

CHAPTER 10

THE PRACTICAL EXPERIENCE WITH AGRICULTURAL TRADE LIBERALIZATION IN ASIA

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INTRODUCTION

Asia is a large continent, home to most of the world's poor, and agriculture is the largest employer of the poor. The effects of agricultural trade liberalization in Asia are thus very important. Unfortunately, as best as I can tell, the literature on ex-post assessments of agricultural trade liberalization in Asia is somewhat thin. Much of the economics literature concentrates on ex-ante assessments of trade liberalization, often with the help of computable general equilibrium (CGE) models. CGE models are an important avenue of research, because in principle they allow us to take account of the effects of agricultural trade policies on labour markets, foreign exchange markets, the manufacturing and service sectors, and other parts of the economy, even if in practice the analysis is often imprecise due to the large quantities of data that are required (and often not available). Yet ex-ante assessments of future trade liberalization are not enough – we need to be informed by past experience with trade liberalization as well as by models.

In principle, it is possible to conduct large-scale econometric studies of the ex-post effects of trade liberalization. Indeed, there is a large literature on trade/openness and growth that argues that some measures are correlated with growth, e.g. trade as a percentage of GDP, or levels of tariff and non-tariff barriers. But any such study will run into difficulties because, at least at the commodity level, these measures are not necessarily correlated with trade liberalization. For example, imports as a percentage of domestic consumption (or exports as a percentage of domestic production) could decline at the same time that tariffs decline and world prices and domestic prices move closer together. As an example, the ratio of rice

imports to consumption declined for the Philippines and Sri Lanka in the 1970s as the new Green Revolution technology increased rice productivity in these traditional importers, leading to a convergence of world and domestic prices. Thus, a decline in protection could be consistent with a decline (rather than an increase) in trade.

Even measures of tariff and non-tariff barriers (NTB) are not necessarily correlated with trade liberalization. For example, if a tariff declines from one prohibitive level to another prohibitive level, this is not really trade liberalization. On the other hand, trade liberalization may occur without any legal changes in NTB if the licensing procedure for obtaining access to imports becomes more transparent and liberal. At a more aggregate level, it is well-known that average tariffs can be misleading because this procedure gives equal weights to minor commodities that may not be important to trade. Trade-weighted tariffs solve this problem but create another, namely that high tariffs can lead to minimal trade and low or zero trade weights. Thus, while it is trivial to measure trade liberalization in an ex-ante sense (an analyst or modeller can define any policy change (s)he likes), it is more complicated in an ex-post sense, especially at an aggregate level. It is usually possible to define the timing of major liberalization events in a specific country without too much difficulty, but it is much harder to quantify the magnitude of the liberalization that has occurred, which of course is an essential precondition to a cross-country econometric study.

Other measures of trade liberalization are of course possible and useful, including data on the extent of subsidies and various measures of domestic support. Export subsidies are not at all common in Asia, however, so that is not a useful definition for the present paper. In developing Asia, domestic support is also much less important than in OECD countries.

Thus, in trying to understand the ex-post impact of trade liberalization it may be more productive to take a case study approach, focusing on specific commodities in particular countries at particular times. This is a more difficult research agenda, because many case studies are necessary in order to reach general conclusions. Although the costs of this research are large, I believe that the potential gains are also large, including an increased opportunity for productive dialogue between those who are generally supportive of trade liberalization and those who are quite sceptical.

The general objective of this paper is to make an ex-post assessment of the agricultural trade liberalization that has occurred to date in Asia. In order to meet this objective, the paper has three main sections. First, given the caveats mentioned above, the paper will try to make a broad assessment of how much liberalization has occurred by looking at trends in tariffs, NTB and trade, including the role of the WTO in this process. Second, the paper will examine a series of case studies for useful insights on how agricultural trade liberalization has worked in actual practice, although I do not have the data or literature references required to elaborate on a large number of case studies. No attempt will be made to quantify the effects of agricultural trade liberalization on the overall growth process. The final section of the paper will conclude with a discussion of agricultural protectionism, equity and growth in the Asian context, a discussion of circumstances when agricultural protection may be justified, and a suggestion that future research needs to examine

more carefully the effects of trade liberalization on the losers who are inevitably created.

HOW MUCH HAS AGRICULTURAL TRADE BEEN LIBERALIZED IN ASIA?

As noted above, it is often difficult to decide whether or not trade liberalization has occurred. With that caveat in mind, many countries in Asia have lowered tariffs on agricultural products substantially during the past 25 years. For example, the average agricultural tariff in the Philippines was lowered steadily from 62% in 1980 to just 10% by 2003 (*Trade liberalization, agriculture and small households in the Philippines: proactive responses to the threats and opportunities of globalization* 2004). In Bangladesh, from the late 1980s to the late 1990s, applied tariffs declined for nearly all agricultural product categories (e.g. the applied tariff on edible oils declined from a range of 50-100% to 30-60%; FAO 2000). Another study on Bangladesh found that the unweighted average tariff in agriculture declined from 76% in 1991-92 to 34% in 1998-99 (Dowlah 2003). A similar trend, from 34% to 12%, was noted for import-weighted tariffs. Dowlah (2003) also found that the effective rate of protection in agriculture declined from 70% in 1992-93 to 21% in 1999-00. In Pakistan, the maximum applied tariff rate of ordinary tariffs on agricultural products declined from 225% in the late 1980s to 35% by the late 1990s (FAO 2000). China lowered its most-favoured nation (MFN) tariffs on agricultural products from 46% in 1992 to 19% in 2001, while India lowered its MFN tariffs from 66% in 1990 to 42% in 2001 (FAO 2005).

Non-tariff barriers to trade in agricultural products have also been declining. In India, import controls on sugar and cotton were removed in 1994, and in 1995 almost all edible oils were placed under the Open General License System (FAO 2000). Exports of ordinary rice were allowed beginning in 1994. In Bangladesh, only three Harmonized System (HS) lines had quantitative restrictions remaining by 1994, compared to much more extensive restrictions in earlier years. Import procedures have also been deregulated (FAO 2000). In Pakistan, import quotas were steadily eliminated between 1987 and 1995 until few remained (FAO 2000). In Sri Lanka, quantitative restrictions have been removed on all agricultural products except wheat and wheat flour (Dorosh 2003).

Regional and bilateral free-trade agreements are also becoming important. The Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA) has undertaken to eliminate all NTB within agriculture by 2010, even for sensitive products such as rice, and to keep tariffs at very low levels. ASEAN is negotiating with China, Japan and Korea for a wider free trade area, and the Southeast Asian countries are also negotiating bilaterally with these same countries. For example, Thailand and China have concluded a free trade agreement on vegetables. The Philippines and Japan are also in the midst of free trade negotiations. The member countries of the South Asian Association for Regional Cooperation (SAARC) have also negotiated a South Asian Free Trade Agreement (SAFTA). Indeed, there are so many negotiations that it is next to impossible to keep track of them all, although bilaterals.org (2006) provides an excellent up-to-date summary.

However, trade is not becoming more liberal for all commodities in all countries. For example, in the early 1980s, domestic rice prices in the Philippines were roughly in line with world market prices. Since 1985, however, domestic wholesale prices have on average been 66% above import parity prices. The discrepancy has widened in recent years, to 89% on average since 1993. After allowing private sector rice imports starting in 1999, Indonesia has recently forbidden all rice imports for certain months of the year, and instituted new licensing procedures for rice imports during other months. In Sri Lanka, tariffs on chilies, onions, pulses and maize increased from 5% in 1986-88 to 35% by 1999 (FAO 2000). These instances of increasing protection are driven by different factors – falling world rice prices in the case of the Philippines (coupled with a desire to keep domestic prices roughly stable in real terms), new-found lobbying power by rice producers in Indonesia with the advent of democracy, and sharp reductions in area planted to onions in Sri Lanka (before the increase in tariffs restored the area to its earlier levels).

In addition to the general lowering of tariff and non-tariff barriers, it also appears that trade in agricultural products has generally expanded more rapidly than production and consumption². This is especially true in Japan and Korea (see Table 1), where the ratio of imports to consumption has been increasing steadily and substantially for the past 40 years for a number of foods: fruit, pulses, rice, roots and tubers, vegetables, vegetable oils and wheat. The share of imports in consumption for maize has also increased, albeit much more slowly, because even in the early 1960s import dependence was already very high. Not surprisingly, the share of exports in production has not increased substantially for these countries, whose comparative advantage does not lie in agriculture. Increased agricultural imports by Japan and Korea do not necessarily indicate any changes in trade policies – most of the increase is due to rising incomes coupled with a lack of comparative advantage in agriculture due to land scarcity. Nevertheless, more imports do indicate a willingness to participate more in international trade – trade barriers could have been erected to staunch this flow. Indeed, such policies are in place to dramatically slow the opening of the rice sector in these economies.

Southeast Asia's agricultural trade has also expanded considerably in many food products. The main exception has been maize exports, which have declined because of sharp increases in demand for feed. In South Asia, trade has expanded particularly rapidly for vegetable oils, as imports have surged both in India and the rest of South Asia. Trade has contracted substantially in the case of wheat imports, but this is due to the Green Revolution that transformed the region into approximate self-sufficiency after being a large net importer in the early 1960s. Thus, even where trade has declined, the explanation rests with factors other than a retreat from liberal trade.

Table 1. Change in trade importance (percentage points), various commodity groups and countries/regions, between 1961-1965 and 1998-2002

| Exports | India | Other South Asia | Southeast Asia | China | Japan and Korea |
|------------------|-------|------------------|----------------|-------|-----------------|
| Fruits | 0.00 | 0.03 | 0.10 | -0.08 | -0.04 |
| Maize | 0.00 | 0.00 | -0.14 | 0.06 | 0.00 |
| Pulses | 0.01 | 0.03 | 0.11 | 0.13 | -0.01 |
| Rice | 0.06 | 0.01 | 0.00 | 0.01 | 0.01 |
| Roots and tubers | -0.01 | 0.01 | 0.26 | 0.00 | 0.00 |
| Sugar | -0.09 | 0.09 | -0.07 | -0.58 | 0.11 |
| Vegetable oils | -0.01 | -0.27 | 0.38 | 0.01 | -0.02 |
| Vegetables | 0.00 | 0.01 | 0.03 | 0.01 | 0.00 |
| Wheat | 0.02 | 0.02 | 0.03 | 0.00 | 0.03 |
| Imports | | | | | |
| Fruits | 0.00 | 0.02 | 0.03 | -0.03 | 0.33 |
| Maize | -0.02 | 0.08 | 0.13 | 0.02 | 0.05 |
| Pulses | 0.08 | 0.27 | 0.03 | 0.04 | 0.31 |
| Rice | -0.03 | -0.01 | -0.02 | -0.01 | 0.02 |
| Roots and tubers | 0.00 | -0.02 | 0.03 | 0.03 | 0.36 |
| Sugar | 0.03 | -0.26 | 0.17 | -0.43 | 0.08 |
| Vegetable oils | 0.40 | 0.46 | 0.00 | 0.20 | 0.30 |
| Vegetables | 0.00 | 0.01 | 0.04 | 0.00 | 0.11 |
| Wheat | -0.27 | -0.12 | 0.05 | -0.21 | 0.26 |

Trade importance is defined as exports or imports (in quantity terms) as a share of either production (for net exporters) or consumption (for net importers), the latter also in quantity terms. Data on the change in trade importance are in percentage points, not percent.

Source of raw data: FAO (2006).

Other South Asia includes Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, and Maldives.

Southeast Asia includes Indonesia, Philippines, Viet Nam, Thailand, Malaysia, Myanmar, Cambodia, Laos, Brunei, and Timor-Leste.

Japan & Korea excludes North Korea.

Shaded cells indicate those commodities and countries/regions for which trade was less important from 1998 to 2002 compared with 1961 to 1965.

The general lowering of tariffs and NTB, coupled with widespread growth in the ratios of imports and exports to consumption/production, suggests that agricultural trade in Asia today is more liberal than it was 10 to 15 years ago. However, generally speaking, the legal conditions imposed by the Uruguay Round Agreement on Agriculture (AoA) have not been responsible for this outcome. Most Asian countries currently have applied agricultural tariffs that are much lower than the legal bindings mandated by the WTO (Ingco 1995; FAO 2000; 2005). There are, of course, exceptions. For example, India has bound its tariff on soybean oil at 45%,

which has effectively prevented it from raising tariffs on competing vegetable oils (e.g. palm oil) to even higher levels, as high tariffs on palm oil would just lead to more imports of soybean oil (Landes and Gulati 2004). The Uruguay Round also forced Japan and Korea to open their domestic rice markets, and this has led to more imports by these countries. (On the other hand, Japan has also increased its exports of rice in recent years, reducing the effect of the AoA on its net trade position.) Generally, however, there are not many of these examples. In other words, Asia has liberalized voluntarily – it has not been dragged kicking and screaming into the process.

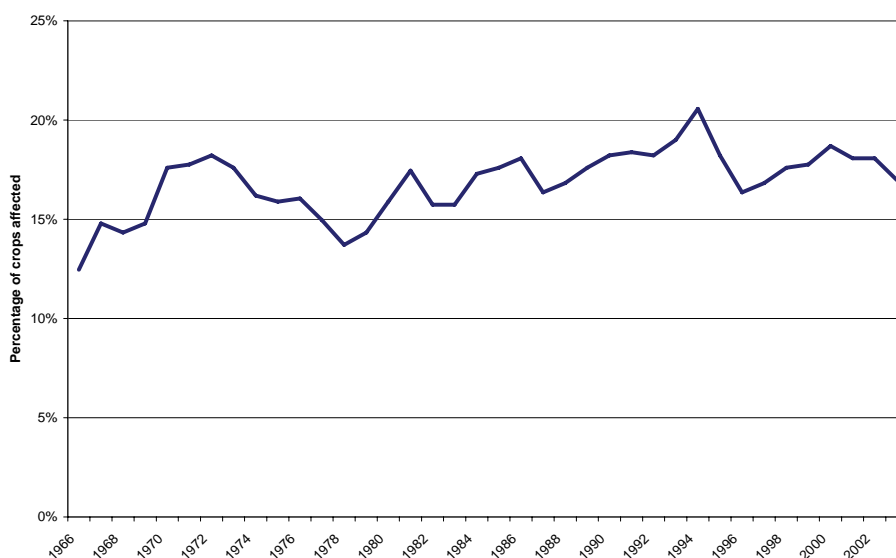
THE EFFECTS OF AGRICULTURAL TRADE LIBERALIZATION: SOME CASE STUDIES

It is perhaps helpful to distinguish different types of trade liberalization. Because agriculture is sometimes protected and sometimes taxed, agricultural trade liberalization can either remove protection or remove taxation. For those who argue that agricultural growth is crucial for poverty alleviation and kick-starting growth in poor economies, the latter would be expected to be beneficial trade liberalization, while the former might be expected to have negative effects. Included here in the category of ‘beneficial’ (in the sense of providing larger incentives for agricultural production) trade liberalization would be removal of protection for agricultural input industries such as irrigation, fertilizers and seeds.

Some examples of trade liberalization that improved incentives for agriculture are the reform experiences of China and Viet Nam. Clearly the opening of agricultural markets in China beginning with the household responsibility system in 1978, and the *doi moi* experience in Viet Nam, had major beneficial effects for the agricultural sectors and economies of these two countries. However, most countries today do not have the opportunity to realize such gains because their agricultural economies are not as rigidly controlled as those of China before 1978 and Viet Nam before 1986, so these reforms are not discussed further³. Other examples of ‘agriculture-promoting’ trade liberalization include the irrigation and fertilizer sector reforms in Bangladesh and the seed industry reforms in India. These reforms are discussed below in more detail. Not all of the case studies below describe trade liberalization episodes – some simply describe how changes in price incentives (not necessarily due to trade liberalization) have affected the given sector. These experiences are included because if trade liberalization is believed to affect farmers through changes in prices, then any change in price might give us useful insights, not just changes in prices driven by changes in trade policy.

Before proceeding to the case studies, I will report the results of one crude macro type of calculation. One fear of liberalization is that it will throw many farmers out of business, or at minimum, force them to switch crops, as happened when Sri Lanka liberalized trade in potatoes and onions and when India liberalized trade in vegetable oils. However, the increased liberalization that appears to have occurred (as discussed in the previous section) does not appear to have substantially increased the frequency of large reductions in area for specific crops. A calculation of the

percentage of commodities undergoing a 10% reduction in area (comparing two adjacent three-year periods) for several countries in Asia, individually or as a group, shows no discernible trend in the frequency of such events during the past 40 years (Figure 1). This outcome is consistent with a relatively smooth transition to increased trade. It is also consistent with countries resisting liberalization in the commodities where the largest displacements might be expected to occur. This is admittedly a crude measure, but it does appear to indicate that abrupt transitions for farmers out of specific crops are not increasing over time.



Source of raw data: FAO (2006).

Figure 1. Incidence of negative area fluctuations greater than 10%

Rice price policy and productivity growth in Southeast Asia

It is important to realize that, when it comes to rice price policy in Asia, protection or taxation (a positive or negative nominal protection coefficient, NPC) is rarely a conscious, active policy choice. Rather, the level of the NPC is often the outcome of a desire for long-term stability in domestic prices (in real terms), coupled with exogenous changes in world rice prices due to either changes in the US dollar price or changes in the exchange rate. In other words, the NPC is determined primarily by the exchange rate or the world market dollar price, both of which are exogenous to agricultural policymakers (Timmer 1993). For example, most of the increased protection for rice in Japan in the 1970s and 1980s was due to appreciation of the yen and declines in the US\$-denominated world rice price, not because of higher

real yen prices received by Japanese farmers. Changes in rice price policy in Asian countries tend to be passive, not active.

Thailand. Whatever the causes, the experience with rice price policy in Southeast Asia has been diverse. Thailand followed a policy of keeping domestic prices well below world prices for many years. By 1986, policy had changed to one of free trade (trade liberalization), with domestic prices subsequently tracking world prices almost exactly. This transition from a negative NPC for rice to free trade was facilitated by the sharp decline in the baht equivalent of world prices from 1981 to 1986, which eliminated the need for an increase in the level of domestic prices in order to remove taxation of farmers. While yields had been increasing before the removal of taxation of farmers, yields did begin to rise more rapidly after 1990. However, it is unlikely that removal of farm taxation was the cause for this increase, as domestic rice prices fell during the 1990s due to declining world prices (i.e. farmers presumably respond to changes in prices, not changes in the NPC). Total factor productivity may have increased even more than yields due to the extensive mechanization that has occurred in recent years. But this mechanization was clearly a response to rising wages, not to increased levels of the NPC (from negative to zero).

In recent years, domestic wholesale prices have continued to track world prices, but government subsidies to farmers have pushed farmgate prices to levels that are above world price equivalents. This seems to be a political response to a widening income gap between urban and rural areas. Because of Thailand's higher level of per capita income and smaller proportion of farmers in the labour force (after many years of rapid growth), such subsidies are now more easily affordable by the government. Rice yields showed a small increase in the late 1990s, but this occurred before major increases in the support price program. Yields have been steady from 2000 to 2005, when the program was in full swing and stocks began to accumulate.

Indonesia. Indonesia followed a different course than Thailand. From 1969 to 1996, domestic rice prices were stabilized around the trend of world prices. In some years there was taxation, while in others there was protection, but these changes from taxation to protection and back were the result of changes in the rupiah equivalent of world prices, not changes in agricultural price policy (Timmer 1996). This long-term stabilization about the trend of world prices was facilitated by a sharp depreciation of the rupiah in real terms during the period, which kept the rupiah equivalent of world prices roughly constant in the face of a declining world price in dollar terms.

It is possible to view the exchange rate depreciations in 1978 and 1983 as a form of protection, although two points are worth noting in that regard. First, the depreciations can largely be viewed as a reaction to the 'Dutch Disease' phenomenon whereby greater oil exports increased the relative price of non-tradables (i.e., the real exchange rate). In other words, the depreciations removed the temporary artificial taxation of tradable goods. While this could be considered as tax-removing liberalization, the second point is that domestic farmgate rice prices were approximately constant in real rupiah terms during the period of the

depreciations. In other words, the depreciations did not substantially improve the terms of trade for farmers, except relative to a hypothetical counterfactual where rice was a tradable good and there was no depreciation. But because the international rice trade was controlled by the government during this time, rice was not a tradable commodity (i.e. changes in world prices did not lead to changes in domestic prices). Thus, while the exchange rate depreciations increased the NPC, domestic farm prices in real terms were relatively constant.

Beginning in 1999, however, there was a sharp increase in protection and in the level of domestic farm prices in response to the rising political demands of rice farmers. Although rice farmers are not a majority of the Indonesian population, rice farming is the single most common occupation in the country, and they have been able to exert leverage on the political process. This is a clear counter-example to the general trend of trade liberalization. The increase in protection since 1999 does not seem to have generated any important productivity gains in the rice sector, although yields did increase slightly from 2001 to 2003. There is also no evidence from the field of any important productivity advances due to reduced input use. The dominant trend since 1990 has been a stagnation of rice yields. In contrast, productivity growth was rapid in earlier years when the NPC was zero on average and the real level of farm prices was constant, as new seeds from the Green Revolution and increased use of fertilizer in irrigated areas led to major yield gains and the temporary achievement of self-sufficiency in 1984.

Philippines. The Philippines' history of rice price policy is different yet again from that of Indonesia and Thailand (Dawe 2003). Domestic farm prices declined in real terms by approximately 40% from the mid-1970s to the early 1980s, as production gains from the Green Revolution led to increased supplies on domestic markets and eventually small quantities of exports. While prices declined steadily during the entire period, at no point did they appear to halt the continually increasing adoption of modern varieties and concomitant increases in yields. By the end of this period, domestic price levels were similar to world prices. From the early 1980s, however, the NPC for rice began to increase steadily, as world prices (in peso as well as dollar terms) fell sharply in the mid-1980s, and then once again in the late 1990s. In response to these developments on the world market, Philippine policy passively allowed very substantial levels of protection to develop (36% on average from 1985 to 1992, and 89% from 1993 to 2003) in order to maintain domestic farm prices roughly constant in real terms.

From 1991 to 1999, when protection became quite high, rice yields were stagnant, most likely reflecting nearly complete prior adoption of Green Revolution technology. Starting in 2000, there was a slight decline in real farm prices. Around the same time, yields appear to have started increasing to some extent, although no causation is asserted here.

Sri Lanka. In terms of nominal protection, Sri Lanka has followed a path similar to that of the Philippines, with high and increasing rates of protection since the early 1980s. The increasing protection coincided with a sustained decline in real domestic

prices (i.e. domestic prices declined more slowly than world price equivalents, leading to an increase in protection). Despite the worsening incentives, rice yields were essentially stagnant during this period, except for a small increase toward the end of the 1990s. Thus, the decline in prices did not seem to cause any decline in yields. The stagnation in yields is consistent with the fact that modern varieties had been adopted on nearly 95% of Sri Lanka's rice area by 1980.

Based on this rudimentary analysis of rice in these four countries, it would seem that price policy in and of itself is unlikely to generate important gains in productivity: the availability of technology is crucial. Indeed, in the Philippines case, yields continued to increase substantially even as prices were falling, and something similar occurred in Thailand. Price policy may be able to play a supporting role in the presence of a new technology, especially if that technology is perceived as risky by farmers. Price policy could be supportive either by raising the average price through protection, or perhaps more important, by stabilizing the market price so that farmers do not have to bear this risk⁴. The productivity gains achieved through adoption of the new technology would then generate additional income in the rural sector that could be invested to increase productivity in other sectors, or spent on non-tradable goods produced in the rural sector, thus increasing demand and contributing to a 'big push' in rural areas à la Rosenstein-Rodan.

Liberalization of international rice trade in Asia

During the past 20 years, there has been a broad liberalization of the international rice trade in Asia and elsewhere (Dawe and Slayton 2004). The direct role of government in carrying out rice imports and exports has been reduced, with a decline in the importance of government to government contracts and an increased role for the private sector. Thailand effectively abandoned its export taxes by 1976, and Viet Nam has increased competition among state-owned enterprises as well as allowing more private sector participation in the export trade. Pakistan fully privatized rice exports in 1996, removing the monopoly formerly enjoyed by the Rice Export Corporation. Sri Lanka abolished the monopoly of the government parastatal on rice imports in 1990 and allowed private traders to import rice subject to a tariff (Dorosh 2003). During the same time, the proportion of world production that has entered international trade increased from about 4% prior to the mid-1990s to 6-7% today (more than a 50% increase in the size of the market). Trade liberalization by these exporters increased the stability of the world rice market, although technological factors (more irrigation, greater area planted to pest and disease resistant varieties) and economic growth (leading to falling per capita rice consumption and an increased supply of exports from Thailand) were also important in terms of improving price stability (Dawe 2002).

Against this backdrop of a more stable world rice market, Bangladesh liberalized rice imports in April 1994, allowing the private sector to import subject only to a tariff. India also liberalized its rice trade in late 1994, relaxing its ban on exports of ordinary rice and allowing more private sector participation (Del Ninno and Dorosh 2001). This pair of liberalizations paved the way for a surge of imports (about 2.25 million tons) by Bangladesh in 1998 in response to the 'flood of the century.' Most

of these imports came in small shipments from India. Absent these imports, Dorosh (2001) estimates that rice prices in Bangladesh could have increased by 40 to 60%. Of course, if these imports had not arrived, the government would have stepped in to some extent, but Dorosh argues that “public sector imports of a magnitude equal to private sector flows would have been highly unlikely” due to funding constraints. In this case, trade liberalization that allowed domestic prices in Bangladesh to maintain parity with external prices, even in the short run, arguably made an important contribution to food security in Bangladesh.

In Indonesia, beginning in 1969, Bulog (the state logistics agency) had a monopoly on international rice trade, with decisions on import quantities being made ultimately by then-President Suharto (Timmer 1996). Beginning in 1999, however, Indonesia allowed the private sector to import rice subject only to a tariff of 430 Indonesian rupiah per kg (equivalent to about a 30% tariff at that time). This change was dictated by an agreement with the International Monetary Fund (IMF). Since that time, the private sector has been responsible for about three-fourths of Indonesia’s imports (Dawe and Slayton 2004). During this time, there have been no major price surges or supply disruptions; participation of the private sector appears not to have compromised food security in the short run. On the other hand, the relatively high tariff meant that domestic prices began to diverge from international prices quite substantially, apparently in response to political lobbying by rice farmers in the newly democratic environment. The new, higher, rice prices were in contrast to a long history of stabilizing prices around the long-run international price. Thus, although the rice trade was liberalized in the sense of allowing more private sector participation, it became less liberal in terms of the convergence of domestic and international prices. This latter factor raised food prices and increased poverty.

More recently, however, the government instituted a temporary import ban (to coincide with the main harvest), and has also issued a decree that will allow only specially licensed importers to import rice (previously, only a general import license was required). It is unclear if tariffs will increase in the future or how restrictive the licensing procedures will be, and how these developments will affect the role played by private traders.

To summarize, it would seem that the experience with liberalization of international rice trade in Asia has been largely positive. Increased competition among exporters in Viet Nam has almost certainly benefited farmers, although it probably hurt some major state-owned enterprises. Private sector imports in Bangladesh made an important contribution to food security during the floods in 1998, and there were no major adverse impacts upon Indonesia’s opening of the rice trade to the private sector. Part of the reason that the effects have been positive is the increased depth and stability of the world rice market, as well as the increase in the quantity and quality of transportation and communications infrastructure during the past 20 years (Rashid et al. 2005).

Oilseeds and edible oils in India

From 1961 until 1976, annual imports of edible oils in India were on average less than 70,000 tons. From 1977 to 1988, however, total imports of vegetable oils (primarily palm, soybean, rape and mustard oils) increased to an annual average of about 1.3 million tons, rising to 2 million tons by 1987. During this period, domestic area planted continued to increase, from 14.3 million hectares in 1977 to 17.4 million hectares by 1988. The increased imports and rising domestic production supported increased domestic consumption.

Beginning in 1988, imports, which were controlled by the state, began to decline sharply as the government attempted to boost production incentives and encourage adoption of new technologies (Landes and Gulati 2004). From 1989 to 1994, imports of vegetable oils fell to less than 400,000 tons per year. Domestic oil and oilseed prices increased, and by 1993, area planted to oilseeds had reached 25.1 million hectares, an all-time record. At least seven million hectares of cereal land was converted to oilseeds during this process. Yields of major oilseed crops also increased sharply during this time.

Policies changed in 1994, however, as the government opened imports to private traders subject only to tariffs that were well below bound rates. Imports of palm and soybean oil surged, and India became the world's largest importer of vegetable oils. Domestic prices fell, and per capita consumption increased (Landes and Gulati 2004). Not surprisingly, area planted fell to 20.7 million hectares in 2001. After several years of growth, yield levels of soybean, rape and peanuts either stagnated or declined. Between 1998 and 2001, area planted to peanuts, rapeseed and sunflower seed fell by a combined 4.4 million hectares. Total area planted to all crops fell by 6.3 million hectares during this time. While one cannot be sure what happened to the land formerly planted to oilseeds using only macro-data, these data strongly suggest that at least some of this land was not converted to other crops. It would be very interesting and helpful to know what happened to these farmers that went out of oilseed production when imports increased, to know if they were relatively wealthy or poor, and to understand what difficulties they faced in the adjustment process. On the other hand, it is also important to note that oilseed area at its recent trough in 2001 (20.7 million hectares) was still greater than it was before the closure of the domestic market in 1987 (when it was 17.4 million hectares). Thus, it seems likely that the farmers negatively affected by the relaxation of imports had only been planting oilseeds for a few years under the stimulus of government incentives. It would also be helpful to know if the decline in yields led to a decline in farmer income, or whether the lower yields were due to lower input use that left farm profits unchanged.

In this case, it appears that the effects of liberalization have been largely what economic theory would predict. Unfortunately, it is not possible to ascertain the equity effects of this liberalization without a detailed analysis of food consumption patterns by income class and the relative position of oilseed farmers in the income distribution. Liberalization may have adversely affected innovation in the oilseed sector, but on the other hand if liberalization had not occurred, resources would have remained in oilseeds and not moved to other sectors, presumably to the detriment of

innovation in those other sectors. (In other words, protection is relative, and not all sectors can be protected simultaneously).

It seems unlikely that this liberalization created much growth in India's agricultural sector; rather, it was probably more a static reallocation of resources within agriculture (and in favour of non-agricultural sectors). To the extent that the liberalization lowered food prices, this may have increased the competitiveness of unskilled labour and led to more employment creation in services and industry, although I know of no studies on the magnitude of this effect.

Irrigation and fertilizer sector reforms in Bangladesh⁵

Before 1978, the Bangladesh Agricultural Development Corporation (BADC) monopolized all procurement, maintenance and installation of tube wells. By late 1988, after a process of gradual changes, the private sector could import and trade in pump sets for shallow tube wells (STW) at low import duties and without having to adhere to standardization requirements. As a result of these reforms, installation costs for STW fell substantially, and the area irrigated by tube wells increased from 0.67 million acres in 1981/82 to 4.90 million acres in 1991/92 (62% of irrigated land), an increase by a factor of 7 in a decade. The rate of increase was particularly rapid in the latter half of the 1980s after the elimination of standardization requirements. Further, irrigation water prices declined substantially after liberalization for small and large farmers alike.

The expansion of private sector irrigation led to an acceleration of growth in the area planted to high-yielding modern varieties. Modern varieties (MV) were first introduced to Bangladesh in 1966/67, but adoption was much slower than in other Asian countries due to the lack of irrigation. In the first decade after irrigation sector reforms, the area planted to MV in the dry (boro) season increased by 1.7% per year. This growth accelerated to 3.7% per year after the import liberalization in 1988, helped along by privatization of fertilizer distribution that made fertilizer more available in a timely fashion. The increased adoption of modern varieties led to a rapid increase in yields.

This discussion strongly suggests major beneficial effects of trade liberalization that led to more rapid growth in the rice sector, which accounts for about 75% of total planted area in Bangladesh. Undoubtedly the productivity growth spawned in the rice sector had many multiplier effects outside of rice and even outside of agriculture, although I am not aware of any studies that have attempted to analyse that issue. One possible negative effect of the liberalization would have been on the domestic machinery industry, which was presumably hurt by the increased imports of irrigation equipment. It seems unlikely that these negative effects could outweigh the positive effects, but it would be helpful to know more about how this sector was affected and whether it hurt indigenous innovation.

In one sense, the liberalization of trade in irrigation equipment might seem to have little to say about the effects of protection or taxation of agricultural commodities, because the liberalization did not occur for the agricultural commodity per se. However, the liberalization illustrates a general lesson in that protection of one sector can retard growth of other sectors that use the protected commodity as an

input. Since agricultural products are used as inputs into other sectors, most commonly as a foodstuff to feed workers in industry and services, protection of primary agricultural products might retard growth of labour-intensive industries by raising wages to uncompetitive levels. The case of Bangladesh's liberalization of irrigation equipment and the technological change it spurred in a downstream industry (rice) at least gives one pause to consider whether trade liberalization for an important wage good such as rice (when it is heavily protected) might spur growth and technological change in downstream labour-intensive industries such as garments and electronics. Indeed, the garment industry is now a major source of employment in Bangladesh.

Hybrid seeds in India⁶

Traditionally, India has maintained restrictions on the size of companies allowed to participate in certain industries, in an effort to protect smaller firms. In 1986, however, the government removed such restrictions on companies in the seed industry. Two years later, restrictions were relaxed on imports of seeds and germ plasm for vegetables, coarse grains and oilseeds. As a result, private research expenditures increased from \$1.2 million in 1987 to \$4.7 million by 1995. Some of this new spending came from large firms, but some also came from small firms that were able to start viable small-scale research programs once imports of seed were allowed. The hybrid seeds developed by private firms for cotton, maize, sunflower, sorghum and pearl millet led to increased yields in many instances, or increased area, as for sunflowers in Karnataka. Thus, trade liberalization has led to increased productivity. The increased role of the private sector has probably increased competitive pressures on public sector plant breeding and may eventually lead to some layoffs there, but such outcomes are inevitable whenever competition is allowed.

DISCUSSION AND CONCLUSIONS

Agricultural protectionism, equity and growth in developing Asia

Price protection for agriculture (e.g. import restrictions on competing products, output price support, input subsidies) can be justified on efficiency grounds if there is a technology that is profitable at long-run prices but nevertheless may not be adopted by farmers who are risk-averse or do not have sufficient knowledge of the technology. In these circumstances, subsidies can spur farmers to take risks or acquire knowledge that will lead to adoption. But identification of such technologies is not necessarily easy, as there are always new technologies being promoted. Furthermore, tilting the terms of trade in favour of agriculture simultaneously tilts the terms of trade against other sectors, which then presumably discourages adoption of promising new technologies in those sectors.

In the absence of a new profitable technology, however, price protection for agriculture (or any other sector) simply redistributes income from one group to another. Such redistribution can have implications for both equity and growth. It obviously affects equity, but, at least in the Asian context, it is not quite so simple as

redistributing income from relatively well-off urban dwellers to relatively poor rural residents. The complexity arises because of the large pools of functionally landless labourers in countries such as India, Indonesia, Bangladesh and the Philippines. These landless labourers are usually the poorest of the poor, do most of the production work, and are net consumers of food (Dawe 2004). For example, Mellor (1978) found that the two poorest deciles of the income distribution in India were net buyers of food, while each of the top eight deciles were net sellers of food. Sahn (1988) showed that 84% of rural households in Sri Lanka were net consumers of rice (and, of course, all urban households). The data he presented also show that two-thirds of farmers with marketable surpluses of rice are in the top half of the expenditure distribution. Balisacan (2000) estimated net rice consumption as a percentage of total consumption in the Philippines, and found that it was highest for the bottom two deciles of the expenditure distribution. For the bottom decile (decile 1), the share was approximately +7.5%, while for the second decile, it was about +2%. Net consumption was estimated to be negative (i.e., production exceeds consumption) for the middle of the distribution, that is, deciles 4 to 8. These data show that the poorest of the poor in the Philippines are net consumers of rice, not net producers. Thus, many poor people in rural areas would be hurt by higher food prices due to protection⁷. Unfortunately, nearly all of the popular trade liberalization debate that is carried out in a global context focuses on farmers, to the exclusion of the landless poor in rural areas.

Price policy could also have implications for economy-wide growth in the absence of a new technology if it redistributes income in favour of those with a higher propensity to consume domestically produced goods (as opposed to imports), thus raising aggregate domestic demand. But again the existence of landless labourers complicates the matter beyond a simple comparison of rural and urban or agriculture and industry, because the rural landless most likely have an even greater marginal propensity to consume out of domestic production than do farmers, who in turn are less likely to consume imports than urban dwellers. There is a large literature that argues that agricultural growth is better for economic growth than growth in other sectors, but for this literature to be relevant to the present discussion it would be important to distinguish between agricultural growth that is generated through adoption of new technologies and agricultural growth (if any) that is generated through simple income redistribution. Indeed, in the absence of promising new technologies, there is a potential for price protection to lock farmers into a low-growth crop. Indeed, the Philippines and Sri Lanka, the two developing countries where protection of rice has been the most pronounced for a long period of time, have had the lowest agricultural growth rates among major rice-producing Asian countries since 1980.

A further consideration is that in Asia, agricultural protection and high food prices may reduce the competitiveness of unskilled labour via a wage good argument. This could slow growth and hinder movement of the economy towards sectors in which it has a medium-term comparative advantage, which for many developing countries may be in the realm of labour-intensive manufactures. Of course, there are many factors that affect economic growth, but it is interesting to note that the most dynamic developing countries in Asia seem to have followed a

policy of low food prices, while the more stagnant economies have suffered from relatively high food prices.

For example, China, Thailand and Viet Nam have all pursued a policy of keeping rice prices at world market levels for fifteen or twenty years, during which time all experienced quite rapid growth. Indonesia did the same during its period of rapid growth that came to an abrupt end with the onset of the Asian financial crisis. During the past few years, in Indonesia rice prices have been above import parity levels, although clearly this is not the main reason for the slowdown in economic growth. On the other hand, real GDP per capita in the Philippines has been stagnant for the past 20 years, during which time rice prices have been highly protected and well above levels in neighbouring developing countries. Sri Lanka has also had high levels of protection for its rice sector during this time (Weerahewa 2004, p. 51; comparing wholesale prices with export prices from Bangkok). Its growth performance has been substantially better than that of the Philippines, with a doubling of per capita income from 1980 to 2002. This performance was not nearly as strong, however, as that of China, Thailand, Viet Nam and, before the crisis, Indonesia. One might argue that China, Thailand and Viet Nam all went through taxation-removing liberalization for the agricultural sector, and that this liberalization stimulated growth. However, the point here is that rice prices in these countries were always at or below world levels. Thus, one cannot claim that protection of rice production spurred economic growth, because these countries did not protect their rice sectors. In addition, Thailand had already experienced decades of rapid growth before taxation of rice farmers was removed.

Agricultural protection may be justified in some circumstances

While agricultural protectionism has some difficulties associated with it, there may be circumstances in which it is justified. For example, what if the agricultural sector of country X is not competitive at world prices for any crops? If liberalization goes farther, it is possible that some countries might find themselves in this situation, especially in the presence of OECD subsidies that artificially lower world prices (although there is much dispute about the size of this effect). The theory of comparative advantage states that every country must have a comparative advantage in something, given appropriate exchange rates. But that comparative advantage need not be found in the agricultural sector. If in fact country X has no comparative advantage in agriculture, how does one go about moving all the workers out of that sector into other sectors? Agriculture is the single largest employer in most LDCs, so this presents a major problem. Clearly the process will take decades at a minimum, so what are agricultural workers to do in the meantime? If labour markets are imperfect, and farmers and agricultural workers are simply thrown out of work without alternative forms of employment, then even aggregate GDP will not necessarily increase in response to liberalization (never mind the distributional consequences). These implications for rural to urban migration must be taken into account for the developing countries, which have a much larger proportion of their labour force in agriculture than do the developed countries.

Even if one agrees to a certain level of protectionism for the agricultural sector as a whole, it still presumably makes sense to take account of comparative advantage within the agricultural sector. This would entail a positive across the board uniform agricultural tariff in order to preserve some absolute advantage while the population is slowly being transferred out of agriculture⁸. One could also make an argument for preferential protection of labour-intensive crops such as vegetables (not necessarily rice) in order to support the income of rural landless labourers, although it would be important to couple this with increased educational opportunities for such households so that they have a viable long-term strategy for exiting poverty. Unfortunately, agricultural protection in actual practice is often skewed in favour of commodities produced by relatively well-to-do farmers (relative to other farmers, that is, not well to do in some absolute sense). Rice farmers in the Philippines and Indonesia receive preferential protection, as do sugar farmers in many countries.

Research needs

The case studies and discussion presented above, on balance, generally point toward or argue for favourable effects of agricultural trade liberalization in the context of Asia. Perhaps this is due to an inherent bias among economists in favour of reporting positive effects of trade liberalization. Or perhaps it is because trade liberalization is indeed generally a good thing. But even when it is, trade liberalization is no different from any other policy or technology (or change) in that there are winners as well as losers. It would be folly to avoid all change that creates losers, because this is a recipe for stagnation that hurts everyone in the long run. Nevertheless, much of the scepticism surrounding trade liberalization is concerned with the negative effects on certain subsets of the population, and in general the economics profession could do a better job of understanding these effects. The vast majority of papers give only passing attention to the people who are harmed by trade liberalization, often in the form of references to the theoretical possibility of lump sum transfers to compensate the losers. But since such compensating lump sum transfers are rarely done in practice, it is important to push the analysis further in order to better understand the effects of trade liberalization on the losers as well as the winners. Admission that some people are hurt by trade liberalization should not derail the entire process if indeed it is beneficial to society.

The literature that is sceptical of trade liberalization, to its credit, does take seriously the effects on losers. For example, FAO (2000) conducted some studies that were an excellent step in this direction, although more research in this area is needed that takes into account all important effects, not just the negative effects on farmers. For example, it is important to understand the benefits for consumers and the micro-economics of adjustments made by farmers and traders, many of whom may shift their efforts and resources from one crop to another as trade policy changes, thus cushioning the negative impacts.

There is also a lack of rigour in many criticisms of trade liberalization. Indeed, many of these writings contain major factual inaccuracies. Kwa (2000) claims that in the Philippines, due to a focus on export crops, "acreage planted to rice and corn

have (sic) been slashed by more than half, from 5 million hectares to 1.9 million hectares". Although no dates are given, data from FAO (2006) show that combined area planted to rice and corn in the Philippines has exceeded 5 million hectares every year since 1961, with the exception of 4.99 million hectares in 1963. In the year 2000, when the statement was written, this combined area exceeded 6.5 million hectares. As another example, the International Forum on Globalization (2003), in complaining about WTO agreements mandating the Philippines to import a small percentage of its rice consumption, claims that the Philippines "has been self-sufficient in rice for centuries", when in fact the Philippines has been consistently importing rice for more than a century (see Rose (1985) and FAO (2006) for supporting data). As one final example, one of the FAO country case studies mentioned above stated that trade liberalization for potatoes and onions in Sri Lanka affected 300,000 persons involved in the production and marketing of these crops (FAO 2000). It is now easy to find citations on the web (e.g. Slatter 2003; Kwa 2000) that state that 300,000 jobs were lost, although the original paper actually did not state that jobs were lost, only that "persons were affected". It is hard to imagine that this is a realistic figure for jobs lost – this would have accounted for nearly 4% of the country's economically active population at the time from a pair of crops that combined account for less than 1% of the total agricultural area in the country. There is also no mention of any empirical assessment of what crops many of these farmers may have planted instead of potatoes and onions (the area planted to potatoes in Sri Lanka increased by a factor of ten in the thirty years prior to liberalization, which at least suggests there are alternative crops). This is not to trivialize the jobs that may indeed have been lost, or the hardship that some farmers suffered, but the analysis must be more rigorous if we are to truly understand the process.

There is a wide range of research that could be conducted to examine the possible negative effects of trade liberalization. For example, ability to adapt to change will be a crucial determinant of just how much damage is suffered by farmers who are hurt by more imports. Certainly the type and quality of land will play an important role, but what about wealth, education and social class? Do wealthier, more educated farmers switch crops more easily in response to changing prices? Just as the Slutsky matrix of demand response to price changes is not the same for all consumers (Timmer 1981), one might expect that the supply response of poor and rich farmers to price changes wrought by trade liberalization will be different. Out of necessity, the poor may be quicker to switch crops when prices change. Or due to lack of human and financial capital, they might not have this flexibility. Most likely, the answer will be location and situation specific. On the consumption side, who gets the benefits of liberalization, the rich or the poor? Does trade liberalization hurt or help the agro-industrialization process, which is a potential source of jobs and learning by doing? Again, the answers will be commodity and country specific.

More research on the stability of international trade is also needed, instead of just assuming that more liberal trade will automatically lead to more stable markets. Returning to the above example from Sri Lanka, India imposed a ban on onion exports in 1998 that led to a quadrupling of prices in Sri Lanka (FAO 2000) because

there had been a 25% reduction in the area planted to onions compared with 1997. On the other hand, large price fluctuations for vegetables are not uncommon even without trade liberalization, and the reduced area planted in Sri Lanka in 1998 was still more area than was planted between 1993 and 1995 (i.e., area planted in 1996 and 1997 was unusually high). Thus, the role of India's export ban is not necessarily clear. More rigorous research is needed to understand the many effects of trade liberalization and the research needs to fairly consider both positive and negative outcomes.

NOTES

- ¹ Some of the work on this paper was carried out while the author was at the International Rice Research Institute (IRRI). The views in this paper represent the views of the author, and not necessarily those of the Food and Agriculture Organization of the United Nations or IRRI. Helpful comments from participants at the Babcock Workshop on 'Agricultural Trade Liberalization and the Least Developed Countries' and from Niek Koning in particular are gratefully acknowledged. The usual disclaimer applies.
- ² Trends in trade are measured for exports and imports separately, each as a share of either production (for net exporters) or as a share of consumption (for net importers).
- ³ For estimates of the effects of these reforms in China, see, among others, McMillan et al. (1989), Lin (1992), Kalirajan et al. (1996) and Zhang and Carter (1997). For Viet Nam, see Pingali and Xuan (1992) and Che et al. (2001).
- ⁴ Price changes may possibly be compensated by changes in production, so that income risk is negligible even when prices are fluctuating. If the demand elasticity is greater than 0.5 in absolute value, this compensation will occur at the macro-level in response to supply shocks (although it will not if demand is sufficiently inelastic). However, it is not clear this compensation will occur at the micro-level of individual farmers if supply shocks are asymmetrically distributed across farmers, e.g. some farmers suffer large production shocks while others suffer none. For example, higher prices do not stabilize income if there is no harvest that can benefit from the higher prices. Further, many farmers seem to worry more about market risk, which can be perceived as man-made, than about weather risk, which seems to be more an act of (super)natural origin.
- ⁵ The discussion on fertilizer and irrigation reforms in Bangladesh is based largely on Hossain (1996).
- ⁶ The discussion in this section is based on Gisselquist et al. (2002).
- ⁷ On the other hand, the landless may benefit from higher real wages if the protection causes an increase in the demand for unskilled labor (e.g. Ravallion 1990). However, Rashid (2002) argues this is no longer true for Bangladesh today, although it was in earlier years. Dawe (2003) argues that protection for rice is unlikely to create higher real wages for unskilled farm labourers in the Philippine context.
- ⁸ An undervalued exchange rate would be similar, but not identical, in its effects because most agricultural output is tradable, at least in theory. However, government trade policies often transform tradable goods into non-tradables. Furthermore, there are many tradables outside the agricultural sector that benefit from an undervalued exchange rate.

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