.3 and 5.4, organized by explanatory variable.

Females are significantly happier than males, conditional on experiencing equal measures of the other explanatory variables.¹⁷ Being married is predictive of a huge advantage in well-being, as compared with being single. Becoming married is associated with an even bigger boost in SWL, in accord with other studies on the temporary SWL

17 There is no significant raw correlation between gender and life satisfaction.

enhancement associated with the year(s) just before and few years after weddings. Being widowed may be seen as something of an extension of marriage after the death of a partner and it is also strongly predictive of high SWL — nearly as strongly as marriage.

Table 5.3 Primary Estimates for SWL

	Pooled cross-section (X.S.)				Panel (F.E.)	
	(1)	(2)	(3)	(4)	(5)	(6)
female	.11[†] (.016)	.13[†] (.016)	.12[†] (.016)	.12[†] (.016)	2.2[†] (.040)	2.1[†] (.046)
married	.43[†] (.021)	.46[†] (.027)	.49[†] (.027)	.48[†] (.027)	.58[†] (.061)	.51[†] (.061)
separated	-.38[†] (.081)	-.31[†] (.083)	-.26* (.081)	-.27[†] (.080)	.12 (.14)	.023 (.14)
divorced	-.30[†] (.045)	-.17[†] (.048)	-.16[†] (.048)	-.16[†] (.048)	.17⁺ (.10)	.031 (.100)
widowed	.48[†] (.039)	.28[†] (.046)	.33[†] (.046)	.31[†] (.046)	.62[†] (.10)	.47[†] (.10)
log(HH inc _{adj})	.38[†] (.010)	.37[†] (.010)	.37[†] (.010)	.36[†] (.010)	.19[†] (.014)	.20[†] (.014)
PR:	-.070	-.066	-.065		.96[†]	.046
log(GDP/capita)	(.029)	(.029)	(.029)		(.10)	(.12)
PR: log(HH inc _{adj})_KLIPS	.024 (.047)	-.071 (.047)	-1.08[†] (.069)		-.24 (.092)	-1.24[†] (.11)
log(total spending)	.20[†] (.012)	.27[†] (.013)	.27[†] (.013)	.27[†] (.013)	.097[†] (.021)	.094[†] (.021)
PR: log(total spending)	-.24[†] (.046)	-.18[†] (.045)	.16* (.048)		.44 (.22)	.23 (.21)
log(total assets)	.044[†] (.002)	.041[†] (.002)	.043[†] (.002)	.043[†] (.002)	.019[†] (.002)	.020[†] (.002)
log(total debt)	-.013[†] (.001)	-.012[†] (.001)	-.010[†] (.001)	-.010[†] (.001)	-.004⁺ (.002)	-.003 (.003)
in school	.25[†] (.069)	.19* (.069)	.19* (.069)	.17 (.069)	.17 (.14)	.21 (.13)
childcare	.088 (.080)	.15 ⁺ (.079)	.11 (.078)	.11 (.078)	.018 (.15)	.026 (.14)
doing nothing	.16 (.070)	.067 (.068)	.052 (.068)	.039 (.068)	.050 (.13)	.013 (.13)
domestic	.14⁺ (.071)	.20* (.070)	.19* (.070)	.17 (.070)	.16 (.13)	.13 (.13)
school and work	.32[†] (.080)	.27[†] (.080)	.22* (.080)	.21* (.079)	.17 (.16)	.17 (.15)

Table 5.3 | Continue

	Pooled cross-section (X.S.)				Panel (F.E.)	
	(1)	(2)	(3)	(4)	(5)	(6)
other and work	.066 (.10)	.14 (.099)	.036 (.099)	-.006 (.099)	.19 (.15)	.12 (.15)
home and work	-.18 (.076)	-.044 (.075)	-.068 (.075)	-.081 (.074)	.088 (.14)	.072 (.13)
working	-.007 (.069)	.12 ⁺ (.067)	.099 (.068)	.081 (.067)	.23 ⁺ (.13)	.19 (.13)
unemployed	-.68 [†] (.037)	-.55 [†] (.037)	-.53 [†] (.037)	-.53 [†] (.036)	-.22 [†] (.057)	-.20 [†] (.057)
current health	.16 [†] (.003)	.17 [†] (.003)	.17 [†] (.003)	.17 [†] (.003)	.14 [†] (.006)	.14 [†] (.006)
education level	.096 [†] (.006)	.12 [†] (.007)	.12 [†] (.007)	.12 [†] (.007)	.048 (.023)	.019 (.022)
age-group f.e.		✓	✓	✓		
year f.e.			✓			✓
year-PR f.e.				✓		
Indiv f.e.					✓	✓
obs.	113417	113417	113417	113417	82299	82299
R ² (adj)	.222	.233	.243	.253	.062	.070
N _{clusters}	16747	16747	16747	16747	9860	9860
R ² (overall)					.026	.035

Notes: Our baseline cross-sectional and fixed-effect models of SWL are found in columns (3) and (6). Standard errors in parentheses are clustered at the individual level. Significance: + 10%, **5%**, * 1%, † 0.1%.

Interestingly, in the full sample, becoming a widow is fully as positive a predictor of a change in SWL as becoming married. However, this effect is revealed to be entirely due to the improved situation women appear to experience when their husband dies. This is an important finding if it can be ascribed to the burden on women of looking after an ailing husband before his death. In fact, the state of marriage is overall highly significantly less predictive of high SWL for women than men. By contrast, living with a divorced or separated status has similar negative associations with SWL for the two genders. On the other hand, transition to these states does not predict a downward shift in SWL in our models, likely due to the fact that they are symptoms or even resolutions of existing problems, rather than signs of new ones.

Table 5.4 | SWL Models Applied To Special Populations and the Financial Crisis Period

	Everyone		males		females		2008-2009		age<22		60<age<70		age>70	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
female	.12 [†] (.016)	2.1 [†] (.046)					.13 [†] (.026)	2.1 [†] (.12)	.11 [*] (.035)		.18 [*] (.056)		.24 [†] (.069)	2.1 [†] (.12)
married	.49 [†] (.027)	.51 [†] (.061)	.62 [†] (.036)	.51 [†] (.084)	.29 [†] (.044)	.50 [†] (.090)	.48 [†] (.046)	.14 (.30)	.93 [*] (.34)	2.5 [†] (.17)	.21 (.25)	.23 (.35)	-.18 (.58)	.43 (.20)
separated	-.26 [*] (.081)	.023 (.14)	-.29 [*] (.11)	-.14 (.20)	-.27 (.11)	.18 (.20)	-.24 (.15)	-.0006 (.70)			-.85 (.37)	-.075 (.37)	-.1.11 ⁺ (.65)	-.022 (.16)
divorced	-.16 [†] (.048)	.031 (.100)	-.19 [*] (.065)	-.14 (.14)	-.16 (.070)	.21 (.14)	-.15 ⁺ (.078)	-.48 (.46)			-.58 (.26)		-.68 (.63)	
widowed	.33 [†] (.046)	.47 [†] (.10)	.15 ⁺ (.083)	-.042 (.17)	.19 [*] (.062)	.65 [†] (.12)	.18 (.076)	.51 (.43)			.005 (.26)	.36 (.39)	-.47 (.58)	.53 [†] (.14)
log(HH inc _{adj})	.37 [†] (.010)	.20 [†] (.014)	.34 [†] (.013)	.20 [†] (.021)	.39 [†] (.014)	.19 [†] (.017)	.37 [†] (.017)	.21 [†] (.045)	.36 [†] (.031)	.18 [*] (.061)	.32 [†] (.024)	.16 [†] (.030)	.28 [†] (.025)	.11 [†] (.032)
PR:	-.065 (.029)	.046 (.12)	-.10 (.041)	-.13 (.17)	-.033 (.040)	.25 (.15)	-.35 [†] (.047)	-.80 (.52)	-.17 (.076)	.003 (.61)	-.057 (.084)	.31 (.34)	-.16 (.10)	-.071 (.38)
log(GDP/capita)	-1.08 [†] (.069)	-1.24 [†] (.11)	-.93 [†] (.098)	-1.19 [†] (.16)	-1.22 [†] (.096)	-1.29 [†] (.15)	-.43 [†] (.13)	-1.30 [*] (.40)	-1.12 [†] (.18)	-1.45 [†] (.43)	-.93 [†] (.22)	-1.00 [*] (.34)	-.77 [*] (.24)	-.98 (.40)
inc _{adj})_KLLIPS	.27 [†] (.013)	.094 [†] (.021)	.28 [†] (.018)	.067 (.031)	.25 [†] (.018)	.12 [†] (.027)	.30 [†] (.024)	.19 [*] (.061)	.49 [†] (.056)	.17 (.080)	.20 [†] (.034)	.038 (.049)	.18 [*] (.034)	.18 [*] (.058)
log(total spending)	.16 [*] (.048)	.23 (.21)	.085 (.068)	.27 (.28)	.22 [*] (.31)	.10 (.068)	-.085 (.075)	.69 (.79)	-.046 (.12)	.23 (.98)	-.16 (.15)	.79 (.64)	.24 (.18)	-.044 (.69)
log(total assets)	.043 [†] (.002)	.020 [†] (.002)	.040 [†] (.002)	.019 [†] (.003)	.045 [†] (.002)	.022 [†] (.003)	.038 [†] (.003)	.001 (.007)	.030 [†] (.004)	.020 (.008)	.049 [†] (.005)	.018 [†] (.005)	.064 [†] (.005)	.034 [†] (.007)
log(total debt)	-.010 [†] (.001)	-.003 (.003)	-.009 [†] (.002)	-.002 (.004)	-.011 [†] (.002)	-.005 [†] (.003)	-.012 [†] (.002)	-.003 (.006)	-.002 (.004)	-.007 (.007)	-.008 (.004)	-.002 (.005)	.002 (.005)	.0006 (.008)
in school	.19 [*] (.069)	.21 (.13)	.23 [*] (.085)	.27 (.20)	.11 (.12)	.13 (.15)	.44 ⁺ (.23)	-.42 (.32)	.12 (.17)	.009 (.25)	-.043 (.42)	-.64 (.39)	1.29 (1.04)	.20 (.75)

Table 5.4 | Continue

	Everyone		males		females		2008-2009		age<22		60<age<70		age>70		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
childcare	.11 (.078)	.026 (.14)	-.24 (.24)	-.56 ⁺ (.26)	.15 (.13)	.023 (.16)	.34 (.24)	-.55 (.42)	-.049 (.39)	-1.11 [*] (.42)	.28 (.31)	-.30 (.42)	-.16 (.43)	-.25 (.48)	
doing nothing	.052 (.068)	.013 (.13)	.005 (.083)	-.002 (.18)	.11 (.12)	.028 (.15)	.22 (.23)	-.71 ⁺ (.37)	-.20 (.19)	-.26 (.27)	.18 (.27)	-.27 (.37)	.25 (.34)	.39 (.42)	
domestic	.19 [*] (.070)	.13 (.13)	-.16 (.13)	-.12 (.19)	.18 (.15)	.12 (.15)	.43 ⁺ (.23)	-.45 (.36)	.22 (.33)	.50 (.54)	.21 (.28)	-.28 (.37)	.12 (.34)	.36 (.43)	
school and work	.22 [*] (.080)	.17 (.15)	.27 [*] (.10)	.27 (.24)	.12 (.14)	.071 (.17)	.47 ⁺ (.24)	-.42 (.35)	.19 (.18)	-.029 (.26)	1.22 ⁺ (.68)	.60 (.53)			
other and work	.036 (.099)	.12 (.15)	.071 (.22)	.56 ⁺ (.33)	.021 (.16)	.044 (.16)	.27 (.26)	-.39 (.40)	.20 (.29)	.31 (.35)	-.059 (.35)	-.32 (.41)	.063 (.41)	.13 (.49)	
home and work	-.068 (.075)	.072 (.13)	-.20 (.16)	.24 (.33)	-.078 (.12)	.025 (.15)	.10 (.23)	-.35 (.41)	.20 (.65)	.82 (.54)	.046 (.29)	-.28 (.37)	.28 (.37)	.38 (.45)	
working	.099 (.068)	.19 (.13)	.13 (.083)	.24 (.19)	.009 (.12)	.14 (.14)	.38 ⁺ (.22)	-.23 (.35)	.050 (.18)	.085 (.27)	.10 (.27)	-.28 (.37)	.10 (.35)	.36 (.43)	
unemployed	-.53 [†] (.037)	-.20 [†] (.057)	-.50 [†] (.052)	-.19 (.083)	-.54 [†] (.053)	-.18 (.078)	-.69 [†] (.083)	-.31 ⁺ (.17)	-.081 (.13)	-.076 (.21)	-.44 [*] (.14)	-.051 (.13)	-.33 (.28)	-.63 ⁺ (.38)	
current health	.17 [†] (.003)	.14 [†] (.006)	.17 [†] (.005)	.13 [†] (.009)	.17 [†] (.005)	.15 [†] (.006)	.19 [†] (.007)	.14 [†] (.013)	.13 [†] (.010)	.13 [†] (.017)	.17 [†] (.009)	.13 [†] (.010)	.18 [†] (.010)	.12 [†] (.014)	
education level	.12 [†] (.007)	.019 (.022)	.12 [†] (.009)	.013 (.032)	.11 [†] (.010)	.023 (.030)	.10 [†] (.011)	-.002 (.12)	.041 (.017)	.048 (.052)	.081 [†] (.017)	-.078 (.11)	.095 [†] (.023)	.13 (.12)	
age-group f.e. year f.e. Indiv f.e. model	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
obs.	X.S.	F.E.	X.S.	F.E.	X.S.	F.E.	X.S.	F.E.	X.S.	F.E.	X.S.	F.E.	X.S.	F.E.	
R^2 (adj)	113417	82299	54754	38894	58663	43405	23006	16752	10876	6914	12850	11195	9717	6794	
$N_{clusters}$	243	.070	.253	.070	.238	.072	.262	.053	.174	.041	.236	.045	.246	.048	
R^2 (overall)	16747	9860	8317	4770	8434	5091	12768	8974	3138	1867	2796	2276	1881	1172	
		.035		.19		.18		.033		.12		.13		.023	

Notes: Standard errors in parentheses are clustered at the individual level. Significance: * 10%, 5%, * 1%, † 0.1%.

With KLIPS, we are able to include simultaneous measures of income, wealth, and consumption in explaining variation in SWL. It appears that levels and changes of these variables are each independently important in predicting SWL. In all cases, these ₩-denominated variables have been truncated to lie between their 1st and 99th percentiles, and $\sinh^{-1}()$ -transformed as described in footnote 3; they are nevertheless referred to as $\log()$ values in the tables.

We find highly consistent effects from adjusted household income, total assets, and total debt, while introducing controls for age group, year, and region \times year. This is true both for cross-section and fixed effects models using the whole sample. For income, there are also very small differences across the sub-population groups in Table 5.4, with the effect of income becoming slightly smaller only in old age.

Interestingly, assets and debt have asymmetric effects in our model, despite the distribution of positive and negative assets being nearly symmetrical across the sample. Higher total debt predicts lower SWL (except in the oldest group) but larger assets have a much stronger link to higher SWL. Similarly, changes in assets are important for predicting changes in SWL, except during the financial crisis, while the effect of changes in debt is constrained to be much smaller.

Contextual variables are included to account for the positive and negative externalities which may, for example, come through tax-funded public goods, general levels of economic activity, or income and spending reference levels acting as norms or standards (Barrington-Leigh, 2014).

Controlling for the three regional mean values (by year) of GDP per capita, average household income from KLIPS, and average household expenditures from KLIPS results in the same point estimates for other variables as including catch-all regional fixed effects (column 4 of Table 5.3). In general, cross-sectional estimated effects of local income and spending standards are negative, except in the case of column (3) of Table 5.3, where the estimated coefficient for average local spending is positive, but the sum of coefficients for average household spending and average household income is still highly negative.

Based on the estimated effects of changes to GDP/capita and average spending, inclusion of year fixed effects appears to be important when modeling dynamic changes to SWL. In our baseline fixed effects model

(column 6 of Table 5.3), the contextual effects are imprecisely constrained (i.e. estimated with wide confidence intervals) except that the effect of increases in local household income have a negative impact on life satisfaction that greatly outweighs the positive advantage to increases in one's own household income.

These general patterns hold with remarkable consistency across the subsamples of Table 5.4, with negative externalities of local economic growth appearing to trump any benefits to individuals.

Remaining estimated parameters mostly fit patterns reported for other countries. Controlling for the household measures discussed above, being a student or part time student is predictive of higher SWL, though estimates for the fixed effects model are imprecisely constrained. Unemployment and becoming unemployed have among the strongest of predictive powers for lower SWL and declines to SWL, respectively. Self-reported health status and changes therein are highly consistent predictors of SWL levels and shifts, regardless of age.

Somewhat unique to South Korea may be the fact that benefits ascribed to individual education level, after controlling for many other conditions and proxies for consumption flows, appear to persist robustly into old age. This may reflect a variety of social and consumptive benefits from education, which go beyond its role as a market human capital investment.

Overall, these results do not indicate radical shifts in the structure of estimates for older respondents or for the period of the financial crisis, nor do they indicate differences between women and men, except possibly for those to do with marriage and widowhood. In general, we find that social context and relations, where they are measured, loom large in our reduced form prediction of SWL. The importance of unemployment is, as is found universally in such studies, extremely large when expressed as an equivalent income, asset, or consumption change. Lastly, the accounting of various income, asset, and expenditure effects and externalities constitute rather remarkable findings because the overall marginal predicted effect of a simultaneous, region-wide uniform boost to income, assets, and consumption would be to reduce SWL, both in a step change and in long term levels. This interpretation is further discussed in the conclusion, below.

6. Conclusions

When social, cultural, institutional, or economic changes are especially rapid, the likelihood of confounding age-cohort effects is especially strong. Trends experienced by individuals or by narrowly-defined cohorts may give radically different evidence. In the case of subjective well-being in South Korea, we find that individuals of essentially all ages have tended to experience a rapid increase in reported life satisfaction over the period 1998–2012. Satisfaction with more narrowly defined domains of life has also risen over time for individuals for some domains, while others appear to evolve in accordance with a more stable life cycle path.

We have estimated static and dynamic models of life satisfaction which incorporate a range of predictive variables. Importantly, we looked for consistency and variation in the pattern of estimated effects for different groups in the population. It appears that marriage may, overall, still be a less good deal for women than men. More significantly, the transition to widowhood for women who outlive their husbands appears to be a highly positive outcome for the survivors. This implies that society is accepting and supportive of widowed women but likely also that the domestic burden on women who are caring for their elderly husbands needs attention from social support systems and from new policy. Such support may be targeted towards the emotional burden from empathy for a suffering loved one, or simply the labour and personal restrictions involved in caring for someone full-time. However, regardless of whether society's unequal expectations of females to play caretaking roles is an important factor, the simple fact that men's lifespans are shorter means there is an inequality between genders in supporting an elderly or sick spouse.

Under our specification of individual and regional effects at the province or city level, South Korea fits a pattern found elsewhere in which the negative spillovers of generally high incomes (after controlling for prices) and even of general income growth are as large or larger in magnitude than the positive effects of households' own income levels and gains (e.g., Barrington-Leigh and Helliwell, 2008). We are able to include wealth and expenditure measures in this analysis, and we find

negative effects which, rather than matching the positive effects, are significantly larger than the gains. This would, on the surface, imply a syndrome of “immiserating growth”, in which economic advance was making people considerably less happy rather than happier. How do we reconcile this with our opening, optimistic finding that South Korea is experiencing not just growth in affluence but also nearly universal growth in life satisfaction across various dimensions of the population?

First of all, the missing measure in any analysis which looks for spillovers at the regional level is the possible spillovers which come from even broader levels of government and society. Variation and changes at the national level, however, cannot be captured with data from a single country. We have proposed elsewhere (Barrington-Leigh, 2012) that the evidence is consistent with most of the net benefits of economic growth accruing through diffuse public goods of one form or another — both tax funded at broad levels of government, and through broad shifts in social norms and social contracts, which develop along with economic growth.

Two further caveats in regard to the South Korean data are in order. Based on our findings presented here, South Korea stands now as one of the clearest examples extant of rapid economic growth coupled with a rapid rise in life satisfaction. However, this might not be taken as evidence for a systematic association between the two, nor as evidence against the Easterlin Paradox. Firstly, a bivariate analysis is simplistic, given all the other social and institutional factors which may be changing simultaneously, which may be independently amenable to policy influence, and which may be more or less important for raising well-being. Secondly, according to Easterlin *et al.* (2010)’s criterion, the Easterlin Paradox is a lack of correlation between growth *rates* in income and SWL across countries. Therefore, instances of simultaneous rises in the two variables are not by themselves evidence for a relationship—nor even a correlation—between the two.

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Appendix

Appendix Table 5.1 | Age-Free Model Estimate of SWL

female	.052 [†]	(.015)
married	.25 [†]	(.018)
separated	-.81 [†]	(.081)
divorced	-.74 [†]	(.044)
widowed	-.19 [†]	(.034)
log(HH inc ^{adj})	.59 [†]	(.008)
retired	.066	(.027)
studying	.45 [†]	(.019)
household size	.060 [†]	(.006)
dFirstIncomeYears	.70 [†]	(.023)
constant	1.25 [†]	(.062)
obs.	169789	
R^2 (adj)	.143	
$N_{clusters}$	19199	

Notes: Standard errors in parentheses are clustered at the individual level. Significance: [†] 10%, ^{*} 5%, ^{*} 1%, [†] 0.1%.

Appendix Table 5.2 | Pooled Estimates of Domain Satisfaction Weights for SWL across Cohorts

	(1) 1910-1919	(2) 1920-1929	(3) 1930-1939	(4) 1940-1949	(5) 1950-1959	(6) 1960-1969	(7) 1970-1979	(8) 1980-1989	(9) 1990-1999
current health	.073* (.028)	.072† (.013)	.086† (.008)	.079† (.008)	.081† (.007)	.070† (.007)	.062† (.007)	.054† (.006)	.042† (.010)
Satisfaction with household income	.21† (.036)	.18† (.018)	.17† (.010)	.19† (.010)	.23† (.007)	.22† (.008)	.19† (.007)	.18† (.008)	.18† (.014)
Satisfaction with leisure activities	.068 (.060)	.19† (.022)	.20† (.012)	.18† (.011)	.16† (.008)	.17† (.008)	.13† (.008)	.16† (.008)	.14† (.016)
Satisfaction with housing	.21* (.068)	.19† (.026)	.17† (.012)	.17† (.010)	.19† (.009)	.18† (.008)	.19† (.008)	.17† (.009)	.18† (.018)
Satisfaction with family relations	.19* (.066)	.021 (.026)	.095† (.015)	.071† (.012)	.066† (.009)	.090† (.010)	.079† (.009)	.079† (.010)	.13† (.017)
Satisfaction with relatives	.034 (.082)	.25† (.030)	.16† (.017)	.16† (.015)	.15† (.010)	.12† (.010)	.17† (.011)	.17† (.013)	.14† (.022)
Satisfaction with social relations	.26† (.060)	.16† (.025)	.19† (.016)	.21† (.013)	.20† (.010)	.22† (.012)	.23† (.010)	.24† (.012)	.20† (.021)
β coeffs	✓	✓	✓	✓	✓	✓	✓	✓	✓
obs.	460	2985	9276	13272	19262	22163	24944	16562	5718
R^2 (adj)	.668	.674	.646	.609	.607	.577	.593	.589	.584
$N_{clusters}$	109	479	1178	1625	2436	2903	3747	2781	1551
log likelihood	-395	-2560	-8339	-12598	-18334	-21906	-24187	-16128	-5604

Notes: |Pooled regression. Estimates are shown graphically in Figure 5.9. Standard errors in parentheses are clustered at the individual level. Significance: + 10%, * 5%, † 1%, † 0.1%.

CHAPTER 6

Life Policy Implications and Conclusion

Seulki Choi

In this last chapter of the report, summary of the main points in former chapters, and discussion of the general policy lessons learned from happiness studies and the specific lessons for Korea from this study will be provided.

1. General Policy Suggestions from Happiness Studies

1.1. Subjective Well-being Should Be Measured

Happiness is accepted as an ultimate goal of life (Frey and Stutzer 2002). What makes it different from objective well-being indicators? If the objective indicator could fully reflect the subjective feelings, it would be redundant to measure them separately. Meanwhile, objective indicators generally are preferred because of their reliability.

But objective indicators often have limitations. The most common objective indicators are economic ones. Stiglitz, Sen and Fitoussi discussed the limitations of economic indicators in measuring the good life (Stiglitz *et al.* 2009). Economic indicators are based on market price. Yet, not all products and services have market prices. Furthermore, market prices fail to consider all the benefits and costs when there is a positive or negative externality. For example, GDP per capita is a good indicator for policy purpose, but it should not be treated as an ultimate solution/method. In the *World Happiness Report 2012*, Helliwell and his

colleagues (2012) suggest five cases when a government should not pursue the increase of GDP per capita as a policy target. They are when 1) economic stability is imperiled, 2) community cohesion is destroyed, 3) the weak lose their dignity or place in the economy, 4) ethical standards are sacrificed, and 5) the environment is put at risk.

Another reason for such limitations arises from the relationship between economic indicators and subjective well-being indicators. It is known that they are two separate indicators and not fully related with each other (Easterlin 1974). According to Veenhoven's research (1991), the correlation between national well-being and national wealth is $r=0.5$. With the larger data and more rigorous models, later studies show the stronger correlation - between $r=0.6\sim 0.8$ (Deaton 2008; Helliwell 2008). But it still indicates lack of correlation and the explanation of subjective well-being in terms of objective economic indicators remains insufficient. Moreover, these papers were studied at the country-level. Studies at individual level show that the correlation is much lower - r is around 0.2 (Diener and Oishi 2000; Schimmack 2009). Even when considering the measurement error, which is more critical at the individual level data, the size of correlation reveals that objective economic indicators can provide only partial explanation of subjective well-being. Diener *et al.* (2009) argued that subjective well-being indicators "tell us something new about a person's life that objective information about his or her economic situation cannot, and that is why they have value".

Social objective indicators also have issues. They are related with social indicators such as trust, health, and environment. The first issue questions the inclusion of 'which' and 'how many' domains. In addition to this, there is always a possibility of omitted variables. Merely taking into account the increased number of important variables will not be an effective solution due to its complexity. Moreover, it will exacerbate the later issues. BLI (Better Life Index) in OECD has 13 domains and each of them has 1~3 indicators. HDI (Human Development Index) has only 3 domains and 4 indicators. Regarding the 'adequacy' of number of domains and indicators, there is not a right answer for it.

Second, social indicators often have measurement problems. For example, educational attainment may seem straightforward and objective. But the actual meaning of educational attainment can differ in countries

and time; the meaning of college graduates 30 years ago is quite different from that of today.

Third, how can different indicators be integrated into one index? Should we give weight? Then, which indicator is more important? The HDI use the geometric means of values of three domains. BLI give option to readers to set weight on each domain.

Subjective evaluations are output variables, while social/economic indicators are input variables. Subjective evaluations are formulated based on multiple mixtures of objective indicators. Thus it is not easy to predict the degree of subjective feelings based on one specific objective indicator. Subjective measure should have its own domain. It will be an effective measure for direct measurement of happiness and for screening/evaluating policies.

1.2. Happiness Study Can Serve for Policy

Happiness research can serve policy-makers in three ways. First, it can be used as a screening or evaluating tool for government policies. Second, it can guide ways to boost happiness in a society. Third, it can identify specific groups in need. It is similar to what other economic indicators serve for policies.

For example, income is a measurement of economic affluence. Policies can be screened based on whether and how much it can serve for income increase. Income can be used as an evaluating criterion of policies as well. Based on income studies, we can have better understanding on how to increase individual income such as which industry is efficient and what kinds of occupation is better. At last, we can further the knowledge on which group of people has more severe income problems. Subgroups can be divided by region, race/ethnicity, educational attainment, age, sex and so on. Happiness study can do the similar job but in different domains.

Diener and colleagues (2009) show examples of policy uses of well-being measures in the field of health, environment, work, and social context in their book titled *Well-being For Public Policy*. For example, it helped verifying the medical service area that is in need for further

development with the use of limited resources. How could the policy maker decide it? We can use life expectancy as an objective indicator. But among the developed countries where life expectancy is lengthy enough, quality of life becomes more important. Then what health issues would be critical to decide quality of life? Will there be a solution with the increase investment in chronic disease or critical disease? What about mental disease? Instead of trying to find proper input indicators, happiness approach employs happiness/SWB of respondents to decide on the kinds of most effective medical services to enhance quality of life.

Table 6.1 Recommended Happiness Measures for Policy Purpose

Domains of Happiness	Monitoring Progress	Informing Policy Design	Policy Appraisal
Evaluation measures	<ul style="list-style-type: none"> ■ General Life Satisfaction 	<ul style="list-style-type: none"> ■ General Life Satisfaction ■ Domain Satisfaction; health, work, time, finance, area, ... 	<ul style="list-style-type: none"> ■ Life Satisfaction ■ Domain Satisfaction ■ Service Satisfaction
Experience measures	<ul style="list-style-type: none"> ■ Experiences of Yesterday; Positive/Negative 		<ul style="list-style-type: none"> ■ Experiences of Yesterday ■ Affect associated with particular activities ■ Intrusive thoughts relevant to the context
Eudemonic measures	<ul style="list-style-type: none"> ■ Worthwhile things in life 		<ul style="list-style-type: none"> ■ Worthwhile things in life ■ Rewards from activities

Source: Modified from Dolan *et al.* (2011).

The specific happiness measures corresponding to policy progress is shown on Table 6.1. To monitor the progress of a policy, general life satisfaction or happiness question can be used. Hedonic or eudemonic measures are also useful. In the case of Experience, it is recommended to ask positive experience in separation with negative ones because their mechanisms are different (Diener and Emmons 1984). For the policy design, the more specific question can be suggested. Satisfaction can be surveyed by asking how much the interviewee is currently satisfied with the specific conditions such as health, work, time, finance, area and so on. For policy appraisal, the degree of general and specific satisfaction can be monitored. Or service satisfaction can be directly measured. The

similar rule can be applied for experience measures. It can survey the emotional experience associated with particular activities.

2. Policy Implications for South Korea

2.1. Korea is Not as Unhappy as Often Perceived

Korea is often perceived as an “unhappy country” among Korean media and the public. One famous study by Diener and colleagues in 2010 supports this perception. Diener *et al.* (2010) argue that the level of unhappiness is quite high in Korea (5.33 in a 0-10 point scale), since the ladder score in Korea is lower than that of the USA, Denmark, and Japan, based on the first wave of Gallup World Poll data. But why should lower value compared to other countries be a problem, if the factors supporting happiness might also be lower?

The first reason for Diener *et al.* (2010)’s conclusion being misleading is because of the vaguely defined concept of “high” or “low”. What are the criteria of “high” or “low” in happiness level? We cannot simply argue that lower than USA is “low” or higher than Zimbabwe is “high” since USA and Zimbabwe are different from Korea in many aspects. We could compare Korea with other countries to show the relative rankings of Korea, but not to determine the ranking “high” or “low” before carefully defining the criteria. Logic-wise, “high” or “low” should be determined by comparing the actual level of happiness with what it should be, given the level of supporting factors for happiness. Using the recent data from Gallup world poll, we find that Korea’s average ladder score in 2010-2012 ranks 24th among the 34 OECD countries.¹ Surely 24th is a little distant from 1st, but it does not mean this is surprisingly low, considering the fact that Korea’s average GDP per capita (PPP adjusted in constant 2005 international dollar) in 2010-2012 ranks 21st among the 34 OECD countries. Although Korea is a member of high income countries, as approved by the membership in OECD, the GDP per capita is still much lower than many OECD

¹ Please refer to Chapter 2 of this report.

countries, and national income is highly correlated with a country's happiness level. A further analysis on the relationships between log GDP per capita and average happiness level in 2010-2012 with global samples show that Korea's happiness level is just as predicted by its GDP level.² Moreover, its data show that Korea has better indicators than all other East Asian countries/regions (including Japan, Taiwan, Hong Kong, and China), except for Singapore. Korea even outperforms the average country since it lies above the predicted line, considering the model including GDP per capita and other five factors. In summary, Korea, at least, is as good as it should be (only when considering GDP per capita), or better than it could be (considering the six factors affecting happiness).

Table 6.2 Life Satisfaction of South Korea from Three Datasets in 2006, 2009, 2013

Year	GWP ¹	KLIPS ²	Korean Social Survey ³
2006	5.33	3.26	2.93
2009	5.65	3.37	2.83
2013	5.96	3.41 ⁴	3.20

Notes: 1. GWP: Cantril ladder score on a scale of 0-10 (0=the lowest ladder, 10=the highest ladder)
 2. KLIPS: Life satisfaction on a scale of 1-5 (1=very dissatisfied, 5=very satisfied)
 3. Korean Social Survey: Life satisfaction on a scale of 1-5 (1=very dissatisfied, 5=very satisfied)
 4. The survey was conducted in 2012.

The second reason for misleading concept of “unhappy Korean” can be explained with dramatic increase of happiness in Korea in recent years. Korea's ladder score was 5.33 in the first wave of Gallup World Poll collected in 2006, but the score increased to 5.96 in 2013 (See Table 6.2). Given the fact that many developed countries have been severely affected by the 2008 financial crisis, it is well expected that Korea's ranking is much better in recent years, though the level is still a little lower than many Scandinavian and Latin American countries. This dramatic increase of happiness level in Korea found in the Gallup World Poll is consistent with the findings in other Korean surveys. Korea Labor Income Panel Survey (KLIPS) shows that life satisfaction in

² Korea just lies on the predicted line as shown in Figure 2.3 in Chapter 2.

Korea has risen from 3.26 in 2006 to 3.41 in 2012.³ Social Survey conducted by Statistics Korea also shows the similar pattern.

2.2. Income is Important for Koreans

After Easterlin (1974, 1995) raised the question on relationship between income and happiness, many reports have studied the effect of income on happiness and the stances are diverse. Easterlin (2013) argues that economic growth itself is not related with changes in happiness levels. Instead, he suggests that full employment and safety net policies have true positive effects. In the case of Canada, income effect is statistically significant but substantially insignificant. In other words, although there is a direct relationship between income and happiness, its actual effect is too small and ignorable. Rather, sense of belonging to the local community seemed the most important (Sharpe *et al.* 2010).

Using World Values Survey, Gallup World Poll, and Asian Barometers, Chapter 4 analyzed the effect of Income on Korean happiness. The results consistently show the positive relationship. If Koreans earn more income, they are likely to be happier with statistical and substantial significance. Yet, the curvilinear relationship was doubtful. So a test was carried out by adding squared term of income. The results show that income effects get smaller with the growth in income.⁴ The effect of the basic life-support materials, such as food and shelters, using Gallup World Poll, was also tested. The result showed strong negative effects among the people who do not possess the life-support materials.

Three implications were found. First, the recent increase of overall happiness in Korea may be the result of the past economic growth. Aftermath the 1997 economic crisis, GDP per capita (PPP adjusted in constant 2011 international dollar) has increased continuously from \$17,493 in 1998 to \$32,708 in 2013. Individuals evaluate their economic status by comparing with others' as well as their previous ones. Thus, the continuous economic growth made them feel more affluent and happier.

³ See Chapter 3 and 5 for more details.

⁴ See Chapter 4 for more details.

Second, as the economic growth worked for happiness, the economic stagnation may work against happiness in South Korea. The effects may be negative because many Koreans are accustomed with the economic growth. The most recent data this study utilized was of 2012. If the data in 2013 and 2014 are available, the trend of happiness may be different.

Third, the reduction of inequality will be helpful. The less affluent are more sensitive to income changes. If their income grows, the overall happiness will grow at a greater extent. Especially for the poor with deficits in the basic needs, the growth of income or subsidy for the needs will boost their happiness dramatically.

2.3. Low Unemployment is Good

As shown in the national and regional analysis in Chapter 3, unemployment is an important determinant for happiness like other countries (Blanchflower 2007). The regional analysis shows that the marginal rate of substitution between inflation and unemployment is 1.3. Considering the variations of data in the study period 1998-2012, unemployment's impact on happiness level is approximately one time larger than that of inflation's. Korean government successfully maintained very low unemployment rate in the past decade, which should have greatly contributed to the happiness level. Unemployment not only lowers the happiness of the unemployed, but also of the employed due to increasing job insecurity. A bad (temporary) job is way better than no job. The idea of "shared burden" rather than lay off during economic recessions might be recommended.

Though economic variables such as income, unemployment rate, and inflation rate are important for happiness, they cannot tell the entire story. As shown in the regional analysis in Chapter 3, the three factors together only explain 32.6% of variations of life satisfaction across time and region (column 5 of Table 3.1). When controlling for regional dummies, the explained proportion increases to 69.9%. This implies that a large amount of regional variations are not explained by the three economic variables. Some other variables must also play important roles.

2.4. Governance is Important

Chapter 4 analyzed the effects of government institution. Asian Barometer has variables of safety in housing / family life / health / welfare system. Gallup World Poll has variables of confidence in juridical system & national government / freedom at life choice / perceived corruption / safety at night. All these variables are related with governance. The results show that the quality of government is crucial in determining happiness. The good quality of governance is positively associated with the happiness even after controlling the income, education and demographic variables.

2.5. Trust and Social Network is Important

It is well known that social cohesion is positively associated with happiness. Social cohesion ensures sustainability of the society. If there is no cohesion, the society will dissolve. Trust and networking are the key components of social cohesion. The positive effects are also found in South Korea. If you have trust, you will be happier as Chapter 4 shows. We failed to find the statistically significant relationship between happiness and time spent with parents/friends/colleagues. But if you have a friend to count on, experiences of donation or volunteering, you are likely to be happier. Attending religious services has a positive effect on happiness as well.

2.6. The Old Cohorts Need More Care

With the happiness study, we can pinpoint the sub-group who are in need in terms of happiness level. They are the elderly - the least happy group among different age cohorts. Unlike other OECD countries, and similar to Japan (Uchida *et al.* 2011), South Korea does not show U-shape of happiness with age (Frijters and Beaton 2012). The level of happiness decreases as they grow older.

Chapter 3 and Chapter 5 further tested to find out whether it is age effect or cohort effect. The results show that the phenomena mainly

come from cohort effect. In other words, people do not necessarily become less happy because they get older. Actually, earlier cohorts are less happy than later cohorts. Chapter 5 suggested three possible reasons to provide explanation for such phenomena. First, the elderly (earlier cohorts) are less well-off compared to the relatively affluent later cohorts. Second, the elderly have less appropriate preparation for retirement; many of them are suffering from the poverty without pension support. At last, the relative hardships in their infancy, adolescent and young ages might cause trauma and the effects persist even with the improved economic conditions in the later lives.

As the later cohorts grow older, U-shape curve is expected to be found in the long run. That is, the current age pattern is transient. But it does not mean that we could just need to wait for the replacement of the elderly with the later cohort. Instead, special attention should be paid to the elderly.

One “extraordinary” finding is that the transition to widowhood for women even makes her more satisfied with life. We suspect that this may represent the social and economic inequality across genders within families in the older generation, which needs attention from social support systems and from new policies.

2.7. The Ways and Amount of Money Spent on Children’s Education Need Changes

Chapter 5 studied the effect of private tutoring on happiness level using KLIPS data. The results showed that private tutoring is positively associated with parents’ happiness. Parents may be happier because their consumption is for altruistic pleasure or because it is a conspicuous consumption for their children.

An interesting figure was found when the effect of others’ spending on private tutoring was tested; it was negative and its effect was bigger than own spending. In other words, the total effects are negative.

South Korea is well-known for its fierce competition and Koreans appear to be sensitive to others’ evaluation (Kim and Ohtake 2014). Many parents are trying to maximize their happiness at the individual

level. But at the regional level, their acts work against happiness of all. It raises the set point like hedonic treadmill. In sum, it lowers their happiness, contradicting their intention. It suggests that if Korean society can lower the costs of private tutoring, the overall happiness in Korea will increase.

2.8. The Systematic Measurement of Happiness for Public Policy is Needed

This study depicted the current trend and pattern of happiness in South Korea. It outlined the important factors for boosting happiness. It also verified the particular social/age group who in concern in terms of happiness. By exploring these findings, happiness can be used as a screening or evaluating indicator for public policy. To further its effectiveness, more systematic measurement of happiness is important.

Because happiness is a subjective measurement, it is vulnerable to reliability issue. To ensure its reliability, the happiness survey needs to be carried out with a size of sample that is big enough to show the regional differences, on a consistent basis.

Happiness has three different domains - life evaluations, emotional experiences, and eudemonia. Life evaluation includes life satisfaction or happiness in general. Emotional experience can be further distinguished between positive emotions and negative emotions. All these forms should be surveyed. To evaluate the economy, we use GDP, GDP per capita, Gini index, unemployment rate and so on. Each index has its own strong points. Happiness study also needs several indexes to capture the different aspects of quality of life.

We found that happiness and SWB are popular questions in many questionnaires in South Korea. But they should be asked consistently and more frequently to enable comparison. For proper evaluation, taking into account of sensitivity is also important.

Emotional experiences and eudemonic pleasure are seldom surveyed. Social Survey 2013 includes questions on experiences of 4 emotions - pleasure, peacefulness, anxiety and sadness. But it asks only in categorical terms; in 'yes' or 'no'.

Measures of eudaimonia, or meaning / purpose of life, are also rarely surveyed in Korea. It shows the degree of self-actualization as Aristotle suggested. It is the least popular dimension among the surveys in South Korea.

In sum, the followings are needed to use happiness as a tool of screening and evaluating policies successfully; 1) multidimensional measures of happiness to ensure validity, 2) a consistent survey on happiness with a large sample size for reliability, and 3) for sensitivity, establishing mathematically measurable questions for questionnaires are crucial to study degree of changes.

2.9. The Needs for Collecting Non-economic Happiness-Supporting Variables

It is needed to collect non-economic happiness supportive variables. Measures of personal and community-level social connections and support are scant, as are measures of trust and belonging in neighborhoods, workplaces, schools and countries.

But when these are asked about – for example, relatively fully in the European Social Survey and in General Social Surveys in several countries, and slightly less so in the GWP – they provide evidence of strong links between more social support and higher life evaluations.

Recent global experience underlines the importance of having political and social institutions that are robust enough to provide economic and social resilience in the face of external shocks. Well-being research provides powerful evidence in support of this notion. Chapter 2 of *World Happiness Report 2013* and Figure 2.4 in Chapter 2 of this report, show that the drops in life evaluation in four badly hit Eurozone countries (Greece, Italy, Spain and Portugal) were even larger than it was predicted from their very large increases in unemployment and reductions in GDP. This suggests that institutions and social cohesion were not sufficient to provide sufficient resilience to digest the shocks. By way of contrast, two other countries (Ireland and Iceland) that were even more affected by the banking crisis faced only slight drops in life evaluations. The source of their much greater resilience seems to be in

the greater depth and strength of their social fabric, which gave them sufficient amount of mutual trust and common purpose to set about repairing the damage. It is surely no accident that Ireland and Iceland are the two top countries in the global ranking of the proportion of respondents who have a friend or relative they can call upon in times of difficulty.

Another key lesson from the analysis of subjective well-being has been the repeated findings that positive states of mind, and the factors that support them, are more important for many health-related and other outcomes than the absence of negative conditions (See for example, chapter 4 of *World Happiness Report 2013*). This in turn suggests that policy sciences should broaden their focus from measuring and repairing damage to building better, and better-connected, lives for all.

Finally, well-being research has also revealed the prevalence and happiness-supporting power of social and pro-social behavior (Aknin *et al.* 2013). Developing and making use of these pro-social motivations to build more sustainable development will require crafting more inclusive social identities (both across population groups and over generations). Also, changing the ways of policy design and delivery will be crucial for individuals to achieve a greater sense of connection and to use these connections to seek for help from each other.

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