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# POSSIBILITIES FOR PROMOTING FARM PRODUCTS

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In this paper I try to come to some conclusions concerning which farm products are likely to offer good promotional possibilities, and which types of promotion are likely to be effective.

This is not a very satisfying task for an economist to attempt. Orthodox economic theory is of little help. What has passed, at least until very recently, for "the" economic theory of advertising, is concerned with the firm's (or, in the case of cooperative advertising, the industry's) determination of its advertising outlay, or more broadly, its selling costs. The response of sales to advertising expenditure is assumed to be known, as is the firm's cost function (the industry's supply function) and the product's elasticity of demand. The problem is that of jointly determining price and selling costs (and consequently output) so as to maximize profit. The solution, for the firm, is to choose a price and advertising budget such that the increase in gross revenue resulting from a unit increase in advertising expenditure is equal to the elasticity of demand for the firm's product.<sup>1</sup> The lower the elasticity of demand, the lower the marginal sales effect of advertising which the firm can afford to accept. This is because the lower the elasticity of demand, the greater the gap between marginal revenue (equals marginal cost) and price, and hence the larger the profit component of each sale.<sup>2</sup>

The above argument leads to the presumption that advertising intensity (ratio of advertising expenditure to sales) will be inversely related to price elasticity of demand. *This is the one empirically observable consequence that can be extracted from the theory.* But even this presumption is a weak one. It follows from the theory—which is concerned with marginal conditions—only with the aid of certain assumptions regarding the shapes of the various functions. Even worse, it takes no

<sup>1</sup> This result has come to be called the Dorfman-Steiner theorem. See R. Dorfman and P. O. Steiner, "Optimal Advertising and Optimal Quality", *American Economic Review*, 1954, pp. 826-36.

<sup>2</sup> Advertising and price reduction are alternative means of increasing sales. The marginal revenue product of advertising,  $\frac{d(PQ)}{dA}$  (where  $P$  = price,  $Q$  = quantity and  $A$  = advertising expenditure) measures the ratio of gain to cost for marginal increments of advertising expenditure. Similarly the price elasticity of demand measures the ratio of gain ( $dQ.P$ ) to cost ( $Q.dP$ ) from marginal price reductions. An optimal combination of these two methods is being employed when these two ratios are equal. Furthermore, profits will be maximised when advertising expenditure, and price reductions are carried to the point where the marginal revenue product of advertising, and the price elasticity of demand, are each equal to the ratio of price to price minus marginal cost.

This common-sense explanation of the Dorfman-Steiner theorem is to be found in S.A. Ozga, "Imperfect Markets through Lack of Knowledge", *Quarterly Journal of Economics*, 1960, pp. 42-43.

account of differences among products in what might be termed their "promotability". It is quite possible that promotability is positively related to price elasticity, so that while the gains from a given demand shift are greater for goods with inelastic demands, the shift in demand per unit of advertising outlay may be greater for goods the demand for which is elastic.<sup>3</sup> Thus, while orthodox economic theory offers some clues as to why some products are more heavily advertised than others, it does not take us very far in this direction.

The same limitations attach to Nerlove's and Waugh's recent discussion of optimum advertising policy for a cooperative group of firms composing a competitive industry.<sup>4</sup> They show that, *ceteris paribus*, low elasticities of supply and demand enhance the effectiveness of advertising, but on the determinants of their crucial parameter,  $a$  (which measures, in effect, the rightward shift of demand per pound spent on advertising) the theory is silent.

Although theory is silent, economists have had *something* to say concerning the determinants of the effect of advertising on sales. Borden's pioneering empirical studies led him to certain general conclusions regarding the conditions under which advertising is likely to be effective,<sup>5</sup> and Telser showed that many of the observable differences in advertising intensity among different products seem to be explicable in terms of product and market characteristics.<sup>6</sup> The following list of circumstances which are favourable to advertising is drawn from suggestions made by these two authors.

Product characteristics favorable to advertising include the following:—

1. The existence of an opportunity to differentiate the product.
2. The presence of important "hidden" qualities in the product (e.g. mechanical equipment, patent medicines).
3. The association of powerful emotional buying motives with the product (e.g. cosmetics).

Characteristics of the market which are thought to provide good opportunities for promotion include the following:—

4. The existence of a favourable demand trend.
5. The presence of many potential consumers (e.g. young people who might take up smoking).

<sup>3</sup> Promotability and price elasticity are presumed to be related because both are related to the readiness with which consumers substitute the good concerned for other goods, and *vice versa*. This argument should really only be invoked with reference to long-run elasticities. Nerlove has taught us to think of short-run elasticities as being composed of two elements, the long-run elasticity and the coefficient of adjustment. A low short-run elasticity may reflect a slow speed of adjustment to price changes rather than any lack of economic substitutes. This leads me to make the suggestion that advertising might be particularly effective in the case of commodities for which there is a big discrepancy between short and long-run elasticities. This suggestion is consistent with the view that advertising is most effective when it attempts to persuade consumers to make changes that they want to make, and would, in all probability, eventually make in any case.

<sup>4</sup> Marc Nerlove and Frederick V. Waugh, "Advertising without Supply Control: Some Implications of a Study of the Advertising of Oranges", *Journal of Farm Economics*, 1961, pp. 813-839.

<sup>5</sup> Neil H. Borden, *The Economic Effects of Advertising* (Chicago: Richard D. Irwin, 1944), Ch. XVI.

<sup>6</sup> Lester G. Telser, "How Much Does it Pay Whom to Advertise", *American Economic Review*, 1961, pp. 194-205.

6. A fast turnover of buyers (e.g. purchasers of baby goods).
7. Frequent product changes.
8. Frequent price changes.

Armed with this list, one could look for farm products which seem to possess the requisite characteristics for successful promotion—and this is precisely what I propose, shortly, to do. But first I want to make the rather obvious point that from the foregoing list of characteristics favorable to advertising one could infer that probably the major determinant of the success of promotion is *whether or not it supplies the consumer with useful information*. I do not for a moment wish to deny that much advertising tries to exploit, rather than dispel ignorance; that some advertising misinforms or misleads; nor that all advertising tries to persuade as well as inform (but, as Hicks has pointed out, effectively informative advertising is unlikely to be “bleakly” informative). Advertising has its abuses which are well known; its uses tend to be taken for granted. Partly, no doubt, because it is so often convenient in economic analysis to assume the existence of perfect knowledge, economic theory has developed in such a way as to accentuate this lop-sided view. We are all familiar, from the theory of monopolistic competition, with the wasteful role of advertising as a creator and perpetrator of market imperfections, but its contribution to the more efficient functioning of markets—by supplying information concerning the existence of products, sources of supply, price, etc.—has only just begun to be explored at a theoretical level.<sup>7</sup>

In applying the foregoing ideas about what makes a product promotable, to Australian farm products, I suggest, first, that selling effort will be best rewarded when made on behalf of products which consumers want more of, or with which they are unfamiliar. On these criteria, the most likely candidates for successful promotion are commodities with a high income elasticity of demand, and those which lend themselves to processing into new forms. Fortunately, in the case of foodstuffs, we can, I think, say with a fair degree of confidence what these commodities are. Human preferences among foods seem to be sufficiently uniform and stable for cross-sectional comparisons among countries to give a reliable indication of income elasticities. Moreover, changes in food consumption habits occur relatively slowly so that simple projection of past trends into the future can be made with some confidence.

Though changes in eating habits occur slowly, their cumulative effect, over a long period, can be very substantial. Just how substantial they can be is shown in Table I which illustrates the major changes that occurred in the United States national diet between 1930 and 1960.

<sup>7</sup> See George J. Stigler, “The Economics of Information”, *Journal of Political Economy*, 1961, pp. 213-225; also Ozga, *op. cit.* Stigler discusses the search by consumers for information concerning the market price of a commodity. His conclusions regarding advertising, in this context, are as follows:—

“The effect of advertising prices, then, is equivalent to that of the introduction of a very large amount of search by a large proportion of the potential buyers. It follows . . . that the dispersion of asking prices will be much reduced. Since advertising of prices will be devoted to products for which the marginal value of search is high, it will tend to reduce dispersion most in commodities with large aggregate expenditures”.

TABLE 1  
*Changes in U.S. diet, 1930-1960*

Food	Increase (+) or decrease (—) in average annual per capita consumption, 1930 to 1960	
	lb. weight	per cent
Wheat flour	—51	— 30
Potatoes	—32	— 24
Fruit other than citrus	—20	— 15
Cabbage, spinach, etc.	—10	— 50
Butter	—10	— 57
Margarine	+ 7	+262
Cheese	+ 8	+130
Poultry	+18	+105
Tomatoes	+19	+ 33
Beef and Veal	+36	+ 65
Citrus fruit	+55	+172
Fresh fruit	—33	— 25
Dried fruit	— 7	— 36
Canned and frozen fruit (including juices)	+75	+463

Data showing actual U.S. per capita consumption of these and other foods, and comparable data for Australia for 1937-39 and 1961, are set out in Table 2. Like Americans, Australians have been consuming less wheat flour, butter, non-citrus fruit, and have been eating more cheese, margarine, citrus fruit and tomatoes. Consumption of canned fruit (including juices) has increased at the expense of fresh and dried fruits. Unlike Americans, we have substantially reduced our intake of beef and veal, and all meats, and increased our consumption of fluid milk, but both of these changes have had the effect of bringing our diet's composition more in line with that of the American diet. However, despite these changes—and this is perhaps the most significant fact brought out by the table—our present diet generally more closely resembles the American diet of 1930 than the American diet of 1960. (This is particularly true with respect to wheat flour, sugar, poultry, butter, cheese, citrus fruit, other fruit, dried fruit, and tomatoes. It is worth noting that the consumption of all of these foods, with the exception of sugar,<sup>8</sup> changed markedly in the United States between 1930 and 1960.)

Since many of the trends evident in United States food consumption—and certainly the more striking ones—are clearly related to changes in income level and associated changes in patterns of living, to technological progress and to retailing innovations, there is every reason to believe that our diet will come to resemble more closely the present American diet. Naturally I do not suggest that the American diet of 1960 constitutes a blueprint of the Australian diet of, say, 1980: the big discrepancies between the two countries in consumption of eggs and meat, and tea and coffee, are sufficient testimony to the power of

<sup>8</sup> U.S. per capita consumption of sugar was exceptionally high in 1930. Little trend in sugar consumption is evident in the U.S. since 1930.

TABLE 2  
Average Annual Per Capita Consumption of Major Foods,  
Australia, 1937-39 and 1961, United States, 1930 and 1960

Food	Australia		United States	
	1937-39	1961	1930	1960
lb. per head per year				
Wheat Flour	187	170	169	118
Potatoes	104	115 <sup>a</sup>	134	102
Rice	4.0	3.7	5.2	5.8
Sugar	107	108	108	99
Beef and Veal (carcass weight)	143	91	55	91
Lamb and Mutton (carcass weight)	75	100	6.6	4.8
All Pigmeat (carcass weight)	26	21	66.1	65.3
Poultry (carcass weight)	9.7 <sup>b</sup>	11.7 <sup>b</sup>	16.9	34.6
All Meat (including offal)	263	235	145	196
Canned Meat (canned weight)	2.1	4.2	—	10.8
Bacon, etc. (cured weight)	10.2	6.7	18.5	18.3
Fish (edible weight)	11.2	11.7	10.1	10.5
Butter	32.9	25.1	17.3	7.5
Margarine	4.9	9.1 <sup>c</sup>	2.6	9.4
Fluid Milk (and cream)	247	298	337	324
Condensed and Evaporated Milk	4.3	9.9	13.4	13.8
Dry Whole Milk	2.6	2.5	.1	.3
Non-fat Dry Milk	—	4.4	1.3	6.3
Cheese	4.4	6.4	5.9	13.6
Eggs	26.6	26.3	40.9	43.7
Citrus fruit (farm weight equiv.)—				
fresh	n.a.	n.a.	30.8	33.7
canned (incl. juice)	n.a.	n.a.	.8	17.9
frozen	n.a.	n.a.	—	34.7
total	31.9	35.5	31.7	86.3
Other fruit (farm weight equiv.)				
fresh	94.0	84.5	101	64.7
canned (incl. juice)	10.7	23.2	15.4	35.0
frozen	—	n.a.	—	3.6
dried	32.4	25.6	18.1	11.5
total	137.1	133.3	134.5	114.8
All fruit	169.0	168.8	168.3	201.1
Vegetables, fresh and processed (fresh weight basis)				
Tomatoes	15.7	30.5	57.6	77
All vegetables	n.a.	137.3 <sup>d</sup>	266.5	260.7
Fresh Vegetables—	n.a.			
Cabbage and other greens	n.a.	14.6	20.6	10.6
Cauliflower	n.a.	16.1	2.3	1.7
Corn	n.a.	1.4	4.0	7.0
Lettuce	n.a.	4.0	12.6	15.0
Tea	6.9	5.9	.7	.6
Coffee	0.6	1.7	12.3	15.8
Cocoa (beans)	2.1	3.4	3.0	4.1

(a) Figure given is for 1959 and 1960. Consumption of potatoes in 1961 was abnormally low at 87 lb. per head. (b) Including rabbit. Figure for 1961 is too low, perhaps much too low. (c) Comprising 3.5 lb. of table margarine and 5.9 lb. of cooking margarine. U.S. consumption doubtless includes a much higher proportion of table margarine. (d) Not strictly comparable to U.S. figure, due to inadequate coverage of minor vegetables.

Sources: Commonwealth Bureau of Census and Statistics, *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia*, No. 16, 1960-61.  
U.S.D.A., Agriculture Handbook No. 62, "*Consumption of Food in the United States*", 1909-52; also Supplement for 1960.

relative prices in influencing eating habits, and to the existence of differences in national tastes. However, I doubt if I will be accused of rashness if I single out the following products as being eminently promotable by virtue of their high income elasticities of demand, our relatively low consumption of them, and, in some cases, their unfamiliarity to many potential consumers:

1. Fruit juices and tomato juice (particularly frozen concentrated orange juice).
2. Chicken and turkeys.
3. Cheese—particularly cottage cheese.

Frozen orange juice and frozen (and ready-cooked) chicken are relatively new products in this country. Both are markedly superior goods, in the income elasticity sense. Frozen orange juice does not appear to be heavily promoted, perhaps because, until recently, only one firm was manufacturing it. Chicken is being heavily advertised, to some extent by packers, but primarily by the retail food chains who consistently feature it as a price special in their weekly advertisements.

Much the greater part of the discrepancy between U.S. and Australian cheese consumption is accounted for by cottage cheese. U.S. per capita consumption of this product increased fourfold (from 1·2 to 4·8 lb.) between 1930 and 1960. It and several other minor dairy products, such as yoghurt and sour cream, are virtually unknown here,<sup>9</sup> and one of the most striking differences, to casual observation, between United States and Australian supermarkets is in the range of dairy products on display. I don't think it fanciful to blame this state of affairs on a lack of effective competition, stemming largely from government regulation, in the marketing of fresh milk and fresh milk products.<sup>10</sup>

There would appear to be little need for farmer-sponsored promotion of these products, except insofar as they are processed or manufactured by farmer cooperatives. This comment also applies to the promotion of canned and frozen foods, cake-mixes, *etc.*—in short, to the whole range of "convenience" goods which will absorb an increasing proportion of our food expenditure.

A promising field for cooperative promotion in which Australian farm groups are currently showing some interest is promotion designed to increase consumption of products in seasonally abundant supply. Advertisements telling of the availability of large supplies of bananas and pears have recently appeared in Sydney newspapers, and the Australian Meat Board is, I believe, investigating the possibility of advertising lamb on a seasonal basis. Many consumers who do not find it worthwhile to keep well informed concerning the rapidly-changing prices of perishable commodities—particularly fruits and vegetables, but also beef, lamb, and eggs—may nevertheless be induced to respond to price declines if these are forcefully drawn to their attention. The availability of good-quality produce can also be stressed in this type of promotion. Studies conducted by the U.S. Department of Agriculture show several instances of intensive, short-run promotional campaigns being particularly suc-

<sup>9</sup> One of the Sydney milk-distributing duopolists is now marketing cottage cheese.

<sup>10</sup> The performance of the milk industry in regard to product improvement and innovation, over the last few years, is in marked contrast to that of the baking industry. The quality, variety and merchandising of bakery products has been improved, in a very short time, to approximately an American standard. In Sydney we are still waiting for homogenized milk.

cessful—though, having, on occasion, somewhat unexpected results.<sup>11</sup> Promotion of Washington State apples in six mid-western cities over four week periods increased their sales by from 21 to 32 per cent, and sales of all apples by from 9 to 20 per cent, depending on the advertising theme used.<sup>12</sup> An intensive promotional campaign designed to shift excess stocks of frozen orange juice concentrate is estimated to have increased sales revenue by 18 million dollars at a promotional cost of only 4 million dollars.<sup>13</sup>

The interest of fruit and meat producers in advertising to shift seasonal gluts springs from dissatisfaction with the mark-up policies of retail greengrocers and butchers. Retailers tend to “absorb” increases in the wholesale price in times of scarcity, and to increase their margins in times of glut. This behaviour has not, in my opinion, been satisfactorily explained, nor its consequences adequately analysed. But, assuming that it is detrimental to producers, the need for corrective action on their part is becoming less as an increasing proportion of perishable commodities is being sold through supermarkets. The food chains tend to make price “specials” of products in abundant supply.

A study carried out by Northwestern University’s School of Business is highly critical of the advertising policies and procedures of agricultural producer groups in the United States. The promotional objectives of such groups—typically stated as being “to increase the use of the products and expand the market for them”, or “to achieve orderly marketing”—are characterized as being “at best so general as to be literally worthless . . . there was no evidence of any marketing concept . . . in which the objectives of the group are set in terms of consumer satisfaction. This indicates that the groups are essentially product and not market-oriented. It would have been reasonable to assume that at least a few of the [groups] would be specific in terms of their mission to the extent to type(s) of users and area(s) to be served. Unfortunately none even went this far”.<sup>14</sup>

This criticism would appear to be also applicable to much of the advertising sponsored by agricultural producer groups in Australia. Marketing boards are currently conducting advertising campaigns for butter, cheese, milk and eggs. Promotion of these products does not seem likely to be very effective. All are items of almost universal daily consumption and hence well known to consumers. The decline in butter consumption seems destined to continue since it derives, in no small part, from the fact that the cut lunch is undoubtedly an inferior good. Our consumption of fluid milk (per capita) is not markedly below the American level. Most consumers have an adequate, even an exaggerated

<sup>11</sup> For example, a promotional campaign for Washington State apples which stressed their healthful qualities increased their sales by an average of 660 lb. per store per week, but resulted in an average increase in sales of grapefruit of 724 lb.

<sup>12</sup> U.S.D.A. Marketing Research Report No. 446, *Special Promotional Campaigns for Apples*.

<sup>13</sup> U.S.D.A., Marketing Research Report No. 457, *Effectiveness of a Special Promotional Campaign for Frozen Concentrated Orange Juice*. The 18 million dollars represents the difference between the revenue actually obtained and revenue that it is estimated would have been obtained if the same quantity was sold through reducing the price rather than promotion.

<sup>14</sup> Harper Boyd, “Advertising Procedures and Practices of Producer Promotional Groups”, in *Proceedings of National Workshop on Promotion of Farm Products*, Publication No. ERS-58, Economic Research Service, U.S. Department of Agriculture, p.4.



awareness of the nutritional virtues of dairy foods, and a most effective means of milk promotion—the school milk programme—is already being undertaken at the taxpayers' expense. The vacuousness of such slogans as Buy Australian Butter and Cheese, Let's Crack a Bottle<sup>15</sup> and Eata Extra Egga Day is not, I believe, so much a reflection on the competence of advertising agencies responsible for them as an indication of the fact that there is little that consumers can be told about these products which might cause them to eat more of them. They simply seem to be unlikely subjects for successful promotion.<sup>16</sup>

No such excuse exists for the promotion of wool under such pointless slogans as Wool's a Natural. If the dictum that effective advertising is likely to be informative advertising applies to any product, it applies to wool. Since this point of view has been argued at length by Gruen and Coutts,<sup>17</sup> I will do no more than record my agreement with their suggestion that the wool industry should "launch and promote products [including blended fabrics] which meet the consumers' criticism of wool and the good points of synthetics".

### *Some Conclusions*

1. Advertising seems destined to play a more important role in the marketing of food products than it has in the past. (i) The high income elasticity of demand for "convenience" foods seem to ensure that product innovation will proceed at an accelerated rate, with a consequent increased need to provide housewives with information concerning new products, and with increased opportunities for product differentiation through advertising. (ii) Substitution of superior for inferior foods in our diet will provide opportunities for profitable promotion. (iii) Competitive advertising of cut-price "specials" by food retailers has increased greatly in recent years and this trend seems likely to continue.

2. Increased promotional opportunities arising from the above circumstances belong mainly to food processors and retailers, rather than to primary producers. A few relatively minor farm products—such as citrus fruits—would appear to be good bets for farmer-sponsored promotional campaigns. In addition some producer groups might find it profitable to advertise their product when it is in plentiful supply (or when a shortage of a competing commodity exists).

3. Wool promotion seems to have some chance of success: this, together with wool's importance in the national economy is sufficient reason for engaging in it. However, in terms of the product and market characteristics favorable to advertising (listed earlier), synthetics appear to be much better candidates for promotion than does wool. For this reason I am unimpressed by the suggestion that the wool industry should "match" the promotional efforts of synthetics manufacturers.

<sup>15</sup> The Let's Crack a Bottle jingle of the N.S.W. Milk Board is at least clearly aimed at a particular segment of the market, *viz.* teen-agers.

<sup>16</sup> The above remarks should perhaps be qualified with respect to eggs. The U.S. and Australian consumption data suggest that eggs are a close substitute for meat. Should meat prices again approach their levels of 1960, the promotion of eggs on the basis of their cheapness relative to meat might be quite effective. Similarly more might be done to advertise seasonal reductions in the price of eggs.

<sup>17</sup> F. H. Gruen and A. M. Coutts, "An Analysis of Changes in U.S. Wool Consumption", *Australian Journal of Agricultural Economics*, 1961, pp. 93-112.