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Dartmouth

*Agricultural Policy Reforms in South Korea: Motivations, Features and Effects***

INTRODUCTION

Although the Korean economy is basically orientated toward the free-market system, government intervention in the agricultural sector has been continuously intensified over time through various types of price controls and trade restrictions as well as demand and supply adjustments. Government intervention has been historically accepted as a given condition, justified on the ground that undesirable developments that hinder the attainment of policy objectives would occur in the national economy if the determination of agricultural prices were completely left to market forces. It is also consistent with the belief that government has a responsibility to take such action as may be considered necessary or appropriate to ensure a steady flow of food supplies to consumers and thus maintain economic stability.

What are the policy objectives and what kind of developments should be considered undesirable? These are a matter of judgement that depends on the political and economic conditions as perceived by the policy makers. So far as the agricultural policy is concerned in Korea, the following objectives are regarded as relevant: (1) enhancing farm income; (2) food (especially rice) self-sufficiency; (3) reducing foreign exchange spendings on food imports; (4) price stability and urban consumer welfare; and (5) minimizing government costs.

During the past three decades, economic calculations as well as changes in the political climate have influenced the priorities given to the individual objectives upon which agricultural policy and development strategy have focused. A multitude of constraints has also affected the policy direction. This paper is about this shift in the priorities, motivated by the interactions of political and economic considerations, and attempts to assess the effects of price policy in terms of the extent to which it contributed to pursuing the above objectives.

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**The paper is heavily drawn from Moon and Kang (1987) 'A Comparative Study of the Political Economy of Agricultural Pricing Policies: The Case of South Korea,' a research project sponsored by the World Bank under the direction of A. O. Krueger, M. Schiff and A. Valdes.

MOTIVATIONS AND FEATURES OF AGRICULTURAL POLICY REFORM

Korean government policies toward agricultural sector in the 1950s were characterized either by neglect or a concern largely confined to recovery from wartime destruction. The government investment in and loans to agriculture were severely limited because of the increasing budgetary requirement for rehabilitation works and defense purposes. The government investment in agriculture amounted to less than 10 per cent of the total government investment outlays. About all that the budget was capable of financing in the agricultural sector were maintenance of the existing irrigation facilities and the import of chemical fertilizer under the US grant aid. Food prices had to be held down as low as possible in order for the government to acquire enough food grain to meet such basic needs as feeding the armed forces, wounded veterans and workers in the basic industries, such as coal mining, railway transportation and so on, as well as to alleviate the post-war inflationary spiral.¹ The availability of US aid grain since 1955 provided one of the major props that enabled the Korean government to pursue a low price policy for staple food grain.

It was in the early 1960s that government exhibited some enthusiasm toward agriculture. As the economy gradually recovered from war damages, the major objective of economic policy shifted from rehabilitation to expansion. The basic goal of the policy as envisaged in the first (1962–6) and the second (1967–1) 5-year economic development plans was to build a foundation upon which to attain self-sustaining economic growth. Geared to this goal, government launched various programmes to boost agricultural production; including expansion of irrigation facilities, land reclamation, increased supply of fertilizer and pesticides and strengthening of agricultural research and extension. The share of government investment in agriculture was increased to over 20 per cent of the total government investment outlays. Various agro-related institutional reforms were also carried out. Major ones include a New Agricultural Cooperatives Law enacted in 1961 to merge the Agriculture Bank into the National Agricultural Co-operative Federation and thus to integrate co-operative marketing and the agricultural credit system. In 1962 the Office of Rural Development was established with a view to expanding agricultural research and rural extension activities.

Despite these efforts of government to enhance agricultural production, the basic direction of agricultural pricing policies remained the same as in the 1950s. Farm grains incentives continued to be sacrificed, as higher prices for major food grains led by higher support prices was believed to cause a rise in the general price level. Therefore, stabilization of food grain prices at low level, whether through increased imports or through enforcement of a ceiling price system, was one of the priority considerations in the government effort to achieve general price stability. Low food prices for urban industrial workers, whose expenditure on food items accounted for 50–60 per cent of the total living costs in the 1960s, were not only rationalized in terms of equitable income but also served primarily to protect industrial interests, hence capital formation in the nonagricultural sector. When the supply of labour was highly elastic with rural areas overpopulated in the initial stage of industrialization, low food prices contributed to keeping labour

costs down in two ways: directly, they reduced the cost of living in urban areas and thus made it possible to maintain industrial wages at a lower level; indirectly, a continuous flow of rural labour seeking urban jobs exerted a downward pressure on urban wages or at least alleviated an upward pressure.

The persistent neglect of price incentives eventually hindered efforts to increase food production on the part of farm producers. The overall self-sufficiency in all grains declined from 95 per cent in the mid-1960s to around 70 per cent in the early 1970s, with almost one-third of the total requirement filled by imports. With the aggravating food shortage and the growing urban-rural income disparity, policy makers were obliged to give serious consideration to expanding food grain production and enhancing the income position of farmers. As US aid began to phase out and the importation of aid grain was reduced, food grain imports caused a substantial drain on foreign exchange reserves. Rapid inflow of rural migrants into urban areas was another stimulant for policy makers to reconsider the urban-biased economic policies. There was also another change of a more political nature by the early 1970s, which impelled the regime to reorientate economic policy toward agriculture. The government of the late President Park began to perceive electoral erosion in rural areas in the 1971 presidential vote as an ominous reaction of rural people to the long-lasting bias against agriculture in economic development policy. The world food crisis in the early 1970s and resultant soaring grain prices in the world market gave rise to another impetus which made it inevitable for the government to shift the emphasis in its development strategy toward agriculture.

From the early 1970s, government undertook to improve the terms of trade in favour of farm producers even at the cost of some increase in inflationary pressure. The initiation of higher purchase prices for major grains represented a dramatic change in agricultural policy and was part of the government effort to stimulate domestic food production and upgrade farm incomes. Another major shift in policy was the initiation of massive-scale investment in the rural infrastructural development under the name of the Saemaul (New Community) Movement. In particular, high priority was given to land and water development with a view to enhancing overall productivity. Prices of fertilizer and pesticides were heavily subsidized. Fertilizer use per hectare of cultivated land more than doubled during 1965–75, increasing from 137 kilos (in nutrient basis) in 1960 to 282 kilos in 1975. Stimulated by a steady outflow of the rural work force coupled with rising rural wages, government also initiated various supportive measures to facilitate the introduction of labour-saving farm machinery. As a result, farm implements have increased sharply in both number and variety.

A highly supportive agricultural policy was reflected in a drastic shift from negative protection to positive protection for major agricultural commodities. While the government liberalized imports of a wide range of manufactured items by the early 1970s, agricultural trade remained under strict control based on the supply and demand projections to ensure that there would be imports only to fill domestic shortages. The average effective rate of protection for rice, for instance, was (–)31.8 per cent during 1965–9, but it rose to 4.9 per cent during 1970–4 and to as high as 80.8 per cent during 1980–6. For beef it rose from (–)12.7 per cent during 1965–9 to 1.1 per cent during 1970–4 and to 86.6 per cent during 1980–6. The indices of government investment bias (GIB) (as measured in terms of the

TABLE 1 *Selected indicators of agricultural sector for selected years, 1960–86*

Year	Agricultural ^a Terms of Trade		Government ^b Investment Bias (GIB)	Index of Aggregate Agricultural Output	Rice Yield (Polished Basis)	Index of Labour Productivity in Rice Farming	Fertilizer Use (Nutrient Basis)	Index of ^c Farm Household Income	Index of ^d Urban Wage Earner's Income	Food Self- Suffi- ciency Ratio
	Products	Rice								
	(1960=100.0)	(1960=100.0)		(1960=100.0)	(MT/Ha)	(1960=100.0)	(kilos/Ha)	(1960=100.0)	(1960=100.0)	(%)
1960	100.0	100.0	.597	100.0	2.7	100.0	137	100.0	100.0	94.5
1965	150.2	133.4	.526	129.2	2.9	126.5	174	121.9	176.9	93.9
1970	148.8	145.3	.817	148.7	3.3	124.4	245	137.6	335.0	80.5
1975	167.0	187.7	.854	186.4	3.9	164.6	282	230.5	370.6	73.0
1980	158.0	141.5	1.441	210.5	4.2	245.4	285	321.5	625.0	56.0
1986	148.5	139.7	2.093	262.7	4.5	343.6	317	502.6	911.9	44.5

Notes: ^a*Index of prices received by farmers* x 100
Index of prices paid by farmers

$${}^b\text{GIB} = \frac{CI_A / CI}{GDP_A^{NI} / GDP}$$

Where: *CI* = Total public investment expenditure

CI_A = Public investment expenditure on agricultural sector

GDP = Total gross domestic product

GDP_A^{NI} = GDP originating in agriculture in the absence of government intervention

^cOriginal income data deflated by the index of prices received by farmers

^dOriginal income data deflated by the consumer price index.

Source: Ministry of Agriculture, Forestry and Fisheries, *Agricultural Statistics Yearbook*, various issues, *Farm Household Economy Survey*, various issues. Economic Planning Board, *Major Statistics of Korean Economy*, various issues; *Urban Household Living Expenditure Survey*, various issues.

relative share of agricultural investment in total investment expenditure to relative share of agricultural GDP in total GDP) rose about .60 in 1960 to .85 in 1975 and to as high as 2.0 by the mid-1980s, implying that the agricultural sector came to receive more and more investment resources relative to what it contributed to the national output growth.

What about the food self-sufficiency and farm income objectives which the government was so eager to pursue? Owing to the expanded cultivation of high-yielding varieties, improved farming techniques and expanded investment in land and water development, a remarkable increase has been recorded in aggregate farm output, especially in food grain production. Total food production measured in index terms (1960=100.0) increased from 129.2 in 1965 to 210.5 in 1980. Despite this rapid growth in overall food production, the overall self-sufficiency in all grains declined from 93.9 per cent in 1965 to 73.0 per cent in 1975 and 44.5 per cent in 1986, with over half of the total requirement filled by imports (see Table 1). This decline in the rate of self-sufficiency is mainly due to the increasing demand for wheat, feed corn and soybean, which in turn is caused by rapid changes in food consumption patterns. But at least self-sufficiency in rice was nearly attained by the late 1970s, with a few years' exception for crop failure. From an economic perspective, the rice self-sufficiency programme – increased production from high-yielding varieties combined with higher prices and input subsidization – was the core of a rural income policy since rice was a key component of the crop mix of the average farmer. Index of labour productivity in rice farming (1960=100.0) almost doubled during the period 1965–80, increasing from 126.5 to 245.4.

As for the farm income objective, the actual effects can be measured by the growth of farm household income relative to that to the urban wage earner. During the 1960–9 period, in which the government's economic policy was urban-biased, the annual average growth rate of income for urban wage earners was 14.6 per cent, whereas that for farm households was only 3.5 per cent. During 1970–6 the situation was reversed: farm household income was increasing at an annual rate of 9.5 per cent and that of urban wage-earners at only 4.6 per cent, resulting in a substantial improvement of farm income position relative to urban wage-earners. But since the late 1970s despite continual protective policies, farm incomes rose at a slower pace than that of wage-earners, and thus the pressures for protection intensified.

In pursuing highly supportive agricultural policies, the urban interest in cheap food, particularly for lower income group, and the need to keep labour-intensive manufacturing competitive, were not totally neglected. Hence, the burden of supporting agriculture by means of higher prices could not be placed on urban food consumers only. The policy choice was a two-price scheme for staple food grain whereby both producers and consumers were subsidized; that is, higher government purchase prices for producers and lower selling prices for urban consumers, with the financial deficit borne by the government.

The two-price policy for staple food grain has definitely contributed to increasing food production, upgrading farm income and at the same time alleviating an upward pressure on consumer prices. The implementation of a two-price system, however, was not without conflict with other objectives-financial and monetary stability. As a large portion of the deficit has been financed by an

inflationary method, or long-term overdraft from the Bank of Korea, this policy became a major factor in the increase in the money supply. The expanding scale of the government deficit due to the two-price policy has finally emerged as one of the serious constraints to the grain price policy.

From the late 1970s the government began to take measures to reduce the grain deficit. The burden of reducing this deficit fell mostly on farm producers, though part fell on consumers. Annual increases in the purchase prices of major food grain began to fall behind the rate of inflation; that is, purchase prices in real terms gradually fell after 1977. There were two reasons for this shift in policy direction. First, policy makers became increasingly concerned with the upward pressure on the general price level of increases in money supply resulting from the inflationary financing of the grain deficit. Second, as budget requirements for developing heavy industry and expanding social overhead capital were enormous, the cost of the two-price policy almost exceeded the limit that the government could tolerate.

Many economists and nonagricultural public officials began to argue that farm income should be improved from the long-run point of view through some policy programme other than heavily subsidizing the prices of agricultural products at an ever-increasing government expense. Are there less expensive ways to achieve farm income objective? One possibility is to increase agricultural productivity, particularly labour productivity, and thereby reduce the domestic cost of producing food. However, there is limited scope for doing this even through extensive investment in the agricultural sector. The small size of farms is a main restraint on raising agricultural labour productivity. With an average size of one hectare per farm, the scope for substituting capital for labour is severely limited. Since the early 1960s, the government has been striving to improve the agrarian structure, but it has been unable to do much to enlarge the scale of farming operations due to limited land resources.

Given the smallholder structure of Korean agriculture, a conceivable alternative to achieve rural-urban income parity is the expansion of the sources of non-agricultural income through fostering rural-located industries. In fact, the rural industrialization programme was launched in Korea from the mid-1970s under the Saemaul (New Community) Factory Programme. According to the official statistics, a total of 740 small-scale factories, such as food processing, handicrafts, textile manufacturing and so on, had been established by 1982 in rural areas. But because of lack of effective linkages with related industries, marketing difficulties, poor management and so on, only about a half of them have survived and remain in operation today.

With a renewed awareness of the importance of nonagricultural employment opportunities in rural areas, the government enacted the *Farm Household Income Source Development Act* in 1981. The Off-farm Income Development Planning Group, which is chaired by the Vice Minister of the Economic Planning Board, has been established since 1981 as a national level planning and co-ordination organization as part of the rural industrialization efforts.

Given the current unfavourable infrastructure in rural Korea, however, the expansion of off-farm employment sources cannot be achieved in a short period of time. Promotion of off-farm employment through rural industrialization can only be achieved in the context of a long-term goal that involves concerted regional planning including a wide range of physical and institutional infrastruc-

tures. It cannot be achieved simply with an industry-relocation plan containing a certain package of financial incentives or with an agro-related supplementary programme, which has been the case in Korea so far. The governmental institutional framework for decision making is another limiting factor in the pursuit of rural industrialization. In Korea there are six ministries which are responsible for policies affecting the rural population and despite the establishment of a Co-ordination Group in the Economic Planning Board, it appears to be extremely difficult to reach agreement on carrying out a comprehensive programme which requires a trade-off between agricultural and nonagricultural rural investments. Another point one must not overlook with regard to rural industrialization is the possibility that the expansion of off-farm employment opportunities may cause: (a) a further rise in farmland prices due to increased demand for residential and industrial sites; (b) overinvestment in farm machinery because of a rise in rural wages; and (c) decrease in incentives for farming with an increasing number of part-time operators who would otherwise leave farming. Thus, rural industrialization which is thought to substitute for agricultural price increases may, paradoxically, exert an upward pressure on agricultural prices. On the other hand, as pointed out by Anderson and Hayami (1986), the political costs of higher food prices for urban consumers will be declining as the share of food costs in urban household budgets declines. The limited possibility of agricultural labour productivity growth and limited success in rural industrialization will continue to provide the incentive for farmers to seek income increases through governmental price support for a considerable time to come.

DISTRIBUTIONAL EFFECTS OF POLICY REFORMS

Effects on intersectoral income transfer

Changes in agricultural product and input prices due to price interventions as well as public investment effect a transfer of income between the agricultural and nonagricultural sectors of the economy. Two major categories are considered to quantitatively identify the intersectoral transfer of income under the free trade situation with no government protection of agriculture: price related transfer and non price related transfer. The price related includes implicit price subsidies for major agricultural commodities (rice, barley, soybean, beef and pork), a major input (chemical fertilizer) and an agricultural credit subsidy.² The non-price portion includes actual public expenditures in the agricultural sector. The farmland tax and miscellaneous public charges paid by farmers are only categories of direct income transfers out of agriculture. Table 2 presents the estimated real income transfer expressed in terms of the ratio to total agricultural GDP between the agricultural and the nonagricultural sector.

The total income transfer between the two sectors indicates negative figures throughout the 1960s, implying that resources were extracted from the agricultural sector. Measured in terms of relative share in agricultural GDP, the total sum of income flow from the agricultural to the nonagricultural sector consti-

TABLE 2 *Real income transfer into (+)/ out of (-) agriculture, 1962–86 (as share of agricultural GDP), per cent*

Period	Non-Price Transfer ^a	Price related Transfer			Total Transfer
		Products ^b	Inputs ^c	Sub-total	
1962–64	.3	(-)16.6	(-)0.3	(-)16.9	(-)16.5
1965–69	2.4	(-)29.6	(-)0.3	(-)29.9	(-)27.5
1970–74	5.0	2.6	1.2	3.8	8.8
1975–79	5.2	19.5	1.5	21.0	26.2
1980–86	7.7	24.2	1.3	25.5	33.2

Notes: ^aIncludes public expenditures, farmland tax and miscellaneous public charges paid by farmers.

^bIncludes five major agricultural products: rice, barley, soybean, beef and pork. Real income transfer due to product price intervention defined as:

$$(VA_i - VA^*_i) Q_i$$

where VA_i = Actual value added of product i

VA^*_i = Value added of product i in the absence of government intervention

Q_i = Output of product i

^cIncludes subsidy for fertilizer, livestock feed and farm credit. For detailed procedures of estimation, see Moon and Kang (1987).

Sources: Ministry of Agriculture and Fisheries, *Agricultural Statistics Yearbook*, various issues; *The Cost of Production Survey*, various issues. National Agricultural Cooperatives Federation, *The Rural Price and Wage Survey*, various issues; *Fertilizer Yearbook*, various issues. National Livestock Cooperatives Federation, *Demand and Supply of Livestock products*, various issues. Economic Planning Board, *The Summary of Government Budget*, various issues. The Bank of Korea, *The Economic Statistics Yearbook*, various issues; *The Price Survey*, various issues. FAO, *Trade Yearbook*, various issues.

tuted 16.5 per cent during 1962–4 and 27.5 per cent during 1965–9. This outflow of income from the agricultural sector was attributable not only to the persistent low food-price policy but also to the exchange rate overvaluation in the 1960s. From the early 1970s through the mid-1980s, as the price subsidization for major food crops was intensified, the total income transfer to the agricultural sector turned positive and consistently increased thereafter. Relative share of the price-related transfer in agricultural GDP rose as high as 25.5 per cent during 1980–6. When added to the public expenditure portion, the share increased to 33.2 per cent, implying that one-third of agricultural GDP came for the nonagricultural sector during 1980–6. In short, the agricultural sector which was a major contributor to industrialization in the earlier period became a major beneficiary from the early 1970s, as the economy grew.

Effects on income distribution among different income groups

The intersectoral income transfer was analysed in the preceding section. What we are interested in here is the income distribution between different sizes of farm within agriculture and between different income groups in the urban area. Although the same price is applied, the relative benefits or losses due to changes in relative prices differ among different sizes of farms and among different urban income groups.

The benefits of a protective policy are measured in terms of the proportional changes in real income farmers gain beyond what they would have received in the absence of that protective policy. Larger farms normally produce more and sell a larger portion of what they produce than do small farms.³ Hence, the distribution of price support benefits tend to be more heavily concentrated among large farms. The results presented in Table 3 support this hypothesis.

The distributional effects, with changes in output and quantity of purchased inputs due to intervention taken into account, were negative for all sizes of farms during 1965–9. The distributional loss for small farmers in terms of decrease in real income during 1965–9 was 9.3 per cent in the absence of negative price policy, while that for the large farmer was 30.3 per cent. But the distributional effects have turned positive for all three groups since the early 1970s and has become greater as producer prices were increasingly subsidized. The relative net benefit which small farmers received was 13.9 per cent and that for large farmers was 52.4 per cent over what they would have received in the absence of the price subsidies during 1980–6. The effect is much greater in percentage terms (and even more in absolute terms) on larger farms than smaller farms, resulting in a worsening of income distribution within agriculture. Moreover, the smallest farms may be hurt by a protective price policy which aims at maintaining domestic market prices at a higher level, because many farmers with marginal holdings are net purchasers of food during the off-season. In so far as they purchase food for cash, price support affects them primarily as consumers, causing a decline in real incomes.

As for the effect on income distribution among different income groups of urban consumers, a reverse situation arises. Generally, lower-income urban consumers spend a higher proportion of their incomes on food items than do those with higher incomes.

According to the estimated results in Table 3, the distributional effect was to increase real incomes for all groups until the mid-1970s. This is because urban consumers consumed food at lower prices than would have prevailed in the absence of government interventions. Since the late 1970s, however, government intervention has had the effect of reducing the real income of all urban consumers. During 1980–6, the protective price policy resulted in reducing the real income of the low-income group by 4.9 per cent and that of the high-income group by 2.4 per cent. But the incremental expenditure in terms of absolute amount is much larger for high-income group because of a larger initial food expenditure.

In summary, the current price support policy tends to provide benefits primarily to larger farms and the upper-income class of urban consumers. Conversely, a very large number of small farms and urban lower-income earners

TABLE 3 *Real income distributional effect in rural and urban areas, (as proportional changes in real income)^a, per cent*

Period	Rural Area			Urban Area		
	Small Farmers	Medium Farmers	Large Farmers	Low Income Group	Middle Income Group	High Income Group
	(0.5 ha or less)	(0.5–1.5 ha)	(1.5 ha or more)	(lowest 3 deciles)	(middle 4 deciles)	(highest 3 deciles)
1962–64	7.3	(-)5.9	(-)2.6	10.8	6.6	3.9
1965–69	(-)9.3	(-)22.9	(-)30.3	8.9	5.4	3.0
1970–74	9.0	8.9	8.9	3.1	1.9	1.0
1975–79	10.7	24.2	37.4	(-)2.9	(-)1.8	(-)1.3
1980–86	13.9	33.0	52.4	(-)4.9	(-)3.6	(-)2.4

Notes: *Proportional change in real income defined as:
 $(y-y^*)/y^*$ for farm household
 CPI^*_K/CPI_K-1 for urban household

where: y = Actual real income

y^* = Real income in the absence of government intervention

CPI^*_K = Consumer price index of income group K in the absence of government intervention

CPI_K = Consumer price index of income group K

For detailed procedures of estimation, see Moon and Kang (1987).

Sources: Ministry of Agriculture and Fisheries, *The Farm Household Economy Survey*, various issues.
The Bank of Korea, *The Price Survey*, various issues.
National Agricultural Cooperatives Federation, *The Rural Price and Wage Survey*, various issues;
National Livestock Cooperatives Federation, *Demand and Supply of Livestock Products*, various issues.
Rural Development Administration, *Standard Incomes of Crops and Livestock*, various issues.
Economic Planning Board, *Consumer Price Statistics*, various issues; Urban Household Living Expenditures Survey, various issues.

are helped little by the protective policy. As the economy continues to grow, however, product lines will become increasingly diversified and the consumption pattern will undergo a substantial change. As a result, both the variety and volume of nonagricultural goods in the domestic market increase, while the relative share of food in household expenditure falls. The average share of food in the cost of living was 40 per cent in 1970 but it had declined by 1986 and is expected to decline further as real income grows. Consequently, the distributional impact of agricultural price support policy on urban wage earners will tend to be much smaller than on farm producers.

SUMMARY

Throughout much of the 1950s and 1960s, because Korea's development strategy centred on rapid industrial growth, the agricultural sector received insufficient resources and the stabilization of agricultural prices at low levels was one of the priority considerations in the government's efforts to curb inflation, sacrificing price incentives to increased agricultural production. Low food prices for urban workers served primarily to protect industrial profits and capital formation at the expense of farm producers.

It was in the early 1970s that grain prices in the government procurement programme were used to improve agricultural terms of trade with a view to enhancing farm incomes and stimulate production, even at the cost of some increase in inflationary pressure. Both food producers and consumers were subsidized by means of a two-price scheme for staple food grain with the financial deficit borne by the government. Another major shift in policy was the initiation of massive-scale investment in rural infrastructure under the Saemaul (New Community) Movement programme. In terms of the intersectoral flow of resources between the agricultural and nonagricultural sector, the agricultural sector provided 17 per cent of its total GDP in 1962-4, but from the early 1970s the financial flow had reversed. The total transfer from the nonagricultural sector amounted to 26 per cent in 1974-9 and 31 per cent in 1985-6. The agricultural sector which was once a major contributor to industrialization became a major beneficiary as the economy grew. Owing to the expanded cultivation of high-yielding varieties, improved farming techniques and expanded investment in land and water resource development, total food production, measured as an index, increased from 100-120 in the early 1960s to 200-210 in the late 1970s, and self-sufficiency in rice was nearly attained. The expanding government deficit, however, has emerged as one of the serious constraints to the highly supportive agricultural price policy. Furthermore, the present agricultural price policy tends to benefit primarily larger farms and the upper-income class of urban consumers, whereas large numbers of small farmers and the urban lower income groups are not much helped by the price support.

By the early 1980s policy makers began to exhibit enthusiasm for rural industrialization as a substitute for agricultural price support. Given the unfavourable infrastructure in rural Korea and inefficient industrial linkages, however, the expansion of off-farm employment sources cannot be achieved in a short period of time. The limited success in rural industrialization will continue to provide the incentives to farmers to seek income increase through governmental price support for a considerable time to come.

NOTES

¹Since the enactment of the Grain Management Law in 1950, the grain market in Korea has been characterized until today by a dualistic system, combining free-market transactions and government control, although the degree of government control had varied from year to year. This law gave the government full legal authority for complete regulation of the grain market whenever considered necessary; free-market transactions exist only by government sufferance and not from lack of legal authority to control the grain market.

²In measuring the price related transfer of income, not only the effects of direct intervention (such as direct subsidy for major agricultural products and inputs) but also the effects of the indirect intervention (including exchange rates and foreign trade policies) were taken into account. Detailed procedures of measurement are not presented here due to space limitation; but see Moon and Kang (1987).

³Not all large farms have large sales; and not all farms with large sales are large-size farms. Even for judging the relative distribution of benefits, therefore, farms must be classified by income size group, not by acreage size group. But due to the limited data availability, the present study had to rely on the classification by acreage size group.

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DISCUSSION OPENING – KEIJIRO OTSUKA

The paper by Pal-Yong provides a good summary of the evolution of agricultural policies in Korea for the last few decades. Analytically this paper is concerned with the equity consequences – farmers versus consumers, large versus small farmers, and rich versus poor consumers – and with the identification of economic forces underlying the policy changes over time, from consumer protection to producer protection and, further, to the saving of government market intervention costs. His argument is simple and clear, and I do not have any basic disagreements with his analysis. However, there seems to be a critical shortcoming in this paper, that is, the lack of analysis on the efficiency implication of agricultural policies. Needless to say, the major economic issues in policy analysis include not only the evaluation of equity consequences but also the identification of efficiency consequences. I raise this issue because I believe that clear understanding of the efficiency loss caused by agricultural policies is the key to gain insights into government behaviour beyond those obtained by his current analysis, and also to make appropriate policy recommendations. In this comment I will attempt to illustrate the possible relevance of the efficiency issue to agricultural policy formation in Korea by referring to the experience of Japan.

Though not mentioned in the paper, the similarity between the Korean and Japanese agricultural policies is striking. I wonder if the obvious difference is the time lag of about ten years. For example, the policy shift from consumer

protection to producer protection occurred in the early 1970s in Korea and in the early 1960s in Japan, when the spurt of industrial growth took place. The rice sector was particularly supported by price support in both countries. Moreover, both the Korean and Japanese governments started to reduce market intervention costs, arising from the producer support policies, as excess supply emerged.

According to the author, the Korean government started to support the agricultural sector in the early 1970s in order to reduce the widening income gap between the farm and non-farm sectors. The author also argued that because of the limited possibilities to raise labour productivity and to increase off-farm employment opportunities in rural areas in Korea, the price support policy will be needed in future to prevent the sectoral income gap from widening. Implicit in these arguments is that the intersectoral labour market functions so inefficiently that the sectoral income gap cannot be closed by intersectoral migration from agriculture, off-farm rural employment, and other labour market adjustments. As in Korea, farmers' incomes lagged behind that of industrial workers in Japan in the early 1960s, but now farmers are much richer than industrial workers. It was, however, not the price support but the increased availability of off-farm employment opportunities in rural areas that significantly raised the relative income of farmers. The question is whether and to what extent the price support policy is effective in increasing the income of individual farmers. If labour markets between farm and non-farm sectors are well integrated, wage incomes tend to be equalized between the two sectors and, hence, the price support policy will not be effective to raise the income of farmers. Although off-farm employment opportunities in rural areas are more limited in Korea than in Japan, I wonder if labour market adjustment in Korea is as inefficient as the author assumes. It seems to me that deeper analysis of the efficiency of the intersectoral labour market and the relationship between the sectoral income gap and agricultural policy formation is needed.

The author argues that price support policy favoured large farmers more than proportionally because they supply a large fraction of their output to the market. This is true, but large farmers may suffer from the price support if the land (rental) market is imperfect and scale economy exists. In Japan, larger farmers have started to express opposition to price support, because the higher product price increased the land price, which made it difficult for them to accumulate more land in order to realize the benefits of scale economies. If the land market is perfect, such a problem does not arise. In Korea are there any significant economies of scale in farming? How efficient are the land and tenancy markets? I suspect that the scale economy has been emerging but the expansion of farm size has been hindered by the land reform in Korea. If so, the efficiency of the land market should be an integral part of the policy analysis.

Why is the rice sector particularly favoured in both Korea and Japan? Why was the active price support policy followed by a policy to reduce government costs of price support in both countries? Will other Asian countries, which have been growing as rapidly as Korea and Japan in their earlier phase of industrialization, follow similar patterns of agricultural policy in the future? Obviously, these are difficult questions to answer. It seems to me, however, that the 'efficiency' loss associated with the transfer of income from consumers and

taxpayers to producers should be an important consideration to understand these phenomena.

In sum, my argument is simply that in order to gain deeper understanding of the determinants of the agricultural policy in Korea, Japan and also, perhaps, in other countries as well, it is indispensable to analyse the efficiency aspect of the policy consequences more carefully with clearer focus on the role of factor markets.