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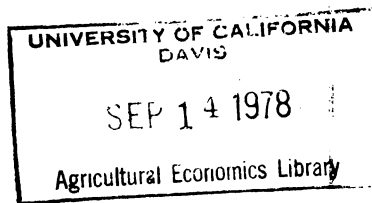
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THE BEHAVIOUR OF SOUTH AFRICAN AGRICULTURAL MARKETING BOARDS (1950-1974)

by

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1. INTRODUCTION

Recent literature reflects increasing professional interest by agricultural economists in the behaviour of marketing boards and in the possible beneficial consequences arising from policies of official market intervention. Much of this work is of a theoretical nature (e.g. Just, Hazell and Scardizzo, Bieri and Schmitz). It may be, however, that there are useful lessons to be learned from an empirical examination of the actual performance of marketing boards.

This paper examines the behaviour of agricultural marketing boards in South Africa. The structure of the marketing board system is briefly described and the major economic variables under the control of the various boards examined to determine what policies the boards have actually followed. Though there are found to be significant differences in behaviour between the various boards, it will be argued that in several important instances the policies of the boards have been neutral - had there been no marketing board in existence the situation would have been little different.^{1/} The explanation for this behaviour is to be found in the de facto constraints on the power of the boards. These constraints are of a political rather than strictly economic nature. It is suggested that practical influences such as these cast some doubt on the possibility of recent theoretical work yielding useful prescriptive policy guidelines.

2. THE STRUCTURE OF THE SOUTH AFRICAN MARKETING BOARD SYSTEM

During the period under review (1950-1974) South African marketing boards functioned in terms of the 1938 Marketing Act, revised in 1968 (Act No. 59). Generally, separate boards existed for each crop, although there was evidence of some centralisation of control. The Wheat Board, for example, was also responsible for other winter cereals (oats, barley and rye), the Maize Board for grain and sorghum in addition to maize (corn). Methods of market intervention differed. The Maize and Wheat Boards operated fixed price/single channel schemes,^{2/} whilst the Meat Board (responsible for beef, mutton and pork) functioned on a floor/price surplus removal basis.

The Marketing Act was enabling, not obligatory. The machinery for establishing marketing boards was set up, though the Act did not itself specify which boards were to be established. By 1973, however, there were 22 boards in existence, all functioning largely independently in determining price levels and other operational strategies. An important factor common to them all, however, was the existence of a voting majority of producer representatives on all the boards. This was a legal requirement in terms of the Marketing Act,^{3/} additional board members being selected to represent the Department of Agriculture, consumers, wholesalers and other interest groups.

3. THE OBJECTIVES OF THE BOARD

Nowhere in the Marketing Act is there any statement of the objectives, either of the individual boards or of the marketing system as a whole. We thus have no obvious yardstick against which to judge their performance. But though there is no specified objective, there is equally no shortage of advice on how to behave. A typical example: "... apart from the income position, price fixing should also take account of changes in production costs, the elasticity of supply and demand (as well as the long term shifts that can be expected in the supply and demand curves), the production and consumption trends, prices of substitutes, the import possibilities and overall agricultural policy".^{4/} Exactly how, in practice one can juggle these factors is by no means clear. Typically, there is no attempt to distinguish between benevolent sentiments and practical advice.

In the absence, then, of any clearly defined objective we may sketch three possible policy options theoretically available to the various marketing boards:

- i) price/quantity stabilisation on the local market,
- ii) total revenue stabilisation,
- iii) total revenue maximisation.

These three policies, though not necessarily incompatible, are likely to be so. There are, in addition, strong grounds for anticipating that policy iii) would be followed. Such indeed was the clear expectation of economists who criticised the marketing board system at the time of its introduction.^{5/} Producers, we recall, have a legally guaranteed voting majority on the boards. In addition the boards are endowed with sweeping powers over both the local market as well as foreign trade policies, subject only to the veto of the Minister of Agriculture who (apart from the fact that he would himself normally be a farmer) would be well aware of the political influence of the rural electorate. The simple monopoly model combined with the assumption of self-interest therefore suggests a policy of supply restriction on the local market associated with relatively high consumer prices.

4. THE PERFORMANCE OF THE BOARDS

The behaviour of 10 products is considered. Together these account for about 50 per cent by value of total agricultural output in South Africa. The relationship between different variables associated with the three suggested policies (Table 1) are examined. It is assumed that South African agriculture is a price taker in world markets. Transport costs and quality differences are assumed away. It is also assumed (though this does not in any way affect subsequent conclusions) that the local market is ruled by straight line rather than constant elasticity demand curves. The performance of the boards is summarised in Table 2.

A policy of total revenue maximisation requires that local price (P_1) should be above world price (P_2). This occurs significantly often in the

case of wheat, grain sorghum, lamb, oats and rye. With the exception of grain sorghum, however, these products are all imported, which is not consistent with revenue maximisation behaviour. As further evidence, (column 3) indicates that there is no product where local price has consistently moved with world price (not even grain sorghum). It seems therefore, that policy (iii) must be rejected.

Similarly, policy (ii) can be rejected. Total revenue has not been stable. In most years, for most products, total revenue moved in sympathy with total output, Q. (column 6).

It would seem therefore, that we are obliged to accept policy (i). The evidence in favour of this conclusion is reasonably persuasive. It is the only one of the three policy options which allows imports, and five of the ten products studied are usually imported. In addition, P_1 appears to be uncorrelated with P_2 as required (column 3). Column (7) which shows P_1 deflated by the South African consumer price index suggests that real prices on the local market, have been extraordinarily stable for most products.

The weight of evidence seems therefore to point to the conclusion that, by and large, the effect of the marketing boards has been to stabilise local price. It is, however, open to an alternative interpretation. In the case of the two most important products, beef and maize, which together account for one third by value of agricultural output, local prices have been remarkably close to world prices (column 5). Had these marketing boards not existed, it is reasonable to argue, local prices would have been little different. It is therefore necessary to pose the question: Why did these boards choose not to use the impressive array of marketing powers at their disposal?

5. THE THEORY OF REGULATION

Downs has suggested that monopoly theory yields useful predictions only because of specific ownership arrangements. The conventional textbook theory needs to be more carefully spelled out. Implicit in the theory is the assumption that the decision maker also owns the fixed factors. The property rights situation, in other words is closely defined.

In the case of marketing boards, however, we have an obvious case of the separation of ownership from control. The people who make the price decisions are not the same as those who make the production decision and, crucially, there is no direct relationship between the decision and the rewards accruing to the decision maker. Although a high producer price may be important to producer board members it is unlikely to be their only objective. Other factors are also important - the desire to avoid adverse public criticism, for example.

If therefore, economic theory fails to provide satisfactory explanation for the behaviour of marketing boards it is because 'economic theories of government ... universally fail to assign any motives to the men in government'. (Downs, p.283). This is an important failing, increasingly recognised as government activity expands to occupy an ever widening area of economic activity. What is needed is a theory to explain the behaviour of government regulatory agencies in a satisfactory and empirically refutable way.^{6/}

Although the parallels between regulatory agencies in the United States and marketing boards in South Africa should not be pressed too hard, many of the similarities are striking. As far as the structure, the experience in the United States that 'there is unlikely to be effective organisation of the consumers as a group' (Russell and Shelton, p.8) seems to approximate the South African experience. Similarly, we could agree that regulation occurs not to protect the consumer against unbridled monopoly power, but rather at the

instigation of the regulated firms themselves. It is often a cheap (and legal) way to operate a cartel. Similarly, close parallels are to be found in the performance of the various agencies. In the South African case it is easy to find evidence in support of Posner that 'one of the functions of regulation is to perform distributive and allocative chores usually associated with the taxing or financial branch of government'.

To understand the behaviour of marketing boards better it is necessary to consider the problems faced by each board in making its pricing decision. Output is a function of numerous factors of which only the price of that product is directly under the control of the board. Weather, costs, natural hazards and the decisions of individual farmers are not. Most importantly, the prices of substitutes (and even complements) in production are frequently beyond their control. Further, with the exception of vegetables, which significantly are not controlled, few agricultural products are sold directly to the consumer. Most undergo further processing or are sold to other farmers (as cattle feed, etc.). Though consumers may be a diffuse, disorganised group, the food processing industry is probably reasonably powerful. This means that if continuous clashes are to be avoided some modus vivendi needs to be established.

Given the complexities of the factors involved, costs obtaining information and of reaching agreement on a suitable price are likely to be high. Some rule of thumb is necessary which is defensible both to various political interest groups on political and economic grounds. The world price fulfills this requirement, and explains the behaviour of maize and beef markets. In the case of wheat, however, political factors are over-riding and monopoly power has been used to secure relatively high producer prices. The South African experience can therefore be interpreted as illustrative of the relative powerlessness of marketing boards to achieve significant variations in market prices unless supported by political interest groups.

6. CONCLUSION

If this interpretation is correct we are forced to view recent literature favouring market intervention policies in a more sceptical light. It is of course always possible to make one person better off at the expense of somebody else. Further, when two parties engage in trade, we can conclude that they do so because both parties expect to benefit. If a third party is engaged to oversee this trade, if he has privileged access to information and functions with altruism, then both trading parties may be better off than they would be in the absence of the third party. On such foundations is recent theoretical work based. In Pigouvian manner some regulatory authority is invoked to intervene in the market, and does so costlessly. 'In the Pigouvian tradition, the bureaucrat is both informed and incorruptible, in the Coase framework he is ignorant and incorruptible.' (Buchanan).

This simplification (which is of course readily acknowledged by the authors of many recent models) may not matter much if the models are seen as mathematical toys. But one imagines that they are intended to be something more than that. Though they largely abstract from political factors, they are designed to provide some sort of representation of the real world. Yet political decision making is the essence of marketing boards.^{7/} They are stepchildren of the political process. The market provides a certain distribution of wealth. This is judged to be unsatisfactory by certain interest groups and a marketing board is set up to attempt to provide a different one. If the South African experience can be generalised, marketing boards are not established to maximise economic welfare. They are intended to redistribute it - though in this they may not be as successful as the architects of these schemes would have wished.

The effect of this is that marketing boards will seldom follow optimising paths defined in terms of conventional economic variables. Similarly, evaluative studies will usually show that boards have behaved less than optimally. But this means nothing more than that variables other than simple economic quantities have entered the calculations of the board concerned.

It may be important to consider, for example, the membership of boards and the relationship between different boards. In other words the effective constraints on the actions of boards. These variables, though not readily quantifiable, may well turn out to be the most important.

TABLE 1: MARKETING BOARD POLICIES

Variables	P O L I C I E S		
	P_1, Q_1 Stabilisation	TR Stabilisation	TR Maximisation
P_2	$\approx P_1, Q_1$	$+ P_1$ if $P_2 > MR_1$ $- P_1$ if $P_2 < MR_1$	$= MR_1$ $< P_1$ $+ P_1$
Q_2	Stable	$- P_2$ if $P_2 > MR_1$ $+ P_2$ if $P_2 < MR_1$	$- P_2$
Q	$\approx P_1, Q_1$	$+ P_1$ if $P_2 > MR_1$ $- P_1$ if $P_2 < MR_1$	$+ Q_2$
TR	$+ Q$ $+ P_2$	Stable	$+ P_2$ $\approx Q_1$ $+ Q$
Imports	If $Q < Q$	Never	Never
Exports	If $Q > Q$	Possible	Possible

Key: P_1, Q_1 Local price and quantity,
 MR_1 Marginal revenue on local market,
 P_2, Q_2 World price and quantity sold overseas,
 $Q_1 + Q_2 = Q$ Total local production,
 $+$ Positively correlated,
 $-$ Negatively correlated,
 \approx Uncorrelated,

Thus, for a policy of total revenue maximisation we would expect world price to be equal to marginal revenue on the local market, and less than local price but positively correlated with it.

TABLE 2: MARKETING BOARD BEHAVIOUR

Board	Product	Value as % of total agricultural output (1974/5)	No. of years $P_1 > P_2$	No. of years $P_1 = P_2$	Net importer (M) or exporter (X)	Average deviation of P_1 from P_2 (%)	No. of years $Q + TR$	Real P_1/S_{P1}
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Meat	Lamb	5,0	23/* ₂₄	13/23	M	+ 41,7	16/23	86,99/14,30
	Beef	11,6	16/25	15/24	X	+ 4,7	20/* ₂₃	63,84/13,17
	Pork	2,6	1/24	16/23	X	- 13,6	13/23	59,56/4,36
Maize	Maize	22,2	10/25	11/24	X	- 7,5	23/* ₂₄	6,24/ 0,63
	Grain Sorgh.	1,0	22/* ₂₅	12/24	X	+ 31,0	22/* ₂₄	8,24/ 2,36
Wheat	Wheat	6,0	21/* ₂₅	7/25	M	+ 37,4	24/* ₂₄	12,19/ 1,32
	Oats	2,7	20/* ₂₅	5/24	M	+ 23,7	24/* ₂₅	7,97/ 1,01
	Rye	0,0	19/* ₂₅	7/22	M	+ 31,0	22/* ₂₃	7,86/ 0,45
	Barley	0,2	5/25	8/24	M	- 9,3	21/* ₂₃	6,89/ 0,99
Oil-seeds	Ground nuts	1,7	3/25	9/24	X	- 15,4	22/* ₂₃	20,20/3,66

* Significant at the 99 % level.

In each case P_2 is export price of major trading partner or U.S. wholesale price.

S_{P1} Standard deviation, local price deflated by Consumer Price Index.

FOOTNOTES

- 1/ These conclusions are similar to those obtained in other studies. See for example, Agarwala.
- 2/ With the exception of grain sorghum which was marketed on a floor price basis.
- 3/ Section 28(2), Act No. 59, 1968.
- 4/ Commission Report, RP 19/1972, pp.123-124.
- 5/ See for example, Richards, p.503.
- 6/ See Tullock for a discussion of three hypotheses regarding regulatory behaviour.
- 7/ Compare Kahn: 'One inherent weakness of regulation is its involvement with the political process'. p.326.

REFERENCES

- Agarwala, R. 'A simulation approach to the analysis of stabilisation policies in agricultural market: A case study'. Journal of Agricultural Economics 12(1) (1971): 12-28.
- Bieri, J. and Schmitz A. 'Export instability, monopoly power and welfare'. J. Int. Econ. 3 (1973): 389-96.
- Buchanan, J.M. 'The Coase Theorem and the Theory of the State'. Nat. Res. Journal 15 (1973): 579-94.
- Coase, R.H. Discussion on 'The Regulated Industries' A.E.R. 54 (1964): 194-197.
- Downs, A. Inside Bureaucracy. Boston (1967).
- Hazell, P.B.R. and Scandizzo P.L. 'Market intervention policies when production is risky'. Amer. J. Agr. Econ. 57 (1974): 641-49.
- Just, R.E. 'Economic analysis of production decisions with government intervention: the case of California field crops'. Giannini Foundation Monograph No. 33, University of California, Berkeley, June 1976.
- Kahn, A.E. The Economics of Regulation: Principles and Institutions. Vol.II Toronto (1971).
- Posner, P.A. 'Taxation by regulation'. Bul. J. of Econ. and Management Science. 2 (1971): 22-50.
- Richards, C.S. 'The "New Despotism" in agriculture - some reflections on the Marketing Bill'. S. Afr. J. of Economics. 4 (1936): 469-504.
- Russell, M. and Shelton R.B. 'A model of regulatory agency behaviour' Public Choice 20 (1968): 47-62.
- Tullock, G. 'Regulating the Regulators' in S. Pejovich (ed.): Government Controls and the Free Market. Texas A. & M. (1976).