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Are Disciplines Required on Domestic Support?

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The impact of domestic support on trade is likely to become an increasingly important issue in the WTO negotiations on agriculture. Domestic support expenditures are increasing and existing disciplines on forms and levels of support are weak. While a shift from market price support to output subsidies should be less trade distorting, such support may not be minimally distorting as required under the so-called “green-box” criteria. Proposals submitted by WTO members could further expand permissible support measures and weaken disciplines on their use. In some cases, most notably support provided in pursuit of environmental objectives, there may be a contradiction between the aims of support measures and the requirement that these should be minimally trade distorting. Clearer policy criteria and stronger disciplines are needed in order to avoid future trade disputes on agricultural support.²

Keywords: agriculture; domestic support; green box; WTO

Introduction

A commitment to reduce certain types of government financial domestic support to agriculture was one of the three main components of the Uruguay Round Agreement on Agriculture (AoA) under the General Agreement on Tariffs and Trade (GATT), concluded in 1994. The other two pillars of the AoA deal with market access and export subsidies. The inclusion of domestic support in the AoA recognized that even with a reduction in protection at the border, trade distortions could be created by domestic subsidies.

The first part of this paper describes how domestic support was treated in the AoA. A simple analytical approach is used to explore how some of the major forms of domestic support can cause trade distortions. The relationship between domestic support policies and trade policies is also discussed. This is followed by an assessment of the impact of the AoA on levels of domestic support, and a review of the proposals made thus far by WTO members on how support should be handled in the current round of agricultural trade negotiations. Issues associated with the payments currently permitted under the AoA are explored, in particular the links between payments and production decisions. Finally, some suggestions are made on how progress can be made in dealing with domestic support in the negotiations.

Treatment of Domestic Support in the Uruguay Round Agreement

In the Uruguay Round (UR) negotiations, government support was classified into three categories or “boxes”: (1) “amber” (judged to have the most distorting effect on trade)—scheduled for reduction during the implementation period of the AoA (1995–2000); (2) “blue” (direct payments made under production-limiting programs)—exempt from reduction until 2003; and (3) “green” (minimally trade distorting)—permanently exempt from reductions.³ Although these colored categories are not actually mentioned in the AoA, it has been customary to use them as shorthand labels in discussions on types of domestic support.

Amber-Box Support

The AoA specifies that amber support, measured by the aggregate measure of support (AMS), was to be reduced by 20 percent with respect to a base period level (1986–90). The AMS is based on the Producer Subsidy Equivalent (PSE) measure popularized by the Organization for Economic Cooperation and Development (OECD).⁴

The AMS defines the amount of market price support (based on domestic-international price wedges), “non-exempt” direct payments (on the basis of a price gap or budgetary outlays), and other subsidies not exempt from reduction. Levies or fees imposed on agriculture can be deducted, and support that is not product specific is added to the total for individual products. Support at both national and subnational levels is included. A *de minimis* provision is applied, through which amber-category support that does not exceed 5 percent of the value of production is not counted. Unlike the OECD PSE measure, which uses current world prices to calculate support, the AMS uses fixed, base-period world reference prices (Josling, Tangermann and Warley, 1996). Details on the calculation of domestic support are set out in Annex 3 of the AoA.

Blue-Box Support

The identification of a blue-box category resulted from the Blair House Accord, an agreement reached by EU and U.S. negotiators in November 1992. Under the accord “direct payments under production-limiting programs” are exempt from reductions if these payments are based on fixed area, yield, or number of livestock, or on a maximum of 85 percent of a base level of production. This wording means that U.S. deficiency payments under the 1990 Food, Agriculture and Conservation and Trade Act and the EU’s compensation payments, which were introduced as part of the 1992 “MacSharry reforms” of the Common Agricultural Policy (CAP), are included as blue-box measures.

An important aspect of the blue-box category is its coverage under the due restraint provision of the AoA (Article 13). This provision specifies that payments made under the blue-box category are exempt from the imposition of countervailing duties until 2003, unless a determination of injury or threat of injury can be proved. U.S. deficiency payments were abolished under the Federal Agricultural Improvement and Reform (FAIR) Act of 1996, when they were replaced by production flexibility contract payments. These payments, which are not linked directly to current volumes of production, fall under the green-box category.⁵ The fact that the exemption for blue-box payments expires in three years is of great concern to the EU. The EU has made a proposal in the current WTO negotiations on agriculture that the “concept of the blue box, like that of the green box, must be maintained” (WTO, 2000f).

Green-Box Support

The green-box category is comprised of forms of support that are considered to have no or minimally distorting effects on **production** or **trade**. As Annex 2 of the AoA indicates, such support must satisfy two basic criteria: (1) “the support in question shall be provided through a publicly-funded government programme (including government revenue foregone) not involving transfers from consumers; and, (2) the support in question shall not have the effect of providing price support to producers.” In addition to these general criteria, Annex 2 sets out a number of policy-specific criteria for various types of programs.

Green-box supports are not only permanently exempt from reduction but are also identified as non-actionable subsidies under the due restraint clause. This means that countries cannot impose countervailing duties to offset the imputed effects of the subsidies on the price of imports.

Domestic Support and Trade Distortions

As indicated above, the main focus of the AoA was to reduce those forms of domestic support that have the greatest potential effect on international trade. The primary emphasis was placed on disciplines that reduce support provided through administered

prices (market price support). Figures 1 and 2 provide a simplified analysis that helps clarify the reasons for this. The left panels of the respective graphs depict supply, demand, and prices in the domestic market for a particular commodity, while the right panels show the parallel quantities and prices in the international market.

In the absence of any price policy, the world and domestic prices are P_w (we can consider this to be the price at the country's border). The country produces the quantity denoted by S , consumes D , and imports the difference ($D-S$), which is equivalent to the quantity M in the panel on the right. The curve labeled S_w depicts supply of the commodity from exporting countries to the country concerned in response to the price at the frontier.

If an administered price of P^* is introduced by the government, domestic producers respond to the higher price by expanding production to S^* , domestic consumers respond by reducing consumption to D^* and imports fall to M^* (D^*-S^*). As a result of the fall in imports, the price at the border—the international price—declines to P_w^* .

There is a significant distortion in the country's volume of trade as a result of this domestic policy. Moreover, because the country is a "large country" in terms of international trade, distortions are created in other countries whose domestic markets are open to the world market. The fall in the volume of imports causes international prices to fall. Exporters receive a lower price; other importers find that they pay lower prices. Consequently, trade distortions are created in the form of lower exports and lower domes-

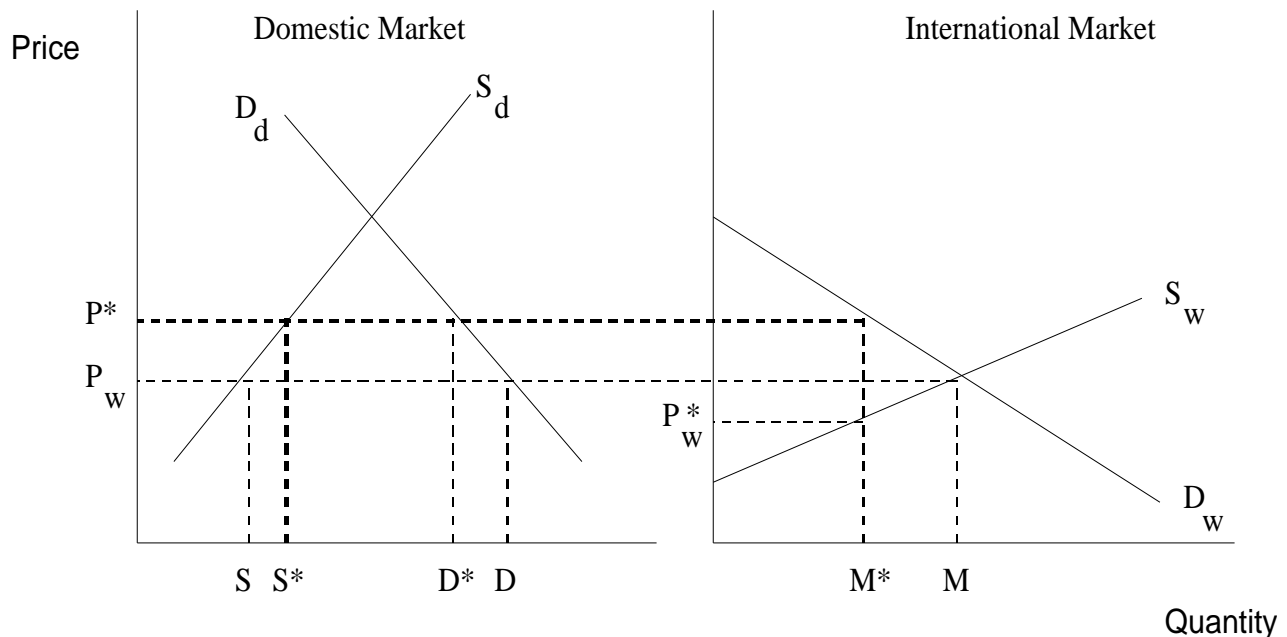


Figure 1 Domestic support and trade distortions: market price support

tic prices in exporting countries, and higher imports and lower domestic prices in importing countries.

Figure 2 shows what happens if instead of supporting market prices, the producer price is increased to P^* (output price support). This could be achieved by paying a producer subsidy for each unit of the commodity equal to the difference between the world price and P^* , while allowing consumers to purchase at the prevailing world price. In this case, production expands as before to S^* . The increase in domestic production exerts downward pressure on domestic and world market prices by reducing imports, but the fall in price causes domestic consumption to increase. World prices fall, but by less than with equivalent market price support. Other things being equal, the trade-distorting effect of output price support, in terms of trade volume and international prices, is smaller than market price support—the case depicted in figure 1.

There is another major difference between these two policy approaches. It is only possible to operate a policy of market price support if lower-cost imports are prevented from entering the domestic market. Without this, in figure 1, supplies could be obtained internationally at prices less than P^* . A tariff or some other trade policy instrument is required to prevent imports from undermining the domestic support price. If a tariff is used it will need to be equivalent to $P^* - P_w^*$.

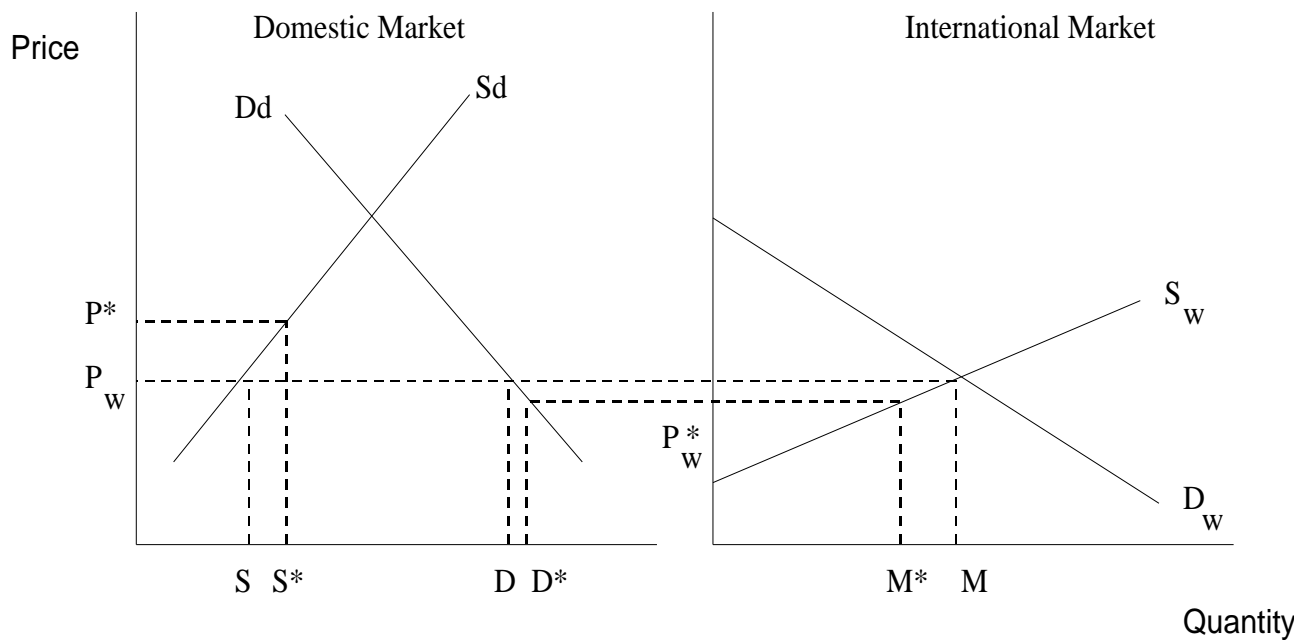


Figure 2 Domestic support and trade distortions: output price support

Note that domestic consumers bear the entire cost of a market price support policy by paying more for the product (domestically produced and imported). Part of what they pay goes to producers in the form of higher gross income. Part of that gross income goes to pay for higher production costs and part accrues to producers as profits.⁶ Part of what consumers pay goes to the government through tariff revenue.⁷ With an output price support, domestic consumers gain from the policy since they pay lower prices than before.⁸ The government has to pay the subsidy required to maintain the producer price at the support level.

As indicated, both types of policies create distortions in the volume of trade for the country pursuing the support policy. However world prices (and other countries) may not be affected significantly if the country pursuing these policies accounts for a small part of world trade.⁹ In that case, we can eliminate the right-hand side of both diagrams and just focus on the left-hand side. Both policies will increase domestic supply and reduce imports, but only market price support will also reduce consumption.

Other types of support can be provided to producers. The most common are various forms of subsidies on inputs. If the government pays a subsidy on fertilizer, for example, this will lower the costs of production as far as producers are concerned, causing them to produce more at a given market price for their output. The effect will be to shift the domestic supply curve to the right. This policy will have the effect of reducing imports, but will only affect consumption if the country using the policy is a large country. In that case, the reduction in imports will cause world and domestic prices to fall and consumption to increase.

Figures 1 and 2 examine the case of a country that is an importer in the absence of market or output price support. A parallel analysis can be performed for an exporter. The diagrams are not presented for this, but the effects of the two policies for that case can be summarized as follows:

- Market price support will cause exports to rise as domestic supply increases and demand declines. An export subsidy will be needed, equal to the difference between the domestic price and the world price. A tariff of at least the same magnitude will be needed to keep out lower-cost imports. If the country is a large country world prices will decline.
- A production or input subsidy will cause exports to rise. If the country is a large country world prices will decline and domestic consumption will increase in response to the lower price.

Governments in both exporting and importing countries may use other policy instruments in conjunction with production subsidies or price supports. The most important are various forms of output-limiting mechanisms. If a binding production restraint of some type

is imposed (e.g., an output quota), the trade-distorting impact of the production subsidy or price support will be reduced. Thus a domestic production quota set between S and S^* in figures 1 and 2 would reduce the impact of domestic support on trade and world prices. The most common reason for using output restraints is to reduce government costs of price supports (direct subsidy costs, storage or export subsidy costs).

The Relationship between Domestic Support and Trade Policies

As these simple examples show, there can be an important link between domestic support policies and trade policies. Market price support will require that lower-cost imports be prevented from entering the country through the use of a tariff or some other instrument. An exporting country will need to use some type of export subsidy, since the only alternative would be for the government to purchase high-cost domestic production and store it. Such a policy is unlikely to be sustainable over the long term.

The important conclusion is that in order to be successful, market price support must be accompanied by complementary trade measures to prevent lower-cost imports and/or to dispose of higher-cost domestic output on world markets. A second important conclusion is that the provisions of the AoA to increase market access and limit export subsidies could undermine domestic price support policies. If either or both of these parts of the AoA are effective they will augment the amount of product that will need to be absorbed by the domestic market and put downward pressure on prices. The government could try to accommodate this pressure by tightening output restrictions (e.g., reducing a production quota or increasing area set-asides) or by acquiring stocks. When these options have run their course, the only remaining option is to reduce support prices in order to eliminate the competitive disadvantage of domestic production with respect to the international market.

There is little evidence that the market access provisions and export subsidy restrictions in the current AoA have caused countries to make major adjustments in their price-support policies. The conversion of previous protective measures into a tariff equivalent (tariffication) under the AoA resulted in very high (often prohibitive) tariffs in many countries. The agreed reductions in these tariffs have not undermined the ability of many countries to support domestic prices. Indeed some countries have been able to regulate their markets by applying tariffs below the bound levels under the AoA. The market access guideline of 3 percent, increasing to 5 percent during the implementation period, also does not appear to have had much impact on domestic support programs. In many of the key countries, market access quotas have not been filled, and in others the guideline level of minimum access was not provided. It is not always clear whether this is due to normal market factors or the way market access is structured or administered (IATRC, forthcoming).

However, the EU, in particular, has experienced some problems as a result of the export subsidy commitment.

Export subsidies were a key issue for the European Community during the UR negotiations, and the most controversial aspect of the final agreement for its member countries. In 1995, the EU accounted for 84 percent (\$7.6 billion) of the value of export subsidies notified to the WTO (Leetmaa and Ackerman, 1998). In 1996, the EU exceeded its value commitment for rice and wine, and its volume commitment for rice, olive oil, beef and wine. Since that time, the EU has had problems with other commodities, most notably cheese. The EU argued that it was not in violation of the terms of the AoA during the implementation period, by virtue of the fact that it was employing unused portions of commitments from earlier years. It therefore viewed its unused export subsidy allowances to be bankable. It has also made other adjustments, for example by tinkering with the definition of processed cheese in order to be able to apply allowable subsidies to its components. In several key commodity areas—dairy products, beef, olive oil, poultry, and fresh fruit and vegetables, the EU has had, or has come very close to having, problems in meeting its export subsidy commitments under the AoA.

In terms of the future, it seems clear that further reductions in the allowable volumes and values of subsidized exports would likely force adjustment in domestic price support programs in the EU.¹⁰ Further reductions in tariffs could also have an impact, but these would need to be substantial reductions, such that bound tariffs would no longer be prohibitively high and/or reductions in currently applied tariffs would result.

Impact of the URAA Commitment on Domestic Support

One of the important features of the AoA was the recognition of the potentially trade-distorting effect of domestic support. This was a major thrust of the work of the Organization for Economic Cooperation and Development that contributed to the international impetus for substantive negotiations on agriculture under the GATT (OECD, 1982; 1987). It would have been possible simply to focus on the trade measures (market access and export subsidies) in the UR, but this would have left open unrestricted use of domestic subsidies independent of border measures that have an impact on trade.

As indicated earlier, an overall reduction of 20 percent in the support provided by amber-box measures was agreed. However, the actual impact of the reduction has been limited for several reasons. First, the agreed reductions in support only apply to the AMS, not to total support. There are questions about the degree of trade distortion generated by the excluded blue- and green-box measures (this is addressed further below). Second, the existence of the green-box category allowed countries to continue to subsidize their farmers by switching support from the amber to the green box. Third, the agreed reduction in

the AMS was sectorwide, allowing countries flexibility in how they managed the reduction. It was possible to meet the aggregate reduction while shifting support among commodities.

Table 1 summarizes trends in the percentage of the AMS commitment used in selected countries since 1995. Many countries have not reported their AMS figures to the WTO for recent years and this accounts for the missing entries in the table. In particular, data for the EU are not available for 1997 and 1998. As shown, most countries have managed to live comfortably within their AMS commitments. Argentina exceeded its commitment in 1995, and Korea came fairly close to its commitment in 1995 and 1997. Norway gradually got closer to its AMS commitment during the period. Despite the lack of recent data, it appears that the EU and the United States have been able to live comfortably within their commitments.

Table 1 Use of Total AMS Commitments in Selected Countries (percent)

Country	1995	1996	1997	1998
Argentina	144	100		
Australia	27	26	25	23
Brazil	28	35	30	
Canada	15	12		
European Union	64	67		
Japan	73	72	71	
Korea	95	91	95	80
Mexico	5			
New Zealand	0	0	0	0
Norway	71	79	82	88
Switzerland	83	74	72	71
United States	42	26	36	

Source: World Trade Organization G/AG/NG/S/1

Table 2 provides further information on trends in EU and U.S. support. In addition to the AMS data, this table includes data on blue- and green-box support, and the producer support estimate generated by the OECD. Recall that the PSE uses current international reference prices in its calculation, whereas the AMS uses a fixed set of international reference prices. Of the 95 billion ECUs of support provided by the Union in 1996, 46 percent was not subject to reduction, being almost equally divided between blue-box and green-box support. By way of comparison, of the \$59 billion of support provided by the United

States in 1996, 88 percent was not subject to reduction, being classified in the green box. Total support in both countries rose during the second half of the 1990s. As measured by the PSE, support in the EU was 29 percent higher in 1999 than in 1995. The increase in percentage terms in the United States was even more dramatic, at 260 percent. Both WTO and OECD data indicate that total support for agriculture in the EU and the United States has continued to increase during the implementation period of the AoA.

Table 2 Green-Box, Blue-Box, AMS and PSE Support
Levels in the European Union and the United States

	Base period (1986–88)	1995	1996	1997	1998	1999
European Union (billion ECU)						
AMS product-specific ^a	73.6	49.8	50.8			
AMS non-product-specific	-	0.8	0.7			
AMS	73.6	50.6	51.5			
Blue box	-	20.8	21.5			
AMS plus blue box	-	71.4	73.0			
Green box	9.2	18.8	22.1			
AMS, blue and green boxes	82.9	90.2	95.1			
PSE	86.8 ^b	100.8	93.7	99.4	110.7	108.2 ^p
United States (billion \$)						
AMS product-specific ^a	24.7	6.3	5.9	6.5		
AMS non-product-specific	.9	1.4	1.1	0.6		
AMS	25.6	7.7	7.0	7.1		
Blue box	-	7.0	-	-		
AMS plus blue box	-	14.7	7.0	7.1		
Green box	24.1	46.0	51.8	51.2		
AMS, blue and green boxes	49.7	60.8	58.8	58.3		
PSE	41.9	15.2	23.5	30.5	48.4	54.0 ^p

a = including *de minimis*

b = EC12; other figures are EU15

p = provisional

Source: World Trade Organization G/AG/NG/W14 and OECD PSE/CSE database

Proposals on Domestic Support in the Negotiations

A number of countries have made submissions in the current round of WTO negotiations on agriculture that relate to domestic support.

The **European Union** has submitted a paper in support of the continuation of the blue-box category (WTO, 2000f). The EU argues that the shift to blue-box payments has ensured transparency and restored market balance. It states that “The market orientation of producer decisions has been significantly improved (para. 5).” It cites unpublished empirical work by the OECD Secretariat in support of arguments that its policies are minimally trade distorting and concludes that “considering the considerable reduction in trade impact brought about by this new type of policy support and its success in meeting domestic concerns in the process of agricultural reform, the EC wishes to stress that the concept of the blue box, like that of the green box, must be maintained (para 9).” The EU has also submitted a paper on animal welfare (WTO, 2000e). The imposition of higher welfare standards for farm animals could impose additional costs on its producers and put them at a competitive disadvantage (Blandford, Bureau, Fulponi and Henson, forthcoming). In light of the possible effects of new standards the EU states: “It may therefore be necessary to consider whether it would be legitimate to provide for some sort of compensation to contribute to the additional costs where it can be clearly shown that these additional costs stem directly from the higher standards in question. For any such compensation to be acceptable, it would have to have no or at most minimal effects on trade and production.”

A group of **developing countries** submitted a proposal on green-box subsidies (WTO, 2000b). The submission is critical of the increase in total support revealed in table 2 and the shift of subsidies into the green-box category. It argues that so-called decoupled payments are likely to increase production. The submission is also critical of the exemption accorded to green-box payments from countervailing duties under the due restraint provision in Article 13. The countries argue that all domestic support should be collapsed into a “general subsidies” category, and that criteria should be spelled out on what would constitute legal forms of support. A common level of support should be allowed, with subsidies that are in excess of this level by a certain amount being “actionable” (subject to countervailing duties) and subsidies beyond a higher threshold being prohibited. The submission argues for “additional flexibility” for developing countries. Such flexibility would allow developing countries to use domestic subsidies and trade controls up to the point at which they become self-sufficient in domestic food production.

The **United States** submitted a proposal for comprehensive agricultural trade reform that includes action on domestic support (WTO, 2000c) and also submitted a note on domestic-support reform that amplifies its suggested approach (WTO, 2000d). The United States proposes dividing domestic support into two categories: exempt and non-exempt.

The latter would be subject to a reduction commitment. This would essentially mean the continuation of only those measures included in the green box. In its explanatory note, the United States sets out how the reduction in support would be applied and argues that “criteria-based support measures” be included in the exempt category. These measures include: farm income safety net and risk management tools; environmental and natural resource protection; rural development measures; support for the adoption of new technologies; and structural adjustment support. Since several of these measures are already included in the current green-box category (see below), it is not entirely clear whether this would weaken or strengthen disciplines on the use of domestic subsidies.

Future Approaches to Domestic Support

As indicated earlier, the elimination of market price support would go a long way towards eliminating trade distortions caused by current domestic support policies. Market price support and the trade barriers that are needed to make it work have the greatest impact on trade, because such support simultaneously increases production and reduces consumption in comparison to free trade levels. The issue then becomes: if we can eliminate market price support, do we really need to worry about other forms of domestic subsidies? The answer to this question would be in the affirmative if other forms of domestic support are minimally trade distorting. The identification of the green-box category was an attempt to define such minimally distorting forms of support.

Blue-Box Support

With the elimination of deficiency payments by the United States in the FAIR Act, the major blue-box forms of support are the “compensatory payments” provided to farmers in the EU. These payments were introduced as a result of the MacSharry reforms to the CAP in 1992, which involved progressive reductions in support prices for cereals, beef, and dairy products. Farmers receive compensatory payments (which seem to have become permanent) linked to land use for arable crops and headage for livestock. In addition, supply controls in the form of mandatory set-asides were introduced for arable crops. The payments made under the EU program are not decoupled, since production is required in order to receive the payments.

In its submission to the WTO on blue-box payments, the EU used some unpublished analysis performed by the OECD Secretariat to argue that “the significant shift from market price support to blue-box payments—resulted in a major decrease of the trade impact of CAP support measures” (WTO, 2000f). This may indeed be the case, for the following reasons: (1) the distorting effects of support on EU consumption have been reduced as market price support has declined and that support has been partially replaced by direct pay-

Table 3 Selected Statistics for EU Wheat

	Area (million ha)	Production (million tonnes)	Consumption / production (percent)	Feed use / consumption (percent)
Ave 1990–92	17.4	90.2	73	39
Ave 1997–99	16.9	98.1	88	52
Percent change	-3.2	8.8	-	-

Source: Computed from USDA (ERS) statistics

ments, i.e., there has been a switch away from the policies depicted in figure 1 toward those in figure 2; and (2) the compensatory payments have been accompanied by the use of production controls.

Without comprehensive analysis based on a quantitative economic model it is difficult to provide a definitive assessment of whether the shift in the EU policy regime has reduced trade distortions for all of the commodities concerned. This would depend on the relative impact of the combined effect of compensatory payments and production controls on production and the impact of the cut in market price support on consumption.

However, a tentative assessment is possible for wheat. This was one of the most contentious commodity areas due to the increase in subsidized EU exports during the 1980s. The level of set-asides for cereals, for example, in the EU has been low in most years under the new policy, so that the production constraints have not been large. Immediately after the introduction of the new policy regime, the mandatory set-aside was 15 percent of the program area. In recent years it has generally been 5 percent. Thus, while the area of wheat harvested in the EU has declined slightly in comparison to the period before the MacSharry reforms (table 3), production has risen due to higher yields.

This is probably due to the continued effects of cost-reducing technical improvement, although it may be partly due to the yield-enhancing effect of overcompensation for the reduction in price supports provided by the compensatory payments. The consumption of wheat, which had been depressed by the market price support policy, has increased substantially, largely due to expansion in the use of wheat for animal feed (table 3). Cheaper wheat for animal feed has made it more competitive with other feedstuffs, particularly the so-called “cereal substitutes” such as manioc and corn gluten feed. Thus, it seems likely that the change in EU policy, primarily through its impact on domestic consumption of wheat, has resulted in a reduction in trade distortions.

This being said, the issue of whether blue-box policies should continue to be allowed remains unresolved. The issue for the future is whether the continuation of the blue box,

and the resulting policy measures that this sanctions, would be less trade distorting than other alternatives. If the EU continued to make substantial reductions in support prices, but also increased compensatory payments, it would eventually make a full transition from the policy regime depicted in figure 1 to that depicted in figure 2. The trade-distorting effect of EU policies would then be a function of the level of the output price (market price plus compensation payment), and the output restraint. Blue-box support would continue to be trade distorting, and would likely be more trade distorting than support involving more decoupled direct payments.

Green-Box Support

The green box category includes several types of domestic support measures (table 4):

- general services provided to producers, for example, through research and extension, and inspection services;
- public stockholding;
- domestic food aid;
- decoupled income support;
- income insurance and income safety nets;
- disaster payments;
- payments made as part of structural adjustment programs to promote producer or resource retirement, or for investments to improve farm structure;
- environmental payments; and
- regional assistance.

The AoA specifies the general conditions that should apply to all these types of payments if they are to be allowable forms of support (green-box eligible). The main criteria are summarized in table 4. In general, the criteria require that payments be transparent, targeted to specific objectives, and where possible not linked directly to production decisions. However, by their very nature some of the allowable payments are likely to influence production and consequently trade, either by reducing production, in the case of producer or resource retirement aid, or by increasing production, in the case of investment aids to correct structural problems. In some cases, for example environmental payments, production could be increased or decreased depending on the conditions attached to the payment. The criteria for allowable domestic support are clearly written with the aim that any support provided to producers should have a minimal impact on production.

The minimal production impact requirement raises two important issues: (1) if payments are made whose primary aim or effect is to increase producer incomes, will such payments indeed have a minimal impact on production? and (2) if payments are made to producers in order to achieve other aims, e.g., environmental objectives, is it logical to require these to have a minimal impact on production?

Table 4 Summary of Main Criteria for Allowable Domestic Support

Type of measure	Main criteria
General services	Must not involve direct payments to producers or processors
Public stockholding	Volumes governed by legislated food security targets; financial transparency; purchase and sale at current market prices
Domestic food aid	Clearly defined eligibility criteria based on nutritional objectives; financial transparency; purchase and sale at current market prices
Decoupled income support	Clearly defined eligibility criteria for a fixed base period; payments not related to the volume of production, prices, or factors of production in any year after the base period; no requirement to produce to receive payments
Income insurance and income safety nets	Eligibility based on income loss >30 percent of average gross income for the previous three-year period or three-year average excluding high/low from a five-year period; compensation less than 70 percent of the income loss; no linkage to production, prices or factors of production
Disaster payments	Production loss >30 percent of the average for the previous three-year period or three-year average excluding high/low from a five-year period; only for loss of income, livestock, land and other production factors; no more than replacement cost and not linked to requirements for future production; if during a disaster no more than that required to alleviate further loss
Producer retirement schemes	Clearly defined eligibility criteria to facilitate retirement or switch to non-agricultural activities; conditional upon total and permanent retirement from marketable agricultural production
Resource retirement schemes	Clearly defined eligibility criteria to remove land or other resources from marketable agricultural production; land retirement for a minimum of three years; slaughter or definitive permanent disposal of livestock; no required alternative use for marketable agricultural production; payments not related to volume of production or other resources remaining in production
Investment aids	Clearly defined eligibility criteria to assist financial or physical restructuring for objectively demonstrated structural disadvantages; payments not based on production or prices in any year after a base period; provided for a fixed period of time; no mandate for future production (except no production); limited to the amount to compensate for structural disadvantage
Environmental payments	Part of clearly defined environmental or conservation program linked to production methods or inputs; payment limited to extra costs or loss of income caused by compliance
Regional assistance	Limited to producers in objectively identified disadvantaged regions; payments not based on production in any year after a base period (other than to reduce production) or prices; available to all producers in eligible regions; limited to extra costs or loss of income related to undertaking agricultural production in the prescribed area

The Decoupling Issue

The first of these issues revolves around decoupling. If no production is required in order to receive a payment from the government, will an income-support payment actually have no impact on production? The simple answer is that it is unlikely that any government transfer will have no production effect, but the magnitude of that effect will depend on the conditions attached to the payment and on producer behavior. Other things being equal, the least-distorting payment will be the one that is closest to a pure lump-sum transfer—a fixed payment with no conditions attached. Farmers would not have to produce anything to receive the payment; they would not even have to remain in farming. The assumption would be that farmers receiving such a payment would make decisions on the use of their labour and other resources (land and capital), without reference to the payment, i.e., solely on the returns that they would receive from using these resources in agriculture or elsewhere.¹¹ Whether this assumption actually holds in practice is an open question—farmers, like the rest of us, may only be “approximately economically rational” when it comes to the decisions they make.¹²

The problem is that, even assuming economic rationality, decoupled payments may affect resource allocation decisions in farming, primarily through their impact on the funds available to the farmer for use in the farm business.¹³ The payment increases the total income of the farmer. Farmers may choose to use the income solely for consumption or to save all or part of it for future consumption. Alternatively they may decide to invest some or all of the extra income in the farm. The “rational”, profit-maximizing decision maker will do this if the expected return on the farm investment is at least equal to that on competing investments. However, because the funds to make this investment are costless to the farmer when the government provides them, it is possible that the level of investment in the farm will be higher than would otherwise be the case.¹⁴

In the absence of the government payment, funds for farm investment are obtained either from retained profits or through borrowing. The effect of the government income-support payment is equivalent to an increase in retained profits. It increases the ability of the farmer to invest in the farm business, and the government payment is certainly a more attractive form of investment capital than a commercial loan on which interest has to be paid. Consequently, even in those cases where a maximum of decoupling in the terms of the payment exist, there are likely to be effects on the overall level of resources used in agriculture and the level of farm output.

Consistency of Requiring Minimal Production Effects from Some Types of Payments

In some cases, one can question the logic of requiring that government payments should have minimal production effects. The issue revolves around externalities and public goods.

It is often argued, particularly in Europe, that agriculture not only produces food and fibre, but also a range of other less tangible outputs. This is the basis of the so-called “multi-functionality” argument (Fischler, 2000).

Some of the elements included as multiple outputs of agriculture do not have much economic logic. For example, the role of agriculture as a generator of employment is sometimes mentioned as a component of multifunctionality. Most economists would view the use of labour in an activity that does not appear capable of paying a remunerative rate of return without government payments to be a problem rather than a benefit. The solution to this problem is structural adjustment that will create sustainable economic activity. However, even if we are to assume that there is something noble or of particular social value about being employed in agriculture there seems little logic in paying farmers to keep output higher just to generate a few jobs. In industrial countries, relatively little labour is now used in agriculture; hence its contribution to employment is small. For example, only 2 percent of GDP and 2 to 4 percent of total employment in the EU and the United States is generated by agriculture.¹⁵ In EU countries as diverse as Germany and Sweden, agriculture accounts for less than 10 percent of total employment in predominantly rural regions. There is very little evidence that agriculture is a potentially greater generator of employment than other rural activities. Public funds might be spent more effectively on addressing some of the infrastructural barriers to rural development in order to generate employment in rural areas, rather than on subsidizing farming and creating very little employment.

Nevertheless, there are aspects of multifunctionality that merit serious consideration. Agriculture can be a source of public goods—goods that have no market and no price because an individual’s enjoyment (consumption) of the good does not reduce the quantity available to others and it is not possible to prevent someone consuming the good once it is made available.¹⁶ One might argue that some of the landscapes created by agriculture are such a public good. Agriculture may also be a source of positive externalities—joint products that are consumable but are not priced in the market. Thus enhanced environmental quality (e.g., wildlife habitat) could be viewed as such a positive externality.¹⁷ In both cases, it can be argued that some means needs to be found to reward producers in order to ensure a sufficient supply of the desired goods.

In such cases, the payment of a subsidy to producers requires that production be affected to some degree. If the supply of the public good depends on there being farms in the countryside, then the payment of a subsidy would have to be linked to farming activity in some way. It is not sufficient to make an unconditional payment to farmers that would allow them to abandon their farms and move to the cities, for example. The situation is even more complicated when the public good or positive externality is associated with particular production practices or systems. In this case, the payment must be made in such a

way that a desired level of production is achieved and/or desired production methods are used. In order to avoid distortions, the payment should be directed towards the production of the non-market good itself or to the inputs to which it is linked. This is discussed further below with reference to specific examples.

If one acknowledges the legitimacy of these types of payments, the principle of only permitting government payments that have a minimal impact on production, such as those in the green box, becomes questionable. Indeed, in this case, the whole concept of such payments inducing a production “distortion” is no longer valid. If the levels of production, consumption, and trade are determined without taking into account unpriced but valuable outputs, then markets are **already** distorted. The payment of the subsidy may simply be needed to correct the existing distortion. The inconsistency of this logic with that underlying the green box should be immediately apparent.

It is not surprising that countries who wish to limit the impact of freer trade on their domestic agricultural sectors are enthusiastically pursuing the multifunctionality credo. However, there are serious weaknesses in some of the arguments that are being advanced. In general, it appears as though the assumption is being made that public goods and positive externalities in agriculture are jointly produced in fixed proportions in unique production systems—the ones currently in place. Little consideration is being given to the possibility of reducing the trade effects of internalizing the externality through changes in input proportions or output levels within existing systems. Furthermore, little consideration seems to be given to the possibility of achieving the desired supply of a public good or positive externality through alternative production systems.

An example should help to make the issues clearer. It is often argued that Switzerland needs to support its dairy industry since it is the grazing of dairy cattle on Alpine pastures that protects Alpine flora and fauna. However, one might ask

- Does this mean that the current intensity of dairy production needs to be maintained? Could the same ecological impact be ensured with a less intensive dairy production system and consequently less trade distortion (less domestic milk and dairy products that substitute for imports)?
- Does dairy production have to be subsidized at all? Could the same ecological benefits be realized by allowing farmers to switch to extensive beef production or by encouraging them to stock the hillsides with wild deer? Is it necessary to have such conditionality on the subsidy that this will only promote a continuation of the keeping of dairy cattle?

If keeping animals on the hillsides is the secret to obtaining the desired outcome, the central issue is: What is the most efficient way to achieve the desired effect and how can

this be done in such a way as to minimize trade distortions? The use of a per head subsidy up to a given stocking density would be preferable to an output subsidy, since this would minimize the incentive to increase output at the margin unless this were profitable at market (preferably free-trade) prices. The trade-distorting effect would be limited to the residual milk, beef or venison production that is marketed from animals largely fed on grass.

The Swiss case illustrates the complexity of identifying optimal policies to achieve the desired supply of public goods or positive externalities from agriculture, if we actually know what the optimal supply should be (not an easy issue to resolve!). In reality, we are likely to be faced with a range of choices among production systems and input combinations within those systems that will result in the desired supply of multifunctional outputs. The reality of spatial diversity (environmental outcomes from farm production systems are likely to vary widely among regions, within regions, and even within farms) adds yet another layer of complexity to policy choice. Finally, if one is faced with the possibility of negative externalities (e.g., that alternative Alpine production systems in Switzerland may also have differing implications for the quality of water in Alpine streams), the identification of optimal policy becomes even more complicated.

In reality, it is likely that there are many cases in which achieving the optimal supply of multifunctional outputs from agriculture would require an active effort to **change** production methods, rather than keep them the same. Another example can be cited, this time from the United Kingdom. A major part of “landscape amenity” in the United Kingdom is associated with public access to the countryside. Farming is valued not only because it gives a particular character to the countryside, but because people like to walk through it using the extensive network of footpaths that exists on farm land. One of the consequences of high support prices for cereals and oilseeds under the CAP is that in parts of the United Kingdom land that was previously in permanent or semipermanent pasture has been converted to annual crops. One could argue that the supply of public goods has actually gone down as a result of this development. Rather than having grass to walk on, people now have muddy tracks through plowed fields for much of the year. This is to say nothing about the impacts of intensive cereal production (with the high use of chemicals) on the population of wild birds and biodiversity, which are clearly negative externalities from the changes in land use.

In the UK case, a strong argument could be made for policies that would actually target changes in production practices in order to achieve the desired supply of public goods/positive externalities and to reduce negative externalities. In areas where the production of cereals/oilseeds will be profitable at world prices, it might be desirable to pay farmers to maintain footpaths (e.g., as mown-grass refuges). In the United Kingdom, farmers can already obtain a payment for preserving hedgerows, and so this would not be a rad-

ical addition. In all probability the current policy of paying area payments, linked to the planting of cereals/oilseeds, under the CAP (the blue-box subsidies) is probably a very poor way of achieving the desired supply of public goods.

The debate on multifunctionality is particularly prominent in Europe, hence the focus on European examples in this paper. However, the Japanese argue that rice production has public-good and positive-externality aspects by providing a particular character to the Japanese countryside and providing an ecosystem function as wetlands. The public-good aspects of agriculture, particularly the provision of open space, are becoming more important in certain parts of North America. Rapid population growth and economic growth are creating increasing pressures for the conversion of farmland to other uses in some areas, and this is stimulating debate on appropriate policy measures to preserve open space.

Implications for the Current Round of Trade Negotiations

Recent history suggests that government efforts to transfer income to farmers will not wither away; in fact they appear to be increasing, according to OECD figures. If this is the case, the potential for trade distortion through domestic subsidies will also increase.

Finding ways to impose international disciplines on domestic support that will minimize true trade distortions, while at the same time providing sufficient flexibility for countries to achieve legitimate domestic policy objectives, is extremely challenging. Every country seeks to ensure that its pet programs are on the approved list, as reflected by the country submissions to the WTO by the EU and the United States. In the opinion of this long-time observer of trade negotiations, dealing with border measures is likely to prove far easier in the current round than dealing with domestic support. It will be extremely difficult to reach agreement on effective disciplines to minimize the true trade-distorting effects of domestic support.

Nevertheless, progress towards this objective might be made through the following steps:

- **Strong efforts to reduce or undermine the operation of market price support.**

Where price support is necessary, the aim should be to convert market price support to an output price subsidy. The most effective way to reduce market price support would be to achieve major reductions in the tariffs and export subsidies that make such support feasible. Market access could be increased, if it is not possible to cut tariffs sufficiently or prevent implicit quantitative control of imports. Special exemptions should be resisted, e.g., for developing countries, that would allow WTO members to continue to use price supports buttressed by trade restrictions. If the amber-box category of support is maintained, a requirement to reduce such support progressively to zero commodity-by-commodity would help to ensure that market price support is eventually eliminated for all commodities.

- **Continuation of blue-box direct payments only under strict disciplines.** These disciplines are needed on the level of payments and/or on the minimal level of production restraints associated with these payments. Given the tendency of the EU to overcompensate producers for changes in the CAP or the possibility that the United States might decide to re-introduce deficiency payments in the next Farm Bill, the potential production and trade-distorting effects of blue-box compensation need to be controlled. Blue box payments should only be permitted if these are associated with firm resource retirement requirements to limit their impact on production and trade.
- **Clear criteria for all green-box payments to limit production-distorting effects.** This will mean that more detailed structural and operational criteria will have to be specified for each type of green-box policy. There are too many loopholes in the current criteria; it is far too easy for countries to circumvent the intent of the green-box category. The most difficult part of the process will be the specification of rules for payments designed to ensure the supply of non-market goods since, as argued earlier in this paper, these payments must, by definition, involve some production and trade effects. Nevertheless, disciplines need to be imposed on the use of legitimate trade-affecting policies (those designed to ensure the supply of a public good or positive externality) to ensure that these are not used as trade-distorting policies.
- **Introduction of a review mechanism under the WTO for all policies involving government payments.** An alternative needs to be provided to the dispute settlement procedure to deal with domestic support policies that might have significant trade-distorting effects. One way forward would be to place the onus on countries wishing to introduce such policies to prove that they are designed and implemented in such a way as to be minimally distorting. Since it would be impossible to specify green-box criteria that would be sufficiently detailed to cover all the variants of policies involving government payments, a review mechanism would provide a filter whereby such policies could be scrutinized and given a “seal of approval”. A regular review requirement would ensure that approved policy measures continue to be implemented in a minimally distorting manner.

It seems clear that there is little possibility that the majority of WTO member countries will accept the total elimination of domestic agricultural support in the foreseeable future. It will also be difficult to reach agreement on firm constraints on the level of subsidies, particularly through the use of formulas that do not differentiate among types of subsidies. However, without greater clarity on permissible forms of support and effective disciplines on levels of support, it is likely that reductions in border protection will not bring about the adjustments in production and trade that should otherwise result. Furthermore, allowing

blanket exemptions from WTO disciplines for particular groups of countries will only encourage the development of inefficient and expensive domestic support policies. There will continue to be international tensions about the lack of a level playing field in agriculture unless strong steps are taken to minimize the possible trade-distorting effects of domestic support policies in a new WTO agreement on agriculture.

Endnotes

1. My thanks to Professor David Abler of Penn State University and Professor Richard Boisvert of Cornell University for helpful comments on an earlier draft of this paper.
2. An earlier version of this paper was presented at the Canadian Agri-Food Trade Research Network Workshop on Agricultural Trade Liberalization: Can We Make Progress? Quebec City, Quebec, October 2000.
3. Earlier in the negotiations there was a red or prohibited category of support, but this was dropped.
4. The Producer Subsidy Equivalent has recently mutated into the Producer Support Estimate. The two are very similar methodologically (OECD, 2000).
5. Although these payments are not linked directly to production, this does not mean that they do not have an impact on production. This “decoupling” issue is discussed below.
6. Whether or not these profits persist is an open question. Suppliers of farm inputs may be able to extract part of the increased profits from producers if they have market power. Food processors and retailers may be able to do the same. The higher profits may be bid away through farmland transactions and increased land prices. It is unlikely that protection will result in more than a transitory increase in profits for farmers. Even under the most optimistic assumptions, the “transfer efficiency” of price support is often very low (Blandford and Dewbre, 1994).
7. There is net loss in domestic economic welfare equal to the sum of the two triangles located below the supply and demand curves in figure 1.
8. The net loss in domestic welfare is smaller, since the gain in consumer welfare—the triangle below the demand curve—must be subtracted from the extra resource cost of domestic production—the triangle below the supply curve in figure 2.
9. Note, however, that if a sufficient number of “small countries” use similar types of policies, these will collectively have a trade-distorting effect on other countries.
10. Some forms of export disposal mechanisms are not disciplined, e.g., export credits and food aid. These would need to be included to prevent future circumvention of export subsidy limitations.
11. The payment provides no incentive at the margin to allocate farm resources to any particular farm or non-farm enterprise. However, the wealth effect of the payment might cause farmers not to work when they would otherwise do so. The impact of such payments on the economy as a whole is a complex issue, since it also depends on the form of taxation used to finance the payment to farmers and the impact that such taxation has on decision making by non-farmers.

12. I have heard it argued that some farmers would continue to farm “until all the money is gone”. This could happen if farmers perceive they have no viable alternatives to farming (e.g., due to age or education) or if they wish to remain in farming because of the utility that they derive from it. In the latter case, the farmer views farming to be a consumption activity more than a production activity.
13. This is particularly relevant if farmers face borrowing or credit constraints, an issue of particular importance in many developing economies. Note also that if an unconditional payment is made to a land owner who is not the farmer of the land in question, the payment is unlikely to have an impact on aggregate farm output or the composition of that output. This is because a different person than the one receiving the payment makes the production decisions.
14. Westcott and Young (2000) point out that the wealth effect of payments may also affect attitudes to risk, enabling producers to invest in more risky crops. This could have an impact on the total level of output and its composition.
15. Total employment in the food and agricultural system in most countries is larger than these figures. In the United States, for example, roughly 17 percent of total employment was in this system, broadly defined, in 1996. However, only part of such system employment is directly linked to domestic production agriculture, primarily the part associated with input supply and immediate processing. For an analysis of domestic agricultural policies and the food and agricultural system see Blandford (2000).
16. These characteristics are termed non-rivalry and non-exclusivity.
17. Many policy makers who argue for agricultural support are quick to point to the positive externalities created by agriculture. They are less eager to address some of the negative externalities, e.g., the effect of animal wastes and the use of agro-chemicals on water quality. Control of these negative externalities may require taxes on agricultural inputs or outputs.

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