Desirable and undesirable international effects of agricultural liberalization in the North

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We study the international impact (especially upon developing countries) of dismantling agricultural interventionist policies (tariffs, non tariff barriers, domestic and export subsidies) in the North (especially the US and the EU).

This topic has been widely publicised over the past few months, especially at the latest international conference on development in Johannesburg. A number of authors (Messerlin, 2001, Bouët et alii, 2002, Hathaway & Ingco, 1995) have emphasised that:

- agricultural protection is still high in the North and agriculture is the only activity where domestic support is still very strong;

- the Uruguay Round did not imply a better market access in this sector in Northern countries (agricultural protection has even been increased due to a process of "dirty tariffication" – Messerlin, 2002; OECD, 2001).

Globally, developing countries suffer from higher tariffs on their exported products than industrial countries.

For example, the World Bank made the following calculation: let us suppose that poor countries are specialized in agricultural products and labour-intensive manufactures and rich countries are producing all goods. For evaluating the effective protection faced by each kind of exporting countries, an average of tariffs on agricultural goods and labour-intensive products weighted by trade is compared to the global average: the former is greater than 14%, while the latter is about 6%.

At first, we expose traditional arguments in favour of a liberalisation and present the conclusions of recent quantitative studies. In a second part, we show that this kind of uncontrolled policy could have negative consequences on developing countries.

These last elements do not mean that an agricultural liberalization should not be activated, but that this process must be very well studied and anticipated in order to avoid negative evolutions.

1. Traditional arguments in favour of an agricultural liberalization

a) From agricultural liberalization in the North… to economic growth in the South

The core of the argument is as follows: a decrease in Northern tariffs and export subsidies means a reduction in local prices, such that domestic production is expected to decrease and local consumption to increase. A reduction in internal support (production subsidies) also implies a reduction in developed countries' production. A first consequence is a greater share of a bigger market for agricultural countries, and especially for developing countries.

A second effect is that as liberalizing countries are (very) big (USA and European Union), the increase in their excess demand may imply higher world prices; this is an improvement of agricultural countries' terms of trade.

This argument is constructed on very solid economic relationships.

The beneficial impact of other general equilibrium effects are much more uncertain: despecialization of Northern countries from agri – food sectors liberate labor and capital, of which the rate of return decreases. It implies a greater comparative advantage of developed countries in the industrial sector. This process may be opposite in Southern countries.

b) Quantitative evaluations

According to the Economic Research Service of the US Department of Agriculture (see M. Burfisher and alii, 2001, and Diao and alii, 2001), the average increases in agricultural world prices following an elimination of tariffs, domestic support and export subsidies would be 12%. It ranges from a 5.6% for some crops to 22.3% for livestock (see table 1).

Table 1: Increases in world prices resulting from the elimination of all policy distorsions, by commodity

Commodity	Impact on world prices (%)
Wheat	18.1
Rice	10.1
Other grains	15.2
Vegetables and fruits	8.2
Oil and oilseeds	11.2
Sugar	16.4
Other crops	5.6
Livestock and products	22.3
Processed foods	7.6

(Source: Burfisher and alii, 2001)

Hertel (2000) or Hertel and alii (2000) use the GTAP model to explore the potential impact of a complete liberalization in agriculture. This is a multi-region, applied general equilibrium model with Constant Difference of Elasticities consumer demand system and a modelling of trade flows by the Armington approach.

According to Hertel (2000), a complete elimination of agricultural tariffs and export subsidies, and production subsidies in the world should lead to a world annual gain of USD 150 bln in real income. World trade would increase by 5%; the evolution would be very different according to each product: global export volume would increase by more than 120% in the beverage and tobacco sector, by more than 80% for dairy products, by about 35% for foodgrains, by 20% for oilseeds…

If a major part of this USD 150 bln is gained by developed countries, this increase in real income is larger in developing countries, as divided by Gross Domestic Product. Real income gains due global trade liberalization in agriculture (real income gains in percentage of estimated 2005 real income) is about 1.8% in South Asia (other than India), 1% in South-East Asia (other than China) and in Brazil. These are floor estimates, as dynamic gains are not considered.

According to the Economic Research Service of the US Department of Agriculture (see M. Burfisher and alii, 2001 and Diao and alii, 2001), the welfare gain of a complete elimination of agricultural tariffs and subsidies is lower: from USD 31.3 bln (static gains) to USD 56.4 bln (dynamic gains).

c) Improving market access or reducing internal support ?

Hoekmann, Ng and Olarreaga show that reducing tariffs and export subsidies (border intervention) is much more important for developing countries than reducing domestic support. Derived from a partial equilibrium model, their basic equation is an expression of a relative change in exporters and importers welfare (expressed as a function of relative changes in world price and domestic support). The partial equilibrium model is used to assess an expression of a change in exports and world prices with respect to a change in tariffs and domestic support. The various elasticities are estimated econometrically and other parameters are calibrated for each product and country. Finally a reduction of 50% in agricultural tariffs is compared to the same reduction applied to domestic support.

Table 2: Impact of a 50% cut in tariffs and domestic support on welfare – 158 products – USD mln

	Tariff cut	**Domestic support cut**
Industrial countries	14464	541
Developing countries	2293	-273
Least developed countries	52	36

(Source: Hoekman, Ng and Olarreaga, 2002)

Table 2 shows results from Hoekman et alii: the effect of a tariff cut is much more important than the impact of a reduction in domestic support. For example, the increase in exports is ten times lower than what is generated by a tariff cut. The impact of a cut in domestic support is even negative for developing countries. It comes from the fact that a reduction in domestic support means reduced Northern production and higher world prices, with only a small effect on developing countries‘ exports, as compared to the effect of a cut in tariffs.

There are several reasons why the impact of a tariff cut is much more important: firstly, some tariffs are very high. Secondly, this kind of intervention exists both in developed countries and in developing countries. In the previous simulation, the tariff cut is also applied in developing countries such that their consumer surplus increases as a consequence of a this policy. Thirdly,

tariffs could be considered as a combination of a production subsidy and a consumption tax; decreasing tariff has a more powerful effect on internal distorsions.

Thus, a decrease in tariffs is much more important than a reduction in domestic support, as far as welfare impact is concerned. This point is confirmed by computable general equilibrium model, as demonstrated by Burfisher et alii (2002) or by Hertel and W. Martin (2000).

2. Undesirable effects of dismantling Northern agricultural policies

a) Trade negotiations without real impact on market access

** "Water in the tariff"*

Tariff peaks are still very numerous in industrial countries, especially in the agricultural sector. For example, Gibson and alii (2001) measure the importance of megatariffs, defined as tariffs of 100% or higher; they are very frequent in tobacco products (in United States), meat products (in Europe and Japan), grain products (in Japan), sugar (in Europe) and dairy (in the three countries), as pointed out by table 3.

Table 3: mean, median and number of megatariffs of the United States, the European Union and the Japan

	United States			**European Union**			**Japan**		
	Mean	***Median***	***Number megatariffs***	***Mean***	***Median***	***Number megatariffs***	***Mean***	***Median***	***Number megatariffs***
Grain products	8	2	0	48	45	2	162	24	26
Meat: fresh or frozen	1	0	0	70	74	29	39	0	2
Meat: fresh beef, prok or poultry	9	5	0	41	27	6	45	7	3
Meat: frozen beef, pork or poultry	9	5	0	66	38	24	38	9	3

Meat: prepared	2	2	0	43	26	7	79	20	7
Dairy	43	38	7	87	70	41	322	227	48
Sugar beet	0	0	0	349	349	2	0	0	0
Sugar cane	1	1	0	56	56	0	0	0	0
Sweeteners	46	51	5	59	57	8	82	55	13
Tobacco: unmanuf.	83	5	3	14	11	0	0	0	0
Tobacco: products	102	9	1	39	34	0	9	3	0

(Source: Gibson, Wainio, Witley and Bohman, 2001)

It is possible that some tariffs are so high that they are "more than prohibitive": their level is prohibitive and reducing them does not imply any import. This phenomenon is summarized by the expression "*Water in the tariff*". This is why **it is possible to negotiate reductions in applied tariffs without any impact on trade flows**.

Therefore many suggest progressive reduction of tariffs. Josling and Rae (1999) propose a "*cocktail approach*": very highest tariffs would be reduced according to a progressive formula ("the Swiss one" for example), a linear formula would be applied to moderate tariffs and nuisance tariffs (less than 5%) would be abolished.

Another point is to consider the difference between the tariff-cutting formula, often based on a simple average (36% for example during the Uruguay Round – 24% for developing countries) and the case where the size of each particular tariff is reduced. Without strict external control, governments are used to decrease politically sensitive tariffs only by the required minimum (15% during the Uruguay Round) and to decrease other tariffs by a greater amount.

** Unused protection*

The consolidation of agricultural tariffs during the Uruguay Round was a major improvement, but it was achieved in such a way (selection of a period with high support base) that many bound tariffs were fixed at a level which is much higher than applied tariffs. As trade negotiations are dealing with bound tariffs, and not with applied ones, a negotiated reduction might well imply no better market access (we may concede it has been demonstrated that a

decrease of bound protection may increase trade flow, even if applied rates are not changed – see Francois and Martin, 1998, for the impact of expected protection on imports).

Walkenhorst and Dihel (2002) for example estimate applied and bound rates for agri-food products in OECD countries, 1997 – see also Abbott and Morse (1999), or Francois (1999) or Hathaway and Ingco (1995) for the estimation of this tariffs gap. Table 4 shows their estimate for the Quad countries. The difference is zero in the case of the European Union, it is absolutely high in the case of Japan, it is relatively high in the case of the US and Japan. This table points out the fact that a 20% reduction in bound tariffs may have a very small impact on agricultural market access in Japan and the US: it may reduce the border protection only for grains in Japan and sugar in the US.

This assessment of '*unused protection*' leads to two conclusions:

- at first, trade negotiations are always conducted on the basis of bound rates. It means that these commercial discussions could agree on a reduction in bound tariffs with minor improvement of market access. Is it an argument for a trade negotiation conducted on the basis of applied rates instead of bound rates ? Hertel and Martin (2000) argue that this would be an incentive for countries to keep applied rates high, or to increase them, in order of having bargaining room for manoeuvre in future negotiations. This would be a quite adverse effect.
- Computable General Equilibrium models are always concerned with the study of a decrease in applied rates, considering that there is a translation effect between bound and applied rates: a x% decrease in bound rates implies a x% decrease in applied rates. This is the source of a general overestimation of trade liberalisation effects. Walkenhorst and Dihel (2002) use the GTAP model to compare a worldwide liberalisation based either on initial bound rates, or on initial applied rates, or on conditional applied rates, that is to say this last scenario considers both initial bound and applied rates and their relationship. In the case of a 30% linear reduction in tariffs, the first method leads to a 45% overestimation, the second one to a 30% overestimation.

Table 4: average tariffs for agri-food products in OECD countries, 1997, (in %)

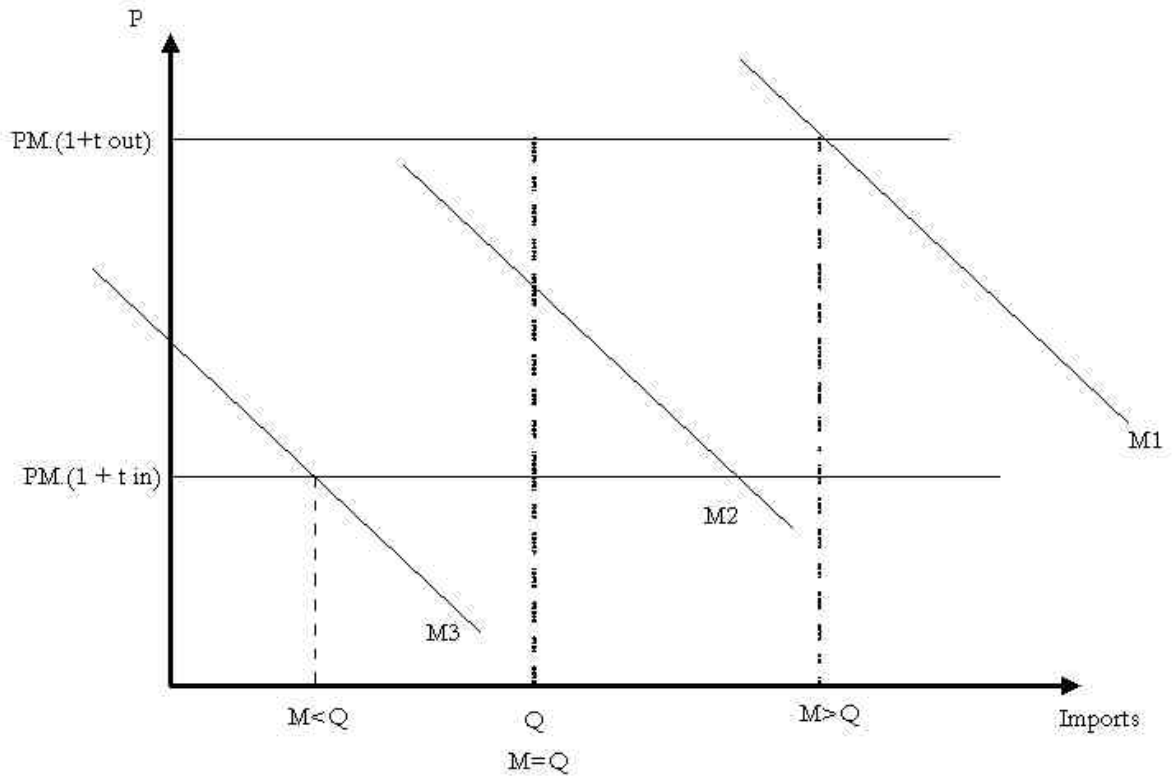
		Grains	Oilseeds & Veg. oils	Sugar	Fruit & veget.	Dairy	Beef & sheep	Pork & poultry	Fibre & wood	Prepared food
Canada	**Applied rates**	11,6	8,6	5,8	2,2	126,4	27,4	30,2	0,9	14,3
	Bound Rates	12	9	8,8	2,6	136	51,7	39,3	1,2	16,8
	Relative Diff	*3,3%*	*4,4%*	*34,1%*	*15,4%*	*7,1%*	*47,0%*	*23,2%*	*25,0%*	*14,9%*
	Absolute diff.	*0,4*	*0,4*	*3*	*0,4*	*9,6*	*24,3*	*9,1*	*0,3*	*2,5*
Europ. Union	**Applied rates**	64,1	12,1	126,8	14,1	122,5	78,7	37,1	1,2	40,3
	Bound Rates	64,1	12,1	126,8	14,1	122,5	78,7	37,1	1,2	40,3
	Relative Diff	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*
	Absolute diff.	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Japan	**Applied rates**	142,2	11,6	81,1	12	77,6	19,8	8,5	5,9	20,7
	Bound Rates	175,1	24,4	115,2	35,4	280	46,9	51,4	14,6	54,4
	Relative Diff	*18,8%*	*52,5%*	*29,6%*	*66,1%*	*72,3%*	*57,8%*	*83,5%*	*59,6%*	*61,9%*
	Absolute diff.	*32,9*	*12,8*	*34,1*	*23,4*	*202,4*	*27,1*	*42,9*	*8,7*	*33,7*
USA	**Applied rates**	2	3,2	20,9	2,3	15,6	1,7	0,6	1,7	4,4
	Bound Rates	3,3	7,6	23,6	4,5	48,3	4,6	2,4	3,1	10,8
	Relative Diff	*39,4%*	*57,9%*	*11,4%*	*48,9%*	*67,7%*	*63,0%*	*75,0%*	*45,2%*	*59,3%*
	Absolute diff.	*1,3*	*4,4*	*2,7*	*2,2*	*32,7*	*2,9*	*1,8*	*1,4*	*6,4*

(Source: Walkenhorst and Dihel, 2002)

** Tariff rate quotas*

Since the Uruguay Round, developed countries are imposing tariff rate quotas on agricultural products. Under this system, the imports under the quota are taxed by a relatively low tariff (t_{in} on figure 1)and the imports out of the quota are taxed by a second and higher tariff (t_{out} on figure 1). Therefore, either the import demand is relatively high and imports are greater than the quota (case M1 with M>Q), or the import demand is intermediate and imports are equal to the quota (case M2 with M=Q), or the import demand is low and imports are less than the quota (M<Q).

Figure 1: tariff rate quota



As demonstrated by Elbeheri et alii (1999) and Hertel and Martin (2000), increasing quotas or reducing tariffs does not ensure a better market access for exporting countries. Expanding the quota, for example in case M1, will be ineffective for increasing imports (even if the scarcity rent is augmented). Reducing the outside tariff t_{out} in case M3 also leaves the volume of imports unchanged. The quota expansion approach seems to be favoured by the current negotiation; Elbeheri and alii show that most TRQ cases are represented by case M1 such that under this approach, the impact of liberalization is very uncertain.

Another problem has been pointed out as far as TRQ are concerned: the importing licenses are freely allocated to foreign governments. In such a case, it means that exporting

countries (developing countries) have got the scarcity rent. If an outside tariff reduction approach is chosen, it means that these countries will loose this rent.

* *Technical, sanitary and phyto-sanitary norms*

The Uruguay Round has adopted the Sanitary and Phyto – Sanitary (SPS) agreement in order to allow for the adoption by WTO members of their own level of sanitary protection. A second objective is to avoid the generalized adoption of this kind of restrictive norms: of course, without any control, it is likely that countries would restrict imports to protect domestic producers, while justifying their policy by a sanitary objective. For all these reasons, it is possible for a WTO member to adopt a more restrictive sanitary regulation than an international standard (one from the *Codex Alimentarius* for example), but it has to legitimate this measure from a scientific point of view.

Of course, this agreement is not perfect and as far as sanitary and phyto – sanitary issues are concerned, international disputes are always possible: for example, United States and European Union are opposed about the question of hormone – treated beef. For many sanitary issues (hormone – treated beef or Genetically Modified Organism), the risk for human health is subject to scientific controversy and some argue the necessity of an international recognition of the "precautionary principle": '*where there is uncertainty about the existence or the extent of risks, protective measures should be taken without one having to wait until these risks are ascertained and prove to be serious*' (Charlier and Rainelli, 2002, p. 89). Even if this evolution is legitimate in order to protect human health and environment, it is likely that a generalized adoption of this kind of agreement will allow many countries to use this principle for protecting domestic industries at the expense of local consumers' purchasing power and of foreign exporters, especially if the Millenium Round adopts a dismantling of agricultural policies. It would be a kind of "compensation" for agricultural producers in the North.

Since the Uruguay Round, the agricultural sector has been already the subject of environmental trade barriers (that is to say barriers notified to the WTO in the context of the SPS agreement): the frequency of this kind of barriers in the agricultural sector is greater than the one observed in the industrial sector, while the protectionist objective in the former appears to be less clear than in the latter (see Fontagné, Von Kirchbach and Mimouni, 2001, and Fontagné and Mimouni, 2001).

About this issue, another element of the debate is to consider that technical, sanitary and phytosanitary norms are rather restrictive in Northern countries so that it is difficult for exported

goods from developing countries to conform their products to these regulations. Even with reduced (or zero) applied tariffs, developing countries exports might not increase.

* *The impact of specific tariffs*

Specific tariffs are very numerous in the agricultural sector in the US and the European Union. Bouët et alii (2002) demonstrate that their protective impact depends on the price of the exported good: as developing countries are often specialized in low price products, the protectionist impact of specific tariffs is higher for them. It means that a trade negotiation which would be really in favour of developing countries, would transform this kind of border protection into non discriminatory instruments, e.g. ad valorem tariffs.

Therefore the Millenium Round should not be concentrated on the only issue of improving market access in the North for developing countries and reducing domestic support. The modification of some instruments (specific tariffs, tariff rate quotas) into transparent and non discriminatory protective elements should be negotiated.

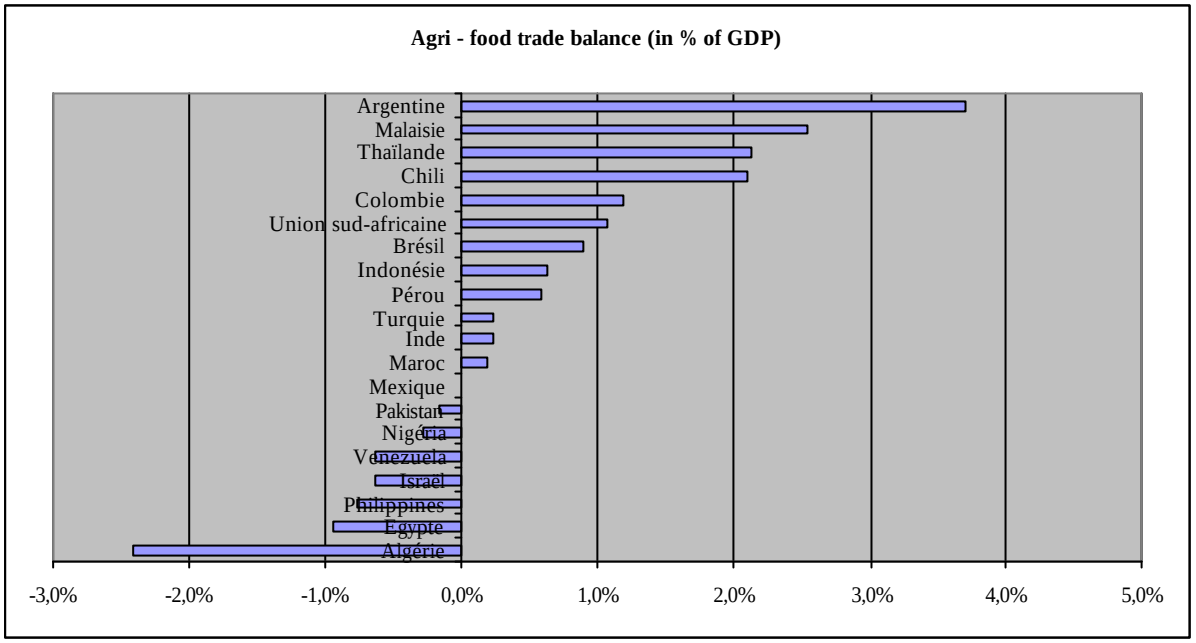
b) Rising world agricultural prices and net food importers

The main economic consequence of a general agricultural liberalisation in the North is an increase in world prices of agricultural commodities (and in developing countries' world market share). As it has been demonstrated in the first part of this paper, an elimination of all agricultural distortions would result in higher world prices, from 5% to 23%.

If this evolution would be beneficial to the global zone "developing countries" because it is a net exporter of agricultural commodities and food products, individual countries may be net importers and could suffer from this process. From the current trade balance in agricultural commodities and food products, it is possible to know those countries which will be favoured by this kind of policy and those which will be harmed. Figure 2 shows this current trade balance, in percentage of Gross Domestic Product (GDP) in 2000 for 20 selected countries.

A world agricultural liberalization would be very positive for Latin American countries (with the exception of Venezuela), for some South-East Asia countries like Malaysia, Thaïland and Indonesia. It would (very) negative for oil or gas producers like Algeria, Venezuela or Nigeria or other countries like Egypt, Philippines or Israël.

Figure 2: agri-food trade balance of 20 selected countries in % of GDP - 2000



(Source : base CHELEM du CEPII)

c) Reducing margins of trade preference

The exports of numerous developing countries depend directly on preferential trade regimes granted by major Northern countries (see the Caribbean Basin, Economic Recovery Act – CBERA- for the United States case, and the Africa, Caribbean and Pacific agreement for European union, for example). The margins of preference (Most Favoured Nation tariff minus preferential tariff) are a central issue for these countries and a multilateral liberalization would mean a reduction or an elimination of these margins. They fear that it would imply a reduction in their world's market share.

M. Jank (2002) compares the MFN and the preferential applied agricultural tariffs, weighted by exports, in the case of USA as the importing country and points out that small economies, like Caribbean and Central America countries, obtained a significant decrease in protection on the few commodities which constitute a large share of their exports (coffee, cocoa, sugar, banana). On the other side, large developing countries, like Brazil, Argentina or Chile do not experience a great margin of preference.

For the former countries, a multilateral liberalization could imply a loss of market share while for the latter, it could be beneficial.

d) The impact of agricultural liberalization on income distribution

While dismantling agricultural subsidies and protection in the North is likely to have distributional consequences in the North itself, mostly negative for farmers, maybe positive for consumers and very likely positive for agri-food industries, it will also induce distributional changes amongst and within LDCs. The former are a direct implication of the overall rise in world food prices and has been stressed in a previous section. With respect to distribution effects within LDCs, it is clear that higher prices for staples will be more detrimental to relatively poor households than to those better off.

Another relevant dimension is the sectoral one: within the agricultural sector of LDCs, induced gains will mostly accrue to what could be called the "modern farming sector", whereas traditional, low productivity farmers producing foodstuffs for local consumption are more likely to be displaced by competing foodstuffs imported from abroad[1]; amongst sectors, higher prices for food may result either in a relative fall in living standards for industry workers or in an increase in labour costs in industry. In a recent study on Brazil and Chile, Hertel *et alii* (2002) point to the negative consequences of trade liberalisation on poverty in some areas, mostly as a consequence of induced relative price changes.

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e) Agricultural specialization and long term development

In addition to these short-term consequences, the dismantling of tariffs and other forms of support to agriculture in the North will, to the extent that it leads to a persistant rise in the prices of some staples, hence a change in relative prices, lead to a long-term reallocation of resources, especially in those LDCs that are currently employing a large fraction of their labour in low productivity, traditional farming. Although specialisation is obviously a necessary condition for growth and development, it may well be that specialising in agriculture is not a very favourable option for the longer run.

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[1] Clearly, this movement of labour from traditional, low-productivity farming into the rest of the economy is a necessary, long-term condition for development. But if it happens very suddenly, while industry is not competitive enough and therefore incapable of absorbing excess labour from agriculture, the result is persistant poverty and agglomeration in large suburban areas, as witnessed in many LDCs.

One well-known mechanism that may have rather negative long-term consequences is a variant the so-called "Dutch disease": the rise in primary product export prices could lead, in the case of specialised, small open economies, to an external appreciation of the currency, resulting in over-valuation, hence too high prices for non-agricultural (manufacturing) domestic production, in other words a loss in competitiveness[2]. This would lead to the shrinking of the domestic manufacturing sector, reinforcing specialisation in agriculture for exports.

Such a specialisation in the production, mostly for export purposes, of some specific foodstuffs may be very difficult to reverse and might turn out not to be favourable to long-term development in at least two occurrences: one is the well known configuration of declining terms of trade for primary producers, an empirically very plausible case indeed for a number of specific foodstuffs; the other is the problem of high volatility of exports revenues for small countries specialising in a single, or a small number of agricultural goods[3].

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[2] Higher wages in manufacturing, as alluded to above, would result in a similar loss in competitiveness for domestic industry.

[3] Obviously, a large country, such as Brazil, is in a much better position to diversify her agricultural production and exports.

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