

# CURRENT FEATURES OF JAPANESE AGRICULTURE AND THE PROTECTIONISM ISSUE

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## INTRODUCTION

Foreign criticism that the Japanese agricultural commodities market is closed has been rising in crescendo in recent years. The basic reason for this is traceable to the high trade surplus that Japan has been having with the US for over a decade and a half now. Among the various arguments that are put forth against the closed nature of the Japanese agricultural market is the simple yet powerful one based on the theory of comparative advantage. In the numerous trade disputes between the US and Japan so far, the high level of trade surplus is held to be incontrovertible proof that the Japanese have been unfair. The Japanese response has been that it is not so much the actual amount of the trade surplus as the issue of comparative advantage that should be considered; namely, if Japan has a comparative advantage in the production of consumer durables like VCRs, automobiles, etc., then it makes sense for the US to buy more of them from Japan and concentrate on those areas where the US has a comparative advantage. The consumers in the US are the ultimate gainers as they are able to get quality goods at reasonable prices by having an open trade *regime*. The trade surplus too would get wiped out in the long run as the US would be able to export to Japan more of

the commodities in which it has a comparative advantage.

So now the US side seems to have an ironclad argument when it asks : Why does Japan not open its agricultural commodities market, in particular the rice market, in which the US has a comparative advantage? The Japanese consumers are the losers now as they pay close to ten times the price in the international market everytime they buy rice in Japan. So why does Japan resist international pressure even at the risk of bringing about an end to the open trade *regime* which was so crucial in its nation-building from the early 'fifties onwards? How does one account for the high degree of tolerance of the Japanese consumer towards the high price of rice?

In what follows we deal with these and additional questions pertaining to the closed nature of the Japanese agricultural commodities market. Here we will note some of our impressions on the various articles, academic and non-academic, which have been written on this topic. Most of the English-language publications on this issue seem to neglect the vast body of research done in the Japanese language. They are dependent on material already written in English. Most of the writings in English can be termed as 'pro-liberalization' Thus the emphasis on market-opening, comparative advantage theory and free trade, frequently seen in these writings, keeps getting repeated. On the other hand, the material written in Japanese is both pro- and anti-liberalization, so there seems to be a better discussion of the issues concerned<sup>1</sup>. For a Japanese scholar well versed with the writings in Japanese on this issue, it would seem that the foreigners are unitedly calling for a opening of the Japanese agricultural commodities market without appreciating the issues which seem to exercise the Japanese. To the casual foreigner, the impression is that the Japanese are near unanimous (with a few notable exceptions of Japanese writing in English), in defending the closed nature of their market.<sup>2</sup>

## THE PRESENT STATUS OF AGRICULTURE IN JAPAN

Before we go into the issue of agricultural protectionism in Japan, it might be worth our while to take a look at the current status of agriculture in Japan. Table no.1 captures some of the relevant information. The land area of Japan has remained at around 37 million hectares. The arable land area size has been shrinking, however. Consequently, the ratio of arable land to total land which was around 16.4% in 1960 has declined. Less than 14% of Japan's land area is used for agriculture today. There has been a steady decline in the number of agricultural households in the past three and a half decades. At the same time the total number of independent households has been growing significantly during this period which means that there has been a drastic fall in the share of agricultural households to total households. While in 1960 the agricultural households accounted for over one fourth of the total number of households in Japan, today they account for less than one tenth of them. The actual number of agricultural households in Japan in the year 1993 was 3,644,000, a drop of around 40% from the number of 5,985,000, in 1960. There has been an even greater fall in the number of independent farmers (Cf. Note a. under Table no.1). Such households have been reduced to less than half their number three and a half decades ago. Since their rate of fall has been greater than that of total agricultural households, the ratio of independent farmers to total agricultural households has declined from about 8.6% in 1960 to less than 6% today.

The customary variables that highlight the weight of agriculture in the economy, a). the share of total labor force engaged in agriculture, and b). agriculture's contribution to the Gross Domestic Product, enable us to appreciate the place of agriculture in the Japanese economy today. While there has been a sharp increase in

**TABLE NO.1 THE STATUS OF AGRICULTURE IN THE JAPANESE ECONOMY**

	UNIT	1960	1965	1970	1975	1980	1985	1990
A	Total land area (1,000 ha)	37,007	36,978	37,746	37,753	37,771	37,780	37,772
B	Arable land	6,071	6,004	5,796	5,572	5,461	5,379	5,243
	B/A (%)	16.4	16.2	15.7	15.0	14.7	14.2	13.9
C	Total no. of households (1,000)	20,860	24,290	27,870	32,141	35,977	38,988	41,016
D	Agricultural households (1,000)	5,985	5,576	5,261	4,891	4,614	4,311	3,835
	D/C (%)	28.7	23.0	18.9	15.2	12.8	11.2	9.4
E	Independent farmers <sup>a</sup> (1,000)	515	507	368	465	258	247	
	E/D (%)	8.6	9.1	7.0	9.5	5.6	5.7	
F	Total Labor force (10,000 persons)	4,465	4,754	5,109	5,240	5,552	5,807	6,249
G	Labor force in Agriculture (10,000 persons)	1,196	981	811	588	506	444	400
	G/F (%)	26.8	20.6	15.9	11.2	9.1	7.6	6.4
H	Gross Domestic Product (Billion Yens)	16,681	33,765	75,299	152,362	245,547	324,159	
I	Total Agricultural Production	1,501	2,296	3,163	5,790	5,893	7,456	
	H/I (%)	9.0	6.8	4.2	3.8	2.4	2.3	

Note : a. Independent farmers (*Jiritsu noka*) are those who earn incomes equal or more than that of the urban workers enabling them to have a comparable living standard. They are a category defined by the Agricultural Basic Law (*Nogyo Kihon Ho*) of 1961.

Source : Ministry of Agriculture, Forestry and Fishing, *Nogyo Hakusho (White Paper on Japanese Agriculture)*, Various years.

the total labor force in the three decades from 1960, there has been an even sharper decrease in the labor force engaged in agriculture. This is reflected in the fall in the share of the total labor force in the economy engaged in agriculture from 26.8% in 1960 to around 6% today. While the absolute figures for Gross Domestic Product has

grown by over 19 times in the same period, the figures for agriculture during the same period increased just fivefold. Thus agriculture's contribution to GDP has declined from 9% in 1960 to 2.3% in 1990.

### **THE PRODUCTIVITY GAP BETWEEN AGRICULTURE AND INDUSTRY**

Thus, agriculture's weight in the economy has come down greatly in the post-World War II years. One important reason for this has been the appreciable gap in the productivity increases between industry and agriculture witnessed in the past four decades or so. Table No. 2 gives the differences in productivities between agriculture and manufacturing in Japan, between the years 1955-1990. The production per hour has been used in the compilation choosing the base year 1955 as being equal to 100. The agricultural production increased to 145 in 1990 in the face of a *falling* labor force which decreased from 100 to 30 during the same period. This resulted in a healthy growth of productivity from 100 in 1955 to 480 in 1990. But the productivity rise in the manufacturing sector has been even more rapid, rising from 100 in 1955 to 663 in 1990.

The rate of agricultural productivity increase in Japan during the period referred to was high but compared to the productivity increase in the manufacturing sector they lagged behind. This is reflected in the figures in the Table no. 3 which shows an international comparison of increase in labor productivities for the manufacturing sector and agriculture for the period 1960-1990. The Table also lists the rate of increase in wages in the manufacturing sector and the rate of increase of the agricultural product prices for the same period. In the 1960s agriculture in Japan showed a remarkable rate of productivity increase, but this was eclipsed by the figures registered for

**TABLE NO. 2 DIFFERENCES IN PRODUCTIVITIES BETWEEN AGRICULTURE AND MANUFACTURING, 1955-1990**

	MANUFACTURING INDUSTRY			AGRICULTURE		
	INDEX OF PRODUCTION	INDEX OF LABOR	LABOR PRODUCTIVITY	INDEX OF PRODUCTION	INDEX OF LABOR	LABOR PRODUCTIVITY
1955	100	100	100	100	100	100
1960	222	147	151	108	91	118
1965	388	183	212	119	72	164
1970	808	209	387	136	66	208
1975	885	209	424	148	50	301
1980	1,220	208	588	130	44	298
1985	1,451	259	561	152	36	423
1990	1,819	175	663	145	30	480

**AVERAGE ANNUAL RATE OF INCREASE**

1955-60	17.1	8.0	8.6	1.6	-1.8	3.5
1960-65	11.8	4.4	7.1	2.1	-4.6	6.8
1965-70	15.8	2.7	12.8	2.7	-1.7	4.8
1970-75	1.8	-0.0	0.6	1.6	-5.4	7.7
1975-80	6.6	0.1	2.2	-2.5	-2.4	-0.2
1980-85	3.5	4.5	-1.0	3.2	-4.1	7.2
1985-90	4.6	-7.5	3.4	-1.0	-3.5	2.5

Source : Isobe *et al.*, (ed.), *Nihon Nogyoron (Studies on Japanese Agriculture)*, (Tokyo : Yuhikaku, 1993), p. 47.

the industry, though this high period was not to be repeated by industry in future. In the 1970s while agricultural productivity increases were negative, they once again recovered to remarkable levels in the 1980s. Industry meanwhile has shown respectable rises in productivity growths. Overall, Japanese agricultural productivity growth for the entire period compares very favorably with those of other developed countries. Thus, we find there is not much substance in the criticism of those who hold that the performance of Japanese agriculture in the recent past has been poor and hence it would be better to open the Japanese agricultural market to the agricultural com-

**TABLE NO. 3 RATES OF INCREASE OF PRODUCTIVITY IN AGRICULTURE AND MANUFACTURING, WAGES IN MANUFACTURING AND PRICES OF AGRICULTURAL PRODUCTS (ANNUAL), 1960-1990**

		LABOR PRODUCTIVITY IN MANUFACTURING	LABOR PRODUCTIVITY IN AGRICULTURE	MANUFACTURING INDUSTRY WAGES	AGRICULTURAL PRODUCT PRICES
JAPAN	1960-70	9.8	6.3	12.2	6.9
	1970-80	4.4	-0.3	13.3	8.3
	1980-90	4.0	5.5	3.7	0.0
U.S.A	1960-70	3.5	5.2	4.0	1.6
	1970-80	2.5	2.1	8.1	8.4
	1980-90	2.6	2.7	3.5	0.9
WEST GERMANY	1960-70	4.1	8.4	8.6	0.1
	1970-80	3.2	1.2	8.3	4.0
	1980-90	2.0	2.5	4.3	-0.4
FRANCE	1960-70	4.8	6.8	8.3	3.3
	1970-80	3.5	2.3	14.4	8.2
	1980-90	1.3	4.9	9.5	4.3
ENGLAND	1960-70	2.9	5.7	7.2	2.1
	1970-80	2.2	2.4	15.3	14.0
	1980-90	1.7	2.5	7.3	3.5

Source : Same as Table no. 2. p.298.

modities from other countries. This fact about the performance of agricultural productivity needs to be stressed, since there is a widespread feeling that the performance of agriculture in the post-World War II years has been poor. Hence many contend that it behooves Japan to concentrate on non-agricultural production and let agriculture shrink even further by trade liberalization.

Turning to the wage increases for the manufacturing sector in the case of Japan, we find that they were quite substantial, reflecting the large rises in productivity. While the agricultural product prices also registered favorable increases, their rise was much less and they stagnated in the 1980s.

**TABLE NO. 4 HOURLY WAGES AND PRODUCTION IN AGRICULTURE (ALL JAPAN)** (Units : Yen, %)

	Agricultural production (A)	Wages in the rural areas (B)	Wage rate of temporary laborers (C)	A/B	A/C
1976	535	594	485	90.1	110.3
1977	564	648	519	87.0	108.7
1978	594	687	551	85.2	107.8
1979	579	740	586	78.2	98.8
1980	510	818	628	62.3	81.2
1981	517	862	654	60.0	79.1
1982	515	893	683	57.7	75.4
1983	540	920	688	58.7	78.5
1984	583	956	706	61.0	82.6
1985	586	987	703	59.4	83.4
1986	566	1,005	721	56.3	78.5
1987	540	1,021	718	52.9	75.2
1988	560	1,061	736	52.8	76.1
1989	659	1,105	763	59.6	86.4
1990		1,173			

Source : Same as Table no. 2. p.68.

The above Table no. 4 gives the per hour agricultural production and wages since the mid 1970s. The agricultural production per hour rose slowly in the second half of 1970s only to fall in the first half of 1980s and then show a generally rising trend. The agricultural wage per hour rose slowly during the entire period. This is compared with the wages paid to the temporarily employed staff in non-agriculture. The last two columns of the Table indicate the following : The ratio of agricultural production to the wages has been declining over the years, which means that there has been an incentive for farmers to shift from agricultural production to wage labor in the rural areas. Also the wage rate of temporary laborers was not attractive to performing agricultural production on self-owned land till about 1978 or so. After this date the trend changes and this is



a reason for the rise of part time farming in Japan.

The following Table no. 5 gives further details of agricultural incomes and manufacturing sector wages per day per person by the size of the farm land and that of the enterprise. While the average manufacturing industry wages increased by 19.4 times between 1960 and 1990, the average agricultural earnings increased just 9.9 times during the same period. The ratio of the average agricultural income to the average manufacturing industry income which stood at 64.0% in 1960 rose to 79.3% in 1965, and then steadily declined to reach a

**TABLE NO. 5 MANUFACTURING INDUSTRY WAGES AND AGRICULTURAL INCOMES COMPARED (PER DAY PER PERSON)**  
(UNIT : YEN, %)

		1960	1965	1970	1975	1980	1985	1990	
MANUFACTURING INDUSTRY WAGES (NUMBER OF WORKERS)	OVER 500	1,186 (100)	1,817 (100)	3,734 (100)	9,474 (100)	14,442 (100)	18,217 (100)	20,886 (100)	
	100~499	842 (71.0)	1,457 (80.2)	2,999 (80.3)	7,584 (80.0)	11,186 (77.5)	13,443 (73.8)	17,121 (81.9)	
	30~ 99	695 (58.6)	1,279 (70.4)	2,553 (68.4)	6,086 (64.2)	8,717 (60.4)	10,480 (57.5)	14,559 (69.7)	
	5~ 29	529 (44.6)	1,101 (60.6)	2,180 (58.4)	5,074 (53.6)	7,401 (51.2)	8,828 (48.5)	12,242 (58.6)	
	AVERAGE (A)	820 (69.1)	1,448 (79.7)	2,948 (79.0)	7,137 (75.3)	10,334 (71.6)	12,773 (70.1)	15,946 (76.3)	
AGRICUL TURAL INCOME	EXCLUDING HOKKAIDO	OVER 2.0 ha	811 (68.4)	1,583 (87.1)	2,450 (65.6)	6,265 (66.1)	5,870 (40.6)	6,995 (38.4)	7,905 (37.8)
		1.5~2.0	616 (51.9)	1,286 (70.8)	1,992 (53.3)	4,957 (52.3)	4,950 (34.3)	5,692 (31.2)	5,408 (25.9)
		1.0~1.5	527 (44.4)	1,147 (63.1)	1,775 (47.5)	4,344 (45.9)	4,285 (29.7)	4,497 (24.7)	4,778 (22.9)
		0.5~1.0	449 (37.9)	998 (54.9)	1,496 (40.1)	3,772 (39.8)	3,472 (24.0)	3,323 (18.2)	3,282 (15.7)
		UPTO 0.5 ha	390 (32.9)	856 (47.1)	1,275 (34.1)	2,850 (30.1)	2,340 (16.0)	1,671 (9.1)	1,290 (6.2)
		AVERAGE	513 (43.3)	1,134 (62.4)	1,769 (47.9)	4,392 (46.4)	4,361 (30.2)	4,747 (26.1)	5,073 (24.3)
	ALL JAPAN	AVERAGE (B)	525 (44.3)	1,148 (63.2)	1,824 (48.8)	4,537 (47.9)	4,546 (36.5)	4,937 (27.1)	5,230 (25.0)
		B/A (%)	64.0	79.3	61.9	63.5	44.0	38.7	32.8
WAGES FOR TEMPORARY AGRICULTURAL WORKER (MALE)		382 (32.2)	853 (46.9)	1,611 (43.1)	3,635 (38.4)	5,054 (35.0)	5,981 (32.8)	6,711 (32.1)	

Source : Same as for Table no.2

figure of 32.8% in 1990. In other words the average agricultural income in Japan is just about one third of the average manufacturing sector income. This only confirms the existence of incentives for farmers to increase the share of their non-farm income. Thus the rise of part-time farming can be accounted for.

## SCALE OF FARMING IN JAPAN

One important reason why Japanese agriculture cannot show the kind of high productivities displayed by the other developed nations is the scale of farming in Japan. The tiny size of the Japanese farms which is around 1.2 hectare per farm household, is usually not in the form of a single plot but fragmented and located at different places. This does not go with the kind of technological progress that Japan has made in the last four decades. Power tillers, whose use increased five times between 1960 and 1970, displaced both cattle and the wooden plough. Mechanical transplanting has reduced the labor required to plant a hectare of rice from 150-300 hours to 10-20 hours. But the tiny scale of farming impedes the introduction of machinery and the realization of large productivity increases. For example, the transplanting operations can be done over a period of 20 days in the season, hence one machine can transplant 10-20 hectares. But since each individual plot is around 1 hectare or less, the machine cannot be put to optimum use. In rice farming, the average is 0.8 hectares, while rice machinery is optimally used on a 10-20 hectare farm.<sup>3</sup> The following Table no. 6 compares the scale of farming in Japan with other developed countries and it becomes obvious why Japan can never hope to attain the kind of high productivities that the others with their vastly large farms are able to achieve. As the Table indicates, for other developed nations the size of their area per farm household is 13 to 146 times

that of Japan. They are able to reap the benefits of huge productivity increases due to the introduction of large scale machinery which Japan is not able to exploit.

**TABLE NO. 6 INTERNATIONAL COMPARISON OF THE SCALE OF FARMING, 1982**

	AGRICULTURAL AREA (1,000 HECTARES)	COMPARED WITH JAPAN (TIMES)	AREA PER FARM HOUSEHOLD (HECTARE)	COMPARED WITH JAPAN (TIMES)
JAPAN	5,430	—	1.2	—
EUROPEAN COMMUNITY <sup>a</sup>	102,030	19	17.4	15
WEST GERMANY	12,140	2	15.9	13
FRANCE	31,730	6	29.4	25
UNITED KINGDOM	18,810	3	77.1	64
UNITED STATES	420,280	77	175.2	146

Note : a Area per farm household is for 1980 and excludes Greece.

Source : Tatsuo Matsuura and Morio Morisaki, *The Japanese Feed Market* (Tokyo : Japan International Agricultural Council, 1985) p. 57 as quoted by Jimmye S. Hillman and Robert A. Rothenberg *Agricultural Trade and Protection in Japan* (Hampshire : Gower Publishing Company Limited, 1988) p. 19.

### COMPOSITION OF LABOR FORCE IN JAPANESE AGRICULTURE

The decline of Japanese agriculture has been aided and abetted by the composition of labor force engaged in it. This becomes apparent from the following Table no. 7. The labor force engaged in agriculture in 1993 has shrunk to about 28% of the 1960 figure. While the sex distribution is very close to 50% each for males and females, it is the age distribution that reveals a new trend. The share of persons in the 15-54 years range and those in the 55-64 years range has been *falling* while the share of people in the '65 years and above' category, has been *rising* in the recent years. In 1993 as much as 36% of the

total labor force engaged in Japanese agriculture was either 65 years or older.

**TABLE NO. 7 AGE-WISE AND SEX-WISE DISTRIBUTION OF LABOR FORCE IN JAPANESE AGRICULTURE**

(Units : 10,000 persons)

(Figures in parentheses represent percentages)

	Total	Age distribution			Sex distribution	
		15-54 years	55-64 years	65 years and above	Males	Females
1960	1196				576 (48.2)	620 (51.8)
1965	981					
1970	811					
1975	588				276 (46.9)	312 (53.1)
1980	506					
1985	444					
1990	392	143 (36.4)	134 (34.1)	115 (29.3)	194 (49.5)	198 (50.5)
1991	380	130 (34.2)	128 (33.6)	121 (31.8)	190 (50.0)	189 (50.0)
1992	357	120 (33.6)	116 (32.4)	121 (33.8)	181 (50.7)	176 (49.3)
1993	338	111 (32.8)	105 (31.0)	122 (36.0)	173 (51.2)	164 (48.8)

Source : *Nihon Nogyo Nenkan (Japanese Agricultural Yearbook)*, (Tokyo : Ie no Hikari Kyokai, various years).

This trend of graying of the labor force coupled with the fall in number of offsprings of farmers who take up agriculture as their occupation in recent years makes Japanese agriculture vulnerable indeed. The absolute number of farmers' offsprings who take up agriculture as their calling is shown in the next table no. 8. This number has fallen to alarmingly low levels. There were 656 cities, 2001 towns and 589 villages in Japan in the year 1990 according to official classifications. This gives a total of 3246 cities, towns and villages in the whole

of Japan. As against this the number of farmers' children taking up agriculture as their profession is less than the total number of towns and villages in Japan. In other words, on an average, not even one person per city, town and village in Japan is willing to take up agriculture as his or her occupation every year.

**TABLE NO. 8 FARMER'S CHILDREN WHO TAKE UP AGRICULTURE AS THEIR OCCUPATION** (Unit : Persons, %)

YEAR (MARCH)	NUMBER OF PERSONS	YEAR (MARCH)	NUMBER OF PERSONS
1965	68,000	1978	9,000
1966	72,200	1979	7,600
1967	64,100	1980	7,000
1968	61,000	1981	5,700
1969	47,600	1982	7,100
1970	36,900	1983	6,500
1971	31,900	1984	4,700
1972	22,000	1985	4,800
1973	18,600	1986	5,400
1974	14,400	1987	4,000
1975	9,900	1988	3,500
1976	10,200	1989	2,100
1977	12,000	1990	1,800

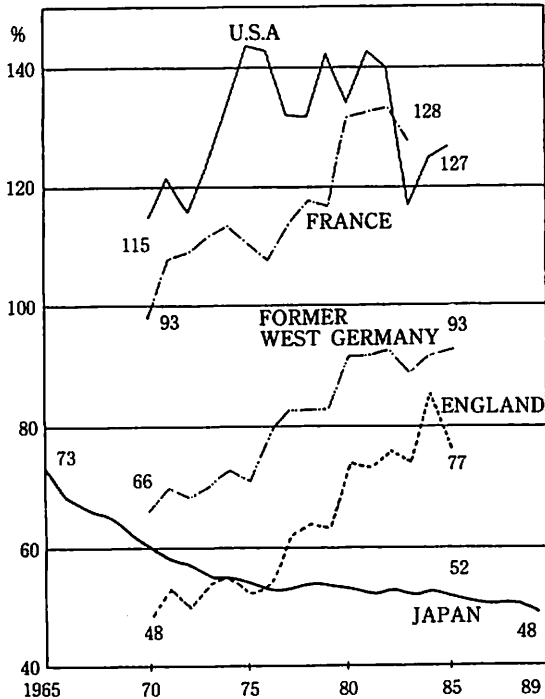
Source : Ministry of Agriculture, Forestry and Fisheries, *Noka Shugyo Chosa Hokoku (Report on the occupational structure of farm households)*, various years.

### SELF-SUFFICIENCY RATES IN JAPANESE AGRICULTURE

The self-sufficiency rates for various agricultural products in Japan have been falling in the past few decades. The trend is captured by the following three figures. Figure no.1 shows the recent trends in the self-sufficiency rates of some of the advanced nations, measured on the basis of calorific value. The steady decline of Japan compared to the other countries which improved their self-sufficiency rates is immediately apparent. By the year 1993, this figure for Japan has

further declined to 37%. Canada showed a value of 141%, Australia 179%, Sweden 102%, Thailand 130%, China 97% and the former Soviet Union 88% (all for the year 1980). Not only is the self-sufficiency rate of food seen on a calorific basis for Japan one of the lowest in the world ; it has also been showing a consistently declining trend since 1965.

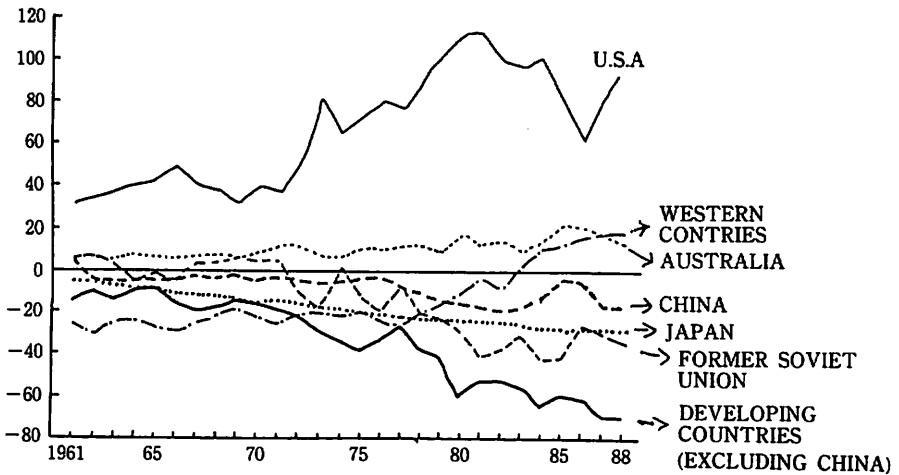
**FIGURE NO.1 MOVEMENT OF SELF-SUFFICIENCY RATES FOR FOOD FOR MAJOR ADVANCED NATIONS (MEASURED BY CALORIE VALUE)**



Source : Shuzo Teruoka, *Gendai shihonshugi to senshinkoku nogyo : Nihon. America. EC kijikukoku (Agriculture in Developed Nations and Present-day Capitalism : Japan, USA and the EC Countries)*, *Kagaku to Shiso (Science and Thought)*, No. 84, (April 1992), p. 96.

The self-sufficiency rates in Figure no. 2 show the movement of the values of balance of trade in cereals, namely exports minus imports of cereals for major developed countries since 1960, measured in million tons. Japan has been a consistent net importer of cereals since 1960 and the negative balance of trade in cereals have been on a steady rising trend.

**FIGURE NO. 2 BALANCE OF TRADE OF CEREALS OF MAJOR DEVELOPED COUNTRIES (MILLION TONS)**

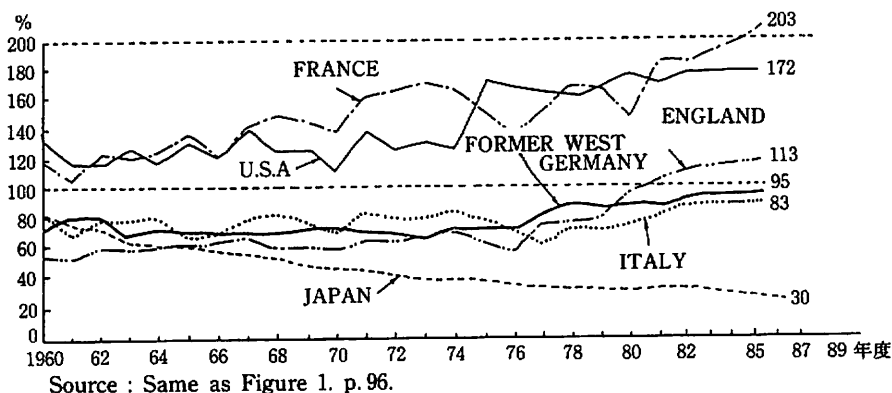


Source : Same as Figure no. 1, p. 86.

Among the various items that fall under the category of food, it is cereals whose performance has worsened the most. Figure no. 3 shows the way self-sufficiency rates for cereals have moved for a number of developed countries between the years 1960 and 1987. The cereal self-sufficiency of Japan in 1986 was just 30%, the lowest in the developed world. By 1993, this had declined to around 22%, a record low.

The figures for the self-sufficiency rates for various food items in Japan is seen from the following Table no. 9. The overall food

**FIGURE NO. 3 THE MOVEMENT OF SELF-SUFFICIENCY RATES FOR CEREALS FOR MAJOR DEVELOPED COUNTRIES**



self-sufficiency has been declining for Japan in the recent past. From a figure of 91% in 1960, the food self-sufficiency rate has come down to 67% in 1990.

**TABLE NO. 9 CHANGES IN FOOD SELF-SUFFICIENCY RATES FOR JAPAN (%)**

	1965	1975	1985	1990
ALL GRAINS	62	40	31	30
FOOD GRAINS	80	69	69	67
RICE	95	110	107	100
WHEAT	28	4	14	15
PULSES	11	4	5	5
FOOD ON A CALORIE INTAKE BASIS	73	54	52	47
ALL FOOD PRODUCTS	86	77	74	67

Source : Ministry of Agriculture, Forestry and Fishing, *Shokuryo jikyu hyo (Tables on Food Self-sufficiency)*, various years.

### JAPANESE IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS

The image of Japan as being a country closed to agricultural products' imports needs to be put in the right perspective. Japan today is *the largest* importer of agricultural products in the world. The follow-



ing Table no. 10 shows the exports and imports of agriculture, fishery and forestry products of various countries over the time span 1981-1993. Japan's imports in this category have ballooned over the years. No developed nation imports as much as Japan does, and compared to Japan's low level of exports in this category, the other developed nations export a substantial amount. Thus Japan has been having a sizeable balance of trade deficit in this category and this has grown to over \$ 55 billion in 1993.

**TABLE NO. 10 EXPORTS AND IMPORTS OF AGRICULTURE, FISHERY AND FORESTRY PRODUCTS OF VARIOUS COUNTRIES**  
(Units : \$ 100million)

	1981			1987		
	EXPORTS	IMPORTS	EXPORTS-IMPORTS	EXPORTS	IMPORTS	EXPORTS-IMPORTS
U.S.A	450.5	183.4	267.1	312.9	220.0	92.9
FRANCE	178.5	132.9	45.6	236.5	176.9	59.6
CANADA	78.4	48.9	29.5	72.7	53.9	18.8
FORMER SOVIET UNION	29.7	213.2	-183.5	28.8	165.0	-136.2
FORMER WEST GERMANY	106.1	222.5	-116.4	151.4	296.9	-145.5
ITALY	61.4	127.8	-66.4	79.1	196.2	-117.1
ENGLAND	79.2	148.3	-69.1	99.9	203.3	-83.5
JAPAN	10.9	185.1	-174.2	9.5	209.6	-200.1

	1989			1991			1993		
	EXPORTS	IMPORTS	EXPORTS-IMPORTS	EXPORTS	IMPORTS	EXPORTS-IMPORTS	EXPORTS	IMPORTS	EXPORTS-IMPORTS
U.S.A	590.1	463.7	126.4	604.0	455.3	148.7	637.3	515.4	121.9
FRANCE	324.8	275.6	49.2	374.8	320.8	54.0	377.2	300.5	76.7
CANADA	282.6	90.8	191.8	287.4	98.5	188.9	305.2	104.9	200.3
FORMER SOVIET UNION	73.9	12.0	-138.1	53.8	171.7	-117.9	17.7 <sup>a</sup>	51.8	-34.1
GERMANY	180.1	331.1	-151.0	291.2	559.4	-268.2	285.4	482.0	-196.6
ITALY	112.1	298.3	-206.5	140.1	336.9	-192.0	139.9	288.1	-148.2
ENGLAND	131.9	318.6	-186.7	163.7	332.1	-168.4	156.1	313.2	-157.1
JAPAN	32.7	531.2	-498.5	38.7	544.4	-505.7	39.2	590.3	-551.1

Note. a. Russia. Source : *FAO Trade Yearbook*, various years.

## THE URUGUAY ROUND

GATT (General Agreement on Tariffs and Trade) has been involved in the promotion of free trade and the removal or reduction of impediments to free trade. In pursuit of these objectives, it has facilitated various "Rounds"-namely multilateral negotiations aimed at the reduction of barriers to free trade. The latest round, the eighth, was the Uruguay Round, which lasted over seven years. The Uruguay Round of negotiations reached a conclusion in December 1993, and was signed by almost 125 countries giving rise to the birth of the World Trade Organization in April 1994. Japan had resisted the opening of its rice market all through, but in the end accepted the Denis compromise proposal. This proposal which was put up in the last stages of the negotiations contained exceptional measures for comprehensive tariff conversion of quotas. The Japanese government accepted to providing minimum access for imported rice through these measures. It also accepted to implement the tariff conversion of dairy products, starches and other products. The changes envisaged were to be taken up as part of the fiscal 1995 tariff revision.

Japan's schedule of concessions in the area of agricultural products can be grouped under a. tariff conversion exceptional measures, b. tariff conversion and c. reduction in tariff rates.

*A. Tariff Conversion Exceptional Measures* : Japan accepted the implementation of tariff conversion exceptional measures for rice. The salient features of this provision are that :

1. Japan will implement no tariff quota for rice during the implementation period which will be six years starting from 1995.

2. Japan will provide the opportunity for minimum access for imported rice, which in 1995 will amount to 4% and in the year 2000 to 8% of the domestic consumption. The reference period was to be

1986-1988.

3. The Food Agency will import rice on a state trade basis. The differential profits on imports earned by state trade enterprises were to be limited to an amount based on sales during the same reference period of 1986-1988.

*B. Tariff Conversion* : Products other than rice that have been subject to non-tariff based import restrictions were to undergo tariff conversion. In other words, non-tariff restrictions had to be removed fully or phased out and in their place tariff was to be substituted. Pooled quotas were to be established with the calculations based on the price differential during the base reference period of 1986-1988 and were to be reduced by 15% during the implementation period which was to be six years beginning in 1995. Access opportunities related to tariff conversion were to be established based on import results or import quotas in force during the base reference period. In principle, the tariffs to be collected on these established access opportunities were to be at the same level as that during the base reference period. Applicable tariff rates will not be reduced during the implementation period. Tariff rates may be raised at a certain rate on tariff conversion items as a special safeguard in case import volumes increased at greater than a certain rate or value for customs fell at less than a certain rate.

*C. Reduction in Tariff Rates* : It was decided to reduce the tariff rates in order to satisfy the condition of a 35% average rate decrease over a six-year period and a minimum rate decrease on particular agricultural product items of 15%<sup>4</sup>. Table no.11 gives the list of leading agricultural product items subject to tariff reductions.

In concrete terms, Japan was obliged to import 380,000 tons of rice in fiscal 1995. The first lot amounting to 2,800 tons which was imported was auctioned on 26th July 1995. The upper limit of the margin of

**TABLE NO.11 TARIFF REDUCTIONS ON LEADING AGRICULTURAL PRODUCT ITEMS**

Product Name	Current rate (as of 1994)%	Rate after six years (cf. note)
Beef	50	38.5% (however, if import volume exceeds a certain level Japan may raise the tariff rate to 50% as an emergency adjustment measure)
Fresh Oranges (June-November) (December-May)	20 40	16 32
Orange juice (no sugar added, 10% sucrose content or greater)	30	25.5%
Natural cheese	35	29.8% (26.3% and 22.4% on some varieties)
Ice Cream (sucrose content less than 50%)	28	21
Candies	35	25
Macaroni and spaghetti	40 Yens/kg	30 Yens/kg
Pastries (with added sugar)	24	15%
Soya Bean and Vegetable oils (unprocessed)	17 Yens/kg	10.9 Yens/kg

Note : Uniform reductions in principle

Source : JETRO, *Japan's Agricultural Market 1995* (Tokyo : Japan External Trade Organization, June 1995) p. 9.

profit that the Food Agency could make was Yens 292 per kilogram of rice. All brands of rice sold on this day brought this upper limit of profit.

### PROTECTIONISM IN JAPANESE AGRICULTURE

Why is the Japanese agricultural commodities market so protected and how does it compare with other countries in terms of the degree of protection? Table no. 12 shows the Nominal Rates of Protection (NRP) for various countries between 1955-1987. The Nominal rate

of agricultural protection is calculated by subtracting the value of agricultural output in international prices from the value of agricultural output in domestic prices and dividing the remainder by the value of agricultural output in international prices. This is equivalent to the weighted average of the NRPs of individual commodities using their shares in the total output value at border prices as weights. Commodities covered in the average NRP calculation include twelve tradable commodities as mentioned in footnote a. under Table no. 12. These commodities account for about 60-70 percent of the value of total agricultural output in cash of countries under study.<sup>5</sup>

Hayami summarizes in Table no.12 the average NRPs by comparing producer and border (import c. i. f.) prices. He uses producer prices as they include the effects not only of border protection but also of more direct agricultural support policies such as deficiency payments. The use of producer prices leads to an underestimation of protection to the extent that there are costs of marketing from the farm gate to a point in the marketing chain equivalent to the internationally traded product. As is readily seen from the Table this bias is obvious in the case of the food-exporting countries such as Australia and the US, for whom the estimates of NRPs are negative in some years when in fact no policy was exercised to exploit agriculture or only moderately protective policies were adopted. However, Hayami feels that in so far as this bias is similar across countries and over time, it does not present a serious problem for the purpose of making broad comparisons<sup>6</sup>. The Table signifies the following : a). Japan, Korea and Switzerland have high levels of NRP and, b). The high figure for NRP for Japan is of recent origin.

The following Table no. 13 gives the NRPs for individual commodities in the EC and Japan. What does the Table indicate? In the case of Japan, there is greater degree of protection for grains as com-

pared to livestock products, while the opposite is true in the case of the EC. Hayami points out the two-tier structure for the protection on grains. The degree of protection is very high for food grains, particularly rice. But for feed grains such as maize etc., the degree of protection is extremely low. These grains are hardly produced in Japan. This strong bias in favor of food grains is attributed to the traditional lack of substitutability between rice and feed grains. A natural consequence has been that price support on rice was increased while simultaneously feed grains were imported without protection.

**TABLE NO. 12 COMPARISON OF THE NOMINAL RATES OF AGRICULTURAL PROTECTION BETWEEN EAST ASIAN COUNTRIES AND ELEVEN OTHER DEVELOPED COUNTRIES, 1955 TO 1987 (%)**

	1955	1960	1965	1970	1975	1980	1985	1987
<b>East Asia</b>								
Japan	18	41	69	74	76	85	108	151
Korea	-46	-15	-4	29	30	117	147	160
Taiwan	-17	-3	-1	2	20	52	28	74
<b>European Community</b>								
Denmark	5	3	5	17	19	25	34	69
France	33	26	30	47	29	30	37	81
Germany, F.R.	35	48	55	50	39	44	40	79
Italy	47	50	66	69	38	57	72	127
Netherlands	14	21	35	41	32	27	38	57
United Kingdom	40	37	20	27	6	35	39	79
Average <sup>a</sup>	35	37	45	52	29	38	43	84
<b>Nonaligned Europe</b>								
Sweden	34	44	50	65	43	59	65	131
Switzerland	60	64	73	96	96	126	181	218
<b>Food Exporters</b>								
Australia	5	7	5	7	-5	-2	-7	5
Canada	0	4	2	-5	-4	2	0	19
United States	2	1	9	11	4	0	11	23

<sup>a</sup> Defined as the percentage by which the producer price exceeds the border price. The estimates shown are the weighted averages for twelve commodities, using production valued at border prices as weight. The twelve commodities include rice, wheat, barley, corn, oats, rye, beef, pork, chicken, eggs, milk, and sugar.

<sup>b</sup> Weighted average for all six countries shown for 1975, 1980, 1985, and 1987, but excluding Denmark and United Kingdom for earlier years.

Source : Yujiro Hayami *etal The Agricultural Development of Japan* (Tokyo : University of Tokyo Press, 1991), p.223.

Such an occurrence would not have been possible in the European context, as there the food grains like wheat and rye are highly substitutable for feed grains. So it would have been difficult to simultaneously maintain high food prices if cheap feed grains could be imported easily. Thus the lack of substitution between rice and feed grains facilitated the achievement of very high support of domestic food grains and at the same time low feed costs to domestic livestock producers in the case of Japan<sup>7</sup>.

Why do countries like Japan, that have achieved high levels of economic development resort to agricultural protection? The common observation is that while poor countries tend to tax agriculture relative to manufacturing, rich countries tend to assist farmers by way of subsidies, import barriers etc.

**TABLE NO. 13 NOMINAL RATES OF AGRICULTURAL PROTECTION FOR INDIVIDUAL COMMODITIES IN THE EUROPEAN COMMUNITY AND JAPAN, 1955-87 (%)**

	European Economic Community						Japan					
	1955	1960	1970	1980	1985	1987	1955	1960	1970	1980	1985	1987
<b>Grains</b>												
Rice	17	39	40	44	33	141	24	47	135	192	287	547
Wheat	46	36	54	18	25	152	31	51	134	261	331	729
Barley	31	26	67	23	31	199	24	52	158	307	428	935
Corn	20	14	23	38	21	50	—	—	—	—	—	—
Oats	0	5	25	26	0	55	—	—	—	—	—	—
Rye	47	44	46	32	11	204	—	—	—	—	—	—
Average	33	29	47	23	25	132	24	48	135	196	290	558
<b>Livestock</b>												
Beef	71	61	75	93	58	69	39	84	108	100	111	205
Pork	29	31	21	13	10	8	2	97	- 9	17	0	3
Chicken	78	52	22	13	27	65	-52	19	18	23	11	23
Eggs	16	26	15	5	41	43	-19	- 7	- 9	- 1	13	-21
Milk	16	29	86	53	98	198	4	5	212	186	200	325
Average	34	37	52	42	50	74	- 8	22	24	40	41	54
<b>Others</b>												
Sugar beet	101	100	91	40	37	62	—	—	214	141	205	310
All commodities	35	37	52	38	43	84	18	41	74	85	108	151

Source : Yujiro Hayami *et al* *The Agricultural Development of Japan : A Century's Perspective* (Tokyo : University of Tokyo Press, 1991). p. 225.

In the early stages of economic development, a large share of labor is engaged in food production and food is exported to pay for manufactured imports. The stock of non-farm capital is low initially, but as it accumulates labor migrates from agriculture to manufacturing. As capital accumulates further the country acquires some competitiveness in the international market for labor-intensive manufacturing products. This leads to a decline in the share of primary commodities in its exports. The smaller the land endowment per worker, the earlier in the economic growth process will be the emergence of manufacturing activity and the possible fall in the ratio of agricultural exports to agricultural imports. Agriculture's comparative advantage and share of the workforce will decline more quickly the faster is non-farm relative to farm technological progress and the more rapid the accumulation or importation of industrial capital<sup>8</sup>. The discovery of new minerals or cheaper ways to exploit known mineral deposits or grow non-food crops, or an increase in the price of any of these non-food primary products, would hasten the decline of agriculture as the economy grows. If new farm technologies that displace labor by capital are introduced, such labor-saving technology may prevent a decline in the production of food relative to other goods and services, and even a decline in agriculture's share of exports. But this will not prevent a decline of labor force in agriculture. Production of services is labor-intensive and the demand for them is income-elastic. So a large share of labor in a growing economy will eventually be employed in providing services. This reinforces the tendency for agriculture's share of both output and employment to decline with economic growth<sup>9</sup>. The important implications from the above are as follows :

1. First, while the economy may have primary goods predominating in exports initially, agriculture may ultimately become an



import-competing sector, particularly if the rate of technological change in agriculture is relatively slow. The higher is the population density, and/or the faster this economy grows relative to the rest of the world the sooner agriculture becomes an import-competing sector.

2. Secondly, as industrial and service sectors expand, both agricultural employment and output are likely to grow comparatively slowly leading to a shrinking weight of agriculture in an expanding economy.

3. Thirdly, the income elasticity of demand for food which is high in a poor country, declines as incomes rise. Price of food, which was a chief determinant of the cost of living of wage earners loses its importance as it occupies a shrinking share of the household budget. This change, like the earlier two, occurs rapidly, the faster the economy grows<sup>10</sup>. Protectionism in Japanese agriculture can be explained to a large extent, if we are able to show that Japanese agriculture did indeed proceed along this path as indicated above. Table no. 14 gives the values of some of the variables relevant to our discussion. The beginning of Modern Economic Growth in Japan is usually placed around the year 1885. Agriculture was the predominant sector of the economy, employing three fourths of the labor force and contributing close to half of the GDP, features typically displayed by countries in the initial stages of economic development. The Table shows how the weight of agriculture in the Japanese economy has rapidly shrunk in a span of about 100 years. The share of labor force engaged in agriculture has dwindled from about 73% in 1885 to about 10% in 1980. Agriculture's contribution to GDP had come down drastically during the same period, from 45% to 4%. The Engels coefficient, a measure of the share of expenditure on food in the total expenditure of households, has fallen from 64% to about 31%. The labor pro-

TABLE NO. 14 AGRICULTURE IN JAPAN'S ECONOMIC DEVELOPMENT, 1885-1980

	1885	1900	1920	1935	1955	1960	1970	1980
Share of Agriculture :								
in Labor Force %	73	68	54	47	39	32	17	10
in GDP %	45	39	30	18	21	13	7	4
Engels coefficient <sup>a</sup>	64	62	63	50	52	43	34	31
Agriculture/ Industry labor productivity ratio <sup>b</sup>	75	49	50	24	55	39	25	17
Farm/non-farm household income <sup>c</sup>	76	52	48	38	77	68	91	115
Agriculture/ Manufacturing Terms of Trade (1885=100) <sup>d</sup>	100	102	99	136	163	169	304	347
Ratio of agricultural imports to exports	0.7 <sup>e</sup>	3.9	8.4	7.7	na	16.6	12.4	22.4
Share of rice in urban household expenditure					13	10	4	2

Notes :

- The share of food consumption expenditure in total private consumption expenditure in current prices.
- The ratio of real GDP per worker in agriculture, forestry and fishery to real GDP per worker in mining and manufacturing.
- The ratio of average income per family member in farm households to that of urban worker households.
- The ratio of price index of agricultural products to the price index of manufacturing products.
- 1885-1900.

Sources ; Yujiro Hayami, *JAPANESE AGRICULTURE UNDER SIEGE : THE POLITICAL ECONOMY OF AGRICULTURAL POLICIES*, (Hampshire : The Macmillan Press, 1988), pp.20-1, Kym Anderson, 'Economic Growth, structural change and the political economy of protection', and Yujiro Hayami, 'The roots of agricultural protectionism', both in Kym Anderson and Yujiro Hayami *etal*, *THE POLITICAL ECONOMY OF AGRICULTURAL PROTECTION: East Asia in International Perspective*, p. 10, 33, and Kym Anderson, 'Growth of Agricultural Protectionism in East Asia' *Food Policy*, 8, (1983), p. 328.

ductivity ratio has moved in favor of industry from 75 to 17 in the period under consideration. Farm incomes after displaying a falling trend *vis a vis* non-farm incomes have outstripped the latter in 1980. The movement of the terms of trade clearly indicates that the prices of agricultural products have risen faster compared to industry. The weight of rice in the household expenditure has fallen to negligible levels.

Protectionism in Japanese agriculture is not of recent origin. Around the turn of the century Japan had become a net importer of rice. This was when farmers lobbied for import controls. Manufacturing and commerce groups opposed this as the price of rice was the major determinant of real wages in the non-farm sector. A tariff was imposed on rice imports in 1904. This protection rose till 1920 during which time the share of rice consumption from outside the Empire fell from 8% to 1%. The degree of protection fell in 1920s but increased in 1930s till mid-1930s when imports were prohibited. Around 1955, the degree of protectionism was similar to that in mid-1930s. Since then it has rapidly increased<sup>11</sup>. (cf. Table no.12)

However, we should never forget that Japanese domestic rice consumption during the 1930s was highly dependent (over 20%) on rice imported from Korea and Taiwan which were her colonies. In Japanese official statistics, this is not treated as imported rice (*yunyu mai*), but as rice transported (*inyu mai*) within the Japanese Empire<sup>12</sup>.

Protectionism in Japanese agriculture can to a large extent be explained if one traces the role played by rice as a wage good. Around the turn of the century rice accounted for one-half of Japan's farm income, two-thirds of the population's calorie intake and one-third of expenditures by urban blue collar workers<sup>13</sup>. The importance of rice in the Japanese diet continued, accounting for 60% of the calorie intake of the Japanese till World War II. Only in late 1960s did it

drop below 40%. Despite rapid growth in per capita incomes, the share of rice in the consumption expenditures of urban worker households did not drop below 10% before 1960 (cf. Table no.14). So it was critical for the industrial development of Japan before 1960 — when labor-intensive light industries predominated as export goods — to supply cheap rice to industrial workers to keep their living costs and wages low<sup>14</sup>.

During the 1950s, exports from Japan were still dominated by products of labor-intensive light industries such as textiles and toys. The balance of payments was the ceiling of the rate of industrial expansion and economic growth. Under such circumstances, rice policy was successful during the 1950s in contributing to industrial development by keeping low the price of the critical wage good, without causing a drain on foreign exchange and undue pressure on the national budget. This situation changed rapidly in the fifteen years following 1955. Per capita incomes trebled and reached Western European levels in this period. Both the industrial structure and export structure ceased to be dominated by labor-intensive industries. The Japanese exports rapidly lost the advantage of cheap labor. As real income levels increased, the share of rice in urban workers' consumption expenditure declined from 12.4% in 1955 to 4.3% in 1969. Rice as a wage good had decreased drastically in importance. The increase in incomes led workers to go for foodstuffs of a high-income elasticity nature. The volume of rice consumption fell. Most importantly, the economy had reached a stage when increases in the price of rice could be tolerated.<sup>15</sup>

The Fundamental Agricultural Law of 1961 had as its main goal the equalization of per capita incomes of agricultural and industrial workers. In 1960, the average farm household in Japan was earning 89% of what an average urban worker household was earning. The

**TABLE NO. 15 INDEXES OF COMPARATIVE ADVANTAGES OF AGRICULTURE (USA IN 1975=100) LABOR PRODUCTIVITY RATIO<sup>1</sup>**

	1955	1960	1965	1970	1975	1980
UNITED STATES	51.7	65.2	69.7	80.2	100.0	128.7
FRANCE	37.2	38.0	42.3	44.9	47.4	55.6
GERMANY (FED. REP)	41.3	40.7	44.4	54.1	54.2	62.6
ITALY	22.3	22.6	27.4	26.5	28.2	33.2
NETHERLANDS	39.2	45.5	44.7	45.3	53.0	65.1
UNITED KINGDOM	42.1	51.6	64.0	72.0	75.2	84.0
DENMARK	47.2	50.2	55.8	62.5	65.5	77.6
SWEDEN	31.0	30.8	34.1	41.3	51.2	49.7
SWITZERLAND	17.6	19.2	19.1	23.2	27.5	37.8
JAPAN	23.3	22.5	20.4	18.2	18.3	18.2

Notes : 1. Ratio of labor productivity in agriculture to average GDP per worker.

Source : Masayoshi Honma and Yujiro Hayami, 'Structure of Agricultural Protection in Industrial Countries', *Journal of International Economics*, vol. 20, no. 1/2, (February 1986), p. 122.

same ratio in terms of per household member was 68%<sup>16</sup>. Table no. 15 showing the International comparison of the scale of farming and the following Table no. 16 showing the indexes of comparative advantage of agriculture explain why beyond a point Japanese agriculture could not be internationally competitive.

The land productivity in Japan is among the highest in the world, though in labor productivity, the United States leads. This can largely be explained in terms of the use of large scale machinery in the US. Their use in Japan is restricted as the land area has been small. Benefits of economies of scale do not accrue to the Japanese farmers as they do to those in other developed nations. Around 1948, the favorable farm income situation was eroded not because farm incomes fell but because non-farm incomes grew more rapidly. Employment and output in the non-farm sector rose rapidly due to the massive recon-

**TABLE NO. 16 INTERNATIONAL COMPARISON OF THE GROWTH RATES OF LABOR PRODUCTIVITY IN AGRICULTURE AND MANUFACTURING, 1960 (1958-62 AVERAGES)-80 (1978-82 AVERAGES)**

	LABOR PRODUCTIVITY GROWTH RATE (%/YEAR) <sup>a</sup>		
	AGRICULTURE (1)	MANUFACTURING (2)	(1)-(2)=(3)
<b>DEVELOPED COUNTRIES</b>			
US	6.3	3.2	3.1
UK	5.5	2.6	2.9
FRANCE	6.4	4.2	2.2
GERMANY (FR)	7.7	4.1	3.6
JAPAN	5.3	6.7	-1.4
<b>DEVELOPING COUNTRIES</b>			
KOREA	4.0	7.5	-3.5
PHILIPPINES	3.2	3.5 <sup>b</sup>	-0.3
INDIA	1.3	2.1	-0.9

Notes :

- a. Calculated from the ratios of the real output index to the employment index.
- b. Growth rate 1960-75

Source : Yujiro Hayami, *JAPANESE AGRICULTURE UNDER SIEGE: THE POLITICAL ECONOMY OF AGRICULTURAL POLICIES*, (Hampshire : The Macmillan Press Ltd, 1988), p. 11.

struction programs and rapid rise in the internal trade. The Korean War helped Japan export more and part of the foreign exchange was used for food imports, which combined with the rising domestic production wiped out the black markets and reduced the prices received by farmers. While there was considerable growth in agricultural productivity, this was restricted by the small size landholdings. The net result was that by 1960 farm household incomes were well below those of non-farm households<sup>17</sup>. The following Table no. 16 serves to highlight the differences in the growth rates of labor productivity in both agriculture and manufacturing with some international comparisons.

As is readily obvious from Table no. 16, in the period 1960-80, Japan

had the highest labor productivity growth rate in manufacturing but the lowest in agriculture among developed countries.

What flows from the above discussion in this section is that agricultural protectionism is common to all countries at high levels of economic development. The degree of protectionism in Japan is high as the rate of economic development has been unusually rapid. That there is a positive correlation between a high rate of economic growth and an increasing degree of agricultural protectionism is borne out by similar experiences of Korea and Taiwan. (cf. Table no. 12) The very high price of food in Japan as compared to other developed nations can largely be explained by the loss of comparative advantage in agriculture.

The decreasing importance of food prices in household budgets as incomes grew ensured that political pressure from consumers and industrialists for low food prices diminished as rapid economic growth took place. Secondly, the declining relative importance of agricultural production and employment as the economy's industrial and other sectors expanded made it less and less costly politically for the government to succumb to farmers' demands<sup>18</sup>. The greater the cost of intersectoral labor adjustments corresponding to the shift in comparative advantage from agriculture, the greater the demand for agricultural protectionism. Simultaneously, the relative contraction of the agricultural sector makes it easier for agricultural producers to organize political lobbying and, at the same time, reduces the resistance of non-agricultural population against agricultural protectionism. Viewed thus, the abnormally high level of protectionism in Japanese agriculture is not based on some factor unique to Japan<sup>19</sup>.

**TABLE NO. 17 IMPORTS OF AGRICULTURAL PRODUCTS ON A VALUE BASIS (UNITS: \$ MILLION)**

	1991	1992	1993
<b>TOTAL</b>	<b>29,985</b>	<b>31,778</b>	<b>32,065</b>
<i>Agricultural Products</i>	19,279	20,599	21,134
Cereal grains and flours	4,345	4,660	4,507
Fruits and vegetables	4,321	4,720	4,986
Sugars	605	618	597
Coffee,cocoa,tea	1,098	1,002	1,020
Other foods and beverages	2,669	2,773	2,769
Vegetable fats and oils	2,373	2,555	2,705
Tobacco products	1,768	1,965	2,114
Other agricultural products	2,102	2,306	2,434
<i>Livestock Products</i>	8,029	9,000	9,214
Meats	5,475	6,459	6,833
Dairy products and eggs	860	838	837
Other livestock products	1,694	1,703	1,544
Silk Yarns	187	118	107
Natural Rubber, Cotton, Wool	2,489	2,060	1,610

Source : JETRO, *Japan's Agricultural Market 1995* (Tokyo : Japan External Trade Organization, June 1995), p3.

## JAPANESE IMPORTS OF AGRICULTURAL PRODUCTS

Paradoxical as it might seem the rapid rise in the protection of the Japanese agricultural commodities market has gone hand in hand with a rapid rise in the imports of agricultural commodities and a fall in the self-sufficiency rates for various agricultural products. The following Table no.17 indicates the value of various agricultural products imported by Japan in the recent past.

The US which is the major critic of the closed nature of Japan's agricultural products' market also happens to be the largest exporter of agricultural products to Japan as compared to other countries of the world. In the year 1993, it accounted for as much as 38.1% of the



total agricultural imports of Japan, with Australia a distant second at 9.1%. In the year 1993, the US was also the top exporter of forestry products and fishery products to Japan. It accounted for 28.0% of the forestry products and 16.7% of the fishery products (both on a value basis), imported by Japan in that year. The export of agricultural products from the US to Japan has been continuously rising for seven years upto 1993. If we consider the imports of agriculture, forestry and fishery products together on a value basis by Japan for the year 1993, by country of origin, it is the US which takes the top place with a share of 30.6% with Canada a distant second, with 7.2%<sup>20</sup>. The following Table no.18 gives the value of imports of agricultural products by Japan in the recent past from various countries.

**TABLE NO. 18 IMPORTS OF AGRICULTURAL PRODUCTS ON A VALUE BASIS, BY PLACE OF ORIGIN (UNITS: \$ MILLION)**

Exporter	1991	1992	1993	Ratio (%)	Rank
World Total	29,985	31,778	32,065	100.0	
USA	10,908	11,750	12,214	38.1	1
Australia	2,778	2,863	2,930	9.1	2
China	2,320	2,477	2,648	8.3	3
Taiwan	1,753	1,862	1,850	5.8	4
Thailand	1,420	1,631	1,598	5.0	5
Canada	1,475	1,598	1,504	4.7	6
France	1,197	1,190	1,136	3.5	7
Denmark	764	879	940	2.9	8
New Zealand	690	679	668	2.1	9
Brazil	582	693	665	2.1	10
<b>Top 10 exporters</b>	<b>23,887</b>	<b>25,623</b>	<b>26,153</b>	<b>81.6</b>	

Source : JETRO, *Japan's Agricultural Market 1995* (Tokyo : Japan External Trade Organization, June 1995), p4.

## WEIGHT OF FOOD IN THE FAMILY BUDGET

How much of a loser is the Japanese consumer because he buys

rice at inflated prices compared to the international prices? From the consumer's point of view, this question does not have much relevance today, as with the rapidly rising real income levels over the years, the share of food in the family's monthly spending has tended to fall as can be readily seen from the following Tables no.19 and 20. Food expenses which accounted for 38.1% of the monthly budget for all households (36.2% for workers' households) in 1965, steadily came down over the years and accounted for 25.4% of the monthly budget for all households (24.1% for workers' households) by 1990. Thus, an analysis of the data for family budget for all households category as well as the workers' households category shows that the food expenditure has shown a steady declining trend over the period 1965-1990. The combined share of expenditure on transportation and communication, education, reading and recreation has steadily increased in the same time period {cf. row (11) in both the tables} . In the period 1965-1990, this share increased from 14.5% of the family's monthly expenditure to 23.9% for the all households category (14.4% to 24.6% for the workers' households).

As a share of the total family's monthly expenditure on food the amount spent on rice had come down from 14.2% in 1965 to as little as 6.5% by 1990 for all households (12.5% to 6.2% for workers' households). Seen as a share of the total family monthly expenditure the amount spent on rice had come down from 4.3% to a minuscule 1.7% by 1990 for all households (4.0% to 1.5% for workers' households). This is in tune with the well-known Engels' Law.

So we find that in an era when the real income levels have been steadily rising, a). the weight of food in the family's monthly budget, b). the share of rice in the food expenditure and hence c). the share of rice in the overall monthly expenditure have all come down during this period. As can be seen from the two tables the share of expendi-

ture under the 'other living expenditure' category and the combined share of transportation and communication, education, reading and recreation have risen during this period. So the consumer does not seem to have been unduly exercised over the food expenditure which was a declining category in the family's budget. With the low and declining shares that rice represented in the food or in the overall

**TABLE NO. 19 DETAILS OF FAMILY BUDGET (YENS/MONTH) ALL HOUSEHOLDS (PERCENTAGES IN PARENTHESES)**

	1965	1970	1975	1980	1985	1990
(1) Living Expenditure	48,396	79,531	157,982	230,568	273,114	311,174
(2) Food	18,454 (38.1)	27,092 (34.1)	50,479 (32.0)	66,923 (29.0)	73,735 (27.0)	78,956 (25.4)
(3) Housing	2,143 (4.4)	3,871 (4.9)	7,683 (4.9)	10,682 (4.6)	12,686 (4.6)	14,814 (4.8)
(4) Fuel, light and water charges	2,397 (4.9)	3,494 (4.3)	7,097 (4.4)	13,225 (5.7)	17,724 (6.4)	17,147 (5.5)
(5) Furniture and household utensils	2,397 (4.9)	3,976 (4.9)	7,855 (4.9)	9,875 (4.2)	11,665 (4.2)	12,396 (4.0)
(6) Clothes and footwear	4,871 (10.1)	7,523 (9.4)	14,459 (9.1)	18,163 (7.8)	19,606 (7.1)	22,967 (7.4)
(7) Medical care	1,221 (2.5)	2,122 (2.6)	3,945 (2.4)	5,865 (2.5)	6,931 (2.5)	8,866 (2.8)
(8) Transportation and communication	1,707 (3.5)	4,134 (5.1)	9,635 (6.0)	18,416 (7.9)	24,754 (9.0)	29,469 (9.5)
(9) Education	1,886 (3.9)	2,173 (2.7)	4,345 (2.8)	8,235 (3.6)	10,853 (4.0)	14,471 (4.7)
(10) Reading and recreation	3,445 (7.1)	7,178 (9.0)	13,293 (8.4)	19,620 (8.5)	24,191 (8.8)	30,122 (9.7)
(11)=(8)+(9)+(10)	(14.5)	(16.8)	(17.2)	(19.2)	(21.8)	(23.9)
(12) Other living expenditure	9,875 (20.4)	17,967 (22.5)	39,190 (24.8)	59,474 (25.7)	70,970 (25.9)	81,966 (26.3)
(13) Expenditure on rice		3,487	4,659	5,822	6,233	5,144
(14) Expenditure on rice as a share of food expenditure		(14.2)	(9.2)	(8.7)	(8.4)	(6.5)
(15) Expenditure on rice as a share of total living expenditure		(4.3)	(2.9)	(2.5)	(2.2)	(1.7)

Source : Statistics Bureau, Management and Coordination Agency, Japan, *Annual Report on the Family Income and Expenditure Survey*, various years.

**TABLE NO. 20 DETAILS OF FAMILY BUDGET (YENS/MONTH) WORKER'S HOUSEHOLDS (PERCENTAGES IN PARENTHESES)**

	1965	1970	1975	1980	1985	1990
(1) Living expenditure	49,335	82,582	166,032	238,126	289,489	331,595
(2) Food	17,858 (36.2)	26,606 (32.2)	49,828 (30.0)	66,245 (27.8)	74,369 (25.7)	79,993 (24.1)
(3) Housing	2,420 (4.9)	4,364 (5.2)	8,419 (5.0)	11,297 (4.7)	13,748 (4.7)	16,475 (4.9)
(4) Fuel, light and water charges	2,375 (4.8)	3,407 (4.1)	6,859 (4.1)	12,693 (5.3)	17,125 (5.9)	16,797 (5.0)
(5) Furniture and household utensils	2,502 (5.0)	4,193 (5.0)	8,243 (4.9)	10,092 (4.2)	12,182 (4.2)	13,103 (3.9)
(6) Clothes and footwear	4,949 (10.0)	7,653 (9.2)	14,933 (8.9)	17,914 (7.5)	20,176 (6.9)	23,902 (7.2)
(7) Medical care	1,221 (2.4)	2,141 (2.5)	3,957 (2.3)	5,771 (2.4)	6,814 (2.3)	8,670 (2.6)
(8) Transportation and communication	1,739 (3.5)	4,550 (5.5)	10,915 (6.5)	20,236 (8.4)	27,950 (9.6)	33,499 (10.1)
(9) Education	1,947 (3.9)	2,212 (2.6)	4,447 (2.6)	8,637 (3.6)	12,157 (4.1)	16,827 (5.0)
(10) Reading and recreation	3,483 (7.0)	7,619 (9.2)	14,080 (8.4)	20,135 (8.4)	25,269 (8.7)	31,761 (9.5)
(11)=(8)+(9)+(10)	(14.4)	(17.3)	(17.5)	(20.4)	(22.4)	(24.6)
(12) Other living expenditure	10,842 (21.9)	19,837 (24.0)	44,351 (26.7)	65,105 (27.3)	79,699 (27.5)	90,569 (27.3)
(13) Expenditure on rice		3,323	4,424	5,607	6,107	4,971
(14) Expenditure on rice as a share of food expenditure		(12.5)	(8.9)	(8.5)	(8.2)	(6.2)
(15) Expenditure on rice as a share of total expenditure		(4.0)	(2.6)	(2.3)	(2.1)	(1.5)

Source : Same as Table no. 19

expenditure category has made rice an easily affordable commodity despite its high price. Hence opposition to the high price of rice in Japan has been greatly softened.

## CONCLUDING REMARKS

So what should be the direction of Japanese agriculture for the future? Should Japanese agriculture be let to wither away in the pursuit of comparative advantage and free trade? Or are there convincing reasons for resisting the further liberalization of Japanese agriculture?

The statement that the Japanese pay very high prices for their food compared to the people in other developed nations can be questioned. We can raise doubts on the usage of absolute domestic prices in judging whether the Japanese foodstuffs are expensive or not. The following table no. 21 shows the number of hours that various nationals of the advanced countries have to work so as to be able to pay for their food expenses for one year per person.

**TABLE NO. 21 HOURS TO BE WORKED TO PAY FOR ONE YEAR'S FOOD EXPENSE FOR ONE PERSON**  
(UNIT : HOURS)

	1975	1980	1984
USA	181.6 (240.4)	181.7 (246.9)	167.0 (231.0)
JAPAN	207.9 (255.1)	194.5 (246.6)	188.4 (248.9)
FORMER WEST GERMANY	— (248.3)	— (242.2)	— (239.5)
UNITED KINGDOM	211.9 (315.8)	209.9 (324.4)	191.5 (306.6)
ITALY	286.2 (347.4)	243.2 (302.2)	253.9 (325.4)

Note : 1. Food expenses includes expenses on drinks and cigarettes but excludes eating outside.

2. Figures in parentheses include eating outside expenses.

Source : Soshiro Nakagawa, 'Seisansei kojo de nogyo saiken', (Rebuilding agriculture through productivity increases), *Nihon Keizai Shimbun*, 9 July 1987.

A very different kind of picture emerges when we see the food expenses using the yardstick of working hours required to pay for

them. Over the years 1975-1984, the general tendency seems to be that people in developed nations needed less of working hours to pay for their food expenses. In other words, food has been becoming more and more affordable. This is in tune with the trend we saw in detail for Japan earlier. For the year 1984, the Japanese needed to work a little more than the Americans to pay for their food. Even when we include the eating outside expenses in the calculations, the basic trends do not change. It will be difficult to conclude that Japanese food expenditure is higher compared to that seen in other developed nations.

**TABLE NO. 22 CONSUMER PRICE OF RICE (WHITE RICE, YENS/KG)**

YEAR	EXCHANGE RATE YEN TO \$	JAPAN (YEN/KG)	USA (YEN/KG)	THAILAND (YEN/KG)	JAPAN/ USA	JAPAN/ THAILAND	USA/ THAILAND
1980	226.74	325	256(1.12)	73	1.3	4.5	3.5
1985	238.54	376	248(1.03)	72	1.5	5.3	3.5
1987	144.64	391	129(0.89)	45	3.0	8.7	2.9
1988	128.15	378	137(1.06)	47	2.8	8.0	2.9
1989	137.96	372	152(1.10)	54	2.4	6.9	2.8
1990	144.79	372	158(1.09)	65	2.4	5.7	2.4
1991	134.71	370	150(1.11)	59	2.5	6.3	2.5

Note : Figures in parentheses in column 4 represent the price of rice per kg in dollars.

Source : Hisashi Inoue, *Doshitemo kome no hanashi (On Japanese rice)*, (Tokyo : Shincho Bunko, 1993).

Likewise, a look at Table no. 22 reveals the fact that Japanese rice is not all that high priced as it is made out to be. Between the years 1980 and 1991, Japanese rice fluctuated between a high of 391 Yens and a low of 325 Yens per kg. American rice meanwhile was in the range of \$0.89 to \$1.12 during the same period. But when the American rice price is converted into Yens it shows a fall over the years mentioned. To put it differently, Japanese rice rose from 1.3 times to 2.5 times the price of American rice. But we know, by looking at Table no. 22 that neither did the price of Japanese rice increase substantially, nor did the price of American rice fall appreciably in this

period. How does one then account for the rise in the price of Japanese rice in comparative terms? This is explained by the Yen-Dollar exchange rate. During this period it fell from about 226 Yens to the Dollar to 134 Yens to the Dollar. Thus when American rice price is converted to Japanese Yens using the current exchange rate, we get a misleading picture of Japanese rice becoming progressively more expensive.

The differences among the Japanese scholars in interpreting what had taken place till now which has led to agricultural protectionism in Japan seem to be relatively less intractable compared to their perceptions on what should be the path that Japan should take for the future. Here we will restrict our discussions to analyzing the viewpoints of Yujiro Hayami, a Japanese scholar who has extensively written on Japanese agriculture and who can be said to be a leading representative of the academic group which is pro-liberalization.

Hayami holds that, "... it would not be very effective to increase the food self-sufficiency rate ignoring considerations of comparative advantage". Further, "... any attempt to raise Japan's self-sufficiency to a meaningful extent would necessarily entail socially unacceptable costs. It is rather more meaningful to diversify import sources and to cooperate with international stockpiling programmes"<sup>21</sup>. It is not very clear how considerations of comparative advantage can be allowed to take precedence over the food security concerns. It will be difficult to provide 'a logical basis' for the way astronomical amounts of money have been spent on perceived security threats by so many nations. Maintaining a meaningful self-sufficiency rate for food would be a legitimate security concern of any nation. Responses to perceived security threats are not always going to be motivated by comparative advantage considerations, nor is there

any valid reason that they should be so.

The US would like to believe that it is a champion of free trade, but where it feels arm-twisting others would be favorable to its interests, free trade considerations have not been allowed to hold sway. The recent negotiations with Japan on opening its market for the import of automobile parts is an example. There is no reason why Japan cannot keep its market closed to certain agricultural commodities when it feels its agriculture, already fragile and diminishing is in real danger of getting wiped out.

Whether raising self-sufficiency rates will lead to socially unacceptable costs is questionable. In the early stages of modern economic growth, the contribution of Japanese agriculture to the modernization efforts has been immense and there is a good amount of literature on this topic. In fact many meaningful lessons for the developed nations based on a study of Japanese experience have been drawn. Now that agriculture has played its useful role and made its contribution to economic development, it is probably time for the non-agricultural sectors to play the supportive role to agriculture at this stage of high level of economic development. Strict application of cost considerations on the basis of comparative advantage may not be very meaningful here.

There is an argument that the liberalization of Japanese agriculture will result in the survival of only the competitive farmers and hence the prices of agricultural products will drop significantly. This is questionable because the costs in agricultural production cannot fall significantly and hence it is difficult to see how the prices will drop. The costs cannot be reduced because the input prices are high by world standards. The prices of fertilizers, feed etc. in Japan are higher than world prices and the price of tractors also is high reflecting an oligopoly situation. With input prices being high the costs of



agriculture remain high. Hence prices remain high and it is not going to be easy reducing them. Secondly, manufacturers, processors, distributors add 69% to the price of food in Japan. So any price reduction of food means that one has to reduce prices of input goods from non-agricultural sector in addition to that in the agricultural sector<sup>22</sup>.

We had traced the general decline of Japanese agriculture in the past few decades in the opening section of this paper. The weight of agriculture in the economy has come down rapidly. The productivity rates of agriculture have so far shown respectable increases, but one can see that the performance of the non-agricultural sector will be better than that of agriculture in the coming years too. The rate of technological change in agriculture can never match that in industry and hence the productivity differential will persist if not increase. The small scale of Japanese farms is going to be a major impediment to any major breakthrough in productivity rises. It is difficult to visualize the consolidation of the farm lands into large units, with the price of land being so high. The rates for self-sufficiency have not shown any inclination to improve. Seen on an international basis too Japan comes off very poorly in comparison with other developed countries. The impression that Japanese agricultural commodities market is closed to outsiders flies in the face of the fact that Japan is the largest importer of agricultural products in the world.

A revival of Japanese agriculture is made all the more difficult by the composition of labor force engaged in it. The share of persons 65 years and above in the labor engaged in agriculture has been rising and now account for well over one third of the total labor force in agriculture. By all indications, this trend is going to continue sapping the vitality of agriculture. The youth taking up agriculture as their occupation have fallen to abysmally low levels. The rise in part-time farming is not helping any either.

The rapid decline of the weight of agriculture in the economy, the large rise of agricultural imports, the fall in the self-sufficiency rates have all taken place quite recently. The productivity gap with industry has continued and the scale of farming has not improved. The labor force in agriculture after steady decline in numbers now seems to be qualitatively also lacking in vitality. Viewed thus, one understands the decline and fragility of Japanese agriculture. And it becomes clear why in Japan in addition to the voices calling for the further liberalization of Japanese agricultural market, there is a chorus opposing it.

- 1) Though a few would claim that even in the literature available in the Japanese language, there is not enough discussion on this issue by the two contending camps. See Masaru Morishima *Nihon no Kome ga Kieru* (The rice of Japan will vanish), (Tokyo : Tokyo Newspapers Publishers Board, 1993), p. 5.
- 2) All of the Japanese materials we have used in writing this paper are easily available to the ordinary Japanese and obviously to the interested foreigner.
- 3) Hillman, Jimmie S. and Rothenberg, Robert A. *Agricultural Trade and Protection in Japan*, (Hampshire : Gower Publishing Company, 1988), p. 18.
- 4) Japan External Trade Organization, *Japan's Agricultural Market 1995*, (Tokyo : JETRO, June 1995), p8-9.
- 5) Yujiro Hayami, *JAPANESE AGRICULTURE UNDER SIEGE: THE POLITICAL ECONOMY OF AGRICULTURAL POLICIES*, (Basingstoke, Hampshire and London : The Macmillan Press, 1988), p. 4.
- 6) Hayami, Yujiro, *Ibid* p. 5.
- 7) *Ibid*, pp8-10.
- 8) Anderson, Kym 'Economic Growth, structural change and the political economy of protection' in Kym Anderson and Yujiro Hayami *etal*, *THE POLITICAL ECONOMY OF AGRICULTURAL PROTECTION : East Asia in International Perspective* (North Sydney : Allen & Unwin Australia Pvt Ltd, 1986)pp. 7-8.
- 9) *Ibid*.
- 10) *Ibid*.
- 11) Kym Anderson, Yujiro Hayami and Masayoshi Honma, 'The growth of agricultural protection', in Kym Anderson and Yujiro Hayami *etal*, *THE POLITICAL ECONOMY OF AGRICULTURAL PROTECTION : East Asia in Interna-*

- tional Perspective*, (North Sydney : Allen & Unwin Australia Pvt Ltd, 1986), pp. 18-21.
- 12) For example see Teruoka Shuzo ed., *Nihon Nogyoshi (History of Japanese Agriculture)*, (Tokyo: Yuhikaku, 1981) pp. 126-28.
  - 13) Kym Anderson, 'Growth of Agricultural Protection in East Asia', *Food Policy*, 8 (1983), pp. 327-36.
  - 14) Yujiro Hayami, 'Rice policy in Japan's Economic Development', *American Journal of Agricultural Economics*, vol. 54, no. 1, (February 1972), pp. 19-31.
  - 15) *Ibid.*
  - 16) Yujiro Hayami, footnote no 4. pp. 92-3.
  - 17) Aurelia George and Eric Saxon, 'The Politics of Agricultural Protection in Japan', in Kym Anderson and Yujiro Hayami etal, *THE POLITICAL ECONOMY OF AGRICULTURAL PROTECTION : East Asia in International Perspective*, (North Sydney : Allen & Unwin Australia Pty Ltd, 1986), pp. 91-2.
  - 18) Kym Anderson and Yujiro Hayami, 'Introduction', *Ibid*, p. 3.
  - 19) Masayoshi Honma and Yujiro Hayami, 'Structure of Agricultural Protection in Industrial Countries', *Journal of International Economics*, vol. 20, no. 1/2, (February 1986), pp. 115-29.
  - 20) JETRO, *JAPAN'S AGRICULTURAL MARKET 1995*, (Tokyo : Japan External Trade Organization, June 1995)pp. 2-6.
  - 21) Hayami, Yujiro, footnote no. 4, p. 121.
  - 22) Kuroyanagi, Toshio, *Economic Effects of Agricultural Policies in Japan*, (Sapporo, Japan : Fuji Printing, 1991).