SALEABLE CITY MILK SUPPLY QUOTAS

G. M. Neutze

Australian National University, Canberra

According to the accepted doctrines of welfare economics the optimal price for a product should be equal to the marginal cost of producing the product. This is the price which will provide the quantity which consumers require at the lowest possible cost to consumers. In an economy where such a price is set the optimal quantity of production will be forthcoming. Consumers will not have to be paid (subsidised) in order to persuade them to consume the quantity produced—nor will the product have to be rationed. On the other hand producers will not have to be subsidized to produce this quantity. Nor will their production have to be restricted. If the production of producers has to be restricted we can take it that the price exceeds the marginal cost.

There are some products for which the marginal cost of production varies in different seasons of the year while at the same time demand for them remains relatively stable. We would expect that the price and output would fluctuate between seasons. However for some of these products (and city milk is one of them) there are strong reasons (some connected with health) for not relying on the price mechanism to ensure steady supplies throughout the year. An alternative to the price mechanism is a system of quotas whereby producers " contract " to supply some given quantity of milk in all seasons of the year. As Harris and Candler[1] have shown, quotas can be varied between seasons if demand varies and it is also possible to vary prices to consumers and producers between seasons as the marginal cost of production varies between seasons. Essentially, then, quotas are a means of *ensuring* some given supply at all times. The fact that they have also been used to maintain the *same* price and nearly the *same* supply at all times is incidental to their main characteristics.

How does a quota system tie in with marginal cost pricing ? Let us assume that the quota system is used to maintain a constant price throughout the year. If that price was to be optimal it would equal the average marginal cost of producing the required quantity of milk in each (say) month of the year. If the quota is constant throughout the year then the average is simply an arithmetic average of the marginal cost in each month. If the quota varies the average is weighted by the number of quota gallons produced in each month. It is worth noting again that with such a price there are no privileges of production for which producers would be willing to pay.

If quotas carry with them no such privilege we may ask why producers should accept such an obligation from which they reap no benefits. In fact there is no reason and we must conclude that, for the operation of the quota system as we now know it, it is necessary that the price for quota milk should be somewhat above the optimal price. It is, of course, quite reasonable for consumers to be prepared to pay something for the assurance of supplies and for producers to be paid something for assuring supplies. But it is as well that we recognise what we are paying for and continually critically examine our quota system to ensure

1. Tom Harris and Wilfred Candler, " A Normative Approach to the Operation of the New South Wales Milk Board ", *Australian Journal of Agricultural Economics*, Vol. 4, pp. 106-114 (1960).

that we are not paying too much for assured supplies, and so paying producers more than is necessary. It should be noted that at the optimal quota price there will still be no dissatisfied dairy farmers wishing to obtain quotas, for the marginal cost of the facilities required and the obligation involved in city milk supply will be just covered by the higher price.

Under these circumstances quotas will have no value, the quota milk price being just high enough to call forth the required production. For the quotas to have a price, i.e. to have a positive sale value, it is necessary that the price paid for quota milk must be higher than the optimal quota milk price. When the marginal cost varies throughout the year we can modify this condition and say that an optimal quota milk price will result in the average value of quotas being zero. They will have a positive value in spring when the dairy farmer expects a season with prices in excess of marginal cost while in autumn the value will be negative.

It is at this point that the proposals of Harris and Candler for saleable quotas seem to run into difficulties. While they admit that " There will be windfall gains in summer and losses in winter ", they argue that " . . . prices would need to be set so that quotas should have some value at all times of the year, even during drought and flood "[2]. The first of these statements is consistent with an optimal quota milk price. The second certainly implies a price considerably above the optimum. Why any farmer should be willing to pay a positive price for a quota in autumn when expecting a season in which he would lose money on the quota is not clear, unless the profits to be made the following summer outweigh these losses. But this latter solution implies milk prices above the optimal quota price.

Saleable quotas would appear to have considerable advantages as the authors pointed out. We should consider how the difficulty of the seasonal negative price could be overcome. Sale of quotas with a negative price simply will not work under present methods of quota enforcement. If the only penalty for falling short of quota supplies is forfeiture of quota gallons farmers will simply forfeit their quotas in autumn and buy them back in spring. They would never sell them for a negative price i.e. pay someone to take them over.

Obviously some further penalty for falling short of quota production is required. It might be sufficient for the farmer to forfeit 2 gallons at the quota price for every 1 gallon by which his quota is under-supplied. If quota agreements were sufficiently legally binding it may be simpler to extract a fine for under-supplying a quota. Any method which made it less costly to pay another farmer to assume a quota responsibility, than to under-supply a quota, would enable saleable quotas to be used even though their prices are periodically negative. Under a scheme like this the farmer would normally maintain a margin of safety above his quota. He would be expected to meet any variation in production due to weather from this but could sell quota gallons to any other farmer whose facilities met the required health standards.

The suggestion that milk runs be made saleable does not run into the same difficulties. Presumably the custom of the marginal customer will not be saleable. One would expect the scheme to be combined with some form of zoning so that only the milk run as a whole would

2. Harris and Candler, *op. cit.*, pp. 113-114.

be saleable. Zoning will normally be imperfect so that, given any distributors' margin, the profitability of the runs will vary. The distributors' margin can be set so that the marginal run earns at least normal profits. Each run is then sold by the authority and each has a positive value with the possible exception of the marginal run which may have a zero value. Again given the imperfection of zoning and of profitability estimates it is probably safer to set the margin so that all runs will have a positive price.

Thus there will not be a single price for milk runs but each will have its own price. Runs should be sold for a given time and at the end of that time the margin should be reassessed and the runs resold. In many respects it may be preferable to vary the margin between runs, so that customers in a thinly settled suburb have to pay more for their milk than those in a densely settled area. In doing this they would simply be meeting the higher distribution costs involved in such an area.

In essence the proposals for saleable production quotas and milk runs represent attempts to gain advantages from two types of markets. Like fully controlled systems of marketing they have the advantage of assured supplies and the elimination of the inefficiency of overlapping milk runs. Like the free price mechanism they can be used to ensure optimal pricing and the flexibility resulting from easy and efficient transfer of supplying and distributive functions.

COMMENT : DAIRY POLICY FOR AUSTRALIA

J. G. Bird

University of New England, Armidale

Dr. Schapper has suggested a dairy policy for Australia involving " zero protection and equalisation within the whole industry ".[1] If it is possible to sweep the carpet clean so thoroughly and quickly it is a pity to hide the refuse that remains under the milk bottle. Treasury subsidies, tariffs, the home consumption price and margarine quotas are all in the dustbin ; yet one anomaly remains.

As I read Dr. Schapper, he appears to propose that " the appropriate level of butter and cheese production in Australia " be determined by world market price *plus* a subsidy financed by a levy on the *consumer* of wholemilk.[2] Put in this way it seems that this proposed policy does not involve the claimed " failure to concede that because " (milk) " consumers' money incomes are protected they should pay a protected price ".[3] Further, it opens the question of whether it would not be better to use other ways to provide the proposed assistance. Two obvious alternatives are to obtain a subsidy from the Treasury or to spread the levy over consumers of all milk products.

Dr. Schapper dismisses the case for price discrimination against the Australian butter and cheese consumer so effortlessly that I would expect that the case for price discrimination against the wholemilk consumer could also be dismissed by further application of his analysis. If dairy

1. Henry Schapper. " Dairy Policy for Australia ", *Aust. Journal of Ag. Econ.* 5, 1, September, 1961, p. 78-79.

2. *Ibid.* Points (x) and (iii), p. 79.

3. *Ibid.* Point (ix), p. 79.