Thursday, October 5, 2000
Morning Session: WTO Millennium Round Issues

Reforming Japan's Agricultural Policies

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Abstract

Despite strong demand for Japan to open its rice market, Japan tried to maintain autarky in rice till the last moment of the Uruguay Round negotiation. Even now, its rice market is effectively protected by an extremely high (*de facto* prohibitive) tariff rate. In this paper, we attempt to examine the political dynamics of Japanese rice policy and clarify the reason of Japan's stubborn attitude on its rice market. For that purpose, I estimate PSE (Producer Support Estimate), CSE (Consumer Support Estimate) and DWL (Dead Weight Loss), and conduct a simple simulation analysis regarding to major rice policies. In conclusion, I point out that the introduction of free trade to Japanese rice market would nullify the traditional rice protection policies and bring desirable impacts on Japanese economy.

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The author thanks Robert Stern, Yujiro Hayami and other seminar participants for helpful comments.

1. Introduction

In the Uruguay Round (UR) negotiation, liberalization of rice imports was the most serious problem for the Japanese government. Because of policies aiming at self-sufficiency of rice, Japan's rice market had been principally closed to foreign countries for nearly three decades. Despite strong demand for Japan to open its rice market, Japan kept seeking for the way to maintain its "self-sufficiency of rice" policy till the last moment of the UR negotiation. Considering that Japan expected to receive the large benefit from the successful conclusion of the Round, Japan's attitude on the rice market may look incomprehensible especially to foreigners.

The tariffication by which all existing non-tariff barriers are converted into bound duties is a key element regarding market access in the Agreement on Agriculture embodied in the UR Final Act in 1994[2]. Yet, in the Agreement, Japan managed to make rice exempt from the tariffication for a six-year grace period from 1995 to 2000, by giving compensation in the form of increased "minimum access" import quotas, from 4 percent of its domestic rice consumption in 1995 to 8 percent by 2000, while the minimum access obligation under tariffication is graduated only from 3 to 5 percent within the six-year period. In 1999, Japan changed its tactics again:

Japan employed "dirty tariffication" whereby they tariffication rice imports with an extremely high (de facto prohibitive) tariff rate[3] and reduced the minimum access rice quota as of 2000 to 7.6 percent of its domestic rice consumption.

In this way, the current situation of Japanese rice market is far from the original purpose of the GATT/WTO rule. Yet, with growing international pressure for free trade, it is unlikely that Japan can maintain such strong protections on rice in the long run. In that sense, "clean tariffication" --- liberalization of imports with a reasonable tariff rate that exactly fill up the border price difference and sequent reduction of tariff rate --- will soon be demanded in the future international trade negotiations.

In consideration of this background, this paper attempts to answer the following five questions: (1) What kind of political dynamics underlie Japan's rice policy? (2) Why has Japanese government strongly opposed rice market opening (in particular tariffication) ? (3) What was the economic impact of the minimum access rice imports that began in 1995? (4) What will happen in Japan's rice sector if "clean"

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[2] For details, see International Agricultural Research Consortium (1994).

[3] In 1999, Japan tarifficate rice imports with 351.17 yen per kilogram specific duty. This tariff is so high that only a negligible volume of rice was imported beyond minimum access quota in 1999. Yet, it should be noted that Japan is not a special case of "dirty tariffication." Many importer countries employ similar "dirtily" high tariffs on foreign farm products (see, Josling, Tangerman and Warley (1996)).

tariffication is adopted? (5) What is the desirable agricultural policy reform of Japan?

Following this introduction, Section 2 advances an overview on Japan's rice policy from the 1960s to 90s. Section 3 analyzes political dynamics of Japanese rice policy by estimating Producer Support Estimate (PSE), Consumer Support Estimate (CSE) and dead weight loss (DWL)[4]. Section 4 summarizes findings and considers the desirable ways of Japan's agricultural policy reform.

2. Overview of Japanese rice policy from the 1960s to 1990s

2.1 Political importance of rice

In spite of its slowly decreasing importance in the agricultural sector, rice still remains the dominant crop in Japan. As of 1997, rice shares 41.4 percent of total agricultural land use and 38.3 percent of the total crop production. 2.3 million farmers, 66.8 percent of the total number of farmers, are planting rice[5]. In this way, protecting rice

[4] Previously, PSE and CSE were used as the abbreviations of "Producer Subsidy Equivalent" and "Consumer Subsidy Equivalent" respectively. In order to reflect as closely as possible as the underlying definitions, it was agreed in 1998 to replace "Subsidy Equivalent" by "Support Estimate" in the names of indicators (OECD (1999), p.18).

[5] These figures are taken from 1995 Agricultural census.

farming is considered almost analogous of protecting farmers.

Throughout the postwar era, farmers have been attractive to politicians as a voting group. As is the case of Korea and Taiwan, farmers in Japan tend to live in the same place from generation to generation and interact closely. In addition, the number of registered voters per member of the House of Representatives is small in rural area and large in urban area. So, not only ruling parties but also opposition parties are difficult to oppose farmers' interests[6].

Consumers' emotional reaction to anything that damages paddy field is another factor that supports the government's rice protection policy.[7] Consumer's tolerance on agricultural protection is common among affluent economies and Japan is no exception.[8] Moreover, just like Korea's case, Japanese consumers often express their belief in the importance of policies pertaining to the self-sufficient production of rice. This is not only because Japanese people are concerned with food security and

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[6] For example, Japanese Diet adopted unanimous resolutions requiring the government to firmly maintain rice import prohibition three times in the 1980s.
[7] A symbolic example is then Prime Minister Hosokawa's special press remark on December 15, 1993, the time limit of the UR final agreement. Confronting disquieting political atmosphere, Mr. Hosokawa offered a public apology for his government's failure in pertaining rice imports prohibition.
[8] It should be noted that consumers' tolerance on agricultural protection is only the case of wealthy nations. For example, in the prewar period when the international competitive power of Japanese manufacturing sector had been still weak and dependent largely on cheap laborer, any hike of rice price created severe political denouncement. More precise international comparison analyses about the consumers' tolerance on agricultural protection policy are given in Hayami (1988) and Honma and Hayami (1986).

ecological problems[9], but also because rice has an important social and cultural significance for many Japanese (for example, see Yoshioka (1988)). Of course, consumers' sympathy for rice protection policy is not unconditional. As can be seen below, Japanese citizens, who are tolerant about rice protection policy as consumers, resist against protection as taxpayers if its budgetary cost becomes excessively large.[10]

2.2 Food Control Law and Food Agency

The Food Control Law, which was originally introduced in 1942, had stipulated the rules of rice marketing till 1994. According to this law, the Food Agency, an extra-ministerial bureau of the Ministry of Agriculture, Forestry and Fisheries was in charge of managing all the rice distribution. Before 1970, all rice but that for farmers' home consumption (including rice used as gifts to their relatives) was supposed to be purchased and resold by the Food Agency at official prices (so-called "government procurement price" and "government sale price").

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[9] Paddy field in Japan is widely believed to have many ecological benefits such as prevention of floods and soil erosion.

[10] Another political opposition to expenditure of rice policy is evoked from the Ministries other than the Ministry of Agriculture, Forestry and Fisheries. Since those Ministries compete with each other for acquiring budget from the national treasury, they are intolerant of lavishing much money in rice policy.

The Food Control Law imposed meticulous regulations on rice traders, too. Agricultural cooperatives and their associations were designated as monopolistic official rice collecting agencies. Rice wholesalers and retailers must be also designated by the Food Agency or the local governors. Even retailers' branch allocations and buying routes also must be approved by the Food Agency.

2.3 Rice price support in the 1960s

From the late 1950s through the 1960s, when the Japanese economy enjoyed the two-digit growth rates, the most serious issue in agricultural policy was income gap between farm households and urban worker households. As is often the case of rapid industrialization, agriculture became the inferior sector of the economy. Accordingly, the income level of farm households fell far behind that of urban working households. This problem became politically intolerable level in the late 1950s.

To counteract the increasing income gap, the government implemented rice price support policy. Because all the rice was then procured by the Food Agency, the producer price could be increased by raising the government procurement price. In 1960, the government employed a new rice price-determination formula called the

"Production Cost Compensation Program" whereby the government procurement price was determined so as to cover the cost of rice production for which unpaid family labor was calculated by the wage rate in the manufacturing sector. Under this formula, the government procurement price hiked, corresponding rapid rises in the wages in the manufacturing sector. Because the government sale price increased after a few years' time lag, the government rice marking was operated at a loss. Simultaneously, the border price of rice increased sharply, resulting in employing an embargo on the import of rice.

2.4 Implementation of new channel of rice distribution and acreage control program in 1970

The national budgetary burden for rice price support peaked in the early 1970s. This coincided the ending of the two-digit growth of Japanese economy. In addition, the income disparity between farm households and urban worker households almost disappeared around 1970 as a result of the government's rice price support policy and increased income from off-farm employment. In this circumstance, public

opinion became harsh to the rice policy[11]. The government got a great pressure to cutback the deficit for government rice marketing.

However, because of farmers' strong resistance, the government could not lower the government procurement price of rice significantly. Instead, the government launched two measures to reduce the fiscal expenditure on rice marketing. First, the government allowed the official rice wholesalers to purchase rice directly from agricultural cooperatives by bypassing the Food Agency. This type of rice was called voluntary distributed rice. This new system encouraged production of high quality rice (good taste rice) that could not be priced adequately in the official grading system. By saving the volume of the Food Agency's rice trade, introduction of this new channel of rice distribution helped to curb the government expenditure.

Another measure for curbing the national budgetary burden was acreage control program. This program can be seen as a government-led rice production cartel. The government at first sets the target acreage that should be diverted from rice planting so as to prevent excess supply of rice. With the collaboration of agricultural cooperatives, the target acreage is allocated into all the villages in Japan.

Interestingly, this program was conducted according to the administrative

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[11] So-called "3Ks" that hurt the national treasury (3K indicates *Kome* (rice), *Kokutetsu* (national railway) and *Kempo* (national health insurance)) have been one of the most

guidance of the Ministry of Agriculture Forestry and Fisheries without any legal basis of written law (nor legal enforcement)[12]. While the Ministry gave financial support to rice farmers according to the acreage diverted from rice planting, it did not fully compensate the reduction of rice income at the micro-economic level. Yet, in aggregation, the cartel effect of acreage control program contributed to rice farmers' benefit by maintaining high rice prices (numerical evidence is shown in Section 3). So, persuaded that acreage control was inevitable to protect the total benefit of rice farming, an overwhelming majority of farmers participated in the program. While this acreage control program was originally introduced in 1970 as an emergency (or impermanent) countermeasure against the excess accumulation of old rice stock, it has continued till now. Currently, nearly one-third of the total paddy fields is diverted from rice planting based on acreage control program.

2.5 Replacement of the Food Control Law by the New Food Law in 1994[13]

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outstanding issues in the political debates in the 1970s.

[12] As described in the following section, acreage control program got a legal basis of a written law in 1994.

[13] Exactly speaking, New Food Law was established on December 14 in 1994 and became fully effective on November 1 in 1995. This section depends on Morita's study on the New Food Law (Morita (1996)) as a reference.

By the early 1990s, the provisions of the Food Control Law had become so outdated and unrealistic that even authorized rice dealers were unable to observe the rules. For example, if rice retailers wanted to have a good line-up of brand rice, they went to free rice market that the Food Agency did not recognize officially. Simultaneously, a large number of unauthorized rice traders entered the business without the Food Agency's approval and became popular among consumers. In this way, the Food Control Law was destined to be abrogated irrespective of the UR negotiations.

Still, the UR agreement provides a good occasion for abolishment of the Food Control Law. In 1994, the same year of the formal signing of the Final Act of the UR at Marrakech, the New Food Law was established in place of the Food Control Law. Although the government deliberately announced that the new law brought fundamental changes in rice production and rice market, there was nothing more than ratification of actual situation. More precisely, the New Food Law gave an official recognition on free trade of domestic rice. Yet, the existing rice distribution system and the controllability of the Food Agency were also maintained under the New Food Law. Agricultural cooperatives also remained their monopolistic position in rice collection. In addition, the new Law provided a legal basis for acreage control program that had been formerly conducted only by the ministerial guidance.

2.6 The UR agreement and Japan's rice market opening

In December 1991, Arthur Dunkel, the Director General of the GATT, submitted the "Dunkel Final Plan", which was the basis for the UR final agreement. According to the Dunkel draft, all nontariff barriers must be replaced by tariffs in 1995 and, then, the tariff rate must be reduced by 36 percent on the average with a minimum of 15 percent for individual commodities within a 6-year period from 1995 to 2000. In the case of farm products which have been protected from imports like rice in Japan, tariffs must be introduced in 1995 with bound tariffs equivalent to the differences between domestic and international prices. Adding to that, a minimum access obligation is imposed, starting from 3 percent of base year domestic consumption and rising to 5 percent within the 6-year period.

The Japanese government tried hard to maintain autarky in rice throughout the UR negotiations. This stubborn attitude put Japan in danger of failing to join the final agreement. But immediately before the time limit of the final agreement, the government changed the strategy and made the maximum efforts to avoid tariffication. Their efforts succeeded in making rice exempt from tariffication in a 6-year grace

period from 1995 to 2000. As a compensation, Japan accepted to increase minimum access imports, starting at 4 percent of domestic consumption in 1995 and rising to 8 percent by 2000.

Japan's refusal of tariffication of rice was problematic even among the people who are sympathetic to rice protection. Since the government accepted the larger amount of minimum access rice imports, the total imports of rice were expected to become larger than in the case of "Dunkel Final Plan."[14] In other words, if the government really wanted to protect Japan's rice farming, they should have accepted the Dunkel plan.

Then, why did the government so tenaciously refuse the tariffication of rice? A likely answer is that the real objective of the government was not to protect Japan's rice farming but protect the benefit of the Food Agency and the related rice traders. In the case of "clean tariffication," since anyone would be able to import rice so long as they pays the tariffs, the regulatory power of the Food Agency and monopolistic power of the related rice traders will be lost. The expansion of the minimum access rice imports would benefit the national budgetary too because the government gets the revenue to the extent of mark-up on the border rice price.

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[14] The economic effects of Japan's postponement of tariffication on rice were examined in Hayami and Godo (1998) by means of a simple simulation analysis.

In 1999, Japan changed tactics again; Japan tariffficated rice under the condition of charging an extremely high tariff rate on imported rice (A kind of so-called "dirty tariffication") and curbing the total amount of minimum access rice imports down to 7.5 percent as of 2000. This can be seen as an opportunistic attitude of the government; they feared that increasing amount of minimum access rice imports would depress domestic rice price with the result that they loose rice farmer's support to their rice policy.

3. Evaluation of Japanese rice policy in terms of PSE, CSE and DWL

3.1 Definition of PSE and CSE

In this paper, Producer Support Estimate (PSE) and Consumer Support Estimate (CSE) as well as dead weight loss (DWL) are focused on in order to evaluate economic effects of rice protection policies. PSE and CSE are the indicators that the OECD adopted so as to caliber the level of support to agriculture (OECD(1999), pp. 18-22, 84-98). PSE is defined as the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, arising from policy measures

which support agriculture. Likewise, CSE is defined as the annual monetary value of gross transfers to (from) consumers, rising from the policy measures. Note that, in the case of protecting farmers at the expense of consumers, CSE is negative while PSE is positive.

3.2 Model

The setup of the rice market in this paper is specified as follows.

Demand for rice: $q_d = Ap_d^{-\alpha}$

Supply of domestic rice: $q_s = B(1-\theta)p_s^{\beta}$

Price support by the national budgetary[15]: $(p_s - p_d)\, q_s - (p_d - p_w)m = X$

Market equilibrium condition: $q_s + m = q_d$

Subsidy for participants of the acreage control program: D

where q_d and q_s are quantities of demand and supply, respectively; p_d and p_s are consumer's and producer's price of rice respectively; p_w is the world price of rice; θ is target rate of acreage control (the ratio between the target acreage of diversion and the

[15] There is no explicit rule about how the revenue from minimum access rice imports should be used. In this paper, for reasons of convenience, the revenue is assumed to be used for domestic rice price support. Because the total amount of rice imports is very limited so far, this assumption is not critical in my simulation.

total acreage of paddy field); $-\alpha$ and β are price elasticities of demand and supply respectively; A and B are constants; x is the fiscal expenditure for domestic rice marketing; m is the volume of rice imports. For reasons of simplicity, D *and* x are assumed to be financed by levying direct tax to consumers (i.e., rice farmers are assumed to have no tax burden)[16]. In this case, the subsidy for participants of the acreage control program (D) is regarded as the lump-sum income transfer from consumers to rice farmers (there is no affects on the resource allocation). θ, x, m and D are determined by the government. p and q are determined at the market equilibrium.

Based on this model, this paper attempts to estimate the economic effects of the following four policies;

Policy (1): fiscal expenditure for domestic rice marketing

Policy (2): subsidies to participants in acreage control program

Policy (3): rice production cartel by acreage control program

Policy (4): rice import prohibition

Here, note that budgetary policies (Policies (1) and (2) that are attended with

[16] Because Japanese tax system is favorable to farmers, their tax burden is significantly low compared with other types of household (See Ito (1992) p.153).

fiscal expenditure) are distinguished from non-budgetary policies (Policies (3) and (4) that are not attended with fiscal expenditure). For that purpose, acreage control program is divided into two policies according to whether fiscal expenditure arises or not.

In order to evaluate those policies, the following four scenarios are simulated.

Scenario 1: all of Policies (1)-(4) are employed; this is the actual case.

Scenario 2: Policies (2)-(4) are employed while Policy (1) is not (x is assumed to be zero).

Scenario 3: Policy (4) is employed while Policies (1) – (3) are not (θ, D and x are assumed to be zero).

Scenario 4: None of Policies (1)-(4) is employed; this is the case of the perfect liberalization (θ and x are assumed to be zero; p_d and p_s are equivalent with the world price; m is determined endogenously as $m = Bp_w^{\beta} - Ap_w^{\alpha}$).

For Scenarios 2 and 3, the equilibrium prices (denoted by p' and p'' respectively) are given by the following equations:

$$p' = \left\{ \frac{A}{B(1-\theta)} \right\}^{\frac{1}{\alpha+\beta}}$$

$$p'' = \left(\frac{A}{B} \right)^{\frac{1}{\alpha+\beta}}$$

Using these prices, producer's surplus (denoted by PS) and consumer's surplus

(denoted by CS; normalized zero for the case of the perfect import liberalization of rice) are given by the following equations (subscripts 1-4 denote the corresponding scenarios):

$$PS_1 = \int_0^{p_s} B(1-\theta)p^{\beta}dp$$

$$CS_1 = \int_{p_d}^{p_w} Ap^{-\alpha}dp$$

$$DWL_1 = (p_s - p_d)B(1-\beta){p_s}^{\beta} + \int_{p_w}^{p_d} Ap^{-\alpha}dp + \int_0^{p_w} Bp^{\beta}dp - \int_0^{p_s} B(1-\theta)p^{\beta}dp - (p_d - p_w)m$$

$$PS_2 = \int_0^{p'} B(1-\theta)p^{\beta}dp$$

$$CS_2 = \int_{p'}^{p_w} Ap^{-\alpha}dp$$

$$DWL_2 = \int_{p_w}^{p'} Ap^{-\alpha}dp + \int_0^{p_w} Bp^{\beta}dp - \int_0^{p'} B(1-\theta)p^{\beta}dp$$

$$PS_3 = \int_0^{p''} Bp^{\beta}dp$$

$$CS_3 = \int_{p''}^{p_w} Ap^{-\alpha}dp$$

$$DWL_3 = \int_{p_w}^{p''} Ap^{-\alpha}dp - \int_{p_w}^{p'} Bp^{\beta}dp$$

$$PS_4 = \int_0^{p_w} Bp^{\beta}dp$$

$CS_4 = 0$

$DWL_4 = 0$

Then, the total levels of PSE, CSE, and DWL and their breakdown among Policies (1) – (4) are given as follows;

PSE (total value)=PS_1-PS_4+D

PSE caused by Policy (1) = PS_1-PS_2

PSE caused by Policy (2) = D

PSE caused by Policy (3) = PS_2-PS_3

PSE caused by Policy (4) = PS_3-PS_4

CSE (total value)=CS_1-CS_4–x - D

CSE caused by Policy (1) = CS_1 -CS_2–x

CSE caused by Policy (2) = –D

CSE caused by Policy (3) = CS_2 –CS_3

CSE caused by Policy (4) = CS_3-CS_4

DWL (total value)=DWL_1

DWL caused by Policy (1) = DWL_1 –DWL_2

DWL caused by Policy (2) = 0

DWL caused by Policy (3) = DWL_2 –DWL_3

DWL caused by Policy (4) = DWL_3

Besides absolute levels of PSE, CSE and DWL, their ratios to the total value of rice production or consumption (defined as “PSE ratio,” “CSE ratio” and “DWL ratio”) are also estimated by the following equations.

PSE ratio = PSE/$p_s q_s$

CSE ratio = CSE/$p_s(q_s+m)$

DWL ratio = DWL/$p_s(q_s+m)$

3.3 Data

PSE, CSE and DWL are estimated for all the years between 1960-97 except for 1993, the record-breakingly lean year of rice.[17].

α and β are assumed to be 0.2 and 0.4, respectively[18]. The total volume of domestic rice production (q_s), producer's price of rice (p_s)[19], subsidies to participants in acreage control program (D), the target rate of acreage control (θ), the fiscal expenditure for government rice marketing (x), and the total volume of rice imports (m) are available from various publications from the Ministry of Agriculture, Forestry and Fisheries[20].

The cif price of US rice is estimated as the world price (p_w). At first, the average fob price of the US rice is taken from *FAO Trade Yearbook*. In order to

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[17] Rice crop was severely affected by adverse weather condition in 1993. While the Food Agency procured 2.6 million tons of foreign rice as emergency imports in 1993-4, consumers' confusion was not resolved till the next rice harvesting started in the fall of 1994.

[18] The values of parameters α and β are same as Hayami and Godo (1998).

[19] Strictly speaking, p_s is calculated by taking the ratio of the total value of domestic rice production to the total tonnage of domestic rice production (q_s).

convert fob price to cif price, the fob price is multiplied by 1.601, which is derived from Godo and Owen's case study on costs of imported rice (Godo and Owens (1998)).

There are two points to be noted about my estimates of the world price (p_w). First, my estimates of the world price may have a bias toward underestimation because low quality rice is mixed in *FAO Trade Yearbook*. Second, the world price in 1973-5 was abnormally high because of the worldwide food crisis (Figure 1). So, in looking at our estimates of PSE, CSE and DWL, these three years should be regarded as exceptional.

The values of A, B and p_d are calculated from the following equations;

$$A = \frac{q_s + m}{p_s^{-\alpha}}$$

$$B = \frac{q_s}{p_s^{\beta}}$$

$$p_d = \frac{(p_w - p_s)m - x}{q_s + m} + p_s$$

3.4 Estimation results of PSE, CSE and DWL

The results of estimates are shown in Figures 2-7. Major findings can be summerized in the following three points;

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[20] The total volume of rice imports (m) is actually zero before 1995.

First, PSE ratio, CSE ratio and DWL ratio are very high. As of 1997, they mark 0.8, -1.0, and 0.3 respectively. These figures imply that Japanese rice production and its marketing are strongly intervened by the government in the direction of favoring rice farmers at the expense of consumers involving a major loss of social economic welfare.

Second, while the absolute values of PSE, PSE ratio, CSE, and CSE ratio hit the peaks by the 1980s, DWL and DWL ratio remained on upward trends till 1994. This implies that, before 1995, rice policy got less and less efficient even from the viewpoint of rice income protection. In contrast, the absolute values of these six indicators started decreasing in 1995 corresponding to the beginning of the minimum access rice imports (Details of the economic effects of minimum access rice imports are examined in Table 1. There, the hypothetical situation of rice import prohibition for 1995-7 is simulated by replacing the value of m by zero). In that sense, the UR agreement rescued the Japanese economy overall from heavy distortion caused by traditional rice protection policies. .

Third, non-budgetary policies (Policies (3) and (4)) play predominant portions of those 6 indicators. While Policies (3) and (4) look almost equivalently significant in Figures 2-7, considering the possibility that our international rice price has a bias of

underestimation (see Section 3.3), the cartel effect of acreage control program should can be seen as most influential in income distribution and economic efficiency. It is impressive that budgetary policies (Policies (1) and (2)) that often receive popular attention account for only negligible portions in Figures 2-7.

In retrospect, Japanese citizens as well as mass media have seldom recognized and criticized the cartel effect of acreage control program while they repeatedly attacked on the fiscal deficit of government rice marketing. This makes a quite interesting contrast with our finding that the economic effect of acreage control program is much larger than that of the fiscal deficit of government rice marketing. This fact may imply a general tendency that less visible political measure is, the less likely to confront political resistance. In other words, non-budgetary policies, which do not hurt the national treasury directly, can escape consumers' opposition even if those policies impose heavy *real economic* burden on consumers.

In the context of the international trade talks, it should be noted that the "clean tariffication" can ruin the price support effects of acreage control program and import prohibition. Once the government tarifficates rice imports *cleanly*, the border-to-domestic price gap will continuously decrease according to sequential cutting-off of tariff rate. Moreover, since the price elasticity of demand for domestic

rice becomes infinite under *clean* tariffication, the cartel effect of acreage control program will be nullified. In that case, the government would not be able to protect rice income anymore without expense to the national treasury. This may be the real reason why the Japanese government so much disliked the Dunkel draft.

4. Conclusion

While the original purpose of Japanese rice protection policy was to compensate the rural-urban income gap that enlarged sharply during the high-speed industrialization during the 1950s, it continued even after the average income of farm households exceeded that of urban counterparts because of farmers' strong political power.

Generally speaking, Japanese consumers (and other political groups) have been tolerant about rice protection policy unless it involved a large budget cost. Using this consumers' tolerance, farmers have succeed in having the government support their income mainly by non-budgetary policies like acreage control program and import prohibition. In other words, farmers have enjoyed large benefit by charging invisible bill to consumers' account. The Food Agency and agricultural cooperatives also have utilized rice farmers' political power for dodging the pressure to downsize their office

and employment. Of course, this is a kind of "logrolling" situation that prevents the efficiency and fairness of Japanese economy overall.

It should be noted that "clean tariffication," that the WTO authorities have advocated, can deteriorate the rice income support effect of these non-budgetary policies. In particular, "clean" tariffication would totally nullify the price support effect of acreage control program. In that sense, the next round of the WTO negotiations can be seen as the prime opportunity to undermine Japan's traditional political dynamics that underlie rice protection policy.

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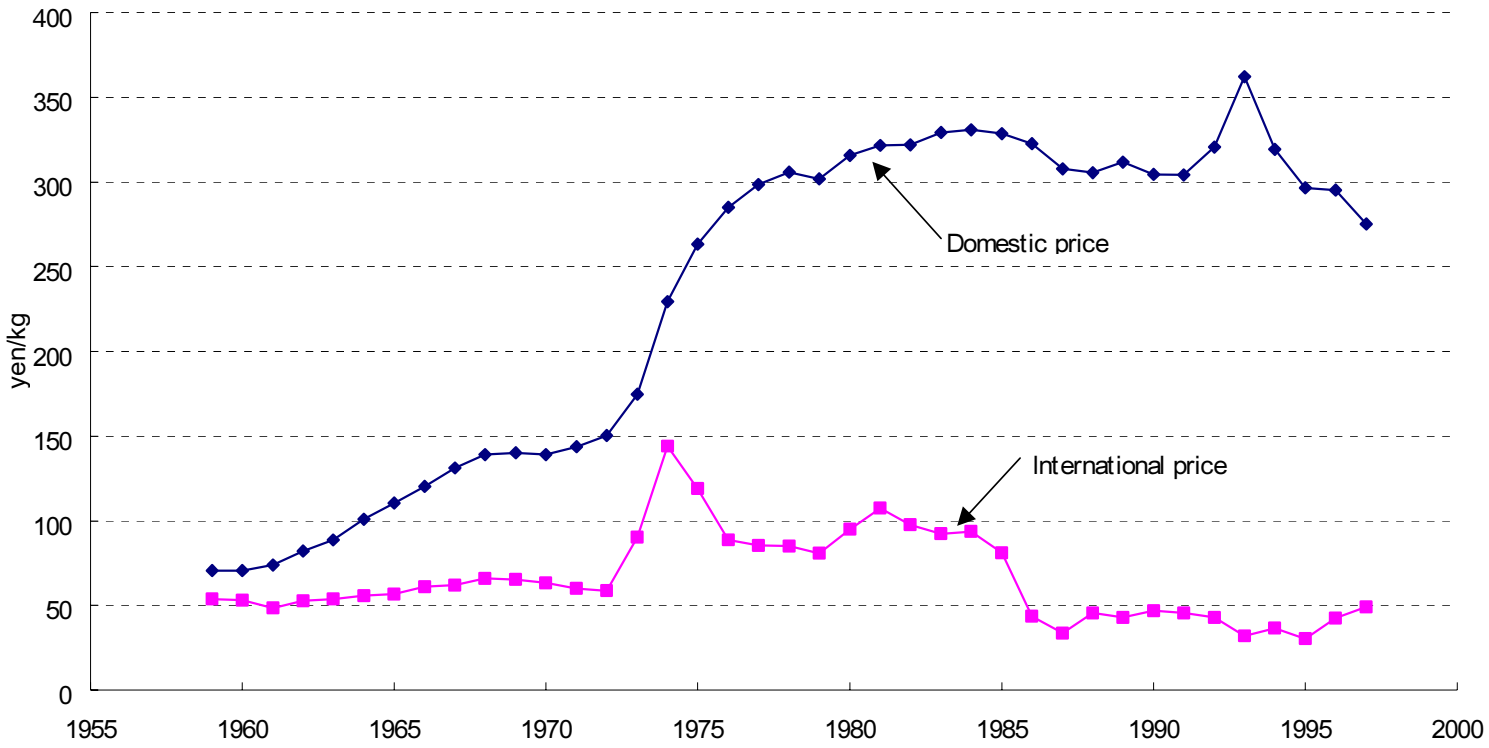
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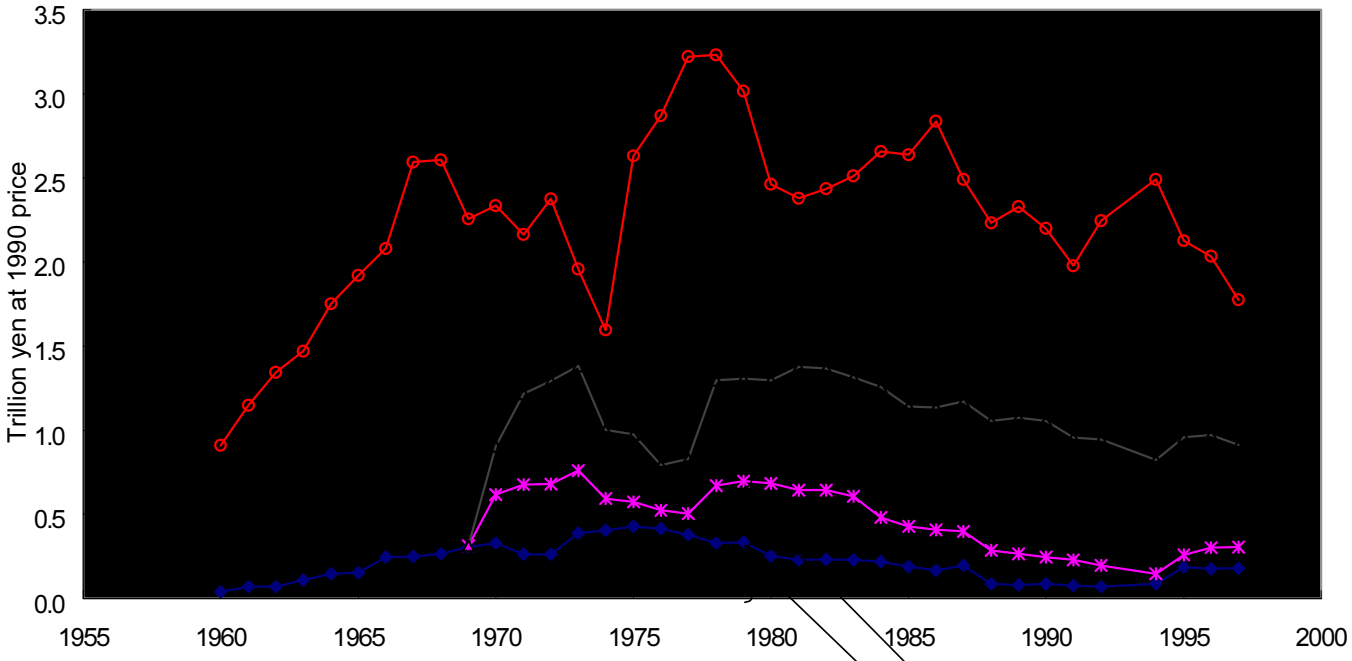
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Figure 1. Comparison of rice price



Sources. Godo and Owens (1998); *OECD Trade Yearbook*; and Statistics and Information Department, Economic Affairs Bureau, Minitry of Agricultute, forestry and Fisheries

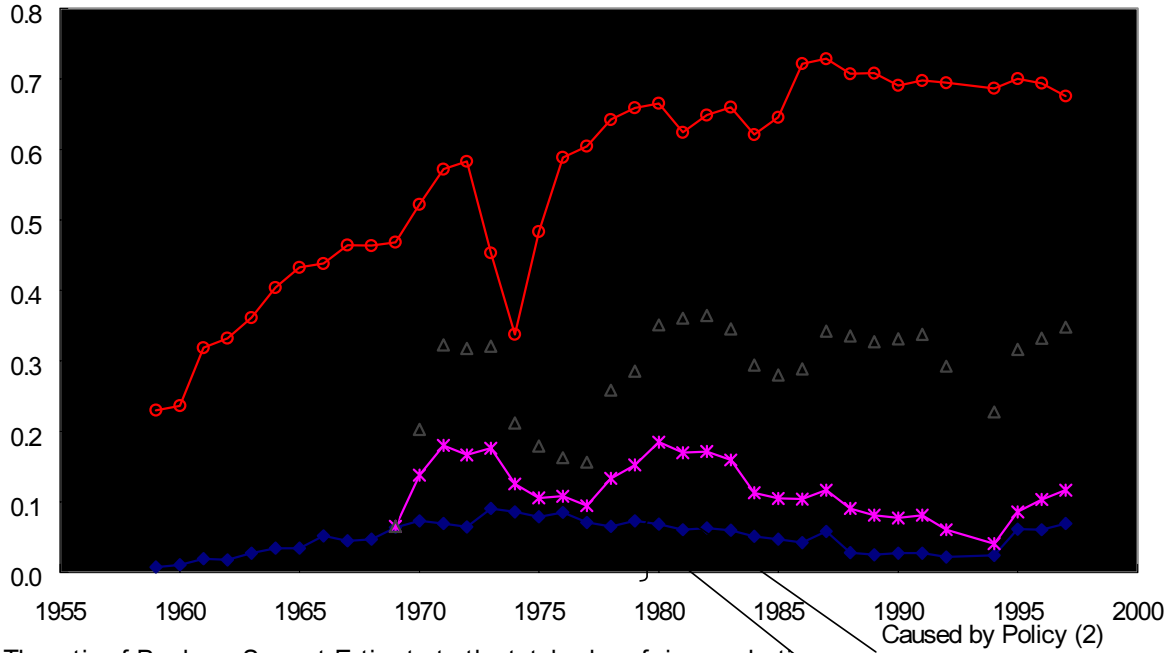
Figure 2. PSE*



NNote. *) Producer Support Estimate (deflated by 1990-standard GDP deflato

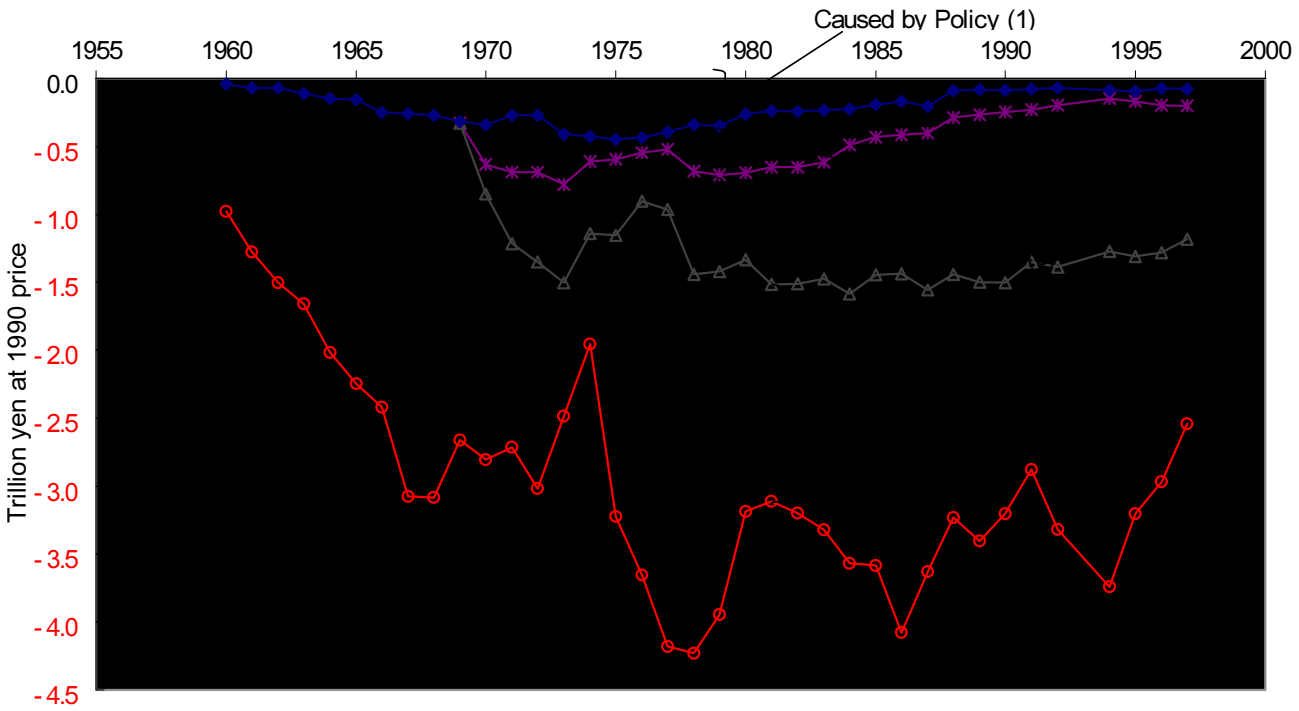
Policy (1): fiscal expenditure for domestic rice marketing
Policy (2): subsidies to participants in acreage control program
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Figure 3. PSE Ratio*



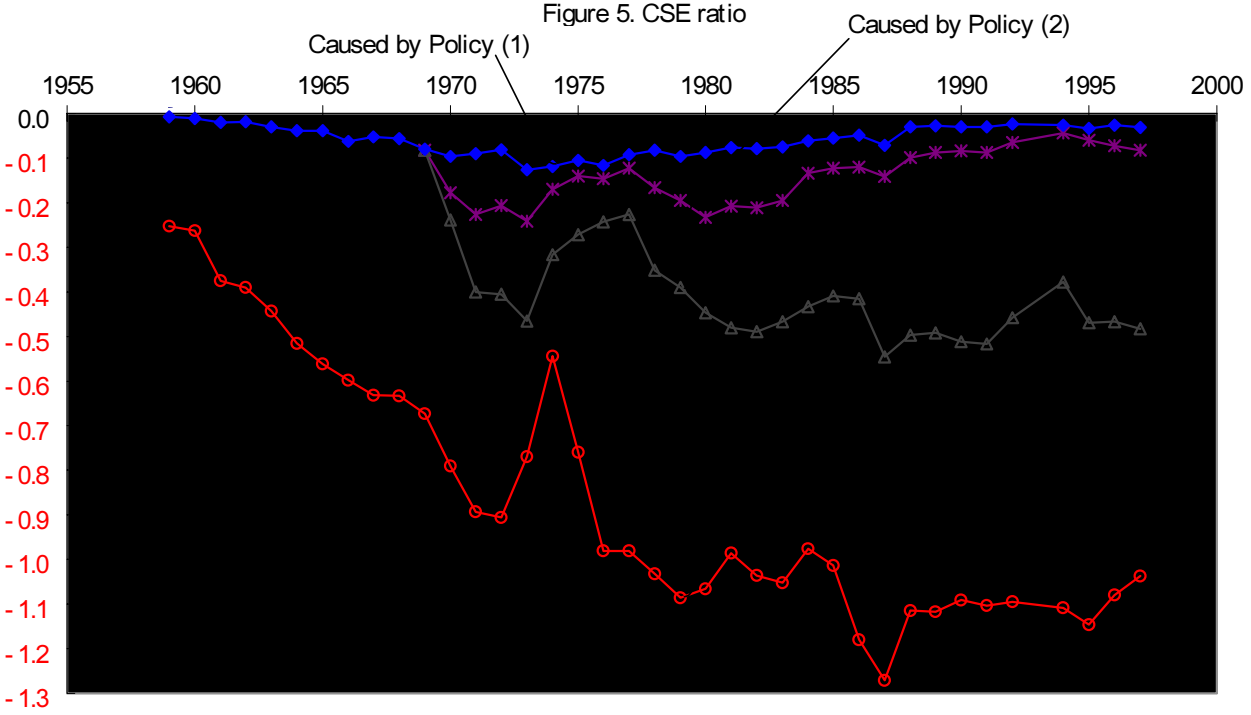
. *) The ratio of Producer Support Estimate to the total value of rice production
Policy (1): fiscal expenditure for domestic rice marketing
Policy (2): subsidies for participants in acreage control program
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Figure 4. CSE*



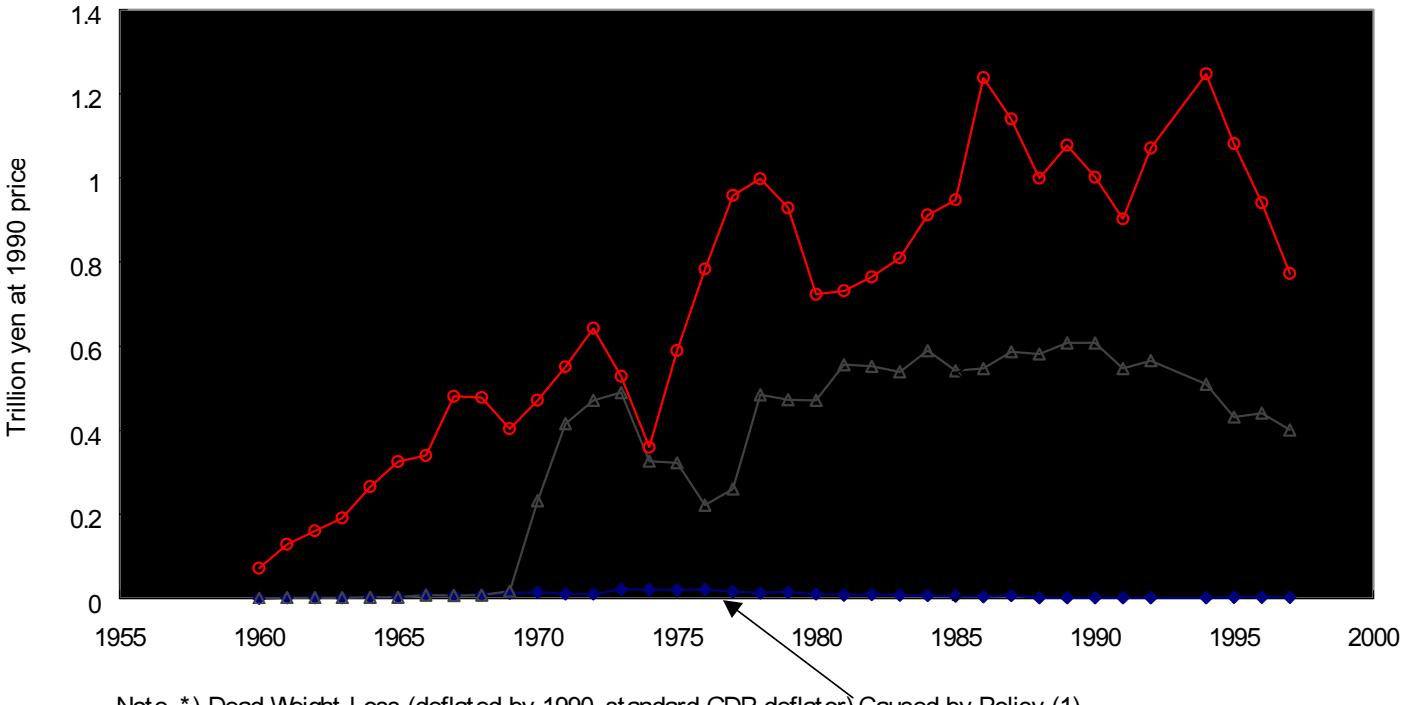
Note. *) Consumer Support Estimate (deflated by 1990-standard GDP deflator)
Policy (1): fiscal expenditure for domestic rice marketing
Policy (2): subsidies for participants in acreage control program
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Figure 5. CSE ratio*



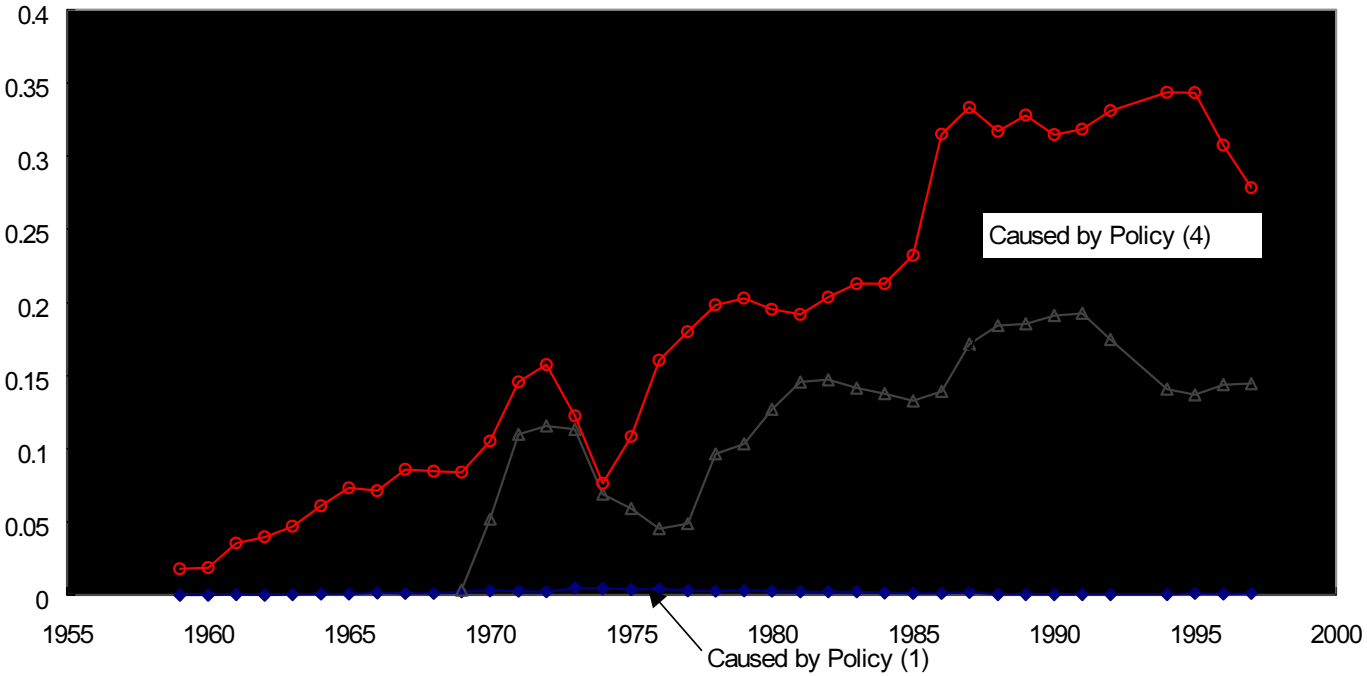
Note. *) The ratio of Consumer Support Estimate to the total value of rice consumption
Policy (1): fiscal expenditure for domestic rice marketing
Policy (2): subsidies to participants in acreage control program
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Figure 6. DWL*



Note. *) Dead Weight Loss (deflated by 1990-standard GDP deflator).Caused by Policy (1)
Policy (1): fiscal expenditure for domestic rice marketing
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Figure 7. DWL Ratio*



Note. *) The ratio of Dead Weight Loss to the total value of rice consumption
Policy (1): fiscal expenditure for domestic rice marketing
Policy (3): cartel effect of acreage control program
Policy (4): rice import prohibition

Table 1. Economic Effects of Rice Imports

	Domestic Rice Production	Foreign Rice Imported[a]	Rice Price[b]	PSE[c]	CSE[d]	DWL[e]	
	thousand ton		yen/kg	trillion yen			
1995	10,724	401	296	2.3	-3.4	1.1	Actual Case
1996	10,328	466	295	2.2	-3.1	1.0	
1997	10,004	544	275	2.0	-2.7	0.8	
1995	10,933	0	311	2.4	-3.6	1.2	The Case of Rice Import Prohibitio[f]
1996	10,576	0	313	2.4	-3.4	1.1	
1997	10,294	0	296	2.2	-3.0	0.9	

Note. a. Imported as quota of the minimum access
b. Producer's price
c. Producer Support Estimate
d. Consumer Support Estimate
e. Dead Weight Loss
f. Simulated by the autor