A LEVEL PLAYING FIELD IN THE WORLD SUGAR MARKET: THE IMPLICATIONS FOR SOME OF THE MAIN SUGAR PRODUCING NATIONS

Dr. James Fry Managing Director
LMC International, U.K.

THE IMPACT OF THE URUGUAY ROUND

The impact of globalisation and liberalisation in the world sugar market is far from simple to assess. There are so many associated issues that have to be taken into consideration before one can start to give an informed opinion about the subject. For example, is one referring to the liberalisation of the sugar market in isolation; or is one considering the liberalisation of all agricultural markets in tandem? In practice, the process of the dismantling of trade barriers tends to be seen in the context of the outcome of the Uruguay Round of trade talks, in which there were clear distinctions between forms of agricultural supports which were adjudged acceptable and non-distortionary and supports which were viewed as barriers to trade, and which were targeted for gradual reduction.

In WTO terms, the acceptable forms of support - placed in the “green box” - consist primarily of income supports which were described as “decoupled”, in the sense that the value of these supports was not related to, and thus are not coupled to, the level of output of the farmer. These include the various payments of fixed sums per hectare to farmers of grains and oilseeds in the European Union and the US.

The forms of support which the WTO considers to be unacceptable include protection from imports via tariffs or via non-tariff barriers, such as import licensing. In the export arena, the unacceptable forms of support include export subsidies. The countries which are signatories to the WTO have to agree to reduce the protection which they provide local producers vis-à-vis competing imports and also to lower the subsidies which they offer for exports.

The thrust of the WTO Uruguay Round was directed towards reducing the domestic prices of agricultural produce within national markets, while opening up access to these markets for competing imports. The permission to resort to decoupled payments meant, however, that as farmers’ support prices are reduced, those governments rich enough to be able to afford to make social payments, at a pre-determined rate per hectare, to their farmers were allowed to continue to aid their domestic producers.

In practice, this right to make decoupled payments has been of most benefit to arable farmers in Europe and the US, since they have enjoyed considerable compensation for the reductions which have been imposed upon their local selling prices. Producers in poorer countries have generally found it harder to persuade their governments to dip into their pockets to provide direct income supports out of the public purse. Therefore, they have started to face tariff reductions without the prospect of payments intended to compensate them for any loss of income which results from liberalisation.

THE SPECIAL CASE OF SUGAR

Within the sugar sector, liberalisation has not followed quite the same course as other agricultural commodities. One distinctive feature of the sugar market, for example, continues to be the way in which both the US and EU sugar regimes continue to support domestic farmers’ incomes without requiring top-up payments from their governments. What is particularly unusual about their regimes is that their use of tariff rate quotas on imports alongside preferential access for those countries which have been granted tariff rate quotas on sugar has created an environment in which many sugar exporting nations, notably in Africa and the Caribbean/Central America, benefit so much from the higher prices which they receive on exports to the EU and US that their governments lobby to perpetuate these systems, rather than dismantle them.
In the course of this paper, I would like to take the opportunity to delve a little into the logical consequences of the implementation of a comprehensive liberalisation of all agricultural markets, covering all crops, without exception. I will focus upon the consequences for a cross-section of the world's main sugar producing and exporting nations, if there is truly a level playing field in the way in which globalisation occurs in world agricultural trade, so that no barriers are allowed to prevent the free flow of sugar and other agricultural products across international boundaries.

Before turning to the analysis and the results which emerge from the approach which I have adopted, I would like to clarify one important point, which is often overlooked in discussions of agricultural pricing policy. This is:

When a government provides substantial protection for its domestic agricultural sector, so that local prices are well above world market levels, major (in fact, the major) beneficiaries from this support are landowners. The market price of land reflects the profitability of the crops grown on the land. If government policy makes farming more profitable than it otherwise would be, then market forces will drive up the value of land. If government policy lowers the selling prices of crops and therefore reduces the profitability of agriculture, the main loser will, in the first instance, be the market price of land.

Because many farmers are also landowners, the distinction between farmer and landowner is blurred. If land values fall, those farmers who own their land suffer directly. This is what happened in the mid-1980s to young farmers who had recently bought farms at relatively high prices in the Queensland cane area, and in the US Mid-West. When their crop selling prices fell, the value of their land fell in parallel, and many of them were unable to remain solvent, and had to sell their farms at depressed prices. However, some bought the farms at the new, lower, valuation, and were able to make a living from agriculture.

This leads on to a second point to emphasise:

As long as land remains more profitable to farm, rather than to leave idle, it will have a positive market value. Farmers will continue to do as they always have done, namely seek out the most profitable of the alternative crops to put on that land. When prices fall, the value of their investment in the land will decline, but they would be foolish to neglect the land if it yields a better return when it is farmed properly.

THE METHODOLOGY EMPLOYED IN THIS PAPER

The preceding remarks help to introduce the diagrams which follow. In these diagrams I have concentrated upon the gross revenues earned from different crops in major sugar producing countries. Ideally, I would have focused upon gross or net margins, rather than gross revenues, since production costs differ from crop to crop, but, as a simplifying assumption, I have prepared diagrams which compare the gross revenues which an average farmer in a particular country would receive from cultivating one hectare of sugar cane (or beet) and the major alternative crops.

This may not be such a bad approach in the short run. Farmers’ costs are more or less fixed in the very short run; therefore many farmers’ decisions are influenced heavily by the overall income which they will earn from one hectare of the alternatives open to them.

The data which I used were derived from the FAO. I applied both the average yields and the average producer prices published by the FAO, and obtained a series of diagrams similar to Diagram 1 for a variety of countries. I was able to compare the gross revenues per hectare for a group of products, including sugar cane, for the early 1990s (often the series ran up to 1995, but sometimes, as with Thailand, it was not possible to get full data for the final year or two).
For Thailand, I have illustrated the gross revenues for cassava, groundnuts, maize, cotton and rice, as well as cane, since these crops all compete with cane in certain parts of the country. It is noticeable that cane was nearly always the most profitable of the crops, and was the most profitable on average over the period. Its sole close competitor was seed cotton; however, this does not compete much with cane. The most direct competitors on rain-fed land are crops such as cassava, maize and groundnuts, and none of these come close to cane in their ability to generate cash.

Diagram 1 depicts the actual situation prevailing earlier this decade. The next stage in the analysis is to consider how the prices of the alternative crops will alter if and when full liberalisation occurs, without any trade barriers whatsoever. To do this, I have first analysed the long run trends in the world market export prices of the major commodities which are included within the diagrams which follow. This allows me to establish a typical long term trend price for each product.

I have then examined how, for example, the sugar price is transmitted to cane farmers, via revenue sharing agreements, or the cotton lint and cottonseed prices are transmitted to seed cotton producers. Therefore, I have set up a mechanism for simulating the way in which world market prices would be passed on to individual farmers. Finally I have computed how these new prices would affect the gross revenues which farmers receive per hectare of these crops (assuming that yields are not affected by the change in prices).

Diagram 1: The Revenues per Hectare from Competing Crops - Thailand

**THE RESULT OF THE SIMULATIONS**

**Argentina**

I have listed the results in alphabetical order; therefore Diagram 2 illustrates the results for Argentina, and compares groundnuts, maize, soybeans, sunflower and wheat with sugar cane, using data covering the period from 1990 to 1995. In reality, few of these crops, all of which are produced on a large scale in Argentina, compete with cane in the main cane-growing states in the North of the country. However, it is nonetheless illustrative to note that cane was far and away the most remunerative crop, in gross income per hectare, in practice.
When liberalisation occurs, some of the major grain and oilseed crops actually enjoy an increase in revenues, because it is assumed that the practice of taxing exports of these products will cease (it has already ceased for grains, and now applies only to oilseeds). The earnings from sugar cane fall by over one third, but only groundnuts are able to vie with cane in their gross revenues per hectare. Cane still would generate over twice the revenues per hectare of the main grains and oilseeds; therefore, the desire to switch from cane to one of these other crops is likely to be weak.

Diagram 2: The Impact of Liberalisation upon the Revenues per Hectare - Argentina

Australia

The crops which we have compared with cane in Diagram 3 for Australia are rapeseed, cotton, wheat and rice, although cane reigns so supreme in many areas that these are rarely seen in competition with cane. Nevertheless, it is interesting to note that cotton was able to compete successfully in the early 1990s on a per hectare basis, with rice not far behind cane. However, once a fully liberalised situation is assumed to apply, then cane is well out in front, generating $US400 per hectare more than the next most remunerative crop, rice.
Diagram 3: The Impact of Liberalisation upon the Revenues per Hectare - Australia

Brazil

In the past, Brazil had a fairly highly protected agricultural sector, although in the early 1990s cane was substantially ahead of the other crops shown in Diagram 4. Under full liberalisation, cane's advantage increases, rather than decreases. In relation to its main arable competitors, soybeans and maize, cane, on average, generates roughly three times as much income per hectare if all trade barriers are dismantled and world sugar prices average close to their long run trend value.

Diagram 4: The Impact of Liberalisation upon the Revenue per Hectare - Brazil
China

The Chinese comparison is presented in Diagram 5. Cane has been well ahead of the other main crops in the past, with revenues running at almost double the level from groundnuts (a competitor on sloping rain-fed land) or paddy rice (which competes on wetter land). Under the assumptions which we have made about the effects of liberalisation, sugar cane loses its advantage over groundnuts, and sees a rapid narrowing of the gap over paddy rice. This suggests that, unlike, say, Brazil or Australia, the position of cane in China is much less secure, in the face of a true opening up of the Chinese agricultural market to import competition.

![Diagram 5: The Impact of Liberalisation upon the Revenues per Hectare - China](image)

India

For India, the evidence of Diagram 6 is striking. Sugar cane is well ahead of the other major crops in terms of revenue generated per hectare. Whether in the actual circumstances of the first half of the 1990s or under a fully liberalised agricultural economy, sugar cane is able to generate almost three times the income per hectare of its closest competitors. This suggests that cane has a very secure place in the Indian agricultural economy for the foreseeable future.

(The contrast between cane and rice, for example, makes one wonder whether the FAO has made any systematic allowance for the double cropping of crops. Maybe one should be adding together, say, the income from rice to that from rapeseed, to arrive at a measure of the overall income which a farmer would hope to gain over a 12 month period, if they opted not to grow cane. Even so, cane still proves significantly better as a source of income over the year as a whole.)
Mexico

We have included Mexico as the subject of Diagram 7, since the country has emerged as the largest producer in the Central American region. The diagram reveals the extent of the subsidies enjoyed by Mexican agriculture in the past, and cane was not exempt. Yet, the higher gross revenues obtainable from cane in the early 1990s appear to carry over to a liberalised market. The earnings from all crops would fall heavily, thereby hitting land values, but cane remains significantly better as a generator of revenues than the alternatives in the diagram.
Pakistan

The situation in Pakistan is depicted in Diagram 8. In the early 1990s, cane was just ahead of cotton, in terms of average income per hectare, but the gap was not large, at approximately US$200. It disappears entirely if a liberalised sugar market is assumed to be introduced, but cane is still up at the top of the list of crops in its ability to generate revenues.

Diagram 8: The Impact of Liberalisation upon the Revenues per Hectare - Pakistan

The Philippines

Of the cane producing countries covered in this paper, the Philippines enjoys the greatest benefit from high protected domestic prices, reinforced by the access it enjoys to the US market under the tariff rate quota. In the early 1990s, the average gross revenues per hectare from cane were in excess of US$2,500. Under liberalisation, they would fall to barely 40% of this level. However, cane would still remain comfortably ahead of its main competitors as a source of income for its producers.

Diagram 9: The Impact of Liberalisation upon the Revenues per Hectare - The Philippines
South Africa

The South African sugar industry was yet another in which cane was far ahead of its main alternative crops in the early 1990s, from the point of view of its gross revenues per hectare, as Diagram 10 reveals. The removal of protection from the local market would reduce earnings substantially, but the overall sales of cane per hectare would still remain at least double the level of the next best crop depicted in the diagram.

Diagram 10: The Impact of Liberalisation upon the Revenues per Hectare - South Africa

Thailand

We have already had a glimpse of the historical balance of advantage during the early 1990s in Thai agriculture, when examining Diagram 1. The impact of liberalisation is simulated in the right hand side of Diagram 11. Somewhat surprisingly, it suggests that, far from losing out to competing crops, cane would actually gain slightly against all apart from groundnuts if a fully liberalised trade regime were to be introduced.

Diagram 11: The Impact of Liberalisation upon the Revenues per Hectare - Thailand
CONCLUSIONS FROM THE EXAMPLES OF SUGAR CANE GROWING COUNTRIES

The examples which I have presented have the following clear implications:

1. Under recent forms of protective regimes, relying primarily upon a mixture of import tariffs and quotas, cane has typically been the major crop which offers the best prospects for high revenues per hectare.

2. It must be stressed that this is not synonymous with profitability. The costs of production of cane are often higher than for alternative crops. However, if one recalls that a major share of the input costs for cane farming, especially among small farmers, is accounted for by labour, one can appreciate why growers may focus upon a crop like cane which probably helps to maximise the overall net income of their family from one hectare of land.

3. When one adds liberalisation to the picture, the earnings from virtually all crops decline. In practice, this will almost certainly be reflected eventually in lower land values, since the profitability of land will fall.

4. The revenues from cane farming will also decline in most countries. However, it generally remains the major crop which offers growers the highest revenues per hectare. Occasionally, cotton and groundnuts are its close rivals in this respect.

THE CASE OF EUROPEAN UNION

In this final section, I turn to the world’s largest beet sugar producing area, the European Union. Its protective Common Agricultural Policy (CAP) is well known for providing high incomes for its farmers. Increasingly, the budgetary pressures inside the EU and the stipulations of the WTO are forcing the CAP to change from policies designed to defend agriculture via import tariffs and high prices for domestic consumers towards policies which pay direct income supports via so-called compensatory payments, of a pre-determined amount per hectare.

Sugar beet has not been much affected by these changes, primarily because the system of production levies which are used to finance the cost of export subsidies imposes no net cost to the CAP budget. However, over time, the requirements of the WTO and progress towards liberalisation will increase the pressures for reductions in the protection afforded to the EU sugar producers.

Diagram 12 is somewhat different from the preceding diagrams in that it depicts the gross margins (and not merely the gross revenues) earned in the early 1990s, in ECUs per hectare, from the main arable crops in the leading EU sugar producing member states: France, Germany, Italy and the UK, as well as in the EU as a whole. There is no mistaking the profitability of sugar beets in relation to its competitors.
Diagram 13 illustrates how these gross margins would be affected by the implementation of a programme of full liberalisation of all major crops, and the convergence of the prices of these crops to their long term trends in world market prices. As in many cane producing countries, one effect is to reduce the profitability of all crops, and this will be reflected in lower land values.

It is important to note also that the opening up of the European market to overseas supplies would not necessarily end the competitive position of some EU sugar industries. On average, in both France and Germany, beet would continue to generate a higher gross margin per hectare than the main grains and oilseeds.

It is by no means certain that the EU would disappear as a sugar producer in the wake of liberalisation. Indeed, once production quotas are lifted, it is conceivable, and even likely, that beet sugar output will expand in well placed regions of countries such as France and Germany.

This conclusion applies also to some regions of the US, for which sugar crops will continue to provide higher gross margins than the alternatives available to farmers, even when all price and income supports are removed.

The trend towards the phasing out of price supports and their replacement by WTO-acceptable decoupled payments of fixed sums per hectare will not affect the position of sugar beet vis-à-vis its rivals. If the same fixed sum is offered on social grounds to farmers, without regard to their choice of crop, then it will boost the gross margin for all crops by the same amount. This, in turn, will be incorporated into the market valuation placed upon land, leaving the choice of crop unaffected.

Diagram 13: The Impact of Liberalisation upon EU Gross Margins per Hectare

GENERAL CONCLUSION
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A level playing field for sugar is still a long way off. Very few governments have been as brave as that of Australia in dismantling all tariffs on sugar and leaving the industry fully exposed to the force of foreign competition without government assistance.

Most governments take the view that they will only concede the elimination of all forms of protection for sugar producers if and when other countries agree to adopt a fully liberalised system across the entire range of agricultural products. The green box, allowing social payments, which are entirely decoupled from price supports, to be made within the framework of the WTO will ease the transition to a truly liberalised system. However, the process of adjustment will inevitably be slow.

If and when globalisation becomes a fact of life in all aspects of agricultural production and trade, the consequences for sugar production will not necessarily be as dramatic as many people fear. Even in the EU, major regions of beet production should remain viable, the major losers will be landowners. As the prices of a broad range of crops decline, the profitability of farming will follow suit, and markets will reflect this lower profitability in a lower valuation of the assets tied up in agriculture.