Elaboration on Reference Prices (c.i.f. versus f.o.b.) in the Application of Aggregate Measure of Support (by the request of the Technical Group on AMS)

The aim of this paper is to discuss the concept of reference prices in the calculation of aggregate measure regarding the way those are calculated at the border. The present approach applied by the OECD distinguishes between c.i.f. and f.o.b. prices. The use of them depends whether the country in question is a net importer or a net exporter of the particular product. In the first case, i.e. when the country's self-sufficiency of the product is under 100 per cent, a c.i.f. price is used for a reference price. Respectively, a f.o.b. price is used in the latter case. The economic justification of this approach is that marginal revenue should be used to value the whole production.

The major practical problem involved with the OECD approach arises from the fact that a country may move from under 100 per cent self-sufficiency to over 100 per cent self-sufficiency, or vice versa. This is followed by a major change in the PSEs depending on the differences between the c.i.f. and f.o.b. prices. In order to make sure that the change is of a more lasting nature, the choice of reference price depends on the circumstances of two of the last three years. For example, if a country has been a net exporter in two of the last three years, an f.o.b. price is used when calculating the PSEs of the last year. In cases when a country is switching back and forth around 100 per cent of self-sufficiency, this may not prevent PSEs having major changes in short intervals as well.

One way to remedy the problem is to use c.i.f. based price for production up to total domestic consumption and f.o.b. price thereafter. ¹

¹This idea has originally been put forward by Austria and Canada.
This can be illustrated by the following graph:

The graph consists of two parts. The area adjacent to the Price and Quantity axis represents the total value of a product. The shaded area illustrates the market price support component of the PSE, i.e. the difference between producer price ($P_p$) and world market price ($P_{c.i.f.}$ and $P_{f.o.b.}$) multiplied by the quantity ($Q_p$). If, as assumed in the graph, the domestic consumption ($Q_c$) is less than domestic production ($Q_p$), two reference prices are used as reference prices when calculating the market price support.

$$MPS = (P_p - P_{c.i.f.}) \times Q_c + (P_p - P_{f.o.b.}) \times (Q_p - Q_c)$$

The second part of the graph, the shaded block, represents the PSE value of all the other support components besides market price support. Let us call it non-market support (NMS).

Thus, graphically, the total PSE of the product in question is the total shaded area in the graph. Per unit PSE equals the total shaded area divided by the total quantity produced. Respectively, per cent PSE is derived from the division of the total shaded area by the total area.

$$Total\ PSE = MPS + NMS$$
$$Per\ unit\ PSE = \frac{(MPS + NMS)}{Q_p}$$
$$Per\ cent\ PSE = \frac{(MPS + NMS)}{(NMS + P_p \times Q_c) \times 100}$$

One practical problem involved with this approach is that an exporter may not import the product at all and thus no import price quotations are available. Therefore an assessment of freight and incurrence costs has to be made.
The economic justification of this approach is an extension of the marginal revenue reasoning. Here one may assume a separation of two markets, domestic and international. At the domestic market, a producer has to compete against the price of imported goods at the border. And for the part of production exceeding the domestic consumption, the producer competes against prices free on board at the border. Thus the marginal revenue for production equalling domestic consumption can be considered to be a c.i.f. price and respectively a f.o.b. price for the exportable surplus.