

Alternative Approaches to Reciprocal Tariff Liberalization

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Article XXVIII *bis* of the General Agreement on Tariffs and Trade (GATT) calls upon the WTO members to periodically sponsor negotiations aimed at substantial reductions in the general level of tariffs on a reciprocal basis. Paragraph 2(a) of this article states,

Negotiations under this Article may be carried out on a selective product-by-product basis or by the application of such multilateral procedures as may be accepted by the contracting parties concerned. Such negotiations may be directed towards the reduction of duties, the binding of duties at then existing levels or undertaking that individual duties or the average duties on specified categories of products shall not exceed specified levels. The binding against increase of low duties or of duty-free treatment shall, in principle, be recognized as a concession equivalent in value to the reduction of high duties.

Thus, GATT gives the member countries substantial flexibility with respect to how tariffs are lowered. They can engaged in bargains with their major trading partners by sectors as was the case in the earlier rounds or may agree on a general formula applicable uniformly to all members as was the case in the Kennedy and Tokyo Rounds or a combination of the two as in the Uruguay Round.

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Multilateral liberalization under the auspices of GATT differs from unilateral liberalization in one key respect: it brings gains to a country not merely from its own liberalization (assuming the country is small or abstracting from the terms of trade effects) but the liberalization of its partners as well.² The more a country is able to get its trading partners with large markets for its products to liberalize, the more it stands to benefit. From the viewpoint of developing countries, this means opting for an approach that leads to the maximum opening by developed countries in products of interest to them.

In trade negotiations, countries view their own liberalization as a cost to be paid for obtaining expanded access to the markets of partner countries. These costs may take at least three forms. First, if the country is large in the world markets, its own liberalization may increase the world demand for the goods it imports sufficiently that these goods become more expensive. For developing countries, which are generally small in the world markets, this risk is quite minimal. At the aggregate level, the proportion of income spent by developed countries on developing country goods is less than 2 percent. Second, trade liberalization makes import competing goods cheaper relative to exportable goods, which in turn leads to a redistribution of income from the owners of factors specialized in the production of import-competing goods to those

tariff formulas in Hoekman and Kostecki (2001) as well as from excellent comments by Bernard Hoekman on an earlier draft.

² If a country is sufficiently small in the world market, trade liberalization by it increases its imports but this increase is too small to have any effect on the world prices. In this case, the country necessarily benefits from its own liberalization since it reduces the domestic output of goods in which it lacks comparative advantage and expands the output of the goods in which it enjoys comparative advantage. In contrast, if a country is a large buyer of its imports in the world market, increased demand due to its liberalization can lead to a rise in the price of the imports. This “terms of trade” effect is harmful to the country and in principle may be large enough to outweigh the efficiency gains resulting from increased specialization in the goods of comparative advantage.

specialized in export goods. This may be politically costly. Finally, the reallocation of resources induced by trade liberalization may itself bring short-run real costs with it.

The presence of these costs automatically gives rise to the notion that tariff reductions should be balanced according to some criterion: the cost of one's own liberalization must be balanced by the benefits from liberalization by its trading partners. The obvious criterion for achieving this balance with respect to the terms-of-trade cost is to ensure that the terms of trade are unchanged in the post-liberalization equilibrium. This would effectively allow each country to benefit from the efficiency gains resulting from its own liberalization without redistribution of income across countries. From the viewpoint of small developing countries, this may not be a major issue since their own liberalization has little impact on the terms of trade. But for large countries such as the United States, European Union and Japan, it is important and plays out in the form of the demands for reciprocity.

As for the long-run income distribution effects, unless one is faced with the conservative welfare function such that any movement away from the existing equilibrium is seen as harmful, there is no presumption that the effects of trade are harmful. Indeed, to the extent that most developing countries are exporters of labor-intensive goods, trade liberalization is likely to improve income distribution by raising the return to labor at the expense of capital. Finally, phasing in liberalization over a number of years can minimize the adjustment costs. Starting with the Kennedy Round, this has been the approach under the GATT and WTO. In the case of multilateral liberalization, these costs are likely to be especially low since the simultaneous

liberalization by partner countries allows the export industries to expand rapidly to absorb the resources released by import-competing industries.

In the following, I discuss the main approaches to trade liberalization that have been taken in past multilateral negotiating rounds and their relative merits.

1. Sectoral Approaches

Conceptually, we can distinguish two types of sectoral approaches. First, one or more sectors may be identified and all members may liberalize imports within those sectors. This is sometimes called a ‘zero-for-zero’ approach. Second, each member may seek liberalization from its major trading partners in sectors of its comparative advantage in return for its own liberalization of sectors of comparative disadvantage.

The first approach has guided much of the liberalization of trade in services during and since the Uruguay Round. The member countries have identified broad sectors such as financial services or telecommunications and bargained market access within them. The approach has also been applied recently to trade in goods recently during first the WTO ministerial meeting in Singapore. At this meeting, a group of countries signed the Information Technology Agreement (ITA) whereby they committed themselves to complete free trade in a set of technology products.

As far as the liberalization in goods is concerned, this sectoral approach is not particularly attractive. There are two problems. First, there is some concern that under this approach, the sectors that will be liberalized first will be those in which economically powerful nations have export interests. Sectors in which developing countries enjoy

comparative advantage, such as textiles and clothing, will be taken up last. This view is certainly supported by the fact that, on balance, developed countries are exporters and developing countries importers of the products covered by the ITA. It is also supported by the observation that even in services, negotiations in sectors in which developing countries have an overwhelming advantage have not been opened.

The second drawback of this approach is that initially it is likely to lead to a lower level of welfare. Under this approach, the sectors that will be picked initially are likely to be those with lower tariffs to begin with. Economic theory suggests that under plausible assumptions, the elimination of relatively low tariffs without a simultaneous reduction in the high tariffs leads to reduced welfare globally as well as in individual countries. Such a policy change leads to a reallocation of resources from less distorted to more distorted sectors.

Under the second sectoral approach, all industrial products are made part of the negotiation but members negotiate with their partners sector by sector. In principle, this approach can be expected to yield an efficient outcome. Each member will seek liberalization in sectors and countries where its exports face the highest barriers. In turn, its trading partners will seek access to its most protected sectors. Thus, the bargain is biased in favor of lowering the highest tariffs.

The approach may become administratively complex if trade patterns happen to be such that each country exports its goods to one set of countries but imports them from an entirely different set of countries. For instance, if India's exports go mainly to the United States while its imports come from the European Union, bilateral negotiations between India and its two trading partners become difficult. While it remains to be

empirically verified, one suspects that under the current structure of trade and tariffs, this is not a significant problem. Goods subject to high tariffs in developing countries are largely imported from developed countries and evenly distributed over the latter. Conversely, major exports of developing countries face high barriers in all developed countries—examples include agricultural products and apparel.³

2. Across-the-Board Approaches and Tariff-Reduction Formulas

Rather than negotiate on a sector-by-sector basis, member countries may adopt an across-the-board approach such that all tariffs are rolled back according to a pre-specified formula. Of course, even in a sector-by-sector approach, some previously agreed rule must be used to ensure a balance in the bargain (reciprocity). Therefore, the formulas to be discussed below are relevant for the sector-by-sector approach as well.

Perhaps the simplest rule to follow is the reduction in all tariffs by a fixed percentage. For example, the member countries may agree to roll back all (or a subset of) existing tariff by 50 percent. Formally, we can set

$$(1) \quad \frac{dt_i}{t_i} = b$$

where b is a constant between 0 and 1, t_i the initial tariff rate in sector i and dt_i/t_i the proportionate *reduction* in it. This approach has the advantage that within a country it leads to a larger absolute reduction in high tariffs and smaller absolute reduction in low

³ See Hoekman, Ng, and Olarreaga (2001) for an analysis of the incidence of tariff peak protection in Quad markets, net of preferences, on least developed countries.

tariffs, which must broadly promote efficiency. More protected sectors are liberalized more and effective protection to any particular sector is unlikely to rise on account of input tariffs declining proportionately more than output tariffs. If the countries engaging in liberalization have equal levels of tariffs and are also of equal size, this approach will lead to balanced reductions in tariffs across them.

The bargain will be unbalanced, however, if either of these conditions is violated. For instance, if two countries are of equal size but one has an average tariff of 50% but the other 5%, a 50% reduction in the tariff by the former leads to a 25-percentage points reduction but only 5 percentage points by the latter. Such liberalization leads to a deterioration of the terms of trade of the former. Likewise, if both countries have 50% tariffs but one is ten times the size of the other, a 50% reduction by the former leads it to give greater market access than it receives and hence a deterioration of its terms of trade.

There are different approaches that attempt to correct for these differences in the initial tariffs and country size. The simplest approach is to define liberalization in terms of the tariff revenue forgone. For example, we can set the proportionate reduction in tariff equal to

$$(2) \quad \frac{dt_i}{t_i} = \frac{f}{(t_i \cdot p_i \cdot M_i)} = \frac{f}{(t_i \cdot V_i)}$$

where f is a constant, p_i the border price, M_i the quantity of imports, and V_i the value of initial imports at the world price. We can think of f as a measure of market access given by the country undertaking liberalization. An advantage of tariff reductions according to (2) is that it takes into account both the level of the initial tariff rate and the size of the country in the world market. To achieve the same level of liberalization, f , a country that imports larger volumes of good i and imposes a higher initial tariff on the latter has to

liberalize proportionately less to achieve the same level of liberalization. Alternatively, if the initial level of tariff in a sector is low, the credit given for a given percentage reduction in the tariff is also low.

Tariff reductions according to (2) are defensible from the viewpoint of balancing the bargain between member countries. But, for a given level of imports, it implies a lower proportionate reduction in the tariff whenever the initial tariff is high. From an efficiency standpoint, this may not be a desirable outcome. For instance, if final goods are subject to high tariffs and inputs to low tariffs, this pattern of tariff reduction may lead to increased *effective* protection to certain sectors.⁴ Thus, there is necessarily a tension between the twin objectives of balancing a bargain and preserving efficiency across sectors.

An alternative measure that compromises somewhat on the bargain-balancing objective but is more defensible on efficiency grounds is

$$(3) \quad \frac{dt_i}{t_i} = \frac{f}{(p_i \cdot M_i)} = \frac{f}{V_i}$$

⁴ The concept of effective protection refers to protection provided to value added in a sector by the entire structure of tariffs. To explain, suppose the cost of auto parts in the world markets is 90 percent of the fully assembled automobile. Under free trade, domestic assembly of the automobile will be profitable up to the point that the marginal cost of assembly is \$1,000. The introduction of a 10 percent duty on the final automobile without a similar tariff on the imported inputs raises the domestic price of the automobile to \$11,000 and the domestic assembly industry can expand up to the point that the marginal its marginal cost is \$2,000. This is an expansion of the domestic value added per automobile from \$1,000 to \$2,000 and amounts to a 100 percent protection on the assembly operation. Thus, the effective protection to automobile industry turns out to be ten times the nominal protection! If we were to also impose a 10 percent tariff on auto parts, the domestic value added can expand from \$1,000 to \$1,100 (since parts now cost \$9,900 and the automobile sells for \$12,000), which is exactly 10 percent.

This measure controls for country size in that the larger the V_i the smaller the proportionate reduction in the tariff to achieve the given level of liberalization, f . But the measure is independent of the initial level of the tariff.

Yet another approach goes a step further towards efficiency by rolling back the high tariffs proportionately more and lower tariffs proportionately less. From the reciprocity angle, the argument made is that linear cuts leave the countries with high initial tariffs more protected. This argument is clearly based on achieving reciprocal concessions in terms of final *outcomes* rather than *additional* market access. Put differently, it must rely on the assumption that tariff levels must be harmonized across countries. If participating countries share the objective that the eventual goal is to achieve free trade everywhere, the approach clearly makes sense. Nonetheless, it must be recognized that if countries are of equal size but some are initially more protected than others, in the transition towards zero tariffs, this approach will result in the latter experiencing deterioration in their terms of trade. The explanation is similar to that presented earlier and is understood simply by assuming that one country has a 50% tariff on its imports while the other has only 10% tariffs. Elimination of these tariffs will result in the former opening its market more at the margin and hence a deterioration of its terms of trade.

The simplest rule to achieve harmonization, suggested by the European Economic Community (EEC) during the Tokyo Round, was to lower each tariff by the same percentage as its initial *ad valorem* rate. Thus, if the tariff on a good is 70 percent, it is cut by 70 percent while a tariff of 20 percent is cut by 20 percent. Formally, we have

$$(3a) \quad \frac{dt_i}{t_i} = t_i$$

The EEC argued that as a part of the Tokyo Round, countries apply this formula four times, bringing tariff rates in excess of 50% (but less than 100%) down to below 13%.

The United States suggested that all tariffs equal to or above 6.67 percent be cut by 60 percent while those below this number be cut according to the formula

$$(3b) \quad \frac{dt_i}{t_i} = 1.5t_i + 0.5$$

This formula is less progressive than (3a). Given that the U.S. tariff structure prior to the Tokyo Round was characterized by much greater escalation than the European tariff structure, it is not surprising that the United States wanted a tariff-cutting formula that was much closer to the linear cut. Observe that according to the U.S. approach, a tariff of .02 (or 2%) would be cut by .53 (or 53%) and a tariff of .06 by 59% while all tariffs equal to or higher than 6.67 percent would be cut by 60 percent. There is only a small variation in cuts according to the initial level of the tariff rate.

The formula actually applied in the Tokyo Round was the one suggested by Switzerland. According to the so-called “Swiss formula,”

$$(3c) \quad \frac{dt_i}{t_i} = \frac{t_i}{r+t_i}$$

where r is a positive constant. This formula has a progressive element the degree of which depends on the value of r . The higher the value of r , the more progressive is tariff reduction in the sense of lowering the higher tariffs more. In the Tokyo Round Agreement, the value of r was set between 0.14 and 0.16. Letting $r = 0.14$, tariff rates of 0.14 (or 14 percent) are reduced by 50 percent. Rates exceeding 0.14 are reduced more and those less than 0.14 are reduced less. For instance, a tariff rate of 0.06 (or 6 percent) is reduced by 30% while a tariff rate of .36 (or 36 percent) is reduced by 72 percent.

Clearly, this formula has much greater potential for harmonizing tariff rates both across sectors within a country and across countries within the same sector.

Finally, countries may agree to some average tariff reduction without specifying the reductions in specific, sectoral tariff rates. The average may be simple or weighted. This approach can result in both unequal and inefficient tariff reductions *ex post*. The Uruguay Round Agreement on Agriculture required developed countries to reduce tariffs by 36 percent on the average, with the rate on each item reduced by at least 15 percent. Assuming four items in all with 100 percent tariffs on three and 1 percent tariff on the fourth, a 15 percent reduction in the former rate and elimination of the latter yields $(15+15+15+100)/4 = 36.25$ percent average reduction. Thus, rules in terms of an overall average reduction can be easily manipulated to minimize liberalization.⁵

3. Choosing Among Approaches

A choice among various approaches depends on the underlying objective. If the objective is to achieve maximum liberalization worldwide, an across-the-board approach that lowers higher tariffs more such as that based on the Swiss formula would be the right choice. The across-the-board approach minimizes the room for successful lobbying by political powerful sectors, which often happen to be the most protected sectors in the first place. Moreover, a formula that lowers high tariffs more reduces the dispersion in tariffs and hence effective protection in all sectors. A formula approach also has the advantage

⁵ Specifying the reduction in terms of a weighted average does not solve the problem since the country can achieve a high average by liberalizing more where its imports are already high while leaving the most protected sectors virtually untouched.

that it does not tie up negotiating resources in a major way as do sector-by-sector negotiations.

From an individual country's viewpoint, the answer may be different. Assuming welfare maximization to be the objective, a large country with high tariffs is likely to prefer equal proportional tariff reductions while one with low tariffs may prefer Swiss-formula like reductions. For the high-tariff large country, proportional reductions will yield better terms of trade than the Swiss-formula like reductions while for the low-tariff large country the opposite holds true.

Governments that are driven by domestic lobbies are likely to prefer the sector-by-sector approach since this approach lends itself most easily to offer or seek the sectors selectively for liberalization. Import-competing lobbies with political clout can ensure that their sectors are not offered for liberalization. Likewise, powerful export lobbies may pressure their governments to seek market access on their behalf from their major importers.

In my judgment, in the present scenario, from the viewpoint of developing countries, a Swiss-formula like approach would make the most sense. This is because developed countries apply rather high tariffs on goods of export interest to them ([see Annex 1 of this Handbook]). Therefore, the Swiss-formula like approach will induce large liberalization in the products of interest to them. Of course, given high tariffs in many developing countries themselves, this approach will require them to liberalize more as well. But since these countries have minimal market power, their own liberalization is likely to result principally in efficiency gains without deterioration of their terms of trade.

A similar argument applies even more to trade in agriculture since many developing countries are, in fact, potential exporters of agricultural products.