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RETHINKING OF ECONOMIC GROWTH AND LIFE  
SATISFACTION IN POST-WWII JAPAN – A FRESH  
APPROACH

(Accepted 22 March 2006)

**ABSTRACT.** Gross Domestic Product (GDP) has been utilized by academics and policy makers to indicate the economic well-being of the people. However, economic growth measures cannot capture fully the overall well-being of the people. This paper has tested quality of economic growth in Japan after World War II as to whether it has brought about positive outcome in the well-being of its citizens. Comparison between GDP and GPI (Genuine Progress Index) has revealed that GDP does not fit as well with people's life satisfaction trend as GPI. Prefecture-based rankings on GDP, Human Development Index (HDI) and Life Satisfaction have shown that there are clear gaps between objective measures and subjective measures to indicate the overall well-being of the people. Also, analysis on major determinants for people's life satisfaction reveals that older people, women, non-employed people, and those who live in subsidized housings felt satisfied with their life.

**KEY WORDS:** economic growth, genuine progress index, gross domestic product, Japan, life satisfaction, prefecture-based human development index, subjective well-being

1. INTRODUCTION

Gross Domestic Product (GDP) has become popular for measuring a nation's economic performance among economic policy makers of national economic development. Academic thinking, particularly the neoclassical school of thought, has backed GDP as the most useful and reliable indicator, under the assumption that economic growth should exceed population growth if people are to see gains in economic well-being. This also makes GDP the indicator for assessing the economic well-being of any nation, partly because people tend to place higher priority on economic stability and prosperity so as to ensure their overall well-being. This practice becomes a universal norm to assess a country's economic might.

However, recently it has been pointed out that GDP does not capture well the non-economic part of a nation's well-being with growing environmental

deterioration, social instability, regional conflicts, youth unemployment, child labor and human trafficking becoming important factors needing consideration. Pursuit of monotonous economic growth that puts blind faith in GDP has been questioned by some academics and policy makers, and alternative ideas – most of them in line with sustainable development philosophy first proposed by the Club of Rome (Meadows et al., 1972) – have received serious attention. However, GDP has still continued to enjoy its prominence as the most reliable indicator for the level of a nation's economic growth.

This would not be a serious problem if GDP growth ensures higher net social benefits and supports more satisfaction for people. To examine whether this is the case, it is important for us to investigate whether people are satisfied with their overall life. Can GDP be a solid base for people's life satisfaction? Are we satisfied with our life as long as the economy is growing? Does high GDP growth ensure a stable and happy life?

We all perceive our own well-being “subjectively,” but people's subjective views are not incorporated well into the design of economic and social policy. When a government designs new policies, it tends to assess people's needs based on, amongst other factors, numerical survey data from GDP, unemployment statistics and educational enrollment rates. Numerical targets can be very useful to measure changes in people's well-being in a simple manner. However, it is difficult to use such data to ascertain whether, and to what extent, such policies can and do increase people's life satisfaction level. This paper explores the issue of quality of economic growth by paying closer attention to the relationship between economic growth performance and changes in people's subjective well-being in Japan.

This paper first looks at Japan's economic growth in GDP terms, to see how rapid and great Japan's economic development has been over the last four decades. Secondly, it examines the weakness of GDP in capturing non-economic aspects of people's well-being, such as social stability, family relationships, and introduces the Genuine Progress Index (GPI) as an alternative measurement to GDP. Thirdly, the paper introduces the Human Development Index (HDI) as another alternative to GDP in capturing human development level in a society. Fourthly, the paper shows that there are differences between prefecture-based GDP index ranking and prefecture-based HDI index ranking in the assessment of the people's well-being level. Lastly, it will discuss the importance of ‘subjective perceptions’ over personal life satisfaction, and examine which individual factors determine the level of life satisfaction.

## 2. JAPAN AS A HIGHLY DEVELOPED ASIAN NATION

Japan is a highly industrialized nation with advanced manufacturing technology including automotive, consumer electronics, and information technology. Unlike people in many developing countries in Asia, more than half of Japanese have vacationed overseas and have disposable income to spend on recreation.

With Japan's extraordinary national economic growth since 1945, which was orchestrated by the Japanese government and achieved through the hard work of Japanese companies and their employees, the Japanese seem to enjoy one of the world's highest levels of economic attainment. In 1945, reconstruction of Japan started with the Allied Powers' economic policy, which included disbandment of financial cliques (*zaibatsu*) such as Mitsubishi and Mitsui, agricultural land reform and implementation of the Dodge line. After Japan regained its independence in 1952, the Japanese government struggled with its economic reconstruction. In the late 1950s, Japan finally experienced economic boom with higher industrial production and in 1956, the government declared that the post-war reconstruction period was almost over (Nakamura, 1985). To accelerate reconstruction of the economy, Japan became a member of the World Bank and the IMF in 1952 and subsequently received loans from the World Bank to finance infrastructure development such as dams, roads, and railways. In this manner, Japan got on track to grow its economy rapidly in the 1950s and 1960s. With this economic recovery and growth, Japanese people were viewed as improving its economic and social standard of living.

In the 1970s, Europeans described Japanese workers as "economic animals" in the context of warning the world about Japanese economic power. In fact, that description is not far from the mark. The majority of Japanese migrated from rural to urban areas to obtain a job in the high-growth manufacturing sector. They worked long hours, and perhaps, as a result of this hard work, their economic well-being improved with the sharp economic growth of the 1960s and 1970s. Wages tended to rise, and people were able to build homes and to send their children to secondary school and even university, which were viewed in the pre-war period as educational institutions largely accessible only to the elite. The majority more or less benefited from this nationwide economic growth. In fact, during Japan's rapid economic growth from the 1960s to the early 1980s, the wage level of Japanese workers, on average, increased every year and they enjoyed growing purchasing power. One could claim that the Japanese came to perceive

economic growth as a good measurement to indicate the level of economic security and prosperity for themselves.

If we look at Japan based on its economic performance (GDP), as shown in Figure 1, we see that it achieved extraordinary high economic growth after World War II. Some academics and policymakers in the West described Japan's high economic growth in the 1960s and 70s as a "miracle". With this, many Japanese families were able to build their own houses, although their sizes were smaller than those mostly found in other developed countries. They also sent their children to secondary schools, and enjoyed longer life partly because of the Japanese public universal health care system with the increase in government tax revenues. As Figure 2 shows, school enrollment rates in Japan improved dramatically in a very short space of time, gaining more than 30% for high school enrollment rates from 1955 to 1972, and the rate reached closer to 100% in 2000. Similarly, the enrollment rate for university has also been upwards, and the rate, less than 10% in 1955, reached close to 50% in 2000. As shown in Figure 3, the health of the Japanese also improved. Soon after the war ended, life expectancy was merely 50 years old for men, an age far exceeded now and the longest in the world. With these descriptions, it can be seen that the Japanese have made great progress and gained both economic and social well-being during the post-World War II era.

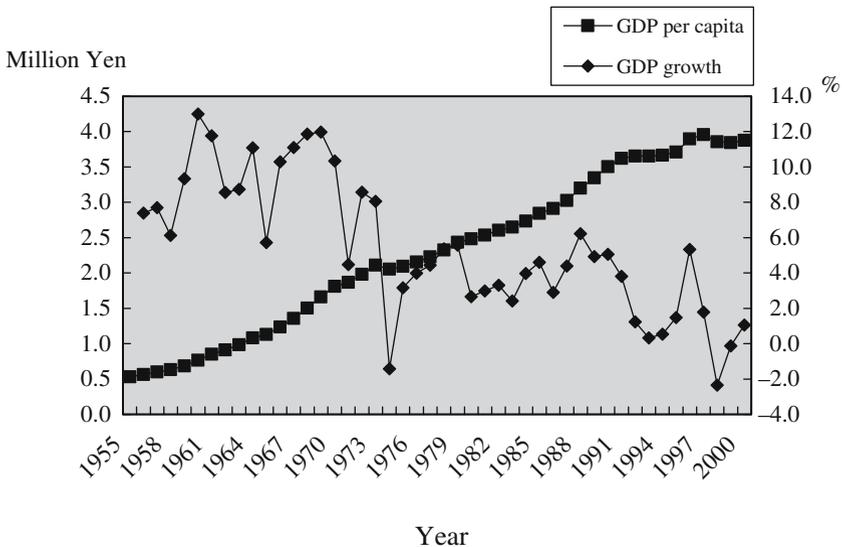


Fig. 1. Japan's economic growth: GDP per capita, and GDP growth rate (data source: *National Accounts*, Economic and Social Research Institute, Cabinet Office).

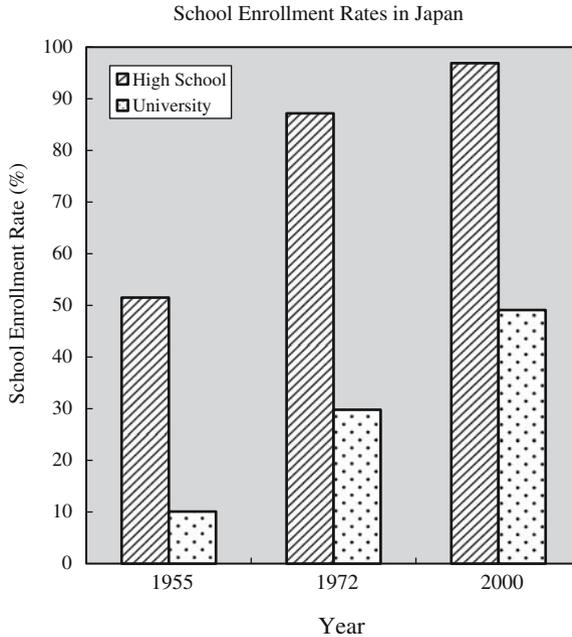


Fig. 2. School enrollment rates in Japan (data source: *Basic Surveys on Schools*, Ministry of Education, Culture, Sports, Science and Technology).

### 3. HOW HAPPY ARE THE JAPANESE WITH THIS HIGH ECONOMIC GROWTH?

In the post-World War II period, the Japanese managed to gain economic well-being by higher economic growth performance. However, it is important to pose the question: *Are the Japanese happy as long as their economic growth continues?* If we look at some social statistics, things do not look particularly good for Japan and the Japanese people. When we read Japanese newspapers to check social issues, we see clear increases in the number of young people out of jobs, the number of part-time workers, the number of NEET (persons not in employment, education or training<sup>1</sup>), suicide cases (more than 34,000 in 2003; see Figure 4), fatal child abuse and domestic violence cases all over the country, and family breakups and crime rates (Figure 5). It is important to point out that some of these issues are not new at all and are somewhat related to the country's economic situation. For example, as Figure 4 shows, the number of suicide cases was very high in the mid-1950s when many Japanese men, who returned from the war front, struggled to find a job. However, the number

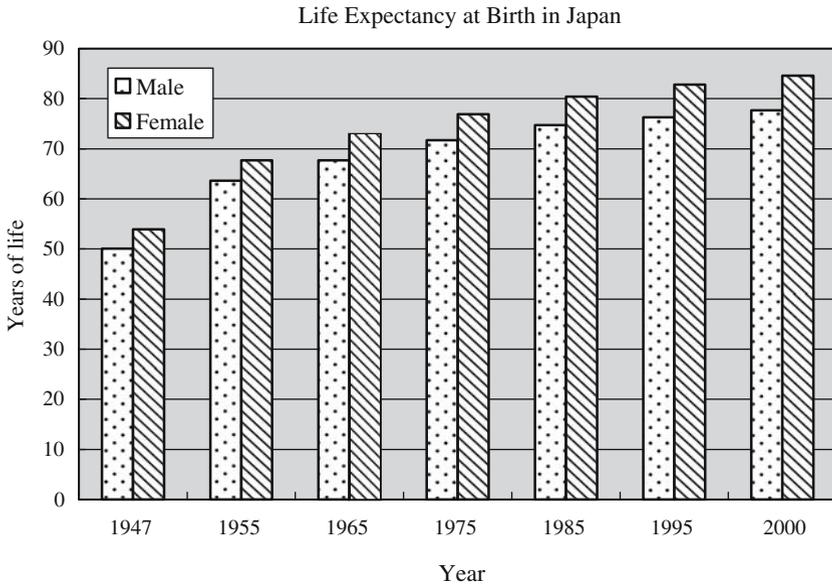


Fig. 3. Life expectancy at birth in Japan by gender (data source: *Life Table*, Ministry of Health, Labour and Welfare).

of suicide cases was gradually increasing from the 1960s to the 1980s even though the Japanese economy experienced higher economic growth. As for security in Japan's daily life, the number of crimes can be a good proxy, and it has increased over time, particularly after the 1980s (Figure 5). These social statistics imply that economic prosperity is not the sole factor to ensure the Japanese have a higher social well-being. The Japanese has faced with different kinds of serious social problems. Let us examine how the Japanese people's perceptions over their own life have changed in the post-World War II period.

#### 4. EXAMINING JAPANESE GROWTH: A MULTIDIMENSIONAL REALITY CHECK OF JAPANESE WELL-BEING

This paper examines whether Japanese are satisfied with their high per capita income level. As we have seen, Japan's per capita GDP has grown post-World War II. The GDP indicator tells us the size of the economy, which consists of private production and consumption, and government spending. However, GDP does not tell us what goods and services are produced and consumed, nor does it tell us how each individual values his or

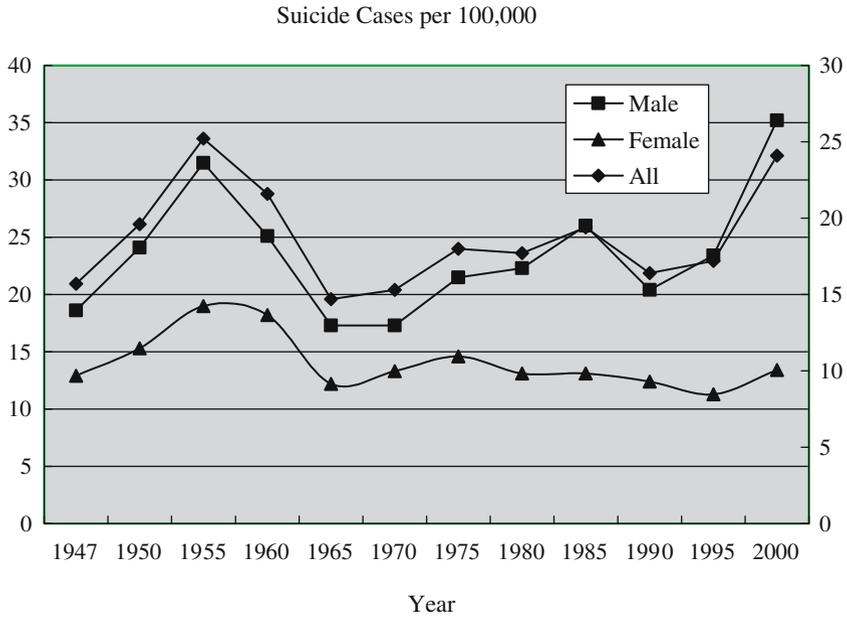


Fig. 4. Suicide Cases in Japan (source: *Vital Statistics of Population*, Ministry of Health, Labour and Welfare).

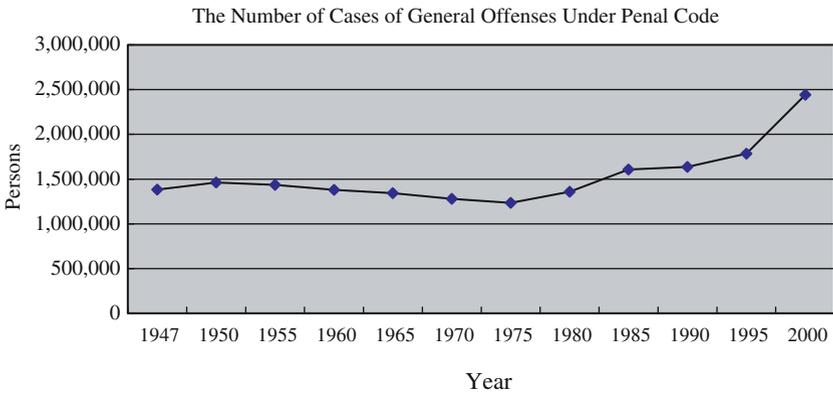


Fig. 5. Crime Cases in Japan (data source: *Criminal Statistics*, Criminal Investigation Bureau, National Police Agency).

her increase in purchasing power. GDP growth could be attained by the performance of large multinational companies, which seek to maximize their profits and minimize their costs to compete in the global market. Companies

tend to emphasize short-term profits at the cost of long-term impacts, including those on the environment. These behaviors could enhance GDP expansion, which might have little connection with the improvement of people's overall well-being.

New efforts have been made to gather data on social and economic development and to devise alternatives to GDP that monitor social and economic progress. Two alternatives are highlighted here: (1) Genuine Progress Index (GPI) and (2) Human Development Index (HDI).

#### 4.1. *Measuring Quality of Growth by GPI*

GPI was created by a US non-profit research group called Redefining Progress to incorporate social costs (pollution, crime, and the like) into growth measurement (GDP). GPI starts from the same personal consumption data which GDP is based on. Then, it is adjusted by subtracting important destructive costs, and adding social and economic benefits. For example, it adds the value of time spent on household work and volunteer work, and subtracts expenditures for security systems, hospital bills, etc. (see Cobb et al., 1995). Figure 6 illustrates how GPI is calculated starting from GDP. There are 10 major adjustment groups: household and volunteer work, income distribution, crime and family breakdown, resource depletion, pollution, long-term environmental damage, changes in leisure time, defensive expenditures, life span of consumer durables and public infrastructure, and dependence on foreign assets. For example, the number of hours for voluntary activities is considered as social benefits and the worth of such activities is calculated by the hours and the minimum wage level. These adjustments are made to calculate GPI for Japan. Based on this GPI calculation method, Japan's GPI was calculated by a group of Japanese researchers (Ohashi et al., 2003) and they found a huge discrepancy between GDP and GPI for the last four decades.

Although the growth in GDP is traced as an upward-moving curve, the growth in GPI is traced as a relatively flat line (Figure 7). This implies that a substantial proportion of GDP growth has been made at the expense of environmental degradation, social instability and increased crime, which raises critical questions about the importance and effectiveness of economic growth in ensuring true social and economic welfare. Interestingly, unlike GDP, GPI has not changed much for the last three decades in Japan. This suggests that GDP growth has not incorporated social costs incurred by economic activities aiming at high economic growth performance.

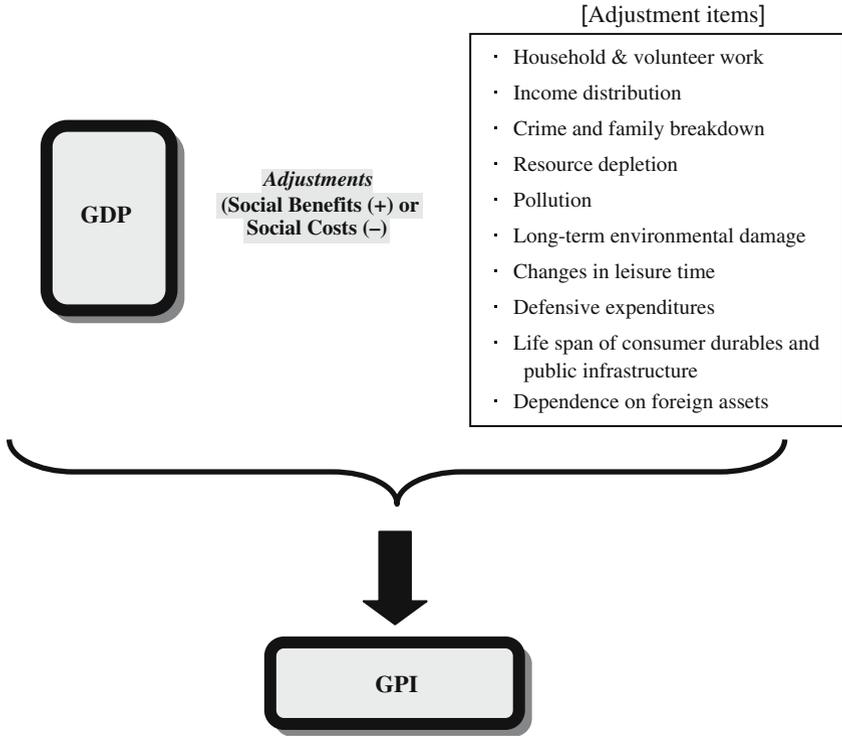


Fig. 6. Calculation method of GPI.

#### 4.2. *Measuring Quality of Growth by HDI*

HDI was developed by the UNDP in 1990 (UNDP, 1990), based on Amartya Sen’s capability concept and approach (Sen, 1985). Since then it has become popular among development practitioners and researchers. HDI has three major components of development indicators: income, education, and health.<sup>2</sup> Using the composite index of human development, HDI revealed that the Japanese, on average, have access to good public services and a high income base. The latest HDI ranking put Japan at 11th in the world (UNDP, 2005), which is consistent with our general views about Japan’s development: it has a solid economic base, high educational attainment, and strong health services. However, the place of Japan in the world ranking of HDI has been gradually declining from 1st in 1993 to 11th in the latest figures, which might be influenced by the sluggish economic performance after the bubble economy collapsed in the 1990s.

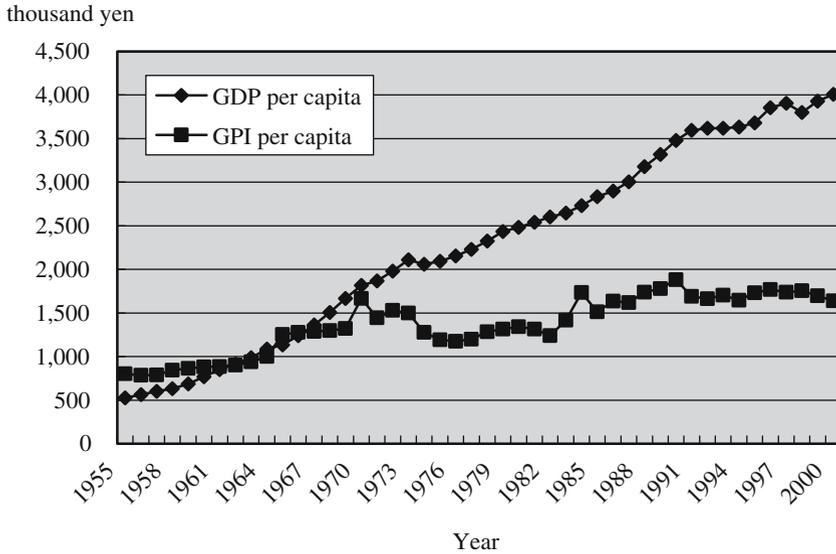


Fig. 7. GDP per capita and GPI per capita in Japan (data source: Ohashi et al., 2003).

##### 5. LIMITATIONS OF CONVENTIONAL INDICATORS: DOES SUBJECTIVITY MATTER?

GPI and HDI have contributed significantly in our thought over economic growth and social development. However, these indicators do not deal well with capturing “quality” of education, health and income increase. For instance, educational indicators of HDI do not count students who refuse to go to school, variations in the type of schooling, or the number of bullying incidents at school. Health indicators only tell us the average life expectancy at birth and disease infection rates. Data on health promotion and disease prevention are quite limited. Thus, national HDI does not tell us much regarding the quality level of national health service provisions other than how long people could live in Japan. Also, HDI does not give any assessment broken down by social dimensions such as gender, ethnicity, etc. Homogeneity has been regarded as one unique feature of Japanese society. However, the numbers of immigrants are up and on the increase, exceeding two million people in 2004.

Another problem with conventional indicators is that they do not use qualitative information (people’s subjective perceptions about their lives and their life choices) to evaluate economic and social advancement of their own life. A person’s self-reported life satisfaction (subjective well-being) needs to

be examined to see if their perceptions and objective well-being indicators are consistent with one another.

It is important to explain why conventional well-being measures are skewed toward quantitative rather than qualitative, especially economic measures. Economics avoids measuring directly people's life satisfaction by defining one's absolute utility level as a proxy for one's overall well-being, although Adam Smith, the founding father of classical economics, observed that high income eventually fails to increase people's life satisfaction. Rather, neo-classical economics treats utility as "decision utility" (Frey and Stutzer, 2002), which suggests one's satisfaction after one has made choices for certain combinations of goods and services, rather than satisfaction based on one's own unique choice combinations of goods and services that may not even be consumed by others. In other words, utility defined by neo-classical economics tells us little about individual satisfaction with the person's unique choice of goods or services. Such a decision utility cannot tell us whether a certain economic action (behavior) will bring satisfaction, without comparison to other economic actions. Unfortunately, in modern economics, this utility notion has been a fundamental assumption underlying many economic theories and models that influence policy design and performance assessment. However, because of growing "dissatisfaction" with the utility concept, new efforts are now emerging to capture better people's subjective life satisfaction. On this front, psychology has been particularly active (Diener, 1994; Veenhoven, 1996; Diener and Suh, 2000). Some economists, including Sen (Sen, 1999), have advocated an alternative way of looking at the welfare of people by applying an interdisciplinary method that combines the knowledge of psychologists, sociologists, medical doctors and economists. One critical component in this endeavor is being able to fully utilize people's qualitative information, or "voices," toward evaluating the overall progress of a society and its economy from the viewpoint of an individual. In the next section, we will examine how different well-being measures are, if they are built based on objective economic measures or subjective information, and how people perceive their life, taking the case of Japan.

## 6. REGIONAL VARIATIONS AND DISCREPANCIES BETWEEN GDP AND HDI

We have so far argued Japanese economic and social progress post-World War II based solely on national data. There might be some variations in the country by region and by time. In this section, we will look at Japanese

development by examining the possibility of regional variations in economic growth and people's satisfaction.

### 6.1. *People's Well-being Rankings by Prefecture-based HDI*

Table I shows Japan's prefecture-based HDI<sup>3</sup> for 1990, 1995 and 2000, which were calculated by the author using official data on per capita GDP, education and health. In 2000, prefecture-based HDI scores in Japan ranged from 0.9065 for Aomori Prefecture to 0.9667 for the Tokyo Metropolitan Area. The UNDP Global HDR 2005 shows the world's highest HDI to be 0.963 for Norway, which Tokyo surpasses, and 0.907 for Israel, ranked 22nd and close to Aomori's ranking. This means that all of the prefectures in Japan are categorized in the high-HDI group. However, people living in Tokyo enjoy higher human development than elsewhere in Japan.

### 6.2. *Trends in Overall Life Satisfaction in Japan (1978–2002)*

To what extent do Japanese subjectively feel satisfied with their lives? Figure 8 shows trends in subjective life satisfaction as surveyed by the Cabinet Office's *Survey of Lifestyles and Needs*, which has been conducted every 3 years since 1978. It clearly shows that the number of people who report feeling "satisfied with life" or "very satisfied with life" has declined over time. The number of Japanese who report feeling "satisfied with life" or "very satisfied with life" decreased from 64.2% in 1984 to 41.3% in 2002, while those who report feeling "unsatisfied with life" or "never unsatisfied with life" increased from 11.1% in 1978 to more than 25% in 2002. It is important to note that fewer than one in 20 Japanese reports feeling very satisfied with life in 2002.

### 6.3. *In What Prefectures Did Japanese People Report the Greatest Life Satisfaction?*

If we assume that people assess fairly well over their own subjective life satisfaction, the degree of happiness can be explained by the number of people who felt satisfied or unsatisfied. The author checked the level of life satisfaction by the number of people who have felt very satisfied or satisfied with their life by prefecture. Table II shows Japanese prefectures ranked at the top five or at the bottom five by HDI, GDP and Life Satisfaction in Japan.<sup>4</sup> The top five by HDI are Tokyo, Aichi, Shiga, Shizuoka, and Fukui. On the other hand, the top five by GDP are Tokyo, Aichi, Osaka, Shiga, and Shizuoka. The top five by HDI and the top five by GDP show

TABLE I  
HDI in Japan by prefecture: 1990, 1995 and 2000

	HDI		
	1990	1995	2000
Hokkaido	0.8863	0.9068	0.9260
Aomori	0.8698	0.8877	0.9065
Iwate	0.8792	0.8998	0.9186
Miyagi	0.8926	0.9071	0.9247
Akita	0.8777	0.8951	0.9142
Yamagata	0.8855	0.9014	0.9216
Fukushima	0.8880	0.9044	0.9241
Ibaraki	0.8928	0.9080	0.9259
Tochigi	0.8955	0.9107	0.9294
Gunma	0.8957	0.9117	0.9303
Saitama	0.8811	0.8956	0.9166
Chiba	0.8868	0.9019	0.9219
Tokyo	0.9296	0.9448	0.9667
Kanagawa	0.8996	0.9119	0.9324
Niigata	0.8921	0.9095	0.9290
Toyama	0.9031	0.9205	0.9392
Ishikawa	0.8991	0.9163	0.9364
Fukui	0.9027	0.9204	0.9401
Yamanashi	0.8944	0.9094	0.9319
Nagano	0.8980	0.9148	0.9365
Gifu	0.8921	0.9070	0.9263
Shizuoka	0.9056	0.9204	0.9402
Aichi	0.9115	0.9265	0.9460
Mie	0.8934	0.9123	0.9329
Shiga	0.9080	0.9229	0.9426
Kyoto	0.8952	0.9123	0.9333
Osaka	0.9003	0.9177	0.9390
Hyogo	0.8950	0.9086	0.9290
Nara	0.8794	0.8944	0.9169
Wakayama	0.8770	0.8957	0.9155
Tottori	0.8887	0.9045	0.9239
Shimane	0.8858	0.9021	0.9231
Okayama	0.8992	0.9152	0.9316
Hiroshima	0.9032	0.9170	0.9361
Yamaguchi	0.8924	0.9084	0.9258
Tokushima	0.8831	0.9005	0.9182
Kagawa	0.8945	0.9122	0.9304
Ehime	0.8862	0.9047	0.9221
Kochi	0.8781	0.8964	0.9156
Fukuoka	0.8896	0.9061	0.9228
Saga	0.8810	0.9021	0.9189
Nagasaki	0.8749	0.8949	0.9127

TABLE I  
Continued

	HDI		
	1990	1995	2000
Kumamoto	0.8872	0.9045	0.9225
Oita	0.8891	0.9076	0.9285
Miyazaki	0.8780	0.8959	0.9148
Kagoshima	0.8762	0.8938	0.9127
Okinawa	0.8810	0.8940	0.9111

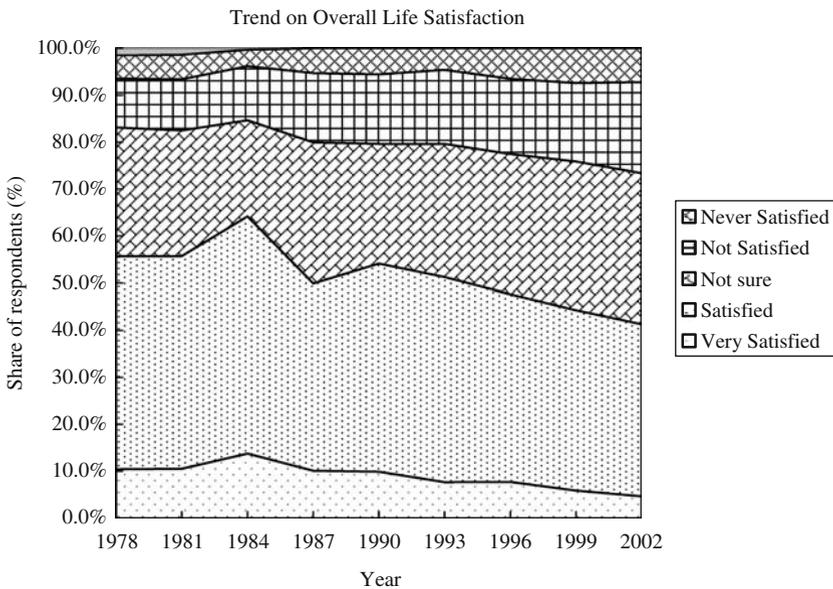


Fig. 8. Overall Life Satisfaction in Japan (data source: *Survey of Lifestyles and Needs*, Cabinet Office).

significant overlap, mainly because GDP is the most influential component in HDI, due partly to the fact that educational data and health data do not differ so much across the nation. A similar tendency is also found among the bottom five by GDP and HDI. However, if we look at the figures from sub-regional groupings we find some differences between prefecture ranking by GDP and one by HDI. For prefectures in the Hokkaido, Tohoku and Kyushu regions, their rankings by GDP are higher than those by HDI. In contrast, for prefectures in the Kansai and Kanto regions, their rankings by

TABLE II  
Top 5 and bottom 5 prefectures by GDP, HDI and life satisfaction

Ranking	GDP (2000)	HDI (2000)	Life satisfaction (2002)
Top 1	<u>Tokyo</u>	<u>Tokyo</u>	Tottori
Top 2	<u>Aichi</u>	<u>Aichi</u>	Tokushima
Top 3	Osaka	<u>Shiga</u>	Nagano
Top 4	<u>Shiga</u>	<u>Shizuoka</u>	Ishikawa
Top 5	<u>Shizuoka</u>	Fukui	Nagasaki
Bottom 5	<u>Kagoshima</u>	Akita	Hiroshima
Bottom 4	Saitama	<u>Kagoshima</u>	Iwate
Bottom 3	<u>Nagasaki</u>	<u>Nagasaki</u>	<u>Akita</u>
Bottom 2	Nara	<u>Okinawa</u>	Shiga
Bottom 1	<u>Okinawa</u>	Aomori	Kochi

HDI are higher than those by GDP. This suggests that educational development and public health development differ from economic growth in the Hokkaido, Tohoku and Kyushu regions. Interestingly, these regions have been the origins of rural–urban migration in Japan in its industrial development and also have been the beneficiaries of public works programs from central government to support local construction sector for decades, while the Kansai and Kanto where major cities like Tokyo, Yokohama, Osaka, Kyoto, and Kobe are all located, do far better in education and health services than income component. This might imply that more non-economic progress has been made in major cities and urban areas than rural regions, implying that public policy might have influenced this regional variation in HDI and GDP for Japan.

Table II shows there is very little connection between prefecture-based GDP and Life Satisfaction rankings. More surprisingly, there is far less connection between HDI and Life Satisfaction in the prefecture-rankings. For instance, Tottori ranks 1st on the Satisfaction ranking, but 26th in GDP. Tokyo ranks as 1st by both GDP and HDI, but 16th by the Satisfaction. This implies that there are some gaps between objective measures and subjective measures regarding well-being.

#### 7. ANALYSIS OF PEOPLE'S LIFE SATISFACTION IN JAPAN: WHO FEEL MORE SATISFIED WITH THEIR LIFE?

In this section, we will look at trends of Japanese development based on people's subjective assessment and examine which groups of people in Japan

feel satisfied or are dissatisfied with their life. Also, we will look at which factors influence the level of subjective well-being by statistical tests.

### 7.1. *Who Feels More Satisfied with Their Life than Others?*

The same trend data gathered by the Cabinet office from 1978 to 2002 was used to see which personal attribute(s), age, gender, job, marital status, and house ownership, might influence the level of life satisfaction among the Japanese.

7.1.1. *Age.* In Table III, the score of the age group with the lowest one for each round of the survey is underlined, while the score of the age group with the highest one is in bold and italic. As shown in Table III, the number of people in younger age groups, especially below 30 years old, who felt satisfied and very satisfied are fewer than other age groups. On the other hand, people older than 60 years of age tend to feel satisfied and very satisfied more than those in other age groups. Young cohorts might be anxious about their future – job prosperity, marriage, and such. However, the long-term trend, as shown in Figure 9, suggests that the highest score has gone down dramatically over the quarter century by more than 25 percentage points from 76.3% in 1984 to 47.6% in 2002.

TABLE III  
Trend on life satisfaction by age groups

	1978 (%)	1981 (%)	1984 (%)	1987 (%)	1990 (%)	1993 (%)	1996 (%)	1999 (%)	2002 (%)
Age below 20	55.2	59.0	59.4	43.9	50.4	53.9	49.0	<u>34.8</u>	42.9
20–24	<u>47.8</u>	<u>50.0</u>	59.6	<u>39.8</u>	<u>39.3</u>	43.5	43.5	40.2	39.1
25–29	<u>53.4</u>	50.9	62.8	45.0	55.2	47.6	43.9	42.9	37.0
30–34	52.6	51.5	58.7	43.2	52.4	46.6	<u>39.8</u>	43.1	40.4
35–39	49.6	51.0	58.3	46.4	49.5	43.4	42.6	39.2	39.3
40–44	50.9	51.4	<u>55.1</u>	48.4	47.4	<u>42.5</u>	44.4	42.1	39.8
45–49	54.2	54.1	<u>63.1</u>	45.0	48.7	<u>52.0</u>	45.4	39.7	38.3
50–54	61.7	62.7	65.9	46.5	54.9	51.2	49.8	42.8	<u>35.3</u>
55–59	63.7	62.6	75.0	58.9	59.5	55.5	44.2	48.8	41.8
60–64	65.3	60.8	<b>76.3</b>	61.0	<b>64.2</b>	57.4	53.1	50.1	47.2
65 above	<b>67.9</b>	<b>64.3</b>	74.4	<b>69.7</b>	63.7	<b>66.2</b>	<b>63.1</b>	<b>52.7</b>	<b>47.6</b>
All	55.7	55.7	64.2	49.9	54.1	51.2	47.7	44.3	41.3

Share (%); those who feel very satisfied and satisfied with their life.

7.1.2. *Gender.* We have examined the same data from the gender perspective and have found that more women have felt very satisfied and satisfied with their life than men over the years, as shown in Figure 10. Interestingly, although Japan is known as a strong patriarchal male-biased society, men tend to feel less satisfied with their life. This might reflect some social pressure on the shoulders of men, as being a successful breadwinner for his family, while women are more concerned with finding a successful man to get married. Also, it might imply that women and men have different points of views over their life satisfaction.

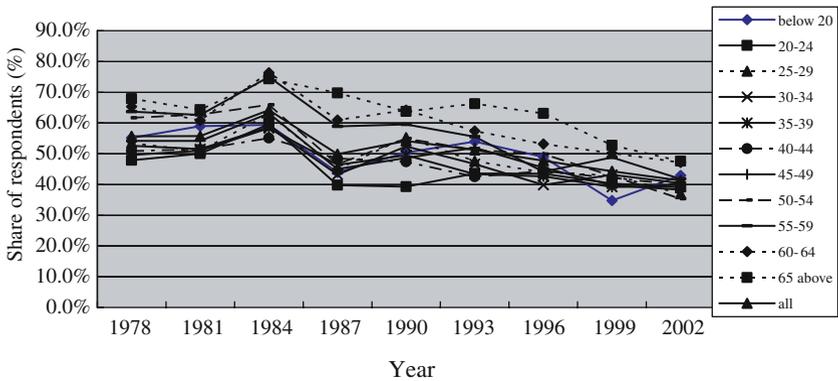


Fig. 9. Trend on Life Satisfaction by age groups (Share (%); those who feel very satisfied and satisfied with their life).

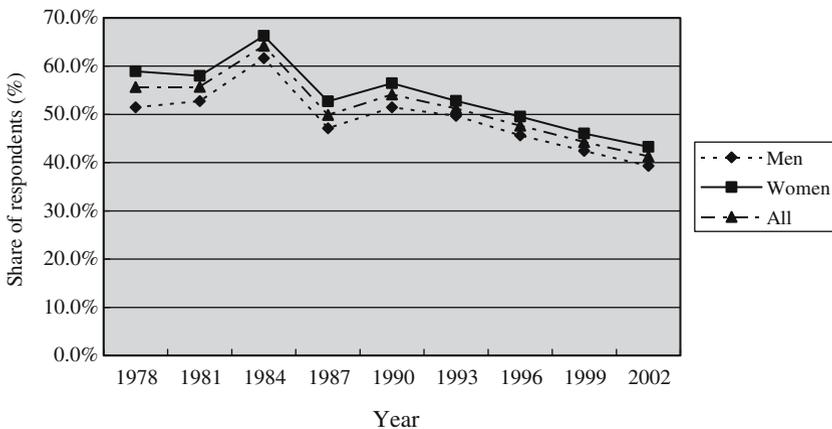


Fig. 10. Trend on Life Satisfaction by Gender (Share (%); those who feel very satisfied and satisfied with their life).

7.1.3. *Job.* I have looked at the trend data on life satisfaction by job status. As Figure 11 shows, more people without jobs feel satisfied with their life than those with jobs. Both housewives and retirees are the majority of those who felt satisfied with their life. Thus, in Japan, non-employed people felt satisfied; but, this does not tell us much about if, and to what extent, those who are unemployed, recently increasing in Japan, have influenced that statistic one way or another.<sup>5</sup>

7.1.4. *Marital status.* The data broken down by marital status (single, married, and divorced/widowed), is shown in Figure 12. Over time, the gaps do not remain stable; rather, the levels of life satisfaction have changed from time to time except for married couples who have slightly more people satisfied with their life. On the other hand, single people tend to feel less satisfied with their life. We need to note that divorced and widowed people feel less satisfied with their life after the mid-1990s, which coincides with the increase in the number of divorce cases in Japan. It has been pointed out in that female-headed families suffer financially with the poor development of the labor market for women and the social stigma toward female-headed families in Japan. However, the increase in the number of divorce cases certainly indicates that there might be some social structural change in family formation occurring in Japan.

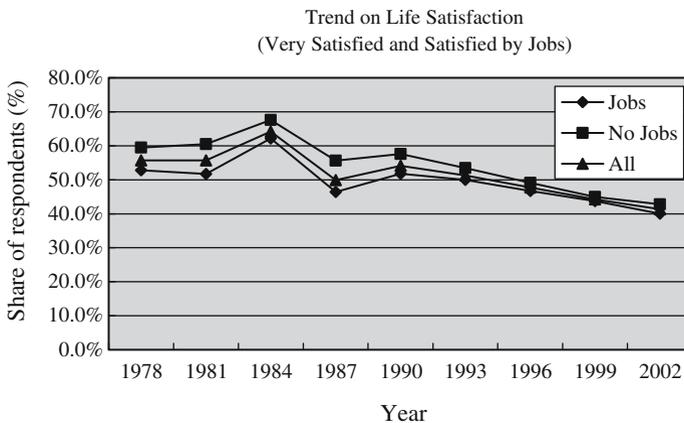


Fig. 11. Trend on Life Satisfaction by Job (Share (%); those who feel very satisfied and satisfied with their life).

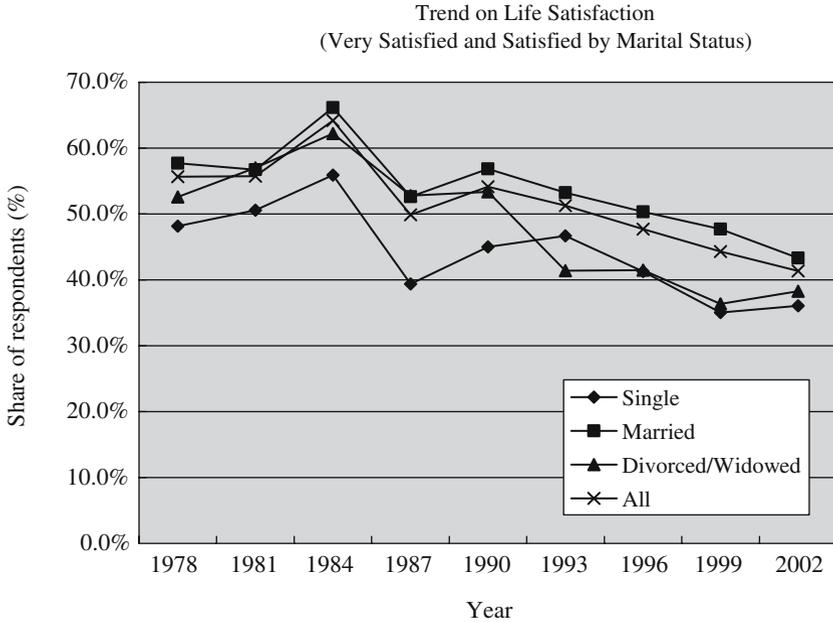


Fig. 12. Trend on Life Satisfaction by Marital Status (Share (%); those who feel very satisfied and satisfied with their life).

7.1.5. *House ownership.* In Japan, the type of house ownership might be a good proxy indicator for showing one's economic and social status and well-being situation. We use five categories for house ownership: (1) those who own houses, (2) those who rent houses from private companies, (3) those who rent houses from the public housing services, (4) those who live in houses subsidized either by the government or companies, and (5) those who live in other forms of housing arrangements. The result shows that (Figure 13) the number of people who feel satisfied with their life has declined over time regardless of their house ownership. However, those who live in subsidized housing feel less unsatisfied compared to people in other categorical groups. It is important to look at those who have access to subsidized housing in Japan: many of those are government officials or employees of big companies. This might suggest indirectly that economic burden might be less for people living in subsidized housing than those who rent houses or own houses, who in fact experienced heavy debt due to the burst of the bubble economy in the 1990s.

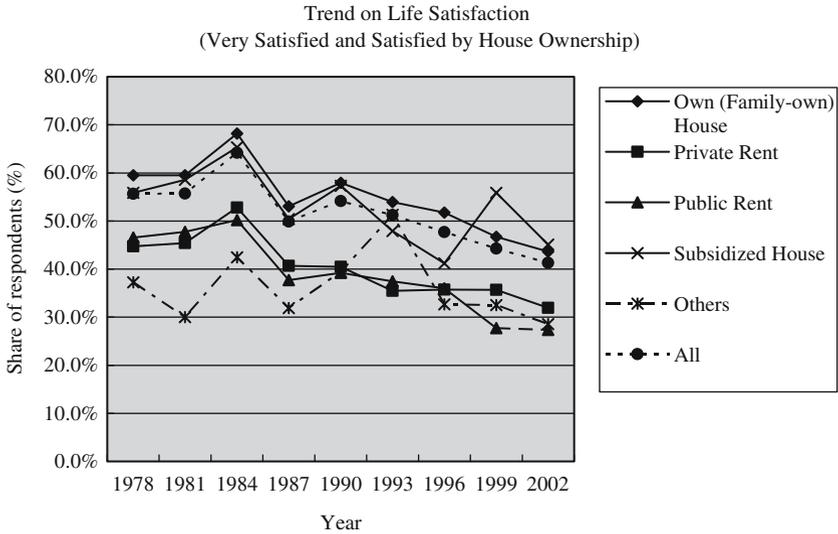


Fig. 13. Trend on Life Satisfaction by House Ownership (Share (%)); those who feel very satisfied and satisfied with their life).

## 7.2. Which Factors Explain Most the Level of One's Life Satisfaction in Japan?

To investigate the major determinants of one's life satisfaction based on the national survey data, a simple regression analysis was applied for the analysis of the dataset for the three years, 1978, 1990 and 2002 to see if there were any clear changes in the determinants of subjective well-being over time. Table IV shows the OLS (Ordinary Least Squares Regression) result. Dependent variable is one's life satisfaction: we put 1 if one feels satisfied or very satisfied with one's life and 0 for the rest. The independent variables are age, gender, marital status, house ownership, and family income.

As shown in Table IV, older people, age above 65 and more,<sup>6</sup> feel satisfied with their life through the three different time settings. Interestingly, married people feel satisfied with their life while both single and divorced/widowed people feel unsatisfied with their life.<sup>7</sup> However, the statistical significance of the divorced/widowed for 2002 is less than that for previous years. This is consistent with our descriptive analysis.

As for gender, women feel satisfied with their life, while men feel unsatisfied from 1978 to 2002. Concerning house ownership, those who rent a house feel less satisfied with their life than those who own houses. Those

TABLE IV

Regression results for factors of life satisfaction in Japan for 1978, 1990 and 2002

Variables	1978			1990			2002		
	$\beta$	SE	<i>t</i> -Value	$\beta$	SE	<i>t</i> -Value	$\beta$	SE	<i>t</i> -Value
Constant	3.9827	0.0485	82.1189	4.0319	0.0638	63.2242	3.5258	0.0498	70.7343
Age 15–19 years	-0.1440	0.0786	-1.8321	-0.2776	0.1083	-2.5622*	-0.0739	0.0926	-0.7982
20–24 years	-0.3106	0.0716	-4.3379**	-0.4867	0.1081	-4.5023**	-0.2597	0.0934	-2.7812**
25–29 years	-0.3102	0.0585	-5.3025**	-0.3308	0.0931	-3.5516**	-0.2433	0.0800	-3.0419**
30–34 years	-0.3983	0.0560	-7.1171**	-0.5494	0.0836	-6.5743**	-0.2418	0.0701	-3.4488**
35–39 years	-0.4371	0.0560	-7.8011**	-0.5807	0.0805	-7.2097**	-0.3546	0.0692	-5.1212**
40–44 years	-0.4434	0.0571	-7.7671**	-0.5941	0.0770	-7.7112**	-0.3642	0.0672	-5.4229**
45–49 years	-0.4121	0.0571	-7.2144**	-0.5191	0.0809	-6.4139**	-0.4351	0.0688	-6.3249**
50–54 years	-0.2682	0.0574	-4.6719**	-0.4657	0.0786	-5.9262**	-0.4400	0.0622	-7.0772**
55–59 years	-0.1736	0.0604	-2.8747**	-0.3206	0.0785	-4.0826**	-0.2451	0.0646	-3.7937**
60–64 years	-0.1393	0.0624	-2.2331*	-0.2021	0.0803	-2.5159*	-0.0566	0.0623	-0.9093
Single	-0.1905	0.0491	-3.8769**	-0.2698	0.0737	-3.6600**	-0.1723	0.0581	-2.9639**
Divorced/ widowed	-0.2252	0.0490	-4.5951**	-0.2119	0.0674	-3.1431**	-0.1359	0.0618	-2.1972*
Male	-0.1508	0.0266	-5.6691**	-0.1776	0.0384	-4.6206**	-0.1218	0.0345	-3.5264**
Have a Job	-0.0451	0.0278	-1.6244	-0.0380	0.0432	-0.8805	0.0208	0.0374	0.5572
House private rent	-0.2319	0.0339	-6.8454**	-0.3310	0.0541	-6.1186**	-0.1264	0.0511	-2.4720*
House public rent	-0.2197	0.0478	-4.5911**	-0.3137	0.0683	-4.5949**	-0.2955	0.0725	-4.0790**
House subsidized	-0.0229	0.0508	-0.4518	0.0676	0.1130	0.5981	0.1058	0.0995	1.0624
House others	-0.2860	0.0641	-4.4599**	-0.2548	0.1208	-2.1088*	-0.1142	0.1141	-1.0001
Family income 0–1.5 mil yen	-0.2241	0.0411	-5.4472**	-0.3456	0.0747	-4.6286**			
1.5–2.5 mil yen	-0.0793	0.0346	-2.2905*	-0.2374	0.0680	-3.4921**			
2.5–3.5 mil yen	-0.0635	0.0334	-1.9031	-0.1676	0.0617	-2.7157**			
3.5–4.5 mil yen	0.0818	0.0397	2.0597*	-0.0556	0.0609	-0.9126			
5.5–6.5 mil yen	0.1895	0.0602	3.1486**	-0.0436	0.0660	-0.6597			
6.5–7.5 mil yen	0.3531	0.0854	4.1352**	0.0861	0.0751	1.1469			
7.5–8.5 mil yen	0.2036	0.0955	2.1321*	0.2388	0.0838	2.8485**			
8.5–9.5 mil yen	0.2830	0.1446	1.9571	0.1325	0.1038	1.2762			
9.5 mil yen and above	0.2749	0.0782	3.5153**	0.3115	0.0684	4.5537**			
0–2 mil yen							-0.4304	0.0656	-6.5648**
2–4 mil yen							-0.2753	0.0450	-6.1109**
4–6 mil yen							-0.0891	0.0439	-2.0313*
8–10 mil yen							0.1858	0.0542	3.4280**
10–12 mil yen							0.2314	0.0766	3.0229**
12–14 mil yen							0.3609	0.0949	3.8025**
14 mil yen and above							0.4757	0.0848	5.6083**
R <sup>2</sup>	0.0590			0.0847			0.0729		
Adjusted R <sup>2</sup>	0.0555			0.0774			0.0673		

who live in a unit subsidized either by the public sector or private companies are not different from those who own their own houses.

With regard to linkage between one's income level<sup>8</sup> and life satisfaction, the same regression results show us that people with higher income levels feel much more satisfied than those with lower income levels. However, the trend analysis suggests that the household income factor becomes a less significant determinant to one's life satisfaction level.

#### 8. CONCLUDING REMARKS: A QUEST FOR GROWTH, OR A QUEST FOR SATISFACTORY LIFE?

We have looked at "quality of economic growth" by using different types of numerical data and different indexes to see if, and to what extent, Japanese economic growth has made Japanese people satisfied with their life after World War II. Some findings through this exercise include:

- (1) At present, social problems are increasing in Japan and people's views and perceptions are not so positive. However, the Japanese are better off economically and have secured basic human necessities, as the national and prefecture-based HDIs have clearly shown.
- (2) Interestingly, prefectures with a large number of people satisfied with their life tend to be placed higher in the HDI ranking than that in the GDP ranking. GDP should not be viewed as the best measurement to indicate people's overall well-being. Rather, it sometime misleads the people's well-being, as we have seen that there are some gaps between the rankings by HDI and GDP, and those between life satisfaction and GDP.
- (3) GDP cannot incorporate social costs and benefits (environmental damage is not discounted, domestic work is not counted, etc.). These may influence people's overall well-being. Alternative measures such as GPI might be superior in reflecting the non-economic part of well-being.
- (4) Personal attributes and economic/social status (age, marital status, gender, income level and house ownership) influence the level of life satisfaction. In particular, the economic situation becomes more critical to people's life satisfaction. This implies that macro-economic conditions and economic growth needs to be closely examined as to how and to what extent they influence people's perceptions of their life satisfaction.

This paper has paid closer attention to the quality of economic growth and life satisfaction. For this analysis, it has tested conventional growth measurements against alternative ones, and we have found some discrepancies

between GDP, GPI and HDI. Also, we have examined if these measures could represent people's life satisfaction correctly. To explore this in greater detail, the paper has dealt with the secondary data on people's life satisfaction gathered by the government of Japan every 3 years. Our analysis reveals that personal attributes and individual economic and social positions do differentiate people's life satisfaction levels. Individual factors like age, gender, marital status and house ownership are influential over people's subjective well-being levels. Investigation of people's life satisfaction could lead us to reexamine quality of economic growth and bring us with alternative measures capturing real or subjective well-being and we might be able to formulate/select public policies to enhance people's overall well-being.

#### NOTES

<sup>1</sup> According to the Cabinet Office, the number of NEET is estimated as more than half a million in 2003 in Japan (Ministry of Health, Labour and Welfare, 2005). In Japan, debate over NEET is underway among academics, schools, and social workers.

<sup>2</sup> HDI consists of the three dimensions of human development: (1) long and healthy life, (2) knowledge, and (3) decent standard of living. The three dimensions identify the following indicators:

(1) Long and healthy life: life expectancy at birth (indicator) and life expectancy index

(2) Knowledge: adult literacy rate and gross enrollment ratio (indicators), and education index

(3) Decent standard of living: GDP per capita (indicator) and GDP index

The HDI is calculated by putting an equal weighting on the three indices. According to the *Human Development Report 2005*, Japan's life expectancy at birth is 82.0, gross enrollment ratio is 84, GDP is US\$27,967, and HDI is 0.943, ranking Japan 11th in the world.

<sup>3</sup> Calculated by the author from (1) school enrollment rate from *Basic Surveys on Schools*, Ministry of Education, Culture, Sports, Science and Technology, (2) life expectancy rate from *Life Table*, Ministry of Health, Labour and Welfare, (3) per capita GDP from *Annual Report on National Economy*, Cabinet Office using the UNDP's HDI method (see UNDP, 1990).

<sup>4</sup> Sample survey was conducted by the Cabinet Office and here the 'Happiness indicator' is created based on the following question (Q) and answers (A): Q. Are you happy with your life overall? A. 1. Very Satisfied, 2. Satisfied, 3. Not satisfied or unsatisfied, 4. Unsatisfied, 5. Never Satisfied.

<sup>5</sup> This is very important and should be explored further; however, the Cabinet data does not have detailed information over job status by unemployment.

<sup>6</sup> In the OLS, the base group for age dummies is those who are older than 65 years old.

<sup>7</sup> In the OLS, the base group for marital status dummies is those who are married.

<sup>8</sup> In the OLS, the level of income is again dummied. For the data in 1978 and 1990, the income data use the same categories (the first categorization), while the data in 2002 uses the different ones (the second categorization). Thus, we show the two different types of income level variables. The first categorization set family income level between 4.5 and 5.5 million yen as the base for dummies and the second categorization set the income level between 6 and 8 million yen as the base. These categories are chosen where the average income level was found in 1978, 1990 and 2002.

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