Trade policy and food security

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Introduction

I take food insecurity to be an inability of families to gain enough food to satisfy their nutritional needs to maintain health and ability to perform normal activities, including a normal working day where appropriate. It can be a long term situation or one that occurs from time to time due to fluctuations in ability to obtain food (but it tends to be the same groups who suffer). A map of the distribution of the regions where food insecurity and one where poverty prevails cover more or less the same areas. They are concentrated in Africa South of the Sahara and some parts of Asia. This fits the view that in most countries most of the time there is enough food, if evenly distributed to feed the whole population but the poor cannot either produce it for themselves or buy it. This implies that, in general, measures that aim to alleviate poverty and prevent sharp falls in income will also alleviate significantly food insecurity.

This paper will discuss how government policies which influence international trade affect the ability of the poorest sections of the population in developing countries to have access to adequate nutrition. The effects will come largely through price and real income changes and depend on whether the poor are net producers of the products affected by the measures that restrict international trade, or whether they depend on other sources of income to buy food. The generalisations that can be made in this area are often subject to important exceptions, some of these will be noted, but some may have to be left to be brought out in subsequent discussion. Similarly the issues raised by the potentially large, but uncertain, effects of global warming are largely neglected in this essay.

Background

For a great many years agricultural protection and subsidies in high-income countries, with the USA, Japan, and the EU among the greatest offenders, have been depressing international prices of farm products. “Washington paid out a quarter of a ***trillion*** dollars in federal farm subsidies between 1995 and 2009” (Cook,2010).

“Reforms notwithstanding, the common agricultural policy is the most integrated of all EU policies and consequently takes a large share of the EU budget. Nevertheless, its portion of the EU budget has dropped from a peak of nearly 70% in the 1970s to 34% over the 2007-2013 period. This reflects the expansion of the EU's other responsibilities, cost savings from reforms and the new focus on rural development, which will be allocated 11% of the budget over the same period" (Europa 2010). The CAP support for agriculture may have declined but it remains substantial and despite promises to remove all export subsidies in fact the EU has decided to allocate a subsidy of 449 million Euros to exports of dairy products.

The effects of raised incomes for farmers in the richer countries have been to distort the allocation of resources in these countries and lower the earnings of farmers and associated rural businesses in developing countries.* "It is the extraordinary distortion of global trade, where the West spends $360 billion a year on protecting its agriculture with a network of subsidies and tariffs that costs developing countries about US$50 billion in potential lost agricultural exports. Fifty billion dollars is the equivalent of today's level of development assistance"(Malloch Brown, 2002).

But developing countries' own policies since the 1960s have also depressed the real incomes of most of their farmers by taxing their lands and production, for long periods levying taxes on agricultural exports, and providing high levels of protection for import competing industries which raised the domestic prices of the things that farmers consumed. *In general the worst hit groups have been the rural poor, much the same people who suffer from both long term and transitory food insecurity*. On top of this, for long periods most developing countries operated with over-valued exchange rates which handicapped exports (most of them agricultural) and lowered the prices of imports for those who had access to rationed foreign exchange, or had the licences to import goods without paying the normal tariffs. The incentives to farmers to grow food crops were also dampened by the aid policies of both the USA and the EU by providing food emergency aid under such programmes as US PL480. These had the effect of lowering the peak and therefore the average prices that local farmers could get for their crops while subsidizing the rich farmers in the USA and the EU, encouraging them to grow surplus food crops.

Since the 1980s many developing countries have adopted reforms which have lessened the discrimination against agriculture and food production. They have mostly abolished export taxes but raised tariffs on imports of food and other agricultural products. But much damage had already been done and it takes time for agricultural production to recover. Attitudes in government towards the appropriate manufacturing and agriculture mix had to be changed. For years most developing country governments have seen the development of manufacturing as the main, if not the only route out of poverty. It takes time to change these attitudes that lead to discrimination against agriculture.

Responses to price signals are often slow in agriculture. Changing patterns of agricultural crops and livestock take time. Confidence that higher prices will be sustained has to be built up. The supply of crops like coffee and cocoa are very inelastic in the short to medium term. Trees will not be abandoned until prices for their outputs fall below marginal costs. Where prices rise and stimulate planting of trees they take many years, as much as seven, to mature and bear fruit. Investment in irrigation and defences against flooding take time to plan and construct. Training field assistants and farmers in improved farming methods also involve investment in both physical and human capital which takes time. Attitudes among workers and elites towards farming as an occupation have to be changed. Time lags in raising production of food and agriculture in developing countries have meant that even when their countries' government policies ceased to discriminate against agriculture and food production there has been no surge in their outputs. In addition the OECD countries have continued to support their own agriculture and this has kept international prices lower than free market prices so reducing the incentives for developing countries to export many of their agricultural products. Some other OECD countries in addition to the EU have maintained or renewed subsidies to some exports after agreeing in the WTO to abandon them.

The total distortions and the discrimination against developing countries' agricultural production and trade resulting from their own policies have been estimated in two major studies sponsored by the World Bank (Krueger et al, 1988, 1991) and Anderson(2010). The main measures used in the World Bank paper by Anderson are the Nominal Rate of Assistance (NRA) and the Consumer Tax Equivalent (CTE) which compare the domestic price of a product with the border price (the price prevailing in the international market allowing for transport costs etc.). Both measures can give a positive or negative rate. The calculations show that in the period 1960-84 the production and export of agricultural products from developing countries were severely handicapped by their own governments' policies. The later studies by Anderson confirm the general results of the Krueger studies. They show that the average NRA for all developing countries in the period 1960-2004 was minus 22. For non-agricultural products it was +47. This shows a strong bias against agricultural products. It is noteworthy that the poorest countries generally had the most severe discrimination against agriculture thus hitting the poorest people in the poorest countries (Anderson, 2010, Table 2).

During the later period, from 1984 to 2004, most developing countries undertook reforms which reduced protection and moved them to become more open economies, but on average they continued to penalize agricultural exports. This was particularly true for the poorest group, the low-income countries, where the NRA for agriculture was minus 21 while non-agricultural products received positive assistance, NRA +10.

The effects on world trade of the continued discrimination against agricultural exports show in the relative growth of world trade. Over the twenty years up to 2000-2004 the value of global exports as a share of GPD went up from 19% to 26% while the share of agricultural exports rose much less from 13% to 16 % (World Bank 2007 and FAO, as summarized in Sandri, Valenzuela and Anderson 2007).

Trade theory and trade policies

International trade policies adopted by governments range from highly interventionist policies to total free trade. Interventions can involve using border taxes (tariffs) on imports or exports, non-tariff barriers such as quota controls, so-called 'voluntary export restraints' which are normally restraints imposed by enterprises or governments under threat of retaliation by powerful trading partners, plus temporary interventions such as anti-dumping tariffs and countervailing duties, or under Article 39 of the GATT which permits emergency restraints on imports if they threaten unanticipated injury to a local industry. Governments can also manipulate their exchange rate so as to bias incentives to exporting or importing depending on whether they maintaining an undervalued or an overvalued rate.

The orthodox position held by most economists is that almost all of these interventions are bad and are provided by governments mainly to satisfy demands from special interest groups within their countries. Basically, they simply transfer income from consumers to producers of the protected goods or services. Instead, adopting multilateral free trade would, with very few exceptions, raise the incomes of all countries. But within countries there are winners and losers, for example, owners and workers in those industries that are hit by import competition would lose profits and jobs. Nevertheless, with a few specific exception, most countries' incomes would rise sufficiently to enable the gainers within their countries to compensate the losers. Whether the taxation/welfare systems would in fact be used to compensate losers of course depends on the relative political power of interest groups and the openness of their governments to pressure. To some degree in the better-off countries of the OECD income taxes and social benefit transfers do provide partial automatic compensation to the losers. But it would be rash to depend on discretionary distribution policies to effect compensation in most countries. The most that usually occurs in even the relatively rich democracies is some aid with retraining and job placement for displaced workers.

Government intervention is widely felt to be justified, at least in principle, where there is some kind of market failure: the ‘Infant Industry Argument’ and the ‘Terms of Trade Argument for example’. With these exceptions, and they have definite limitations, most economists would argue that freer international trade in all goods would be more likely to provide participating nations with larger incomes that could be used to buy food locally or from the international market.

Adopting free trade will invariably raise the producer prices of exportable goods as foreign demand rises and lower the prices of importable goods as a result of the increased competition from cheaper imports. So farmers in poor countries who produce exportable products such as ugar, oil seeds, tropical beverages, industrial fibres, grains and livestock should gain increased incomes, while the prices of the things they buy should fall. Consumers, both rural and urban, will gain from the fall in prices of imports and the increased competition to local producers that this provides. Unfortunately most of the exportable crops and livestock exports that would benefit from reduced trade barriers in the rich countries come from the larger farms in the better off developing countries such as Argentina, Brazil, and Colombia and rich countries such as Australia, New Zealand and America. For a number of reasons the poorest farmers in some of the Low Income Countries would be unlikely, at least in the short run, to gain from their exports(for example because these countries in Africa and the Caribbean generally have privileged access to OECD markets under special agreements which often gain them prices above free market world prices. Under free trade they would lose these privileges. Also if the rich countries stop subsidizing food exports world prices of these would rise which would hurt consumers of these products in net importing countries. These points were recognized in both the GATT Uruguay Round and in the proposals for the Doha Round. In both of these proposals were made for the payment of compensation to countries that would suffer as a result of the rise in the international prices of their food imports and loss of privileged market access.

Implications of freer trade for food security

"Rural poverty accounts for nearly 63 percent of poverty worldwide, reaching 90 percent in some countries like Bangladesh and between 65 and 90 percent in sub-Saharan Africa.)" (Kahn, 2001, p.1)

Hunger and child malnutrition are greater in rural areas than in urban areas in Africa and Asia. If policies of income redistribution are unlikely, the only means to reduce food insecurity for these groups is by raising the value of their farming outputs and/or lowering the cost of the food that they buy with the incomes generated from the sale of the products of their farming or by selling their labour. Many small farmers do sell their labour to work on other farms, in other rural tasks or in the cities on a seasonal basis, to supplement their direct incomes from farming. In fact, most small farmers do depend on incomes from sources other than their own farms (Davis, 2003; FAO, 1998; Gordon,1999). For them and for the urban poor the help that trade policies could give is by lowering the costs of the food they buy. Reducing trade barriers will almost always lead to lower prices of most imports for consumers and raise the domestic prices of exports. As exports, both manufactures and agricultural, from poor countries are mainly labour and land intensive, increased exports should increase the demand for these factors and raise their incomes. It should also create jobs for the unemployed as the demand for labour should increase as exports expand and the higher real incomes generated by trade should also raise demand. So the relatively poor in most developing countries should gain from freer trade both in terms of lower prices for what they consume and greater demand for the services that they provide.

It may be objected that greater demand for cash crops may cause some farmers, particularly the larger ones, to switch from food crops to cash crops for export or the domestic market. To take advantage of the higher prices for exportable crops the larger or more efficient farmers will likely buy or lease land from the smaller less efficient farmers whose farming may have been rendered less profitable by cheaper imports that compete with their crops. If selling or leasing their land to larger farmers is a rational, informed decision, presumably the farmers who do this are better off than they would be if they carried on farming in their previous manner. But would they be better off than they were before trade liberalisation? They would certainly benefit from lower prices for all importables including food. Whether they would be worse off depends on the sources of their income previously. If a good deal of their income came from off-farm activities, working for other farmers, working part time on urban or rural jobs then they should be better-off.

The probabilities are that reductions in trade barriers on a multilateral basis should improve food security, both long term and transitory. By increasing the size of markets and spreading the sources of food more widely markets should be better able to absorb shocks such as a monsoon failure or plant disease in one area of the world. This should reduce transitory food insecurity, so both long-term food insecurity and transitory food insecurity should be relieved substantially by the reduction of trade barriers on all goods and services, but particularly for agricultural products. So much for theory: what about evidence from the real world and empirical estimates of the effects of changes such as those that have occurred in the recent past.

Evidence on the effects of reducing trade barriers

There is good empirical evidence that the gains to both developing and developed countries from reduced trade barriers are substantial. A recent study by Kim Anderson estimates for the period 1980-84 to 2004 that 'For developing countries as a group, net farm income (value added in agriculture) is estimated to be 4.9 percent higher than it would have been without the reforms of the past quarter century, which is more than ten times the proportional gain for non-agriculture'. Looking to the future, if the various restrictions on trade remaining in 2004 were removed, the Anderson study estimates that net farm incomes in developing countries would rise by a further 5.6 percent, compared with just 1.9 percent for non-agricultural value added. As well, returns to unskilled workers in developing countries – the majority of whom work on farms – would rise more than returns to other productive factors from that liberalization.
(Anderson 2009, p.23)

As a proportion of their national incomes developing countries have gained more than high-income countries from the various reforms in trade policies that have occurred in both developing and high-income countries since the 1980s. According to Anderson (p.24) if the reform process was completed they would gain nearly twice as much as high-income countries and most of these gains, 72%, would come from agriculture and food.

The net farm income in developing countries is estimated to be 5% higher with the reforms since the 1980s than it would have been without them. This is much more than the proportional gains to non-farm households. If the world moved to complete free trade the gains would be even greater. So both inequality and poverty would be alleviated as, according to World Bank figures, three quarters of the world's poor are in farm households in developing countries. If such poverty is reduced the food security of the world's poor would also be alleviated.

Unfortunately, politics are against further freeing of trade and particularly in agriculture. The Doha round that was supposed to open markets in the high income countries to agricultural exports from the developing countries seems to have collapsed. Somewhat worryingly, in the discussions developing countries themselves were seeking support for a new proposal for agricultural protection in the developing countries. Such protection was supposed to be to enhance their food security, livelihood security, and rural development. But such policies, which would raise domestic food prices in developing countries, would likely worsen the real incomes of the poor and their food security. (Ivanic and Maros, 2008)

Implications for Policy in China?

China has generally been self sufficient in food and has had no major food security emergencies in the last 20 years. But China has 22% of the world's population and only between 7% and 9% of the world's arable land. Moreover

China is losing farmland to urban development, roads and environmental damage through soil erosion, shortages of water and salinity. This has led to China's seeking land overseas in the rest of Asia and Africa to grow food to meet the needs of its growing population and increased demands for meat and dairy products as per capita incomes have continued to surge. But past fears of food shortages should surely be allayed by the vast reserves of foreign exchange held by China and its continuing balance of payments surpluses. China has a substantial comparative advantage in labour intensive manufactures due to its huge labour surpluses with quite high unemployment in urban areas and substantial underemployment in the rural hinterland. Even if wages for factory workers rise somewhat, as they appear to be doing, these advantages are unlikely to disappear in the next decade. Increases in labour productivity as human and physical capital increase in China will also tend to offset the rise in wages by keeping down labour costs to manufacturers. China will also move up the ladder of comparative advantage to produce and export increasingly skill and technology intensive products. Given land scarcity and large inflows of foreign direct investment China's development will continue to depend on manufacturing both for domestic consumption and export.

Given its size and vast hinterland China is likely to continue to meet most of its food requirements from domestic production. Under normal circumstances, to aim for self sufficiency would seem both unnecessary and costly. Nevertheless many voices in China have raised worries about becoming too dependent on food, particularly grain, imports. There is always a case for trade interventions based on maintaining national independence from outside pressures. After all, even the great guru of free markets, Adam Smith recognized that “Defence is more important than opulence”. As long as decision makers are aware of the potential costs of achieving food self sufficiency and of possible alternative ways of avoiding the risks of being under pressure from food embargoes economists have to bow to political decision makers on this topic.

China has recently had a target of 95% food self sufficiency. This target should be quite easily maintained at least in the near future. Estimates of the effects of WTO accession which involved substantial reductions in China’s agricultural protection actually show relatively small changes in agricultural production, some even show increases: rice+0.28%, wheat -0.7%, corn -1.1%, pulses 0.6%, other grains –0.7% by 2010. This is largely because both the NRA and the relative rate of protection for agriculture were relatively low before the introduction of WTO cuts. China would probably still meet its 95% self sufficiency target. Both rural and urban real incomes were expected to be raised by the changes, but distributional effects mean that some households would be worse-off (Estimates from Chen and Duncan, 2008 pp 20-23).

Other estimates have been made of the costs to China of attempting to achieve full food self sufficiency by 2010. Comparing to a base case where China holds existing 2004 levels of protection with those necessary to achieve full self sufficiency in all major foods would require substantial increases in tariffs. This is because there would in any case have been a decline in food self sufficiency under the pre-existing levels of protection. The rise in demand for meat consumption accompanying the rising income means that much grain would be diverted to animal feed thus increasing the overall demand for grains as well as for food imports. Estimates of the extra tariffs to attain self sufficiency would have to be: rice 0%, beverages 50%, Other crops 73%, Livestock 79%, processed food 67%, fish 32%.. The distortions produced would lead to reallocation of productive factors from efficient to less efficient uses and would have reduced 2010 GDP by 2%. This is an annual, not a once over cost. The costs would be significantly higher if the protection led to retaliation by foreign countries and would hurt China's manufactured exports, a major source of China's growth (Estimates are from Chen and Duncan, 2008, p.25 and Table 14).

Of course these estimates are subject to many caveats. I am not sure if they allow adequately for China's huge surplus labour which should reduce the opportunity costs of expanding agriculture as there would be less need to divert labour from more efficient uses in other industries. But they also take no account of the likely effects of reduced competition on the efficiency of Chinese agriculture.

My belief is that for the medium term at least, say the next ten years, most worries about global food security are exaggerated. Existing food security problems are local and due to poverty, not overall inability to get a hold of adequate supplies of food at a national level. Beyond that period all bets are off. Environmental problems could potentially have disastrous effects on some countries' ability to grow their own food. But keeping up the movement towards globalization and relatively freer trade are more likely to prevent food insecurity than adopting a siege mentality and closing borders to imports of food.

Footnote

*.US Farm Bill subsidies alone equal US$15–20 billion per year, more than the value of Africa's total annual agricultural exports. IFPRI model projections reveal that if both the United States and the European Union fully opened their markets and eliminated agricultural subsidies, Africa's total agricultural exports would increase by 20 percent (International Food Policy Research Institute (IFPRI), 2004)

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