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Trade Note 17

Market Access in Agriculture: Beyond the Blender

A fundamental requirement for success in any trade negotiation is finding a balance between flexibility and discipline. Because countries have very different interests, and all major decisions at the World Trade Organization must be made by consensus, any agreement must have the flexibility needed to address the specific needs of each member, while imposing enough discipline to yield the gains in export market opportunities that are the *raison d'être* of trade negotiations.

Countries have been struggling to strike this balance under each of the three pillars of the agricultural agreement – market access (i.e, import barriers), domestic support, and export subsidies. Of these three, market access holds this largest potential gains for developing countries, but yet is the most difficult area to establish a balance.

The mid-July draft framework for agricultural market access (WTO 2004) seeks to achieve this balance through a tiered approach with larger cuts in higher tariffs. This framework is much more general than the previous basis for negotiation, the “blended formula” approach in the Derbez Text (WTO 2003b)-- an approach

with many hidden problems. To avoid introducing similar problems as the framework is converted into detailed modalities in the next stage of the negotiations, it is important to understand the problems with the blended formula.

Superficially, the blended formula appears to strike a balance between discipline and flexibility by creating three groups of tariffs—one group subject to the Uruguay Round approach of an *average-cut target* and a minimum cut in all tariffs; one group subject to a rigorous tariff-cutting rule known as the *Swiss formula*; and one group to be set to *zero*. Unfortunately, it is likely that governments would assign the most sensitive tariff lines to the Uruguay Round approach—introducing flexibility, but at the cost of virtually abandoning the objective of increasing discipline, and raising great uncertainty amongst members about the extent of their potential gains in market access.

In addition to cutting within the three groups of tariffs, industrial countries would have had a maximum tariff level to be negotiated, a goal of reducing tariff escalation, and an average-cut requirement spanning the three groups of tariffs.

In the Derbez Text, the same broad framework applied to developing countries, except that they were allowed smaller reductions in a group of special products, and to reduce the third group of tariffs to between zero and five percent, instead of to zero.

While a tiered approach potentially provides more discipline than the blended formula, the mid-July draft framework (WTO 2004) incorporates a potentially major weakening of market access disciplines by proposing to treat the Tariff-Rate-Quota (TRQ) commodities--

or roughly 20% of tariffs in countries using these measures—as “sensitive”. The results presented in this paper suggest that this could substantially reduce the impact of reform on market access.

To understand the situation, this brief reviews the mechanisms for tariff reductions under the blended formula to assess the overall effect on market access. We divide the discussion into the average-cut group, the Swiss formula., and the zero group, and then consider the overall effect.

The Average-Cut Group

Under the blended formula, countries could choose which tariffs went into each group. This was justified by a need for flexibility in dealing with “sensitive products”, but involved an unnecessary evisceration of the key goal of expanding market access. The basic problem with the average-cut approach is easily illustrated by considering the case where a country such as Japan chooses to put two tariffs—a one percent tariff, and a tariff such as the levy of \$2820 per ton on rice (Wailes 2004)-- into this set and then undertakes a 50 percent average-cut:

Table 1. Use of the average-cut routine to avoid disciplines on tariffs		
	Tariff 1	Tariff 2
	%	%
Initial tariff	1	1400
Final tariff	0	1400
Cut	100	0
Average Cut	50%	

As is clear from the table, a 50 percent average-cut can be achieved by cutting the very low tariff, without changing the peak tariff at all. In our example, the average tariff is cut from 700.5% to 700%. While a substantial average-cut has been made, the average tariff has not changed significantly. Market access-- which is much more nearly determined by the reduction in the average tariff-- has not improved significantly. The average-cut conjuring-trick allows countries whose current tariffs vary substantially to avoid giving any improvement in market

access, while claiming credit for a substantial average-cut. This is why the World Bank (2003, p92) described the average-cut approach as “the cut you have when you’re not having a cut”.

To the extent that any non-trivial tariffs are cut, there will be a strong tendency for relatively low tariffs to be cut more than higher tariffs—since both count equally, and cuts in lower tariffs are likely to encounter much less political resistance. If anything, the average-cut approach tends to *increase* tariff escalation, and the protection provided to higher processing stages. These outcomes are completely inconsistent with the goals set out in the draft framework, or other proposals such as the AU/ACP/LDC position paper (WTO 2003a)-- of increasing market access; reducing tariff peaks and tariff escalation.

(The confusion created by the average-cut conjuring trick is both linguistic and statistical. An average-cut sounds very similar—in English at least—to a reduction in average tariffs. However, a reduction in an appropriately weighted average tariff has important implications for market access. By contrast, as we have seen, an average-cut is a meaningless concept if initial tariffs are very different and if countries are able to choose which tariffs are to be subjected to an average-cut routine—as they were under the blended-formula approach.)

Of course, the extent to which the average-cut trick can be used to avoid disciplines depends on the proportion of tariff lines in the average-cut group of sensitive products—an issue that was to be negotiated in the modalities stage of the negotiations.

The numerical example in Table 1 shows why industrial countries with high and variable agricultural tariffs might wish to use the average-cut routine for their own tariffs. The attraction is much less clear for those countries—such as most countries in Africa-- where bound tariffs are relatively uniform across all agricultural products. In this situation, an average-cut requirement imposes real discipline. A given percentage cut in each

tariff contributes equally to reductions in the average tariff, and hence to reductions in protection and increases in market access.

While an average-cut approach would allow an African country the flexibility to choose exactly which tariffs to cut, it would have to reduce its average tariff in line with the average-cut requirement.

Under the Derbez draft, developing countries would have had the flexibility to exempt certain products from reduction commitments through designation as Special Products subject to smaller, line-by-line tariff cuts. This is a mixed blessing, since it is far from clear how reduced tariff reductions would help contribute to goals such as food security. The key to food security is ensuring that poor people, in particular, have access to food, and increases in protection frequently reduce the food security of vulnerable consumer groups. If uncertainty about the effects of liberalization is a concern, perhaps the proposed Special Safeguard would be a better approach to dealing with this problem.

Improving on Average-Cuts One approach to mitigating the average-cut problem is to have a minimum-cut condition for each tariff line, as in the Derbez draft. In the Uruguay Round, this was done by combining a 36 percent average-cut requirement with a 15 percent minimum-cut criterion. A difficulty with this approach-- in a situation where countries can choose which tariffs to include with their peak tariffs—is that the minimum-cut is the *only* discipline on cuts in these tariffs. Raising the minimum cut to the level needed to create substantial increases in market access is likely to be very difficult, since the proponents of the average-cut routine have argued strenuously that their need is for flexibility to deal with the situation of particular sectors.

A second approach to dealing with the average-cut problem is to eliminate the ability of countries to choose which tariffs are subject to average-cut (in)disciplines. This was done in the Harbinson draft (WTO 2003c), where tariffs were placed in tiers dependent on their level. When only tariffs above 90 percent are

included in the first group of tariffs, it is difficult to make cuts that are totally meaningless. However, this approach still treats 50 percent cuts in 90 percent tariffs as equal to 50 percent cuts in 1400 percent tariffs—when the cut in the 1400 percent tariff clearly has much greater potential to provide increased market access.

A third approach to the average-cut problem is to move to a line-by-line tariff-cutting rule. This is the approach taken by the G-20 in their proposed revision to the Derbez text (ICTSD 2003), and in the Non-agricultural market access component of the framework (WTO 2004). This has an advantage over the average-cut approach in that it moves away from totally illusory commitments-- such as agreements on average-cuts in tariffs. However, as in the case of negotiations on minimum tariff cuts, proposals for larger proportional cuts in tariffs are likely to encounter strong resistance from countries that claim a need for flexibility.

A fourth option would be to specify reduction goals in terms of reductions in average tariffs. An agreement to reduce average tariffs by 36 percent has some meaning, in contrast with a worthless commitment to bring about a 36 percent average-cut in tariffs. Agreement to cut the average tariff provides the flexibility so vigorously demanded by proponents of average-cuts, while preserving incentives to reduce high tariffs and to increase market access. If peak tariffs are not reduced, a price must be paid through worthwhile reductions in lower tariffs. Reductions in trivial tariffs, as in Table 1, will simply not suffice

Another potentially useful way to balance disciplines and flexibility is by allowing countries to choose which tariffs to treat leniently, while incorporating a “cost” for exceptions. Konandreas (2004) proposed such an approach within the blended formula, by capping all tariffs subject to the average-cuts at the average of the tariffs included in this group. Countries could choose how many tariffs to include in this group, but adding more tariffs would lower the cap—as would

blending low tariffs in with the peaks in order to avoid the average-cut discipline.

Francois and Martin (2003) suggested providing more flexibility while introducing a cost by first applying a line-by-line formula, and then allowing renegotiation with compensation, beginning from the formula outcome. This has the advantage of providing confidence to exporters that they will achieve worthwhile gains in market access.

The Second Group—the Swiss formula

The Swiss-formula approach proposed for the second group of tariffs has a number of critical advantages. It reduces high tariffs by more than low tariffs, and it reduces all tariffs to below an agreed level, determined by the ceiling parameter in the Swiss formula. Alternatively, a Swiss formula could be used to bring about an agreed reduction in a country's average tariffs, while ensuring that its high tariffs are brought down by more than lower tariffs (Francois and Martin 2003). A Swiss formula also automatically reduces tariff escalation—wherever a processed product has a higher tariff than an unprocessed product, the tariff on the processed product is automatically reduced by more than the tariff on the unprocessed product. Further, the Swiss formula has been shown to work in market access negotiations. In the Tokyo Round, it brought about a transformation of world trade barriers in manufactures, with most tariffs being reduced to below 16 percent, creating opportunities for dramatic expansion of manufactures exports from developing countries (World Bank 2002).

As is noted by the IPC (2004), the effectiveness of the Swiss formula in the blended formula could potentially be undercut by countries selecting only low tariffs for inclusion in this category. The extent to which countries could do this would depend on the proportion of tariff lines included in the first group—those subject to the average-cut “disciplines”. Since the Swiss formula reduces low tariffs by more than high tariffs, countries that were able to include only low tariffs in the Swiss-formula group might be able to get

away with very small reductions in average tariffs in this group. The extent of this problem can only be determined through careful analysis of actual tariff schedules, but it clearly could be serious if a sizeable proportion of tariffs were allowed in the average-cut group.

An examination of the EU tariff schedule highlights the importance of allowing only a small share in the Uruguay Round group if the discipline imposed by the Swiss formula is not to be diminished. Assuming the Uruguay Round group is to be subject to a 36 percent average-cut with a 15 percent minimum, we assume that sufficient low or zero tariffs would be blended into the Uruguay Round category to eliminate any discipline imposed by the 36 percent cut, leaving only the 15 percent minimum cut effective. Under these circumstances, Table 2 shows the highest tariff that would need to remain in the Swiss-formula group for different percentages of tariff lines allowed in the Uruguay-Round formula group.

Table 2. The Highest Tariff in the Swiss-Formula Group

Share of tariff lines in Uruguay Round Group	Highest tariff subject to the Swiss formula
%	%
2	103
4	79
6	71
8	60
10	50
20	27
30	20
40	17
50	13

The key implication of Table 2 is the importance of ensuring that only a small share of tariffs is included in the Uruguay Round formula group if the effectiveness of the Swiss-formula group is not to be diminished. With only 2 percent of tariffs in the Swiss formula group, tariffs as high as 103 percent would be subject to the disciplines of the Swiss formula. With 10 percent of tariffs

included in the Uruguay Round group, the peak remaining tariff would be 50 percent, and with 20 percent of tariffs allowed, the highest tariff subjected to the Swiss formula would be 27 percent. While this tariff would be roughly halved, the majority of the remaining tariffs would be subjected to smaller reductions, resulting in a much smaller reduction in average tariffs within the Swiss-formula group, as well as a very minor (15 percent) reduction in average tariffs within the Uruguay Round formula group.

While the discussion on the blended formula did not reach consensus on the number of products in the “sensitive” group, the draft framework (WTO 2004, para 32) suggests limiting these to the number of tariff lines currently subject to tariff-rate-quotas in the industrial countries. These account for 20% of tariffs in countries using TRQs, and cover an estimated 55% of OECD agricultural production at domestic prices.

Special and differential treatment could be included in the Swiss formula quite transparently either by providing different ceilings for a conventional Swiss formula, or with different reduction targets for a formula targeted to achieve a given percentage reduction in tariffs.

One potential concern with the use of the Swiss formula is that it requires tariffs in *ad valorem* form. Unfortunately, over 40 percent of industrial-country agricultural tariffs involve specific tariffs (World Bank 2003; Gibson *et al* 2001), and these tariffs are generally much higher than the simpler and more transparent *ad valorem* tariffs generally used in developing countries. The conversion of specific tariffs into *ad valorem* form raises many of the risks that were involved in the conversion of non-tariff barriers into tariffs

during the Uruguay Round. To avoid another round of “dirty tariffication” and large, covert increases in protection during the conversion of specific tariffs into *ad valorem* form, it would be vital to ensure that a simple, transparent process is followed. It would seem important to include in the modalities something like Paragraph 9 of the Harbinson Draft to ensure that a transparent approach is followed in this conversion.

The Approach for the Third Group

The requirement under the blended formula that some fraction of tariffs in the industrial countries be tariff-free (and developing countries set these tariffs between zero and five percent) has some appeal, although economic principles generally favor focusing on reducing the highest tariffs, partly because reductions in low tariffs are likely to reduce tariff revenues disproportionately.

There is an enormous difference in the implications of this provision for industrial and developing countries. In the industrial countries as a group, for instance, close to 30 percent of tariffs are already duty-free, so that setting, say, a third of tariffs to zero would require close to a zero reduction in current bindings. By contrast, in developing countries with uniform tariff bindings, setting one-third to zero would require a one-third reduction.

Reducing low tariffs to zero is also likely to be costly in terms of tariff revenues. Low tariffs on important items frequently generate substantial tariff revenues. Unless reducing low, “nuisance” tariffs to zero substantially reduces the transactions costs associated with customs clearance, the economic case for focusing large amounts of negotiating capital on the objective of reducing already-low tariffs is weak.

The Overall Average-Cut

The Derbez text requires that the overall average-cut across the three groups of tariffs be at least some target level. This is retained in the G-20's proposed revision (see ICTSD 2003) despite its otherwise ambitious attempt to ensure that industrial countries provide increased market access. Because this constraint is expressed in the slippery average-cut concept, it would likely have been worthless in ensuring that developed countries provide increased market access.

Assuming that industrial countries generally put a mixture of high and low tariffs in the average-cut group, they could easily generate a substantial average-cut for this group—without much liberalization. The Swiss-formula group would probably involve both a substantial average-cut and cut-in-the-average unless the coefficient in the Swiss formula was set very high, or the average-cut group made large enough to allow high tariffs to be kept out of the Swiss-formula group. Finally, the third group, where all tariffs are set to zero, would arguably involve a 100 percent average-cut, even if it contained only tariffs that were initially very low¹, and hence had no impact on market access. The overall average-cut would likely be quite large, particularly if a substantial number of tariffs were reduced to zero. Only an extremely high average-cut criterion would suffice to impose any discipline.

The draft framework (WTO 2004) does not include such an overall average-cut constraint. Were such an overall constraint to be included, it could be made much more effective, and consistent between developed and developing countries, by recasting it to require a reduction in the weighted-average tariff, rather than a meaningless (for industrial countries) average-cut.

¹ “Reductions” in initially zero tariffs to zero have no practical value and it would be important to ensure that these were not defined as involving a 100% average-cut.

The Maximum Tariff Condition

The maximum tariff condition in the Derbez text—and continued in the recent framework—is potentially important for developing countries. Many of the products of interest to developing countries are subject to extremely high tariffs once the effects of specific, compound and mixed tariffs are taken into account. As Hoekman (2004) has noted, peak applied tariffs in the OECD countries are around 40 times the average tariff, as against five times in Sub-Saharan Africa.

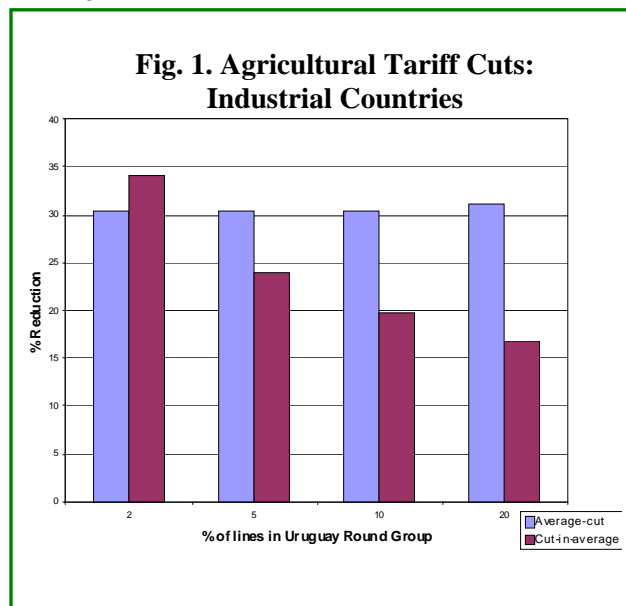
Since the costs of such peak tariffs to the importing countries are always particularly large, there is a good case from the point of view of the importer to reduce such tariffs. However, such peak tariffs are generally supported by strong interest groups.

A maximum tariff might be set either in absolute terms—say 40, 50 or 100 percent—or as a proportion of the average tariff in a country. However, it seems likely that the special interests benefiting from the very highest levels of protection will resist this approach particularly strongly. However, even a relatively high maximum tariff would help by bringing down some of the mega-tariffs of importance to developing countries, such as the 1400 percent tariff on rice in Japan noted above.

Assessment of the Overall Impact

It is difficult to assess the implications of an approach such as the blended formula because it depends so strongly on the distribution of initial tariffs and the way that countries utilize the flexibility inherent in the blended formula. Martin and Wang (2004) attempted to do this by assembling a dataset on applied and bound agricultural tariffs for 103 countries. With this, they assessed the implications of a formula involving 36(24)% average-cuts in industrial (developing) countries subject to a 15(10)% minimum cut. They assumed that a Swiss formula was applied with a 25 (37.5) percent ceilings, and that 10 percent of tariffs were set at zero. Under these assumptions, they examined the average-cut in applied

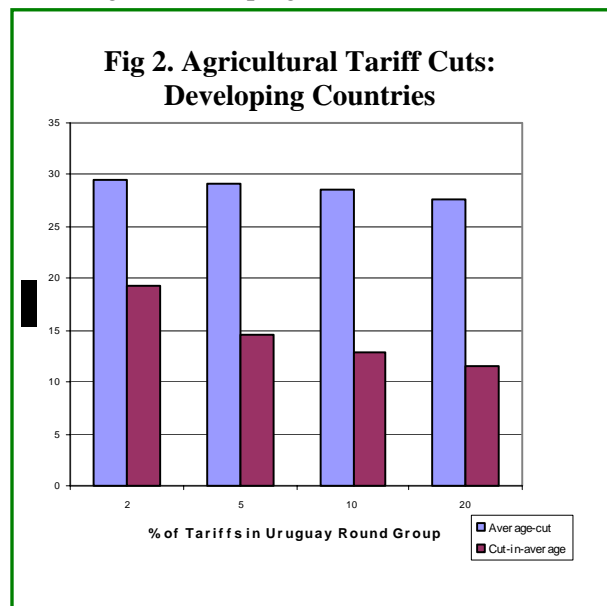
agricultural tariffs, and the corresponding cuts-in-average tariffs. Results are depicted for industrial and for developing countries in Figures 1 and 2.



From Figure 1, it is clear that the reduction in industrial country average tariffs—and hence the overall expansion in access to their markets—would be extremely sensitive to the share allowed in the Uruguay Round group. When the share allowed in this group was held to 2 percent, both the average-cut and the cut-in-the average were quite substantial at over 30%. As the share included in the average-cut group rises, the measured average-cut rises, but the reduction in the average falls sharply. With a 20% share included in this group—roughly the share apparently envisaged in the draft framework (WTO 2004)-- the reduction in average tariffs is under 17%, less than half the reduction achieved in manufactures tariffs during the highly successful Kennedy Round (Francois and Martin 2003).

From Figure 2, it is clear that the reductions in average tariffs in developing countries are likewise very sensitive to the share of tariffs included in the Uruguay Round group. The meaningless average-cut measure begins just under 30% and falls only to 27.7%. The more meaningful reduction in the average tariff begins at 19.3% when the Uruguay Round group is only 2%, and falls to just under 12% when 20% of tariffs are included in the

Uruguay Round group. The lower cuts-in-average tariffs in developing countries are the result of the substantially larger binding overhang in developing countries, as well as



of the small share to be set to zero in this particular analysis. The 19.3% reduction in average tariffs would likely have a comparable impact with the larger cut-in-the-average in industrial countries because initial tariffs in developing countries are higher. However, a share of 20% or higher of developing country tariffs in the Uruguay Round group would clearly lead to quite small increases in market access in developing countries. This would impact particularly on developing countries, whose agricultural exports to other developing countries have been rising in recent years (World Bank 2003, p110).

Conclusion: Market Access that Promotes Development

Perhaps the most important problem for developing countries with the “blended formula” is the combination of the average-cut approach for the more sensitive industrial-country products with the ability of countries to choose which tariffs they include in this group. Allowing countries to blend low tariffs along with peak tariffs allows industrial countries to render any agreed average-cut meaningless. Only the minimum cut in this part of the blended formula would matter for achieving improvements in market access, and

increasing the minimum would be difficult because the entire average-cut approach has been justified as a means of obtaining flexibility.

For developing countries with uniform tariff bindings, the average-cut condition imposes just as much discipline as a requirement to cut their average tariffs. Many developing countries would likely have to make much larger reductions in tariff bindings for this group, even if they were allowed a lower average-cut than the industrial countries. The exact difference between the two approaches would depend upon the details of their tariff regimes, including the non-transparent specific tariffs widely used in the industrial countries.

The Swiss-formula element of the blended formula has the desirable feature of reducing tariff peaks and escalation. A standard Swiss formula will also bring about larger reductions in widely dispersed tariff schedules such as those in the industrial countries, than in uniform tariff schedules like those typically found in developing countries. A key concern with such a methodology will be to ensure that the conversion of specific, mixed and compound tariffs to *ad valorem* form is done transparently and accurately.

The zero-rate element of the blended formula is likely to require little liberalization in industrial countries, because their tariff schedules contain many tariffs bound at zero. In developing countries with uniform, or relatively uniform, bindings, a requirement to include any fraction of tariffs in this category requires a corresponding reduction in average tariffs.

Preliminary analysis makes clear that the effects of any blended formula on average-tariffs—and hence on market access—are extremely dependent on the percentage of tariffs included in the average-cut or Uruguay Round group. With only 2% of tariff lines in this group, the industrial countries would cut their average agricultural tariffs by around a third. If the share in this “sensitive products” group were permitted to rise to 20 percent, the goal of increasing market access would be

seriously compromised, with the reduction in average tariffs falling by more than half, while the meaningless average-cut measure rose. In developing countries, the reduction in average tariffs would be smaller, although higher tariffs in developing countries make this reduction potentially more important for market access than the larger reduction in industrial countries.

Moving beyond the blended formula, it is extremely important to avoid mistakes inherent in the blender-- such as the average-cut deception, that would frappé the central goals of increasing market access and reducing tariff peaks and escalation. Many other approaches to providing the needed flexibility without sacrificing these central goals are available. The analysis in this note also highlighted the importance of limiting the range over which flexibility is allowed, suggesting that a large allowance for flexibility—such as the 20% of industrial country tariff lines implied by treating all tariff-rate-quota products as sensitive in the draft framework—implies potentially serious hazards for achieving the goals of the negotiations.

On balance, an approach that eliminates the average-cut problem by moving to a version of the line-by-line tariff-cutting rule or otherwise disciplines the flexibility needed to reach an agreement would seem to have advantages from a development perspective. This would dispel any illusions that could otherwise arise from the average-cut approach. Larger proportional cuts on high tariffs are the key to unlocking the development potential of market access in agriculture.

References and Further Reading

- de Gorter, H. and Hranaiova, J. (2004), 'Quota administration methods: economics and effects with trade liberalization', in Ingo, M. and Nash, J. eds *Agriculture and the WTO: Creating a Trading System for Development*, World Bank and Oxford University Press, Washington DC.
- Francois, J. and Martin, W. (2003), 'Formula approaches for market access negotiations' *The World Economy* 26(1):1-28.
- Gibson, P. et al. (2001), *Profiles of Tariffs in Global Agricultural Markets*, USDA/ERS Agricultural Economic Report No. 796.
- Hoekman, B. (2002), Economic development and the WTO after Doha, World Bank Policy Research Paper 2851, Washington DC.
- ICTSD (2003), 'Annex A: Framework for Establishing Modalities in Agriculture', http://www.ictsd.org/ministerial/cancun/docs/G21_ag_text.pdf
- IPC (2004), 'Twenty-five ways to improve the Derbez Draft on Agriculture', <http://www.agritrade.org/Doha/Derbez/Derbez.htm>
- Konandreas, P. (2004), Incorporating constrained flexibility in tariff reductions: a dynamic formula, Mimeo, FAO, 9 July.
- Martin, W. and Wang, Z. (2004), 'Improving market access in agriculture: a quantitative evaluation of blended formulas', Mimeo, World Bank.
- Wailes, J. (2004), 'Rice: Global Trade, protectionist policies, and the impact of trade liberalization' in Aksoy, A. and Beghin, J. eds *Global Agricultural Trade and Developing Countries*, World Bank and Oxford University Press, Washington DC.
- World Bank (2003), *Global Economic Prospects and the Developing Countries: 2004*, World Bank, Washington DC.
- WTO (2003a), 'Consolidated African Union/ACP/LDC position on agriculture' World Trade Organization, Geneva WT/MIN(03)/W/17.
- WTO (2003b), 'Preparations for the Fifth Session of the Ministerial Conference: Draft Cancún Ministerial Text' World Trade Organization, Geneva, JOB(03)/150/Rev.2, 13 September.
- WTO (2003c), 'Negotiations on agriculture: first draft of modalities for the further commitments' World Trade Organization, Geneva. TN/AG/W/1/Rev 1.
- WTO (2004), 'Doha Work Program: Draft General Council Decision [] July 2004' World Trade Organization, JOB(04)/96.

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