Agriculture and the WTO: time to reconsider the basics?

by

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In August 2003, after a series of acrimonious confrontations in the Doha Round, the US and the EU submitted a common text with modalities for reforming international agricultural trade. A month later, developing countries flatly rejected their proposals in the Cancun conference. The resulting débâcle once more laid bare the fundamental questions that surround the whole agricultural trade issue. In this paper, I discuss the origins of agricultural protection, the history of agriculture and the WTO, and the implications of agricultural trade ‘liberalisation’ for poor countries and global food security.

Origins of agricultural protection

Economic development in pre-industrial societies has demonstrated a bewildering variation in space and time, but some broad generalisations can be made. Phases of demographic and economic growth alternated with phases of stagnation or decline (Abel 1978; Slicher van Bath 1963). The upswings were rooted in agricultural ‘revolutions’ that were sustained by the close relation between population and prices. A growth in population resulted in a fall in wages and an increase in food prices. This stimulated investment in larger farms, which increased employment and food supply so that population growth could continue. Sooner or later, an agricultural revolution ran up against limitations, and further population growth led to food prices sky-rocketing causing distress among the working poor. When this happened, smallholders, higher in number as a result of urban unemployment, over-exploited their plots in an effort to minimise their dependence on food markets. Growth became fragile, and harvest failure was enough to push society into a downward spiral of soil degradation, food insecurity, and disruption. This led to a collapse of population growth, which drove farm prices down and raised wages, and entailed disinvestment, shrinking markets, and a slow-down in farm innovation – until new population growth initiated a new cycle.

Agricultural growth fostered commercial attitudes and created markets for non-farm products. The rise of the Italian and Hanseatic towns in the High Middle Ages, and that of the European world trade system in the 16th century, came surfing on the waves of agricultural revolutions, whose underlying dynamics they did not radically change. The Industrial Revolution was founded on a new agricultural revolution that started in the mid-18th century. Initially, it stimulated the demand for farm-produced materials, which reinforced the traditional influence of population growth on agricultural prices. Until 1875, agricultural prices remained relatively high and wages low, in spite of a dip after the Napoleonic wars in some countries (see Figures 1a-b). Under these conditions, like in earlier agricultural revolutions, farm progress could be left to the entrepreneurship of larger farmers, which stimulated liberalising farm policies. In trade policies, the British repeal of the Corn Law (1846) heralded a general movement towards agricultural free trade.

After 1875, a new phase of industrialisation caused a turnaround in agricultural markets. Cheap international transport and industrial fertiliser boosted global farm supply. Electricity, industrial chemistry, and internal combustion led to minerals replacing farm-produced materials on a massive scale. For the first time in history, international agricultural prices fell not because population growth had collapsed through a Malthusian crisis, but because economic progress generated oversupply. Industrial competition in rural labour markets increased, so that wages increased in spite of the recurrent falls in agricultural prices (see Figures 1a-b). In the absence of significant economies of scale, this evolution affected farm structures. The squeeze on farm profits hindered investment in large
farms, eroding their technical lead, while rising wages reinforced the advantage that small farms derived from using family labour. Large farms declined, while family farms increased. The limited
mobility of family labour complicated a free market adjustment in agricultural markets. Many workers left the land, but not enough to put an end to overproduction. Rather than leaving a depressed sector, as standard-economic theory would predict, many farmers reacted by tightening their belts, increasing their labour efforts, and adopting new techniques to raise production. Technical change became a treadmill that generated overproduction. A balance between growth in supply and demand was only achieved when the treadmill squeezed its own fuel supply *i.e.* when it led to a chronic profit squeeze that reduced investment (Koning 1994).

The resulting malaise provoked calls for support from large and small farmers. They were backed by manufacturers who feared that rural stagnation would threaten their markets. Under this pressure, liberal farm policies gave way to government intervention, one aspect of which was the support of agricultural incomes. Since the late 19th century, most countries in Western Europe have protected their farmers. All other western countries followed suit when prices fell again in the 1930s.

**Could agriculture have adjusted in a free market?**

Many economists believe that this response was solely caused by political factors. In their view, the fall in farm prices was due to a shift in comparative advantage in grains to areas outside Europe. In a free market, European agriculture would have adjusted by shifting to livestock or releasing labour to industry. Farmers would have gone through some difficult years, but farm profits and productivity growth would have recovered eventually (Tracy 1989).

**Figure 2: The growth of agricultural productivity per head and per hectare in eight countries of western Europe, 1870-1910 (in wheat units and 1870 prices)**

One way to test this hypothesis is to look at the experiences of countries that resisted protection. Between 1875-1930, Denmark, the Netherlands, and the white settler countries across the ocean persisted with free trade. These countries enjoyed certain advantages in agriculture. They adjusted in accordance with the standard view, although their farm sectors only really recovered when world market prices temporarily rallied in the early 20th century. The UK also resisted protection. It possessed the most technically advanced agriculture in the world, but industrial competition for labour had raised farm wages, and it no longer had a comparative advantage in farming. According to the
standard view, adjustment would have led to a reduction or elimination of agriculture. But if a farm sector managed to survive to some extent it would see a recovery of profits and productivity growth. In practice, farm profits remained low, and productivity stagnated throughout this period. This was due, not to a technological ceiling, but to widespread neglect of soil fertility and buildings and a drop in investment in new capital goods (see Koning 1994 and literature referred to). Figure 2 shows that, by the eve of WWII, Britain had fallen far behind the European productivity frontier on which it had been together with Denmark, the Netherlands and Belgium. At the same time, Germany, the textbook case of agricultural protection, had rapidly moved to the forefront – a performance that contradicts the standard view that protection breeds inefficiency. Even though protection alone did not guarantee farm progress (as the poor performance of protectionist France and Italy shows), the stagnation of agricultural productivity in Britain and its rapid increase in Germany cannot readily be explained by textbook theory.

After WWII, most countries maintained protection. In the 1950s, the US and Denmark tried to return to free market policies. Farm incomes fell sharply. In Denmark, productivity growth was affected, and model studies suggested that the same would have happened in the US had the experiment been continued. Political reactions, however, led to a return to protection after a few years, making these cases inconclusive (Koning 1986). After 1984, New Zealand abandoned protection. It had a clear competitive advantage in livestock and horticulture, and debt remission and a simultaneous liberalisation of labour markets and industrial trade alleviated the impact on farm incomes. The adjustment of New Zealand farming has been portrayed as a great success, but in reality, the results were mixed (Cloke 1996). Better-situated farmers have done well, especially in dairy and horticulture, but real farm profits have remained below the pre-liberalisation levels (see also Federated Farmers 2002). The labour volume remained stable, but family workers have taken the place of hired workers. The much-acclaimed increase in productivity growth was largely limited to horticulture, and was probably due to investments dating from before 1984. In the livestock sector – two-thirds of New Zealand’s agriculture – productivity growth remained unaltered in spite of a massive release of marginal lands, which for all practical purposes meant that productivity growth diminished (Philpott 1994).

New Zealand is the only case of real farm policy liberalisation in developed countries after WWII. Other than this, there is only indirect evidence. One can compare the rates of productivity growth in agriculture in countries with different levels of farm protection. Countries with moderate protection enjoyed higher productivity growth than both countries with high protection and those with low protection (Van der Meer 1989). In the 1930s, protection was also adopted by important net farm exporting countries. Shrinking markets raised their costs of surplus disposal, which led to the first production control policies being introduced. These soon became interwoven with the regulation of international trade. In 1934, the US State Department inspired a trade law that sought to restore international trade through bilateral tariff reductions. However, the Department of Agriculture soon noticed that tariff reductions had serious effects on farm incomes, and decided that – in agriculture – trade should be restored through commodity agreements that would maintain certain levels of international prices. To be effective, these agreements needed to involve production controls. The opposing views of free traders in the State Department and advocates of managed trade in the Department of Agriculture played a major role in post-war trade policy negotiations (Henningson 1981), and led to a compromise in the General Agreement on Tariffs and Trade (1947). Articles 11 and 16 allowed countries to protect their farmers if they controlled their production and export volumes. Many representatives saw this as a framework for a commodity agreements approach. Free-rider problems, however, prevented a well-functioning organisation of international markets. In the 1960s, US farm policy developed into a combination of acreage reduction and dumping. The EU started with few production controls and tariff walls through which breaches for oilseeds and grain substitutes had been negotiated by the US. A rapid rise in imports of grain substitutes and steady increases in the output of dairy, beef, and grain raised the EU’s costs for surplus disposal. In the 1980s, non-farm interests refused to write out any further cheques and

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1 Of course, labour productivity in German agriculture remained behind that in Britain (just like labour productivity in the Netherlands and Belgium did), but this was because the smaller land-man ratios in these countries stimulated increases in land productivity rather than labour productivity.
agro-industrial leaders were compelled to accept a milk quota system. In grain production, however, control was avoided by accepting lower support prices that reduced the costs of dumping per unit. Growing grain surpluses were dumped onto the world market. Europeans blamed the American refusal to renegotiate the free entry of grain substitutes, but Americans thought that Europeans were free-riding on the acreage reduction through which they sought to support international grain markets – an unfair competition that was made even harder to swallow by growing US trade balance deficits. The American government, therefore, decided to lower the support prices of export crops to world market levels, and to compensate farmers through direct payments. This allowed it to form a coalition with the ‘Cairns group’ of agricultural exporting countries that demanded the elimination of all export subsidies and import restrictions in the Uruguay Round of GATT negotiations. In 1993, a compromise with the EU led to an agreement that prescribed reductions in import restrictions, export subsidies, and ‘domestic support’. Direct payments, however, were exempted if they were decoupled from current production or coupled to ‘production limiting arrangements’. After this, the US and the EU strongly increased their use of these payments, and in the Doha Round they are negotiating the terms of a further replacement of price supports by such allowances. Both powers are downplaying the trade-distorting effects that these payments have. Yet they do stimulate production, albeit less strongly than traditional price support (Gardner 2002). The US, moreover, has used these payments to abandon its acreage reduction programme, while the EU has used them to avoid the more stringent controls that reductions in export subsidisation would otherwise force it to invoke. Many developing countries feel that the two blocks are thus continuing their practices of import substitution and dumping, while other countries are subjected to tariff disarmament.

Implications for developing countries

Many developing countries are still in a situation similar to that in 16th or 18th century Europe. They need an agricultural revolution to accommodate population growth and to prepare the way for economic development. However, the close relation between population and markets that sustained agricultural revolutions in the pre-industrial world no longer exists. While population growth generates pressures to intensify the use of the land, the price signals from world markets hamper investment and force farmers to maintain production methods that are only sustainable within extensive farming systems. To redress this discrepancy, many developing countries need agricultural protection just as much as developed countries did.

Situations vary per region. In Latin America, the population pressure on the land has been limited through the mass eviction of labourers and small tenants. As the vehement reactions from Mexican and Peruvian smallholders to recent trade agreements with the US also indicate, trade ‘liberalisation’ may aggravate the one-sided, latifundio-based agricultural development that has resulted in unbalanced growth in this region. In Asia, several countries have protected their farmers, thereby contributing to green revolutions that became engines of successful industrialisation. Trade ‘liberalisation’ will compel these countries to dismantle support to their farmers. In Sub-Saharan Africa, the effect of low world market prices has been exacerbated by governments that are exploiting farmers to pay for increasingly ineffective ‘development’ bureaucracies. Many rural areas are trapped in a downward spiral of soil degradation and poverty that is dragging the rest of society with it. It is entirely unclear how trade ‘liberalisation’ might help the region out of the quagmire. The positive effect of increased access to western markets has been strongly overrated (Meijl and Tongeren 2001). Liberal economists have placed their hope in donor enforced domestic reform that should put an end to the bureaucratic exploitation of farmers, but this cure is rendered ineffective by the disease it is intended to combat. As long as rural malaise drags on, lack of private employment opportunities will continue to stiffen the resistance to public sector retrenchment. Agricultural import protection may well be needed as a first step to allow a revitalisation of Africa’s economies and societies (Koning 2002). Price volatility and high co-ordination costs in thin markets also make stabilisation of agricultural prices desirable (Dorward et al. 2001), and the long-term considerations highlighted above add to these arguments.2

2 The agricultural tariffs needed by developing countries may be significantly higher than the 10 to 15 per cent that Brooks,
Global food supply in the long term

In the coming 25 years, the world population will increase by 2 billion. In East Asia, rising consumer incomes will raise the consumption of animal products, which require large inputs of feed. The combined effect will be to increase the global demand for farm products. The fact that, in the 20th century, supply has been overabundant does not guarantee that this new increase in demand can be met effortlessly. The plentiful space for reclaiming new fertile lands, tapping water reserves for irrigation, and boosting yields through agro-chemicals and growth-resistant varieties, is gradually being depleted. At the global level, the biophysical potentials for farm production are still adequate (Table 1), but their full exploitation is rendered problematical by environmental constraints. Besides, more than 80 per cent are situated in Latin America, Sub-Saharan Africa and former Soviet Union countries, where their exploitation is hampered by institutional problems.

Table 1. Ratio between potential supply and projected demand of food in 2040 in selected regions, in different scenarios for agricultural input use, diets, and population growth

<table>
<thead>
<tr>
<th>Region</th>
<th>High external input scenarios</th>
<th>Low external input scenarios</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Vegetarian diet, low population</td>
<td>Moderate diet, medium population</td>
</tr>
<tr>
<td>South America</td>
<td>89.2</td>
<td>41.7</td>
</tr>
<tr>
<td>Central America</td>
<td>15.6</td>
<td>7.2</td>
</tr>
<tr>
<td>Northern America</td>
<td>49.3</td>
<td>22.3</td>
</tr>
<tr>
<td>Western Africa</td>
<td>16.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Southern Africa</td>
<td>31.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>11.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>5.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Southern Asia</td>
<td>3.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Europe</td>
<td>13.5</td>
<td>6.4</td>
</tr>
<tr>
<td>World</td>
<td>19.7</td>
<td>8.8</td>
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Source: Penning de Vries et al. (1995)

An adequate increase in global supply, therefore, will partly depend on new technologies. Unlike current ecological techniques, which reduce emissions while minimising production losses, these new technologies must aim to reduce emissions while increasing land productivity. Investment in such technologies involves long gestation periods. This is also true for other investments that determine future production capacities, such as investments in human capital or the regeneration of degraded soils. To avoid unnecessary scarcity, such investments should be made in time. With myopic expectations and financially constrained farmers, low current prices threaten to restrict the size of these investments. If, after some time, it were to become more difficult for global supply of food to keep up with demand (Tweeten 1998), this could lead to soaring food prices, wreaking havoc in net food importing poor countries. Such cobweb (‘pig cycle’) effects might be exacerbated if government support for agriculture were to be strongly reduced in a final phase of international overabundance. In this sense, the present dismantling of price supports, the continuance of disguised dumping by developed countries, the phasing out of fertiliser subsidies in developing countries, and the worldwide reductions in support for farm research might pose serious threats. Besides longer-term cobweb effects, dismantling of price policies may also entail increases in short-term price volatility, which will likewise affect investment. Regrettably, no allowances have been made for such effects in the studies of long-term global food security that some established institutions have made (e.g., FAO 2001; Mitchell et al. 1997; Rosegrant et al. 1995).

Matthews and Wilson have proposed in a previous issue of this journal (Brooks et al. 2003). These authors admit that trade liberalisation may marginalise small farmers and affect agriculture’s role as an engine of growth, but suggest that protection is not the right answer. However, they fail to indicate which other means could get agriculture in these countries moving.
Europe has sufficient potentials to feed its own population in the future. This does not mean that it should strive after food self-sufficiency. Regional self-sufficiency is not a viable solution for global food security, if only because East and South Asia will not be able to feed their populations without considerable imports. Moreover, the pursuit of food self-sufficiency by western countries may prevent developing countries from specialising in export crops in which they enjoy a comparative advantage. Yet this does not relieve the EU from the responsibility of feeding its own population if the situation in world markets would require it to do so. At present, the EU is a net importer of food in spite of its surpluses in some staples. In the current situation this is no problem, but the EU should not become so dependent on food imports that it would need to continue to import large quantities if international food prices were to greatly increase. In that case, European imports would exacerbate the rise of food prices, to the detriment of net food importing poor countries. The EU, therefore, should always maintain its capability of becoming food self-supporting within a few years if needed. For this reason, it should not neglect its farm research, and should sustain sufficient human capital and avoid large reductions in agricultural area that cannot be reversed within a few years.

Is there an alternative?

The ‘liberalisation’ that is currently being discussed in the WTO will not help poor countries or secure sufficient supply of food in the future. But neither will unregulated protectionism or regional food self-sufficiency. What is needed is an international arrangement that facilitates trade and effectively curtails western dumping, while allowing countries to give adequate support to their agriculture. Such an arrangement could be inspired by what was certainly the most positive aspect of the Uruguay Round agreement: the prescription to reduce the subsidisation of agricultural exports by certain percentages. Without the loophole of direct payments, this would have meant a rationing of farm exports, as neither the US nor the EU was able to export without subsidies. This approach could be further developed by assigning developed countries maximum export quotas and minimum import quotas, based on historical trade volumes. Developing countries would be exempted so that their share in farm exports could increase. If global demand increases more than the additional supply by developing countries (as will probably occur), developed country export quotas will be increased and import quotas decreased. To make the system more flexible and to encourage specialisation according to comparative advantage, developed countries could be allowed to buy and sell these quotas amongst themselves. The total amount of quotas should be managed in such a way that world market prices would not fluctuate beyond a pre-established price band. In this way, an adequate supply and remunerating prices would be simultaneously maintained.

Further reading

Gardner, B., 2002. North American agricultural policies and effects on western hemisphere markets since 1995, with a focus on grains and oilseeds, Department of Agricultural and Resource Economics draft working paper 02-12, University of Maryland.


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Summary

Late 19th century industrial developments generated oversupply in agricultural markets. Free market adjustment proved difficult and many European countries introduced protection. When agricultural prices fell again in the 1930s, all other western countries followed, making international regulation of agricultural trade an urgent matter. Under the New Deal, the USDA moved to a commodity agreements approach via the GATT. Both the US and the EU, however, failed to introduce the required production controls and engaged in increased dumping. When expanded output in the EU led to competitive dumping in grain markets, the US changed its strategy and got an agreement in the Uruguay Round that prescribed reductions in price supports but exempted certain direct payments. Thereupon both blocks substituted direct payments for price supports in ways that allowed them to maintain large exports at prices below their own production costs. In the Doha Round, they are negotiating a further shift in this direction. Developing countries call this disguised dumping. Besides, many least developed countries claim the right to protect their own farmers against cheap imports. They need an agricultural revolution to accommodate population growth and get non-farm development moving, but low world market prices hamper investment in farming. Redressing this problem and securing long-term global food security require a balanced system of managed trade rather than the pseudo-liberalisation that the US and the EU pursue.

Pullquote

“The ‘liberalisation’ that is currently being discussed in the WTO will not help poor countries or secure sufficient supply of food in the future.”