A COMMENT ON LOSSES FROM STABILIZATION

C. TISDELL

University of Newcastle

Chapman and Foley show [1] that (under the general conditions being considered) processors pay more on average for raw wool if prices fluctuate than if raw wool prices are stable. This does not, of course, prove that processors gain by a buffer-stock price stabilization scheme because processing costs and other factors must be taken into consideration. However, it is not correct (as I mistakenly stated on page 99 of my earlier article [2]) that processors' average annual costs for wool remain unaltered whether price is stabilized or not. Provided the supply curve of raw wool is not perfectly inelastic, average raw wool costs fall in the stabilized price situation.

The point which Chapman and Foley support algebraically can be directly illustrated and the magnitudes presented in a more operational manner. Take either figure 2 of my article or figure 1 of their note, and assume the earlier conditions. As before the points E and D, shown in the figure below, are equilibrium values and C is the mid-point between these. The average annual payment of processors for wool under the buffer-stock scheme is shown by the dotted rectangle in the figure below. [This is so since referring to figure 1 of the note [1] the actual payment of processors is in 50 per cent of the years below the
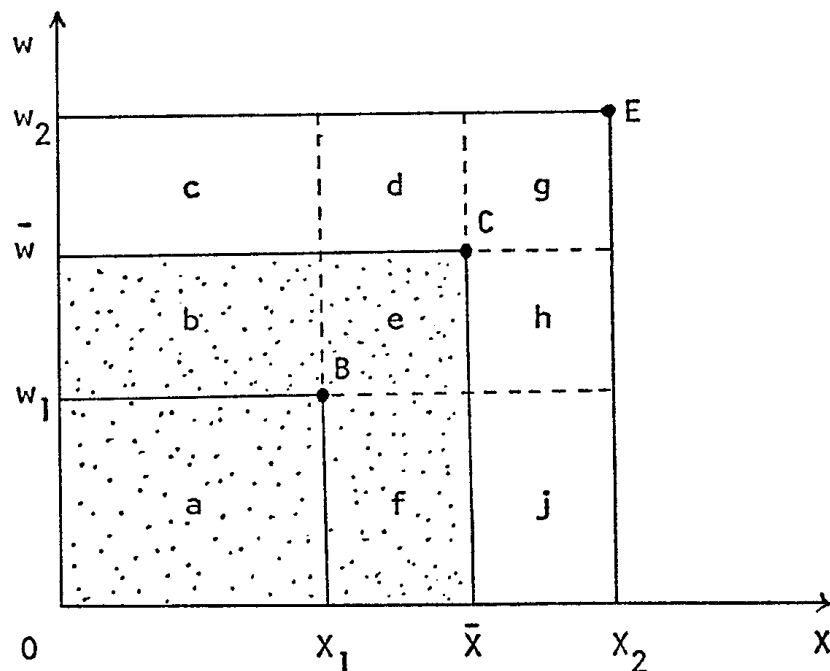

FIGURE 1

Quantity of Wool per year

144

dotted area by the rectangle based on side TC and 50 per cent of the time above it by the rectangle based on side CU. Since these rectangles are equal in area, the result follows.]

However, if price fluctuates the annual payment is in half of the number of years the area of the rectangle with diagonal OB and in the other half the area of the rectangle with diagonal OE. To compare the average of these payments with the area of the dotted rectangle, it is convenient to break the areas up into small rectangles marked a to j. The areas of b = c, f = j and d = e = g = h. Hence, the average annual payment of processors for wool is if price fluctuates,

$$\tfrac{1}{2}a + \tfrac{1}{2} (a + b + e + f + c + d + g + h + j)$$

equals, since h + j = e + f and b = c,

the area of the dotted rectangle + $\tfrac{1}{2}$(d + g).

However, since d = g, the average annual payment if price fluctuates is the area of the dotted rectangle + the area of g.

Thus if price fluctuates the average annual payment of processors for wool is greater than if the price is stable by the area of rectangle g. The area of g depends upon the variation in price and the variation in the quantity of wool supplied by growers. In this instance, it is equal to $(w_2 - \bar{w})$ $(X_2 - \bar{X})$. [No doubt the dependence on the deviations can be generalized.] In practice, all of these elements would be observable. In their note Chapman and Foley [1] express the extra raw wool cost involved for processors if prices are unstable as $\lambda(x—y)$. $\lambda = w_2—\bar{w}$ or the average absolute deviation, and x—y can be shown to be equal to $(X_2 - \bar{X})$, the absolute average deviation of supplies by growers. Their presentation does not bring out this last point.

Incidentally, the Chapman-Foley proposition reinforces the hypothesis that growers *may* lose from price stabilization. In the unstable price situation, the average annual revenue received by growers is greater by the area of g. Their costs on average are also greater in this fluctuating situation but not sufficiently greater to offset their revenue gains from fluctuating prices.

However, processing costs aside, we are not in a position to conclude that processors gain from a buffer-stock scheme. Much depends upon the nature of the demand for the final product and the nature of competition between processors. If finished products are priced by applying a fixed percentage mark-up to the cost of raw wool, then the average absolute profit of processors is lower in the stabilized situation although percentage return in relation to raw wool costs are the same in either situation. If the fractional mark-up is θ then absolute profit of processors is greater by θ (Area of g) in the unstabilized situation.

References

[1] Chapman, R., and Foley, K., "A Note on Losses from Price Stabilization", *The Australian Journal of Agricultural Economics,* August 1973. Vol. 17, No. 2.

[2] Tisdell, C., "Some Circumstances in which Price Stabilization by the Wool Commission Reduces Incomes", *The Australian Journal of Agricultural Economics,* August, 1972, Vol. 16, No. 2, pp. 94-101.