AGRICULTURAL STRUCTURAL POLICIES

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For the thirty six low-income economies with per capita incomes of $380 or less in 1984 and with a total population of 2.4 billion or 46 percent of the world's population as of 1984, 36 percent of the gross domestic product came from agriculture. Due to the difficulties of accurately estimating the incomes of poor farm people, a more appropriate measure of the relative importance of agriculture in these economies was that 70 percent of the labor force was engaged in agriculture. The remaining labor force was equally divided between industry and services (World Bank 1986). Another indication of the importance of the farm sector, which includes farmers and the locally supporting population, was that 77 percent of the population of these countries lived in rural communities.

As economic growth occurs in the low income economies, the relative importance of agriculture must and will decline. How fast the decline will be is primarily a function of how rapid is the rate of economic growth, as measured by increases in per capita real incomes. In the lower middle-income countries (per capita incomes from $450 to $1,620) the agricultural labor force constitutes 56 percent of the total and in the upper middle-income countries $1,700 to $7,260 per capita) 29 percent of the total (World Bank 1986). Several upper middle-income countries that have about the same share of employment in agriculture as the average of the group include Brazil (31 percent), Panama (32 percent) and Algeria (31 percent).
These data indicate the remarkable transformation in the structure of economics as economic growth occurs but perhaps the point can be made more impressive by considering changes in labor force employment in economies that have exhibited sharp falls in the relative importance of farm employment and other economies that have not. The average annual growth rate in per capita GNP are also given for the two groups and while there is a high positive relationship between labor force decline and high per capita income growth rates, the relationship is not perfect. The People's Republic of China has had a relatively high income growth rate, but with only a modest drop in the relative importance of farm employment. South Korea and Taiwan both had sharp falls in farm employment and very rapid income growth rates. India had a small decrease in relative agricultural employment, similar to the P.R.C., and a relatively slow income growth rate. Thus factors other than income growth influence the rate at which agriculture declines even though income growth may well be the single most important influence. But economic and social policies can influence the structural changes in economies, but more on that later.

In the low-income countries agriculture remains as a major source of exports, though a rapidly declining one in most areas. In 1982-84 agricultural exports accounted for nearly a third of all exports from low-income countries, down from nearly three-fifths in 1964-66 (World Bank 1986, p. 3). In low-income Africa farm exports still accounted for 68 percent of all exports in 1982-84. These percentages may be compared to agriculture's 14 percent share of total exports in the industrial countries.

Based on the importance of agriculture in the economies and farm people in the populations of developing countries, agriculture and rural people should have a reasonable priority in development policies. But it
has not always been so nor is it so in many—I fear one must say, most—countries today. However, there does appear to be a shift in policies in several developing countries toward being more even-handed toward agriculture and farm people. There have emerged a number of rapidly growing developing economies that have turned from negative protection (exploitation) of agriculture to high rates of positive protection, all within two decades or less.

Obviously some economies that have followed policies that exploit agriculture through taxation, price controls, low government procurement prices, and neglect of investment in agriculture have achieved reasonable rates of growth. China was such an example for most of the two decades 1958-1977 during which it had a reasonable rate of national income growth of 3 to 3.5 percent while some other countries, who will remain unnamed but not unknown, have neglected or exploited agriculture and rural people and suffered the appropriate consequences. Unfortunately the latter outcomes did not result in justice having been achieved since the exploited always suffered much more than the exploiters. But China also shows very clearly that good deeds have their rewards. With the drastic revision of agricultural and rural policies that occurred in 1978-79, agriculture became the cornerstone of economic reform policy and a highly dynamic component of a rapidly growing economy with a growth rate at least twice what it was the previous two decades.

There is often a tendency in discussions of economic development to stress the negative aspects of the relative decline of agriculture. One of these negative aspects includes the transfer of workers from farm to urban areas. Many farm people find themselves in urban slums or favellos and this is considered by many to be highly undesirable, both for them and the urban
areas to which they have migrated. In reaching this conclusion most fail to realize that these people generally had even worse living conditions in rural areas with access to even fewer governmental and social services and living in equally poor housing and with no better sanitary conditions.

The decline in the relative importance of agriculture as economic growth occurs is evidence of a striking and very important fact: the share of the nation's resources required to produce food has declined. If the share of resources required to produce food did not fall over time, economic growth would occur at a very slow rate, if at all.

Distortions in Rural and Agricultural Sectors

Governments seem to have an almost infinite capacity to create distortions in their rural and agricultural sectors. Not only is the variety of such distortionary interventions most numerous, the severity of the extortions imposed by some of the distortions has reached amazing levels as will be illustrated later. Compared to some governments the famous American frontier bandit, Jesse James, was a saint.

In a single paper it is not possible to deal with all the existing distortions displayed by output pricing policies, input availabilities and prices, credit misallocations and the existence of marketing boards that are both monopsonist and monopolist as well as an arm of the finance minister responsible for collecting part of the national revenue. But I want to first emphasize what is a generally neglected set of distortions that have a major negative impact upon rural people in the present and result in substantial economic and social costs in succeeding generations, not only for farm people but also for urban residence.
Neglect of Rural Education and Infrastructure

The neglect of rural infrastructure and public services has been a universal phenomenon, in the industrial market economies, the centrally planned industrial economies and today's developing economies. The industrial countries have had to pay a relatively high economic, social and political price for such neglect, as are the developing countries today with few exceptions. No one of the now industrial countries provided the urban level of per capita investment in rural infrastructure and services until the farm population became a very small percentage of the total population. Even today some industrial countries do not provide the same educational opportunities in rural as in urban areas. The Soviet Union, as of 1983, 15 million of its rural population lived in officially designated "futureless villages." These villages are not to receive any governmental investment, not for new social, cultural and educational structures or roads or public services such as water and sewerage disposal (Mezhberg 1978). The objective is apparently to induce these farm people to move to more populous centers by making their present living conditions most harsh and unattractive.

To some considerable degree, the huge expenditures industrial countries now make on price and income policies that distort domestic incentives, resulting in excess production capacity, depress world market prices and restrict export opportunities for many developing countries have their origins in the consequences of the failure to provide farm people with the same educational and cultural opportunities provided urban people before WW II and the years immediately after. The fact that farm people, until rather recently in most industrial countries had less and poorer quality education than their urban counterparts created a rural-urban income disparity due to the influence of the lower level of human capital upon the earnings of those
whom economic adjustment required searching for alternative employment if they and other farm people were to share in the fruits of economic growth. Failure to provide farm people with the same amount and quality of education made available to urban people makes it inevitable that human effort engaged in agriculture shall receive lower rewards than the average urban person of the same age and sex. Thus the failure to invest in rural education and other aspects of rural life in one generation becomes part of the rationale for governmental price and income supports for agriculture.

In fact, farm people suffer a double income disability. First, there is the lower income that results from more limited human capital and, second, there is the fact that a labor earnings differential is required to induce farm people to transfer from farm to nonfarm jobs, most often by actually making a physical move. If only a few persons had to make this adjustment each year, the differential could be quite small. But in many, many instances, 3 to 4 percent of the farm population migrates annually, year after year for several decades. This is in addition to those who transfer partially or wholly out of nonfarm employment without a change of residence. In the United States today in three out of four families at least one member has a nonfarm job; in Japan approximately four out of five families have at least one member with a part-time or full-time nonfarm job.

Policy makers know—or should know—that once per capita incomes reach $500-$750 and national income grows at 4 or 5 percent annually, at least one out of two children born on farms will spend their working lives at nonfarm jobs. This raises the most serious questions about the universal failure of governments to provide farm people with the same access to education as is available to urban people and the unwillingness of governments to actually assist rural-urban migration and thus narrow the differential required to
induce the high rates of migration required if farm people are to fully share in the benefits of economic growth and rising real incomes. Governments do not assist effective rural-nonfarm migration even while they give enormous subsidies to urban people through providing urban transport, housing or food at much below cost. This approach results in rapid urban population growth but it generates few new productive opportunities in either rural or urban areas and due to the high governmental cost of the subsidies actually reduces employment possibilities in the economy by reducing investment due to the competition of the subsidies for the available financial and real resources.

But even at per capita income levels below $500 there will be migration from farms to cities if there is freedom of movement. In part this results from higher population growth rates in rural than in urban areas. Consequently even when the percentage of the population engaged in agriculture declines slowly or not at all, a significant percentage of farm youth move to nonfarm areas. As real per capita incomes increase, the percentage who leave becomes larger and larger. Policy makers have almost everywhere at all times ignored this significant consequence of economic growth and development.

Output Pricing: Direct and Indirect Distortions

The nature and extent of governmental interventions in farm output prices is explored in considerable detail in the World Bank's World Development Report 1986. My few remarks draws upon that very useful document. The general tendency in low-income developing countries is to tax agriculture as part of a strategy of promoting industrialization and urban growth. Some of the taxation is quite direct, such as export taxes, while in other cases
farm products are procured in a compulsory manner at low prices and the product sold to urban consumers at a low price or the excess comes to a marketing board.

Examples of extreme exploitation of farm producers are, unfortunately, easy to find. About 1980 a producer of maize in Tanzania received a price less than 25 percent of the border price and coffee producers in Togo received less than 30 percent (WDR 1986, pp. 64-65). In India tea producers received half the border price as was also true of groundnut producers in Mali and cotton producers in Egypt. Export crops are particularly subject to heavy taxation because such taxation provides the government with convertible foreign currency and such taxes are relatively easy to collect unless they become too onerous. But important domestic food crops also may have a low ratio of farm to border prices, as illustrated by a ratio of about 0.4 for rice in Egypt or 0.55 in Ghana.

These are illustrations of direct interventions—where governments openly intervene to transfer income from farm people to nonfarm people or the government. There are other forms of intervention that adversely affect incentives to produce agricultural products. The first, namely that of protecting domestic producers of farm inputs, will be considered later. There are two other important approaches which taken together may well be more adverse to agriculture than most of the direct interventions. These include protection of manufactured products as a part of an import substitution policy and the overvaluation of the national currency. In low income developing countries agriculture is often the major exporting sector. Import duties on manufactured imports act like a tax on agricultural exports and domestic prices of farm products are low relative to the prices of the protected manufactures (World Bank 1986, p. 63).
But the overvaluation of currencies can be the most onerous tax upon agricultural products that are traded. Currency overvaluation can reach remarkable proportions in some cases. In Ghana in the early 1980s the currency may have been overvalued by a factor of more than ten. Overvaluations of 100 percent are not uncommon and existed in both Nigeria and Tanzania in the early 1980s (WDR 1986, p. 67). Often what appear to be positive protection for farm products when border prices are calculated at the official exchange rate, turn out to be negative protection when a realistic value is used for the exchange rate. For example, a positive protection coefficient of 50 percent will be fully offset if the currency is overvalued by 50 percent and becomes negative protection if the overvaluation is greater than 50 percent—a not uncommon occurrence.

But not all of the interventions in developing countries result in negative protection. In a number of rapidly growing middle income developing countries the negative protection of agriculture that prevailed during the 1950s and 1960s turned to substantial rates of positive protection by the mid-1970s. This was the path taken by Japan somewhat earlier and followed by Korea and Taiwan to a lesser extent (Anderson and Hayami).

Input Supply and Pricing

There have been numerous instances in which import substitution policies have resulted in the development of high cost farm input industries, such as fertilizer, insecticide and herbicides, seeds and farm machinery. But there have been many cases in which subsidies are used to lower the costs of these inputs to farmers to offset in part or in whole the high cost of the domestically produced product. While subsidy rates on fer-
tilizer may seem to be very high—often 50 to 70 percent (WDR 1986, p. 95)—the net effect may be little more than bringing farm prices of fertilizer down to world market levels. However, we must add that we have limited information on the net effect of the combined distortions—low output prices, high domestic cost of inputs, and input price subsidies. Hopefully, the current World Bank study of price and income policies will provide such information for developing countries.

We do have evidence that there have been many cases of subsidies for machinery in low income developing countries. Such subsidies have been due to relatively low tariff rates and an overvalued currency combined with credit subsidies. The benefits of mechanization subsidies accrue exclusively to the larger and better off farms. At least in the short run, mechanization subsidies reduce the return to farm labor. This means that the relatively well-to-do have benefited at the expense of those who are much poorer.

Credit Subsidies

Credit subsidies have great potential for resource misallocation and for windfalls for those who are politically well connected. Brazil may represent the extreme case of agricultural credit subsidies run amuck when it provided loans at nominal rates of interest that were often less than half the rates of inflation that reached 100 percent per year and more. At one point in the late 1970s the cost of credit subsidies exceeded 5 percent of GDP (WDR 1986, p. 99). Fortunately the subsidies were sharply reduced after 1980 and are now relatively unimportant. What was supposed to be a credit program turned out to be largely a transfer program and transfers
went not to low income farmers but to the better educated, more sophisticated and higher income farmers.

Subsidized low interest rates discourage lending to small or low income farmers, presumably the group the subsidies are supposed to help. This need not occur out of malice or indifference. A low income farmer has a modest credit demand. Many of the costs involved in making loans are independent of the size of the loan. The costs of making a loan for 200 rupees for four months may well exceed the interest collected at a rate of 6 percent or a total of 4 rupees. From the standpoint of the credit institution which is under pressure to minimize its losses, it makes better sense to make one loan of 4000 rupees rather than 20 loans of 200 rupees each.

Marketing Boards

Marketing boards must have been an invention of the devil. Why do I say this? Because the motives in establishing them seemingly represented the best of intentions—to provide price stability, to lower the cost of marketing, and to protect farmers and consumers from the avarice of traders and speculators. But like all inventions of the devil, the good intentions only masked the true outcomes. The true outcomes were that the marketing boards became instruments for the exploitation of farmers, a sinecure for the friends and relatives of the politically powerful, and a source of great inflexibility and inefficiency in carrying out their functions. These outcomes should have been anticipated. Whenever a grant of monopoly power is made to either a private or public body, one must anticipate that such power will be used to further the interests of those who hold that power.
Policy Guidelines for a Productive and Efficient Agriculture

Often the appropriate objective of agricultural policy in developing countries is said to be achieving a more rapid growth of output. While increased rate of output growth has some desirable features, by itself it is not the most reasonable objective unless other criteria are also met. These other criteria include achieving output growth at reasonable cost and in a setting that provide farm people with the opportunity to share fully in the fruits of economic growth.

In what follows I emphasize a number of guidelines that I believe will contribute to an agricultural economy that is efficient and provides reasonable returns to farm people. The guidelines, it may be noted, follow rather closely from the discussion of distortions.

The first general guideline is that an efficient and productive agriculture can best prosper if there is a balanced policy approach. A balanced approach emphasizes incentives to produce, through appropriate prices for outputs and inputs, the development and/or adaptation of new and improved production techniques, and the encouragement of factor markets for labor and capital that will over time result in near equality of returns to comparable resources in agriculture and nonagriculture.

In recent years a number of agricultural economists have fallen into the trap of arguing that since productivity change has larger effects upon agricultural output than changes in farm prices, getting prices right is relatively unimportant. Consider the following: "Technological change is an instrument of far greater consequences than the relative price of

fertilizer in accelerating the use of this input;" or "In the short run, a higher price accompanied by the introduction of new technology may encourage the use of fertilizer and other cash inputs and move output towards a higher production possibilities frontier. But in the long run, to what degree do higher prices encourage investment in irrigation, even more superior technology, etc., thereby including a further shift of the frontier?" One wonders why such views are maintained after the work of Schultz, Hayami and Ruttan, Griliches, and others on the role of profitability on the adoption of new technology and the responsiveness of research institutions to potential profitability of innovations upon their allocation of resources?

Agriculture and farm people should receive equitable treatment compared to urban sectors and people—there should be no special subsidies or privileges available to nonfarm people that are not also available to farm people. In many developing economies and some of the more advanced centrally planned economies, there are large food price subsidies, as well as subsidies for transportation, energy and housing, from which farm people are wholly or largely excluded. But this may well not be the only disadvantages suffered by rural communities. At least equally important are the differences in infrastructure between the countryside and the cities—roads, schools, communication, electricity, cultural activities, and the availability and variety of goods and services for sale.

The second guideline, which follows from the previous paragraph, is that farm people should have the same opportunity to acquire human capital as nonfarm people. Unfortunately, that was not achieved in the industrial countries until the farm population had declined to a tenth or less of the total population and it is not now being met in any developing country.
Failure to meet this guideline will add greatly to the adjustment costs imposed upon both rural and urban areas as economic growth dictates migration out of agriculture into nonfarm communities.

The third guideline is that the patterns of production should be those that contribute most to the income of the nation, taking advantage where possible of the opportunities provided by international trade. There is a body of opinion that makes an emphasis upon an export crop that impairs food self-sufficiency a sin or a crime. This seems to be accepted even though the export crop results in higher incomes for both labor and land. But this guideline applies not only to taking advantage of the opportunities provided by international trade. Many countries follow discriminatory pricing and subsidy policies with respect to products that are primarily domestically produced and consumed. In particular, countries in Asia discriminate against rice relative to wheat. Both India and China have farm prices for rice (paddy) that are below wheat prices yet international market price relationships would suggest a paddy price somewhat higher than the farm price of wheat. The difference in relative prices is not insignificant—domestic rice prices are approximately a third lower than domestic wheat prices, using relative international prices as the guideline. The rationale for this pricing behavior seems reasonably straightforward—it is believed that the price elasticity of supply of rice is significantly lower than for wheat. It is not obvious that this conclusion has ever been put to a reasonable scientific test. What may be true is that wheat farmers have greater political influence than rice farmers.

I have observed the developments of agricultural policies in a considerable number of countries for the past four decades. One of the most discouraging lessons I have learned is that the failure of a policy measure
is almost never followed by the abandonment of that measure. Instead, an effort is made to fix the measure, often in a way that exacerbates its already bad record, or a new measure is introduced designed to offset some of the worst effects of the first measure. If low farm prices inhibit output growth and the adoption of new production techniques, the simple alternative of freeing the price is seldom given more than a moment’s consideration; the alternative adopted is to introduce a subsidy on some input such as fertilizer, whose benefits will go primarily to the larger and more well-to-do farmers.

Fortunately one can point to an important exception to the general rule that policies failures are never recognized. The exception is the remarkable series of reforms undertaken by China since 1978. It is hard to believe that there has ever been such a systematic dismantling of failed farm policies as has occurred in China. And the consequences have been very positive. In just six years agricultural production has increased by 50 percent and agricultural plus industrial activities at the village level have increased by more than 60 percent. This has been achieved with at most a 25 percent increase in inputs in agriculture.

There is some evidence of change, admittedly at modest pace, in some of the African countries that have had such disastrous agricultural performance in recent years. But in all too many countries failed policies are continued with little or no change.

Let me conclude this part of my discussion by stating a final guideline: Governmental intervention in agricultural markets should occur only when there is a strong affirmative case for so doing. For many of the interventions that we see in the world today, an affirmative case cannot be made. One argument against most of the interventions is that they are both
ineffective in achieving their stated objectives and impose substantial
costs upon taxpayers and consumers or, in too many cases, are made possible
by economic exploitation of farm people.

I do not argue against every market intervention. But such interven-
tions should only be introduced after thought and study. It is very clear
once an intervention is introduced, such as a price support, a price subsidy
for consumers or an input price subsidy, it is very difficult to eliminate.
Thus the expected gain from an intervention should be substantial because it
is all too clear that the potential economic and social losses can be very
large if the intervention becomes a political ploy, used in an effort to
maintain a group in power or to get into power.

Market Price Interventions that
Do Less Harm than Good

The discussion of the past few pages is not an argument against all
forms of governmental intervention in agriculture in the developing coun-
tries. The major argument was that farm people should not be discriminated
against in the provision of public services and infrastructure such as
transport, communication and cultural facilities. Nor should farmers be ex-
pected to pay for a disproportionate share of the costs of modernizing the
economy. In this scenario, there is a very large role for government in the
provision of education, medical facilities, research and an efficient and
extensive rural infrastructure. But governments go beyond these areas and
engage in market interventions. What guidelines can be provided for de-
veloping countries who wish to use market interventions in a constructive
way, not as a means of exploiting farmers or providing jobs for someone's
relatives, but in an effort to improve the functioning of the market. Unfortunately, this is not a question for which there is a generally acceptable set of recipes. I shall make a few general comments.

In establishing the general structure of farm prices when governments intervene there are three important considerations that should be borne in mind. This discussion represents primarily an amplification of the guidelines referred to earlier. The first is that of relative farm or producer prices for the various farm products. I can see no rational basis for departing significantly from the relative international market prices for the same products, after appropriate adjustments for quality and location. The second is that of the relationship of farm prices, on the average, to the prices of tradable nonfarm products or to the prices of products that farmers purchase. The third is that where there is quite direct governmental intervention through procurement and control of marketing, seasonal price differentials should be permitted that encourage storage by producers and consumers. As a corollary, there should also be regional price differences that reflect differences in transport and marketing costs.

What is the particular merit of relative farm product prices that reflect relative international market prices? Relative international prices, say averaged over a period of three to five years, are measures of the alternatives available to a nation and thus provide a guide for its own use of resources. If wheat sells in world markets for less than half the price of rice, what does any country gain from maintaining the prices of the two grains at approximately the same level? This is not a hypothetical statement since a number of developing countries maintain such a price relationship between rice and wheat.

There is no implication in the merit of international price relationships that implies that international market prices are "fair" or "equi-
"table" or that they always accurately reflect world supply and demand conditions. At times international market prices for farm products are significantly distorted, as they are in 1987. But such prices do reflect the terms on which most farm products can be exchanged and thus have an important implication to what resources can profitably be devoted to the production of a particular product relative to acquiring the product by trade.

The second consideration relates, of course, to whether farm people receive a share of the national output commensurate to their contribution to it, based upon relative international values. The question relates to whether or not there is an urban bias expressed through the relative prices of the farm and nonfarm sectors of the economy. Obviously farm people can realize increased incomes when the ratio of domestic farm prices to domestic nonfarm prices is less than the similar ratio in the international markets. But given the extent that international market prices of major farm products are depressed by the excess agricultural resources in the industrial countries due to their protection of agriculture, even approximate equality in the two ratios results in some urban bias in the developing countries. To have a lower ratio of farm to nonfarm prices is to clearly and significantly discriminate against farm people.

Governmental market interventions all too often fail to reflect even a tiny percentage of the subtlety and differentiation with respect to quality, time and location displayed even by markets that function under what most of us would consider to be primitive conditions under less than ideal conditions. Studies, such as Uma Lele's study of grain marketing in India, show very clearly that the private marketing systems that have emerged in developing countries operate at low cost and with a degree of effectiveness in
reflecting underlying demand and supply conditions that one does not find in governmental marketing institutions. It may well be that it is more difficult to carry out various procurement and price stabilizing activities by working with the private market instead of displacing it. But when all costs are taken into account, these difficulties are not large compared to the costs of the alternative approach of creating a governmental bureaucracy to carry out, quite ineffectively, the functions performed by the private market.

It is quite obvious that most governments intervene in agricultural product markets. In most cases the adverse consequences of such interventions to the efficiency and costs of carrying out marketing functions could be reduced substantially. This is as true of the industrial as of the developing countries. The market interventions in the EC and the United States generally fail to adequately reflect quality, location, and seasonal differentials. Thus it should not be altogether unexpected that in the developing countries the distortions due to market interventions are often quite substantial.

Since governments do intervene, it would seem that rather more attention should be given to how such interventions can be carried out with less adverse consequences. To the best of my knowledge, there has been rather little research done on this topic. True, the case against the majority of the parastatal marketing agencies has been made in numerous cases. But since governments are going to intervene for a variety of reasons, it would seem appropriate to seek for approaches that are more cost effective and achieve most of the objectives sought by the government.
Concluding Comments

It is not too difficult to specify what constitutes appropriate structural policies for agriculture. What is far more difficult is to explain why actual structural policies for agriculture in the developing countries are so different from the appropriate policies. I have not attempted this in the present paper. Yet it seems to be a topic that merits far more attention than it has so far received. If governments nearly universally extract large rents from agriculture even though eventually it is obvious that they will kill or badly maim the goose that lays the golden egg, inducing a change in such policies should be facilitated by a better understanding of why so many countries have followed policies that have significantly reduced the productive capacity of agriculture. Industrial countries, of course, follow opposite policies, namely ones that result in the creation of excess productive capacity.

I fear that we have not advanced our understanding very much from what Adam Smith wrote in 1776 (The Wealth of Nations, p. 50):

The laws concerning corn may every where be compared to the laws concerning religion. The people feel themselves so much interested in what relates either to their subsistence in this life, or to their happiness in a life to come, that government must yield to their prejudices, and in order to preserve the public tranquility, establish that system which they approve of. It is upon this account, perhaps, that we do seldom find a reasonable system established with regard to either of those two capital objects.