Australian Journal of Agricultural Economics, Vol. 22, No. 2 (August 1978), pp. 135-137

AN APPRAISAL OF A BUFFER FUND SCHEME FOR BEEF: COMMENT

ROBERT A. BAIN

Bureau of Agricultural Economics

Parton's paper [1] is a welcome addition to the debate on beef pricing proposals. However, it does contain some dubious assumptions and several important considerations are overlooked.

The major assumptions relate to elasticities of demand. It is assumed (without supporting evidence) that the upper limit of the foreign elasticity of demand for beef is 2.0. But when the US import law is not operating and the US government is calling for higher imports, as in 1973, the elasticity of demand must in effect approach infinity at the f.o.b. level: Australia acts as a price-taker in this market.

Parton's major conclusions depend on the assumption that the domestic demand for beef is inelastic at low prices and elastic at high prices (a configuration implied by specification of demand by a linear function). Indeed, the gains to consumers would disappear if the demand function was of constant elasticity. Authors have differed on the question of the appropriate elasticity configuration. While Freebairn and Gruen [4, p.37] favoured a linear specification, Main *et al.* [5, p.99] preferred a constant elasticity specification for the same data. In fact, Johnson [6, p.6] showed that it is difficult to decide on statistical grounds which is the appropriate specification.

The only argument Parton puts forward for the variable elasticity assumption (apart from the two citations which seem to be largely expressions of opinion) is that at current price relativities, few opportunities for substitution exist [1, p.55]. However, the relevance of this argument is unclear. Certainly more beef is being consumed than if lamb prices were lower. It is also true that the total level of meat consumption has expanded. But what bearing does this have on the validity of the assumption?

Parton makes scant reference [1, p.62] to the fact that his analysis does not account for supply effects. There is ample evidence that changes in the level of slaughterings are influenced by, and in turn affect, the level of beef prices (see, e.g., Papadopolous [7, p.165]). The system of levies and subsidies would affect the price signals received by producers. Their response could result in either greater revenue stability with the scheme or worse instability than would exist without it.

There are several matters in relation to the operation of the levy which warrant comment. First, the author points out [1, p.57] that arbitrage between markets is likely to spread the effect of an export levy across all markets. But it should also be noted that, to the extent that any arbitrage was imperfect, the burden of the export tax will fall more heavily in the more export-intensive States, particularly Queensland. Second, it is suggested that overseas *consumers* would

face lower prices with a domestic levy in Australia [1, pp.57-8]. However, for many markets, such as Japan, parts of the Middle East and the Communist bloc countries, the benefits would go to centralized trading organizations and to governments. Third, it is stated [1, pp.59-60] that the domestic levy would be paid by *producers*. The incidence of the levy would be distributed between producers and consumers according to the demand elasticities.

Parton indicates that the export levy will be collected to a greater extent in Queensland and that the domestic levy will largely come from the other States, but he argues that because the size of the levies will be 'equal' (i.e. presumably the same percentage of price) and because the proceeds will be distributed evenly, then there will be no 'distributional effects' [1, pp.59-60]. In fact, these schemes would inevitably be riddled with distributional effects. Changes in demand elasticities over time would mean that the effects on the market of a given levy would change over time. The actual levy paid by and returns to an individual would be greatly affected by his individual pattern of production. For example, the producer with many cattle to sell in times of high prices and who moved into wool when he saw a beef slump coming would be penalized. Even the simple transfer of funds through time would have distributional effects.

Parton asserts that if the Government purchased beef and prevented its sales to the commercial market, this would improve total returns to the industry [1, p.64]. This could only work *using growers funds* if the total demand for beef was inelastic (which the author has assumed but not proved) and if the cattle destroyed would have been offered for sale. A disposal scheme could easily subsidize the slaughter of many cattle that would normally die in harsh seasons in remote areas and not be marketed. This would result in an income transfer to pastoral producers but would not improve overall industry revenue.

The analysis of foreign consumers' surplus [1, p.61] is, in my view, irrelevant. Foreign consumers very seldom buy at world prices and the objective function of the purchasing agencies may be very different from the usual consumer surplus concept.

A brief, but puzzling, final observation: in the evaluation of the operation of the policy from 1973/74 to 1976/77 it is stated that the gross revenue effects cannot be directly observed because different levels of production between the high- and the low-price period give a distorted view [1, p.64]. It is not clear why these calculations could not have been made as supply is assumed to be perfectly inelastic.

References

[1] Parton, K. A., 'An Appraisal of a Buffer Fund Scheme for Beef', *Aust. J. Agric. Econ.* Vol. 22, No. 1, April 1978, pp. 54-66.

[2] Bureau of Agricultural Economics, 'The Australian Beef Cattle Industry: Submission to the Industries Assistance Commission Inquiry', Industry Economics Monograph No. 13, Canberra, 1975.

[3] Fraser, A. E., 'The New Zealand Meat Industry and the Operations of the New Zealand Meat Producers Board', *Towards a More Efficient Beef Chain*, OECD, Paris, 1977.

[4] Freebairn, J. W. and Gruen, F. H., 'Marketing Australian Beef and Export Diversification Schemes', *Aust. J. Agric. Econ.* Vol. 21, No. 1, April 1977, pp. 27-39.

[5] Main, G. W., Reynolds, R. G. and White, G. M., 'Quantity-Price Relationships in the Australian Retail Meat Market', *Q. Rev. Agric. Econ.*, Vol. 29, No. 3, July 1976, pp. 193-209.
[6] Johnson, L. W., 'Australian Demand for Meat and Functional Form', *Research Paper No. 152,* School of Economic and Financial Studies, Macquarie University, November 1977.
[7] Papadopoulos, C., 'Factors Determining Australian Saleyard Prices for Beef Cattle', *Q. Rev. Agric. Econ.*, Vol. 26, No. 3, July 1973, pp.. 159-70.