

JAPAN'S SOCIAL WELFARE AND PUBLIC INVESTMENT IN INTERNATIONAL CONTEXT

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I. INTRODUCTION

THE JAPANESE ECONOMY has arrived at a new type of turning point of perhaps greater importance than ever before. Internationally, as clearly pointed up by the Smithsonian multilateral currency realignment at the end of 1971, confidence in the dollar has been shaken and the "world order" built on that currency is being pressured toward drastic revision. Domestically, the present time is not just an upturn in the short-term business cycle from the recession that began back in August of 1970, but also a time when it has become necessary to reconsider the policy of strengthening international competitiveness, one of the most important goals of economic policy for the past quarter of a century, and the priority given to exports and production. The expanding Japanese export capacity has increased international frictions through the creation of enormous surpluses in the current account of the balance of payments and swelling foreign exchange reserves. At the same time the lagging, low level of welfare has been set in relief, highlighting what might be called the divergence between growth and welfare. The picture is bleak on the physical side, with quality of housing poor, such social overhead capital as roads and water supply systems deficient, parks and other urban functions inadequate, pollution on the increase, and the natural environment being destroyed. In addition it has been brought to the attention of the public that old people, fatherless families, the mentally and physically handicapped, and others unable to work are not enjoying the blessings economic growth has bestowed on others.

Here I propose, first, to roughly describe the present situation with respect to the welfare of the Japanese people through international comparison, with primary attention being given to social overhead capital. Next I will briefly discuss the reasons for the poor state of welfare in this country. Then I will touch upon the role of the public sector, and particularly fiscal expenditures, in the improvement of the level of welfare.

II. INTERNATIONAL WELFARE COMPARISONS

Here I intend to place the level of welfare in Japan in a relative perspective by making an international comparison with various other countries. First, however, I should like to describe my own image of welfare since the concept of this term varies considerably according to the individual. Since the historical, social, and

cultural characteristics of different countries vary considerably, and national welfare is strongly influenced by such characteristics, one has to be careful about drawing hasty conclusions about the relative levels of national welfare from simple international comparisons. The most important consideration is whether or not it is possible for the constituent members of the society in question to lead lives filled with vitality and future promise, the particular restrictive conditions of that society being taken into account. This concept of national welfare can be evaluated more concretely by determining the following three points: (1) the standard of living, (2) the level of social justice or fairness, and (3) the tempo of improvement of the standard of living and rate of progress toward greater social justice.

If a member of a society is unable to maintain a standard of living commensurate to the current economic level of that country in spite of applying himself diligently to his work, something is wrong. Furthermore, society should be humane enough to guarantee even those members unable to work, for such reasons as inherent personal handicaps or unforeseen accidents, a standard of living on a par with other members of the society. Secondly, the welfare society is not a fixed society, but rather one in which members are given equality of opportunity in every sense of the term. In such a society there must be a mechanism that allows each individual to engage in work that suits his personality, ability, efforts, and aptitude. In such a society, family and social station cannot be allowed to determine the individual's way of life. Nor should educational or employment opportunities be closed to any individual because of inherent restrictive conditions. This does not mean that once equality of opportunity is given the rest may be left to market competition. Rather, the opportunity to enjoy certain basic services necessary to living must be fully accorded.

The final point mentioned above means that as long as the tempo of improvement in the standard of living is rapid, members of the society are amply rewarded for their labor, even if the standard of living is still low. And a society in which remaining inequalities are gradually being corrected with the passage of time is a lively society which gives its members a purpose in life. In other words, this third point can be restated as being the process of motion of the first two welfare requisites toward higher levels of welfare. What is meant by improvement of national welfare is, in effect, this state of motion.

A. *Comparison of Standards of Living*

Let us now, in accordance with these three classifications, look at the present level of welfare in Japan with the aid of international comparative data regarding the main welfare indices. Roughly speaking, there are two aspects of the standard of living: personal income, which directly affects the individual's consumption activities, and the life environment that encompasses the individual's life.

With regard to income, as is commonly known, Japan has attained an economic scale in terms of gross national product second only to the United States in the "free world," and in terms of per capita national income Japan is approaching the level of France and Britain, although still far behind the United States and

West Germany. In 1970, GNP and per capita national income figures were as follows:

	GNP (\$ Billion)	Per Capita National Income (\$)
U.S.	not quite 1,000	3,900
Japan	not quite 200	1,500
W. Germany	190	2,400
U.K.	120	1,700
France	150	2,000

Comparison of the levels of average wages per person, however, shows an even greater gap than in the case of per capita national income. Some countries with a high average wages are the United States, which leads the field, Canada, and Sweden. Japan's average wage is only one-quarter that of the United States and only three-fifths those of Britain and West Germany. Although the wage level in Japan has been rising sharply in recent years, even during the recent business recession, the fact remains that Japanese wages are still substantially lower than those of Western countries (Table I).

How are these income differentials reflected in differences in purchasing power with respect to expenditures? Table II indicates that, whereas in Japan shirts, electric washing machines, and haircuts can be purchased with the wages obtained from about the same amount of labor time as in Western countries, foodstuffs are considerably more expensive in these terms, and land costs more than fifty times what it does in the United States. Thus, although in Japan the wage level is only about a quarter as high as in the United States, actual purchasing power

TABLE I
INTERNATIONAL COMPARISON OF HOURLY WAGES
OF WORKERS IN MANUFACTURING INDUSTRIES

(U.S.\$0.01)

	Japan	West Germany	France	Italy	Britain	U.S.A
1965	45.4	102.0	60.8	59.4	100.8	261.0
1969	79.7	129.8	81.5	77.0	131.9	320.2

Source: [1, 1970, p.86].

Notes: 1. This table is based on data in Ministry of Labor, Japan, *Yearbook of Labour Statistics*; Ministry of Labour, Britain, *Ministry of Labour Gazette*; International Labour Office, *Bulletin of Labour Statistics*; and OECD, *Main Economic Indicators*. Except for Japan, the figures for 1969 are estimates based on OECD's *Main Economic Indicators*.

2. Except for France, for which figures represent the adult wage rate, the figures are for earned wages. The figures for Italy include the cash equivalent of wage payments in kind. The figures for Britain are for men (October survey) only.

3. The 1969 figures for West Germany and France have been adjusted for foreign exchange parity changes.

varies more widely, according to the kind of product or service. While in Japan consumer durables and clothing are easily bought, food and residential land are more expensive than elsewhere. It should also be noted that the prices of such already comparatively expensive items as food and land are rising at very high rates. The fact that prices of essential items are rising at a rate of over 5 per cent, about the same rate as for all consumer prices taken together, can be said to constitute a serious blow of a regressive nature to families with low incomes, such as old people, fatherless families and retired persons with low rates of increase in income.

The level of social overhead capital in Japan, which is closely related to the living environment, is substantially lower than in Western countries in almost all categories, including roads, water supply and sewerage systems, housing, and public parks (Table III). In 1968 the percentage of paved roads was less than 20 per cent in Japan, in contrast to 100 per cent in Britain, about 80 per cent in West Germany and France, and more than 40 per cent in the United States, in spite of that country's vast territory. Even the length of paved road per automobile is low in comparison to Western countries. Although the percentage of modern sewerage facilities is comparatively high in some large cities such as Osaka (74 per cent) and Nagoya (66 per cent), in the central area of Tokyo it is less than 50 per cent, and the average for the whole country is a low 14 per cent. Furthermore, the percentage of flush toilets is only 17 per cent, as opposed to 80 per cent in Western countries.

Nor are the standards adequate with regard to public parks and housing. The park area per head of population is only 1.2 square meters in Tokyo, compared to 19.2 in New York, 22.8 in London, and 26.9 square meters in Frankfurt. This is nearly a twentyfold difference. Furthermore, in Japan residences are generally small and cramped, with nearly 30 per cent comprising only one or two rooms. Assuming that separation of dining and sleeping areas, and separate sleeping areas for individuals constitute the minimal housing standard, a full 30 per cent of the houses throughout the country fall below this standard. Besides the living area being cramped, the facilities are poor and the rent is high, making the level of housing, a basic element in living, miserable indeed. There is also a paucity of public cultural facilities such as libraries, and public meeting halls. Then again, houses often have inadequate sunshine and ventilation, and are exposed to excessive noise. The fact that the chief construction material is wood also presents problems with regard to safety precautions against fire and natural disasters. In order to cope with these housing problems, new housing projects are being constructed, but this effort has the effect of aggravating the commuter transportation problem since these project sites are generally farther away from the places of work. Furthermore, with regard to private high-rise apartment building units, renting is uncommon and purchase prices are usually over ¥10 million (about \$40,000). It is also a fact that rents are rising at a rate far higher than the general price level (whereas in the 1960-67 period consumer prices in general rose by 50 per cent, housing rents in general increased by 140 per cent, and public housing rent by 100 per cent).

TABLE
INTERNATIONAL COMPARISON OF WAGES IN

Labor Time Required for Purchase	Milk (0.180 Liters)	Beer (1 Bottle)	Pork (1 kg.)		Beef (1 kg.)		Electric Washing Machine	
	min.	min.	hr.	min.	hr.	min.	day	hr.
Japan (1960)	7	63	6	30	8	0	37	4
Japan (1969)	6	30	4	35	9	37	15	7
U.S.A.	1	6		39		57	8	2
West Germany	2	10	2	45	2	25	12	4
France	3	20	3	11	4	53	42	3
Britain	2	20	1	49	2	8	12	3
Italy	3	15	4	57	5	37	25	2

Source: [1, 1970, p.86]

Notes: 1. This table is based on Ministry of Labor, Japan, *Yearbook of Labour Statistics*; Ministry of International Trade and Industry, Japan, *Sekai shuyōtoshi no shōhisha bukka hikakuchōsa* [Comparative survey of consumer prices in major cities of the world]; Bureau of Statistics, Japan, *Kōri bukka tōkei* [Monthly report on the retail prices]; and International Labour Office, *Bulletin of Labour Statistics*.

2. For calculation, eight hours of labor was taken to constitute one working day.

3. Although an effort has been made to select products as similar in quality as

TABLE III
INTERNATIONAL COMPARISON OF MAJOR ITEMS OF SOCIAL OVERHEAD CAPITAL

	Japan	West Germany	U.S.A.	Britain	France	
Percentage of roads paved (1968)	14.9	76.0	42.7	99.6	80.1	
Meter of paved road per automobile (1968)	9.5	22.0	24.2	25.9	77.5	
Percentage of modern sewerage facilities	(1965) 14	(1960) 63	(1962) 68	(1963) 90	(1963) 40	
Percentage of flush toilets	(1968) 17.1	(1960) 83.3	(1960) 89.7	(1966) 98.2	(1968) 53.2	
Number of rooms per person in residences	(1968) 0.91	(1960) 1.03	(1960) 1.44	(1966) 1.51	(1968) 1.04	
Average number of rooms per residence	3.7	4.1	4.9	5.5	3.4	
Breakdown on number of rooms per residence	1-2 rooms	29.5	10.0	6.4	1.3	30.0
	3-4 rooms	39.9	60.5	32.4	23.5	50.9
	5 rooms or more	30.6	29.5	61.2	75.2	19.1

Source: [3, p.198].

Note: This table is based on Ministry of Construction, Japan, *Dōro tōkei nempō, 1971* [Road facilities yearbook, 1971]; Japan Sewerage Association, *Kōkyō gesuidō tōkei, 1969* [Public sewerage statistics, 1969]; and United Nations, *Statistical Yearbook, 1970*.

Table IV portrays this backwardness with regard to social overhead capital in monetary terms. Japan's per capita social capital stock is about one-quarter that of the United States and about one-half that of the United Kingdom and West

II
TERMS OF REAL PURCHASING POWER, 1969

Black-and-White T.V. Set	Refrigerator	Auto-mobile	Shirt	Haircut	Land (150 m ²)	
day	day	day	hr.	hr.	yr.	day
70	94	669	24	1	6	199
32	34	271	6	2	6	149
6	10	120	3	2		45
13	5	118	24	2		174
42	17	230	25	3	2	290
16	11	202	3	1		210
36	14	218	26	4		312

possible, there are quite marked differences in terms of performance, etc. For the category "automobile" the price of what was considered the most common popular make for each country was adopted.

4. In the comparison of land prices, land in the following areas was selected: Japan, 40-minutes commuter distance from the heart of Tokyo; U.S.A., residential area with all standard conveniences; West Germany, suburbs of Bonn; France, 40-minutes commuter distance from the heart of Paris; Britain, London; and Italy, Rome.

TABLE IV
INTERNATIONAL COMPARISON OF CAPITAL STOCKS, 1968

(1968 prices: in \$100 million unless otherwise noted)

	Japan	United States	Britain	West Germany
Fixed assets	2,372	18,865	2,522	3,001
Business equipment	1,253	7,747	1,317	1,589
Social capital	1,119	11,118	1,205	1,412
(Of which: housing)	(615)	(7,430)	(829)	(900)
Inventory	492	2,162	475	156
Total stock	2,865	21,026	2,998	3,157
Stock per capita (\$100)	28.3	104.5	54.2	54.4
Social capital per capita (\$100)	11.1	55.3	21.8	24.3
Housing per capita (\$100)	6.1	36.9	15.0	15.5
Stock/GNP (ratio)	2.02	2.43	3.41	2.39

Source: [1, 1970, p.88].

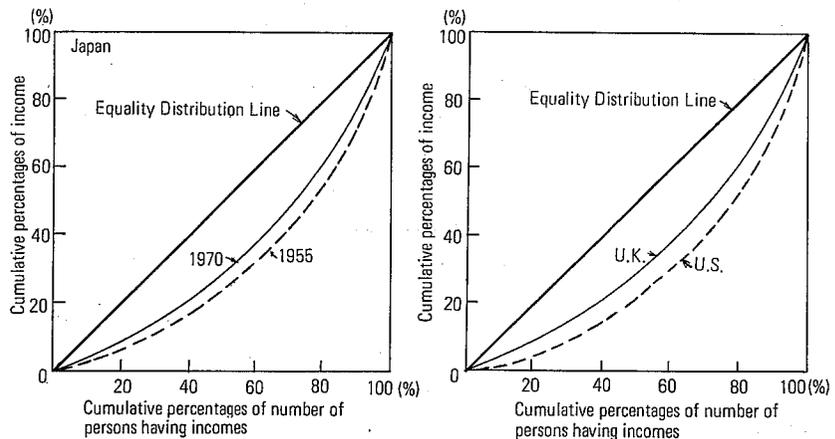
- Notes: 1. This table was prepared by Research Section, Economic Planning Agency on the basis of United Nations, *Annual Income Statistics*; OECD, *National Income Report*; and other sources.
2. Total stock does not include household effects and external assets.
3. Social capital stock is total of housing and general public facilities provided by the government.
4. Business equipment is private and government total.
5. Indices for Britain and West Germany are adjusted for foreign exchange parity changes.

Germany. The situation is even worse with regard to housing, one-sixth of the value of U.S. housing, and two-fifths of the value of British and West German housing.

B. Comparison of Social Justice

It is difficult to define social justice, but as stated above, it may be considered to mean a condition in which incomes are not too disparate and equality of opportunity is guaranteed. Let us first consider the income aspect of the matter. Figure 1 shows that in terms of Gini coefficient of income distribution, in Japan there is a greater degree of inequality than in Britain and a lesser degree than in the United States. As for wage income, the direction in Japan is toward a leveling of wages, and the degree of inequality is not much different than in Western countries. However, in Japan's case there is a considerable gap due to capital gains between those who hold land and stock and those who do not. This

Fig. 1. International Comparison of Wage Income Distribution



Source: [1, 1972, p. 159].

- Notes:
1. Wage income distribution for Japan is from Tax Administration Agency, *Minkan kyūyo no jittai* [Actual conditions of wages in private business], and includes only employees with more than a year's service. The distribution data for the United States are from *Statistics of Income 1968, Individual Income Tax Returns*, and include salaries and wages. For the United Kingdom, the data are from *Income Revenue Statistics (1971)*, and count income from employment.
 2. The income population of the United States was represented by the number of income tax returns filed.
 3. Gini coefficients are as follows: 0.3663 for Japan in 1955, 0.3175 for Japan in 1970, 0.4074 for the United States in 1968, and 0.2999 for the United Kingdom in fiscal 1968-69. The coefficient is the ratio of the area of a triangle formed by the line of perfectly equal distribution to the area between the Lorenz curve and the line of perfectly equal distribution. The larger the coefficient, the greater inequality.
 4. For Japan and the United States, non-taxpayers are included, while they are excluded from the United Kingdom.

situation has become increasingly pronounced in recent years with soaring land and stock prices. Land, in particular, is accounting for a larger and larger percentage of inheritance taxes each year, and soaring land prices are obviously swelling unearned income (not earned through labor) and, thus, increasing income inequality. Table V gives a comparison of the income-leveling effects of the Japanese, British, and United States tax systems. The Japanese tax system is fairly progressive, but not so much as in Britain. One might say that there is a tendency for the Japanese income redistribution function to lean toward wage income.

Secondly, we shall consider equality of opportunity. It is not easy to compare international data to determine whether or not equality of opportunity in education and work has been achieved. Certainly, in Japan the rate of continuation on to higher education is second only to that in the United States (Table VI), and in large enterprises there are complete welfare facilities for the use of all company employees. It should be stressed, however, that these benefits cannot be enjoyed unless one is employed by a large company. Thus, while equality of opportunity is to some extent guaranteed, it is at the same time severely limited by such circumstances as, for instance, where the individual works, the use of

TABLE V
INTERNATIONAL COMPARISON OF INCOME-REDISTRIBUTION EFFECTS OF TAX SYSTEMS

	Japan				U.K. (Fiscal 1968)	U.S. (Fiscal 1968)
	Wage Income		Declared Income			
	1955	1970	1960	1970		
Gini coefficients: before tax	0.3663	0.3175	0.4036	0.5242	0.3242	0.4634
after tax	0.3360	0.3031	0.3514	0.4851	0.2840	0.4362
Equalization coefficients	8.28%	4.54%	12.93%	7.46%	12.42%	5.88%

Source: [1, 1972, p.165].

- Notes: 1. Calculated from the following sources: Tax Administration Agency, *Minkan kyūyo no jittai* [Actual conditions of wages in private business], and *Kokuzei tōkei nempō-sho* [Statistical annual of the Tax Administration Agency]; Her Majesty's Statistical Office, Britain, *Inland Revenue Statistics* (1971); and U.S. Department of Treasury, Internal Revenue Service, *Statistics of Income* (1968).
2. The equalization coefficient r shows quantitatively the degree of contribution of the taxation system to equalization of the distribution of original incomes. If the Gini coefficient of original incomes is R_0 and the Gini coefficient after tax is R_1 , the equalization coefficient is expressed as $r = (R_0 - R_1) / R_0$. The larger the equalization coefficient, the greater the effect of the taxation system on income equalization.
3. Japanese wage earners (with the service of more than a year) and the Americans include non-taxpayers. Others include taxpayers only.
4. With respect to Japan, wage income and declared income sometimes overlap and therefore two kinds of figures cannot be simply added to produce a total.
5. In view of the above situation, an international comparison does not necessarily produce a fair result. However, it can be said that inequalities in Japan are higher than those in the United Kingdom, but equalities in Japan are higher than those in the United States.

TABLE VI
INTERNATIONAL COMPARISON OF EDUCATIONAL CONDITIONS, 1968

	Country	Student-Teacher Ratio	Public Expense per Student			Rate of School Enrollment	
			Total Amount (Including Expenses of an Investment Nature) (¥1,000)	Current Expenses (¥1,000)	Current Expenses Excluding Wages (¥1,000)	Compulsory Education	Latter Part of Secondary Education
Primary and secondary education	Japan	23.8	89	68	18	99.9	74.7
	U.S.A.	23.1	284	238		99.6†	93.7*
	U.K.	24.8	142	108		99.9*	41.4
	France	20.5	142	118	17	98.7*	57.3
	West Germany	28.9	112*	83*	18*	100.0†	23.7†
	USSR	19.2	61				
Higher education	Japan	17.3	359	217	90		14.6
	U.S.A.	15.4	1,128	907	622		34.7
	U.K.	8.1	1,259	961	540		5.7
	France	21.0	373	264	107		13.1
	West Germany	9.7†	1,063*	757*	320*		5.4
	USSR	17.4†	171				18.8

Source: [2, 1972, p.143].

Notes: 1. This table is based on Ministry of Education, Japan, *Kyōiku suijun no koku-sai hikaku* [International comparison of educational level].

2. The student-teacher ratio in primary and secondary education is the average for both public and private schools in the case of West Germany and the average for public schools only in the case of the other countries. In higher education it is the average for both private and public institutions.

3. The rate of school enrollment is defined as follows: In the case of primary and secondary education—(the number of pupils enrolled/the number of persons in the population of that age)×100; in the case of higher education—(the number of students enrolled/the number of persons in the entire population)×1,000.

*1967; †1966; ‡1965.

company recreational facilities being a case in point.

Social security can be thought of as providing equality of opportunity in a supplementary sense, for today social security has gone beyond the role of guaranteeing the minimum level of living and is now rooted in the spirit of equality of opportunity which endeavors to impart the fruits of economic development to everyone in society. However, the level of social security is extremely low in Japan. Table VII indicates that whereas social security payments in the European Community countries average 20.2 per cent of national income, they amount to only 6.2 per cent of Japan's national income. Looking at the breakdown of Japan's social security payments, we see that they are concentrated in the areas of medical care and unemployment insurance, while pensions, child allowances and other similar payments, widely in effect in the United States and Europe, account for only a small amount of the total in Japan. Whereas in

TABLE VII
INTERNATIONAL COMPARISON OF TRANSFER INCOME AND
SOCIAL SECURITY PAYMENTS

(%)

	Ratio of Transfer Income to National Income (1969)	Ratio of Social Security Payments to National Income (Fiscal 1966)
Average for expanded European Community	17.5	18.2
Average for countries of the old European Community	19.3	20.2
Belgium	17.2	18.8
France	22.2	19.7
West Germany	17.3	21.8
Italy	18.7	18.7
Luxembourg	20.4*	19.8†
The Netherlands	21.3	19.5
Average for new member countries	11.8	15.0
Britain	11.2	15.0
Norway	15.7	14.3
Denmark	14.2	16.2†
Republic of Ireland	9.7*	12.2†
Japan	5.3	6.2

Source: [1, 1972, p.176].

Notes: 1. This table is based on OECD, *National Accounts of OECD Countries*; and International Labour Office, *The Cost of Social Security*.

2. The values are the averages based on exchange rates at the end of each year in question.

* for 1968; † for fiscal 1965.

TABLE VIII
INTERNATIONAL COMPARISON OF MEDICAL PERSONNEL
(Per 100,000 of Population)

Country	Year	Doctors	Dentists	Pharmacists	Midwives	Nurses
Japan	1970	114.7	36.5	76.5	27.1	277.3
France	1967	117.7	38.5	33.5	16.8	350.4
Britain	1967	116.8	25.8	32.7	37.1	429.0
Italy	1967	175.2	—	—	—	—
Sweden	1967	117.4	77.9	34.3	24.3	1,076.8
U.S.	1967	153.4	49.6	61.5	—	399.0
Argentina	1967	162.3	—	—	—	—
USSR	1967	220.6	13.1	16.8	113.3	379.0

Source: [2, 1972, p.128].

Notes: 1. This table is based on World Health Organization, *World Health Statistics Annual, 1967*; Ministry of Health, Japan, *Ishi, shika-ishi, yakuzaishi chōsa* [Survey of doctors, dentists, and pharmacists], and *Eisei gyōsei gyōmu hōkoku* [Sanitation administration business report].

2. The category "nurses" includes full nurses, assistant nurses, assistant male nurses, and public health nurses.

Western Europe pensions of about 60 per cent of average wages are paid, at present the Japanese old-age welfare pension payment is only ¥3,300 per month, or less than 10 per cent of the average wage. In place of publicly supported social security, greater emphasis has been placed on such private means of financial support as family ties and private life insurance.

Next let us consider, in addition to these aspects of social security in the narrow sense of the term, the medical services that protect human life. Although Japan has about the same overall ratio of hospital beds to population as in Western countries, there is a shortage of specialized hospitals such as those for treatment of the mentally ill and a shortage of doctors, nurses, and other medical specialists (Table VIII), as well as wide regional variation in the quantity and quality of medical care. It cannot be said that all the people of Japan enjoy equal access to the benefits of progress in modern medicine. Even the health insurance program, one of the few relatively advanced programs in the Japanese social security system, is still suffering from such problems as a tendency to foster inferior medical treatment and casual consultations.

III. REASONS FOR THE LAGGING PUBLIC WELFARE

Except for some cultural aspects, such as newspaper circulation, percentage of television ownership, and number of students in higher education, the standard of living and degree of social justice in Japan still are lower than in Western countries. The tempo of improvement can be expected to rise because of the demands of the Japanese people for a real increase in social overhead capital and for qualitative improvement of social security. However, in spite of the marked rise in income to date the tempo of improvement in the level of welfare has not been very rapid. Even in the recession period since the summer of 1970, the level of wages has risen at an annual rate of over 15 per cent, there being a tendency toward downward rigidity of wages. This high rate of increase in wages has induced expansion of expenditures for consumer durables and leisure activities, products and services whose sales depend greatly on personal tastes. Thus, with the increase in personal income there has been expansion of personal consumption, to which movement in the private sector is strongly geared. The activities of private enterprises and their supply capacity have expanded significantly in response to the trends in personal consumption. Such expansion has been made possible by the enterprises' posture of quick-witted adaptation. Nevertheless, one has to admit that there has also been a tendency for little qualitative improvement in the public welfare facilities which are absolutely indispensable to comfortable and rewarding daily living, such as housing, for instance, or in social security for the elderly, the physically handicapped, and others who lack the ability to work. This situation has not received the attention it deserves.

Why has improvement of public welfare, including social overhead capital and social security, lagged behind so much while personal welfare has been rising sharply along with the increase in income? To begin, let us consider the reasons for inadequacy of social overhead capital, or the infrastructure. First, it may

have something to do with the inherent nature of social overhead capital. A. O. Hirschman has defined social overhead capital by saying that (1) its services facilitate a variety of economic activities, (2) the services are provided by agencies subject to state control or some sort of supervision or guidance by public machinery, (3) the services cannot be imported, and (4) the investment needed to provide the services is characterized by a high capital-output ratio [4, pp. 83-84]. Thus the term in its broad sense encompasses law and order, education, health and sanitation, transportation, communications, power, and so on, and in its narrow sense means physical facilities such as health and sanitation facilities, transportation and communication facilities, housing, parks, water supply and sewerage systems. Normally, the term is used in its narrow sense, as it will be in this discussion. In this sense the three characteristics of social overhead capital pointed out by W. W. Rostow would seem to be correct: (1) long periods of gestation and pay-off, (2) the necessity for lumpy investment, and (3) return of profits to community as a whole rather than directly to initiating entrepreneurs [6, p. 25].

Such inherent features of social overhead capital mean that it is not a natural field for private corporate activity, and suggest that with reliance for resource allocation on the medium of the market, social overhead capital naturally tends to lag behind. As a matter of fact, in developing countries expansion of production capacity has been a matter of urgency, and building of social capital relating to daily life has tended to fall behind. Later, once the stage has been reached in which the country has a certain amount of energy to spare, attention begins to be directed toward investment in social overhead capital related to daily life, as an indispensable requirement for improvement of national welfare. When the importance of increased production capacity is stressed, social overhead capital related to production, such as railroads, roads, harbors, and employee housing, is advanced either by the government itself or with powerful government assistance. On the other hand, there is a strong tendency for social overhead capital directly related to daily living, such as parks and water supply and sewerage systems, to lag behind. Japan has been no exception in this regard. Even in the latter half of the 1960s investment in social overhead capital related to daily living which requires the government to take the lead rather than private enterprises, lagged behind due, perhaps, to the fact that the emphasis of fiscal policy was on control business conditions to a certain extent. Furthermore, in the previous period improvement of social overhead capital for daily living had been even more neglected because the priority had been on strengthening international competitiveness. Except for a few farsighted people, no one at that time even dreamed of the present-day situation in which surpluses in the balance of international payments have gotten out of hand.

A second factor that helps to explain the inadequacy of social overhead capital is the increase in demand for such facilities that has been induced by expanded private consumption and private plant and equipment investment. The rise in the level of income has brought to the surface a variety of demands that had previously been suppressed. As people's radius of activity has increased, demand

has been created for a wide spectrum of social overhead capital, particularly that relating to transportation and communication. Furthermore, the rise in the level of consumption has, to a considerable extent, been premised on mass production aimed at increased economies of scale, but this has been an important factor, along with inadequate antipollution facilities, leading to deterioration of the natural environment, including air, water, and greenery. If such environmental destruction is to be prevented and the natural environment is to be restored, or even enhanced, there will be even greater demand for social overhead capital. In a sense, as the economy advanced under the leadership of the private sector, the need for social overhead capital increased at an accelerating pace.

A third obstacle to improvement of social overhead capital has been soaring land prices and the small scale of land ownership. Even if an attempt is made to increase external economies through public investment, owners of land can hardly be expected to be willing to let go of their land at a time when land prices are expected to continue soaring. There has also been difficulty in purchasing land for public projects owing to a lack of consistency among landowners as to their interests and preferences since land ownership is mostly on a small scale. Furthermore, speculative land ownership as more than a hedge against inflation is increasing. Even when it has been possible to purchase land for public projects, such purchases have required large appropriations, reflecting soaring land prices, with the result that actually less investment in social overhead capital has been achieved than before with the same amount of public expenditure.

As described above, a number of complex factors are involved in the inadequacy of social overhead capital. With regard to the inadequacy of social security, although it is not easy to make generalizations, the following can perhaps be cited as characteristic reasons for this problem in Japan's case. Traditionally, care of the elderly and others unable to support themselves has been left to the family and relatives, and was rarely considered a social problem. Rather, there has been a strong feeling that having such care provided by some third party was a shameful thing. Also, companies have tended to be somewhat like family groups, caring for their employees as an extension of the care provided by blood relations. There has been a tendency for the company to look after its employees not only in terms of wages and salaries, but also in terms of company housing and other welfare facilities. The idea of guaranteeing from the broad viewpoint of society as a whole the lives of those who are unable to support themselves has not yet become strong.

IV. ROLE OF THE PUBLIC SECTOR IN IMPROVEMENT OF WELFARE

Japanese economic development until the end of the 1960s, which gave priority to production and export, has achieved a sharp increase in income and strengthening of international competitiveness. On the other hand, however, this type of development has resulted in a relative deficiency with respect to social welfare, for which satisfactory solutions are not easily available. This is evident not only

upon review of social overhead capital and social security, to which we have directed our main attention so far, but also in the relationship between environmental pollution and Japan's industrial structure. Comparing to West German counterparts, Japanese industries produce large quantities of wastes which are likely to cause environmental destruction—such as SO₂, materials with high BOD (biological oxygen demand) load, and combustibles causing difficulties during waste treatment (Table IX). The Japanese structure of demand has also been conducive to pollution. Those industries oriented for exports and for plant and equipment manufacture, which supported the country's economic growth since 1965, are the ones yielding massive industrial wastes [5]. In the face of these problems there has not been enough government intervention nor public investment for the purpose of pollution control.

Thus, one aspect of Japan's economic development is that it has been conducive to inadequacy in the area of welfare. Action by the public sector is becoming increasingly urgent because of the necessity to correct this situation and at the same time keep the economy running smoothly. Greater public intervention is required to rectify increasingly serious external diseconomies facing the private sector, including those caused by pollution. At the same time the demand for social overhead investment, social security, and other facilities and services provided by the public sector have been increasing as well. This means that a great deal is expected of public finance and the public sector in these new, as well as old, roles.

Although in recent years there has been a gradual increase in government investment, it still constitutes less than 10 per cent of the gross national product, in contrast to more than 20 per cent for private plant and equipment investment.

TABLE IX
JAPAN'S INDUSTRIAL STRUCTURE AND AMOUNT OF WASTE MATERIAL GENERATED
(In Comparison with W. Germany)

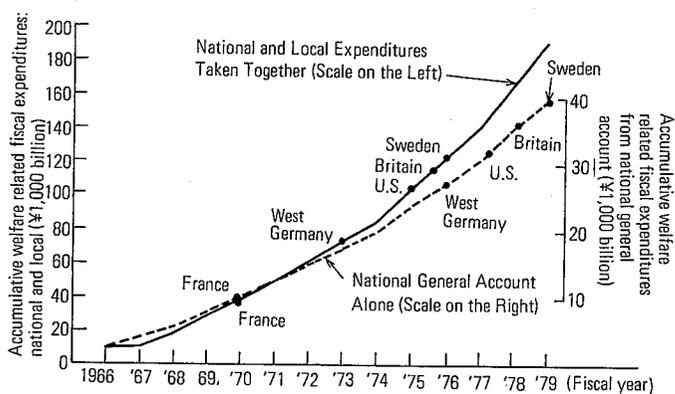
	Case 1: The Japanese Structure of Production and Demand	Case 2: The Japanese Structure of Production and the West German Structure of Demand	Case 3: The West German Structure of Production and the Japanese Structure of Demand	Case 4: The West German Structure of Production and Demand
Sulfur oxides	100	108.9	79.0	83.2
Biological oxygen demand load	100	100.8	79.1	71.1
Disposable combustible material	100	105.6	70.5	74.3
Nondisposable combustible material	100	99.9	88.2	89.2
Liquid and muddy noncombustibles	100	94.2	74.6	69.9
Solid noncombustibles	100	85.1	73.4	62.3

Source: [5, p.38].

Thus, in addition to the meagerness of the stock of social overhead capital there has been a deficiency with respect to the flow of investment into new social overhead capital. This deficiency has been one reason why urban and pollution problems have been aggravated, since inadequate social overhead capital has meant a failure to cope with the vigorous expansion of private economic activity, and has given rise to the relatively inadequate level of welfare.

What scale of fiscal expenditure is necessary to make up for this deficiency in social overhead capital and social security? Appendix Tables present figures that were obtained from a simple trial estimate of how much money would be required to raise Japan's level of welfare to a par with advanced Western countries. In order for Japan to arrive at the 1965 levels of the United States, Britain, or West Germany, combined national and local government general account appropriations, loans and investments for welfare related fiscal expenditures of ¥110,000 billion, ¥120,000 billion, or ¥80,000 billion, respectively, would be required. In terms of the national government's general account budget alone, ¥32,000 billion, ¥35,000 billion, or ¥26,000 billion, respectively, would be required. Figure 2 indicates how long it would have taken for Japan to arrive at the welfare levels of various advanced Western countries if from fiscal 1970 onward welfare related fiscal expenditures are assumed to continue to rise at the average annual rates of the period fiscal 1966-69 (environmental sanitation, 8.3 per cent; social welfare, 9.7 per cent; education, 9.7 per cent; safety, 2.0 per cent; housing, 11.6

Fig. 2. Estimated Year Japan Attains 1965 Welfare Level of Advanced Western Countries



Source: [3, p. 221].

- Notes: 1. This figure is based on data given in [1, 1970] [2, 1968]; Ministry of Finance, *Zaisei iōkei* [Fiscal statistics]; Ministry of Autonomy, *Chihō zaisei iōkei nempō* [Local fiscal statistical yearbook].
2. Estimates are made as to when Japan's welfare level will reach that of Western countries in 1965, assuming that the former's welfare related expenditures will continue to increase at the average annual rate for the fiscal 1966-69.

per cent; transportation and communications, 14.0 per cent). While the results obtained differ according to whether the estimate covers the national government's general account budget alone or includes as well government loans and investments plus local fiscal expenditures, it is evident that it would have taken about three to seven years to reach the level which the United States, Britain, and Sweden already had reached in 1965. It is therefore apparent that Japan is now more than ten years behind these countries.

As explained below, this trial estimate was made on the basis of a unit value derived from the incremental point differential of welfare related fiscal expenditures and the welfare level index. It is, therefore, a rather rough estimate. It does, however, suggest the necessity of welfare related fiscal expenditures of something like ¥100,000 billion (about \$400 billion) over a ten-year period in order to correct the deficiency in the Japanese level of welfare. The expenditures required in the areas of environmental sanitation, social welfare, housing, transportation and communications are particularly great.

In the past there has been a tendency for active fiscal measures, including flotation of government bonds, to be confined to the temporary needs of coping with economic recession for the purpose of maintaining rapid economic growth centered on the private sector. At the present time, improvement of social overhead capital and social security is demanded as the main means of raising the level of national welfare. Therefore, government economic planning, aimed at both improved welfare and international cooperation, should guide the private sector toward a welfare orientation and, at the same time, should undertake strong programs within the public sector. If such demands are to be met, it will be necessary for national fiscal expenditures to be carried out according to welfare-oriented medium-range plans. Since local governments are responsible to a great extent for improvement of facilities concerning the living environment, which may be called the very basis of welfare, the drafting of local expenditure plans geared to these national medium-range plans, as well as strengthening of the finances of local governments, will be important.

V. A POLICY SUGGESTION

Japan has already achieved a firm footing among the advanced countries of the world with respect to economic scale and competitiveness. In the area of national welfare, however, the country still lags behind. Correction of this state of affairs will require strong promotion of the transition that started to come to the forefront at the end of 1972, from an economy of "excess" as seen in heavy and chemical industries, international payments and other financial measures, to an economy of "abundance" which truly seeks to improve national welfare. For this reason it is becoming ever more important that a wide variety of policies be carried out in unison. These policies should include measures meticulously worked out for expansion of welfare-oriented domestic programs and, internationally, investment in advanced nations as well as economic aid based on the initiatives of the developing countries. It will be necessary to increase national

welfare, while at the same time increasing what might be called "international welfare," by switching from "surplus" to "abundance."

A word should be added on human resources. Improvement of welfare cannot be achieved automatically. It has to have substance, particularly human support. For instance, if social welfare facilities are built but no specialists are available to work in them, the facilities might as well not have been built. What the public sector should be expected to do is not only to increase government expenditures and investment in physical facilities for welfare, but also to take resolute and positive action for securing qualified personnel. This human resource aspect is also important in increasing "international welfare," especially in implementing economic assistance programs in cooperation with developing countries.

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APPENDIX: METHOD OF ESTIMATION

If an index of 100 is taken to represent the Japanese level of welfare in 1960, by 1965 the index rose as follows: environmental sanitation, 134; social welfare, 119; education, 121; safety and housing, 108; transportation and communications, 153. These figures, which appear in Appendix Table I, show a wide divergency in the rate of improvement of the level between the various areas in question. The table also gives the welfare related fiscal expenditures for each year in the period 1961-65. Therefore, in simple terms, a unit value can be derived for the amount of welfare related fiscal expenditures necessary for a one point rise in the index of the welfare level. The amount of funds needed to attain the level of welfare of various leading Western countries shown in Appendix Table II, can be calculated with this unit value.

If welfare related fiscal expenditures are assumed to continue rising from fiscal 1970 onward at the average annual rate for the period fiscal 1966-69, the overall Japanese level of welfare will reach the 1965 level of Western countries as shown in Figure 2.

APPENDIX

BREAKDOWN OF FISCAL EXPENDITURES FOR

Various Indices of Welfare Level	Level of Welfare Attained in 1965 (1960=100)	Accumulative Welfare Related Investment in Period 1961-65 (in Billion Yen; Real Terms)	Additional Investment Required to Raise Welfare Level by One Point (in Billion Yen; Real Terms)
Environmental sanitation	134	1,910.6 428.7	56.1 12.6
Social welfare	119	4,192.6 2,164.9	220.6 113.9
Education	121	6,926.0 1,944.2	329.8 92.5
Safety	108	2,164.1 595.6	270.5 74.4
Housing	108	1,729.0 191.6	216.1 23.9
Transportation and communications	153	6,214.1 1,211.8	117.2 22.8

Notes: 1. This table is based on reports by Bureau of Research, Economic Planning Agency, Japan.

2. The welfare level indices are revisions of the same which appeared in [2, 1968].

TABLE I
RAISING THE WELFARE LEVEL

Data Used for Each Item of Welfare Level Index

-
1. Percentage of households covered by the public water supply systems.
 2. Percentage of households covered by the public sewerage systems.

-
1. Ratio of social security payments to national income.
 2. Accommodation (capacity) of social welfare facilities to population.
 3. Employee-user ratio for social welfare facilities.
 4. Ratio of doctors to population.
 5. Ratio of nurses to population.
 6. Ratio of hospital beds to population.

-
1. Enrollment rate in the latter half of secondary education.
 2. Enrollment rate in higher education.
 3. Teacher-pupil ratio in primary schools.
 4. Teacher-student ratio in universities and junior colleges.

-
1. Incidence of fatal accidents.
 2. Incidence of homicides.
 3. Ratios of police and fire department manpower to population.

-
1. Rooms per housing unit.
 2. Ratio of rooms to population.

-
1. Percentage of households having telephones.
 2. Ratio of postal employees to population.
 3. Ratio of railway passenger cars to population.
 4. Length of paved road per vehicle.
 5. Percentage of roads paved.

-
3. The upper figures are those for national general account expenditures, treasury loans and investments, and local general account expenditures taken together. The lower figures are for national general account expenditures alone.

APPENDIX

AMOUNT OF WELFARE RELATED FISCAL EXPENDITURES NEEDED TO RAISE THE

	Environmental Sanitation		Social Welfare		Education	
	1965 Level	Amount Necessary	1965 Level	Amount Necessary	1965 Level	Amount Necessary
U.S.	385	15,988 3,591	221	26,692 13,781	182	27,043 7,585
Britain	403	16,998 3,817	235	29,781 15,376	140	13,192 3,700
Sweden	376	15,483 3,477	265	36,399 18,793	217	38,586 10,822
France	227	7,124 1,600	160	13,236 6,834	92	△ 2,638 △ 740
West Germany	358	14,473 3,250	221	26,692 13,781	103	811 2,775

Notes: 1. This table is based on reports by Bureau of Research, Economic Planning Agency, Japan.

2. The welfare level indices are derived in the same manner as for Appendix Table I.

TABLE II
 JAPANESE WELFARE LEVEL TO THAT OF VARIOUS WESTERN COUNTRIES IN 1965
 (Billion yen; 1965 prices)

Safety		Housing		Transportation and Communications		Total
1965 Level	Amount Necessary	1965 Level	Amount Necessary	1965 Level	Amount Necessary	Amount Necessary
118	4,869 1,339	154	11,669 1,290	277	20,744 4,035	107,005 31,621
131	8,385 2,306	177	16,639 1,840	363	30,823 8,276	115,818 35,315
99	△ 270 △ 74	123	4,970 549	339	28,010 5,449	123,178 39,016
92	△2,164 △ 595	102	432 47	253	17,931 3,488	33,921 10,634
113	3,516 967	123	4,970 549	315	25,198 4,902	75,660 26,229

3. The upper figures are those for national general account expenditures, treasury loans and investments, and local general account expenditures taken together. The lower figures are for national general account expenditures alone.