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ON THE HIDDEN REVENUE EFFECTS OF WOOL PRICE STABILISATION IN AUSTRALIA: INITIAL RESULTS – A COMMENT

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Campbell et al. (1980) have reported initial results of a study on the hidden revenue effects of wool price stabilisation. Their principal conclusion was that wool price stabilisation achieved a 44 per cent reduction in overall variability of auction prices at a net cost in terms of revenue from wool sales of $139m over the period 1974-75 through 1977-78. At first sight, this conclusion appears to provide a sound basis for policy choices and has quickly been adopted as part of the conventional wisdom on wool marketing policy (e.g. Watson 1980, p. 90). However, in what follows, it is suggested that the results, 'initial' though the authors claim them to be, are far from conclusive and that the interpretation in terms of *hidden* gains and losses is different from the concept advanced by Gruen (1964). It is also contended that the authors have over-stated the conclusiveness of their initial results and that significant re-interpretation is necessary.

The two main criticisms I have of the paper relate to the interpretation of 'hidden' effects as conceptualised by Gruen and to the choice of the functional form for the demand curve.

Dealing first with the hidden effects of price stabilisation, it is accepted that they do exist. What Campbell et al. have measured, however, is the effect on *gross sales revenue*, rather than the *hidden gains and losses* that may be incurred by wool growers. This can be shown by reference to Gruen's original diagram (Figure 1) where the hidden gain ($P_1P'_1MG$) and the hidden loss (P'_2P_2ES) are calculated using the fixed *ex ante* quantity (OQ). Gruen calculated the effects on *growers* defining hidden revenue as revenue not appearing in the accounts of the stabilising authority.

Campbell et al., on the other hand, seem to have used two different quantities in their revenue calculations, since they used the '. . . difference between the intervention (*ex post*) and non-intervention (*ex ante*) streams of revenue (price times quantity) from sales' (p. 2). Thus Campbell et al. compare P_1GQO with P'_1HBO to calculate 'hidden' gains and P_2EQO with P'_2FAO to calculate 'hidden' losses. Consequently, what they appear to have measured are differences in gross sales revenue to growers and the Australian Wool Corporation, with and without the price stabilisation scheme.

The difference reflects a hidden sales revenue effect. While this clarification seems of no consequence to the numbers produced from simulation, it does avoid the ambiguity of reference to 'hidden revenue

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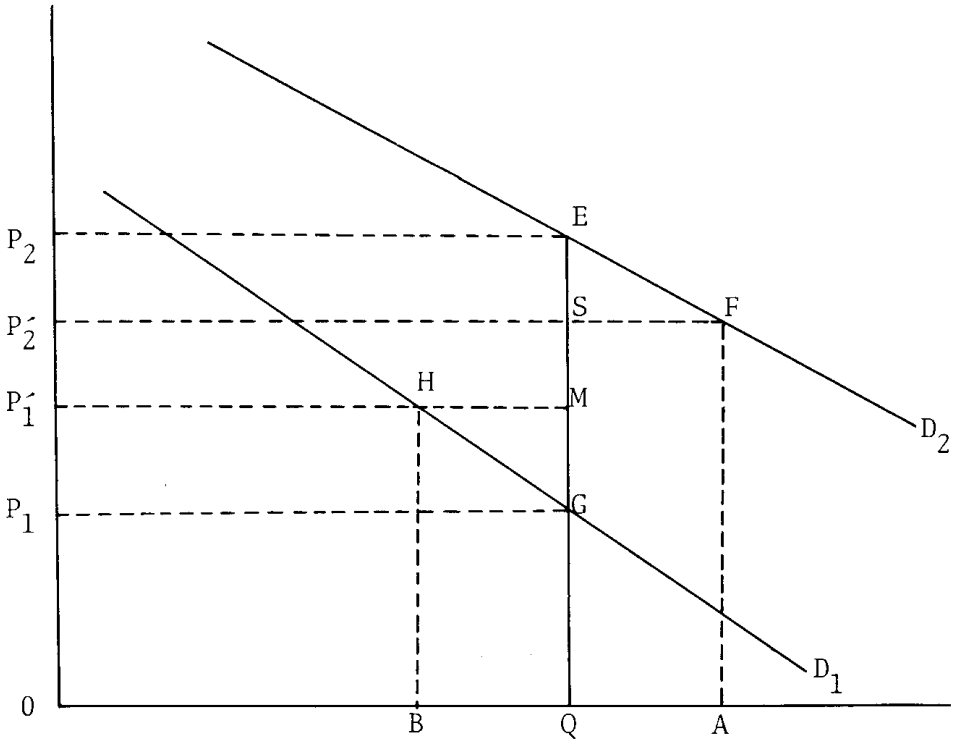

FIGURE 1 — Revenue effects of wool price stabilisation.
(Source: Based on Figure 1 in Gruen 1964).

effects' and 'hidden gains and losses' as though they were interchangeable *and incurred directly by wool growers as some kind of insurance* premium.

The clarification suggested above would also have focused attention on the necessity to consider, simultaneously, the impact of price stabilisation on the stability of prices and throughput of processors as a consequence of the holding of buffer stocks. In this respect, Campbell et al. assumed that the demand curve was not shifted to the right as a result of price stabilisation, but made no explicit assumption about the effect of throughput destabilisation. The net effect of these interdependent factors depends on their relative importance to the riskiness of processing for firms which are assumed to be risk averse. If risk aversion is related to expected profits, or an expected marketing margin, there seems no *a priori* reason to suppose that processing firms would prefer stable prices and unstable throughput to the reverse situation. While this aspect has recently been considered in modelling terms by Quiggin (1981), its empirical effects and implications for stabilisation policy seem relevant to conclusions from the Campbell et al. study.

In choosing demand parameters as a basis for simulating the effects on gross sales revenue, Campbell et al. estimated alternative functional forms as joint hypotheses about the determination of quantity demanded. The authors cite 'compelling economic reasons' (p. 4) for rejecting the linear form, principal amongst which is that 'each individual firm's demand curve would need to be linear and identical in both in-

tercept and slope'. While this condition for 'perfect aggregation' is unlikely to be met in practice, it does not seem sufficient to discriminate between functional forms that appear, on some econometric grounds, to produce plausible results. In fact, an 'acceptable' estimated aggregate demand function does not necessarily imply that the conditions for perfect aggregation have been met. It is merely a statistical approximation over the range of available data for hypothesis testing and the choice of functional form for such purposes would be determined to some extent by econometric criteria. If this is not the case, it would hardly have been necessary to estimate alternative functional forms or to use econometric tests in validating them.

Fortunately the authors have reported the empirical results for a range of functional forms. Unfortunately, in terms of the use of the results as a basis for policy recommendations, the estimated effects of price stabilisation, in terms of hidden sales revenue effects, are sensitive in both *sign and magnitude* to the functional form used to represent demand. The combined outcome of these factors is to enable substantially less definite statements to be made about the consequences of price stabilisation than those made by Campbell et al.

For those who accept the two criticisms made above, the conclusion of the paper should have been that hidden sales revenue effects are sensitive in sign and magnitude to the form of the demand function. This would have enabled the authors to focus on the state of knowledge about the effect of price stabilisation in the context of their conclusions about its impact in terms of reduced price variability. In my view, the conclusion by Campbell et al., that stabilised prices have probably been achieved at a net cost to sales revenue, cannot be drawn. The most definitive conclusion I believe the authors could reach is that the insurance premium is stochastic and that whether it is positive or negative cannot be inferred from the results of their analysis.

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