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5 The Growth of Agricultural Protection

Joachim Zietz and Alberto Valdés

Agricultural protectionism in industrialized countries is well known to heavily burden consumers and/or taxpayers. But it also reaches far beyond a country's borders. It negatively affects actual or potential agricultural exporters. Among them are industrialized countries such as Canada, Australia, and New Zealand, but also numerous developing countries, including some of the poorest. Since agriculture is the sector of comparative advantage for many developing countries, now and for some time in the future, agricultural protection does materially impair their potential for economic growth (Valdés and Zietz 1980; Valdés 1987; Goldin and Knudsen 1990).

Agricultural protection is not only important quantitatively, in the sense of imposing heavy costs on developing countries as well as on consumers and taxpayers in industrialized countries. Agricultural protection also has significant qualitative effects. Because agriculture is hardly under any of the disciplines of the General Agreement on Tariffs and Trade (GATT), it is the cause of continual trade friction among the major industrialized countries. It has also been at the heart of many of the problems encountered in international trade negotiations under the aegis of the GATT. Overall, agriculture has helped discredit the GATT process and may yet prevent true progress in opening up international trade (Zietz and Valdés 1988).

Finally, agricultural protection is not confined to the old industrialized countries. On the contrary, it appears to spread to developing countries in the process of industrialization. Korea and Taiwan are two prominent examples. The two countries have experienced a dynamic growth of agricultural protection that is unprecedented in history, thus providing them with protection levels not unlike those of Japan or the European Community (EC).

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The determinants of agricultural protection and its growth over time have been investigated in previous studies. Among the contributions are Anderson (1983), the papers in Anderson, Hayami, et al. (1986), Anderson and Tyers (1989), Krueger, Schiff, and Valdés (KSV) (1988), and Lindert (1991). Most of these studies, however, are conducted at a fairly high level of aggregation.¹ By contrast, this paper's perspective is somewhat more disaggregate in nature. This allows one to address more readily such important issues as the commodity composition of protection, the type of protective measures being used, and the intrinsic dynamics of agricultural protection. A more detailed understanding of how agricultural protection develops, in turn, permits one to provide more specific predictions of the future course of protection and to suggest ways to halt or slow its growth.

The paper is organized as follows. To provide a framework for the subsequent discussion, the first section surveys the pattern and extent of agricultural protection in East Asia relative to other industrialized countries. The following section identifies the rationale for the observed pattern of agricultural protection and its growth over time. The concluding sections supply both some predictions of how agricultural protection may spread to other developing countries and some ways to contain its spread.

5.1 The Pattern of Agricultural Protection in East Asia Compared to Other Industrialized Countries

Table 5.1–5.3 provide some detail on the extent of protection for some important traded agricultural commodities in East Asian countries and other industrialized countries. Table 5.1 uses producer subsidy equivalents (PSEs) as the method to measure the level of support to producers. PSEs have become a popular measurement instrument at least since the publication of the OECD (1987) report on agricultural policies in industrialized countries. PSEs include direct assistance to farmers via border measures that keep the domestic producer price above the import price and nonborder government assistance financed through the budget, such as input subsidies. For the EC and East Asia, border measures are the major cause behind the high PSEs.² For most, although not all, agricultural commodities in the United States, subsidies and direct payments to farmers are the dominant form of assistance.³ Hence, in general, it is the taxpayer who finances the support to farmers in the United States, whereas it is the consumer who does the same in other countries. The trade effect of a particular PSE figure can differ depending on what makes up the PSE (Zietz and Valdés 1988). Even if this were not the case, the PSE still

1. An exception is KSV (1988), which is also unique in putting into perspective the relative importance in terms of incentives to farmers of direct sectoral (agricultural) protection and the indirect effects resulting from economy-wide policies, such as overvalued exchange rates.

2. The PSEs are therefore close in value to the nominal rates of protection.

3. PSEs can therefore diverge significantly from nominal rates of protection.

Table 5.1 Average Producer Subsidy Equivalents for Major Commodities, 1982–87

	Wheat	Rice	Sugar	Beef
Australia	6.7	11.2	13.8	6
Canada	36.2		37.7	10.3
EC	31	47.5	32.8	43.5
New Zealand				12
U.S.	40.7	46.5	68.4	9
Japan	99.7	89.4	69.7	61.9
South Korea		74.0		64.4
Taiwan	65.9	31.4	43.4	18.5

Source: Webb, Lopez, and Penn (1990).

provides only the support level provided to producers. If one is interested in measuring the trade effect of government assistance, one has to look also at the consumer subsidy equivalents (CSEs). CSEs tend to be negative for most countries with positive PSEs and with border measures making up the bulk of the PSEs. Consumers are, in other words, taxed by agricultural support measures and, therefore, consume less than in the absence of agricultural support measures. As a consequence, imports are lower.

In Korea and Japan, protection for the major food staples such as rice is mainly rationalized, at least officially, with food security arguments, an objective for which border measures are not optimal in the sense of minimizing the associated welfare losses.⁴ Assuming that the governments are not acting irrationally, there appears to be a need for explaining this particular choice of intervention. In this context, a natural ancillary question is to what extent the motivation for protection in East Asia is different from that for the European Community (EC). The EC's main objective for protecting the agricultural sector is, quite openly, to achieve income parity for its farmers. Again, border measures do not provide the welfare-maximizing tool to achieve this objective. Hence, the question for choosing border measures also arises with regard to the EC. The discussion in the following section will also try to shed some light on this choice.

As demonstrated in table 5.1, support levels in Korea and Taiwan have surpassed those in the EC and are closing in on those in Japan. This is quite remarkable given that producers of agricultural products were still taxed in the early 1960s. This unusually fast shift from taxing agriculture to protecting it has been the subject of several studies (Anderson, Hayami, et al. 1986). A question that arises in this context is whether the East Asian experience with

4. This is an optimal tool of intervention only if self-sufficiency (reduction in or elimination of imports) is desired. To simply achieve food security or income parity, more efficient measures are available. For a discussion of border measures from the perspective of GATT, see Snape (1987).

agricultural protection is an exception or whether one could expect other developing countries on the verge of industrialization to follow suit. Needless to say, the latter would have significant implications for world agricultural markets. This point will be explored in some detail in the following sections.

It is well documented that protection in industrialized countries extends to product groups other than the major staples of table 5.1. Fruit and vegetables, that is, higher-value agricultural products similar to beef, are also heavily protected (Islam 1988). Japan has some of the highest tariff levels among industrialized countries for these products. For most countries, there exists a significant degree of tariff escalation for this product category. Products are less heavily protected when they are fresh compared to when they are processed. Nontariff barriers (NTBs), such as discretionary import licensing procedures as well as sanitary and phytosanitary regulations, tend to be widespread for these product groups. They materially restrict trade, especially for developing countries without the legal expertise and political power to cut through the bureaucratic maze associated with these measures.

Table 5.2 provides some more detail on the import regime for agricultural products for East Asian countries. One observes that both South Korea and Taiwan follow the pattern of Japan rather closely: high tariffs on the major staples and on high-value products combined with restrictive import licensing, customs clearance, and sanitary regulations. The NTBs in these three East Asian countries appear to be particularly effective in restricting trade, even with other industrialized countries (U.S. Trade Representative 1991). What makes these NTBs so effective is the fact that they are often administered by lower-level bureaucrats with significant discretionary power to interpret rules and guidelines that are intentionally left rather vague.

5.2 Agriculture's Response to a Loss of Comparative Advantage

5.2.1 The Loss of Agricultural Comparative Advantage

The point of departure for our discussion is a structural change of the economy of the type that occurs during the development process. For a low-income agriculture-based country, such a structural change is typically the emergence of a rapidly growing manufacturing sector. This development is of interest for the discussion of agricultural protection insofar as industrial earnings tend to jump ahead of those in agriculture. The resulting sectoral income disparity, in turn, increases the opportunity cost of traditional farming and, hence, eventually eliminates its comparative advantage.

The economic reasons for a loss in comparative advantage can be found on both the input and the output side of the agricultural production process.⁵ On

5. A common way to think of agriculture's loss in comparative advantage is in terms of an appreciation of the real sectoral (agricultural) exchange rate.

Table 5.2 Import Protection for Agricultural Products in East Asia

Country	Protective Measure
Japan	<ul style="list-style-type: none"> A. High tariffs on agricultural products relative to industrial products (12.1 vs. 2 percent) B. Extensive quantitative import restrictions on cereals (ban on rice imports); planned phasing out of quotas on beef and oranges C. Restrictive phytosanitary restrictions on fresh fruit and vegetables
South Korea	<ul style="list-style-type: none"> A. High tariffs (up to 50 percent) on high-value agricultural products such as fresh fruit, nuts, juices, and processed foods B. Restrictive import licensing regime for agricultural products (none for industrial products) covering, among others, rice (effective import ban), beef (effective import ban from 1985 to 1989), feed grains, soybeans, and fruit and vegetables; beef liberalization in progress C. Slow and arbitrary customs clearance procedures, including excessive and discretionary phytosanitary regulations
Taiwan	<ul style="list-style-type: none"> A. High tariffs on agricultural products relative to industrial products (23.2 vs. 9.7 percent) in 1989 B. Very high tariffs (40–50 percent) on high-value agricultural products such as fresh fruit and processed foods C. Strict import licenses for most agricultural products, with effective bans on wheat flour, chicken, and peanuts D. Restrictive phytosanitary standards and testing requirements for meats, fruit juices, and other products

Source: U.S. Trade Representative (1991).

the input side, rising unit production costs are to blame. They have their origin in two developments. First, urban migration and wage competition with industry tend to raise rural wages above the rate of productivity growth in the traditional agricultural sector. Second, industrial inputs, such as farm machinery or fertilizer, rise in price if a policy of import substitution is followed for the industrial sector. On the output side, the reasons for a lower income growth rate in agriculture relative to industry can be found in (i) a changing demand pattern and (ii) the indirect effects of general trade and macroeconomic policies that affect the exchange rate.

There are a number of reasons for demand to shift away over time from traditional agricultural products or agricultural products in general. One important reason for a relative decline in demand derives from Engel's law.⁶ Products with an inelastic income elasticity will experience less sales growth than products with an income elasticity above unity. Hence, their share in total product will decline in a closed economy that grows over time. *Ceteris paribus*, the relative decline in demand will deteriorate the internal product or sectoral terms of trade, raise the opportunity cost of production, and, hence, lower or possibly eliminate any existing comparative advantage.

6. Other reasons for changing demand patterns clearly exist, e.g., changing preferences. But we will abstract from them at this point to streamline the discussion.

An overvalued exchange rate, as caused, e.g., by a fixed nominal exchange rate combined with domestic inflation, can have a similar effect. It tends to lower the border price of agricultural tradables and, therefore, depresses the demand for domestically produced commodities, hurting the producers of both exportables and import-competing products. Industrialization through a policy of import substitution has the similar effect of implicitly taxing exports and subsidizing imports. The economics of these effects has recently been subjected to a thorough investigation for agricultural products, particularly in KSV (1988), Schiff and Valdés (1992), and several studies at the International Food Policy Research Institute (see, e.g., Dorosh and Valdés 1990; Mundlak, Cavallo, and Domenech 1989; Bautista 1987; and Garcia 1981).

5.2.2 Responses Other than Protection to a Loss in Comparative Advantage

In the process of losing its comparative advantage, traditional agriculture is put under pressure to adjust, that is, to identify ways to avoid the negative income effects that accompany a loss in comparative advantage. Protection, or, more generally, government support programs, is clearly one way to avoid these income effects. However, there may be alternative viable responses.

Take first the loss in comparative advantage that results from a relative decline in revenue. To simplify the discussion, let us assume that farmers can do little to materially affect overall macroeconomic or trade policies and thus eliminate the pressure on revenue that may originate from this side. Low income elasticities for traditional staple food products such as cereals⁷ are then the main reason for declining product or sectoral terms of trade. To escape their consequences, productivity can be raised. This may be done by switching to large-scale production and/or the adoption of input-saving production technologies. Alternatively, farmers can switch to agricultural products with high income elasticities of demand. Products that fit into this category include such high-value commodities as beef and veal; other livestock, such as poultry and pork (nonruminant meats); fresh fruit and vegetables; processed foods, such as preserved fruit and vegetables, jams and jellies, and fruit juices; and, last but not least, items that satisfy the demand for healthier products, such as biologically grown foods. The common theme is to move from homogeneous commodities that are sold under conditions of perfect competition into product groups with a high value-added content, for which product innovation, differentiation, and identification allow for some degree of imperfect competition.

The latter has been a quantitatively important response in East Asia. The share of gross value of cereals in agricultural production has declined by one-third or more in Japan, Korea, and Taiwan since the 1950s. During the same time, the share in agricultural production of livestock (in particular nonrumi-

7. Compare, e.g., the collection of elasticity estimates in Carter and Gardiner (1988).

nant meats) and fruit and vegetables has doubled or tripled (Anderson 1986, 12). This move toward high-value products with high income elasticities, however, can avoid the need for government assistance only as long as adequate resource endowments exist for the latter products. For beef and veal, for example, which are classic high-value high-elasticity commodities, this means the availability of cheap feed, either in the form of extensive pasturelands or low prices for feed grains. An alternative to beef production for countries endowed with little land is the production of nonruminant meats, that is, pork and poultry. These livestock products offer income elasticities similar to that of beef without the need for extensive grazing land. This is why a country like Thailand, with a very low pasture per capita figure (see table 5.4 below), can be a very significant and competitive exporter of nonruminant meats. It may also explain why Korea and Taiwan, both with similarly low pasture per capita levels, have relatively low support levels for pork.

If rising unit costs endanger comparative advantage, an increase in productivity is a vital response. Eventually, as wages continue to rise disproportionately in industry, rising unit costs are of concern also in the production of high-value products. This will happen the sooner the more labor intensive their production is. Many horticultural products fit into this category. It is interesting to note in this context that much of the fruit and vegetable production in the United States depends for its competitiveness on cheap migrant labor that is hired on a seasonal basis. The absence of cheap labor in addition to high land prices may explain the considerable protection afforded to high-value fruits documented for Japan, Korea, and Taiwan in table 5.2.

From the discussion above it follows that, in the long run, sufficient productivity growth and/or low labor costs are essential to avoid a loss in comparative advantage for agriculture. Whether sufficient productivity growth can be achieved depends on a number of variables. A very important one is the resource base of the country. A few examples will illustrate the role of the resource base in this context.

Raising productivity sufficiently may be difficult to achieve for countries with little arable land relative to the population size. Better production technology alone is certainly insufficient for staple food products such as cereals because these products will likely remain very land intensive regardless of any foreseeable improvement in production technology. The key to productivity increases, in particular for staple foods, would therefore appear to rest on the ability to make use of economies of scale in production. This in turn requires sufficient land resources. Tables 5.3 and 5.4 illustrate the implications of this simple idea with some numbers on the endowments of countries with agricultural land. Table 5.3 refers to industrialized countries and table 5.4 to developing and newly industrialized countries. Both tables rank the included countries by two criteria: (i) hectares of permanent pastureland per one thousand inhabitants and (ii) hectares of arable and permanent cropland per one thou-

Table 5.3 Industrialized Countries' Endowment of Land Useable for Agriculture

Country	Permanent Pastures (in hectares) per 1,000 Inhabitants	Country	Arable and Permanent Cropland (in hectares) per 1,000 Inhabitants
Australia	26,939.9	Australia	2,994.3
New Zealand	4,337.8	Canada	1,826.6
USSR	1,343.1	USSR	833.5
Ireland	1,335.1	United States	793.6
Canada	1,230.2	Spain	530.3
United States	1,009.1	Denmark	502.7
Greece	530.8	Hungary	499.3
Yugoslavia	275.1	Finland	491.8
Spain	267.4	Romania	467.9
Austria	261.3	Bulgaria	464.2
Switzerland	247.5	Poland	399.1
Bulgaria	228.7	Greece	398.0
France	221.1	Sweden	355.2
United Kingdom	203.6	France	343.0
Romania	193.7	Yugoslavia	336.8
EC-12	176.4	Czechoslovakia	332.5
Hungary	117.5	Germany, East	297.8
Poland	109.4	Ireland	294.9
Czechoslovakia	105.9	Portugal	270.6
Italy	87.2	EC-12	245.3
Netherlands	77.7	Italy	212.1
Germany, East	75.0	Norway	204.3
Germany	74.9	Austria	200.7
Germany, West	74.9	Germany	159.9
Belgium/Luxemburg	69.7	New Zealand	159.7
Sweden	68.1	United Kingdom	124.6
Portugal	52.0	Germany, West	122.2
Denmark	42.3	Israel	102.4
Israel	37.8	Belgium/Luxemburg	79.7
Finland	26.9	Switzerland	63.4
Norway	23.6	Netherlands	61.5
Japan	5.1	Japan	39.4

Source: Calculated from information given in U.S. Department of Agriculture (1990).

sand inhabitants.⁸ A high value for the first criterion can be interpreted as being indicative of a comparative advantage in ruminant meat production. This is borne out by the fact that, of the six countries with values in excess of one thousand in table 5.3, five are net exporters of ruminant meat, with the one exception being the former Soviet Union. In addition, four of the coun-

8. Arable land includes mainly land under temporary crops, whereas permanent cropland refers to land that is not planted after each harvest (e.g., fruit, rubber, and other trees) (see U.S. Department of Agriculture 1990).

Table 5.4 Endowment of Land Useable for Agriculture: Developing Countries and Newly Industrialized Countries

Country	Permanent Pastures (in hectares) per 1,000 Inhabitants	Country	Arable and Permanent Cropland (in hectares) per 1,000 Inhabitants
Somalia	5,342.6	Argentina	1,182.0
Zambia	5,223.9	Senegal	791.7
Argentina	4,678.7	Zambia	774.3
Uruguay	4,521.7	Tunisia	693.4
Paraguay	4,498.8	Cameroon	681.9
Bolivia	4,195.3	Sudan	569.8
Madagascar	3,333.3	Brazil	559.0
Mozambique	3,188.4	Niger	551.6
Sudan	2,557.1	Turkey	548.4
South Africa	2,511.7	Paraguay	544.0
Tanzania	1,576.6	Bolivia	539.8
Peru	1,458.1	Syria	535.5
Niger	1,445.3	Uganda	443.0
Algeria	1,440.2	Uruguay	442.0
Colombia	1,391.9	South Africa	406.5
Burkina Faso	1,265.8	Burkina Faso	384.2
Brazil	1,224.2	Thailand	383.9
Chile	1,095.0	Morocco	383.7
Ethiopia	1,067.4	Chile	359.0
Venezuela	1,008.7	Ivory Coast	354.5
Morocco	954.3	Iraq	347.1
Mexico	945.4	Algeria	343.0
Iran	934.2	Malawi	339.4
Senegal	863.6	Ethiopia	329.3
Cameroon	813.7	Zimbabwe	325.5
Syria	793.1	Iran	314.9
Panama	590.9	Mexico	313.5
Zimbabwe	578.1	Malaysia	312.8
Ecuador	521.7	Nigeria	311.8
Zaire	490.2	Madagascar	298.0
Guinea	483.9	Ecuador	276.1
Tunisia	426.8	Burma	272.8
Uganda	335.6	Panama	258.2
Dominican Republic	326.9	Zaire	254.9
China	306.7	Tanzania	233.8
Ivory Coast	297.0	Dominican Republic	229.7
Ghana	269.3	Guatemala	229.4
Malawi	262.9	Mozambique	223.9
Iraq	254.8	Ghana	222.0
Nigeria	210.2	India	220.9
Kenya	183.3	Venezuela	217.9
Turkey	177.3	Pakistan	214.2
Guatemala	168.8	Peru	198.7
Nepal	116.4	Somalia	189.8
Haiti	84.4	Colombia	185.9
Indonesia	73.1	Rwanda	184.5

(continued)

Table 5.4 (continued)

Country	Permanent Pastures (in hectares) per 1,000 Inhabitants	Country	Arable and Permanent Cropland (in hectares) per 1,000 Inhabitants
Rwanda	70.0	Haiti	153.4
Pakistan	52.0	Philippines	144.4
Sri Lanka	27.8	Nepal	136.4
Taiwan	21.9	Indonesia	128.7
Philippines	21.2	Sri Lanka	118.7
India	15.6	Guinea	116.9
Thailand	14.1	Kenya	116.2
Burma	9.8	Vietnam	111.6
Bangladesh	6.0	China	93.6
Vietnam	5.2	Bangladesh	90.8
South Korea	1.9	South Korea	52.2
Malaysia	1.7	Egypt	51.3
Egypt	.0	Taiwan	45.8

Source: Calculated from information given in U.S. Department of Agriculture (1990).

tries are reported with low PSE values in table 5.1, which suggests that their export performance is not the result of government intervention. It is also interesting to see Japan at the very bottom of the list of countries in table 5.3. Again, this corresponds well with the very high PSE values in table 5.1. The second criterion used in tables 5.3 and 5.4, arable land per capita, is intended to show that countries with high values are likely to be able to produce and export cereals or other land-intensive crops competitively. It comes as no surprise that the countries with large, sparsely populated land masses, such as the United States, Canada, and Australia, tend to be net exporters of cereals. Again, Japan is at the bottom of the list, with PSE levels on cereals that are far in excess of those of other industrialized countries. The message of table 5.4 is fairly similar to that of table 5.3. Argentina, an important exporter of both ruminant meat (beef) and cereals, is very close to the top of the list of countries, suggesting a strong comparative advantage, whereas Korea and Taiwan are close to the bottom.

One may note in this context that a large land endowment is certainly not sufficient for a country to be a competitive exporter of meats or cereals.⁹ Other factors can reduce or eliminate the advantage of a large land endowment. Examples are ill-defined property rights or heavy taxation of the agricultural sector. The latter factors largely explain why countries such as the former Soviet Union and Romania are net importers of cereals despite their favorable land endowments.

9. The EC, e.g., is an exporter of beef only because of very high levels of government assistance (table 5.1) and very low costs for feed grain substitutes (soybeans, cassava, etc.).

To the extent that productivity cannot be increased sufficiently and cheap labor is not available, two choices remain to farmers to avoid the negative income effects associated with a loss in comparative advantage. They can (i) raise their off-farm labor supply or (ii) invest in political activity with the objective to obtain government help through either input subsidies or higher output prices. Which route is taken depends ultimately on the perceived cost-benefit ratios associated with each option.

Sufficient nonfarm employment opportunities within reach of the rural household can prevent negative income effects when comparative advantage declines. Nonfarm employment has certainly been a significant factor for East Asian farmers. As reported by Anderson (1986, 13), the share of income from nonfarm sources has risen for Japanese farm households from 49 percent in the early 1960s to more than 80 percent in the early 1980s.¹⁰ An even stronger increase has been observed for Taiwan, with the share going from 34 to 74 percent. Lagging somewhat behind in this respect is Korea, with the share moving from 20 to 35 percent. The main reason for the slower pace of change in Korea is likely the slow growth of off-farm employment opportunities in rural areas compared to Taiwan and Japan (Otsuka 1989).¹¹ The continued relatively strong dependence of farm households on farm income in Korea clearly raises their exposure to negative income effects. One would expect this to lead, *ceteris paribus*, to a relatively strong preference for the last option to avoid negative income effects: lobbying for government assistance. The figures in table 5.1 appear to support this view. Comparing the PSEs for Korea and Taiwan, two countries of a similar level of development, Korea has indeed significantly higher government support levels than Taiwan.

5.2.3 Protection as an Alternative Response to a Loss of Comparative Advantage

A Demand/Supply Framework of the Political Market for Government Assistance

For farmers in East Asia, Europe, and, partly, the United States, government support through subsidies and/or import protection has been an important way to minimize income reductions resulting from a loss in comparative advantage. For example, general equilibrium calculations by Vincent (1989) for Korea show that protection has raised farm incomes more than 40 percent in real terms for producers of cereals, about 20 percent for producers of other crops, and 12 percent for livestock producers. The success of farmers in East

10. This, combined with high government support levels, has managed to make farmers one of the most well-off segments of the population (Otsuka 1989, 442).

11. Anecdotal evidence also supports the importance of off-farm employment opportunities in much of Europe. The demand for protection appears to be strongest in regions with little or no industry. Many of these regions tend to be mountainous, with high production costs and little scope for achieving economies of scale.

Asia and the EC in securing government assistance stands in strong contrast to the implicit taxation that farmers in many developing countries are subjected to (KSV 1988). Some straightforward political economy considerations may help explain why farmers differ in their ability to obtain government assistance (including import protection).

Downs's (1957) neoclassical economic theory of politics provides a simple starting point.¹² The model allows one to think of protection as the result of demand and supply forces. Downs's model assumes that politicians adopt policies that maximize their chances of staying in office. The beneficiaries of a particular policy, such as government assistance, invest in lobbying effort up to the point where an additional investment of resources is expected to have no net benefits (Baldwin 1982). The expected losers of a particular policy also invest in lobbying effort, similarly balancing marginal cost and expected marginal benefit. One can think of the beneficiaries of government assistance as on the demand side for protection, whereas politicians are on the supply side. Politicians supply protection up to the point where the marginal cost of lost support from those opposing government assistance or protection is just equal to the marginal gain in support from those groups demanding assistance or protection.

The emphasis of Downs's model on marginal changes clearly entails one problem: it is ill equipped to deal with large changes, such as major structural shifts or regime switches. In those instances, political coalitions tend to break down or are realigned, and formal models based on marginal changes can therefore predict little. However, the loss of comparative advantage in agriculture tends to occur gradually rather than at distinct points in time. Hence, sufficient political stability may be maintained, at least in principle, even though not in each case, for Downs's model to remain a useful framework for thinking about the growth of agricultural protection.

The Determinants of Demand

From the earlier discussion it followed that the basic demand of farmers for protection or, more generally, government intervention results from the high cost, relative to investing in political lobbying, of avoiding income losses through (i) raising productivity growth, (ii) diversifying into products with high income elasticities, or (iii) more off-farm employment. According to Downs's theory and Olson's (1965) work, the demand for protection gains political clout with a decline in group size and the consequent cost of organization. The empirical work by Honma and Hayami (1986) and Honma (in this volume) has provided support for this hypothesis for agriculture. As agriculture shrinks in the development process, the demand for protection becomes more effective *ceteris paribus*, reaches a maximum, and eventually declines again as the size of the agricultural sector shrinks under a critical level. In

12. Downs's theory is also at the heart of numerous previous studies, including Anderson, Hayami, and Honma (1986) and Anderson and Tyers (1989).

addition to smaller group size, there are other changes taking place as employment shrinks in agriculture that help organize a farming lobby and that raise the demand for government support. Education levels rise, and, as information and transportation become more easily accessible, better and lower-cost communication links are established with the city centers. The lower cost of information, in turn, allows the rural sector to identify more quickly and more reliably any emerging income disparity in relation to other groups in the country. It also reduces the cost of becoming informed and taking part in and organizing political activity. In addition, as agriculture becomes more commercialized, agricultural support services establish themselves in the rural sector.¹³ These too can be counted on investing lobbying effort that is directed at the survival of the farming sector.

The Determinants of Supply

The supply of protection depends on (i) the perceived costs of protection to individuals or groups inside or outside the sector and (ii) the power of the bureaucracy that is charged with overseeing the particular sector demanding protection. The latter point is of particular importance for agriculture. Agriculture is one of the few sectors that has managed in most countries to establish a separate ministerial bureaucracy for itself. These bureaucracies tend to be massive and powerful in most industrialized countries, with a keen understanding that additional government programs for their clientele, the farmers, translate into job security and added prestige (Messerlin 1981).¹⁴

High perceived costs of protection are likely to generate resistance or countervailing power. For politicians, this is equivalent to a rise in their supply curve of protection. Higher bribes are required from the sector seeking protection, while less protection is provided at the same time. One can identify a number of factors that tend to shift the supply curve for agricultural protection or support.

1. An agricultural sector that is large relative to other sectors tends to raise the supply curve for agricultural support measures, in particular income transfers. To provide support to agriculture under this scenario, politicians would have to impose heavy costs on the sectors outside agriculture. Hence, as long as agriculture dominates the economy, protection or government support is quite unlikely. There are exceptions, however, for example, if a country happens to be an oil exporter. Oil revenue can be used to subsidize agriculture even if it is still large in size. This has been done, for example, in Indonesia starting in the 1970s (Barichello 1989).

2. As income increases, food items take up an increasingly smaller budget

13. These range from the agricultural machine industry, transportation, banking, insurance, and marketing services to research and development facilities specializing in agriculture.

14. An agricultural bureaucracy is often established early on in the development process. Its first task may be to tax the agricultural sector. Later on in the development process, however, as the focus switches to assisting agriculture, these bureaucracies tend to grow along with the extent of assistance and protection granted to the sector.

share. This consequence of Engel's law ensures that consumers do not have much of an incentive to get informed or organized to oppose agricultural protection. The cost associated with becoming active are simply much higher than the expected benefits. We have a case of rational indifference. On this account, the supply curve of agricultural protection tends to decline over time. Poor consumers with a relatively large share of their budget going to food products should of course have more of an interest in opposing protection. Poor consumers, however, are generally also those with the least knowledge and political power.

3. Industry resistance to agricultural protection has the potential to shift up the supply curve for protection. There are at least three factors that can provide industry with a rationale to oppose agricultural protection. During the earlier stages of development, agricultural protection may translate into higher wage costs and, hence, reduced profitability.¹⁵ As the budget share that workers have to devote to food declines over time, this factor decreases in importance. Later on in the development process, industry's foreign export markets may become jeopardized as other countries threaten to or do retaliate against the country's agricultural protection. This factor has been growing in importance recently for the East Asian countries: the United States has started to link, at least informally, access to the U.S. market in manufactured products to exporting countries' ability to contain or reduce their level of agricultural protection in product groups of interest to the United States. Finally, the international competitiveness of an export-oriented industry may be threatened by the currency appreciation that regularly follows a rise in protection (Clements and Sjaastad 1984). Clearly, either of the last two factors can operate to contain agricultural protection only if there is a sufficient degree of export orientation in industry.

4. In the longer run, as income levels reach a certain critical level, resistance to agricultural protection may also arise out of environmental concerns of the public. In much of the EC, for example, intensive land utilization by agriculture, with its heavy emphasis on the use of environmentally damaging chemicals, has been associated by organized environmental groups with agricultural protection. Since environmental concerns appear to have a high income elasticity of demand as well as organized and vocal lobbying groups, they may eventually grow to develop into a credible countervailing power against the farming lobby.¹⁶

5. Resistance against agricultural protection may also arise from within agriculture itself. Two factors that have already been mentioned separately com-

15. Real wage rigidity may be the result of strong trade unions, such as those common in parts of Latin America.

16. However, there also appears to be the distinct possibility of environmental concerns operating on the demand side for protection. An example would be restrictions on imports of agricultural products grown with the help of chemical agents that are known to be harmful to the environment.

bine to bring this about. First, agricultural protection raises land prices, that is, the return to the fixed factor. Second, more land is needed by farmers to achieve economies of scale for such land-intensive products as cereals. In sum, agricultural protection actually makes it more difficult for farmers to halt the decline in comparative advantage. Whether this factor is sufficient to contain protection depends on the structure of the affected farms. Many small farms, none able to reap economies of scale with any reasonable increase in size, will not be able to contain protection. On the contrary, they are likely to demand protection. What is needed, then, are farms that already have a critical size.

6. A tight government budget is likely to shift upward the supply curve of protection. This is particularly true if agricultural protection is provided in the form of support prices, as for many commodities in the EC, or when government support of the agricultural sector is provided mainly through budgetary expenses, as in the United States. Resistance can then be expected by (i) taxpayers and (ii) the recipients of government support programs, who compete with agriculture for funds.¹⁷ Budgetary considerations also appear to play an increasing role in East Asia (Moon 1989, 440). The increasing importance of budgetary pressures is not an accident. If an increasing number of countries follow a policy of agricultural support and protection, world prices become artificially depressed. Lower world prices, however, tend to increase, *ceteris paribus*, the budgetary cost of government support programs. Hence, ever higher budgetary expenditures will be necessary just to maintain the initial level of real support to farmers. This vicious circle has become quite significant during the 1980s, at least for the United States and the EC. Its importance can be measured by the fact that it is generally credited with being one of the driving forces behind the Uruguay Round and its focus on agriculture (Zietz and Valdés 1988).

7. Protection can be contained by credible pressure from outside the country. This point has already been touched on in the context of industry resistance to agricultural protection. Outside pressure can take the form of (i) bilateral pressure applied by a powerful trading partner that is negatively affected by agricultural support programs or (ii) legal obligations such as those deriving from GATT.

If bilateral pressure is brought to bear on a country, it can arouse national resentment that the groups benefiting from protection may be able to capital-

17. The fact that most developing countries tax agriculture at the beginning of their development process (KSV 1988) can also be interpreted, in a wider sense, as reflecting budgetary pressures. Since there are few organized activities that can be taxed, taxes would be unacceptably high for those that can, such as the fledgling manufacturing sector. Resistance to high taxes would be strong, however, because the persons involved tend to be well informed and small in number. Taxes on trade (in particular exports) and through marketing boards remain as alternatives with less political fallout because of their relatively broad base, their indirect nature, and the problems of the agricultural sector to organize effectively. In sum, agriculture is taxed by default at low levels of development as much as by design.

ize on in their effort to prevent or slow a policy change. This may have played some role, for example, in the case of the long-standing Japanese resistance to U.S. demands that the Japanese market be opened up for agricultural products. However, if a country stands to lose significantly in areas outside agriculture, the support for continued protection that derives from growing national resentment may not be sufficient to neutralize the internal pressure for moderating agricultural protection that comes from outside agriculture, mainly industry. The supply curve of politicians for agricultural protection would therefore likely shift up. This mechanism has been behind (i) Korea's agreement to raise beef imports from the United States in 1988 and 1989 following a complete import ban in 1985 and (ii) Korea's acceptance of the unfavorable 1989 GATT panel ruling on its beef import regime (U.S. International Trade Commission 1990). Another example of the effectiveness of this type of outside pressure in changing the outcome in the political market for protection is Japan's recent agreement to phase out quotas on beef and oranges.

Legal obligations under the GATT can be another effective way to stem a rise in protection (Hudec 1987, chap. 9). In agriculture, however, GATT has not been able to serve this function because of the loose discipline it puts on this sector. One of the primary objectives of the Uruguay Round is to change this.

Decisions on the Type of Protection

If the political market for government assistance actually leads to protection, the question arises of how this protection is administered. What methods of protection are used, subsidies or border measures, and, if border measures, tariffs or nontariff barriers? From the discussion in the last section, it is clear that measures that are transparent in their protective intent, whose costs to the public are easily identified, and that require little manpower to administer cannot be the preferred tools for politicians. Measures that have to be preferred from an economic point of view, in the sense that they minimize welfare losses, are likely to raise the resistance level of both the public and the agricultural bureaucracy and are therefore not preferred from a political point of view. For that reason, uniform tariffs may be as unacceptable to politicians as direct income transfers to farmers that are uncoupled from production.¹⁸ Measures that require annual budget appropriations will likely fall in the same category. Border measures, by contrast, whether in the form of tariffs or NTBs, fare better on this account, in particular as long as the GATT continues to force little discipline on agriculture. And since the public has to be kept in the dark about the level and extent of protection and the agricultural bureaucracy kept busy, politicians prefer more obscure border measures to more transparent ones. Hence, we tend to observe in agriculture more restrictions, such

18. A full discussion of this issue is provided in Miner and Hathaway (1988, 111–65).

as variable levies, seasonal quotas, sanitary regulations, burdensome customs clearance procedures, and discretionary import licensing, than uniform tariffs. Obfuscation is clearly not limited to border measures but is also the leading principle in the design of domestic agricultural support measures in most industrialized countries. These tend to be excessively complex, difficult for the public to understand, and often difficult to administer. A good recent overview of the many domestic measures being applied in various countries is given in Webb, Lopez, and Penn (1990).

Budget pressures and international obligations constrain the choice of protectionist tools. The former tend to slow down the growth of government assistance and import protection measures with high budget outlays, in particular support prices defended by variable import levies as in the EC or deficiency payments as in the United States. With few international constraints on their choice of measures, however, governments retain the option to switch to a less costly alternative with an equivalent effect. In agriculture, this can mean, for example, the increased use of health and sanitary regulations and standards,¹⁹ discretionary import licensing (table 5.2), voluntary export restraints (VERs),²⁰ political pressure to gain voluntary import expansions,²¹ or more exotic schemes such as the sale of surplus food tied to the sale of high-technology products or arms. More stringent international legal obligations may prevent this switch to measures with equivalent effect. However, they are effective only insofar as they minimize loopholes and vague rules. The latter are easily spotted by the protectionist lobby, and, once they are identified, politicians will face significant pressure to make use of them. This explains, in part, the rise in gray-area measures such as VERs and the tactical use of antidumping and countervailing duty investigations in sectors other than agriculture that are subject to GATT rules.

The Trend Growth of Protection Levels

Once a mechanism for government assistance is in place, the question arises of how to set and adjust support levels over time. For example, government-defended support prices for staple food products are seldom kept at their initial level but tend to rise over time. What is the operating target that governments, and the agricultural lobby, use in this case to adjust the level of assistance? In the EC, with its elaborate system of support prices, the level of government assistance is set in a process that resembles the centralized annual wage bargaining between unions and employer associations that are typical of most major member countries of the European Community. Support price de-

19. Take, for example, the EC directive on the hormone content of meats that restricted U.S. exports to the EC (U.S. International Trade Commission 1990).

20. Although less prevalent in agriculture so far, VERs are by no means unknown. An example is the VER the EC has negotiated with Thailand on cassava exports, a feed grain substitute.

21. These have become a favorite tool of the United States, in particular following the passage of the "Super-301" legislation in 1988.

cisions, for example, boil down to a bargaining game between the European Commission and the farming lobby as represented by the national ministries of agriculture in the Council of Ministers.²² In this process, the level of assistance tends to get tied to wage increases outside agriculture, with income parity of farmers being the overriding concern.

A natural question in this context is to what extent the East Asian practice is similar to that in the EC. Do developments in industry also drive agricultural output prices in East Asia? Figures 5.1 and 5.2 provide some graphic evidence for Korean rice and beef prices, respectively. Figure 5.1 reveals that the relation between the domestic and the world price of rice appears to have changed over time in Korea.²³ Both prices move in parallel through 1968. Starting in 1969, however, the domestic price of rice follows a strong upward trend, whereas the world price rises only moderately. Yet there appears to remain some relation between the two, although of a different nature than before 1969. In particular, it is now the growth rate of the domestic price rather than its level that starts to move in parallel with the world price. For example, the world food shortage in 1973–74, with its sharp rise in world food prices, induces an increase in the growth rate of the domestic rice price. The world commodity price boom of 1980 again accelerates the growth rate of the domestic price; the downturn in world price in 1982 slows it down. By contrast, the level of the domestic rice price appears to be tracked rather closely by the level of industrial productivity, which, in turn, is closely associated with real industrial wages.

The situation for beef prices is fairly similar (fig. 5.2). Domestic price equals world price through 1966. After that, the domestic price increases sharply relative to the world price. The year-to-year movements of the domestic price, however, follow the world price rather closely throughout the three decades, without the break observed for rice. By contrast, the level of industrial productivity predicts beef prices much less accurately than it does rice prices, although it provides the general trend for domestic beef prices.

Figures 5.1 and 5.2 suggest at least two tentative conclusions. First, government price policy and hence the government's decisions on protective measures can differ among commodities, a point that has also been forcefully made by KSV (1988) and Schiff and Valdés (1992).²⁴ Second, Korean experience suggests that agricultural policymakers in East Asia tie their level of agricultural assistance to productivity growth in industry, an outcome that is fairly close to that of the agricultural protection game in the EC. This supports the general conclusion derived in earlier, more formal work that the history of

22. Petit (1985) provides a detailed discussion of the political economy of decision making on agricultural issues in the EC and the United States.

23. The figure depicts the price for a traditional variety of rice.

24. KSV (1988) and Schiff and Valdés (1992) mainly differentiate between agricultural exportables that tend to be heavily taxed, through direct and indirect methods, and imported food products that are generally protected.

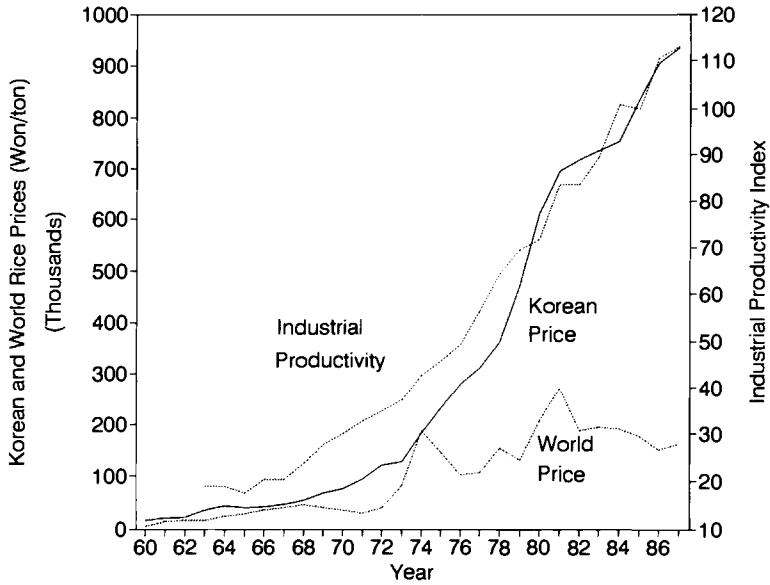


Fig. 5.1 The development of Korea and world rice prices relative to industrial productivity in Korea, 1960–87

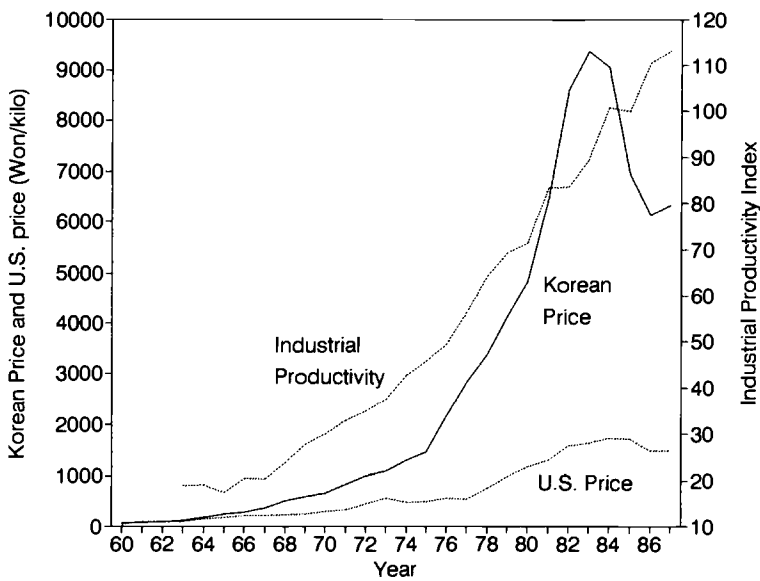


Fig. 5.2 The development of Korean and world beef prices relative to industrial productivity in Korea, 1960–87

agricultural protection in East Asian countries is similar to that observed elsewhere (Honma and Hayami 1986; Honma, in this volume). East Asia is not a special case. What appears to be certain from figures 5.1 and 5.2 is that the changes in nominal protection coefficients or producer subsidy equivalents, which are the focus of international attention, are not the focal point of domestic policy decisions. Rather, these measures of protection follow as a residual from the interplay of domestic decisions on import protection and the changing conditions on the world market.

5.3 The Future of Agricultural Protection

5.3.1 Some General Trends

Where will the forces of demand and supply carry agricultural protection in the future? In some of the major industrialized countries, in particular the United States and the EC, budget pressures appear to have reached a critical point, forcing governments to engage in negotiations aimed at limiting at least a further growth in agricultural protection. This does not yet apply to many developing countries that are on the verge of industrialization. One can therefore not exclude the possibility that such rapidly industrializing countries as Malaysia, Thailand, and Indonesia or such energy-exporting countries as Mexico, Nigeria, Saudi Arabia, and Yemen may repeat the Korean and Taiwanese experience with agricultural protection. To provide some feeling for the likelihood of this development, we will try to identify some general tendencies of government behavior toward agriculture.

A particular agricultural commodity will likely receive different treatment in the following three groups of countries: (i) importers with little import-competing production, such as Egypt for cereals; (ii) importers with a sizable import-competing sector, such as Korea for rice; and (iii) actual or potential exporters, such as Argentina for cereals. Countries in the first group are unlikely to introduce significant protection. The import-competing sector will be below the critical size to lobby effectively relative to other special interest groups. This is quite different for the second group of countries. Hence, *ceteris paribus*, we are very likely to see a significant growth of protection for this group. The third group, which consists of countries with a comparative advantage in the particular agricultural product, will be unlikely to introduce protective measures. The main issue for these countries is rather the removal of export taxes. In Latin America, agricultural interests appear to have gained sufficient strength in the 1980s to slowly eliminate the taxation of agricultural exportables.²⁵ A similar observation holds for Thailand. The long-standing

25. Export taxes have traditionally been a very important source of government revenue in many Latin American countries. Their removal and substitution by other taxes has raised difficult technical as well as political economy problems.

tax on rice exports was finally eliminated in 1986. However, there is also an opposing trend. Export taxes on agricultural raw materials, such as coffee beans and oranges, are a way to induce the domestic production of high-value processed products, such as soluble coffee and orange juice. Export taxes on the inputs used in the food-processing industry may therefore become more popular in the future. To ensure the success of the processing industry, the export tax on inputs may be combined with “infant industry” protection of the output. A recent example of this is provided by Indonesia (Barichello 1989). Table 5.5 provides some evidence for other Asian countries.

5.3.2 A Geographic Breakdown

From a geographic perspective, Asia appears to be the region with the most significant potential for agricultural protection. Most countries in this region have relatively little agricultural land relative to the size of the population. In addition, many countries have significant domestic production levels for staples, in particular rice and coarse grains. Recent evidence provided by KSV (1988), for example, suggests a growing trend in direct protection for these agricultural importables in such countries as Malaysia and the Philippines. Similar developments are under way in Indonesia (Barichello 1989). The experience of the latter country is particularly interesting because agricultural protection has gained momentum at a much lower per capita income level than in Taiwan or Korea. This has been made possible by the inflow of oil export revenue in the 1970s. Table 5.5 provides some background on the

Table 5.5 Import Protection for Agricultural Products in Several Asian and African Countries

Country	Protective Measures
Thailand	A. High tariffs (60 percent and more) on high-value agricultural products such as fresh fruit, beef, and processed foods
Malaysia	B. Restrictive import registration and licensing procedures A. High tariffs (30–50 percent) on high-value agricultural products such as fresh fruit, juices, and processed foods
Philippines	B. Sales tax serving as discriminatory excess import surcharge A. High tariffs (50 percent and more) on high-value agricultural products such as fresh fruit and processed foods B. High tariffs (20 percent) on meat imports, strict import licensing for beef and pork
Indonesia	C. Restrictive state trading practices in rice and feed grains A. High tariffs up to 50 percent
Nigeria	B. State trading for wheat and soybeans, effective import ban for rice A. Import bans on wheat, rice, maize, vegetable oils, and other products B. High tariffs on certain coarse grains (100 percent)

Source: U.S. Trade Representative (1991).

type and level of agricultural protection found in the Asian countries discussed above.

On the basis of table 5.4, a number of countries in sub-Saharan Africa have a likely comparative advantage in ruminant meat production. Exports of these products are indeed quite important for Somalia, Mali, and Botswana, to name just three. The region is a large exporter of tropical beverages, fibers, and sugar. Yet the level of implicit and explicit export taxes tends to be high (Schiff and Valdés 1992). One would expect that there will be a growing tendency in the future for the protection of processed products, such as those derived from coffee or cocoa beans. Export taxes on the raw products may remain in place to further nurture the development of an indigenous processing industry. To counteract the implicit import subsidy provided by exchange rate overvaluation, some countries, for example, Ghana, have erected very high import barriers for import-competing products, in particular basic staples, such as rice (KSV 1988). Nigeria, the most populous country in the region, also falls into this category (table 5.5). As an oil exporter, it appears to follow policies that are similar to those of another oil exporter, Indonesia.

The countries in North Africa and the Middle East are net importers of cereals, many with low self-sufficiency ratios. Protection is therefore relatively unlikely except for those countries with significant domestic production, such as Morocco and Syria, or oil exporters. Saudi Arabia, for example, has used a heavy dose of protection and has spent vast sums to produce cereals domestically. By the end of the 1980s, these policies had managed to more than double its self-sufficiency ratio (58 percent) compared to 1970. Other oil exporters in the region may follow this pattern, especially in the aftermath of the Gulf War and the trade embargo imposed on Iraq. Yemen, for example, appears to be well on its way. Since numerous countries in the region have the potential for the production of fruit and vegetables, one may also see protection evolve for these products, in both their fresh and their processed forms.

Latin American countries have recently made great strides toward liberalizing their trade regimes. Following the example of Chile, most have discarded import licensing and quantitative restrictions or are in the process of doing so (table 5.6). Differences among countries appear to result mainly from the speed with which they are adopting a system of tariffs only (tariffication) or are reducing tariff levels within that system. The ongoing push for trade liberalization should help remove the remaining trade bias, allowing the countries to take full advantage of their export potential. Exports are likely to grow in most products, including those that are land intensive. Land does not appear to be a constraining factor for many Latin American countries (table 5.4). So there is scope for production under economies of scale similar to that in Australia and other large agricultural producers. Anecdotal evidence suggests that there is already a growing tendency toward increasingly large agricultural production units that are managed much like a business firm. This represents somewhat of a reversal from earlier times, when large, inefficiently

Table 5.6 Import Protection for Agricultural Products in Several Latin American Countries

Country	Protective Measures
Argentina	A. Three-tiered tariff structure with 0, 11, and 22 percent, respectively B. Phasing out of import licensing in 1991
Brazil	A. Tariff rates between 0 and 40 percent by 1994, with average tariff rate of 20 percent B. Automatic import licensing within five days
Chile	A. 11 percent uniform tariff rates, some specific tariffs left
Colombia	A. Tariffs of 0–50 percent, additional surcharges of around 10 percent on wheat imports; by 1994 tariffs targeted to be between 0 and 15 percent B. Import licensing phased out in 1991
Mexico	A. Maximum tariff rates of 20 percent, with a trade-weighted average of 10 percent B. Import licensing left for 6 percent of tariff categories, mainly agricultural products, including cereals and fruit

Source: U.S. Trade Representative (1991) and information obtained from countries.

managed estates were split up into smaller units. A point other than economies of scale that works against agricultural protection in Latin America is the virtual absence compared to Europe and Asia of farming establishments in remote disadvantaged regions. The farmers in these regions appear to have a more than proportionate influence on the formulation of agricultural policies in Asia and Europe.

5.4 Containing the Spread of Agricultural Protection

The discussion presented above suggests that a continuation of current trends is likely to raise agricultural protection among developing countries that are on the verge of industrialization, especially in Asia. If this is to be avoided, the protectionist forces have to be checked. Three main approaches appear promising in this respect.

First, governments of developing countries have to be induced early on in the development process to prepare for structural adjustment. Policies have to be devised that moderate the negative income effects that result from a loss in comparative advantage for agricultural products. In this way, demands for protection may not come up or may be moderated. Among the possible adjustment policies are (i) efforts to raise off-farm employment opportunities in rural areas²⁶ and (ii) incentives for farmers to switch to high-value products that use less of the scarce factor (e.g., land or labor). To be successful, these policies require an accompanying set of appropriate policy instruments. Chief

26. One may note that raising off-farm employment has a dual purpose. Not only can it reduce the demand for protection, but it is also a cornerstone of a policy aimed at alleviating rural poverty. For this latter point, see Johnson et al. (1991).

among those would be better primary education in rural areas, improved infrastructure, support for research and development, and extension services.²⁷

Second, on the basis of the recent Latin American experience and, in particular, the Chilean experience, it appears that a policy change to tariffs only (tariffication) can be a powerful way to contain the forces of protection. The strength of the tariffication system lies in its transparency. It makes it difficult for special interest groups to obtain special treatment without other groups in society noticing or fully understanding the extent of that special treatment. Tariffication is clearly most powerful in constraining protectionist demands when it is coupled with a commitment to uniformity in tariffs. In fact, a quasi-constitutional commitment to uniform tariffs can provide politicians with a shield against protectionist demands that is similar to that envisioned by the GATT. The Chilean experience of the last decade has shown this point quite forcefully. However, to change from a system with no constraints on the type and extent of protectionist policies to one of uniform tariffs is unlikely to be easy. From the Latin American experience, it appears that such a switch in policy is easier to achieve if a country has gone through an economic crisis that has lasted long enough or was deep enough to thoroughly discredit the old economic system and to sufficiently weaken the established special interest groups. To be successful, the reform process also has to be credible. A new political leadership that is unburdened by the policies of the past and the example of other countries being successful with economic policy reform may help induce such credibility. The timing of the reform process may also be of importance in this context. In particular, a swift change in the policy regime may induce more credibility in the commitment to the reform process than a slow reform pace. A quick change may also take better advantage of any temporary disorganization of special interest groups. A slow change, by contrast, could allow protectionist forces sufficient time to reorganize and eventually bring the whole reform process to a halt.

Third, the forces potentially opposing agricultural protection have to be strengthened. Outside pressure through the GATT appears to be a promising way to achieve this objective. However, there are two important preconditions: (i) agriculture has to be fully incorporated in the GATT; (ii) the GATT disciplines have to be extended to developing countries.²⁸

The first point implies that there must not be different trade rules governing different sectors. No sector must be able to claim special treatment. This applies to agriculture as well as to textiles and clothing and services. Without equal treatment of sectors, GATT cannot inspire much confidence. After all, why should an exporter of agricultural products have to export under differ-

27. Many of the same policy instruments have also been recommended to alleviate rural poverty (Johnson et al. 1991).

28. A more detailed discussion of these and similar points is contained in Zietz and Valdés (1988). A generalization can be found in Zietz (1989).

ent rules than an exporter of chemicals? A corollary is that the large industrialized countries have to give up (i) exempting sectors from GATT disciplines once they lose their comparative advantage in them (agriculture, apparel) and (ii) demanding at the same time new disciplines for those sectors that their comparative advantage is moving to (high-tech industries and services). In other words, industrialized countries cannot be summarily exempted from the need for structural adjustment, while this is demanded from developing countries.

Extending the GATT disciplines to developing countries essentially means discontinuing the rules on special and differential treatment (S&D). S&D has exempted developing countries from any meaningful GATT disciplines (Hudec 1987). The GATT has, therefore, been unable to fulfill one of its most important objectives for developing countries, that is, to serve politicians as a shield against domestic demands for protection. From the perspective of the GATT and its survival as a guarantor of free trade, S&D treatment is likely to be counterproductive in the future. Developing countries are moving rapidly into areas such as light industries and heavy manufacturing and areas where intellectual property rights play a major role. Exempting them from the disciplines that apply to industrialized countries in these areas erodes and eventually destroys the credibility of GATT as an institution. The growth of bilateral pressure tactics on the part of industrialized countries, such as "Super-301"-type arrangements, is the likely result in the short run. Full-fledged managed trade would loom in the longer run. This would spell the end of GATT and of a multilateral trading system based on the principle of comparative advantage. Developing countries can be expected to be the biggest losers under such an arrangement.

To bring about the suggested changes is a most difficult task. However, the Uruguay Round has offered the best hope as of now to move in the right direction. The basic reason is that developing countries have, for the first time, some substantive offers to make to industrialized countries in the negotiations. This allows them, in principle, to take part in the negotiations as true negotiators and not just as observers. This was not the case in prior rounds. Developing countries could be found only on the request side of negotiations. As a consequence, they could not take part in any substantive negotiations and so concentrated on S&D instead. To take full advantage of the different role of developing countries, however, some changes are required in the way GATT negotiations are taking place.

Since countries are at different levels of development at any given point in time, successful GATT negotiations require cross-sectoral deals. Balanced give and take within sectoral boundaries is impossible to achieve for the set of all countries. Insisting on this older GATT negotiating scheme means restricting meaningful negotiations to take place only among countries at the same stage of development or concentration of their main economic activity. In practice, that implies negotiations between Europe, the United States, and

Japan. It is impossible to balance the offers and requests of all potential participants by sector. Table 5.7 provides an illustration of this for the case of agriculture. A possible balancing of offers and requests within agriculture is theoretically possible if an entry other than a question mark appears for each country or group of countries. This is the case only for the United States and the EC.²⁹ All other parties approach the negotiations only from one side or not at all. Hence, there is little substance that they can contribute to the negotiations if the negotiations are conducted on the traditional sector basis. Meaningful requests and offers are possible between all participants if cross-sectoral agreements are allowed. That way, requests of the three major blocks of industrialized countries for new GATT agreements on services, trade-related investment measurements (TRIMs), and trade-related intellectual property rights (TRIPs) can be balanced by the requests of the Cairns group members, newly industrialized countries (NICs), and other developing countries for liberalization in agriculture, textiles, and apparel (MFA), as well as more discipline in the use of voluntary export restraints (VERs), countervailing duties (CVDs), and antidumping measures (ADs). It remains to be seen to what extent these opportunities can be exploited in the future.

5.5 Summary and Conclusions

The paper has investigated the determinants of agricultural protection and its growth over time, as it relates to developing countries in general and the newly industrialized countries of East Asia in particular. One conclusion is that a loss of comparative advantage in agriculture can be prevented only if productivity growth in agriculture matches that in industry. For most agricultural products, however, productivity growth ultimately hinges on sufficient endowments with arable land and cheap labor, a condition not met by the newly industrialized countries of East Asia. In the absence of adequate factor endowments, farmers can avoid income losses relative to industry only if they are able to engage in off-farm employment or if they lobby for protection.

The demand for protection tends to grow strongly as the farming sector shrinks in size, education levels rise, and information costs decline. The supply of protection by politicians rises as the farming sector declines in size and income levels rise. Factors that can potentially limit the supply of agricultural protection are (i) resistance by industry, (ii) environmental concerns, (iii) a tight government budget, and (iv) international obligations coupled with credible enforcement mechanisms.

The objective of agricultural protection in East Asia appears to be very similar to that of the European Community and other industrialized countries.

29. The entry "harmonize" in table 5.7 means that the United States allows the EC to remove the zero tariff binding on feed grain substitutes, while at the same time EC protection levels on grains are reduced somewhat.

Table 5.7 Potential Offers and Requests for Agriculture

	U.S.	EC	Japan	Cairns	NICs	Importers
Offer	harmonize	liberalize	liberalize	?	liberalize	?
Request	liberalize	harmonize	?	liberalize	?	?

Note: Cairns stands for the members of the Cairns group, which are nonsubsidizing food exporters; NICs represents those food-importing newly industrialized countries that are not part of the Cairns group, e.g., Korea and Taiwan. Importers denotes developing country net food importers such as Egypt. The offers and requests are potential, not actual. A question mark denotes the absence of a meaningful offer or request, even potentially.

The emphasis is on maintaining income parity with industry. The methods that are employed to achieve this objective can be predicted from a simple demand and supply framework of protection. They tend to be border measures, often of an obscure nature and difficult to understand or to predict.

The paper suggests that many Asian countries that are on the verge of industrialization have considerable potential for agricultural protection because most of them have a significant amount of domestic production but lack the natural comparative advantage in agriculture that is typical of many Latin American countries. To contain a further spread of agricultural protection, more emphasis has to be put on off-farm employment in rural sectors and firm GATT disciplines that apply to agriculture in developed and developing countries alike.

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Comment Masayoshi Honma

Joachim Zietz and Alberto Valdés presented us a good summary of a general framework in which to consider the growth of agricultural protection in industrializing economies. They derived meaningful implications of such agricultural protectionism for developing countries and for the current GATT system. Their insight into the process of the political market is useful for sharpening our understanding of the disarray into which world agricultural policies have fallen today. Since their approach to agricultural protectionism is based on the same framework as my approach in Honma (in this volume), I found nothing with which to disagree regarding the substance of their paper. My remarks, therefore, will be complimentary and serve mainly to open discussion.

As Zietz and Valdés have shown, the pattern of agricultural protection in the world as revealed by cross-country and longitudinal observations lends

itself readily to an explanation in terms of political market factors. The political market approach is an attempt to explain why government interventions are persistent and not likely to cease despite the fact that they are economically less efficient and usually lead to high-cost solutions to stated objectives. The solution in the political market is not economically efficient. Therefore, an analysis of the political market explains the discrepancy between political and economic solutions.

Zietz and Valdés neatly summarize the development of agricultural protectionism in international comparisons, and they explain the pattern of agricultural protection that follows changes in the political environment as an economy develops. As they indicated, the high level of agricultural protection in industrial countries is at a political equilibrium with the high demand for and high supply of protection policies. Therefore, there is less incentive to change this political equilibrium domestically. One way to break down this equilibrium is to introduce another player into the political market, which is foreign pressure. Foreign pressure comes from foreign producers, not consumers, so that foreign pressure becomes a strong countervailing force working against the domestic demand for protection. The recent removal of import quotas for beef and oranges in Japan is a good example of the importance of foreign pressure in determining a country's level of protection. In other words, political markets are now internationally linked, and we need to analyze a new equilibrium of the political market in an international setting.

In a consideration of the political equilibrium at a high level of agricultural protection domestically, it is important to indicate that such an equilibrium is sustained by the asymmetry of information on the costs and benefits of agricultural protection. The benefits are well recognized by farmers, who, therefore, can calculate the benefits when they demand protection. However, the costs of protection are generally vague and not so visible. Politicians always prefer more obscure measures of protection. The indication by Zietz and Valdés that protection measures tend to be well hidden and less straightforward, for example, nontariff barriers (NTBs), is very important. Therefore, another step toward breaking down the persistent political equilibrium of protection is to make the costs of protection visible to the general public. For example, the calculations of producer subsidy equivalents (PSEs) by the OECD are appreciated to take into account costs of agricultural protection whether they are used in multilateral negotiations or not.

In calculating the costs of protection, not only the costs burdening consumers and taxpayers but also the cost of political lobbying should be considered. In order to influence politicians, interest groups invest in lobbying, but the outcome is not economically productive. Lobbying activities clearly absorb scarce resources, and the social value of these resources should be counted in the total welfare costs as well as the conventional deadweight loss arising from government intervention. If the cost of rent-seeking activities becomes

large, it seriously disturbs economic development and delays the takeoff of developing economies.

Following the use of foreign pressure and more information on the real cost of protection, the third factor to break through the stalemate of protectionism is reorienting policy measures to support farmers. The root of agricultural protection is the rural-urban income disparity, or "negative income effects," in Zietz and Valdés's terms, in the process of economic development. As they mention, there are four ways for farmers to escape from the income disparity problem. First is to increase agricultural productivity. Second is diversifying production toward more income-elastic products. Third is raising off-farm labor supply. And fourth is lobbying for protection. Farmers generally choose lobbying to avoid the income gap because the other ways are more costly. Therefore, a desirable policy to eliminate the income gap encourages farmers to use methods other than lobbying, which is not efficient in the macroeconomic sense. Government assistance in developing new technologies for higher productivity, providing better market information and demand analyses for farmers' production diversification, and offering job training to improve both job opportunities and job skills are all effective ways to reduce the cost of farmers' attempts to avoid negative income effects. These government services strongly resemble public goods and may be acceptable to the general public as a way of supporting farmers. And those who lag seriously behind in income earnings because, for example, there is little job opportunity in their area should be supported by direct payments from a social security program—support that comes not because they are farmers but because they are poor. In other words, agricultural policy should be reoriented toward so-called decoupling. Assisting or supporting agriculture itself is not a bad policy, but the means of assistance is the problem.

The concept of "decoupling" should also be applied to the treatment of developing countries in the GATT system. Zietz and Valdés discuss the special and differential treatment of developing countries in section 5.4, which is the most important part of their paper. They propose that, ideally, special and differential treatment should be phased out altogether. They also state that it has done little good to developing countries but a lot of harm to the GATT process. I agree on both points. Developing countries should not be exempted from the GATT disciplines for the same reason that agriculture should not be exempted. Any exemptions erode and jeopardize the credibility of the GATT as an institution. If agriculture should be incorporated fully into the GATT, why not incorporate developing countries fully into the GATT? The GATT disciplines should be applied without exemptions regardless of sector or country. If some assistance is needed, it should be directed toward that need in the most efficient way. For example, assistance for development should come from official development aid or some other direct means rather than through interventions or special and differential treatment in trade. Even ex-

emption from the GATT disciplines for balance-of-payments reasons should be eliminated. This exemption appears to play a role in increasing import restrictions in developing countries. If a country faces a difficulty in its international balance of payments, it should be financed directly through the IMF on behalf of the GATT. Better yet, the GATT itself should have such a financing function to serve countries that have temporary difficulties in international balance of payments. In other words, collaborations between the GATT and the IMF that differ from those under the current system are required. These strict applications of the GATT principles are essential if the growth of the world economy through international trade is to be maintained. I hope that the current negotiations of the Uruguay Round will be successful in this regard.