Strategic interactions in trade policy negotiations

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Abstract

Trade liberalisation is a two-edged sword for many developing and least developed countries because the benefits from improved market access may be offset or outweighed by rising import prices, particularly if export subsidies contribute to holding down prices. In addition, many developing countries receive preferential access that would be eroded with mfn liberalisation. Since adjustment costs following liberalisation are perceived to be significant and uncertain, many countries seek flexibility to minimise their own tariff reductions on sensitive industries while hoping to benefit from the opening of other countries' markets. Given these conflicting objectives, it is unclear whether developing countries should support the ambitious reform proposals suggested by the United States or a more conservative approach such as that proposed by the European Union. A global general equilibrium model, GTAP, is used to analyse the impact of alternative trade reform proposals.

The results point to several interesting implications for developing country negotiators. At least in terms of standard welfare measures or export revenues, countries are not always made better off by following their own proposals. Furthermore, in spite of the emphasis on agriculture, results indicate that developing countries may receive greater gains from liberalisation of manufactures. Finally, the nature of the interactions between the large number of players with diverse and conflicting interests suggest that the negotiations are likely to evolve towards a modest outcome, determined by EU policies as much as any other factor.

Key words: agriculture, trade, modelling, negotiations

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1. Introduction

Proposals for further reform in the current ongoing multilateral trade negotiations appear to be diverging rather than converging. At least, the proposals of the two major protagonists, the United States and the European Union, seem to be headed in different directions. The United States, supported by the Cairns Group of agricultural exporters, appears to be pressing for substantial liberalisation of agricultural and industrial trade. By contrast, the European Union, with support from Japan, Korea, Switzerland and Norway, is taking a more conservative approach. Developing countries, interested in agriculture and textiles in particular, are also divided, with some concerned about the erosion of their preferential status. At this stage (end of March 2003), these proposals may be seen somewhat as ambit claims, with scope for convergence at a latter stage. Nonetheless, it is useful to analyse the potential impacts of the various proposals, particularly on third countries.

The current focus in WTO negotiations is on development issues as reflected in the Doha Development Agenda. These issues have become more important within WTO negotiations in recent years following the absence of substantial benefits flowing to developing countries after the implementation of the Uruguay Round reforms. Indeed, concerns held by developing country may have contributed to the failure of the WTO Ministerial in Seattle in 1999. Recognition of their concerns was emphasised at the Doha Ministerial Meeting in November 2001, whereupon a work program focusing on development issues was initiated. Much of the work program involved technical cooperation, including assisting developing countries in formulating a negotiating position. This paper contributes to this objective by providing negotiators with a quantitative assessment of the potential impacts of the two polar proposals. GTAP, a deterministic, comparative static, general equilibrium trade model, is used to assess the potential impacts on developed, developing and least developed countries of the divergent US and EU proposals, given that they are actually implemented as specified.

The paper is laid out as follows. The next section describes the negotiating context and the key proposals. Various scenarios are discussed in section 3. Section 4 describes the results. The paper ends in Section 5 with policy implications, limitations and conclusions.

2. The state of play and the proposals for reform

One of the objectives of the work programme established in Doha was to introduce a more specific focus on matters of primary importance to developing countries into the negotiations and other work of the WTO. The translation of this development content of the work programme into concrete and effective multilateral rules and disciplines is widely regarded as being critical for the overall success of the negotiations. This is in part because at Doha it was agreed that all negotiations would form a package that was binding on all members. This all or nothing approach is a means of forcing a resolution in sensitive areas but it also raises the probability of a weak outcome with few potential gains. A "mid-term review" is scheduled for the Fifth WTO Ministerial Conference in Cancun, Mexico, in September 2003. To date there has been little evidence of progress.

Primary concerns for developing countries include: (i) the absence of expected benefits in access to developed country agriculture and textile and clothing markets; (ii) special and differentiated treatment. There is some justification for these concerns. The Uruguay Round Agreement on Agriculture led to tariffication of many non-tariff barriers very little liberalisation, for a variety of reasons. Likewise, the liberalisation of textiles was backloaded to the end of the implementation period (end of 2004), such that few gains have been seen as yet. However, at least a set of rules were put in place that might lead to further reductions later. On S&D treatment, developing countries were obliged to undertake two thirds of the commitments of developed countries in the Uruguay Round, and maintain that the high costs of structural adjustment justifies flexibility in choosing which sectors to protect and which to liberalise.

The Uruguay Round was characterised by such flexibility that effective liberalisation was minimal. In the highly protected agriculture sector, for example, tariff reductions were to average 36 per cent but the minimum cut was only 15 per cent. The cuts were unweighted by trade or consumption, so that the large cuts could fall on virtually untraded items. In addition, many developing countries set bound tariffs well above applied tariffs, so that a 24 per cent cut would have no impact. Tariffs and other forms of protection are still significant.

Market access

In the non-agricultural sector applied tariffs are rather low in developed countries, averaging just 2.5 per cent, but much higher in developing countries at 13.3 per cent (see table 1). There are also significant regional differences. Trade weighted average applied tariffs in the European Union, the United States and Japan are just 3.0, 3.2 and 1.5 per cent respectively. Tariffs in South Asia and North Africa average nearly 30 per cent, and over 30 per cent in specific countries such as Brazil, Dominican Republic, India, Indonesia and Mexico. However, imports from developing and least developed countries face higher tariffs than average, in spite of preferential access. This reflects the combinations of imports.

Table 1 Bound and applied tariff rates for non-agricultural products by region

Region	MFN Bound	MFN Applied	MFN Applied weighted by imports from Low & Middle income Countries
High-income economies	3.5	2.5	4.4
All Low & Middle-income Countries	20.0	13.3	13.3
East Asia & Pacific	15.8	12.3	13.6
Eastern Europe	9.5	6.4	6.3
Latin America	31.1	11.7	10.4
North Africa	38.4	26.4	19.7
South Asia	33.7	28.6	38.9
Sub-Saharan Africa	15.8	8.0	7.4

Sources: UNCTAD TRAINS.

Agricultural tariffs are much higher than non-agricultural products (table 2). The simple average of negotiated out-of-quota bound tariff rates on agricultural products in developed countries is 51 per cent and the average of applied rates is about 48 per cent.[1] Developing country applied tariffs on agricultural products average 26 per cent, but may range as high as 200 or even over 300 per cent. Bound rates are much higher

1 These are simple averages at the four digit level of *ad valorem* tariff equivalents. Applied rates are set equal to bound rates if not specified. This makes average bound and applied rates appear quite similar.

than applied rates, averaging 63 per cent, implying there is plenty of scope in developing countries for negotiated reductions in bound rates with little or no change in applied rates. Finally, the higher tariffs tend to be at the higher stage of processing, limiting the scope for value added industries. There are also non-tariff market access concerns about the high rate of unfilled import quotas and the increasing importance of non-tariff measures, such as sanitary and phytosanitary constraints and technical barriers to trade. Thus, there remains plenty about which to negotiate.

Table 2 Bound and applied tariff rates by development status

Product Group	**Developed**		**Developing**	
	Applied %	**Bound** %	**Applied** %	**Bound** %
Agriculture	48.0	50.8	26.1	62.7
Fish & fish products	4.2	4.9	8.6	25.9
Petroleum	0.7	0.9	7.9	8.4
Wood, pulp, paper & furniture	0.5	0.9	8.9	10.3
Textiles & clothing	8.4	11.0	21.2	25.5
Leather, rubber, footwear	5.5	6.5	14.9	15.4
Metals	0.9	1.6	10.8	10.4
Chemical & photo. Supplies	2.2	3.6	12.4	16.8
Transport equipment	4.2	5.6	19.9	13.2
Non-electric machinery	1.1	1.9	13.5	14.5
Electric machinery	2.3	3.7	14.6	17.2
Mineral prods., precious stones & metals	0.7	1.0	7.8	8.1
Manufactures, n.e.s.	1.4	2.0	12.1	9.2
Industrial Goods (Rows 4-13)	2.5	3.5	13.3	13.3
All merchandise trade	**2.6**	**3.7**	**13.3**	**13.0**

Sources: UNCTAD TRAINS.

Domestic support and export subsidies

Domestic support and export subsidies remain contentious issues in agriculture. Discussions on domestic support are centred on what should be exempt from reductions (green box) and what not. While the European Union and Japan wish to retain the production limited support measures, exporting countries including the United States and the Cairns Group wish to remove them. Domestic support reduction commitments in the previous round have been easy to avoid because of the flexibility build into the agreements whereupon there was no requirement to reduce support to specific commodities so long as overall support was reduced. Some studies have suggested that reducing domestic support has relatively little impact on trade because the existing support measures are assumed to be decoupled and not particularly production distorting (USDA 2001).

Under the Uruguay Round provisions export subsidy constraints did not prove to be binding in most instances, either because world prices moved favourably or countries had sufficient flexibility to avoid the constraints. Most members now favour a reduction or elimination of agricultural export subsidies. An exception is the European Union from where 85-90 per cent of the global export subsidies emanate. In addition, some net food importing countries are concerned that the removal of export subsidies on sugar, dairy products, meats and cereals in developed countries would raise world prices and make them worse off.

The US proposal

The US proposal for addressing market access issues in agriculture is to essentially eliminate the problem by reducing applied tariffs by 2015 according to a harmonising Swiss formula by which higher tariffs are reduced more than proportionately (USDA 2002). Under this formula the maximum final tariff is proposed to be 25 per cent. This implies, for example, that a tariff of 100 per cent would be reduced according to (100*25/(100+25) =) 20 per cent while an initial tariff of 10 per cent would be reduced to 7 per cent. This formula would be implemented against applied tariffs. This approach implies that relatively high tariffs are reduced by more than under a linear approach but low tariffs are reduced less. The attractiveness of this approach is that large tariffs lead to more than proportionally high losses, because the deadweight losses increase with the square of the tariff. Perhaps a more relevant point is that tariff escalation – higher tariffs on processed products – contributes to a lack of value added industries in developing countries.

Other elements of the proposal include elimination of inquota tariffs and a 20 per cent expansion in import quotas. This proposal has the merit of requiring substantial reform, of cutting the most distortionary tariffs by the largest amounts and eliminating the water in the tariff by focusing on applied rather than bound tariffs.

However, a uniform approach based on a single harmonising formula has a significant drawback for developing countries, where agricultural tariffs are on average higher than in developed countries. Thus, developing countries would be making proportionally greater cuts. This is in contrast to the Uruguay Round where developing countries implemented lesser (two thirds) reductions over a longer implementation period. The approach doesn't recognise special and differentiated treatment for developing countries as previously agreed in the Uruguay Round.

The US proposal also includes elimination of export subsidies and reductions in domestic support to 5 per cent of value of production plus the 5 per cent *de minimis,* effectively 10 per cent. Since the US has eliminated its own export subsidies with the exception of dairy products, this proposal does not involve much self-sacrifice. Indeed, this measure is aimed at EU export subsidies. On domestic support, the United States undermined its own proposal somewhat with the Farm Security and Rural Investment Act of 2002, which increases planned expenditure for agricultural support to $180 billion over the next ten years and includes measures that would be triggered by a fall in the price of agricultural commodities.[2] This would insulate United States' producers from decreasing prices and could worsen oversupply. In redefining support into exempt categories, such as environmental, counter-cyclical or production limited, the $18 billion per year could come under the suggested cap.

The US proposal for non-agricultural sectors is to eliminate all tariffs by 2015. In the first phase, to 2010, in all countries tariffs under 5 per cent would be eliminated and those over 5 per cent would be reduced according to the Swiss Formula with a maximum of 8 per cent. In the second phase all tariffs would be reduced to zero. This approach has the virtues of simplicity and effectiveness, but it does not provide special and differentiated treatment to developing countries. Indeed, because developing countries have much higher initial tariffs, it might be argued that this places a greater burden on developing countries.

2 For details, http://ers.usda.gov/publications/AgOutlook/Jan2002/ao288d.pdf

The European Union proposal

The EU proposal for market access reform in agriculture is essentially a continuation of the Uruguay Round, with a 36 per cent reduction in tariffs including a minimum of 15 per cent on each tariff line. The European Union also proposes, as a special and differentiated measure for developing countries, that developed countries will take 50 per cent of their agricultural imports from developing countries and all imports from least developed countries enter at zero tariff. As most developed countries, with the notable exception of Japan, already meet the 50 per cent condition for developing countries, this is not particularly generous. Least developed countries can export duty free to the European Union under the 'Everything but arms' initiative, and Japan and the United States also provide preferential access to these countries.

Under domestic support, the European Union proposes to reduce the Aggregate Measure of Support by 55 per cent and to eliminate the *de minimis* provision that allows countries to retain a minimal level of support. This is in contrast to the US proposal. The European Union wishes to retain the blue box criteria that permit domestic support payments where production is limited and to expand the green box to include multifunctional objective such as rural development and animal welfare concerns. Providing more flexibility in the unconstrained green box will allow the European Union to switch payments to this category from the constrained amber box.

For export subsidies the European Union is proposing an average 45 per cent cut in the level of budgetary outlays. Specifying an average rather than across-the–board cut as in the Uruguay Round provides additional flexibility and weakens the impact. At current prices the European Union could meet these criteria without too much difficulty.

The European Union also wishes to introduce into the negotiations a range of non-trade concerns, such as animal welfare, geographical indicators and food safety and labelling issues. Developing countries see some of these as additional barriers thrown up as tariffs are reduced.

The EU proposal on non-agricultural items consists of a so-called 'compression mechanism' to reduce all bound tariffs and their dispersion by compressing them into a range. This addresses tariff peaks and tariff escalation. The proposal is essentially a truncated linear cut, with tariffs above 50 per cent all reduced to 15 per cent, and nuisance tariff below 2.5 per cent removed. Tariff in between are reduced by 50 per cent. In addition, developing countries would liberalise at more favourable conditions and all exports from least developed countries would be duty free.

EU and US proposals on agriculture remain far apart. As expected, each country has proposed changes which it can meet easily but which require some adjustment in others. The primary concern in the negotiations is the lack of flexibility within the European Union, driven by its internal reform agenda. Within the European Union, Commission proposals to decouple subsidies and production have not been accepted, and therefore substantial production distorting payments are likely to be made to the accession countries once the European Union is enlarged.

Another stumbling bloc concerns the preferential access given to least developed and some, but not all, developing countries. For example, there are 77 ACP and 49 least developed countries with preferential access. These countries are loathe to see their advantage eroded by MFN tariff reform. On the other hand, there are developing countries with many poor people who are excluded from these arrangements and are pushing to reduce their current disadvantage.

In summary, developed countries divide into two broad groups, liberalisers and protectionists. Both groups have, in general, low levels of support on non-agricultural goods with the notable exception of textiles. Each group has divergent positions on agriculture. Developing countries are also split. All are keen to obtain further access to developed country markets, but those with preferential access don't want to see it eroded as tariffs facing their competitors are reduced. Developing countries with high tariffs are keen to maintain them, especially where reductions in bound rates would results in lower applied rates. It is likely that any agreed outcome would involve common rates of reduction, so that pressing developed countries for greater market access may mean that developing countries themselves may be obliged to provide more access themselves.

3. Simulations

Simulations are undertaken using the GTAP version 5.3b database. The database has 78 countries and regions and 65 sectors which are aggregated as shown in table 3. GTAP is a general equilibrium model which includes linkages between economies and between sectors within economies. Industries are assumed to be perfectly competitive and are characterised by constant returns to scale. Imports are distinct from domestically produced goods as are imports from alternative sources. Primary factors are substitutable but as a composite are used in fixed proportions to intermediate inputs. The database includes tariffs, export subsidies and taxes, subsidies on output and on inputs such as capital, labour and land. Border measures are specified bilaterally, so the impact of preference erosion can be ascertained. A limitation is that export subsidies are calculated as equating with import protection levels, so that it is difficult to assess the separate impact of export subsidies by themselves.

Table 3: Country and commodity coverage

Regions	Sectors
European Union 15	Cereals
NAFTA	Rice
Japan	Coarse Grain
Cairns Group	Sugar
China	Oilseeds & oils
South Asia	Other crops
Rest of Asia	Livestock
Rest of Latin America	Dairy
Central and Eastern Europe	Processed food
North Africa and Middle East	Resources
Sub-Saharan Africa	Textiles & apparel
Rest of World	Non metalic manufactures
	Metal manufactures
	Electronic
	Motor vehicles
	Business services
	Trade and transport
	Services and activities NES

Note: Cairns Group excludes Canada, which is included in NAFTA.

The value of import taxes from the GTAP database is shown in appendix table A1. This is a combination of tariff rates plus trade flows. Countries with high tariffs but little trade will collect little tax, whereas low taxing countries or sectors may capture large revenues by virtue of high trade flows. Total taxes are calculated at $304 billion, of which $55 billion is in agriculture and of this $10 billion is in the dairy sector. There is $45 billion in textiles, a sector of great interest to developing countries, sizeable amounts in metals (steel) and motor vehicles. There is virtually nothing in services, in the database at least. The limited protection in services in the database is most likely a reflection of poor quality data. Certainly, a paper supporting the US proposal (Brown, Deardorff and Stern 2002) had significant levels of protection on services, and most of the gains come from liberalisation of this sector.[3]

Across the regions, import revenues are significant in Europe, NAFTA, Japan and China but there are significant amounts in developing regions. For example, North Africa and Middle East appears to gain significant revenues from metals and motor vehicles. The European Union also has $1.5 billion in export subsidies and subsidies allocated to capital and land of $537 million. Welfare gains from liberalisation can be expected to follow the pattern of distortions, although the removal of export subsidies adversely affects importers of the subsidised products.

The EU and US proposals can be regarded as extremes, and one can imagine that the final outcome will be somewhere in between, perhaps determined by the impact on and attitude of developing countries. The approach taken here is to assess the impacts of the alternative scenarios on their proponents, Cairns group members and various regional grouping in developing countries. The simulations are described in table 4. These are an approximation to the actual proposals. For example, where the proposal calls for flexibility between sectors in reductions, this has not been implemented. The gains from liberalisation are overstated as a result.

The tariff reduction formulae under the US proposal is non-linear, with the percentage cut varying with the initial value. Therefore it is more accurate to calculate tariff cuts outside the model and aggregate later. For example, with a Swiss maximum coefficient of 8 per cent initial tariffs of 5 and 10 generate final tariffs of 3.08 and 4.44 per cent, an average of 3.76. However, an initial average tariff of 7.5 per cent gives a final tariff of 3.87, a three per cent difference.

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3 Brown, D., A. Deardorff, and R. Stern (2001). *"CGE Modeling and Analysis of Multilateral and Regional Negotiating Options"* University of Michigan School of Public Policy Research Seminar in International Economics, Discussion Paper No. 468.

Table 4: Alternative liberalisation simulations

EU	In agriculture, 36 per cent reduction in import tariffs, 45 per cent reduction in export subsidies and 55 reduction in domestic support. In industrials, 50 per cent reduction with final tariffs capped at 15 per cent. No reductions in services or fuel (environmental) taxes.
US	In agriculture, all tariffs reduced according to a Swiss formula with maximum coefficient of 25 per cent. Elimination of export subsidies. Reduction in domestic support down to 5 per cent of the value of production. In non-agricultural sectors, all tariffs reduced according to a Swiss formula with maximum coefficient of 8 per cent.

4. Results

An obvious difficulty for economists analysing the alternative proposals is that all regions appears to gain in terms of welfare from the more stringent US proposal, as measured here by equivalent variation (table 5). The static global welfare gains are $42 billion under the conservative EU proposal and $80 billion under the more ambitious US proposal. Furthermore, all regions appear likely to gain substantially from further reform. This is true of NAFTA (including the United States) but also of the poorer regions in Africa and South Asia.

There are two obvious limitations of this analysis. One involves aggregation. Although all regions gain, it is likely that some countries within those regions are likely to lose. This is particularly the case with food importers who do not liberalise. These countries are adversely affected by terms of trade movements and do not receive allocative benefits from reform.[4]

4 Vanzetti and Peters (2003) analysed potential gains from agricultural trade liberalisation using UNCTAD's partial equilibrium Agriculture Trade Policy Simulation Model that covers 175 countries and 36 commodities. Only 50 countries experience welfare gains under the EU scenario. Vanzetti, D. and Peters, R. (2003) "An analysis of the WTO, US and EU proposals on agricultural reform" UNCTAD Working Paper, Geneva.

Table 5 Change in welfare relative to base

	EU proposal $m	US proposal $m
European Union 15	5643	17571
NAFTA	-814	4748
Japan	9296	10924
Cairns Group	3792	8326
China	4923	6672
South Asia	2815	4576
Rest of Asia	5443	7042
Rest of Latin America	746	1375
Central and Eastern Europe	3730	4018
North Africa and Middle East	3276	8364
Sub-Saharan Africa	774	1545
Rest of World	2512	4554
Total	**42136**	**79716**

Source: GTAP simulations.

A more obvious problem is that negotiators are unlikely to be aiming to maximise equivalent variation. Thus, it is worth looking at three other variables – export revenue, government revenue and returns to producers. Export revenues are shown in table 6. Most notably, the increase in EU exports is relatively minor compared with other regions and its welfare gains. This reflects the reduction in agricultural export subsidies which reduce export revenue while generating welfare gains. For the other regions, the more stringent liberalisation contributes to greater exports. Negotiators are likely to see the US proposal as attractive on that score. The question is at what costs are the additional exports obtained.

Table 6 Change in value of exports relative to base

	EU proposal %	US proposal %
European Union 15	0.40	0.28
NAFTA	2.01	2.23
Japan	3.56	6.42
Cairns Group	5.38	7.53
China	7.02	8.87
South Asia	11.48	17.88
Rest of Asia	4.46	4.62
Rest of Latin America	4.66	6.33
Central and Eastern Europe	3.89	3.89
North Africa and Middle East	2.80	5.16
Sub-Saharan Africa	3.45	5.22
Rest of World	2.10	2.77
Total	2.36	3.11

Source: GTAP simulations.

Many developing countries are concerned that trade liberalisation will have a significant adverse impact on government revenues because tariff revenues make up a substantial contribution to public revenue. Eliminating tariffs altogether implies tariff revenues would be reduced to zero. Many developing countries would have to raise taxes on income, profits, capital gains, property, labour, consumption or through non-tax revenues to compensate. Broad-based taxes have the advantage of being less distortionary but they are not as simple to collect as tariff revenues, particularly for countries with poorly developed administrative systems. However, for moderate tariff cuts tariff revenues may rise because of the increase in trade flows associated with liberalisation. The simulation results indicate the US scenario would result in an estimated 46 per cent decline in global tariff revenues (see table 7) from $304 billion. These are fairly evenly distributed across regions, mostly in the range of 35 to 50 per cent. The more conservative EU scenario, which features moderate tariff cuts and smaller export subsidy reductions, results in only a marginal impact in the developing country regions. On this criterion then the EU approach is obviously preferred.

Table 7 Change in tariff revenues relative to base

	EU proposal %	US proposal %
European Union 15	-26	-38
NAFTA	-32	-44
Japan	-14	-57
Cairns Group	-33	-39
China	-31	-42
South Asia	-27	-44
Rest of Asia	-28	-58
Rest of Latin America	-37	-45
Central and Eastern Europe	-31	-35
North Africa and Middle East	-24	-46
Sub-Saharan Africa	-33	-45
Rest of World	-23	-27
Total	**-28**	**-46**

Source: GTAP simulations.

Policymakers with the interests of producers in mind might consider the change in producer revenue, or perhaps primary agricultural revenues, excluding processed food, shown in table 8. This reveals the problem facing negotiators – the falling returns to producers in the European Union and Japan and, among the developing countries, those in North Africa and Middle East in particular. This is driven by price rather than quantity effects. Protected producers are receiving lower prices under the two scenarios. Taking into account all sectors, it seems that European and American producers are worse off from liberalisation across-the-board whereas other regions appear to gain. The result implies that most governments might see scope for switching labour from agriculture to the industrial and service sectors. Note that there is no services protection data in the database, and EU and US policymakers see significant scope for output gains following liberalisation in these sectors.

5. Implications and conclusions

Given these estimated potential impacts on exports, government revenues, producers and welfare, what can be said about developing countries preferred strategies and the likely outcome? First, a caveat. Missing from the analysis are numerous factors important in the negotiations, such as the investment and competition policies, SPS, TBT, services and various so-called non-trade concerns. In addition, there are deficiencies in the model, some obvious and other less so. Nonetheless, the economic factors presented here are important, notwithstanding that it is difficult to attach weights to their relative importance.

Table 8 Change in producer revenue relative to base

	EU proposal Agriculture %	**EU proposal** All sectors %	**US proposal** Agriculture %	**US proposal** All sectors %
European Union 15	-1.81	-0.72	-5.22	-1.05
NAFTA	-0.76	-1.09	0.60	-1.12
Japan	0.99	1.36	-10.36	1.26
Cairns Group	2.04	-0.16	5.92	0.49
China	2.69	0.67	0.67	0.65
South Asia	1.24	0.08	2.30	0.93
Rest of Asia	2.89	1.32	-0.32	0.88
Rest of Latin America	0.96	-0.60	3.74	-0.50
Central and Eastern Europe	0.18	0.85	-0.53	0.16
North Africa and Middle East	-0.47	-0.09	-6.47	-0.80
Sub-Saharan Africa	-0.36	-1.06	0.02	-1.50
Rest of World	-1.41	-0.25	-2.33	-0.30
Total	0.29	**-0.30**	-0.72	**-0.40**

Source: GTAP simulations.

Difficulties in specifying an objective function make it unlikely that game theory can be used to throw much light on the likely outcome, at least by these authors, but something can be said about the process. WTO negotiations are by consensus, implying that one country can, in theory at least, stall the negotiations. Nonetheless, when negotiations near the end point, and pressures mount for a conclusion, individual developing countries are likely to have to throw their weight behind some version of the conservative EU proposal or the more ambitious US proposal. The choice is clear for Cairns group members, but less obvious for ACP countries and least developed countries. ACP countries risk having their preferential access eroded with the more stringent measures. For LDCs, it is not clear what their reduction commitments are likely to be. If they have none or relatively little, they may wish to push for greater liberalisation to improve market access where they face high mfn rates. Nominally, they have duty free access to the European Union but the utilisation is less than complete, perhaps around 70 per cent. In addition, there are rules of origin constraints and administrative formalities limiting access.

It may appear that LDCs in particular should align themselves with the European Union. ACP countries, to which 41 of the 49 LDCs belong, have preferential access to EU markets, benefit from EU subsidies and would no doubt welcome the special and differentiated treatment espoused by the European Union. Furthermore, by siding with the European Union, these countries may hope to gain a *quid pro quo*, such as some form of compensation for preference erosion. By contrast, the US position does not offer the same degree of differential treatment for developing or least developing countries, and US liberalisation is likely to generate substantial trade effects with greater price rises. However, simulation results indicate that all regions are on the whole better off in the longer term from more aggressive liberalisation in the quantifiable areas of the current negotiations, at least in terms of welfare. By undertaking some liberalisation themselves, developing countries are likely to encourage South-South trade which is at present hampered by substantial barriers, and benefit from allocative efficiency gains. Nonetheless, in following this approach they will face transitional adjustment costs involving for example moving labour and capital between sectors and expanding the tax base to one less reliant on import duties. Some form of financial support from international financial institutions would be helpful in this regard.

As to the likely outcome, if some developing countries hesitate about liberalisation because of the desire to use trade policies for perceived development purposes, or because of concerns about food prices, adjustment costs and the difficulties of finding alternative sources of government revenue, it is likely that such countries will tend to coalesce around the more moderate EU position. Cairns Group members may find this outcome more acceptable if the European Union made substantial concessions on export subsidies. In principle the European Union could manage this without compromising its producers by switching to direct support. Thus, there may be a way forward, depending as much on internal EU politics as external factors.

There are some difficult dilemmas facing individual developing and least developed countries, particularly those that receive substantial benefits from preferential access. Developing countries are a diverse group, with a range of conflicting interests and potential coalition partners. Before committing to a strategy countries should examine their specific products and markets, the utilisation of preferences, possible regional trading arrangements, potential gains in alternative markets, TBT/SPS and intellectual property and other market access issues. They should also be aware of the strategic positions of other players, addressed in this paper.

Table A1: Import tax revenues in the GTAP 5.3 database ($m)

	1 EU	2 NAF	3 JPN	4 CRN	5 CHN	6 SAS	7 RAS	8 RLA	9 CEE	10 NAM	11 SSA	12 ROW	Total
Cereals	413	226	3439	181	420	28	30	71	94	1716	99	206	6922
Rice	562	34	1463	267	160	39	1	120	36	129	38	43	2893
Coarse Grain	274	288	655	94	349	4	3632	81	100	726	101	117	6422
Sugar	1152	664	511	96	76	130	29	62	187	403	188	195	3694
Oilseeds & oils	595	312	2181	538	2535	720	1073	212	325	1554	281	475	10800
Other crops	1788	1920	1870	1053	259	415	819	152	486	1971	125	1745	12603
Livestock	399	133	378	103	144	57	113	18	144	579	9	307	2383
Dairy	1093	1066	3280	353	44	60	227	221	204	2382	158	928	10015
Processed food	7482	4328	10941	2125	1282	195	2498	769	2070	7451	1169	8095	48406
Resources	499	439	-301	1139	491	2618	2017	502	273	696	385	495	9253
Textiles & apparel	8121	10307	3320	3344	5712	1160	1392	1663	1662	3567	1229	2091	43567
Non metalic manufact.	3911	3437	999	6571	5712	3302	2323	1594	2244	3817	1693	2132	37735
Metal manufactures	4893	5919	498	11699	7939	5729	4916	2181	3228	6964	2869	2517	59351
Electronic	4508	2099	0	3640	3412	665	2220	421	798	904	457	570	19695
Motor vehicles	3218	2220	0	8877	1545	835	1439	2468	1992	3226	1678	1404	28900
Business services	0	0	-4	0	0	0	33	128	1	93	256	49	558
Trade and transport	0	0	0	12	-3	0	0	157	2	32	243	47	489
Services and other NES	0	0	0	4	0	0	5	139	12	16	8	71	255
Total	**38909**	**33393**	**29232**	**40095**	**30077**	**15956**	**22768**	**10960**	**13856**	**36224**	**10986**	**21488**	**303943**