

Towards a High Quality of Life Society: *GDP*, Welfare and Happiness

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[Abstract]

GDP is a widely used category, which measures economic growth, and the government for public policy decisions uses that, and so on. A well-known fact is, however, that “GDP is not a measure of economic welfare.” This paper is a brief review of GDP, welfare, and happiness to obtain a clue towards a high quality of life society. First, we explore weaknesses of the GDP concept: (1) market failures in the measurement of GDP, and (2) the conceptual distortions or limitations viewed from the viewpoint of welfare. Second, towards a welfare viewpoint, we explain the measurement of Net National Welfare (NNW) and its question, and the importance of social balance. Third, as the further development we explain some important points of the Genuine Progress Indicator (GPI), social indicators, and happiness research. Finally, we present a brief view what the high quality of life society should have.

1. Introduction

This is a brief overview of *GDP*, welfare, and happiness to obtain a clue towards a high quality of life in the mature society. After World War II, economic growth was important to solve unemployment problems and improve people’s living standard. There seemed to be economic growth competition between the Eastern and Western nations. Developing countries were watching which economic system was effective to gain faster growth and then a higher living standard. Historically, growth rates of

Key words: quality of life, *GDP*, *NNW*, social balance, mature society.

Eastern economies were greater than Western's in the beginning; however, the latter gradually overwhelmed the former by growth rate. During the period, Germany, Italy, and then Japan performed accelerated economic growth, which was called a "miracle." Economic growth brought to material and service improvement on the one hand. On the other hand, it brought to environmental disruption, inflation, congestion problems, and left some household groups in poverty. People gradually recognized the cost of economic growth. To equate the growth of *GDP* with that of economic welfare became seriously questioned. Japan was one of the most serious countries involved in those problems. She performed an average of 10 percent growth for about 20 years beginning from the early 1950s. This rapid growth brought people to marvelous material improvement, but at the same time, gloomy results were extremely serious to the nation.

Some economists considered these phenomena seriously in the early stage. Kapp (1950), Galbraith (1958), and Mishan (1969) were such examples in the broad sense. Various questions of *GNP*¹⁾ were raised: market failures in the measurement of *GNP*, distortions or limitations of the *GNP* concept viewed from the viewpoint of welfare, and social imbalance. Instead of *GNP*, welfare measurement was necessary to express the quality of life. Nordhaus and Tobin (1971) who constructed a "Measure of Economic Welfare" (*MEW*) conducted the pioneering work. See also Samuelson and Nordhaus (1989) for the Net Economic Welfare (*NEW*) and *NNW* Development Committee (1973) for the Net National Welfare (*NNW*) of Japan. Further improvements along this line are the Genuine Progress Indicator (*GPI*) and the same sort of Index of Sustainable Economic Welfare (*ISEW*). Developments in a broader aspect are social indicators, and the measurement of happiness.

This paper is organized as follows. The next section deals with weak-

1) The *GNP* concept had been conventionally used until an introduction of *SNA* 1993. We follow this conventional expression in dealing with research and discussion in those days, but the discussion is mostly applied to the current *GDP* concept.

nesses of the *GNP* concept. Section 3 deals with a matter of welfare concern (a welfare measurement (*NNW*) and social balance). Section 4 deals with the further development (the *GPI*, social indicators, and happiness research). Final section is a tentative presentation towards a high quality of life in the mature society.

2. Weaknesses of the *GNP (applied to GDP)* Concept

2.1 *Market failures in the measurement of GNP*

Tsuru (1992, p. 141) explains the concept of *GNP* as that “is predicated on the exchange of goods in the market, and is intended to cover these goods and services that are exchanged in the market.” “As a corollary to this, it may be added that the unit of measurement of *GNP* is money value as registered in the market.”

We examine market failures in the measurement of *GNP* from both theoretical and factual points. Tsuru mentions this matter in brief as follows (ibid., pp. 141-2). The measurement of *GNP* is based on the following three italicized assumptions, all of which are actually questionable. First, *external effects, either negative or positive, are unimportant*, whereas negative external effects such as pollution are often very serious. Second, *the condition of consumer sovereignty is obtained*, whereas manufactures often make the market and we often observe demonstration and dependent effects²⁾. Third, *the failure of the reward system, for whatever reason, is of little consequence*, whereas discriminatory bias, in particular inheritance, grants large fortunes to a select group of persons independently of their own efforts.

We may call these as theoretical and factual failures in the measurement of *GNP*. If these market failures are considered significant, a longer-range association between the size of *GNP* and the magnitude of economic welfare cannot be taken for granted.

2) The demonstration effect means that an individual behavior is affected by other consumer's behavior. The dependent effect is that the clever and eye-catching marketing strategy affects an individual choice of goods and services and makes consumers purchase what they do not really need.

2.2 Distortions or limitations of the GNP concept viewed from the viewpoint of welfare

We now explain various market distortions of the *GNP* concept viewed from the viewpoint of welfare. First, the unit of measurement of *GNP* is the money value registered in the market, so that non-market activities such as the quality of consumer goods (efficiency, durability, etc.), house-keeping work, and voluntary activities are excluded. These are important from the viewpoint of welfare or of the quality of life. Business activities are profit-oriented, so that increasing the product durability will not be their primal aim, for example. Unless the price of manufactured goods increases, the total sales in the long run will decrease as the product durability increases.

On the other hand, all market activities are included in *GNP*³⁾. *GNP* in-

3) Tsuru (1992, pp.142-5) classifies four types as non-welfare components of *GNP*, meaning that their welfare significance is questionable. The following is a brief summary of his explanation.

First is "the cost of life" type. There are certain items that fall into the category of necessary cost, which we wish to remain as small as possible. Examples are heating costs in a cold climate, high commuting cost without compensating advantages in environmental amenities, expensive burglar alarms to cope with the mounting incidence of burglary in homes and so on.

Second is the "interference of income" type. Schumpeter originally used the term, whose phenomena might be defined as the generation of income by otherwise dispensable services, which are made indispensable through built-in institutional arrangements in the society concerned. Examples are lawyers in the United States, bankers, real estate dealers, and tutoring schools for younger generations in Japan, etc.

Third is "the institutionalization of waste" type. Waste is institutionalized in such a way that a less wasteful alternative, which may well be prepared by consumers, is deliberately withheld from the market. Vance Packard popularized built-in obsolescence by his writings, and the mechanism, which encourages this type of GNP-inflating expenditure, has been fully analyzed by Galbraith. Most notable examples, during the high growth period of postwar Japan, were the deliberate obsolescence of consumer durables such as cameras, refrigerators, television sets, etc., matched by overgrown advertising expenditures by producers and sellers.

Fourth is the depletion of social wealth. We can make our *GNP* larger than otherwise would be the case by depleting our store of resources without replacing them. The growth period of postwar Japan was a good example of

cludes negative externalities (pollution), real estate transactions, and military production, etc. Pollution has a negative effect on the welfare level. The real estate transaction increases *GNP*, but the results only mean the change of owner's name. As a whole society, the welfare level is not improved by this transaction. Military products themselves do not increase the welfare level.

Second, although *GNP* reflects the stock positions of an economy, *GNP* itself is not a measure of stock but a measure of flow. From the quality of life viewpoint, actual conditions of household asset holdings and living infrastructures are important. Third, *GNP* has no direct relationship with the degree of equality of income distribution, and the level of social security. Although we can examine part of income distribution and social security by using national income data, the data are not sufficient for these closer examinations.

Lastly, we refer to the fundamental question of the *GNP* concept that reflects the money value registered in the market. The market is predicated by the "money votes" of final consumers where the rich and the poor are indifferent in terms of voting dollar rights. As a result, the composition of produced goods and services reflects what rich people consume. However, the marginal utility of income between the rich and the poor is greatly different, so that the market could be distorted. Suppose that rich people spend a huge amount of money for their pets or extravagances, a large amount of goods and services will be used up by these expenditures. This has a significant relationship to the satisfaction level for society as a whole, and the satisfaction level may decrease in this case.

It is now clear that *GNP* itself does not represent the quality of life or the welfare level. To cope with these drawbacks, a new development appeared what we call the *NNW* index.

this in the manner. Resource examples are earth's mineral depletion, forestry and marine resources, natural beauties and other environmental endowments.

3. Towards Welfare Viewpoints

3.1 *NNW and the questions*

To cope with distortions of the *GNP* concept viewed from the viewpoint of welfare, the *NNW* index was constructed by making the following revisions in *GNP*: subtracting the non-welfare components (pollution, military expenditure, commuting time, etc.) of *GNP* as mentioned above; and, adding welfare related non-market activities (leisure time, housekeeping work, voluntary activities, etc.) that are assigned a monetary value to *GNP*. Other adjustments include adding the services provided by living-related infrastructure and consumer durables, and deducting the costs of justice, police, firefighting, and general government administration. This index provides a more accurate measure of the level of economic welfare than *GNP*. (See Nordhaus and Tobin (1971), and *NNW* development Committee (1973) for details.)

Some questions have been raised concerning *NNW*. The first relates to value judgments. Specifically, who is the judge of the welfare significance of any particular good or service? Some items are easy to get the consensus of the people. However, there may have difficult items to obtain the national consensus on the welfare significance, where the value judgment is divided among the people.

Secondly, how can we assess the value of non-market activities? The part-time hourly wage may apply to housekeeping work. Can the same wage rate be applied to leisure time and voluntary activities? These may raise some delicate arguments.

Thirdly, most of the assessed non-market activities do not reflect effective demand. The last point has a serious weakness if we want to use this *NNW* concept in macroeconomic policies. This is because assessed non-market activities are watered or fictional values that are not based on money related real transactions. Supposing that housekeeping spouse work is monthly equivalent to 253,000 yen⁴⁾, she cannot buy anything by

4) According to the estimate of fiscal year 1996 by the Economic Planning Agency (Department of National Accounts, ERI of EPA, 1998), a full-time housewife's work was equivalent to an annual income of 3.04 million yen. By

this assigned value.

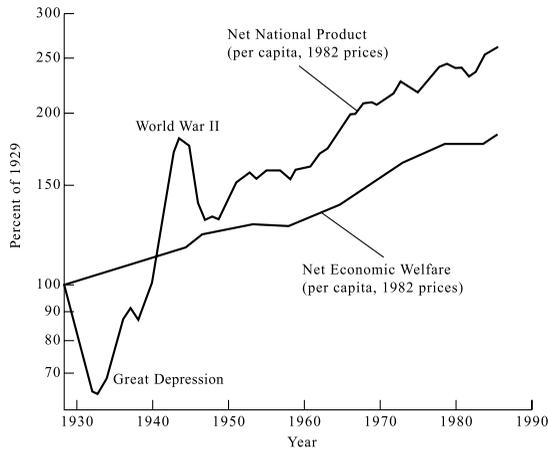
GNP and NNW should be complimentary. The *NNW* index is a step forward in the measurement of welfare. However, it has various drawbacks in terms of use in making policy judgments, and particularly in the case of macroeconomic policy decisions. *GNP* is still an important indicator for making public policy judgments, while *NNW* is useful for assessing economic results (performance) in terms of welfare. Therefore, these two categories are complementary, and are not mutually exclusive. (See Iyoda, 2006, pp. 27-8.)

3.2 Some estimates

According to an estimate for Japan by the *NNW* Development Committee (1973, p.14, table 1), the ratio of *NNW* to *NDP* (excluding net investment) gradually decreased as follows: 1.15 (1955), 1.07(1960), 1.02 (1965), and 0.92(1970) (fiscal year in parentheses).

Figure 1 shows Net Economic Welfare (*NEW*) vs. Net National Product (*NNP*). *NEW* is the same sort of *NNW*. For the USA, per capita *NNP* (real)

Figure 1 Net Economic Welfare vs. Net National Product



Sources: Samuelson and Nordhaus, 1989, Fig. 6-3.

adding this total, the *GDP* increased 23.2 percent.

increased by a factor of two during the period from 1950 to the late 1980s; however, per capita *NEW* increased only by a factor of one point five. The gap between these two per capita categories became wider and wider.

3.3 *Social balance*

Infrastructure or social overhead capital Infrastructure or social overhead capital is an accumulated capital from investment, usually by the government or local authorities: examples are nation's roads, railways, ports, housing, hospitals, parks, schools, water supply, etc. These are broadly classified into two types, namely industrial infrastructures and living infrastructures (public assets related to daily life).

Infrastructures fall behind the private capital, and among these, public assets related to daily life lag further behind industrial infrastructures. Galbraith (1998, p.189) defines social balance as “a satisfactory relationship between the supply of privately produced goods and services and those of the state,” and argues that, “The inherent tendency will always be for public services to fall behind private production”⁵⁾ (p.195). This tendency gave rise to particularly serious social imbalances in Japan during the period of accelerated economic growth.

In 1960, Prime Minister Ikeda introduced “National Income Doubling Plan.” This was an epoch-making development for Japan as it marked the first time that infrastructure had entered the policy vocabulary. The plan recognized the infrastructure as follows (Kanamori *et al.* eds., 1981, pp.1097-98). First, the industrial infrastructure lags behind the private production capital, which causes bottlenecks in economic growth. These bottlenecks must be solved through improvements in industrial infrastructure. Second, capital accumulation is needed to build infrastructure for raising national living standards. Third, improvements in infra-

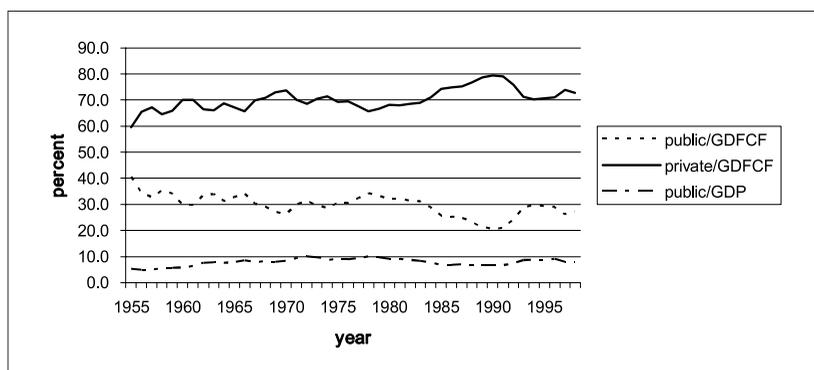
5) Galbraith raised the following reasons for this. (1) Consumer's desires are produced by producer's clever marketing technique and consumer's vanity, working to the advantage of private production. (2) Public services are based on taxes, but people do not like to accept higher taxes. (3) Continuous inflation deteriorates both the budget of local authorities and the livings of the public service employees, causing labour mobility from public to private production.

structure stimulate economic growth. Since then, the Japanese economic plan set the goal of the infrastructure improvement by sector, which has greatly contributed to its improvement.

Figure 2 shows Japanese investment by sector (1955-98). Despite the economic plan (government effort) on public investment, social imbalance was actually observed during the two periods (first, rapid growth years to the early 1970s and second, bubble years to 1991). The distortions of the accelerated economic growth (pollution, problems of over-populated and depopulated areas, and inflation) were more or less the result of social imbalance.

As we explained earlier, social balance between privately produced goods and services and those of the public sector is important. However, the inherent tendency that public services always fall behind the private production causes social imbalance. This social imbalance is apt to be serious, in particular during periods of rapid economic growth, causing and intensifying negative results or distortions of economic growth. In this regard, the market-oriented economy is ineffective to solve this problem. Even if the market mechanism functions properly, the market itself cannot determine resource allocation between public services and private production in such a way as to attain social balance.

Figure 2 Investment by sector



Note: GDFCF (gross domestic fixed capital formation).

Sources: Japan Statistical Association (2006), Vol. 1, 3-1 (calculated at 1990 constant prices).

Therefore, the question of social balance may lead to the question of public choice and the size of government. Some forms of infrastructure (schools, hospitals, railways, communications, expressways, housing, etc.) can also be developed by the private sector. This is particularly true in the developed economies. This issue relates to the intrinsic question between the efficiency of resource allocation and justice. Actual policies are carried out as a matter of nation's choice.

Social imbalance is causative of social maladies. (1) If the bias to private production is large, income distribution may deteriorate. If this is very serious, the society becomes unstable. (2) Due to the falling-behind-public investment, environmental disruption may become serious and the social welfare level may fall behind production growth. If the government attitude is strong enough to maintain social balance, these maladies are weakened or avoided.

4. Further Development

NNW is a revised category of *GNP*, aimed in part at improving the distortions in the *GNP* concept as viewed from the perspective of welfare. Therefore, *NNW* shares some of the same weaknesses as *GNP*. Further improvements along this line are the *GPI* and the same sort of *ISEW*. If we seek a measurement of total welfare, we need to consider a more general and broader approach. In line with this pursuit, there has been a growing volume of literature treating this subject during the past three decades. Further steps taken toward the measurement of welfare include social indicators and a measurement of happiness. We should note, however, that these directions mean departing further from a macroeconomic applicability of the national account indicators.

We deal with this question but not in detail. What we here intend is to present a couple of their significant findings, on the base of which we construct a high quality of life society.

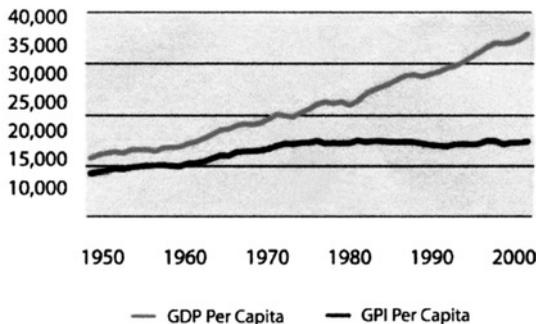
4.1 *GPI*

GPI (or the *ISEW*) is constructed by incorporating various aspects of economic well-being that are either ignored or treated incorrectly in the

estimates of *GDP*. Omitted large realms are contributions of family and community, and of the natural environment. The *GPI* “attempt [s] to undertake: (1) welfare equivalent income; (2) sustainable income, and (3) net social profit” (Talberth *et al.*, 2007, p.3). They now consider the social cost of inequality, the diminishing returns to income received by the wealthy, and the depletion of nature’s endowments. Net social profit is a measure of policy effectiveness, indicating whether the proposed policy is welfare enhancing or not.

Figure 3 shows the per capita *GPI* (lower line) and the per capita *GDP* (upper line) in the USA (1950-2004). The per capita *GDP* was steadily increasing. On the other hand, per capita *GPI* continued to grow until the mid 1970s, and then began to stagnate. The gap between these two indicators has been growing wider and wider since the mid 1970s. A similar example is observed for the UK (1950-96) (see Jackson, *et al.*, 1997). For Australia (1950-2000), the per capita *GPI* is growing but very slow (Hamilton, 2004, Fig. 10 quoted from Hamilton and Dennis, 2000). The gap between the two indicators has been also growing wider and wider. The figure may suggest what is more important for society. We will not have a more satisfied society unless we also consider values other than income growth.

Figure 3 Real GDP and GPI Per Capita 1950-2004 in \$2000



Source: Talberth, *et al.* (2007), Fig. 3.

4.2 *Social indicators*

During the 1970s and 1980s, most of the OECD member nations grappled with creating social indicators to measure the real quality of life that could not value in monetary terms. In Japan, the Economic Planning Agency developed and released Social Indicators (1974-85), and improved New Social Indicators (1986-91). Then, People's Life Indicators succeeded to them (1992-99), where statistical indicators by activity field of living were quantified. Social Indicators were also developed on the prefecture level in Japan. As of January 1985, 43 out of the 47 prefecture governments of Japan made these at any rate (Quality-of-Life Policy Bureau, 1989, pp.100-3) and for quality-of-life indicators 33 out of 47 as of February 1992 (Quality-of-Life Policy Bureau, 1992, pp.224-5).

The social indicator approach seemed to be lacking a coherent, integrative conceptual framework for obtaining the national consensus. The movement has been waned. Statistical data of social indicators themselves are important, and since 1977, SB of MIAC (1977-07) has annually published *Social Indicators by Prefecture of Japan*.

4.3 *Measurement of happiness (Happiness research)*

The measurement of happiness has presented a couple of significant findings, which may point to a number of important considerations. Reported subjective well-being seems to rise with income. However, once a threshold (per capita *GNP* in *ppp* terms of around US\$10,000 in 1995⁶⁾) is reached, the average income level in a country has little effect on average subjective well-being. (See Frey and Stutzer, 2002, Figure 4 based on the data in 51 countries.) This suggests that an income level of US10,000 dollars may represent a critical threshold in satisfaction with life. The thinking that "the bigger the income, the greater the satisfaction with life" may not necessarily result in a more satisfied society.

Research for 49 countries in the 1980s and 1990s suggests that there are substantial well-being benefits from institutional factors. The data show

6) The *ppp* (purchasing power parity) exchange rate is an exchange rate between two currencies such that the same basket of goods and services could be bought in each country, instead of indicated by market or the fixed rate.

that “the effects flowing directly from the quality of institutions are often much larger than those that flow through productivity and economic growth (John Helliwell 2001)” (ibid. pp.402-3). This implies that institutional conditions, such as the quality of governance and the size of social capital, have important effects on individual well-being. See also Helliwell and Hung (2006) for their further study on the government and well-being.

5. Towards a High Quality of Life in the Mature Society

What can we learned through these analyses? Economic growth is important in general, and is particularly important until a certain per capita income level is attained. After that, while economic growth may be needed, what is more important is improving the level of satisfaction with life. As long as economic growth is expressed in terms of the current *GDP*, we should recognize the distortions or limitations of this concept. Government policies taken against market failures and for ensuring social balance may contribute to increasing the *GPI*, and narrowing the gap between the *GPI* and the *GDP*.

In our pursuit of a satisfied society, we need consider systemic design: that is, the quality of life in the **mature society**. The mature society is a society that has attained a high enough level of income to be able to afford providing its members with healthy, satisfied, and cultural lives. Such a society aspires to attain a higher quality of life. Most of the *OECD* member countries fit this category, as their per capita *GNI* in terms of *ppp* (purchasing power parity) exceeds *US* 10,000 dollars.

The quality of life in the mature society, which is a welfare-oriented society, is characterized by the following three salient properties. First is the existence of *safety nets*. These safety nets not only relieve the economically disadvantaged member of society, but also function to prevent market failures and to facilitate the smooth operation of the market economy. The government plays a leading role in the provision of safety nets, but the corporate and household sectors also serve to uphold these functions. Safety nets carry the risk of creating “moral hazards” that manifest themselves in the abuse of the system and the skimming of

benefits. These include easy dole dependence, tax evasion, and excessive medical treatment under health insurance coverage. Second is a *safe society*, meaning a low crime rate, a pollution free environment, low traffic accident rates, safety of food products, etc. Third is maintaining *social balance*. The government should support all of these factors.

The most important background for the realization of this ideal society may be education in a broad sense, which includes social, family, and school education. Because the living satisfaction level depends highly on an individual's desires, and these desires are insatiable without a moderate sense of life, this points in the direction of the need for a philosophy of life or way of life. However, under a system of capitalism, the market power is strong enough to bring about structural changes in the economy, which can cause frictions in the society. The implementation of countermeasures for coping with the drawbacks of the market economy is apt to lag far behind when a society assigns its top priority to economic growth.

In a welfare-oriented society, people seek happiness and may choose to shorten their working hours in order to enjoy lives that are more worthwhile. By the same token, people may distance themselves from excessive consumption and choose a more frugal and prudent lifestyle that nevertheless delivers greater satisfaction. In addition, people may make an effort to live healthier lives and perhaps to enjoy greater longevity. However, this individual effort is not always easy, for our desires are shaped and formed by various factors: cultural traditions, prevailing lifestyles, religious beliefs, institutional properties, and so on. The key to leading a satisfied life lies in the ability to control one's wants and aspirations.

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(Received January 26, 2008)