

# ECONOMIC SIGNIFICANCE OF THE LAND REFORM IN JAPAN

SHIGETŌ KAWANO

THE LAND REFORM brought about an epochal change in postwar Japanese agriculture. The present paper will examine what this reform implied from an economic point of view, centring on its progress during the period from 1951 to 1954.

To state briefly our conclusion first, the economic significance of the Land Reform in Japan lies, for one thing, in the fact that it raised both the average consumption level and the average propensity to consume of farmers, resulting in a big expansion of the domestic consumption market, and for another, that by converting tenanted land to owner-cultivated land it expedited long-term investment in agriculture, and thus combined with technological progress brought about positive effects in increasing agricultural productivity. It seems to us, however, that in the period under review, the Land Reform cannot necessarily be said to have raised agricultural productivity explicitly. Its long-run effects in raising agricultural productivity is an important subject, the analysis of which will not be made in this article.

## I. THE LAND TENURE SYSTEM BEFORE THE REFORM

The land tenure system in Japan was epochally changed by what is called the Land Reform, performed just after World War II, with a vital effect upon the distribution of agricultural income, the consumption level of farm families, and agricultural investments. In order to see how this change was effected, we must first examine the land tenure system before the reform in regard to its features and its agricultural implications.

The land tenure system in Japan is characterized not only by the extremely small acreage of agricultural land available for each farm family, as is common to most Asian countries, but also by the larger ratio of cultivated land and the smaller ratio of pastures and stock-farms to total agricultural land. Although the acreage of Japan's agricultural

land in 1956 was only 6,040,000 *chō*<sup>1</sup> in total, being 1.05 *chō* per farm family, the ratio of cultivated land to the total national acreage amounted to 80%, a marked difference from the world average of about 30%. This seems to indicate the extremely intensive use of limited farm land.

In addition, farm lands in Japan consist of paddy fields and uplands, accounting respectively for 56.5% and 43.5% of the total acreage under cultivation (in 1955). Paddy field constitutes the factor of production in which higher-degree and longer-range investment has been made in the form of irrigation, drainage, and land improvement. Consequently, its productivity is on an average much higher than that of upland, and the price of paddy field had continuously been on a level of about 1.8 times the price of upland throughout the period from the 1930's to the Reform.

As a result, there prevailed the purchase of rice fields for the purpose of making profit as well as investments to open up new rice fields. Large holdings were more often seen in paddy land than in the case of upland. The following is the result of research conducted in 1941, from which we can gather the situation of land-holding just before the Reform. In the case of paddy field owners, the proportion of those who owned more than 2 *chō* among all paddy field owners was 4.7% in number and 36.4% in aggregate acreage, both being far larger figures than in the case of upland owners, among whom it stood at 2.3% and 26.1% respectively. Among the great owners, paddy field owners and upland owners alike, were those who owned as large as 1,500 *chō* of farm land, but on the whole, family farming was operated on a small scale as represented by the above-mentioned average 1.05 *chō* of per family acreage of agricultural land. This led to the extensive establishment of land-holdings not cultivated by owners, namely, tenanted lands.

The ratio of tenanted land to the aggregate acreage of paddy fields and uplands combined had been 45% or so almost continuously from the 1910's on. In 1941, 53.2% of paddy fields and 37.7% of upland were tenanted lands, with those regarded as true tenant farmers accounting for as many as 28% of the total number of farmers.

Now, the general features of the landowner-tenant relations on this occasion were as follows:—

(1) A tenancy agreement was seldom made in a written form, and consequently, in most cases, no terms except the amount of rent were expressly specified; not even the period of tenancy was provided for in a contract, so that 'indeterminate tenancy,' so to call it, was predomi-

<sup>1</sup> 1 *chō* equals 2.45 acres.

nant, making landowner-tenant relations unstable.

(2) The tenant's right to compensation for investment made on the land upon termination of a contract was not established.

(3) Because a tenancy contract was made not for a certain farm unit but for each parcel of land comprising only 0.05 *chō* or so, the level of rent was drastically pushed up by competition until there was no profit retained in tenant farm management. The payment of rent was made in several different forms, such as fixed rent in kind, rent in kind payable in cash,<sup>1</sup> fixed rent in cash, and crop-sharing. As shown in the following table, the ratio of each different form of rent in terms of the acreage of tenanted land was 65.7% for fixed rent in kind, 13.0% for rent in kind payable in cash, and 20.5% for rent in cash, but it is not considered that there were great differences in substantial significance among them. More precisely, in the case of paddy fields, rent in kind and rent in kind payable in cash, which are essentially the same as the former, were predominant, rent payment in cash being hardly practised, while in the case of ordinary uplands, mulberry farms and orchards, 50% or so of the total number of contracts were covered by rent in cash. Apparently, this may lead us to think that in the latter, the burden of farm rent was relatively light, and the tenant's position as a cultivator was more secure, but, in fact, this was not always true. Rent payment in a certain quantity of rice was convenient not only for tenants, but also for landowners, small landowners in particular, for it constituted the provisions of the latter, and it was because of this that rent in kind was prevalent in the case of paddy

Table 1. DISTRIBUTION OF TENANTED LAND BY FORMS OF RENT

	Total	Paddy Field	Upland	Mulberry Farm	Orchard	Tea Plantation	Others
Total Acreage of Tenanted Land ( <i>chō</i> )	2,620,585	1,665,254	795,995	121,477	26,375	8,543	2,941
Rent in Kind (%)	65.68	86.43	29.71	29.29	24.27	21.27	50.23
Rent in Kind Payable in Cash (%)	13.03	12.39	12.11	25.91	19.9	17.11	23.49
Rent in Cash (%)	20.48	0.56	56.98	44.80	51.50	59.87	25.87
Crop-sharing and Other Forms of Rent (%)	0.81	0.62	1.20	—	4.44	1.75	0.41
Total (%)	100	100	100	100	100	100	100

Source: Farm Land Section, Farm Land Bureau, Ministry of Agriculture and Forestry, *Nōchi Mondai ni kansuru Tōkei Shiryō* (Statistic Materials for the Problems of Farm Land), Tokyo, 1952.

<sup>1</sup> Rent to be paid in the cash equivalent of a certain amount of crop valued at the time of payment.

fields. On the other hand, the predominance of rent in cash in the case of other categories of farm land is ascribable to such technical reasons as that products of the land for which rent was paid were industrial crops, and hence, this form of rent was more convenient for both payers and payees.

Accordingly, the burden of rent in cash which is stable in respect of the amount to be paid by tenants, fluctuated considerably over time, if not for the crop year concerned, so that it was not necessarily the case that rent in cash is more stable in character or charges smaller burdens to tenants when compared with rent in kind in which the amount to be borne by tenants varies in accordance with the fluctuation of the price of produce. On the other hand, it can be said that rent in kind and rent in kind payable in cash have a function offsetting, in some degree, even within the period of a contract, the effect of changes in the amount of economic rent caused by fluctuations of the price of produce, in that it is subject to adjustment corresponding to that fluctuation. Thus, long-term investments by tenant farmers on their tenanted land were generally hard to make, which fact restricted the capital intensity of tenant farming. Illustrating the above situation, the per *tan* (0.1 *chō*) yield of a given crop is lower on tenanted land than on owner-cultivated land, and perennial crops such as mulberries and fruits are mostly grown on owner-cultivated land.

According to the government statistics for 1929, the only material before the Reform that shows the ratios of owner-cultivated and tenanted land, the ratios of tenanted land in the total acreage of paddy fields, uplands, mulberry farms, orchards, and tea plantations were 55.2%, 43.6%, 31.9%, 26.0%, and 24.4% respectively (See Table 2).

It attracts our attention that in the case of perennial crop cultivation, the ratio of tenanted land is remarkably small when compared with the case of paddy field or upland cultivation, and this is presumably

**Table 2.** RATIOS OF OWNER-CULTIVATED LAND AND TENANTED LAND BY CATEGORIES OF FARM LAND (%)

	Owner-Cultivated Land	Tenanted Land
Paddy Field	44.8	55.2
Upland Field	56.4	43.6
Mulberry Farm	68.1	31.9
Orchard	76.1	26.0
Tea Plantation	75.6	24.4

Source: Cabinet Bureau of Statistics, *Shōwa 4-nen Nōgyō Chōsa Kekka Hōkoku* (Report on the Agricultural Survey in 1929).

due to the fact that unstable tenancy terms combined with the scanty means of tenant farmers generally prevented tenant farmers from making such long-term investments. As a result, facility investments in paddy fields were made exclusively by landowners, with tenant farmers taking to fertilizer investments which can be recovered in a short period. This is counted as a cause for the development of fertilizer-intensive agriculture of a kind rarely seen elsewhere in the world.

## II. THE LAND REFORM

The Land Reform produced such a drastic change in the Japanese agricultural structure that during two years from 1945 to 1947, a total of about 2 million *chō* of paddy fields and uplands were transferred from the hands of landowners into the possession of tenant farmers, with the ratio of tenanted land to the total acreage under cultivation reduced from 45% to 10%, and the ratio of true tenant farmers to the total number of farmers decreased from 28% to 5% (See Table 3).

**Table 3.** RATIO OF TENANTED LAND TO TOTAL FARM LAND AND RATIO OF TENANT FARMERS TO TOTAL FARM FAMILIES BEFORE AND AFTER THE LAND REFORM

	Before the Reform (as of Nov. 23, 1945)	After the Reform (as of Aug. 1, 1950)
Total Acreage under Cultivation ( <i>chō</i> )	5,155,697	5,200,430
Acreage of Tenanted Land ( <i>chō</i> )	2,368,233	524,683
Ratio of Tenanted Land (%)	45.9	10.1
Ratio of Tenant Farmers (%)	28.4	5.1

Source: Farm Land Section, Farm Land Bureau, Ministry of Agriculture and Forestry, *Nōchi-tō Kaihō Jisseki Chōsa* (Survey Report on the Results of Farm Land Release Programme), Tokyo, 1956.

Farm Land Section, Farm Land Bureau, Ministry of Agriculture and Forestry, *Dai-27-ji Nōrinshō Tōkei-hyō* (27th Statistical Yearbook of the Ministry of Agriculture and Forestry).

The implication of this Reform is roughly threefold: First, it aimed simply at the establishment of owner farmers; in other words, it not only brought about the expansion of owner-cultivated land in acreage and in the number of owners as well, but it caused a change in property distribution, or an equalization of property. Tenanted lands were transformed into owner-cultivated lands at the following rate: For tenanted lands belonging to non-resident landowners, the whole area, for tenanted lands in the hands of resident landowners, the portion

in excess of the national average of 1 *chō*; for owner-cultivated land, the portion exceeding the national average of 3 *chō*. This measure was enforced in such a way as to keep the price of expropriated land unchanged in the course of violent inflation, so that in consequence, tenant farmers increased their land-holdings without bearing virtually any burden. Namely, the average purchase price of expropriated land per 0.1 *chō* was 760 yen for paddy field, and 447 yen for upland field. These are the owner farmer's revenue prices<sup>1</sup> derived on the basis of the price of rice purchased by the government from landowners in 1945, which stood at 55 yen per *koku*.<sup>2</sup> These prices were low enough, being only about one-third of the prices calculated on the basis of producer's price of rice at that time which stood at 150 yen per *koku*. With the rapid advance of inflation after that time, the producer's price of rice rose further to 1,750 yen per *koku* in 1947. Hence, if calculated on this basis, the purchase price of farm land in terms of rice fell as low as 0.5 *koku*; that means, with approximately half the amount of rent in kind before the Reform, tenant farmers could readily pay for the price of the land they purchased from landowners.

Thus, the liberation of tenanted land transferred the ownership of landed property from small landowners and non-resident landowners to tenant farmers without almost any compensation for landowners. It had the effect of bringing about equalization of property ownership within the rural community and at the same time of increasing the property of resident farmers as a whole, since it deprived non-resident landowners of all their land-holdings.

Secondly, the Land Reform tightened legal regulations concerning terms and conditions of tenancy, and thereby strengthened the position of tenant farmers. To put it concretely, (1) it aimed at stipulating the minimum period of tenancy, that is, it intended to remove the anxiety of tenant farmers due to indeterminate tenancy, and at the same time to stabilize their farming programme by assuring them of a minimum tenancy term of 3 years; (2) it stipulated the tenant farmer's right to compensation for the investment he made on the land he cultivated; (3) it standardized various forms of rent payment in cash, and controlled the amount of rent. According to the Farm Land Law which has legalized these regulations, the maximum rental rate is prescribed as

<sup>1</sup> This denotes the highest possible price of land that is so calculated as to make possible an annual profit of 4% for the agricultural enterprise, and to enable landowners to receive a rental almost equal to the yield of government bonds.

<sup>2</sup> 1 *koku* equals to 4.9629 bushels.

25% of the production cost of the main crop yield in the case of paddy field, and as 15% of the production cost of the main crop yield in the case of upland.

Thirdly, the Land Reform brought the rental level under strict control and restricted the transfer of ownership of land between farmers or between a farmer and a non-farmer. Because rent is stipulated as a certain amount of money for each plot of land in spite of the above regulations, the level of rental rate dropped to about 7% of the production cost of rice—remarkably low when compared with the rental rate before the Reform which had been on the level of 50% of the per acreage production cost of rice. On the other hand, the ownership of land by non-resident landowners was of course forbidden, and the purchase of land by fragmental-scale or large-scale entrepreneurs was forbidden.

### III. ECONOMIC SIGNIFICANCE OF THE LAND REFORM

Described above is the outline of Land Reform. What, then, is its economic significance?

(1) It must first be noted that in the course of this Land Reform, small-scale landownership and small-scale farm management were conspicuously increased. The number of farm families increased from 5,697,948 in 1946 to 6,176,419 in 1950, showing an increase of 8.4% or 478,000 in number. In this process, the number of farmers operating more than 2 *chō* of farm land decreased while those operating less than 2 *chō* rapidly increased. The increase is particularly remarkable among

Table 4. CHANGES IN THE NUMBER OF FARMING FAMILIES BY OPERATION SCALES

	Number of Families in 1946	Number of Families in 1950	Number Increased or Decreased	Rate of Increase or Decrease (%)
Total Number of Farming Families	5,697,948	6,176,419	+478,471	+8.4
—0.3 <i>chō</i>	1,293,759	1,471,872	+178,113	+13.8
0.3—0.5	939,349	1,050,469	+111,120	+11.8
0.5—1.0	1,785,640	1,972,925	+187,285	+10.5
1.0—2.0	1,336,871	1,339,536	+2,665	+0.2
2.0—3.0	211,260	207,845	—3,415	—1.6
3.0—5.0	77,130	76,928	—202	—0.3
5.0—	50,693	48,442	—2,251	—4.4
Others	3,246	8,402	+5,156	+158.8

Source: Ministry of Agriculture and Forestry, *Dai-27-ji Nōrinshō Tōkei Hyō* (27th Statistical Yearbook of the Ministry of Agriculture and Forestry).

marginal farmers who operate only less than 0.5 *chō* of farm land (See Table 4). It must of course be taken into account in this connection that these situations were brought about under the pressure of such difficult problems arising from the defeat in War as represented by the rapid inflow of repatriates and food shortages in urban areas. Nevertheless, there is no denying the fact that the above situations were motivated mainly by the expropriation of farm land leased by landowners without imposing extra burdens on the cultivators and the consequent establishment of owner-cultivators.

The circumstances necessitating the above form of land-use still exist and constitute factors detrimental to the reasonable use of farm land, which will be referred to in the later paragraphs.

(2) Other things being equal, the equalization of landownership will elevate the income level of ex-tenant farmers in that it enables those farmers to acquire for nothing, so to speak, an extra income from the land previously held by landowners. It may also elevate the level of average agricultural income of the farmers as a whole, and this is quite probable, if not certain, despite the fact that the number of farm families increased by 8.4%, considering that revenue from land ceased to accrue to non-resident landowners and the collection of farm rent by resident landowners for their unexpropriated land was restricted by the farm rent regulation.

The raised average income standard will, as a matter of course, result in a raised average consumption level, but it matters what effect the equalization of income will have on the shift of the average propensity to consume.

From the viewpoint of those who attach importance to the demonstration effect caused by the high consumption level of large income earners, the weakening of this effect due to the equalization of income will work as a restraint on the propensity to consume. On the other hand, according to the view that the equalization of income will change the fixed ideas of farmers as to their consumption lives and accordingly promote consumption in rural communities, the equalization of income will, on the contrary, raise the average propensity to consume.

In reality, however, there are various conditions other than land reform in and outside the rural community that affect consumption, and besides, no material is available on the change in propensity to consume brought about by the Reform. Hence, an exact conclusion on this problem can hardly be made.

If we take up a certain scale of farm land operation (before the

Reform—1934–1936; 1.24–1.32 *chō*, after the Reform—1951, 1952, and 1954; 1–1.5 *chō*) and make a comparison between the economic situations of farm families before and after the Reform with regard to disposable income, consumption, and saving per member of a family, the following points will be known<sup>1</sup> (See Table 5).

Table 5. DISPOSABLE INCOME, CONSUMPTION, SAVING PER MEMBER OF A FARMING FAMILY

(Constant 1934–1936 prices)

	1934–1936		1951, 1952, 1954 Average	
	Owner Farmers	Tenant Farmers		
Disposable Income	Yen 141.50 % (100 )	Yen 103.15 % (100 )	Yen 147.59 % (100 )	
Consumption	115.40 ( 81.6)	91.62 ( 88.8)	136.81 ( 92.7)	
Saving	26.10 ( 18.4)	11.53 ( 10.2)	10.78 ( 7.3)	

Source: Taizō Inaba ed., *Fukkokuban Nōka Keizai Chōsa Hōkokusho* (Reprinted Survey Report on Farm Household Economy Survey), Tokyo, 1951, 1953, 1954.

Notes: 1) 1953 being a lean year, figures for this year have been excluded.

2) Adjustment to 1934–1936 constant price was made according to the farm families' purchase price index based on the prewar figures reported in *Keizai Yōran* (General Statistics of Japanese Economy) compiled by Research Section, Economic Planning Agency.

3) Disposable income for the period 1934–1936 was calculated according to the following formula, based on the above *Farm Household Economy Survey*.  
 Disposable Income=(Income of farm family)–(Public charges and interests on debts included in household expenditures).

The per capita disposable income of owner farmers increased slightly from 141.50 yen in the years before the Reform to 147.59 yen in the years after the Reform. The consumption rate increased remarkably from 81.6% to 92.7%, but, on the contrary, the saving rate marked a sharp decrease. In the case of the tenant farmers who are comparable to the above owner-farmers in respect of farming scale, disposable income increased from 103.15 yen to 147.59 yen, against which the consumption rate rose from 88.8% to 92.7% while the saving rate declined from 10.6% to 7.9%. In money terms, in the case of owner-farmers, against the rise of 6 yen in disposable income, consumption increased by 21 yen, and saving decreased by 14 yen, while in the case of tenant farmers, against the increase of 44 yen in the disposable income, consumption increased by the same amount, and saving neither

<sup>1</sup> For this comparative study, we are much indebted to the article below, but the figures obtained are different. Takeo Misawa & Yuzuru Itō, "Capital Formation and Capital Use in Japanese Agriculture, with Special Reference to the Effect of Land Reform," *International Journal of Agrarian Affairs*, Vol. II, No. 4, Jan., 1958.

increased nor decreased.

After the Reform, an average of as much as 90% of the farm land under management by farm families was converted to owner-cultivated land, while owner farmers in prewar years owned as much as 90% of their farming land. Therefore, the above comparison based on Table 5 is tantamount to a comparison of the change in economic situation between those owner farmers who used to be tenant farmers of the same farming scale before the Land Reform and those farmers who have been owner farmers of the same farming scale through all the years before and after the Reform.

Then, it follows that in the case of tenant farmers, disposable income increased by approximately 43%, mainly because the Land Reform granted them the amount of former landowners' rental income, and all the amount increased was appropriated to consumption; while in the case of owner farmers, against only a 4% increase in disposable income, the expenditure for consumption increased as much as 19%. To put it in terms of income elasticity, the increase in expenditure of the latter is 4.31, an unusually high rate of increase when compared with that of the former which stands at 1.14.

Table 6 indicates the income elasticity of farm household expenditures calculated for each expenditure item. What draws our attention in this table is the unusually large figures in the case of owner farmers as well as the fact that income elasticity is more than 1.00 in every expenditure item in the case of both owner farmers and tenant farmers. Table 7 indicates the item-by-item income elasticity of household expenditures analysed in a few time series with a view to making a comparison between the period before and after the Reform with respect to the farmers' propensity to consume. It is noted that, when compared

**Table 6. INCOME ELASTICITY OF PER CAPITA FARM HOUSEHOLD EXPENDITURES**

	Owner Farmer	Tenant Farmer
Per Capita Disposable Income	¥141.50—¥147.59 (1934-1936) (1951, 52, 54)	¥103.15—¥147.59 (1934-1936) (1951, 52, 54)
Household Expenditure	+4.31	+1.14
Food and Drink	+8.39	+1.04
Lighting, Heating, and Power	+4.98	+1.26
Clothing	+9.60	+2.48
Education and Culture	+19.81	+6.33
Housing, Furniture, and Utensils	+21.90	+4.11

Source: Ministry of Agriculture and Forestry, op. cit.

Note: Per capita disposable income is based on the constant prices in 1934-1936.

with Table 6, this table tells us that the income elasticity of farm household expenditures was remarkably lower before the Reform than after the Reform, although it seems that these figures do not necessarily reflect this change on account of the limitation of data. That is, while it is considered that the real income level of the farmers as a whole in the pre-Reform period was rather lower than in the post-Reform period, the income elasticity was lower in the former than in the latter. Conversely speaking, this shows that a large-scale shift of the farmers' propensity to consume was experienced after the Reform, and it attracts our attention that this shift is particularly large in the case of owner farmers (See Table 6).

To what extent these changes are attributable to Land Reform can not be concluded of course. In my opinion, the only thing that can be concluded in this regard is that the addition of rental income which merely means an income transfer as a result of Land Reform enabled the ex-tenant farmers to raise their consumption level without decreasing the absolute amount of previous annual saving, and that it expedited the rise in the propensity to consume of farmers as a whole. Accordingly, in the case of owner farmers who were compelled sharply to reduce their amount of saving, the elevated propensity to consume is presumed to have entailed considerable difficulties. The reason why it was nevertheless achieved is, in my opinion, that the large-scale rise in the consumption level of ex-tenant farmers induced a similar rise in the case of owner farmers—a sort of “demonstration effect.”

Viewed differently, however, this would mean an increase in domestic demand and an expansion of home market for consumer goods. Table 8 shows the increase in principal items of per capita farm family expenditure. The increase in household expenditures for both owner

**Table 7.** INCOME ELASTICITY OF PER CAPITA FARM HOUSEHOLD EXPENDITURES

Per Capita Disposable Income	Owner Farmer		Tenant Farmer				
	¥126.07— (1934)	¥143.64 (1935)	¥143.64— (1935)	¥154.79 (1936)	¥92.79— (1934)	¥99.63 (1935)	¥99.63— (1935)
Household Expenditure	+1.22		+0.75		+1.46		+0.64
Food and Drink	+0.68		+0.80		+1.62		+0.64
Lighting, Heating, and Power	+0.45		+0.29		-0.42		+0.26
Clothing	+1.99		+1.54		+1.78		+0.96
Education and Culture	+2.37		-1.04		+2.05		+1.37
Housing, Furniture, and Utensils	+1.74		+1.60		+1.28		+1.24

Source: Ministry of Agriculture and Forestry, op. cit.

and tenant farmers are shown as 19% and 50% respectively during the period under review. It can be easily supposed that such increases in family expenses of farmers should have constituted a cause for the shortage in consumer goods, especially in food, in the early 1950's. It would also partly account for the fact that the Government had to enforce controls on prices and quantities of food grains, based on a system of food delivery and rationing, as necessary measures following up the land reform programme. While food price control was apparently meant to control farm incomes, the control of food quantities was aiming at controlling farmers' demand for consumer goods.

(3) What effect, then, did the Land Reform have on investment in agriculture? It would follow from what has already been discussed

**Table 8.** INCREASE IN EXPENDITURES PER MEMBER OF FARM FAMILIES BETWEEN 1934-1936 AND 1951, 1952, AND 1954

(Constant 1934-1936 prices)

	1934-1936		1951, 1952 & 1954	Increases		Rates of Increase	
	Owner Farmer	Tenant Farmer		Owner Farmer	Tenant Farmer	Owner Farmer	Tenant Farmer
Household Expenditure	115.40	91.62	136.81	21.41	45.19	18.55	49.32
Food and Drink	51.39	48.24	69.93	18.54	21.69	36.08	44.84
Lighting, Heating, and Power	5.70	4.48	6.92	1.22	2.44	21.40	54.46
Clothing	11.44	7.81	16.16	4.72	8.35	41.26	106.91
Education and Culture	4.45	2.21	8.24	3.79	6.03	85.17	272.85
Housing, Furniture, and Other Utensils	7.70	5.40	14.95	7.25	9.55	94.16	176.85

Source: Ministry of Agriculture and Forestry, op. cit.

**Table 9.** RATIO OF MATERIAL OPERATING COST TO GROSS FARM INCOME

(Constant 1934-1936 prices)

	1934-1936		1951, 1952 and 1954
	Owner Farmer	Tenant Farmer	
A. Gross Farm Income per Household (Yen)	1,138.06	1,063.35	1,093.16
B. Material Cost per Household (Yen)	263.00	225.86	298.31
B/A (%)	23.11	21.24	27.28
Agricultural Income per Member of Family (Yen)	129.20	79.62	119.13

Source: Ministry of Agriculture and Forestry, op. cit.

Note: Material operating cost in 1934-1936 represents farm management cost as compiled in the above survey report, minus wages, farm rent, interest on debt and other liabilities; and in 1951, 1952, and 1954 it represents the same farm management cost as in 1934-1936, minus, though, wages and farm rent.

that, other conditions being equal, it should promote long-term and fixed investment. As a means of shedding additional light on this point, let us see the changes in the material operating cost per farm household and in its ratio to gross income per household, as shown in Table 9. For it can be assumed that if fixed and long-term investment increase, the durable goods operation cost per household and its ratio to the gross farm income per household should also rise. Both the amount of such cost and its ratio to the gross farm income of the average owner farmer were higher than those of tenant farmers before the Land Reform. After the Reform, this cost and ratio for owner farmers tended to increase further. These expenditures comprised mainly those on fertilizers, feeds, agricultural chemicals and depreciation allowances for animal stocks, crops, farming machines and implements and building facilities, and did not include depreciation allowances for land investment. If the last were to be included, the expenditures incurred by owner farmers would increase still further.

As regards the effect of fixed and long-term investments by farmers on labour productivity, no consistent data and material are available, but if we take per capita agricultural income for comparison before and after the Land Reform, it registered a decline compared with pre-Reform income of owner farmers. Therefore, this may be said to indicate roughly that, although the Land Reform encouraged long-term investments in agriculture, it was not accompanied by a rise in productivity at least in the early 1950's.

Also the ratio of the income from farming of owner farmers to their total earnings (agricultural income plus non-agricultural earnings) as well as the ratio of their agricultural income to their total disposable income showed a marked decrease, as will be seen from Table 10. The income pattern, with a smaller portion of agricultural income supplemented by a larger portion of non-agricultural earnings, became similar by and large to the pre-Reform income pattern of tenant farmers, even if the total or disposable income level of the former was a little higher than that of the latter, as far as absolute value goes. Moreover, as may be indicated by Table 10, the size of a post-Reform farming family is larger than those of both owner and tenant farmers before the Reform, so that the disposable income per member of a household has not increased in absolute value from pre-Reform years to the same extent as did that per household.

(4) The raising of the farm income level through the redistribution of land ownership may be supposed to have so affected the post-Reform

farmer's income as to bring about a decrease in labour hours per farm household head, but sufficient consistent data are not available to confirm it. According to pre-Reform (and prewar) data, disposable income per member of a farming family used to differ naturally between owner and tenant farmers, provided the scale of farming was the same, but their labour hours did not necessarily differ as much. Table 11 shows that, for owner and tenant farmers both cultivating 1.3 *chō* of land, per capita disposable income on an annual average for the period between 1934 and 1936 was 141.50 yen in the former as against 103.15 yen in the latter, showing a great gap between the two, but that the

**Table 10.** AGRICULTURAL, NON-AGRICULTURAL AND DISPOSABLE INCOMES PER HOUSEHOLD

(Constant 1934-1936 prices)

	1934-1936		1951, 1952 and 1954 Average
	Owner Farmer	Tenant Farmer	
A. Agricultural Income (Yen)	834.84 <sup>1)</sup>	514.63 <sup>1)</sup>	830.14
B. Non-Agricultural Income (Yen)	140.48	146.21	241.01 <sup>2)</sup>
C. Total (Yen)	975.32	660.84	1,071.15
D. Disposable Income (Yen)	914.31	672.91	1,025.56
A/C (%)	85.60	77.84	77.50
A/D (%)	91.31	76.48	80.95

Source: Ministry of Agriculture and Forestry, op. cit.

- Note: 1) Agricultural income in 1934-1936 represents agricultural income as compiled in the above survey report, plus various farm incidence and liabilities; and non-agricultural income is equal to the side-incomes as compiled in the same report, plus non-agricultural liabilities and other domestic work incomes (minus gifts).
- 2) Non-agricultural income in 1951 may include incomes from gifts and relief, but these have not been excluded because of difficulty of doing so.

**Table 11.** PER CAPITA DISPOSABLE INCOME AND LABOUR HOURS OF FARM FAMILY

(Scale of Farming: 1.24-1.32 *chō*)

	Owner Farmer		Tenant Farmer	
	Disposable Income (Yen)	Labour Hours (Hours)	Disposable Income (Yen)	Labour Hours (Hours)
1934	126.07	1,191	92.79	1,143
1935	143.64	1,138	99.63	1,134
1936	154.79	1,139	117.02	1,179
Average	141.50	1,156	103.15	1,152

Source: Taizō Inaba ed., op. cit.

Note: Labour hours represent an annual total of labour hours involved in farming, side-jobs, etc.

total annual labour hours per head, inclusive of both farming and extra-farming work, for the same period of time, was 1,156 hours in the former and 1,152 hours in the latter. In time series too, as well as in annual averages, no discernible trends are noted to reverse this fact. A comparison between farmers in the "First Class," which comprised farmers cultivating more than 70% of the average cultivated acreage per household of those farmers surveyed by the Ministry of Agriculture and Forestry (as shown in Table 12), and those in the "Second Class," which consisted of those other than the first class farmers—that is, a comparison between farmers with different scales of farming—does not show any differences, either. Labour hours of tenant farmers in the second class were slightly less than those of the first, to be sure, but considering the fact that the number of working members within the family was smaller in the case of the former than in the latter, labour hours per working member of the family may be regarded as more or less the same, regardless of farming scale or of disposable income size. It would follow, then, that no great income effect was felt on the labour supply of farmers at least over a short period of time, for the reason either of technological conditions in agriculture, or of habitual practices in rural communities. Therefore, even in the case of the post-Reform owner farmers who were formerly tenant farmers, whose disposable income increased greatly after the Land Reform, their augmented income could not be hoped to push down the labour supply, because of the inelasticity of labour supply as

Table 12. PER CAPITA DISPOSABLE INCOME AND LABOUR HOURS OF FARM FAMILY, TWO CLASSES OF FARMERS

	"First Class" Farmer				"Second Class" Farmer			
	Owner Farmer		Tenant Farmer		Owner Farmer		Tenant Farmer	
	Disposable Income (Yen)	Labour Hours (Hours)	Disposable Income (Yen)	Labour Hours (Hours)	Disposable Income (Yen)	Labour Hours (Hours)	Disposable Income (Yen)	Labour Hours (Hours)
1934	126.80	1,192	93.88	1,138	123.44	1,182	81.99	1,162
1935	144.77	1,141	102.78	1,173	141.18	1,135	91.88	1,037
1936	154.74	1,151	124.87	1,227	154.68	1,085	96.78	1,056
Average	142.10	1,163	107.18	1,179	139.77	1,134	90.23	1,085

Source: Taizō Inaba ed., op. cit.

- Note: 1. Areas under cultivation by the first- and second-class farmers are 1.43–1.53 *chō* and 0.82–0.92 *chō* respectively.
2. The ratio of the actually employed in farming to the number of family members in owner farmer and tenant farmer in the first class and owner farmer and tenant farmer in the second class are 0.59, 0.59, 0.59, and 0.55 respectively.

explained above. Much less in the case of pre-Reform owner farmers, whose disposable income barely increased as a result of the Reform. Thus, we may conclude that, so far as the farmers with a farming scale of between 1.24 and 1.32 *chō* of land are concerned, their labour supply did not appreciably decrease as compared with pre-Reform years.<sup>1</sup>

(5) When farm rents are under control, it is considered that the gap between the controlled rent and a competitive rent is capitalized and forms a sort of premium. However, this transaction is not permitted in Japan. As a result, the rent control may possibly have produced such an effect that both owned and rented farmlands are tilled wastefully, for farmlands necessarily have to be evaluated low because of these controls. Moreover, since competitive rent cannot operate in the open, comparisons between different fields of farming in respect to earning power tend to become difficult; thus an effective

**Table 13.** PER CAPITA NET PROPERTY, LABOUR HOURS, AND INCOME OF FARM FAMILY

(Average of 1952 and 1954)

	Net Property (Yen)	Labour Hours (Hours)	Income (Yen)	Disposable Incomes (Yen)
<i>chō</i>				
0.5	105,812	650.34	42,003	42,308
0.5-1.0	141,143	919.07	41,937	41,894
1.0-1.5	177,453	998.60	46,710	45,575

Source: Ministry of Agriculture and Forestry, *Nōka Keizai Chōsa Hōkoku* (Farm Household Economy Survey), 1954.

Note: 1) Net Property, income and disposable income are in 1952 constant prices.  
2) Labour hours do not include those of the members having side-jobs as a permanent employment.

<sup>1</sup> In this connection, the following table shows that the change in disposable and agricultural incomes per member of farm household in 1951, 1952, and 1954 and those in both total and family labour hours per head of the same household in the same years are not found in any corresponding relation to each other.

PER CAPITA INCOME AND LABOUR HOURS OF FARM HOUSEHOLD WITH FARMING SCALE OF 1.0-1.5 *CHŌ*

	Disposable Income (Yen)	Agricultural Income (Yen)	Family Labour Hours (Hours)	Total Labour Hours (Hours)
1951	133.41	112.06	...	...
1952	146.21	118.07	881.13	999.18
1954	163.15	127.25	884.59	998.01

Source: Taizō Inaba ed., op. cit.

Note: 1. Incomes are in 1934-1936 constant prices.  
2. Total hours do not include those of the members having side-jobs as a permanent employment.

utilization of land is hampered. The gaps between various fields of farming in respect of the amount of remuneration brought by a day of family labour—including the portion payable as rent—tend to widen. Thus, criteria for allotting capital and labour rationally become obscure.

If the rent is evaluated low in the name of the rent control, it may conversely bring about a high evaluation of the remuneration of family labour, while restrictions on purchases of farm lands in the name of the farm land control may so affect the mobility or allotment of labour that it may tend to stay in the same old field of farming. This seems to be proved partly by the fact that both agricultural and disposable incomes per member of farm households with 0.5–1.0 *chō* of land are nearly equal to, or even less than, those of households cultivating under 0.5 *chō* of land. As will be seen from Table 13, the net property per member of a household in the 0.5–1.0 *chō* category is, if we take an average of 1952–1954 period for which relevant data are available, larger by 30% than that of households in the class under 0.5 *chō*, whereas the opposite is the case in respect to farm income and disposable income. This is probably because the farmers in the latter class depend more on side-work in the form of permanent employment, with a resultant higher income per hour, than the former category farmers. Such differences must have arisen from some circumstances or other which prevent the farmers in the 0.5–1.0 *chō* category from allotting their labour to subsidiary jobs, and the very such circumstances must be found in the low evaluation of rent which conversely causes an evaluation of the remuneration of family labour at a higher level than the competitive wage and the tendency on the part of the farmers to overvalue their farm labour in the present against the future difficulty of land purchase. The inability or difficulty for the farmers in the 0.5–1.0 *chō* category to allot their labour to a permanent employment in side-jobs may also have arisen from their family composition.

In the final analysis, rent control as well as the control on the transfer of lands have very possibly hampered an effective and rational utilization of lands by farmers, regardless of their farming scale, including those of the under 0.5 *chō* category. Table 14 shows a comparison of farm labour hours both per capita and per acreage, agricultural income per head, productivity, etc. as between 1952 and 1954 and also between different scales of farming. From this table, the following observations may be made: (1) per capita labour hours show a steady decrease, especially so in the case of the under 0.5 *chō* category, and with the exception of the 1.0–1.5 *chō* category. A cor-

responding decrease is seen in labour hours per acre, but the rate of decrease is lower than in per capita labour hours regardless of the scale of farming. (2) As a result, agricultural incomes per head, per acre, and per hour register an increase for all scales of farming, the rate of increase in each of these being higher in the smaller scale of farming. (3) At the same time, the ratio of the agricultural income to the total earnings of farmers is declining due to the increasing ratio of side-job incomes. (4) Accordingly, the disposable income per head shows a higher rate of increase than that of the per capita agricultural income, but the rate of increase is higher with the smaller scales of farming.

**Table 14.** FARM LABOUR HOURS AND INCOMES BY THE SCALE OF FARMING

	Farm Labour Hours (Hours)				Farm Income (Yen)						Ratio of Farm Income to the Total Income (%)		Disposable Income per Member of Household (Yen)	
	Per Capita		Per Acreage		Per Capita		Per Acreage		Per Labour Hour		1952	1954	1952	1954
<i>chō</i>	1952	1954	1952	1954	1952	1954	1952	1954	1952	1954	1952	1954	1952	1954
-0.5	503.06	459.93	713.56	631.77	13,919	14,793	19,743	20,320	27.67	32.16	36.50	32.25	38,422	46,194
0.5-1.0	782.95	744.08	627.87	572.37	25,671	27,469	20,658	21,130	32.90	36.92	64.91	62.18	39,463	44,324
1.0-1.5	881.13	884.59	498.94	461.02	34,992	37,731	19,814	20,517	39.71	42.65	78.51	77.20	43,330	48,385

Source: Ministry of Agriculture and Forestry, *Nōka Keizai Chōsa Hōkoku* (Farm Household Economy Survey), 1952 and 1954.

Note: Incomes are based on the 1952 constant prices.

We may now conclude from the foregoing analyses that the increase in per capita income was brought about chiefly by the increasing earning power of land and the increased opportunities for non-agricultural employment and partly by the decreased volume of labour input in agriculture with the resultant increase in the earning power of farm land. The increase in income, however, is greater with the smaller scales of farming. As a result, the gaps between different scales of farming in respect of farm and disposable incomes per capita decreased markedly, although great differences still persist in respect of farm income per hour; a fact which reflects an effect of the control on the transfer of farm lands. If such transfer remained free, productivity would not be affected so much by the difference in the scale of farming, as may be indicated by Table 12 which shows that there is not much difference in disposable income per labour hour between first- and second-class farmers before the land reform, as long as the acreage of a landholding or of leased land is the same.

In the foregoing discussions, we have studied how the Land Reform

influenced consumption, savings, investment, and productivity in the agriculture of Japan up to 1954. It has been made clear that the Reform stimulated a marked rise in propensity to consume, but that its effect on productivity by way of the increase in agricultural investment was still rather feeble. Moreover, the control of farm land transfer and rent control had rather negative effects on the utilization of lands, so that a rational allotment of capital and labour for their profitable utilization was hampered. At one time after the war, the average income level of farmers was thought to have risen in such degree as to exceed that of the non-farming populace. This was when the redistribution of income through the Land Reform made itself felt around 1950. Since then, however, the income disparity between agricultural and non-agricultural sectors has again turned against the former, and for this the Land Reform must be responsible, at least in the sense that it has not helped much in raising the productivity of agriculture.