A Comment on the Role of the Wool Board in Supporting the Wool Price

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This paper was prompted by the remarks of commentators during the recent wool price crisis on whether the New Zealand Wool Board should follow the example of the Australian Wool Commission and withdraw their support of the price at auction. The purpose of this paper is to bring the issues to the fore again and to remind analysts that there is some crucial information required before an informed decision can be made. It is argued that the Board's ability to act as a trader in the interests of wool growers depends crucially on the characteristics of demand for raw wool. Analysts have been singularly unsuccessful in estimating the slope of the demand curve for NZ wool by analysis of past data. This paper draws attention to a technique, developed by consumer marketers, for estimating demand curves in an experimental manner, and suggests that this technique can be applied to the solution of the problem of commodity demand.

Keywords: Wool Board, demand curves, Juster Scale

Introduction

This paper was prompted by the remarks of a variety of commentators who were consulted during the recent wool price crisis for their views on whether the New Zealand Wool Board should follow the example of the Australian Wool Commission and withdraw their support of the price at auction. In the main, their comments reflected the view that the level of support was unrealistic in terms of the likelihood of the Board being able to sell, at a profit, the wool they would have to purchase. As in the Australian case, the holding costs of the stockpile were also a principal concern. None of the commentators reflected on the reasons, other than that of seeking to make a speculative profit, why the Board might want to buy and stockpile wool.

All the issues were thoroughly debated in the early 1960s when there was another wool price crisis on. The Philp Committee in Australia (1962), the Wool Marketing Study Group in New Zealand (1967) and a number of academic commentators (Powell & Campbell 1962; Gwen 1964; and Lewis 1970) contributed to the debate but the recent commentators appeared not to be aware that it had taken place. The purpose of this paper is to bring the issues to the fore again and to remind analysts that there is some crucial information required before an informed decision can be made.

Objectives of a Reserve Price Scheme for Wool

A Statutory Authority, charged with securing the best possible returns for sheepfarmers, and the country as a whole, could intervene in the market for a number of reasons.

1. The Authority might want to make speculative profits by buying when the price is low and selling when the price recovers. As the commentators point out, it is difficult to see why the Authority should want to do this. It does not appear to be part of the Wool Board's brief.

2. The Authority may believe it could do a good marketing job on the wool they purchased, and thereby increase the value of the wool. This idea was fully debated during the previous crisis. It was considered at that time, that to do an effective marketing job it was necessary to acquire the whole of the clip and the Wool Marketing Corporation was set up and given powers of compulsory acquisition. In the event, grower opposition to the scheme was strong, the price recovered, and the Corporation was absorbed by the Wool Board without ever using its powers.

3. The Authority might want to stabilise prices by acquiring wool and reducing supplies available to processors when demand was low, thus pushing up the price, and releasing stocks when demand recovered, thus reducing price.

   Many arguments have been put forward in support of price stability being a valid objective for the NZ Wool Board. It is not the purpose of this paper to review or add to the debate on price stability. Suffice it to say that the ability of the Board to influence prices depends crucially on the elasticity of demand for New Zealand wool.

4. The fourth possible reason that the Authority might have for intervening in the market is to raise the average level of returns by exploiting a possible change in the characteristics of the demand curve that might occur between the time of buying and the time of selling. That is, there is a possibility of changing the average level of returns by carrying a buffer stock of wool, because the activities of the Authority might alter the characteristics of demand.

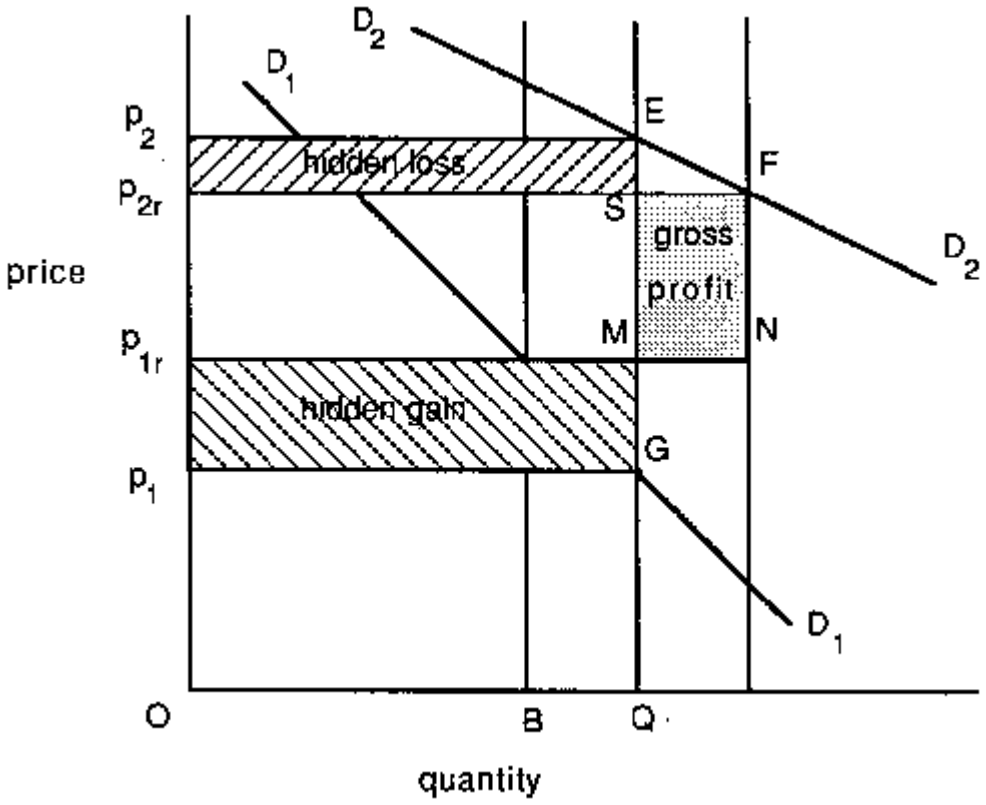
The Theoretical Framework

When assisting the Philp Committee, Professor Campbell and his colleagues at Sydney University identified what have come to be known as the "hidden gains and losses" of a buffer stock scheme for wool. The notion is best illustrated by a simple supply and demand analysis. The following explanation and Figure 1 are taken directly from Gruen's (1964) article.

> "Suppose that the quantity of wool to be sold in a certain period is given by the line EQ i.e. we assume, in common with other writers on the subject, that the price realised has no effect in the short run on the quantity of wool offered by the growers. Suppose further that the demand curve is given by the line D_1D_1. In the absence of a Reserve Price scheme the quantity OQ of wool is sold to the buyers at an average price of Op_1. The gross returns to the producers are given by the rectangle Op_1 GQ.
>
> If the Reserve Price scheme is operating during the period which buys, let us say, BQ units of wool, the price to the growers will be raised from p_1 to p_{1r} and the gross returns to growers will be given by the rectangle Op_{1r}, MQ. Gross profits will be larger during this period; the increase given by the rectangle p_1 p_{1r}, MG. It is obvious that this increase will depend on two factors: (i) the size of the Reserve Authority's purchase and (ii) the slope of the demand curve D_1D_1. This increase is "hidden" in the sense that it would not appear in the accounts of the Reserve Authority. Similarly, during the second period, when the Reserve Authority sells its stocks, growers will suffer hidden losses equal to $P_{2\,r}p_2ES$."

In addition, there will be the payments and revenue of the Authority, giving a visible gross profit of SFNM from which must be deducted the storage and administrative costs to arrive at the speculative profit.

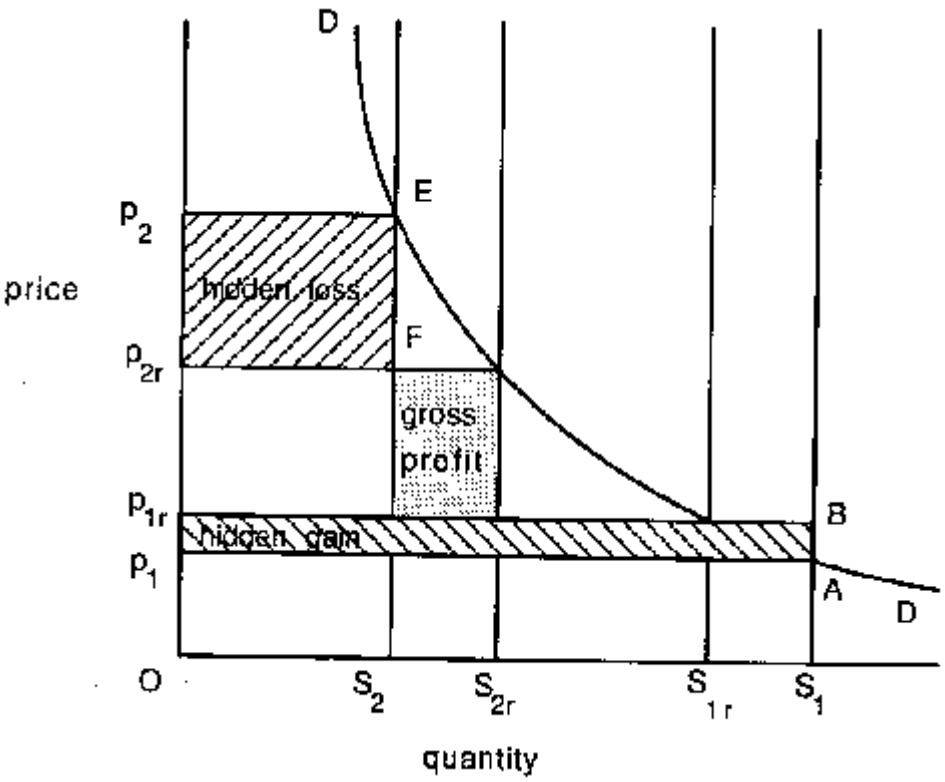
Figure 1. Gains and losses when demand changes



Of course the price fluctuations could be caused by fluctuating supply rather than fluctuating demand; a situation not considered by the earlier commentators, but which may be analysed similarly. This is illustrated by Figure 2. In this case the demand schedule is shown as a curve; in the unlikely case of a straight line demand curve it can be shown that there is always a hidden net profit.

The first season's production is OS_1, the second season's production is OS_2 and the Authority buys $S_{1r}S_1$ in the first season and sells the same amount S_2S_{2r} in the second season. The hidden gain is $p_1p_{1r}BA$, the hidden loss is $p_{2r}p_2EF$ and the visible gross profit is FGHJ.

Figure 2. Gains and losses when supply changes



Conclusions from the Demand and Supply Analysis

A number of conclusions can be drawn from the above analysis.

1. The goal of making a speculative profit conflicts with the goal of achieving stability.

2. To achieve net hidden gains in the case of fluctuating demand, the average slope of the demand curve in the selling period must be less than the average slope of the demand curve in the buying period.

3. It is possible for there to be a net hidden gain even when the Authority makes a gross speculative loss.

4. In the case of fluctuating supply, to make a net hidden gain, the average slope of the demand curve must be greater in the buying period than in the selling period.

5. The hidden gain in the case of fluctuating supply increases faster than the hidden loss as the Authority increases its involvement in the market.

6. In the case where a net hidden gain is possible, the goal of making a hidden gain conflicts with the goal of making a speculative profit.

Discussion

In any scheme operating with statutory obligations to New Zealand wool producers and to the New Zealand economy as a whole, the goal of making a speculative profit, though featuring prominently in the recent debate, is of minor importance and anyway is at odds with the more important goal of raising the average long term price level. The ability to achieve this more important goal depends on the ability of the Authority to carry out its marketing functions, and separately, to carry out its trading function. The marketing management function of the New Zealand Wool Board is arguably the most important issue at stake but this paper has concentrated on the trading function of the Board. It has identified that the Board's ability to act as a trader in the interests of wool growers depends crucially on the characteristics of demand for raw wool.

Analysts have been singularly unsuccessful in estimating the slope of the demand curve for NZ wool by analysis of past data, but there is a technique, developed by consumer marketers, for estimating demand curves in an experimental manner.

The technique was originally developed by Juster (1959) but it has been investigated in the course of work at Massey (Gan 1986; Day 1987; Hamilton-Gibbs 1989). It appears likely that this technique can be applied to the solution of the problem of commodity demand and work is proceeding to determine whether this is so.

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