

1 Introduction

Whatever the outcome of the Uruguay Round, the future of agricultural policy reform after 1993 will continue to reflect a mixture of internal or domestic and external, trade related pressures and will continue to be driven by politics rather than economics. Although the Uruguay Round is not yet concluded, or pronounced dead, the scope of the agreement (or agreement to differ) is now reasonably clear. In either case, there will remain considerable trading pressure for the continued reform of domestic policies on both sides of the Atlantic (not to mention the Pacific). Arguably, the pressure will be the more intense in the event of collapse of the Uruguay Round, though with the possibility that responses will be more insular and protective, and thus destructive of the world market, at least in the short run. But, as far as the EC is concerned, other pressures, especially those from the enlargement of the Community to include elements of the CIS and other Eastern and mid European States, could potentially press for reform along more libertarian lines.

On the basis of previous experience, the driving pressures for reform will continue to be domestic budgetary costs and farm income preservation, increasingly tinged with environmental considerations and with trade consequences of domestic policy. On both sides of the Atlantic, it is arguable that these pressures have simply been expressed in the Uruguay Round, rather than the design and existence of the Round having had a substantive effect on domestic policy. Under this argument, the EC, for instance, would be hypothesised to have undertaken the MacSharry reforms in any event, regardless of the existence of the GATT negotiations, as has been argued in the past by the Commission. In fact, at the beginning of the negotiations over the MacSharry proposals, the Council and the Commission strongly denied any direct link with the GATT round, and maintained that internal reforms needed to precede any GATT agreement. Indeed, the Commission (1991), based its reform proposals on the following conclusions:¹

- " - existing price guarantees, through their direct link to production, lead to growing output;
- this extra output could be accommodated only by adding to intervention stocks, already at excessive levels, or by exports to already oversupplied world markets;
- the in-built incentive to greater intensity and further production, provided by present mechanisms, puts the environment at increasing risk;
- rapidly rising budgetary expenditure, devoted in large part to a small minority of farms, provides no solution to the problems of farm incomes generally."

Later, however, the Ministers were reported as arguing that completion of the agreements on CAP reforms would have to await a GATT agreement, suggesting the reverse connection between the two negotiations.² It is difficult, and not of much more than intellectual interest, to distinguish between genuine linkages and connections and bargaining tactics in these reports.

A more fruitful approach is to consider the political economy of the agricultural reform process (as developed, for instance, by Rausser and Irwin, 1989). According to this argument, the principal advantage of multilateral agreement on agricultural policies is to resolve the prisoners' dilemma associated with the net benefits of unilateral liberalisation compared with those of either multilateral liberalisation or continued isolated protection in the face of other states liberalised policies. A binding external agreement on the scope and level of policies is one (perhaps the only) way of resolving this dilemma, and forms a strong reason for countries to commit themselves to such negotiations. This will remain a strong reason for continued multilateral negotiations over agriculture whatever the outcome of the present round. However, as Rausser and Irwin point out, such external pressure, even if ultimately producing binding constraints on domestic policy behaviour, is not sufficient to produce liberalising reforms in the absence of domestic policy and policy process changes. The key internal changes identified by Rausser and Irwin are: i) transparency and greater information on the costs of policies; ii) at least partial compensation for the losers from policy change; iii) restructuring of institutions to ensure maintenance of reforms once in place.

Furthermore, it is inconsistent with both the logic of political economy and with past experience to expect the overall framework for agricultural policy reform to be set in the multilateral negotiation arena. Rather, the direction and strategy of reform will be set through the domestic

internal policy process, which can be seen as responding to international or external pressures among a variety of others. Although the existence of the GATT round could have been used by domestic politicians as a device to 'shift the blame' for unpopular domestic policy change, thus providing multilateral negotiations with an apparent driving force for domestic policy change, there is little evidence that this has occurred to any marked extent among the developed countries participating in the present round. Such an argument merely allows desirable domestic policy reform to be undertaken at lower cost, rather than providing the external pressures with increased valency. Similarly, the depressive effects of strongly supportive policies on world prices eventually return external effects of such policies to the internal (domestic) agenda, via the budgetary implications.

Thus, it is argued that policy reform after the Uruguay Round will continue to be driven, as it has been in the past, by internal or domestic pressures, and that the continuation of multilateral negotiations on agricultural trade reform will have to take appropriate account of these internal pressures and the policies which they produce. According to this argument, the incorporation (not to say leading role) of agriculture in the Uruguay Round was due to the realisation by two principal trading partners (the US and EC) that their own domestic agricultural policies were politically unsustainable at home, and that reform could be potentially cheaper or easier through the assistance of multilateral negotiations than without. In that sense, multilateral considerations must always take second place to internal pressures, though may either constrain or assist the domestic policy reform process. This chapter will therefore consider the internal policy process and then return to the implications for the future of GATT (or other) multilateral negotiations within the context of these internal pressures. Particular attention will be paid to the MacSharry reforms of the CAP, which seem on the surface to be more radical than any of the more evolutionary reforms in the US, and more directly associated with the GATT talks. The Rausser/Irwin framework is adopted for this analysis, since it provides a recent and concise (though not rigorous) outline of the political economy considerations relevant to the present discussion.

2. Internal Policy Processes

2.1 Transparency and information

It seems obvious that clarification of the winners and losers from policy can be expected to assist in policy reform, while transparency of transfers (of either PERT or PEST nature)⁴ is also expected to make political debate and judgements about them more socially rational. Hence, transfers which are made solely at the expense of the exchequer, rather than at the (partial) expense of the consumer, and those which occur as identifiable transfers rather than concealed within distorted market prices are held to be more socially controllable. The major reasons for these assertions are that information and transactions cost are reduced and that free-rider problems associated with group (political) action are minimised. The latter are more easily overcome if the transfer is identified with the specific line-item in a government's budget, hence overseen by both the exchequer and competing spending departments' interests. Hence deficiency payments, commonly regarded as more efficient than the equivalent market price distortion through, for example, import levies (Josling, 1969; Gardner, 1983), are also more likely to be effectively policed through the political system.

This argument, however, ignores the importance in practice of political constituencies understanding and valuation of information. For instance, economic cost calculations of farm policies have been prolific in the European Community for some time, but have not been noticeably important in triggering policy change. This fact would be expected from political economy analysis, since this information does little to resolve the disparity between the per head/household consumer gains and producer losses and hence the political power and resources devoted to change versus maintenance of the status quo by these opposed interest groups. More plausibly, the change in the characteristics of the supported industry and the changing social importance attached to non-productive elements of it by society at large appear to have been major forces in promoting reform of the CAP. Persistent surpluses in a 'world' of plenty and

environmental damage attributed to modern intensive systems have become more important through the 1980s, while at least for some, the mal-distribution of benefits among the farming population has also grown in importance as a cause for concern and reason for change. These pressures are explicitly recognised in the European Commission document on reform of the CAP, quoted above (European Commission, 1991).

2.2 Compensation

To the extent that policy change involves significant redistribution of income and wealth, some form of compensation of the losers by the gainers is required. There are two major reasons for this compensation. First, the traditional welfare theory, based on the Pareto Criterion, can only be employed to demonstrate a *theoretical* improvement in welfare if there is net welfare gain. Without specifying the form and mechanisms for compensation, the policy change can only be recommended as providing the *potential* for welfare improvement. Actual welfare improvement, according to the Pareto Criterion, requires compensation to be carried out. Otherwise the policy change will involve losers and a value judgement is required in order to pronounce the change beneficial. Once a mechanism for the provision of compensation is suggested, this mechanism becomes a new policy, and the welfare implications of the policy change should now involve a comparison of the existing policy and the new (compensation) policy. The second reason is the political imperative. Political acceptance of possible policy alternatives requires that the losses resulting from the policy change be minimised, which implies some form of compensation. As Rausser and Irwin argue "reform proposals need to facilitate adjustment and to consider compensating those disadvantaged by the removal of domestic programmes in order to neutralise their resistance to change" (p360).

The first of these reasons argues for full compensation. However, there are a number of arguments for no compensation at all, including an apparently powerful one that it is not necessary to single out policy changes from the numerous other socio-economic changes for compensation. The second, political, reason for compensation treats it as a necessary cost of change, and as a cost, to be minimised to that level just sufficient to allow the change to be made. Thus change becomes likely as and when the necessary costs of compensation fall below the potential benefits of the change. Once agreed, however, compensation packages carry their own dangers, especially of *moral hazard* - that the likelihood of compensation encourages both opposition to change and disproportionate claims for damage resulting from the proposed change - and *compensation (or rent) seeking*, by farmers anticipating compensation associated with existing resource allocation and seeking to increase this allocation (and thus associated compensation) prior to the policy change. It is not difficult, therefore, for compensation packages originally designed as PERTs to become PESTs through the operation of political-economic markets. Compensation for policy change has certainly been a feature of the present CAP reforms, with considerable attention being paid both to the levels and the consequences, as will be discussed below.

2.3 Institutional change

Typically, institutional changes or requirements have been ignored in conventional economic welfare analysis, but they are of potentially critical importance. Rausser and Irwin argue that some institutional change is a pre-requisite for policy reform, in the sense that it is through such change that previously ineffective opposition to current policies becomes articulate and effective, while institutional defence of present policies also needs undermining. While this is a plausible argument, it is difficult to identify critical institutional changes which have led to the present CAP reforms. However, four potential candidates can be suggested. First, in contrast to the arguments at the beginning of this chapter, the existence of the Uruguay Round of negotiations as an institution obliged the Council of Ministers to respond to offers and proposals for support reduction and policy reform, and hence to consider alternative systems of support (or compensation). Second, the emergence of the Single European Act and, more recently, the moves towards economic and political union (the Maastricht Treaty), have obliged the

Community to review existing policies. Third, the incorporation of Finance Ministers into the ratification of annual farm price-setting agreements in 1988 should have led to increased pressure on limiting budget spending under the policy, though the direction of the present reforms is in direct opposition to this pressure. Fourth, the unification of Germany, and associated incorporation of a large scale and potentially productive agriculture sector, and the potential entry of a number of other Eastern (Central) European countries to the Community, forced re-consideration of the political-economic sustainability of a protectionist agricultural policy.

With the exception of the GATT negotiations, none of these changes have been explicitly recognised in the official reports from the Commission. However, it seems likely that all have played some part in the reform process, with the last (Eastern European expansion) being particularly important. Such an expansion presents a greater potential difficulty for the CAP system than either the domestic or international pressures. The inclusion of one actual major exporter (Hungary, which exports one third of its agricultural production) and several potential agricultural exporters cannot be contemplated within the old structure of the CAP. To deny Eastern Europeans the chance to exploit their potential comparative advantages in food production would be to deny them the chance to let the market system work. Yet inclusion of these countries within the old CAP system would have done just that, since the cost of disposing of surpluses under the CAP would be out of the question. The design and implementation of a different system of support for a wider European agriculture thus becomes an increasingly pressing imperative, yet one which has received very little overt attention from Europe's policy makers.

2.4 MacSharry reforms

In the light of the above, what can be said about these reforms? The progress of the reform package is outlined for the major commodities in Table 1, which shows the principal changes in prices, compensation and supply control measures between the first (leaked) draft proposal in January, 1991 through the formal proposals of July, 1991 to the eventual agreement in May, 1992. The draft proposal contained substantial price reductions, especially in cereals, with the intervention price set to reflect a Commission view of an expected free trade world price (European Commission, 1991, p 9). Coupled with these price reductions were proposals for compensation which were heavily 'modulated' in favour of smaller and also more extensive producers. The supply control measures for milk were retained (and tightened) and also introduced for cereals. Given that the cereals intervention price had been reduced to the expected free-trade world price level, it is difficult to follow the logic of adding a set-aside component. Presumably the supply control element represented some uncertainty about the power of market prices to resolve structural market imbalances and also provided a potential bargaining counter in the 'stabilisation' of world markets (to use the Commission's term). However, neither of these possible justifications are mentioned in official reports from the Commission, although the "reflections" paper (European Commission, 1991a, p7) does express serious concern about the Community's cereal imbalance.

The leaked proposals of the Commission raised a storm of protest, and the subsequent release of the official "Reflections" document omitted mention of specific levels of support or details of compensation, although the principles of substantial support price reductions coupled with heavily modulated compensation were stoutly defended. In the event, however, the power of the commercial sector of the industry (strongly supported by the UK) succeeded in reducing the extent of modulation substantially in the final proposal of July, 1991, with some increase in the proposed levels of compensation, especially in beef, at a potentially substantial increase in exchequer cost of the reform. Throughout the negotiations over this proposal, the commercial sectors of the industry, representing mainly larger scale producers, continued to object to the remaining and substantial elements of modulation, particularly with respect to the combinable crops set-aside provision, and beef and sheep premia, while the traditional agricultural lobbies, representing mainly smaller scale farmers, protested the depth of the price cuts and quota reductions for milk.

Table 1: Progress of MacSharry Reform Proposals, EC.

COM'TY	Measure:	DRAFT PROPOSAL JANUARY, 91	FINAL PROPOSAL JULY, 91	AGREEMENT MAY, 92
Cereals:	Target Price	100ecu/t	100ecu/t	110ecu/t
	Intervention Price	90ecu.t (from 155ecu/t)	90ecu/t	100ecu/t
	Threshold Price	ns	110ecu/t	155ecu/t
	Co-responsibility	abolished	abolished	abolished
	Set-Aside	30ha: 0; 31 - 80ha: 25% >80ha: 35% (rotational)	20ha: 0; > 20ha: 15% (rotational)	20ha: 0; > 20ha: 15% (non-rotational allowed at higher rate; + regional base)
	C'sation Payments: For Price reductions:	30ha: full; 31 - 80ha: -25% >80ha: -35%	full	full
	For Set-aside:	none	50ha: full; >50ha: none	full
Oilseeds & Protein Crops		as for cereals	as for cereals	as for cereals
Milk	Quota:	cut by 4.5 to 5% (with 'extensive' modulation)	cut by 5% (inc. 91/2 price agreement cut of 2%)	cuts to be determined later
	Prices: Target: Butter SMP	reduced by 10% reduced by 15% reduced by 5%	reduced by 10% reduced by 15% reduced by 5%	none reduced by 5% none
	Compensation Payments	15 cows (1LU/ha) 45 ecu/cow	Quota: 100ecu/kg over 10 years as a bond Price: 75ecu/cow, 40cows s.t. stocking rates	none
	Co-responsibility	abolished	abolished	retained
Beef	Intervention Price:	reduced by 15% with safety net	reduced by 15%	reduced by 15% with safety net
	Compensation: male beef premium:	raised by 80ecu/hd. limited to 1LU/ha, 90 LUs	raised by 140ecu/hd. limited to 1LU/ha, 90 LUs	raised by 140ecu/hd. 2LUs/ha.; 90 LUs?
	suckler cow premium:	no change in rate; limited to 1LU/ha, 90 LUs	raised by 35 ecu/hd. limited to 1LU/ha, 90 LUs	raised by 80ecu/hd. 2LUs/ha; no headage limit
	special premia:	none	none	i) early season slaughter ii) Extensive (1.4LU/ha) 60ecu, 30ecu/hd respectively
Sheep	Ewe Premium:	350 hd. (750 in LFAs)	350 hd. (750 in LFAs)	500hd. (1000hd. in LFAs) 50% premia payable over these limits.

Notes: The Draft proposal, January, 1991, was not officially released but was reported, inter alia, in *Agra Europe*, January 18th, 1991.

The Final Proposal: European Commission: Development & Future of the CAP COM (91) 258 Final, 22.7.91, a follow up to the Reflections Paper (COM(91) 100, 1.2.91, which contained no specific proposals for levels of support, rather concentrated on the framework for reform.

The Agreement was reported in *Agra Europe*, 22.5.92, followed by various regulations in the EC Official Journal (eg cereals - OJ No. L 181/ p12 - 39, 1.7.92). Only full post-transitional changes are recorded here.

The final outcome reflects these pressures on the Commission. The milk regime has been left largely untouched, while the cereals price reductions have been reduced and compensation increased, with the set-aside provisions stripped of their major modulation, especially as far as

compensation for set-aside area is concerned. Similarly, the upper limits on premia entitlement for beef and sheep producers have been relaxed markedly from the original proposal (especially pleasing to the UK) and the special interests of Ireland have been catered for in the special premia for beef. The addition of a ewe premium at half the full rate for flocks greater than the (increased) upper limits makes the very existence of these limits somewhat suspect. The general principles of the Commission's reform package have been retained. It remains a radical reform, but only just. The exchequer cost of the package has been increased substantially from the original proposal, both through the increased levels and broader entitlements of compensation and through less substantial cuts in support prices. It is this fact which promises most pressure for continued reform of the policy in the future, at least from an internal perspective.

For some time the reform of the CAP has been poised between a direction of increased supply control and isolation from world markets and the alternative of world prices and de-coupled support. The introduction of milk quotas in 1984 was a clear step in the former direction, reflecting the power of the vested producer interests against those more dispersed interests of the consumers. The 1988 'stabiliser' package signalled an attempt, albeit modest, to introduce more explicit price pressure, related to over-production though not explicitly to world prices. The MacSharry reforms can still be interpreted, in spite of the substantial weakening since the original proposals, as a significant move towards world prices and de-coupled support. However, as the budgetary pressure entailed in the present reform package begins to bite, it remains an open question as to whether this rather radical policy direction can be sustained.

There is substantial scope within the present reformed system for the PERTs of the compensation package to become PESTs. Elements of moral hazard are already evident in the progress of the reform negotiations, with compensation amounts and eligibilities consistently increased from the original proposals. The current package seems prone to compensation-seeking. The major questions are i) the extent to which paper re-definitions of farms, flocks and herds can be tailored to allow a greater proportion of the industry to qualify for compensation payments; ii) the extent to which current (and future) production decisions can influence the compensation payments per farm.

Since the full legal texts for the regulations are not presently available, it is difficult to make a judgement on these issues. However, some comment is possible on the combinable arable crops legislation.⁴ Since this legislation incorporates a simplified scheme for "small" producers (those with an average of less than 20 hectares of combinable crops), which excludes them from the set-aside provisions, it is to be expected that there will be some producers able to convince the authorities that their farms were really two or more separate units (under control of wives or other relations and partners) during the base period, thus converting existing holdings to the "small" category and avoiding the set-aside restrictions - an example of compensation seeking under the first count above. Similar arguments are also possible with respect to the headage limits for beef and sheep producers. However, this is a once-and-for-all slippage in the compensation arrangements. More important is the extent to which the compensation payments depend on current production decisions, and thus encourage further production.

The regulations are such that producer compensation for both the price reductions and for the set-aside is clearly to be based on historical areas of crops (between 1989 and 1991) and historical yields (between 1986/7 and 1990/91, excluding the highest and lowest). The compensation is then to be set as the fixed compensation per tonne (45ecu from 1995/96 onwards) times the average yield figure for the region times the eligible historic area, *providing that the producer sows the area*. Thus, while eligibility for and computation of compensation payments per hectare appear to be divorced from current production decisions, entitlement to payment requires current sowings. Article 15 of the regulation makes further provision for altering payments and set-aside areas "in the light of developments in production, productivity and the markets", which opens the door for future changes which may well depend on current production levels, albeit in an uncertain and, for the individual producer, an indirect fashion.

So long as the Community remains a net-exporter, so that the floor in the domestic price is determined by the intervention price (100ecu/tonne less any buying-in discount), there is every incentive for producers to participate in the voluntary scheme, setting aside 15% of their arable

area in order to receive compensation payments on all of this set-aside area plus the compensation payments on their current sown area. Only if production falls sufficiently to place the Community on a net-import basis (with a domestic market floor price then rising to the threshold level of 155ecu/tonne) does this logic collapse. Since entitlement to compensation depends on the current sown area, it is to be expected that this decision, at least, will depend on the market price *plus* the compensation payment, and thus will not be decoupled from production (area planted) decisions. However, the historic areas define the eligible areas for both compensation and set-aside, so planted areas should be subject to this upper limit. The sowing condition thus ensures that the historic area will continue to be used for arable purposes, while the dependence of the compensation system on historic arable areas encourages maximum allocation of historic areas to the arable classification.

Variable inputs applied at and post sowing should be applied in response solely to market prices (the intervention price), since compensation is based on historic rather than current yields. However, there is a possibility that eligibility conditions will be changed (updated) in the future. Thus current areas and yields may influence entitlements in the future. This re-enforces the incentive to plant the full entitlement area (or risk allocation of a smaller area in the future). But the logic argues against individual farmers maximising yield on their 'permitted' area, since the present yield (and thus likely future) calculations for compensation use average yields, both over time and across farms (regions). Thus, economic logic points to the reduction of variable inputs on the sown area to the point where the marginal benefit of inputs is just greater than the market price.

Since producers are obliged to sow their permitted crop area (historic area minus set-aside) in order to qualify for full compensation payments, the compensation payments are clearly not fully 'de-coupled'. However, the compensation for cereals, protein crops and oilseeds combined is clearly limited in total to historic production levels (areas times average yields) and is fixed in total amount (according to the pre-set compensation figures per tonne). In that sense the compensation is limited and independent of current production decisions, though with no incentive to reduce planted areas. Similarly, it seems that there is no incentive for most producers to reduce their herds and flocks of beef and sheep, since compensation depends on the existence of these animals up to the herd and flock limits and stocking rate densities, though the reformed package does remove the incentives to expand herds and flocks above these limits unless warranted by market prices, which remain supported though at reduced levels. As reported in *Agra Europe*, the Commission is committed to obtaining 'green box' status for these reformed subsidies. The new compensatory payments are seen as an "integral part of the CAP", compensatory aids "cannot fulfil that essential role unless they are free from any disciplines associated with the reduction of internal support agreed as part of multilateral trade negotiations" .. hence the EC will "continue to press in the course of negotiations on the Uruguay Round for their inclusion in a special category of the green box, i.e. aids not subject to reduction."⁵

Pressure in the future for modification of these measures seems likely to come from three major sources: i) budgetary limits on agricultural spending; ii) potential expansion of the present European Community to include mid and eastern european states with major (actual or potential) agricultural industries; iii) the GATT or successor multilateral negotiations. One projection of the budgetary cost of the reform agreement⁶ is that the present ceiling on agricultural spending (set in the 1988 round of price-fixing) will be breached within four years. However, this projected overshoot of the present guideline is relatively modest and limited. History suggests that a mild overshoot will lead to changes in the budgetary guideline rather than the policy. However, there is an unanswered question about the extent to which the taxpayers of Europe, and their representatives in the national exchequers, are willing to continue paying farmers to do nothing, as is implied in the compensation payments for the set-aside part of the present package. Aside from this point, current budgetary projections suggest that future budgetary pressure will be modest, so long as remaining export refunds can be contained, and consequently that further reform from this quarter will be limited. The reform package does contain substantial elements which should limit budgetary spending in the future, through more or less fixed compensation payments to farmers for cereals, oilseeds, protein crops, beef and sheep (even if still rather high

by some standards), while the milk regime remains 'capped' with quotas, although again left at a level which will continue to produce structural surpluses. Budget exposure is now limited, both through the prospect of a substantially lower export refunds on cereals and through limited surplus disposal costs for milk, though costs of support for mediterranean crops remain relatively open-ended.

Expansion of the CAP to include mid and eastern European states, either on a full membership basis or, more likely in the medium term, a free-trading basis, is likely to put the remaining export refund and surplus disposal elements of the budget under further pressure, while extension of the compensation/support measures to these states would clearly give rise to substantial budgetary costs, with even less political logic or constituency support. As far as common trading prices are concerned, there is little doubt in logic that the only sustainable set of prices for such trade are those determined in a free interplay of supply and demand conditions on a genuinely world-wide market. Much has been written about the agricultural potential of these newly liberalising states, with the prospect that the bloc could become a major exporter (at least for cereals) in the medium term.⁷ An obvious market for at least some of this potential export surplus would be in Western Europe, as was traditionally the destination of important European grain exports prior to the 'great socialist experiment'. It seems politically inconceivable that the West European market could remain protected against the agricultural production potential of Eastern Europe, regardless of the formal economic and political links between the present European Community and the liberalising states. The conclusion is that this Eastern European pressure will ensure that EC markets become progressively more liberalised, at least within an enlarged European bloc, whatever the outcome of the present GATT round and any of its successors. It is to this final pressure on policy reform, and to the obverse - the implications for future multilateral negotiations - that the next section turns.

III. Implications for Multilateral Negotiations

III.1 Identification and Measurement problems

Multilateral agricultural policy "disarmament" under the GATT potentially allows countries to achieve domestic policy goals more effectively by offering the prospect of improving world market prices. Because the GATT is the legal code governing international trade relationships, it does not have authority over domestic policies other than through their trade distorting effects. The achievable objective of multilateral negotiations is, therefore, to minimize trade distortions, not necessarily to eliminate protection or domestic income support. Indeed, this objective has been central to the repeated declarations of intent from the GATT participants, that *trade-distorting* agricultural support be substantially reduced, if not eliminated. It is now recognised that domestic support of agriculture must be allowed to continue within this constraint, given national desires so to do.

This objective, however, raises a serious issue for agricultural policy and trade analysts. Conventional analysis provides measures of protection, either nominal or effective, and of agricultural support, traditionally through measures of producers' surplus gain and more recently, and arguably, through the Producers' Subsidy Equivalent (PSE). But the literature does not identify trade distortion specifically. There is a question of whether the concepts of agricultural protection and agricultural support are interchangeable and of the relationships between them. The question is clearly important. Much of the debate within the GATT negotiations has been concerned with the appropriate definition and possible use of an Aggregate Measure of Support (AMS).

Josling (1973, 1975) refined and extended the nominal rate of protection (NRP) concept in developing PSEs for the FAO. The OECD have applied and modified the concept further under the Trade Mandate Study, and this has now become popular as a potential aggregate measure for negotiation under GATT. However, inasmuch as PSEs and NRPs are similar, neither are unambiguous measures of protection or distortion.⁸ In part, this fact has promoted the search for aggregate measures of protection other than the PSE. In addition, the need to separate protection from trade distortion has also implicitly encouraged the development of alternative aggregate

measures for GATT purposes. These include the Effective Rate of Assistance (ERA) and Price Adjustment Gap (PAG) by Australia, the Trade Distortion Equivalent (TDE) by Canada, and the Support Measurement Unit (SMU) by the European Community.

As a result, there is an ongoing debate about whether an aggregate measure is useful for the negotiating process, and if so, what an appropriate aggregate measure might be and what role it should play.⁹ This debate cannot ignore the differences between support, protection and distortion. If an aggregate measure has any role in the negotiations, it would seem necessary that it focus on trade distortion. Traditional conceptual analyses fail to recognize that equivalent levels of protection involving different policy instruments, economic supply/demand characteristics and world market conditions might generate different levels of support and still different levels of trade distortion. The argument here is that policy intervention is carried out for a variety of domestic reasons, with economic efficiency of secondary importance. Such intervention will not be negotiated away, certainly not in a multilateral forum. In this event, the analytic objective is to seek those forms of intervention which generate minimal international externalities; that is minimize trade distortion. A prior task is to develop the analytical framework for the explicit measurement of distortion as opposed to protection and support. Such a framework can be used to condition the choice of aggregate measure of protection commitments, and help keep expectations about the results of their reduction more realistic. It also sheds more light on the distribution of gains and losses from the multilateral reduction of trade-distorting protection in the absence of the introduction of non-distorting compensatory programmes.

III.2 Measuring Distortion, Protection and Support.¹⁰

Protection, support and trade distortion are not necessarily the same things. Protection is defined on the basis of a difference between domestic and border prices. So long as protection changes incentive prices facing producers and consumers from their free trade levels, resulting trade volumes will be distorted from free trade levels. Thus protection implies distortion. But, different policy instruments yielding the same levels of protection can lead to different levels of distortion. Similarly, protection implies support to the domestic production sector, at the expense of the consumer, taxpayer and trading partner. Again, different methods of protection for the same level can afford different levels of support. Concepts of protection and support involve considerations of price and cost differences from free trade conditions, where different definitions of the scope of free trade lead to different measures of protection and support. But market distortion arises from differences in trade volumes compared to free trade, albeit related to price and cost differences. Thus it should be possible to measure distortion directly through comparisons of trade volumes under different market and policy conditions.

Consider Figure 1, which represents a stylised representation of the EC cereals market. The present support price is shown as \$190/tonne (equivalent to the new (MacSharry) threshold price of 155ecu/tonne). Five different policies are identified which could implement this level of price support:

- i) an export subsidy (of \$90/tonne against a current world price of \$100/tonne);
- ii) a production quota of 130m. tonnes plus a prohibitive import tariff of at least \$90/tonne, with both producer and consumer prices at \$190/tonne, giving a quasi-supply curve as Sq, illustrative of applying the milk quota approach to the cereals regime, with the difference that the quota is set equal to domestic EC consumption in this case, as opposed to some higher level as with milk;
- iii) a deficiency payment or production subsidy of \$90/tonne with consumer price set by the (distorted) world market price of \$100/tonne;
- iv) a set-aside programme linked to price reductions and compensation, as an approximation to the reform agreement, where set-aside is assumed to reduce production by 8%, support prices are reduced to \$120/tonne (100 ecu/tonne, the European Commission's expected free trade price) and compensation is paid to farmers to cover 100% of both price reduction and the set-aside requirement. The 'old' import levy/export refund system continues to apply

between the world price and the new floor price of \$120/tonne. Notice that it is assumed here that the total cereals area is constrained by the compensation/set-aside provisions, giving a quasi-supply curve as Ssa;

- v) a "producers' entitlement guarantee" scheme (PEG)¹¹, under which support is fixed and limited to no more than that quantity which would be produced under free trade (ie at a price of \$120/tonne), and paid direct to farmers from the exchequer, with all other market interventions removed.

Figure 1 Stylized Representation of Different Support Instruments

[EC, Cereals]

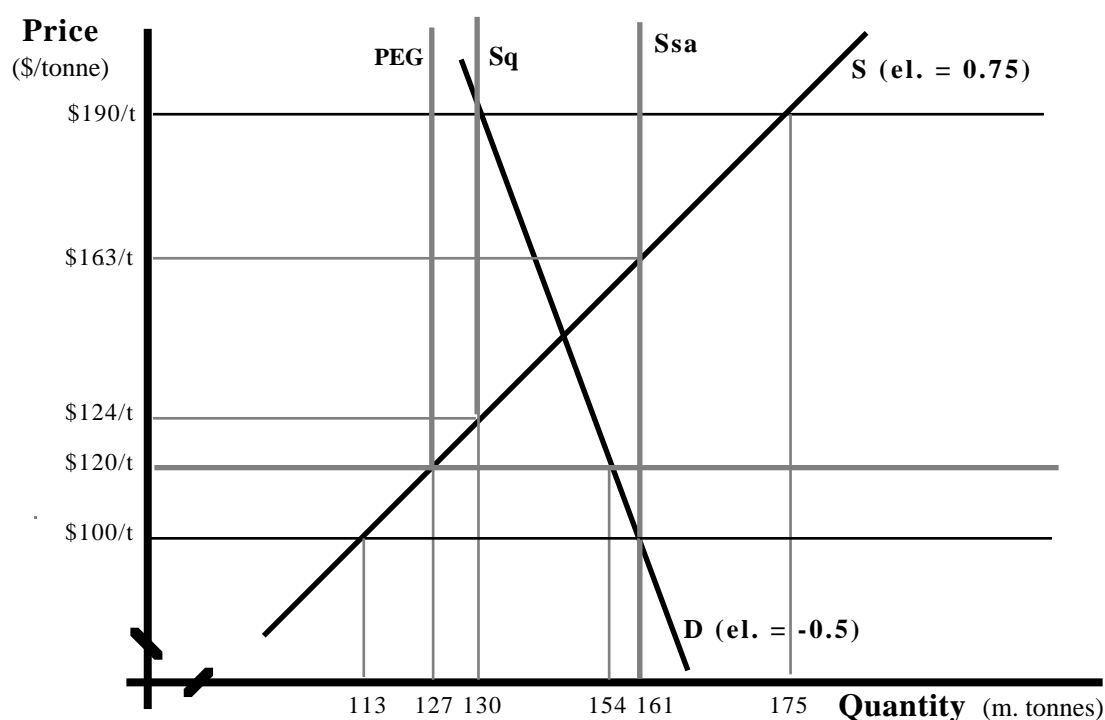


Table 3 illustrates some key measures associated with these policy options, calculated on the basis of a supply elasticity of 0.75 and a demand elasticity of -0.5 at current quantities/prices, using linear approximations, based on the data shown in Table 2. This table shows the effects of each policy option on world prices, which are treated here as endogenous. These effects are calculated as follows. The actual world price (\$100/t) and the free trade world price of \$120/t are taken as given and, given the reduction in exports from the community between the export subsidy policy and free trade of 72.3m.tonnes, also taken as implying a 'policy corrected' excess demand curve facing the European Community. For each of the policy options involving less than full liberalisation (production quota; production subsidy; set-aside/compensation), the slope of this implicit excess demand curve is taken as indicating the associated change in world prices. This is equivalent to assuming that other countries liberalise their policies (through multilateral negotiations) to the same extent as is implied in each of these policy options.

Table 2. Base Data and Primary Illustrative Calculations

1.	2.	3.	4.	5.	6.	7.	8.	9.
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	PW (\$/t)	Pp (\$/t)	Pc (\$/t)	S (mt)	D (mt)	X (mt)	PSE (prop)	NRP (prop)	TD (mt)
Ex. sub.	100.0	190.0	190.0	175.0	130.0	45.0	0.47	0.90	72.3
Prod. Q	112.4	190.0	190.0	130.0	130.0	0.0	0.41	0.69	27.3
Prod. Sub	107.8	190.0	107.8	175.0	158.1	16.9	0.43	0.76	44.2
Comp/SA	110.5	190.0	120.0	161.0	153.9	7.1	0.42	0.72	34.4
PEG @ FT	120.0	190/120	120.0	126.6	153.9	-27.3	0.37	0.58	0.0
Free trade	120.0	120.0	120.0	126.6	153.9	-27.3	0 0	0.0	0.0

On this basis, the percentage PSEs and NRPs differ somewhat among the policy options considered (Table 2, columns 7 and 8). However, the usual method of estimating PSEs and NRPs treats world prices as exogenous. Had this methodology been used here, with the fixed and given world price at \$100/tonne, all five policy options would be characterised as having identical PSE and NRP values, of 0.47 and 0.9 respectively.

Much of the technical debate within the GATT has been concerned with an appropriate measure of trade distortion. It is clear from this simple example that traditional measures do not discriminate between policies with different effects on trade volumes, and hence with different effects on world markets. That is, they do not discriminate between policies with different trade distorting effects. This point has not been lost on negotiators, who have been keen to adjust measures such as the PSE to account for trade distorting differences (for example, adjustments for supply control measures). It seems more sensible, and more direct, to try and measure trade distortion directly, as the difference between current (policy distorted) trade volumes and those which would occur under free trade.

Such a measure of trade distortion (TD) is shown in the ninth column of Table 2, following the above discussion¹². TD is here defined as the difference between policy generated trade volumes and those which would occur under free-trade with no policy intervention (ie an import quantity of 27m. tonnes in Figure 1), expressed in million tonnes. Thus, the export subsidy option results in the EC exporting 45m. tonnes compared with the import of 27m. tonnes under free trade. Thus the total effect of the export subsidy is to deny the EC's trade competitors exports of 72m. tonnes, which is a measure of the trade distortion caused by the export subsidy option. Notice that this measure includes the distorting effects of the policy on both consumption and production (termed CDE and PDE respectively by de Gorter and McClatchy), and also includes directly the consequences of any supply control policies (as shown by the TD value for production quotas). In contrast, by concentrating on differences between producers prices and world prices, most other measures purporting to measure distortion actually only measure the potential distortion arising from intervention in the supply side of the market (assuming that there are no production controls in the case of the NRP).

When the TD measure is used as a basis for comparison, all the remaining policy options are less distorting than the export subsidy option (i.e. the pre-MacSharry CAP). The PEG option is (quasi) non-distorting *ex hypothesi*. The compensation/set-aside option would also be non-distorting under this measure if production were limited to 125m. tonnes, though here remains substantially distorting, given the assumption for these calculations that the set-aside only reduces production by 8%. The treatment of the compensation/set-aside option here assumes that the compensation payments are seen by producers as deficiency payments, and thus determine their domestic production levels according to the floor price plus the compensation payments. In the event that these payments are perceived as fixed and independent of current production (as is arguably the intent of the reforms and certainly the implication of their acceptance as "green box" measures), then production levels would be determined by the new floor price (\$120/tonne). In this case, the level of trade distortion (and subsequent calculations of costs and benefits) are more closely approximated by the PEG option, rather than those shown here for the compensation/set-aside option, with the exception of the tax cost (see below) which is a reasonable reflection of the tax cost of the MacSharry reforms. The reality, perhaps, will lie somewhere between these two extremes, depending on the extent to which the compensation payments are treated as fixed and invariant with production levels.

However, all policy options look alike under both the NRP (the simplest measure of protection)

and the PSE (frequently suggested as a base Aggregate Measure of Support or AMS for GATT negotiations). The point of these illustrative estimates is that the policies are rather different both in terms of the support offered to the agriculture sector (measured by Producers Surplus Gain, PSG, Table 3) and also in terms of their trade-distorting effects, with which the GATT is primarily concerned.

No doubt there are difficulties with the precise measurement of trade distortion, not least because any trade volume measure requires knowledge of supply and demand responses to price and other policy changes, and (as measured here) knowledge of the free trade world price, in contrast to both the NRP and PSE measures which only require information about current prices and quantities. However, to dismiss attempts to measure trade distortion because of these difficulties seems tantamount to dismissing the problem of trade distortion altogether, since the very concept of trade distortion must carry with it some notion of what an undistorted market would look like. It is surely not beyond the wit of man to agree to estimates of the required parameters for negotiation purposes, even if it is necessary to recognise that these estimates cannot be accurate reflections of reality.

Table 3 shows some indicators of policy effectiveness and efficiency for the policy options. The total PSE figures (in \$ million) do differ between policies, since the total production levels differ, the quota, compensation/set-aside and PEG options resulting in lower levels of production than the other three policies. It is of passing interest to note that the EC's offer to GATT of reducing its PSE by 30% (basis 1986) compares with these illustrative figures which involve a reduction in total PSE of 25.7% for the quota option and 27.6% for the PEG option.

Table 3. Illustrative Policy Measures.

	1.	2.	3.	4.	5.	6.	7.
	TotPSE	PSG	Tax Cost	Cons. Cost	Net Soc. Cost	Trans. Eff.	Trans. cost
	TPSE		TC	CC	NSC	TE	TC
	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)	(norm = 1)	(norm = 0)
Ex. sub.	15750	10558	4050	9938	3431	0.67	0.32
Prod. Q	10082	9093	0	9938	845	0.90	0.09
Prod. Sub	14388	10558	14388	-1958	1873	0.73	0.18
Comp/SA	12800	11396	12317	0	921	0.89	0.08
PEG @ FT	8865	8865	8865	0	0	1	0
Free trade	0	0	0	0	0	0	0

The common measure of support is the producers' surplus gain (PSG), here measured in \$ million relative to the free-trade price of \$120/tonne. Under this measure, both the quota and PEG option score lower than the other policies (Table 3, column 2). In both cases, however, the PSGs for these policies could be adjusted upwards through an increase in the support price to offset the loss in PSG resulting from the quantity reductions. Notice, too, that the PSG for the PEG option is only 16% lower than that for the export subsidy, and 13.9% lower for the quota option, in contrast to the total PSE measures for these policies (Table 3, column 1), as a result of the cost savings in production. The PSG for the Compensation/Set-aside option is higher than the other options because of the assumption that the set-aside area is fully compensated (by the difference between the support price of \$190 and the free trade world price of \$120 applied to the foregone production (175m. - 161m. tonnes) while the set-aside does not incur any costs for the producer).

The tax cost of each policy option is here measured against the corresponding world price (Table 2, column 1). The tax cost is highest for the producer subsidy option, as would be expected, and nearly as high for the compensation/set-aside option (which ghosts the MacSharry reforms), while the export subsidy option (reflecting the pre-MacSharry CAP) is relatively tax-effective, though not compared with the quota option as specified here, where the production quota is restricted to domestic requirements so avoiding the need for export subsidies (in contrast to the present dairy situation in the EC).

The consumer cost (Table 3, column 4) is measured as the consumer surplus loss in the accepted fashion, again measured with respect to free-trade world prices. As such, it applies only to the first three options analysed here (the traditional CAP instrument of export subsidies and import taxes, the production quota and the producer subsidy options). While the last option is usually considered not to affect consumers, under the methodology used here there is a consumer effect which results from the consequences of the subsidy on export volumes, and thus on world prices and domestic consumer prices. Measured against free-trade world prices, and recognising that consumption is higher under this option than under free-trade conditions (because market and world prices are lower), this results in a consumer surplus gain (negative loss) under this option.

The net social cost of the policy options is identified in Table 3, column 5 in \$ million. This cost, as conventionally defined, is the sum of PSG, tax cost and consumer cost. Under this measure, the old CAP option appears the most inefficient. It should be noted that the compensation/set-aside tax cost includes an export refund (of \$10.5/tonne) paid on the export surplus under this option of 7.1m tonnes (columns 1 and 6 of table 2). If the compensation payments are treated as fixed, then this export surplus will not materialise, and world prices will be higher (according to the assumptions used here), so the present figure may over-estimate the tax costs of this policy option. Nevertheless, the MacSharry Ghost option (as represented by Compensation/Set-Aside) shows a net social cost only marginally higher than the Quota option in this analysis.

Clearly, if a policy base other than free-trade were to be used against which to measure producer gains and consumer losses, then the resulting measures would be different from those illustrated here. The problem of choice of the appropriate base is slightly more subtle than the common issue of the choice of first or second-best as the policy norm. Given an objective of the Uruguay Round to eliminate (eventually) all trade-distorting support, the choice of free-trade is at least defensible as a potentially acceptable policy norm, even though such an objective seems impossible to achieve quickly or easily. While a more immediately relevant policy base might be a predicted outcome of the present Round, it is beyond the bounds of this chapter to predict the outcome and assess the consequences for world prices. Nevertheless, it is accepted that the choice of policy base will influence the measures of support, protection and distortion, a fact which has not escaped negotiators.

The final two columns of Table 3 illustrate the efficiency and cost of making the transfers to producers under these policy options. Transfer efficiency relates PSG to total PSE, which is otherwise interpretable as the sum of the consumers and taxpayers cost of the policy, where the former is measured as total Consumer Subsidy Equivalent (CSE) rather than consumers' surplus. The PEG option has a TE of 1, *ex hypothesi*. Of the remaining options, the most efficient by this criterion is the production quota (perhaps explaining its attraction in previous reforms of the CAP, notably the dairy reform of 1984), *closely* followed by the compensation/set-aside option. The 'old' CAP is least efficient under this measure.

Transfer cost (TC) relates the total PSG to the net social cost of the policy, (defined as the net sum of PSG, consumers' surplus loss (CSL) and taxpayer cost of the policy) and hence measures the social cost per dollar transferred to producers. Once again, the quota, compensation/set-aside and, more so, the PEG options are substantially more efficient than the others.

While the analysis presented here is merely illustrative and partial, the general implications seem likely to be robust. Two points are worthy of emphasis. First, as Tables 2 and 3 demonstrate, many of the internal pressures on the CAP could be resolved with an insular policy development of production quotas limiting production to domestic consumption levels. Apart from the (probably severe) policing and implementation problems of such a policy, as evidenced already in the EC's dairy policy, the major force operating against such a policy direction is the international pressure for more liberal markets, including market access and expansion of market demand. Second, the present compensation/set-aside policy appears in this analysis to be a step in an acceptable direction. Although its domestic acceptability within Europe was in doubt and many of the original proposals have been dropped or weakened, the new policy should lead to some reduction in trade distortion and some improvement in transfer cost. Does it go far

enough? The illustrative calculations here suggest not from the international point of view. But hinderances to pushing it further depend only partly on the compensation payments being declared non-distorting. Of equal if not more importance are the problems of finding acceptable compensation packages (especially in terms of budgetary cost) for greater reductions in prices or production levels and thus of substantially reducing the trade distortions of the present policy. In simple terms, either the price reductions and/or the set-aside provisions are presently insufficient to eliminate trade distortion, but there are likely to be considerable difficulties in extending the present policy to achieve non-distortion. However, the PEG option does provide a possible direction in which the policy could be developed.

As a concluding comment on this section, it should be emphasised that these illustrative calculations are partial and comparative-static. They ignore the potentially substantial effect that the history of protection and support has had on the structure and economic performance of the EC agricultural sector, and also the potential long-run and dynamic effects alternative policies would have on the sector. It seems intuitively plausible that the history of support has resulted in a shift of EC supply curves to the right of where they otherwise would have been, through the encouragement and enabling of technical and structural change. Thus the free-trade scenario depicted here continues to incorporate distortions built into the EC supply sector through the history of support. While this might be defensible on the grounds that it is unrealistic to expect multilateral negotiations to incorporate recompense for such historical 'embodied' distortions, present reports of the final negotiating meetings between the US and the EC on oilseeds seem to dealing with just such issues, albeit on a commodity restricted basis.

Of potentially more importance are the possible future dynamic effects of the policy options. In particular, the PEG option has been labelled here as 'quasi' non-distorting. So long as the PEG payments are treated as independent of production decisions, then current production levels will be determined by current world prices. Hence it can be argued that the payments are non-distorting. Nevertheless, to the extent that they enable resources to remain in agriculture rather than be encouraged to leave, as they would be under genuine and uncompensated free trade, then the agricultural sector will be larger than without the compensation payments and hence remain distorted compared with free trade. It is difficult to be sure that such a larger sector would not also exhibit more 'competitive' supply conditions than would exist without the payments, thus distorting product markets as well as resource allocation. The same arguments apply to the production quotas and compensation/set-aside policy options. However, so long as de-coupled compensation payments (whatever the method of delivery) do not increase the level of support (measured through PSG) compared with the present situation, then it can be argued: i) that distortion is clearly substantially reduced under these options than the border protection systems characterising the 'old' CAP; ii) that the compensation payments 'merely' preserve historic embodied distortion. Furthermore, once de-coupled support payments become accepted, there are good reasons to argue that: a) these payment entitlements should be tradeable; b) that they should be capitalised to lump sum entitlements. Both of these extensions would allow the release of 'protected' resources from the industry (while providing for the appropriate compensation), thus dis-embodiment historic distortions.

III.3 Implications for Policy reform

3.1 Information

Returning to the political-economy framework outlined at the beginning of this chapter, the prominence of agriculture in the Uruguay Round has clearly resulted in a massive volume of technical and general information on agricultural protection, support and distortion and its consequences. This increase in information has done much to make even opaque policy instruments more transparent, an advance which cannot easily be undone even by the stoutest opponents of reform. However, it also contains dangers. First, the opposition can use (or perhaps misuse) selected parts of this information for its own ends (as referred to in Chapter 3 on the US), which is arguably the price that has to be paid for more and better information. Second, and more subtly, the existence and promulgation of the information does not guarantee that people will believe it. There are still major groups and important individuals in the agricultural policy process around the world who choose to ignore or disbelieve the information. Information is necessary but a long way from being sufficient for policy reform.

Over and above these considerations are the specific requirements for key information for future policy reform. The Uruguay Round clearly demonstrates the need for such measures - the AMS, the 'green, red, amber and blue boxes', and tariffication, are all ways of classifying and/or measuring policy intervention as a prelude to doing something about it. Underlying this debate is the one over the fundamental objectives of multilateral negotiations - to eliminate (trade distorting) support or reduce it. Whatever other lessons can be learnt from the Round, it should be clear that elimination is not something which is going to be easily agreed to. For those who would pursue it, stealth and flexibility would seem to be more appropriate than head-on attack. One outcome of the Round is that states will continue to seek ways of supporting their domestic agricultures, and will do so to the point of compromising the international trading system if necessary. Therefore, a definition and measure of acceptable and unacceptable policies is required - hence the boxes. Some will continue to try and use multilateral negotiations to achieve what they see as desirable domestic policy reform (especially substantial reduction, if not elimination of support), as arguably did the US in the present round. But the course of the Uruguay Round should convince them that multilateral negotiations can only play a supporting role in domestic policy reform. They cannot be used as the prime lever, since they require too much agreement from too many different interests, most of which are unconnected with the domestic problems, issues and constituencies.

However, multilateral negotiations can provide important and politically objective information necessary for domestic reform. There is little doubt that the world is better informed about the effects and effectiveness of domestic agricultural policies as a result of the Uruguay Round, and that domestic policy reform is thus both more possible and more likely to take socially desirable directions than before. But information requirements are not static. It seems possible that the ubiquitous PSE has now served its useful purpose and that other measures are now required, both to further the realistic objectives of multilateral negotiations (reduction/elimination of trade-distorting support) and to improve domestic reform. The PSE has been useful in pointing up the extent of agricultural support around the world, at least in terms of the costs of this support borne by consumers and taxpayers if not the relative amounts actually received by the agricultural sectors. However, it is not a useful measure as far as indicating the extent of trade distortions, as has been pointed out above. Neither is the standard if imperfect measure of protection (the nominal rate of protection). While both these measures have the considerable advantage of being measurable in terms only of directly observable support and current world prices, and in the case of the PSE, observable quantities produced and consumed, they cannot distinguish between the different effects of agricultural policies either in terms of their trade distortion (the objective of multilateral negotiations) or in terms of their effectiveness for support of the industry (the primary concern of domestic policy makers).

A different measure is now required to highlight the trade-distorting effects of policy, and hence to place various policy instruments in particular categories for action in multilateral negotiations. In addition, more robust measures of policy costs and effectiveness are also required for domestic policy purposes. The elements of a trade-distortion measure have been outlined above

and are further explored in a growing literature. The framework for measuring policy effectiveness and cost are already well established in the literature and need little further comment here. Unfortunately, these measures rely on more questionable bases, especially supply and demand responses and price linkages, and are therefore subject to more debate as to their accuracy than is the case for the PSE and NRP. Nevertheless, the argument here is that the uncontroversial nature of the latter measures is superficial. Once they are used for negotiating or policy reform purposes, their simplicity and generality proves to be their downfall.

3.2) Instrumentation & Compensation

The critical link between domestic policy reform and trade distortion is the nature and extent of compensation. Compensation is a necessary part of domestic reform (*pace* the recent New Zealand experience, where compensation was expected to be delivered through the growth of the domestic economy and the liberalisation of trade). But the form and extent of the compensation is critical for the extent to which the new policy remains trade-distorting. Dunkel's provisions for green box treatment (that is those instruments to be regarded as non-distorting) require that support be based only on fixed base-period values, and that eligibility for continued support should not be conditional on continuation of production. Reference to Figure 1 above, and the associated concept of trade-distortion as depending on the difference between trade flows under the policy and those which would exist in the absence of policy, indicate that these provisions are at least necessary. It is possible, however, even within these conditions, to design a fixed-base and production-unconditional support system which might appear to support an excess supply above free-trade flows. Although traditional economic theory suggests that the enforcement of Dunkel-type conditions would guarantee that current production will be independent of the level of support, whatever this might be, there is little evidence that policy makers and negotiators are sufficiently convinced of this theory to base their decisions on it. Evidence for this assertion comes from the inclusion in the MacSharry reforms of the set-aside provision, even though the market intervention price is to be reduced to the Commission's expected free-trade world price.

The PEG option is an attempt to design a policy instrument which allows states to continue support with minimal trade distortions, in the light of political concerns about the level of production eligible for support in other countries. The key feature of the PEG proposal from this point of view is that the level of production eligible for support should be no greater than that which would occur under free trade, in addition to fixing the basis of support to some (non-distorting) fraction of historic production levels. There are two major problems with this proposal. First, the history of support in many countries has probably resulted in some rightward shifts of supply curves compared with the no-support alternative. Restricting the amounts of production eligible for support based on existing levels of production will enshrine this historical distortion within the future levels of support. In that sense, the PEG can only be described as a "quasi non-distorting" instrument. However, it is unrealistic to expect states to be willing to reduce distortion on a retrospective basis, even if the extent of this could be agreed. Rather than let the best be the enemy of the good, the PEG proposal admits of this imperfection and seeks to place a rigid limit on its exploitation in the future.

There is a stronger version of this argument (eg., Weiss, 1992) which holds that 'direct income decoupled support' must result in more people (at least, if not also capital and land) remaining in the industry than without such support, and therefore the payment of support, even if decoupled, must result in greater output than would be the case without the compensation. In other words, the supply curve in Figure 1 is shifted to the right as a result of direct income (or in this case, PEG) payments. Weiss presents an econometric model and simulation results for Austrian agriculture which demonstrates this argument. The Weiss results occur largely through the estimated influence of net farm income and profits on capital investment, labour use (especially retention of self-employed labour within the sector) and land use. Given that direct payments increase farm incomes, then the result that compensated price reductions lead to much less substantial reductions in output than uncompensated price reductions follow automatically.

However, such results contradict the conventional neoclassical response, namely that productive factors will only be employed to the point where marginal revenue is exceeded by marginal cost. If product prices are reduced and compensatory decoupled support is independent of current and future production levels, then marginal revenues must fall, and levels of economically justifiable resource use must also fall. Market forces are expected to enforce this conclusion over time, in that those who do not behave in this fashion will find profits reduced and wealth declining compared with alternatives. In other words, a genuinely decoupled support system may well result in more people continuing to live in the countryside than would otherwise be the case (which is, after all, often a major objective), but should not result in greater allocation of resources to farm production than would otherwise be the case. If these conclusions are wrong, then the implication is that the whole edifice of theoretical support for free trade itself is also wrong.

The second major problem with the proposal is the determination and subsequent agreement on the PEG levels for each state. Clearly, whatever precise definition of distortion is chosen leaves considerable room for argument and disagreement. Nevertheless, it does seem reasonable to suppose that countries could: i) agree in principle that long term support of agriculture will only be regarded as non-distorting (and thus acceptable within GATT rules) if PEGed; ii) negotiate a schedule of non-distorting production levels (country PEGs) with reference to evidence/argument about the effects of support on trade levels. Once negotiated, such PEG levels could be bound within modified GATT rules (which would perforce apply specifically to agriculture).

A related problem concerns the international policing of PEGs (or any alternative negotiated measure of support/distortion). So long as the individual farm PEG licences to receive support are freely tradeable, then the rental price one would expect to observe for these licences would be the difference between the PEG support payment and the internal market price for the commodity in question¹³. The logic of the industry supply curve suggests that if this rental value turns out to be less than the government PEG payment, then the PEG limit is set "too high", that is to the right of the PEG constraint identified in Figure 1 above. Even in the absence of a formal market in PEG licences, the market system is likely to result in informal trades for which rental prices would be obtainable. Thus, rental values of PEG licences could form a valuable vehicle for the policing of the system, and the importance of this could even be recognised in negotiating PEG levels, through bargaining for lower PEG limits if PEG licenses are not allowed to be tradeable¹⁴.

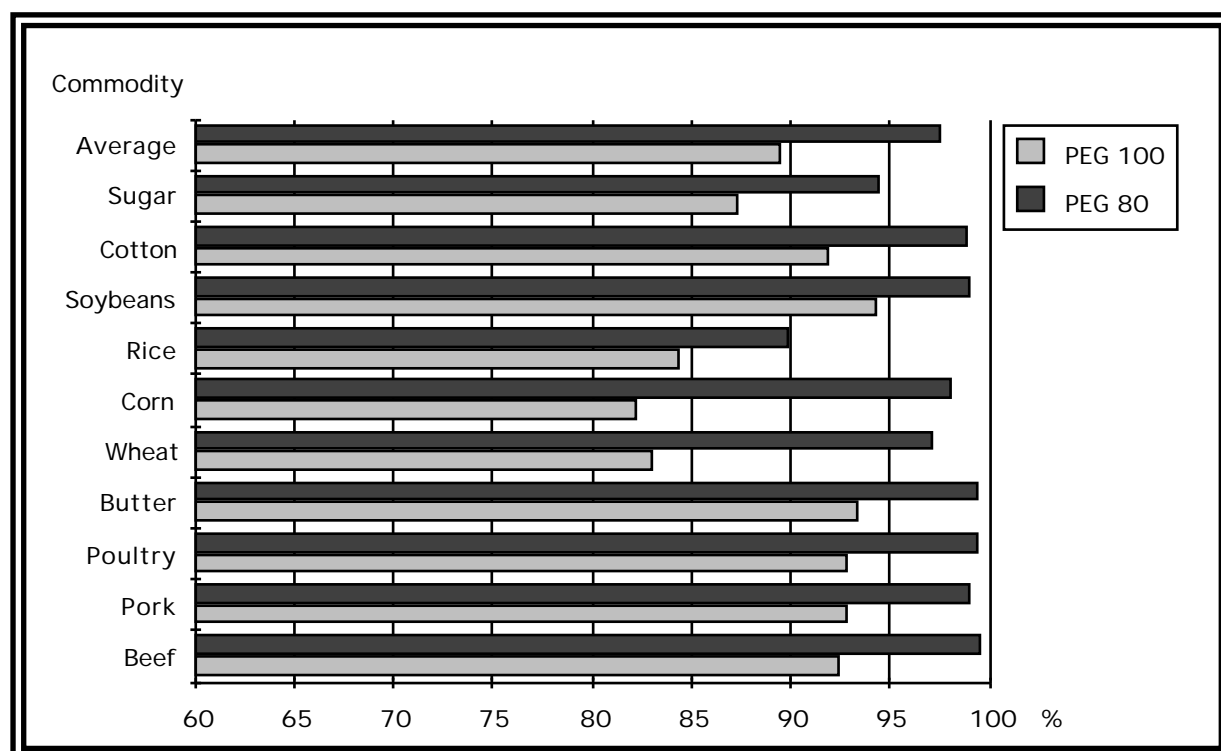
As an illustration of possible levels of PEGs in relation to historic production levels, Figure 2 shows the estimated adjustment of current world prices towards free trade levels for selected commodities, with PEGs established at either 100 percent of 1986 production (PEG100) or at 80 percent (PEG80) of production. In both cases, the actual level of producer support per unit is kept at that actually estimated for 1986 through the Producer Surplus Equivalent (PSE)¹⁵, with all other market intervention eliminated so that consumers pay market prices.

The results show that all sectors would experience at least 80 percent of the free-trade change in world prices under PEG100. On average, almost 90 percent of the free-trade world price change would have occurred (top line in Figure 2). In the case of a PEG80 scheme, over 90 percent of the full free-trade world price adjustment would have taken place in all cases, over 95% of the full adjustment would occur for all but two commodities (rice and sugar) with an overall average of 98 percent. Hence, a PEG of 80 percent of 1986 production levels provides a rough indication of the appropriate goal for a negotiated PEG quantity if historical levels of support are maintained while still achieving the vast majority of the benefits of full liberalisation of world trade.¹⁶ The results suggest that the PEG limit on support needs to be lower than 80% of 1986 production levels for sugar and rice, and more detailed analysis would reveal the different levels required in different countries for the PEG supports to be minimally trade-distorting.

Current elements of the GATT negotiations have close links with the PEG proposal, especially tariffication and the identification of "green box" instruments. Tariffication is an obvious approach to liberalisation with a long and mostly honourable tradition within GATT negotiations. The IATRC (undated) conclude that "tariffication...is a change in trade policy beneficial to the

GATT but requiring domestic policy modifications. Tariffs would be transparent, bound and easily negotiable, (tariffication) would have considerable advantage to the exporting countries (but) is unlikely to be welcomed by the importing countries (since) non-tariff barriers are usually there for a purpose, to stabilise the domestic economy or to support a particular system of domestic marketing". The idea, closely connected with the AMS, is to identify a single measure around which GATT rules, bindings and negotiations can focus and constrain domestic action within these clearly defined rules. This is precisely what the PEG proposal offers. However, the proposal offers some advantages over the tariffication option, especially provision for the continued support or compensation of the agricultural sector. In this sense, the PEG option explicitly recognises that elimination of support is an unattainable objective for the GATT, while the logic of the tariffication option implies eventual elimination, whatever the rhetoric.

Figure 2. Percentage Adjustment of World Commodity Prices towards Free Trade Levels under PEGs at 100% and 80% of 1986 quantities.



The "green box" classification requires the identification of policies which are non-distorting, especially instruments which provide for the compensation or continued support of the industry. The PEG option not only provides such an instrument, it also provides a mechanism, through the limitation of support payments to a fixed quantity of production bound under GATT rules, by which existing support instruments can be brought under the GATT umbrella.

The above arguments have side-stepped the issue of whether future GATT-consistent policies are to be regarded as compensation or continued support. It is argued here that this is largely a domestic rather than international decision. From a domestic perspective the question is clearly important. However, so long as the support is strictly limited, the question is not relevant to GATT negotiations, *pace* those who argue that the primary purpose of the GATT should be to remove domestic support for agriculture.

Under compensation, the losses from price reductions, however large they may be, are not infinite, so compensation implies a finite payment system rather than an indefinite stream of payments. In addition, a key element of compensation payments should be that such payments are totally independent of current production decisions - that is they should be fully "de-coupled".

Given these pre-conditions, there would be considerable administrative and economic advantage in converting the finite annual stream of compensation payments to a capital sum, issuing farmers with a "government bond" and allowing farmers to either keep their bonds and clip the coupons to receive the annual payment, or sell the bond, realising the capital value of the compensation and re-organising their business and personal affairs as they see fit. This method of payment would also allow the authorities to redeem the compensation bill through purchase of the outstanding bonds as and when required. This is the proposal made by Professor Tangermann (1990) to the European Parliament's working group on CAP reform, and included in the final Commission proposals for milk, though excluded from the CAP reform agreement. The objection that such a scheme would be too expensive seems to miss the point entirely, since by definition it can be no more expensive than a commitment to compensate through annual payments (unless the intention is to reduce annual payments from their announced levels).

It seems clear, however, that the domestic reform process has not yet proceeded far enough in most countries for remaining support to be considered purely as compensation for price cuts. The EC, for instance, while mentioning compensation as the reason for continued support, makes no concessions to making such support finite, and indeed prefaces reform papers with arguments in favour of continued support for rural areas and (particularly) smaller and disadvantaged farms. Thus, 'modulation' of support plays a large part in the principles of the reform package (though not so much in the final agreement). Modulation in this context means explicit re-distribution and, by implication, limitation of support to smaller or otherwise 'deserving' farms and farmers, and is a natural consequence of limiting compensation to something less than 100% of the losses associated with support price reductions. However, there continue to be substantial problems on the domestic front for general agreement to these principles, as witnessed by the difficulties and progress of the EC reform process. There is little reason to suppose that the EC is atypical of developed countries (especially importers) in this regard. Nevertheless, state discretion about targeting payments towards specific farmers or regions on the basis of historic production patterns and levels is maintained through the PEG option, in a way which is not possible through tariffs.

Rausser and Irwin (1989) also raise the question of multicountry or international transfers, on the grounds that countries which expect to gain from trade liberalisation (mostly exporters) might be expected to contribute towards compensating those that lose (mostly importers). These authors comment that "international tax arrangements appear difficult to arrange for various reasons" (p362), and suggest that concessions on service or non-agricultural trade might take the place of straight compensation. However, the PEG option provides a mechanism through which international compensation could occur. As pointed out above, it is to be expected that a formal or informal rental market (or associated asset market) would appear for PEG licences. If an exporting country (or group of countries) regards the negotiated PEG level as insufficiently low, it would be technically possible for it to buy licences in the importing country, thereby appropriately compensating those farmers who sell their licence to support and simultaneously reducing the overall quantity supported in the importing country. No doubt such international transfers of PEGs would be regarded with suspicion (to say the least) by politicians, but may provide a useful bargaining counter in the negotiations over the PEG limits.

3.3) Institutions:

Although Rausser and Irwin stress the need for institutional reform as part of the conditions necessary for effective and sustainable policy reform, they are less clear about the processes through which institutional reform might be expected to occur. Here and elsewhere (Rausser and Zusan, 1992), Rausser appears to argue that constitutional or institutional reform needs to precede policy reform. In an ideal world this might be true. However, a casual reading of the history of agricultural reform might indicate that policy reform breeds institutional change rather than *vice versa*. Mention has already been made of the potential institutional reforms which might be expected to trigger farm policy change in the EC, with special emphasis on Eastern European expansion of the Community. At the international level, however, it is difficult to foresee imminent institutional changes of similar magnitude, unless spawned by international

agreement on both the need for and the form of policy change. A GATT agreement which contained substantial changes in rules and procedures as far as agriculture is concerned, which presently seems unlikely during the Uruguay Round, would be expected to trigger a change in the status and role of GATT (or its monitoring/policing agency) in domestic policy formation. Is it reasonable to expect contracting countries to agree to such a change in status and role without agreement on rules and procedures? It seems very doubtful.

At a less dramatic level, however, the prominence of the OECD in measuring and popularising measures of domestic support through its calculations of PSEs and associated material may well have played an important part in maintaining the pressure for some form of GATT agreement, while the Uruguay Round itself can be regarded as a modest change in status of GATT as far as agricultural policy is concerned. Both are clearly candidates for recognition as real agitators for domestic policy reform. An increasing prominence to international agreements and associated institutions could further domestic pressures for more liberal reform. In this sense, failure of the Uruguay Round could prove a major disaster, leading not only to the commonly predicted increased pressures for protectionism and thoroughly destructive trade wars (the worst outcome of the prisoners' dilemma), but also to an undermining of international authority and removal of pressure for (beneficial) institutional change, which might prove even more destructive in the longer run. It is plausible to argue that collective common sense might limit the damage on the first count, but the destruction of an apparently emerging trust in international agencies and agreements would, if history is any guide, require substantially more effort and time to repair.

Assuming for the purposes of constructive argument, if nothing else, a more or less positive outcome to the Uruguay Round, progress towards liberalisation of world agricultural trade and re-coupling domestic to international prices will raise two key issues to the top of the multilateral agenda: international market stability and food security. The former must become more important as the devices employed by countries to stabilise internal markets are progressively reformed and domestic markets become increasingly and more directly tied to world markets - the object of liberalisation. Food security will also emerge as an increasingly important issue if markets are to be charged with the task of holding emergency stocks. It is far from clear that the market place will be reliable in the face of historically high real interest rates around the world and the apparent divergence of interests in holding stocks between those for whom it is cheapest and easiest (the major exporters) and those for whom the existence of stocks is most critical (the developing country importers, for whom storage is expensive and resources limited). The World Food Organisation represents a possible embryonic international institution which could become increasingly important in taking responsibility for securing and holding international food security stocks (or equivalently, contracts for the delivery of supplies conditional on particular circumstances). As such, it might become an important agency for the stabilisation of international markets, and hence in shaping future domestic policies.

A further potential for international institutional change arises from concerns over the global environment. International agreements on environmental protection which directly affect agriculture could be expected to generate considerable opposition from established farm lobbies. Nevertheless, pressure for environmental controls are growing, at least in the developed and richer parts of the world which have traditionally (and understandably according to political-economic arithmetic) governed the shape of international agreements. Typically, these seem to consist of concerns over short-term commercial exploitation of natural resources (especially rainforests) and over-intensive use of common lands and of marginal land in overpopulated regions characterised by small scale peasant agricultures. It is interesting to note that thoroughgoing liberalisation of world markets and establishment of more direct market mechanisms for the less developed countries, encouraging them to make the most of market opportunities, might under some circumstances lead to more rather than less environmental damage in the absence of appropriate definition and distribution of property rights. However, it is beyond the scope of this chapter to consider possible directions which such international reform (or associated institutions) might take¹⁷.

VI. Conclusions

It seems, to the outside observer, that the course of the present negotiations has run and that they are approaching a dead end. Certainly the negotiating teams must be approaching terminal fatigue. Re-assessment and regrouping cannot now happen within the present negotiations. It requires a new start. Such a new start requires a "success" to build on, not a failure to overcome. The outlines of a possible new start have been presented in this chapter - namely:

- i) a more direct focus on trade distortion, accompanied by the development of and agreement to a new (quantity based) measure, capable of being bound within GATT rules, if necessary made specific to agriculture, where the basis for such a measure has been referred to above;
- ii) recognition that continued support of at least parts of farming systems is a matter for domestic policy and not a matter to be resolved in GATT or other multilateral fora, if not that it is a matter of fact;
- iii) development of explicit policy instruments to satisfy the twin requirements of minimal trade distortion and continued if selective agricultural support, with the means of translating existing instruments to these new ones, where the PEG is offered as an example.

Domestic pressures for reform will continue regardless of the outcome of the Uruguay Round. Furthermore, whatever the outcome of the Round it is apparent that it will not solve all the problems of present domestic (and thus international) market distortion. It follows that future policy reform will continue to depend, as it has in the past, on the domestic pressures, but that these and the reforms they generate will continue to interact on the world market, thus recycling domestic issues around the world. These interactions, especially the world price depressing effects of domestic protective market intervention policies, which lead to the inclusion of agriculture as a major part of the Uruguay Round, have not diminished during the course of the Round and will continue to play a major part in successive initiatives.

Returning to the conditions for policy reform outlined at the beginning of the chapter, it seems that information needs for policy reform are now largely met with further developments in the OECD and elsewhere promising to expand and develop the major database which already exists. Informal contact with staff in the OECD suggests that this organisation, at least, is taking the problem of measuring trade distortion (as opposed to either protection or support) seriously and is also interested in developing character profiles of non or minimally distorting policies. Compensation issues are now at the forefront of the agenda, through the appropriate classification of 'green box' measures to include subsidy payments which replace open-ended price support. The direction of the negotiations towards the creation of a 'blue box' is, perhaps a recognition that these issues will not be fully resolved during the present Round, and will therefore remain important issues in the future. As yet, and perhaps to be expected, no real progress towards institutional change is apparent. For policy change to be sustained, however, it is clear that authoritative countervailing bodies have to be established against the powerful hegemonies which have historically controlled agricultural policy both within and between states. Here lies the crucial importance of the Uruguay Round. It is vital that the outcome does not undermine the nascent authority of the GATT process as far as agriculture is concerned. This requires an agreement, though the precise details are of much less importance. Failure of the Uruguay Round will not halt farm policy reform, but may well propel it in directions which are against both national and world interests, and substantially delay beneficial reform. It is to be hoped that the major protagonists are aware of these dangers and react accordingly.

Footnotes:

- 1 European Commission, 1991, p3.
- 2 Agra Europe, 22.11.91.
- 3 Rausser, 1982, first suggested these terms to distinguish between policy transfers or interventions legitimately and logically designed to correct for market failure (so called Political Economic Resource Transactions - PERTs) and those which, whatever their original intention, result in identifiable economic losses but are subject to rent-seeking, thus resulting in a form of political failure (in that originally

intended benefits become outweighed by economic costs and captured by unintended beneficiaries - hence termed Political Economic-Seeking Transfers - PESTs)

- 4 Official Journal of the European Communities, No. 1 181/12 - /18, 1.7.92
- 5 Agra Europe report on EC statement on legal texts of CAP reform agreement and 1992/93 price package, 1.7.92. Later press reports have indicated that the US is willing to accept "green box" status for these compensation payments.
- 6 Agra Europe, 26.6.92, P/1 - P/2, not noted for pro European Commission comment, see appendix 1 for projections.
- 7 See, as a recent example, Kirschke, 1991, and references therein; also Tangermann, 1990a.
- 8 A study by Peters (1990) provides a densely argued analysis of the differences between rates of protection and PSEs. An earlier study by de Gorter and McClatchy (1984) included a review of the relationship between the PSE and a rate of protection.
- 9 GATT Mid Term Review, Tangermann *et al*, 1987.
- 10 An early version of these arguments is provided by de Gorter and Harvey, 1990, also presented to the Credit conference 1991. A more recent exposition and extension of the arguments is in de Gorter, 1991.
- 11 This proposal is further discussed by Blandford, deGorter and Harvey, 1989
- 12 Several authors have addressed the problem of defining a trade distortion index, including de Gorter and McClatchy, 1984, de Gorter, McClatchy and Lahoar, 1987, de Gorter and Harvey, 1990, Ronningen and Dixit, 1991, de Gorter, 1991.
- 13 The PEG is here discussed as if introduced on a commodity-by commodity basis. However, implementation might eventually be on a farm-by-farm basis if this turns out to be more politically acceptable.
- 14 In fact, theory suggests that non-tradeable farm PEG licences may result in supported production exceeding the national PEG limit, unless PEG payments are completely decoupled, that is they do not require some current production as a condition for payment. In this case there is additional reason for negotiating lower national PEG limits. Conversely, those PEG programmes which are freely tradeable and which are also independent of current production levels may deserve higher PEG levels.
- 15 As defined and calculated in OECD (1987). These estimates are based on the Ronningen *et. al* (1989) analysis.
- 16 These results come from empirical analysis by the International Agricultural Trade Research Consortium (IATRC), 1988. This suggests that soybeans and soybean meal are the only exceptions to the general prediction that world prices would rise following trade liberalization by industrial countries (see IATRC, Assessing the Benefits of Trade Liberalization, August 1988). Trade liberalization would lead to an increase in world prices above current support prices for several commodities in several countries.
- 17 A recent issue of World Economy (15,1, January, 1992 pp 101 - 171) contains four articles relating GATT and agricultural trade to environmental issues, which explore most of the general issues, particularly the issue of appropriate pricing of environmental goods and the pre-requisite of establishing property rights over these goods.

References

- Blandford, D., de Gorter, H. and Harvey, D.R. (1989): "Farm Income Support with Minimal Trade Distortions", *Food Policy*, 14, August, pp 268 - 273.
- European Commission (1991): The Development and Future of the Common Agricultural Policy , COM(91) 258 final, 22nd. July, Brussels.
- European Commission (1991a): The Development and Future of the Common Agricultural Policy , Reflections Paper of the Commission COM(91) 100 final, 1st. February, Brussels.
- de Gorter, H. and McClatchy, D. (1984) "Rates of Distortion as an Alternative to Rates of Protection for Analysing Trade Effects of Agricultural Support Policies", Appendix 1 to paper presented to International Agricultural Trade Research Consortium, Wye Woods, Maryland, August.
- de Gorter, H., McClatchy, D. and Lahoar, J. (1987): "Analysis of International Trade Distortions Arising from Agricultural Policies", Agriculture and Economic Instability, Bellamy, M. and Greenshields, B. (eds.), Gower, Brookfield VT.
- de Gorter, H. and Harvey, D.R. (1990) Agricultural Policies and the GATT: Reconciling Protection, Support and Distortion, International Agricultural Trade Research Consortium Working Paper, 90-6, Department of Agricultural Economics, Cornell University.

- de Gorter, H. (1991) "Agricultural Policies and the GATT: Towards a Theory of trade Distortion", paper to International Conference on Mechanisms to improve Agricultural Trade Performance under the GATT, Kiel, October 28 - 29, Cornell University.
- Gardner, B. (1983) "Efficient Redistribution through Commodity Markets"; AJAE, 65, pp 225 - 234.
- International Agricultural Trade Research Consortium, (1988): Designing Acceptable Agricultural Policies, Summary Report for Symposium on Bringing Agriculture into the GATT, Annapolis, Maryland.
- International Agricultural Trade Research Consortium, (undated): Tariffication and Rebalancing, Commissioned Paper 4, Bringing Agriculture into the GATT, Dept. Ag. & Applied Econ. University of Minnesota.
- Josling, T.E (1969) "A Formal Approach to Agricultural Policy", Journal of Agricultural Economics, 20 (2), 175 - 196
- Josling, T.E. (1973) "Agricultural Production: Domestic Policy and International Trade", Supporting Study no. 9, FAO, Rome
- Josling, T.E. (1975): "Agricultural Protection and Stabilisation Policies: a Framework for Measurement in the Context of Agricultural Adjustment", FAO Mimeograph, October.
- Kirschke, D. (1991): Perspectives for the grain economy in Eastern Europe and implications for the world market", paper to International Conference on Mechanisms to improve Agricultural Trade Performance under the GATT, Kiel, October 28 - 29, Technical University of Berlin.
- OECD, (1987): National Policies and Agricultural Trade", Paris.
- Peters, G. (1989) "The Interpretation and Use of Producer Subsidy Equivalents", Paper to Agricultural Economics Society Conference, Aberystwyth. (Subsequent ref in Oxford Agrarian Studies)
- Rausser, G.C. (1982): "Political Economic Markets: PERTs and PESTs in food and agriculture", AJAE, 64 (5), pp 821 - 833.
- Rausser, G.C. and Irwin, D.A. (1989): "The Political Economy of agricultural policy reform" European Review of Agricultural Economics, 15, pp 349 - 366.
- Rausser, G.C. and Zusman, P. (1992); "Policy Explanation and Prescription", AJAE, 74 (2), May, pp247 - 257.
- Roningen, V.O. and Dixit, P.M. (1989) Economic Implications of Agricultural Policy Reform in Industrial Market Economies. Economic research Service, U.S Department of Agriculture, Staff Report AGES 89-36, August.
- Roningen, V. and Dixit, P.M. (1991): A Simple Measure of Trade Distortion, IATRC Working Paper, No. 91-10, ERS, USDA, Washington.
- Tangermann, S., Josling, T. and Pearson, S (1987): "International Negotiations on Farm Support Levels: the Role of PSEs", IATRC Working Paper, No. 87-3, June.
- Tangermann, S. (1990) LUFPIG Working Paper on "A Bond Scheme for Supporting Farm Incomes"; background paper for A Future for Europe's farmers and the Countryside, (by Marsh, Green, Kearney, Mahe, Tangermann, and Tarditti) commissioned by the Land use and Food Policy Inter-Group, European Parliament, November, published as The Changing Role of the CAP: The Future of Farming in Europe, Belhaven, London, 1991
- Tangermann, S. (1990a) LUFPIG Working Paper on "Implications for the CAP of Developments in Eastern Europe"; background paper for A Future for Europe's farmers and the Countryside, (by Marsh, Green, Kearney, Mahe, Tangermann, and Tarditti) commissioned by the Land use and Food Policy Inter-Group, European Parliament, November, published as The Changing Role of the CAP: The Future of Farming in Europe, Belhaven, London, 1991
- Weiss, Chr. R. (1992): "The Effect of Price Reduction and Direct Income Support Policies on Agricultural Input Markets in Austria", Journal of Agricultural Economics, 43 (1), pp1 - 13.