

A Role for ERAs in the GATT Forum?

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OVER the past forty two years, international negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT) have largely succeeded in removing tariffs as a significant barrier to imports in the major trading countries.¹ But the GATT system has failed to discipline non-tariff measures and that is what the Uruguay Round negotiations in Geneva are ultimately about. While average tariff levels in the United States, Japan and the European Community are today only about a tenth of their levels in 1947, the growth of non-tariff measures has meant that it is not possible to say how much more open their markets are now than they were then. Indeed, there is reason to suspect that some of their markets have been closing overall since the early 1970s, but again this is not known for sure — the necessary information is not there.²

It may strike many people as odd that so little is known in GATT circles about the trade-restricting effects of member countries' protection regimes. There are at least two explanations. One is that, unlike tariffs, non-tariff measures are not always easy to detect and their effects are not easy to quantify — especially from outside the countries imposing them. The elusiveness of 'voluntary' export-restraint arrangements is an illustration. Another, more important, reason is that some GATT member countries have not wanted this information to become known. The resort to non-tariff measures can be seen as reflecting a need for stealthy protection.³

The lack of information about the extent and incidence of trade restrictions has naturally been a subject of increasing concern within the GATT forum, but until recently little had been done about it. Prior to the Tokyo Round negotiations of 1973-79, the GATT began to accumulate an inventory of non-tariff measures through 'reverse notifications' (tale-telling) by aggrieved exporters, enabling

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them to be classified and 'prioritized' in preparation for negotiations.⁴ (A memorable photo in one issue of the GATT Secretariat's information bulletin shows two smiling staff members staggering under the weight of this inventory.) Since the 'crisis' GATT ministerial meeting of November 1982, a half-yearly 'Survey of Developments in Commercial Policy' has been prepared by the Secretariat and scrutinized by the GATT Council.⁵ But most of this information has been acquired in an *ad hoc* way, generally from published sources, and is therefore inevitably incomplete. Moreover, while describing the types of trade measures, and giving some indication of their distribution, it provides little indication of their effects. In other words, it doesn't answer the question whether things have been getting better or worse.

WHY MEASUREMENT OF PROTECTION IS NEEDED

Industry protection is first and foremost a device for redistributing income. It benefits some domestic industries at the expense of consumers and other industries as well as foreign competitors. In so doing, it allows higher-cost production to displace more efficient industries, reducing both national and global income in the process.

The obvious popularity of protectionist government policies, in spite of their costliness, can have only two possible causes. Either (i) governments are ignorant of (or deceived about) their wider long-term economic effects or (ii) governments believe that such policies are politically expedient. In both cases, the availability of information about the extent and effects of protectionist policies has a potentially important role to play in bringing about change.

In the first case, it is probably true to say that most governments would not defend protectionism as a general principle — their membership of the GATT in itself suggests otherwise. But, when faced with the demise of an industry or the chance to look good by creating a new one, the economic arguments about protection tend to blur a little. At such times, it is important to have information about the economy-wide effects of policies that benefit particular industries — to retain a wider perspective.

In the second case, it is an unfortunate characteristic of protectionism that it can be a politically expedient route for governments to follow, even though it makes most citizens worse off in the long term and harms relations with other countries. This political bias in the protection 'market' arises from the fact that the 'benefits' from each protectionist measure are generally concentrated and immediate, while the costs — although much greater — tend to be more diffuse and delayed. This provides quite uneven organizational and lobbying incentives for the potential gainers and losers from protection and thus quite uneven political pressures on government to grant protection.⁶

The one-sidedness of the domestic political pressures to grant protection is an important reason why countries joined the GATT in the first place. To repeat a felicitous analogy with Greek mythology: like Ulysses, they wished to be 'bound to the mast', safe from the Sirens' seductive (and ultimately destructive) songs.⁷ These 'bindings' have done just that in the case of tariffs, but the international rules have clearly not been effective for other forms of intervention, where the Sirens have been leading poor Ulysses astray.

The comparative success in reducing tariffs reflects their transparency relative to non-tariff measures — they are listed in 'schedules' for all to see, they generally require legislative scrutiny and their price effects are readily apparent. By contrast, non-tariff measures such as voluntary export restraints are generally negotiated by the executive, away from the public eye; they are not recorded in any consistent way and even when their existence is known, their economic effects are difficult to evaluate.

If governments, in spite of their better judgments, are delivering policies that hurt their own economies as well as their trading partners, it is important that the losers be better informed and capable of defending their interests. Pressure from those who bear the costs is needed to provide a counterweight to the disproportionate influence that uncompetitive producers are having on the policy-making process.⁸ But that pressure will not arise without the necessary information.

URUGUAY ROUND DEVELOPMENTS

There have been a number of new initiatives in the Uruguay Round negotiations to tackle the 'information problem'. In the negotiations on agriculture, for example, it was recognized early on that due to the multiplicity of forms of intervention and support, meaningful liberalization would require action on a broad front. This led to consideration of aggregate measurements of agricultural support, among which the 'producer subsidy equivalent' (PSE) is most mentioned.⁹

More generally, following the 'mid-term review' of progress in the Uruguay Round negotiations, trade ministers established a 'Trade Policy Review Mechanism', as a vehicle for scrutinizing individual GATT members' trade policies in much the same way as the Organisation for Economic Cooperation and Development (OECD) does with its members' general economic policies. To be more effective than the earlier 'inventory' approaches, that will also require techniques for the measurement of the various forms of public assistance to industries.

But in the 'access' negotiations outside agriculture, the underlying informational questions have not been addressed. The predominant approach is still about 'requests and offers' on particular (identifiable) barriers. The potential for substitution of new barriers to replace old ones remains high under this approach.

Enter the ERA

In 1988, in response to some of these concerns, the Australian Government proposed a measurement technique which is new to the GATT negotiating arena — the ‘effective rate of assistance’ (ERA).

‘In the past, the GATT has made no attempt to measure the protective impact of these trade restrictions. Although some well established measurement techniques exist, they have not been used in previous trade negotiations. Australia has now proposed that one of these — the effective rate of assistance (ERA) — be used as a ‘yardstick’ to assess progress in liberalizing trade. The Australian Government believes that such a technique must be adopted if the ambitious goals of the Uruguay Round are to be achieved.’¹⁰

The Australian proposal attracted interest from some GATT members, but thus far it has not exactly set the ‘Big Three’ (the United States, Japan and the European Community) on fire. Perhaps this is not surprising. It is, after all, a device for making *transparent* policies that have largely been selected for their *opacity*. Nevertheless, these countries did agree to let the GATT Secretariat prepare an information paper on the topic, which is expected to be available shortly. Whether a place will be found for the ERA in the GATT will ultimately depend not only on the technical characteristics of the device but also on how governments see their policy-making roles.

WHAT IS THE EFFECTIVE RATE OF ASSISTANCE?

The effective rate of assistance was originally known as the effective rate of *protection*, but government interventions to support selected industries against world market competition cover a lot more than import barriers at the border, especially these days, so the term and its coverage changed accordingly.¹¹

The ERA is a measure of *net* assistance to industries taking account of not only assistance to outputs but also assistance to (or taxes on) inputs. The ERA can be defined in various algebraic ways, but it is essentially equal to the proportion by which the returns to an industry’s ‘value-adding factors’ (land, labour and capital) change as a result of the protection of its output *and* inputs.¹² It is based on the principle that what counts in the measurement of protection is how a production activity — the process of converting inputs into outputs — is affected on balance by the assistance regime as a whole. Tariffs and subsidies on outputs help it whereas tariffs on its inputs hurt it. The ERA gives an indication of the net effect of the two. In principle, therefore, it allows judgments to be made about *relative* levels of assistance, something which ‘nominal’ rates of assistance (on outputs alone) cannot do.

Some History

The ERA has a much longer history than might be supposed from its tentative debut in the current Uruguay Round negotiations. The logic behind it has probably been known in an intuitive way since tariff-making began. Certainly it would at no time have escaped the notice of industrialists that their competitive ability could be affected in opposite ways by tariffs on outputs and inputs. This is verified by the very old practice by which some governments have provided 'duty drawbacks' for exporting industries — reimbursing them for the tariff component of imported inputs.

It is also demonstrated by the profile of practically all countries' tariffs, which tend to rise ('escalate') with the degree of processing in a production chain. In other words, the more 'finished' the product the higher the nominal tariff is likely to be, with the raw material having little or no tariff. For example, average post-Tokyo Round tariffs in the United States range from 0.2 per cent on raw materials, to 3 per cent on semi-manufactures and 5.7 per cent for finished manufactures; and the degree of escalation is very similar in the European Community and Japan.¹³ Harry Johnson, the Canadian economist, recalled in *Aspects of the Theory of Tariffs* how, in the Kennedy Round negotiations of 1964-67, the French proposed the 'harmonization' of tariffs in GATT member countries according to the following profile: 0 per cent for raw materials, 5 per cent for semi-manufactured products and 10 per cent for manufactures.¹⁴

The effective-rate concept was developed at least as early as 1905, but the first major empirical work was in 1955; and it was not until the mid-1960s that the concept was systematically incorporated into international trade theory, notably through the work of Johnson and the Australian economist W.M. Corden.¹⁵ By the early 1970s, an extensive literature on the theory and application of effective rates had emerged, but it contained some divergent viewpoints about the role and usefulness of the ERA.

In 1970, largely at the instigation of Johnson, the Graduate Institute of International Studies and the GATT Secretariat in Geneva co-sponsored a conference on 'Effective Tariff Protection' in the hope that it would 'resolve some of the issues of concern to the theorists and would also improve the usefulness of the theory as a tool for those responsible for trade policy problems'.¹⁶ The conference and the book which resulted from it did help resolve some issues, and there was increased utilization of the concept in individual countries, but it did not lead to any further association with the GATT. The Tokyo Round negotiations, which began a few years later, focussed exclusively on 'nominal' tariffs and, as separate questions, on non-tariff measures of different kinds. In GATT circles little more was heard of the ERA until the recent Australian initiative. To understand why this may have been so, we need to look more closely at the nature of the ERA, as well as the negotiating process itself.

What the ERA Tells Us

The ERA, unlike nominal tariffs or subsidies, indicates the extent to which different production activities are favoured (or discriminated against) by the national structure of public assistance as a whole. An important point, however, in view of the Uruguay Round interest, is that, by themselves, absolute values of the ERA convey very little information about assistance. It is the *dispersion* of ERAs within a country — the relative levels — that is informative. An ERA of 20 per cent for the motor car industry, for example, could represent high or low assistance, depending on what the numbers were for other industries. If the average were 5 per cent, then motor car producers could be said to be highly assisted; if the average were 50 per cent, they could not.

By the same token, whether an industry is assisted on balance by the assistance structure depends more on its position on the ERA scale than by its absolute rate. In general, industries with relatively low ERAs are penalized by the assistance regime, even if their ERAs are positive.¹⁷

In sum, the ERA's strength is in summarizing the differential incentives from the assistance structure — in mapping the bumps and dips in the 'playing field', to use a common analogy. (A 'level playing field' would imply that ERAs were equal throughout the economy.)

A question that has occupied many pages in academic journals, however, is whether the ERA can tell us more than this and, in particular, whether it can tell us the effect of the industry-assistance regime on the efficiency with which resources are used in an economy. The principal theoretical deficiencies of the ERA for this purpose are

- (a) it is what is known as a 'partial equilibrium' measure — it abstracts from supply and demand responses to assistance changes,
- (b) it assumes constant things, such as the proportions in which inputs are used in each production process, which need not remain constant and
- (c) it assumes that the protected domestic product is identical to the imported substitute, so that there is no scope for price differentiation between the two.¹⁸

The theoretical literature has demonstrated that, when these and other possibilities are allowed for, the ERA ranking, while still adequately summarizing the *incentives* from government intervention for resources to move into and out of particular activities, cannot unambiguously tell us the extent to which the pattern of industrial activity has actually been distorted from its most efficient configuration by the assistance regime. That requires an economy-wide framework which models the supply responses of individual industries to changes in prices and costs, as well as the extent to which cost increases can be passed on in higher product prices.¹⁹

Nevertheless, there is also evidence that in practice the ERA ranking will generally provide a useful approximate answer to these questions.²⁰ This is

especially so where there is a wide dispersion in ERAs; that is, large and small numbers for different industries. In general, the greater the disparities between effective rates (the bumpier the domestic playing field) the greater the misallocation of resources and costs of protection are likely to be.

A second question is whether ERAs can be computed in practice as the theory requires. This has also been a contentious issue. There are two main problems: non-tariff measures and the 'aggregation' problem.

Conceptually, an ERA could accommodate all forms of assistance, but in practice this requires that they be translated for computational purposes into nominal tariff or subsidy equivalents — that is, the tariff or subsidy which would grant the producer a level of assistance equivalent to that of the barrier in question. This can be tricky for quantitative restrictions on trade. Essentially, the task is to determine what fraction of observed domestic prices is attributable to the restriction on imports. In principle one should be able to do this by comparing actual domestic prices with the prices of imported goods at an equivalent stage of supply. In practice, the value of such 'price comparisons' depends on being able to identify imported goods that are highly substitutable with the local product. While this is generally feasible, it can be a time-consuming exercise, as it must be conducted at the level of individual commodities.²¹ Moreover, the price comparisons — and the calculated effective rates — will vary over time with exchange rates and domestic market conditions.²²

The second measurement problem arises from the need to aggregate. ERAs ideally should be calculated for each separate activity, but data limitations may require that calculations are made for an 'industry' encompassing several activities with different input mixes. An associated problem is how to weight the tariff averages that are needed to calculate ERAs — the weighting method chosen can significantly influence the ranking of ERAs.²³

Thus there is scope on the measurement side for quite different ERA estimates, depending on the methodology used. Professor Corden has made the following assessment of the measurement problems:

'In general, these difficulties entitle one to be highly skeptical of greatly aggregated figures or figures obtained quickly. More value can be placed on detailed calculations for particular cases, perhaps as part of industry studies, or on thorough, comprehensive calculations drawing on considerable resources. Furthermore, one should not place much emphasis on small variations or differences between calculated rates; there is always bound to be a rather large margin of error due to measurement error alone.'²⁴

It should nevertheless be said that most of these problems relate to assistance measurement in general and are not confined to the ERA.

THE EFFECTIVE RATE OF ASSISTANCE IN A NATIONAL CONTEXT

It should be clear from what has been said so far that the ERA's main application is to domestic policy making — making decisions about industry assistance in terms of its domestic effects. Armed with the ERA, a government can get a good idea of how various forms of industry assistance and taxation are on balance encouraging the development of different industries. They can determine how uneven they have made the 'playing field'.

As well as enhancing the technical ability of governments to devise policy strategies, the general availability of ERA information can improve the political environment in which they must operate. The ERA is a useful means of drawing to public attention a fundamental but not well-understood fact: that protection for one industry is a cost to another. An economy-wide ranking of effective protection helps to pinpoint which industries are likely to gain and to lose out of the structure of public assistance to industry. Those at the bottom — exporters and lightly assisted import-competing industries — can see how badly they are doing relative to others and thus potentially become a coalition in support of reform or at least not part of a coalition in support of protection.

Australian Experience

Some of these points can be made from Australia's experience with the measurement of public assistance. Australia's association with the concept of effective assistance began through the pioneering work of Professor Corden. This work and other considerations influenced the Tariff Board to undertake its own ERA estimation project in the mid-1960s.²⁵ In its annual reports, the Board described the ERA concept in some detail and established the following 'benchmarks' for its advice about levels of protection for manufacturing industries:

'In the case of areas of production which are found to have little prospect of operating with an effective rate below 50 per cent, the Board would not recommend protection sufficient to allow the industries concerned to compete for resources on the same terms as low cost industries. In the case of activities requiring an effective rate of protection exceeding 25 per cent, but not exceeding 50 per cent, the Board would be influenced by the likely effects on other industries and their prospects for more competitive production.'²⁶

This approach represented a radical departure from previous practice, which amounted to protection according to 'need' and placed no limit at all on the assistance which might be provided. The new approach was vigorously opposed by manufacturing lobby groups. While the benchmarks could be justifiably criticized as an arbitrary basis for policy, some groups were more concerned that they would focus attention on industries with relatively high protection —

industries which had been benefiting handsomely from general ignorance about what protection they were really receiving. In its 1969-70 annual report, the Board published data on effective rates for manufacturing, aggregated to some 30 industries, which revealed average effective rates ranging from 0 to 120 per cent. Public exposure of this information, and its monetary equivalents, had a dramatic effect on perceptions about protection in Australia. The Chairman of the Tariff Board at that time, G.A. Rattigan, put it thus:

'The 1966/67 annual report aroused strong opposition from manufacturers and their supporters within and outside the Government, but the report also stimulated intense public debate in the media. Information the Board published in the next few years about the effects of protection brought into the debate groups which had not previously been active in these issues. For example, it drew attention to the fact that the subsidy equivalent of the protection available for the manufacturing sector in 1967/68 was \$2700 million, which was 20 per cent higher than the total expenditure that year by all Australian governments — federal, state and local — on education, health, social security, welfare and defence. It also pointed out the effect excess protection enjoyed by some important industries had on the wage structure in Australia. As a consequence of this debate, the Government began to accept the Board's recommendations for reductions in high assistance (in conformity with its new approach) and also eventually agreed to a systematic review of all tariff protection.'²⁷

Subsequent developments in protection policy in Australia have by no means always been in a liberalizing direction, but average effective protection to manufacturing has declined from over 35 per cent in 1970 to 19 per cent at the end of 1987. When present phase-downs in protection are completed in the mid-1990s, effective assistance will have fallen further to around 13 per cent (with the nominal rate at 8 per cent).²⁸

It would be wrong to attribute these changes to any single cause. The ERA has been only one element in a continuous process of debate in Australia in which the Tariff Board and its successor the Industries Assistance Commission (IAC) have been crucial institutional focal points.²⁹ Nevertheless, the ERA has become an accepted technical measuring stick for assistance policy in Australia. For example, the IAC has recently drawn attention to the fact that by the mid-1990s, despite the present wide-ranging liberalization programme, the motor vehicle and textile, clothing and footwear industries will still be receiving effective assistance four to eight times above the average for manufacturing as a whole.³⁰ That information in itself should stimulate pressure for further reductions in the assistance received by these industries.

Over the years, the IAC has continuously updated its ERA estimates, increasing their coverage to new forms of assistance as well as to the agricultural and mining sectors.³¹ The resources devoted to this task currently comprise about half a dozen

officials. The methodology is not difficult to pick up and the 'number-crunching' is greatly facilitated by using standard software on personal computers.

Other Countries

While Australia has probably done more systematic ERA work over a longer period than most other countries, there are few countries which have not at some time had ERAs estimated. This includes developing countries as well as industrial countries. The first detailed estimates were made in Canada in the 1950s.³² This was followed throughout the 1960s by studies for a wide range of countries, including the United States, the United Kingdom, the European Community, Sweden, Japan, New Zealand, India, Pakistan and Tanzania.³³ In more recent years, however, nearly all the comprehensive ERA studies have been conducted in developing countries.

With a few exceptions, the ERA studies in industrial countries have been undertaken on a one-off basis by academics, separately from the policy-making process, whereas in developing countries, they have generally been done as an aid to policy reform, mainly in connection with World Bank 'structural adjustment loans'.³⁴ The World Bank has used this information both as a guide to the policy reforms needed to promote 'structural adjustment' (economic growth) and as a means of subsequently monitoring a client country's progress.

While the data bases in some developing countries are more limited than others, the range of countries for which this work has been done — encompassing all major regions and income levels — shows that this has not been an insurmountable problem. (For example, Ethiopia and North Yemen are among the most recent studies.) In most cases, the estimations have been carried out by World Bank staff, but many projects have been managed by consultants working with the governments of the countries concerned (for example, Sri Lanka, Zimbabwe and Indonesia).

A growing number of developing countries have been liberalizing their trade and industry policies in recent years. Without detailed knowledge of the experience of these countries, it is difficult to make judgments about the contribution of the ERA work to these reforms. A recent review of the Sri Lankan experience, however, concludes that its contribution has been greatest when it has been motivated by governmental concern to achieve reform, rather than as merely a condition for obtaining a World Bank loan.³⁵

THE ERA IN TRADE NEGOTIATIONS

The ERA, as a measure of the domestic resource-allocation incentives provided by the assistance structure within a country, has an obvious role to play for domestic policy makers. But what interest could it have for trade negotiators?

In multilateral trade negotiations such as the Uruguay Round, GATT members play out two connected roles: (i) they seek to reduce the trade barriers of other countries which are of importance to their own exporters ('access seekers') and (ii) they respond to the requests for access of other countries' negotiators ('concession givers').

Evaluating Foreign Concessions

In their role of access seekers, the ERA could have two important attractions to negotiating governments.

(a) It encompasses a range of protective/assistance measures beyond tariffs or simple quantitative restrictions. This is important, given the demonstrated capacity for governments to provide assistance in alternative ways and, in particular, to use subsidies and informal quantitative trade-restraint arrangements in place of the tariff. The ERA is not alone in doing this of course. There are various measures of nominal assistance which can include the same range of measures. One of these is the producer subsidy equivalent which, as already noted, has been the focus of attention in the negotiations on agriculture.

(b) A second attraction of the ERA, however, in which it is superior to the PSE and other nominal assistance measures, is that it gives a better indication of the true assistance accorded particular industries. This is because it takes into account not only the implicit subsidies to industries but also the implicit taxes imposed on them by assistance to industries supplying their inputs.³⁶

The usefulness to access seekers of ERA data in export markets is illustrated by the long-standing problem of tariff escalation in trade in tropical and other natural-resource products. Attempts of raw-material exporters to pursue any comparative advantage they might have in further processing have been frustrated by higher protection of the processed forms. This problem has been compounded by previous negotiations, in which 'concessions' on raw-material tariffs have only served to increase the protective bias against the processed products.³⁷ But this is very difficult to evaluate from nominal tariff information. (In the Uruguay Round negotiations, the European Community's offer on tropical products may well be repeating this phenomenon.³⁸)

Note that the extent of the escalation problem may tend to be under-estimated by the low nominal tariffs applying to the early stages of processing. But even a tariff of 5 per cent on low-processed commodities can provide very high effective protection because value added is generally a small fraction of the total price.

Evaluating Domestic Concessions

In their role of concession givers, the ERA should also have an important attraction to negotiating governments. The availability of ERA data and an

ERA-computing facility can inform governments of the real effect on relative assistance levels — and hence on the incentives to allocate resources in different industries — of giving particular concessions. It would thus help them to design a set of offers which is consistent with what each government really wants to do in its industry policy. At present the most common form of evaluation of concessions is a simple assessment of 'trade coverage'. This form of assessment conveys almost no information about the effect of a concession on those industries potentially affected and the information which it does convey is often misleading. It is quite likely that many such 'concessions' in the past have actually worsened resource allocation in the countries concerned.

The relevance of the ERA would be equally applicable to 'formula' cuts in protection. The domestic value of such approaches could be evaluated by the effect on disparities in effective rates. For example, the 'Swiss formula' used in the Tokyo Round negotiations was designed to reduce high tariffs more than low tariffs, thus reducing disparities and improving resource allocation.³⁹ In practice, most countries excluded 'sensitive' items from the formula cuts, raising the possibility of them actually widening assistance disparities as a result. Effective-rate analysis would help governments determine in advance whether or not that would occur.

It emerges that the ERA provides information which could help negotiating governments get a better understanding of the domestic effects of their own concessions and of the effects on net levels of public assistance in foreign markets (and hence on market access for their exporters) of other countries' concessions. The question is whether the ERA could play a more central role in the negotiations. The possible uses of the ERA in the negotiations proper are similar to that proposed for the PSE.⁴⁰ Two which have been mentioned are to use the ERA quite explicitly in concession-swapping or to use it as a device for monitoring the outcome of negotiations.

ERA as 'Negotiating Coin'

Exporters are concerned to get access commitments which will not be eroded by alternative forms of assistance to outputs or by increased assistance (reduced penalties) on inputs. The tariff and other nominal measures are deficient in this respect — they tell only part of the story. So the question is whether the ERA could provide a more meaningful focus for the exchange of concessions; that is, whether countries could swap concessions on ERAs instead of tariffs. For example, country A might undertake to reduce the ERA on motor vehicles by say 50 per cent over five years and country B might make a similar commitment in terms of the ERA on textiles.⁴¹

Under such an approach, each country could presumably choose the forms of assistance that it wished to reduce, as long as the overall objectives were met in the

appropriate period (like the 'zero 2000' option for PSEs originally proposed by the United States). This would require, however, the combining of instrument-specific negotiations into just one negotiating group on 'industry assistance', although there could be separate groups for manufacturing, agriculture or natural resources.

At a technical level, this approach would present some problems:

(a) As noted earlier, individual ERA values are not informative unless related to a scale of other domestic ERAs. Thus ERAs for particular industries are not internationally comparable — an international target for an industry ERA would make no economic sense.

(b) The ERA (like the PSE) is a 'construct', not a policy instrument in its own right (like the tariff or quota), and therefore cannot be *directly* manipulated by governments.

(c) Because of the wide range of measures on which the ERA is based — both on outputs and on inputs — changes for one industry or commodity will have ramifications for other areas, making it very difficult to meet ERA targets for many industries simultaneously.

(d) Moreover, where non-tariff measures are involved, the ERA can shift about through exchange-rate changes alone.

These characteristics mean that, to be practicable, any liberalization agreement based on the ERA would need to set approximate goals (such as a ceiling level or range to be reached in a certain period) and be very broad in its product coverage. This may not be attractive to 'access seekers' who have particular priorities in mind; and for 'concession givers' the objective should be to reduce the dispersion in effective rates, not just the average.

ERA as a 'Yardstick'

The Australian Government has proposed that the ERA be used, not as negotiating coin, but as a 'yardstick' for monitoring the effect of liberalization in the Uruguay Round negotiations on actual assistance outcomes. In other words, the ERA could provide a means of determining whether the agreed reductions in particular trade barriers were having the intended effect on overall protection levels.

It was observed earlier that the ERA has been used in Australia to monitor trends in protection levels since the late 1960s and has played a useful role in informing the community about whether things have been getting better or worse, as well as who is getting what. There is no technical reason preventing this from being done as part of an international commitment.

There may nevertheless be some resistance among GATT members to using the ERA in this way. The GATT is a contract. Negotiated agreements to reduce trade barriers are 'binding' and failure to comply, or reneging on previous agreements,

has consequences — principally retaliation. In this context, there may be reluctance to adopt a performance indicator that is broader than the particular measures on which a commitment is made in the negotiations.

From a GATT-legal perspective, trends in countries' ERAs would in any case be 'inadmissible evidence'. It would still be necessary to find out which particular measures have been implemented or changed in contravention of GATT commitments.

A more acceptable monitoring role for the ERA within the GATT may be in the recently agreed Trade Policy Review Mechanism, because of its more general informational function. The question of what the technical nuts and bolts of this mechanism are to be was not decided at the mid-term review. But it seems clear that if it is to go beyond the existing half-yearly Council reviews of protectionist developments — in terms of creating a general awareness of the effects of particular countries' policies — it will need to draw on some basic measurement techniques. At the very least, it will be necessary to translate existing barriers of various kinds into an aggregate nominal measure (such as nominal tariff equivalents); having gone that far, the computation of effective rates would not require much additional effort, for a greater informational reward.

Motivation Problem

The use of the ERA, or any other form of measurement of public assistance, in an international context is greatly independent on the 'goodwill' of the countries concerned. This article began by noting that one of the reasons for the lack of information on the 'new protectionism' is that some governments and protected industries have wanted it that way.

In GATT negotiations, participating countries have traditionally seen the gains from reciprocal reductions in trade barriers as coming from other countries' concessions, the 'costs' from their own concessions. (The very word 'concession' implies this.) Countries have therefore generally sought in negotiations to maximize foreigners' concessions while minimizing their own; meanwhile, in home capitals the pressure to grant protection has been met in other, less transparent ways.

In this game plan, governments would seem to lack the motivation to expose their policies to external scrutiny. The ERA is highly vulnerable in these circumstances, as there is considerable scope for governments to manipulate it if they so desire. This is especially so where non-tariff measures are involved, but it applies also to other aspects of the computation procedure. There is only so much that the GATT could do to 'police' this, short of the GATT Secretariat taking over the whole estimation process. But this would be a costly option and ultimately there would still be difficulties of access to necessary information if governments preferred to exclude it.⁴³

In an international context, another possible sticking-point in using aggregate measures of assistance is getting agreement on the range of measures to be included. This has already come up in the negotiations on agriculture. When conducted as a GATT exercise it is inevitable that 'protection' or 'assistance' will be defined in GATT terms, which raises the possibility that some measures which have trade and resource-allocation effects may be left out.

These problems do not arise when governments' motivation for measuring public assistance is a domestic one — as an aid to policy formulation or as part of a programme of reform of domestic distortions. In that case, what counts most is 'getting it right'.

CONCLUDING REMARKS

The concern within the GATT to find ways of identifying and quantifying the effects of trade barriers, particularly non-tariff measures, is well founded. The 'new protectionism' has been able to spread largely because of its lack of transparency. Non-tariff measures need to be brought into the light before something can be done about them.

As a technical device for increasing transparency, the ERA, despite some theoretical shortcomings, has a number of attractions. The effective-rate concept makes it possible to capture, in a single index, the effects on different industries of a wide range of assistance measures throughout the economy. It is more informative about relative assistance levels than nominal measures and, while falling short of economy-wide models in explanatory power, its resource requirements are relatively modest.

It should nevertheless be recognized that the efficacy of any tool for measuring protection depends on the context in which it is used. If the ERA and any other such analytical and expository techniques are to have an impact on policy outcomes, they will need to be complemented by institutional arrangements that ensure (i) their integrity, (ii) that the information they contain is communicated effectively to those affected and (iii) that the views of these groups can be brought to bear on the policy-making process.⁴³ The GATT, and the new Trade Policy Review Mechanism in particular, provides one set of institutional arrangements at the international level. Attention now needs to be given to domestic institutions, such as the Industries Assistance Commission in Australia, to promote transparency at the national level where policy is actually made.

1. This article draws on material distributed to participants in a course on 'Assistance Evaluation Methods' conducted at the Centre for International Economics, Canberra, in February 1989. Helpful comments on an earlier draft were received from Winton Bates, Malcolm Bosworth, Sandy Cuthbertson, Peter Gallagher, Herb Plunkett, Andy Stoeckel and David Vincent.

2. For a useful summary of our state of knowledge, or ignorance, see Bela and Carol Balassa, 'Industrial Protection in the Developed Countries', *The World Economy*, London, June 1984.

A number of studies are available which have measured changes in the proportion of trade affected by non-tariff measures. While these cannot tell us about changes in the restrictiveness of these barriers, they provide grounds for suspecting a deterioration. For example, a much-quoted source is Sheila A.B. Page, 'The Increased Use of Trade Controls by the Industrial Countries', *Intereconomics*, Hamburg, May-June 1980. That study found that the proportion of total trade by market economies that was 'controlled' rose from 40 per cent in 1974 to 46 per cent in 1979, with the share of manufactured trade rising from 13 to 21 per cent.

More recently, a study by Samuel Laird and Alexander Yeats, *Trends in Non-tariff Barriers of Developed Countries, 1966-86* (Washington: World Bank, 1988), has found that the share of the major developed countries' trade 'affected' by non-tariff measures has risen to 48 per cent, nearly double its level of twenty years before. A recent attempt to estimate changes in the protective effects of non-tariff measures in the United States can be found in Gary Clyde Hufbauer, Diane T. Berliner and Kimberly Ann Elliott, *Trade Protection in the United States: 31 Case Studies* (Washington: Institute for International Economics, 1985).

3. See Jan Tumlrir, *Protection: Trade Policy in Democratic Societies* (Washington: American Enterprise Institute, 1985).

4. Gerard and Victoria Curzon, *Hidden Barriers to International Trade*, Thames Essay No. 1 (London: Trade Policy Research Centre, 1970).

5. Since 1987 this has been published by the GATT Secretariat as *Review of Developments in the Trading System*. See Richard Blackhurst, 'Strengthening GATT Surveillance of Trade-related Policies', in Meinhard Hilf and Ernst-Ulrich Petersmann (eds), *The New GATT Round of Multilateral Trade Negotiations: Legal and Economic Problems* (Dordrecht: Kluwer, 1988).

6. When protection is provided to large labour-intensive industries, the gainers from protection's income-distribution effects can be a sizeable segment of the population in the short run. See, for example, J.D. Quiggan and A.B. Stoeckel, 'Protection, Income Distribution and the Rural Sector', *Economic Papers*, Melbourne, September 1982, and Kenneth W. Clements and Larry A. Sjaastad, *How Protection Taxes Exporters*, Thames Essay No. 39 (London: Trade Policy Research Centre, 1984).

In the long run, however, the efficiency losses engendered by protection will retard economic growth and make most people worse off than they would have been. In other words, there is a limit to the gains to be had from getting bigger slices of a shrinking economic cake.

On the economics of special interest groups, the seminal work is Mancur Olson, *The Logic of Collective Action* (Cambridge, Massachusetts: Harvard University Press, 1965). Also see his subsequent work, *The Rise and Decline of Nations* (New Haven: Yale University Press, 1982).

7. Frieder Roessler, 'The Scope, Limits and Function of the GATT Legal System', *The World Economy*, September 1985.

8. See Olivier Long *et al.*, *Public Scrutiny of Protection: Domestic Policy Transparency and Trade Liberalization*, Special Report No. 7 (Aldershot, Brookfield and Sydney: Gower, for the Trade Policy Research Centre, 1989). Following its publication in mimeograph form in late 1987, the report's proposals were taken up, on the initiative of New Zealand, in the Uruguay Round negotiating group on the 'functioning of the GATT system' (FOGS).

9. In the *communiqué* issued after the delayed conclusion, in April 1989, of the 'mid-term review' of the Uruguay Round negotiations, trade ministers agreed that '[t]his goal [of correcting and preventing distortions in world agricultural markets] will be realized through negotiations on specific policies and measures, through the negotiation of commitments on an aggregate measurement of support, the terms of which will be negotiated, or through a combination of these approaches' (emphasis added). On the PSE, see Stefan Tangermann, T.E. Josling and Scott Pearson, 'Multilateral Negotiations on Farm-support Levels', *The World Economy*, September 1987.

10. *Measuring the Impact of Protection* (Canberra: Australian Department of Foreign Affairs and Trade, 1988).

11. On the disappearing distinction between 'domestic' and 'trade' policies, see Blackhurst, 'The Twilight of Domestic Economic Policies', *The World Economy*, December 1981.

12. This is expressed algebraically as $ERA = (V^* - V)/V$, where V is value added under free trade and V^* is value added with protection. For any given nominal assistance, the ERA is greater the smaller the value added of a process; and for any given nominal assistance and value added, the ERA will also be greater the smaller is the tariff on material inputs.

For a detailed treatment, see W.M. Corden, *The Theory of Protection* (Oxford: Clarendon Press, 1971). A presentation for non-specialists can be found in *Using the Effective Rate of Assistance in Trade Negotiations* (Canberra: Australian Department of Foreign Affairs and Trade, 1988), which also contains a 'real life' worked example.

13. See *The Tokyo Round of Multilateral Trade Negotiations*, Report of the Director-General (Geneva: GATT Secretariat, 1980) Vol. II, p. 33.

14. Harry G. Johnson, *Aspects of the Theory of Tariffs* (London: Allen & Unwin, 1971) p. 308.

15. A more detailed history is contained in Corden, *The Theory of Protection*, *op. cit.*

16. Herbert G. Grubel and Johnson (eds), *Effective Tariff Protection* (Geneva: Graduate Institute of International Studies, 1971) p. v.

17. This is because the removal of protection to the tradeable-goods sector would lead to a reduction in the real exchange rate in order to restore balance-of-payments equilibrium. Thus the only industries which are truly assisted relative to the situation of zero protection all round are those with an ERA larger than the devaluation equivalent of the whole structure of public assistance. Professor Corden calls this the 'net' effective rate, while in Clements and Sjaastad, *op. cit.*, its equivalent in their model is referred to as 'true' protection.

18. The assumptions are spelt out in Corden, *The Theory of Protection*, *op. cit.*

19. For a comparison of partial-equilibrium and general-equilibrium approaches, see the article prepared at the Centre for International Economics, Canberra, entitled 'Just What is a Trade Subsidy?', *The Mining Review*, Australian Mining Industry Council, Canberra, August 1988.

20. See Michael Michaely, *The Theory of Commercial Policy* (Oxford: Philip Allan, 1977), and Corden, 'The Costs and Consequences of Protection', in Peter Kenen (ed.), *International Trade and Finance: Frontiers for Research* (Cambridge and New York: Cambridge University Press, 1975).

21. Where non-tariff measures take the form of import quotas administered locally, the tariff equivalent of the quotas can be more accurately determined by auctioning them to the highest bidders (tenderers). This method has been used in Australia since 1980. (It has the additional advantage that the quota 'rents' are appropriated by the government rather than the importers.) There has been some debate in the United States about replacing 'voluntary' export-restraint arrangements with auctioned quotas. The obvious political disadvantage in that case is that the covertness of these measures would be destroyed (that is, they would change from being 'grey area' to simply illegal measures). On the various approaches to estimating the tariff equivalent of quantitative restrictions, see *Assistance to Manufacturing Industries, 1977-78 to 1982-83* (Canberra: Australian Government Publishing Service, for the Industries Assistance Commission, 1985).

22. For example, a currency depreciation will increase the price of imports, reducing the tariff equivalent of a given quantitative restriction on imports. It has been estimated that the decline in the average effective rate of assistance to manufacturing in Australia from 22 per cent in 1984-85 to 19 per cent in 1986-87 was due to reductions in measured assistance to quota-protected industries as a consequence of the depreciation of the Australian dollar. See *Annual Report, 1986-87* (Canberra: Industries Assistance Commission, 1987).

23. See Tumlir and Ladislav Till, 'Tariff Averaging in International Comparisons', in Grubel and Johnson (eds), *op. cit.*

24. Corden, 'The Costs and Consequences of Protection', *op. cit.*, p. 62.

25. See G.A. Rattigan, *Industry Assistance: the Inside Story* (Melbourne: Melbourne University Press, 1986).

26. *Annual Report for 1967-68* (Canberra: Australian Tariff Board, 1968) p. 6.

27. Rattigan, *Domestic Transparency Procedures*, Report Commissioned by the UNCTAD Secretariat, UNCTAD/MD/MISC.23 (Geneva: UNCTAD Secretariat, 1988) p. 10.

28. *Annual Report, 1987-88* (Canberra: Industries Assistance Commission, 1988).

29. See Rattigan, *Industry Assistance: the Inside Story*, *op. cit.*, and *Domestic Transparency Procedures*, *op. cit.*, as well as Rattigan, W.B. Carmichael and Gary Banks, *Domestic Transparency and the GATT Trading System* (Aldershot, Brookfield and Sydney: Gower, for the Trade Policy Research Centre, forthcoming).

30. *Annual Report, 1987-88*, Industries Assistance Commission, *op. cit.*, p. 8.

31. See *Assistance to Agricultural and Manufacturing Industries* (Canberra: Australian Government Publishing Service, for the Industries Assistance Commission, 1987) and *Assistance to Mining: Some Issues and Preliminary Analysis* (Canberra: Australian Government Publishing Service, for the Industries Assistance Commission, 1988).

32. C.L. Barber, 'Canadian Tariff Policy', *Canadian Journal of Economics and Political Science*, Waterloo, Ontario, November 1955.

33. Bela Balassa, of Johns Hopkins University, also played a significant role in many of the early studies. In particular, see Balassa, 'Tariff Protection in Industrial Countries: an Evaluation', *Journal of Political Economy*, Chicago, December 1965, and Balassa, *The Structure of Protection in Developing Countries* (Baltimore: Johns Hopkins Press, 1971).

34. See Ernest Stern, 'World Bank Financing and Structural Adjustment', in John Williamson (ed.), *IMF Conditionality* (Washington: Institute for International Economics, 1983) ch. 5.

35. A.G. Cuthbertson, *The Role, Guidelines and Objectives of a Tariff Commission: the Sri Lankan Experience* (Canberra: Centre for International Economics, 1987).

36. It is not generally recognized that an agreement to reduce or eliminate PSEs in agriculture would, in the absence of equivalent liberalization in manufacturing, tend to worsen resource allocation in countries like Australia where agriculture is relatively lightly assisted. See Stoeckel and Cuthbertson, *Successful Strategies for Australian Trade* (Canberra: Centre for International Economics, 1987).

37. See, for example, Belassa, 'The Structure of Protection in Industrial Countries and its Effects on the Exports of Processed Goods from Developing Countries', in *The Kennedy Round: Estimated Effects on Tariff Barriers* (Geneva: UNCTAD Secretariat, 1968); Alan V. Deardorff and Robert M. Stern, *The Effects of the Tokyo Round on the Structure of Protection* (Cambridge, Massachusetts: National Bureau of Economic Research, 1982); and Vincent Cable, 'Tropical Products', in J. Michael Finger and Andrzej Olechowski (eds), *The Uruguay Round: a Handbook on the Multilateral Trade Negotiations* (Washington: World Bank, 1987).

38. Nam Duck-Woo *et al.*, *When the Going Gets Tough: Need for Greater Progress in the Uruguay Round*, Special Report No. 8 (Aldershot, Brookfield and Sydney: Gower, for the Trade Policy Research Centre, 1989).

39. See *The Tokyo Round of Multilateral Trade Negotiations*, *op. cit.*

40. See Tangermann *et al.*, *op. cit.*

41. Grubel, 'Effective Protection: a Non-specialist Guide to the Theory, Policy Implications and Controversies', in Grubel and Johnson (eds), *op. cit.*, p. 4.

42. See Banks, 'Trade Policy Surveillance: International and Domestic', in Hugh Corbet and Vishnu Persaud (eds), *The Commonwealth and the Uruguay Round Negotiations* (London: Macmillan, for the Trade Policy Research Centre, forthcoming), papers presented at a seminar convened by the Commonwealth Secretariat and the Trade Policy Research Centre at Lancaster House, London, in July 1988.

43. Long *et al.*, *op. cit.*



'The bane of political economy has been the haste of its students to possess themselves of a complete and symmetrical system, solving all the problems before it with mathematical certainty and exactness. The very attempt shows an entire misconception of the nature of those problems and of the means available for their solution'

— T.E. Cliffe Leslie, *Essays in Political and Moral Philosophy* (1879)