ELSEVIER

Agricultural Economics 13 (1996) 205

AGRICULTURAL ECONOMICS

Reply

Measuring research benefits in an imperfect market

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In a recent article, Sexton and Sexton (hereafter SS) reassessed the size and distribution of welfare benefits from cost-reducing research under conditions of monopoly vs. perfect competition in the supply of an agricultural input (see Voon, 1994). Their recalculation of Voon's original estimates, using a similar 'set' of data and parameters, revealed that the distribution of the research benefits between producers and consumers are the same as Voon's, but the total benefits from the research were greater under perfect competition than under monopoly, as in contrast to Voon's finding. I agree specifically with SS's empirical 'finding'. The discrepancy between SS and Voon's analysis lies in the use of normalization procedures outlined in SS's comment. The geometric (graphical) analysis originally employed by Voon, however, did support SS's conclusion. This can be elaborated in more detail as follows.

SS substantiated their conclusion, for instance, by establishing that dead-weight-loss always becomes bigger following a downward shift in marginal cost curve resulting from a cost-reducing innovation. Alternatively, using Voon's producer and consumer surplus approach as depicted geometrically in fig. 1 of SS, we observe that the increase in total surplus from the research under monopoly is area cbed plus efgd, whereas, in the case of perfect competition the total economic surplus increases by cbed plus dehi. Since area cbed is a common trapezium, the total surplus gain appears to be larger under competition than; under monopoly if dehi > efgd. Given that the demand function and the associated marginal revenue curve are converging toward the price axis, we deduce that dehi is indeed larger in area than defg. This simple geometric exercise, already proposed in Voon (1994), supports SS's conclusion that the research benefit is greater under perfect competition that under monopoly. An implication for this is that public research funds aimed to raise national welfare may be more optimally allocated in favour of less concentrated enterprises.

References

Voon, J.P., 1994. Measuring research benefits in an imperfect market. Agric. Econ., 10: 89–93.

SSDI 0169-5150(95)01168-4