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The Definition of Export Subsidies and the Agreement on Agriculture

INTRODUCTION

The Agreement on Agriculture (AoA), familiar from the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) is being renegotiated in the context of the World Trade Organization (WTO). Reductions in support for agriculture will be tabled, which will affect amounts spent on export subsidies. This paper focuses on the definition of export subsidies used in the Uruguay Round (WTO, 1994). It suggests that the language in the AoA omits an important implicit subsidy in the form of price discrimination and revenue pooling (termed a 'consumer only-financed' export subsidy) and poorly defines 'producer-financed' export subsidies. 'Consumer only' and 'producer'-financed payments require government regulation to allow marketing orders, marketing boards or state trading enterprises (STEs) to operate (Alston and Gray, 1998; Annand and Buckingham, 1998; Dixit and Josling, 1997; Schluep, 1999). We show that domestic price discrimination alone is equivalent to a consumption tax (it is like policy for peanuts in the United States) while price discrimination in international markets alone is a production subsidy (as in the case of the New Zealand Dairy Board).

Several countries have called for the prohibition of export subsides in the forthcoming negotiations. The AoA in the Uruguay Round placed limits on both export volumes and expenditures. We show that the current definition of an export subsidy in the AoA and the Agreement on Subsidies and Countervailing Measures (ASCM) is inadequate in addressing taxpayer, consumer only and producer-financed export subsidies. In addition, the code on State Trading Enterprises is not well suited to capture practices of such implicit export subsidies. We use examples of dairy policies worldwide to illustrate the different types of export subsidies and the practices of state trading exporters. Finally, we discuss how the WTO could deal with export subsidies in the future.

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THREE TYPES OF EXPORT SUBSIDIES

Taxpayer-financed export subsidies are well known, involving direct payments by governments and accounting for over 90 per cent of the export subsidies notified to the WTO in 1997. The European Union and the United States employ them for dairy products. A taxpayer-financed export subsidy includes transfers not only from taxpayers, but also from consumers to producers. This is shown in Figure 1 for a small country exporter. The intersection of the excess supply curve ES_1 (the horizontal difference between the domestic supply and demand curves S and D, respectively) and the horizontal excess demand curves given by P^w generates free trade exports of the distance $X_{fr.trade}$. The introduction of a taxpayer-financed export subsidy represented by the vertical distance XS_{tax} results in a wedge between the domestic price to consumers and producers (denoted by $P^{tax} = P^{pool}$) and the world price P^w. The domestic price increase causes production to increase to Q^{s1} and consumption to fall to Q^{d1}. Transfers from taxpayers to producers are the area $(Q^{s1} - Q^{d1}) * XS_{tax}$ and from consumers to producers of the area $(P^{tax} - P^w) * Q^{d1}$.

Exports under a taxpayer-financed export subsidy are X_{tax} where the wedge between the excess supply ES_1 and the excess demands curve equals XS_{tax}. Trade distortion is the distance ① plus ②.

A consumer only-financed export subsidy involves transfers to producers directly from consumers. Such an export subsidy has been identified for the export of Canadian dairy products in 1997 (WTO, 1999). Classified pricing in US marketing orders for milk and the policy of California having lower prices for exports conform to this definition of a consumer only-financed export subsidy as well. Neither the AoA nor the ASCM recognize this type of export

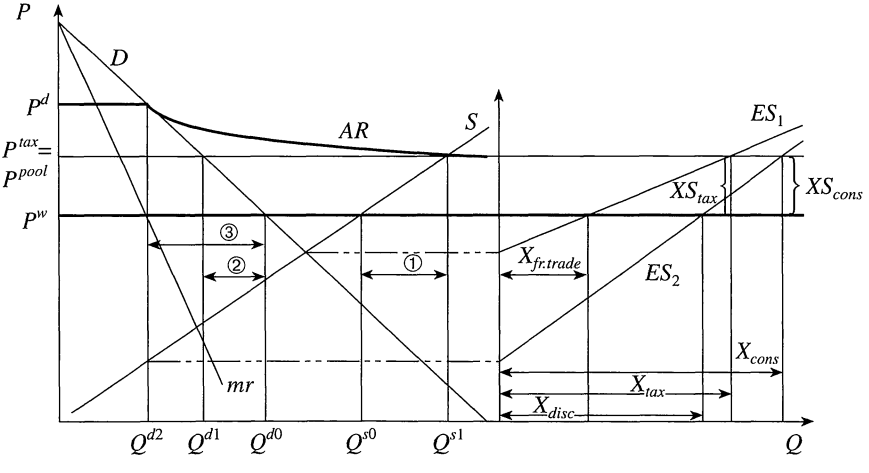

FIGURE 1 *Taxpayer versus consumer only-financed export subsidy (single product, small exporter)*

subsidy.[1] Therefore it is not part of the members' export subsidy reduction commitments. Indeed, no country has notified the WTO of this type of arrangement.

The prerequisites for a consumer only-financed export subsidy are both border protection that allows for price discrimination (across domestic and foreign markets for one product and/or across products in international markets) and pooling of revenues to producers. This type of implicit export subsidy is not contingent upon export performance as required by the GATT. The case of price discrimination for one product between domestic and foreign markets for a small country exporter is also depicted in Figure 1. Two situations are considered: price discrimination with and without revenue pooling.

Price discrimination is administered either directly by government regulation or through market power of a government-sanctioned marketing board. Consider the case where the domestic market price is set at P^d where the marginal revenue (mr) equals marginal cost (P^w). With price discrimination, but no revenue pooling, production stays at the free trade level Q^{s0}. However, price discrimination causes domestic consumption to contract to Q^{d2}.

The horizontal difference between the domestic supply curve S and domestic demand Q^{d2} results in the excess supply curve ES_2. Exports are X_{disc} where the excess supply curve ES_2 intersects the world price P^w. There is no wedge between the domestic supply and the world price under price discrimination only. This scheme is a consumption tax and the horizontal distance ③ represents the trade distortion. US peanut policy is an example.

Price discrimination in combination with revenue pooling does represent a consumer only-financed export subsidy. The average revenue or pool price is depicted where the average revenue curve AR equals the marginal cost S. Revenues from domestic sales of the amount ($P^d * Q^{d2}$) are pooled with revenues from sales in the world market of the amount ($Q^{s1} - Q^{d2}$) $* P^w$. The weighted average or pool price P^{pool} which the producer receives is calculated as

$$\{(Q^{d2} * P^d) + [(Q^{s1} - Q^{d2}) * P^2]\} / Q^{s1}$$

Output under the pool price P^{pool} expands to Q^{s1}, while domestic demand remains at Q^{d2} as under price discrimination only. The horizontal difference between the domestic supply curve S and domestic demand Q^{d2} generates the excess supply curve ES_2. Due to the higher producer price P^{pool}, exports increase from X_{disc} under price discrimination only to X_{cons}. Price discrimination in combination with revenue pooling therefore distorts international trade by the sum of the distances ① plus ③ which is more than under price discrimination alone (distance ③). The per unit export subsidy is depicted as the vertical distance XS_{cons} which also illustrates the wedge between the domestic and the world price and therefore confirms that a scheme that involves price discrimination and revenue pooling provides for an implicit export subsidy. Note that this implicit export subsidy is not contingent on export performance but rather is a by-product effect of price discrimination and revenue pooling.

With price discrimination only and the production at the level Q^{s0}, the revenue to farmers is ($Q^{s0} * Pw$)+ $\{(Pd - Pw) * Q^{d2}\}$. A policy that combines

price discrimination with revenue pooling results in revenue to farmers of the amount ($P^{pool} * Q^{s1}$) which must be equal to the revenue under price discrimination only. This is because the pool price is a weighted average of revenues from the domestic and export market. The pool price does not represent a marginal cost price. This implies that farmers overproduce under a scheme that involves price discrimination and revenue pooling by the amount ($Q^{s1} - Q^{s0}$) to receive the same revenue as under price discrimination alone. The deadweight cost of overproduction is represented by the triangle [$0.5 * (P^{pool} - P^{w}) * (Q^{s1} - Q^{s0})$]. Therefore farmers would be better off not to pool. We also want to emphasize that trade distortion of this type is larger (distances ① plus ③) than under the taxpayer-financed export subsidy (distances ① plus ②). The intuition for this result is that the consumer price for a consumer-financed export subsidy has to be higher than that in the taxpayer-financed case (and greater than the producer price). This means there is less domestic consumption with a consumer-financed export subsidy for the same producer price, and so trade distortion is greater than that with a taxpayer-financed export subsidy.

It is possible that a consumer only-financed export subsidy exists when a non-traded good like fluid milk faces price discrimination but a dairy product is traded at world prices (Sumner, 1996). Consumption of fluid milk is reduced and revenues are pooled to farmers, thereby increasing production. This acts as an export subsidy. ES_2 in Figure 1 would shift left as the price of the traded good declined towards the world price. Trade distortion would decline and perhaps be less than the taxpayer-financed equivalent export subsidy. The decline in consumption with the consumer-financed export subsidy would be greater than that for the taxpayer-financed export subsidy. However, the taxpayer-financed export subsidy also involves a decline in the consumption of the traded product. It can be shown that the extent of the trade distortion would depend on the relative demand elasticities,[2] the proportion of total production of the traded good consumed domestically,[3] the elasticity of supply, the level of farm price desired and the price gap between the export and non-traded good.

Mandatory or government regulated *producer-financed* export subsidies are also subject to reduction commitments in the AoA. A producer-financed export subsidy is contingent on exports and can only coexist with a taxpayer and/or a consumer only-financed export subsidy. However, the effects of a producer-financed export subsidy differ, depending on the initial export subsidy scheme. Introducing a producer levy with a taxpayer-financed export subsidy already in place increases the price to both farmers and consumers. If the levy maintains the net price (and producer welfare), the price to consumers increases and so increases the tax costs of the programme because the world price declines for a given level of exports. The only way a producer levy to finance part of the costs of a taxpayer-financed export subsidy programme can reduce tax costs is when producer welfare declines. Figure 2 shows how a producer levy of t shifts the domestic supply (S_1 to S_2) and excess supply (ES_1 to ES_2) curves left, generating tax revenue and reducing taxpayer costs. Trade distortion is less as production declines, and exports can even become less than free trade levels.

The situation differs for a producer levy to partially or fully finance exports under a consumer only-financed export subsidy scheme. A levy imposed on a

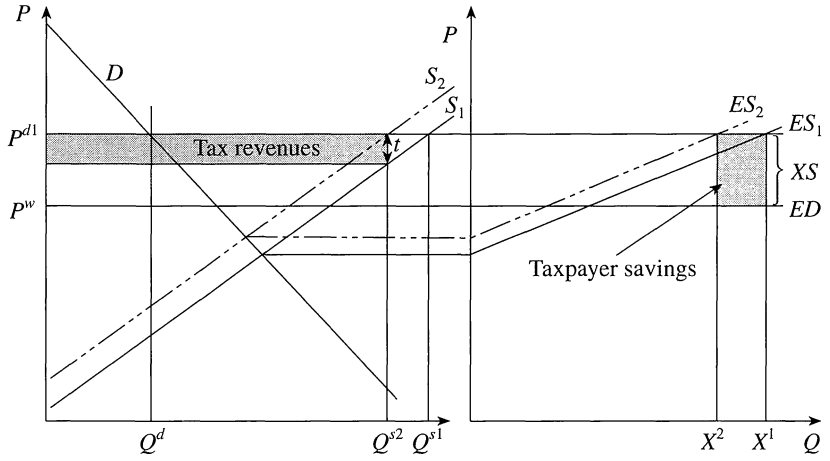

FIGURE 2 *Producer levy with a taxpayer-financed export subsidy (single product)*

consumer only-financed export subsidy results in the same average revenue (pooled domestic and export sales) curve because exports are not pooled at the world price anymore but at some higher price to justify the use of producer levies in the first place. Therefore a producer levy to finance part of the costs of a consumer only-financed export subsidy is identical to a consumer only-financed export subsidy alone, holding producer welfare constant. Note that two products are required for a levy to operate with a consumer-financed export subsidy. Otherwise, there is nothing to tax.

Figure 3 shows the situation of a levy t on a consumer only-financed export subsidy. The consumer only-financed export subsidy is depicted where consumption is at the level Qd owing to price discrimination and the pool price P^{pool} occurs where the average revenue AR (Pd, P^w) intersects the supply curve S and production is of Q^{s1}. Note that revenue is pooled from domestic sales at P^d and export sales at P^w. A levy t is imposed on a consumer only-financed export subsidy, where the average revenue AR (P^d, P^p) generates the pool price P^{pool*}. The difference here is that exports are not pooled at the world price but at a higher level, P^p. Therefore, an export subsidy of the amount B would be necessary to finance exports. Instead, a levy is imposed on the production that reduces output to Q^{s1} and provides the funds for the export subsidy [Q^{s1} * ($P^{pool*} - P^{pool}$)] equivalent to area B. Therefore a producer levy on a consumer only-financed export subsidy is identical to a consumer only-financed export subsidy alone, because one either pools P^d and P^w or P^d and P^p. In the latter pool, one is taxing it back from producers to sell at the world price, so a producer levy in this case is like taking money from one pocket and putting it in another.[4]

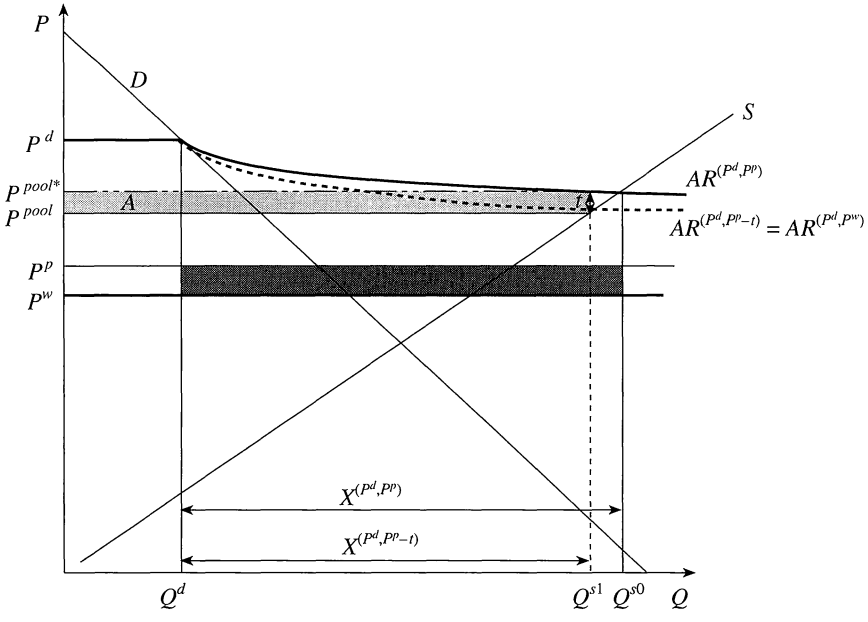

FIGURE 3 *Producer levy with a consumer only-financed export subsidy (two products)*

THE WTO DISPUTE SETTLEMENT PANEL RULING ON CANADIAN DAIRY POLICY

The problem with the consumer only-financed export subsidy can be illustrated by the recent WTO Dispute Settlement Panel on Canadian dairy policy. The Panel concurred with the USA and New Zealand that milk sold at the world price below domestic prices was receiving a 'preferential' price because it required farmers to 'share the cost' of selling milk at a lower price than the pooled price from domestic sales. The WTO ruled that such a scheme is a producer-financed export subsidy because farmers have to 'forgo revenue' to provide the subsidy and is 'contingent on exports'. The Panel concluded that part of Canada's dairy export scheme is inconsistent with provisions on export subsidies in the AoA and provides export subsidies in excess of quantity ceilings committed to in Canada's Schedule (WTO, 1999).

We argue that the legal definitions of export subsidies in the AoA, the ASCM and Article XVI in the GATT 1994 are inadequate. The Canadian dairy export policy in question is only partly a producer-financed (equivalent to a consumer only-financed) export subsidy. The most important class of milk sold at world prices (below the domestic price) is in fact not receiving an export subsidy at all. The Panel's decision also has implications for other countries' dairy and other commodity policies.

Three milk class prices are contested: Class Vabc and Vd export sales that are from in-quota production and whose revenues are pooled with domestic sales; and Class Ve from over-quota production that is not pooled with domestic price sales and so is exported where the marginal cost of production equals the world price. Consequently, the economic definition of a consumer only (or producer-financed) export subsidy has Classes Vabc and Vd as export subsidies (although potentially less distorting than if no production quota exists). However, the Panel determines Class Vd and Class Ve as export subsidies but not Class Vabc, because access to the latter could also be gained by processors for the domestic market and are not 'contingent upon the export performance' (Table 1)[5] Class Vd and Ve provide a lower price to exporters than could be obtained from other sources and supplied through a government-sanctioned system. Pooling, and whether or not milk originates from in-quota or over-quota production, is not an issue in the WTO Panel findings.

TABLE 1 *The WTO Dispute Settlement Panel ruling on Canadian dairy policy*

Class	Economics	WTO Ruling
Vabc	Domestic *and* export sales Price pooling	Exports not 'preferential' Not contingent on exports because sold on domestic and world markets
Ve	Price pooling Exports only	Export subsidy because of 'preferential' ('share' cost at lower world price) and 'contingent on exports'
Vd	No pooling Over-quota production Get world price only	

The Panel fails to take into account that over-quota sales of Class Ve sold at the world market price is produced where marginal costs equal the world price with price discrimination but no revenue pooling. Consumption declines but production remains unchanged compared with the free trade situation and hence no export subsidy can be inferred. The identification of an export subsidy by means of payment, benefit or revenue forgone is somewhat misleading.

Class Vd is an export subsidy because of price discrimination *and* pooling and so should be subject to the reduction commitments. However, the arguments of the USA, New Zealand and the Panel differ from ours. They allege that Class Vd is a producer-financed export subsidy (Article 9.1(*c*) of AoA) because producers forgo revenue owing to the government involvement in the administration of this export milk class. The Panel does not recognize the

TABLE 2 *Total rents of New Zealand's dairy policy*

Year	Downstream profits*		Tariff-rate-quota (TRQ) rents**		Domestic price premia***		Total rents in US$m.	Total production value in US$m.	Percentage of production value from:			
	Actual in US$m.	% of total rents	Actual in US$m.	% of total rents	Actual in US$m.	% of total rents			Downstream profits	TRQ	Domestic price premia	Total rents
1990	410.25	73.75	114.87	20.65	31.179	5.60	556.30	1 641	25.00	7.00	1.90	33.90
1991	550.75	73.75	154.21	20.65	41.857	5.60	746.82	2 203	25.00	7.00	1.90	33.90
1992	620.25	73.75	173.67	20.65	47.139	5.60	841.06	2 481	25.00	7.00	1.90	33.90
1993	641.5	73.75	179.62	20.65	48.754	5.60	869.87	2 566	25.00	7.00	1.90	33.90
1994	644.75	73.75	180.53	20.65	49.001	5.60	874.28	2 579	25.00	7.00	1.90	33.90
1995	801.50	73.75	224.42	20.65	60.914	5.60	1 086.83	3 206	25.00	7.00	1.90	33.90
1996	831.25	73.75	232.75	20.65	63.175	5.60	1 127.18	3 325	25.00	7.00	1.90	33.90
1997	812.50	71.38	230.17	20.22	61.719	5.42	1 138.21	3 250	25.00	7.08	1.90	33.98

Notes: *Downstream profits have been calculated to be approx. 25% of total production value (New Zealand Business Roundtable, 1996).
**TRQ rents have been calculated for 1997 and are projected back. They are assumed to be 7% of total production value.
***Domestic price premia have been calculated to be approx. 1.9% of total production value (New Zealand Business Roundtable, 1998).

Source: OECD, New Zealand Business Roundtable (1996 and 1998) Schluep (1999).

difference between price discrimination with pooling and revenue raised by a levy on an existing export subsidy (taxpayer or consumer only-financed).

The Panel concludes that Class Vd confers a subsidy to processors because it is contingent on export performance (Article 1(*e*) of AoA) because lower prices can only be obtained for export sales. But this is not the case for Class Vabc because products from Class Vabc can be sold in either the domestic or the export market. Because of pooling, Class Vabc is an export subsidy but is not recognized as such by the WTO.

This ruling would allow STEs with price discrimination and pooling to continue the practices such as those of the New Zealand Dairy Board. The Board price discriminates among products in international markets and pools revenues, which provides for a production subsidy. Orders of magnitude are briefly summarized in Table 2. This is in addition to pooling the rents from tariff quotas, domestic price premia and downstream profits. But other schemes that are less trade distorting (like the US peanut programme that has no pooling but a high price for domestic consumption) are analogous to Canada's Class Ve and hence would be deemed an export subsidy on the basis of the Panel ruling. Table 3 summarizes the position. The WTO declares Class Vabc not to be an export subsidy when it is, Ve as an export subsidy when it is not, and Vd as an export subsidy when it is, but for the wrong reason (hence the latter is deemed a type III error).

TABLE 3 *WTO ruling versus economic definition on Canadian dairy pricing*

Class	WTO ruling	Economic definition	WTO error
Vabc	No	Yes ($16.6 m.)	Type I
Ve	Yes	No ($225.1 m.)	Type II
Vd	Yes	Yes ($32.8 m.)	Type III*

Note: *Type III error is defined here as correctly accepting the null hypothesis, but with an incorrect assumption.

The WTO's definition of an export subsidy is incomplete because (a) it ignores consumer only-financed export subsidies; (b) it does not properly identify the nature of producer-financed export subsidies and their relationship to consumer only and taxpayer-financed export subsidies; and (c) it has an excessive reliance on the notion of 'contingent on exports' rather than on the underlying characteristics of an export subsidy that has production expanding and consumption contracting simultaneously. The definitions of an export subsidy in the GATT 1994 leaves room for loopholes, circumvention and misinterpretation of what an export subsidy is. It should be more specific on those policies that have the dual effect of contracting domestic consumption and escalating domestic production. This definition would provide a more

solid basis from which to recognize different types of export subsidies not now explicitly listed, including a consumer only-financed export subsidy.

CONCLUSIONS

This paper identifies three types of assistance: taxpayer, consumer only and producer-financed export subsidies. The GATT text does not fully account for all of them. Consumer-only financed export subsidies are not identified because they are not contingent on export performance, as required by the GATT. Producer-financed export subsidies are only partially identified but they can only exist with either a taxpayer or a consumer-only financed export subsidy. With a definition of an export subsidy accounting for the dual effect of contracting domestic consumption and escalating domestic production, the WTO could better recognize these more subtle forms of export subsidies.

NOTES

[1]Producer support derived from fluid milk premia is not documented in the AoA.

[2]For example, the more elastic the traded good, the greater the trade distortion with the taxpayer-financed export subsidy.

[3]The higher the proportion of production consumed domestically of the traded good, the less likely is that the consumer-financed export subsidy is more trade distorting.

[4]Producer levies are politically popular with farmers for either the taxpayer or consumer-financed export subsidy scheme. They guarantee extra transfers to farmers from consumers, with the consumer price greater than the net producer price.

[5]Article 1(*e*) of the Agreement on Agriculture defines an export subsidy as a subsidy contingent on export performance.

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