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A COMPARISON OF PRICE ENHANCEMENT PRACTICES OF COOPERATIVE AND PROPRIETARY BRANDS

by

Robert L. Wills

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The research reported here was completed while the author was an Economist, ERS, USDA. The views expressed are those of the author and do not necessarily reflect the opinions of the U.S. Department of Agriculture. The author is currently employed by the Food System Research Group (NC117) at the University of Wisconsin-Madison.

This paper is an attempt to make explicit and operational a standard of "undue price enhancement" and to evaluate the adequacy of enforcement of Section 2 of the Capper-Volstead Act concerning cooperatives. Some findings from research into the relationship between prices, market share and advertising for brands of processed food products are described. The analysis enables us to investigate one definition of price enhancement and compare the practices of cooperative and proprietary marketing firms.

Part 1 reviews the objectives of Capper-Volstead Section 2 and emphasizes the necessity of specifying a standard for "undue" price enhancement under that act. Part 2 discusses the model, variables and data examined. Part 3 presents a comparison of price enhancement of proprietary and cooperative brands of processed food products in 1979 and 1980. Antitrust treatment of cooperatives is evaluated within that context.

1. The Need for a Definition of Undue Price Enhancement

Theoretical analyses indicate cooperatives generally have procompetitive effects on markets (Helmberger; Youde and Helmberger; Torgerson). Reaching and enforcing anticompetitive decisions and distributing monopoly returns becomes difficult when the number of actors, for example, members of a cooperative, becomes large (Stigler). Under a number of circumstances, however, the procompetitive influence of cooperatives may be subverted. At least theoretically, they may have anti-competitive effects. (Masson, Masson and Harris; Eisenstat and Masson; Youde).

Jesse and Johnson demonstrated that finished product price is tied directly to finished product output. Membership and supply restrictions can reduce supply but are likely to provide benefits to nonmembers which exceed those to members, thereby encouraging free-riders; that, in turn, results in the loss of effective supply control. Predatory or unfair trade practices by cooperatives to enforce restrictions or eliminate competition are not exempted from normal prosecution under antitrust laws. Few cooperatives actually restrict membership and even fewer restrict member supply (Youde).

Market segmentation for the purpose of surplus disposal will be profitable if the cost of eliminating produce from the primary market is more than offset by the gains from doing so. Free-rider problems are likely to be attendant here, also, because the average returns to cooperative members when part of their supply is diverted will be less than a single farmer could earn by marketing all produce in the restricted market -- <u>if</u> he has access to the market. Industry-wide marketing orders or barriers to entry may enhance the ability of marketing organizations -- cooperative or proprietary -- to control supply. However, few if any marketing orders include quotas or other restrictions on the output of individual producers that would be necessary for long-term price elevation of all products produced under the order.

A less extreme form of segmentation is brand differentiation. To the extent that consumer loyalty to a particular brand can be created using advertising, the free-rider problem vanishes and member supply restrictions may become more effective. Production for both branded and

private label markets may enable firms to earn higher returns by restricting supply of their differentiated brands.

A legislative history indicates that Congress wished to benefit farmers by partially exempting them from antitrust law (Johnson and Jesse). Various Congressmen had among their aims:

(1) The need, due to early court decisions, to clarify that Sherman Act Section 1 prohibitions against restraints of trade among competitors were not intended to prohibit formation of farmer cooperatives;

(2) the desire to enable independent farmers to integrate vertically, eliminate middlemen and achieve economies of scale to market their product efficiently;

(3) the desire that returns to farming should be equivalent to those in other sectors so that agriculture would continue to attract investment and people; and

(4) the desire to maintain the structure of many independent farms producing most agricultural products.

Concern that an antitrust exception for cooperatives would not meet the Constitutional requirement of equal protection under the law and would make farmers a privileged class had been expressed by the Courts, President Taft, and various Congressmen (Manchester, 1982). This fear was allayed by including the provision in Section 2 of the Capper-Volstead Act that instructs the Secretary of Agriculture to intervene if a cooperative is unduly enhancing prices. It reads in part:

That if the Secretary of Agriculture shall have reason to believe that any such association monopolizes or restrains trade in

> interstate or foreign commerce to such an extent that the price of any agricultural product is unduly enhanced by reason thereof, he shall serve upon such association a complaint... (Capper-Volstead Act, Sec. 2).

Since the passage of this provision in 1922, no Secretary of Agriculture has brought action against a marketing cooperative for price enhancement. Part of the reason for that inaction may be that there is no general agreement as to what constitutes an unduly enhanced price.

The Sherman Act prohibits conduct -- "restraint of trade," "attempts to monopolize" and "monopolization" -- which may be legal for cooperatives. Under Section 1 any "contract, combination or conspiracy in restraint of trade" is illegal. The actual performance of firms in said combination is irrelevant. The existence of an agreement, implicit or explicit, to control price or output is a per se violation. Yet marketing cooperatives are, by definition, just such a combination.

Under Sherman Act Section 2, monopolizing has been inferred from willful or deliberate acquisition or maintenance of high market share. Nearly any actions taken by a corporation to successfully acquire or maintain a monopoly are illegal (U.S. vs. Grinnell Corp.). For cooperatives, however, market share alone implies nothing about either intent to monopolize or ability to control market supply. This view was recently restated by the Second Circuit Court of Appeals in Fairdale Farms, Inc. vs. Yankee Milk, Inc.:

> As the cooperative grows, so normally does its power over the market. Thus, while the formation, growth and operation of a powerful cooperative is obviously a 'willful acquisition or

maintenance of such power' and will rarely result from 'a superior product, business acumen or historical accident' [U.S. vs. Grinnell] it is exactly what Capper-Volstead permits.

We conclude that Grinnell does not apply to monopoly power that results from such acts as the formation, growth and combination of agricultural cooperatives, but applies only to the acquisition of such power by other, predatory means (Fairdale Farms, Inc. vs. Yankee Milk, Inc., p. 6646).

There may be legitimate reasons for cooperatives to be allowed conduct prohibited to other firms. Thus, because the Sherman Act deals with conduct and Section 2 of the Capper-Volstead Act governs performance, the Sherman Act provides little or no guidance for enforcing this section.

It has been proposed that cooperative market share along with supply control arrangements (e.g., membership restrictions, member supply control, and surplus disposal) be used as signals of possible cooperative monopolization or restraint of trade (Jesse, Johnson, Marion and Manchester). Under this proposal, structure and conduct would serve as a screening procedure to identify cooperatives with the greatest probability of restraining trade. There would still be the need to define and measure "undue price enhancement." The law requires the Secretary of Agriculture to have reason to believe that prices are in fact unduly enhanced.

Jesse, Johnson, Marion and Manchester rejected "pure competition" as a standard, advocating instead workable competition as a standard of price performance (Stocking; Sosnick, 1958, 1968). Thus, "Modest price

enhancement should be legal" (p. 442). But little further guidance was given:

> We find no basis for defining a dividing line between "due" and "undue" price enhancement. Is a price 5%, 10%, 20%, or 30% above a "competitive" price unduly enhanced? We see no way to make such a generalization (Jesse, Johnson, Marion and Manchester, p. 442).

One logical standard has been suggested, however. The constitutional right to equal treatment under the law requires and the legislature intended that farmers, organized in cooperatives, be treated the same as corporations. This dictates that the limit on cooperative price enhancement be comparable to the price enhancement that results from the conduct allowed other firms. The Supreme Court interpreted the intent of Congress as neither favoring cooperatives nor subjecting them to more stringent restrictions than other firms:

> We believe it is reasonably clear ... that the general philosophy ... was simply that individual farmers should be given, through agricultural cooperatives acting as entities, the same unified competitive advantage -- and responsibility -- available to businessmen acting through corporations as entities. As the House Report on the Capper-Volstead Act said:
>
> > Instead of granting a class privilege, it aims to equalize existing privileges by changing the law applicable to the ordinary business corporations so farmers can take advantage of it.
>
> This indicates a purpose to make it possible for farmer-producers to organize together, set association policy, fix prices at which

their cooperative will sell their produce, and otherwise carry on like a business corporation without thereby violating the antitrust laws (Maryland and Virginia Milk Producers Association, Inc. v. United States).

Corporations are allowed substantial leeway in legally setting prices above a competitive level. Proprietary firms with high market shares and differentiated brands charge higher prices than their competitors, even after adjusting for quality differences (Wills 1982). These results indicate that some firms are able to enhance prices above a competitive level.

This price enhancement by proprietary firms can be used as a standard for judging whether a cooperative has "unduly" enhanced prices. It can be determined whether or not the cooperative's price is higher than that of corporations with market shares and advertising levels that are unchallenged. If the cooperative does not sell at higher prices than corporations with the highest market shares and advertising, then "undue" price enhancement has not been demonstrated.

Jesse, Johnson, Marion and Manchester argued that different standards for price enhancement should apply to differentiated branded products than to homogeneous ones. They stated, "For branded products, price enhancement from successful product differentiation must be distinguished from that due to monopolization or restraint of trade" (p. 441).

As indicated above, such a distinction may be impossible. Brand differentiation facilitates market power by eliminating free-riders. Conversely, supply control is necessary to take advantage of demand

inelasticity created by differentiation. There is no theoretical reason to apply a different standard when the price enhancement is due to advertising than when it results from market share.

In the following section, price enhancement associated with advertising and market share of corporations is compared with price enhancement of cooperatives under similar circumstances. This achieves several objectives. First, it quantifies the degree of price enhancement by proprietary firms that currently exists. Second, it provides a means of judging the overall adequacy of enforcement of Capper-Volstead, at least vis-à-vis cooperative behavior in food manufacturing. Finally, it makes it possible to determine whether or not farmers' cooperatives are operating on an equal footing with proprietary corporations in food manufacturing.

2. Data, Variables and Estimation

Nielsen Early Intelligence System (NEIS) data for two bimonthly periods, April/May 1979 and 1980, were purchased under an interagency agreement by the U.S. Department of Agriculture and the Food and Drug Administration. The NEIS data set is constructed from records of withdrawals from 80 warehouses to 150 grocery stores, which are representative of all U.S. grocery stores with annual sales of more than one million dollars. Stores of this size accounted for over 85 percent of U.S. grocery store sales.

The data covered virtually every packaged edible item distributed through warehouses to grocery stores. NEIS does not include fresh meat or produce, unpackaged foods, or items that are delivered directly to

stores by their manufacturers. Sales of the over 50,000 items reported in the NEIS directory were about 42% of grocery store food and beverage sales. Items distinguished by brand, container size, flavor or other attributes were classified by Nielsen into 428 product classes. Of those, 145 products remained after excluding animal feeds, products with substantial direct store delivery by manufacturers, and categories containing dissimilar items -- for instance "Specialty Items" or "Dietetic Foods--Miscellaneous".

For each product, a representative item was chosen to compare across brands. In most cases, the item was the modal, or largest selling, variety of the product (e.g., canned whole apricots, nr. 303 can). The items selected accounted for 22% of the sales of the 145 products. Additional detail concerning selection procedures and a list of products are available from the author.

NEIS reported quantities and retail sales for each item. Variables developed directly from the NEIS data were relative price, and quantity share. Relative price, the dependent variable in regression analysis, expresses each brand's price for the modal item as a proportion of the largest selling brand's price for that item. Use of price ratios made it possible to combine observations on brands of many food products into a single sample. In studying relative prices it is necessary to account for factors which affect both the price of the observed brand and the price used in the denominator. Expressing prices relative to the price of a particular brand makes that possible; when prices are expressed relative to an average price for the product, it is difficult to correct for factors that affect the average price.

Quantity share (QS) is the brand's share of product sales divided by its relative price. This method of calculating quantity share combines sales of various container sizes expressed in standardized units. It reflects the assumption that the relative prices across brands are the same on average for all varieties of container size, flavor, etc. within a NEIS product class. While there is little evidence either way, the assumption is not crucial to the analysis presented in this paper. This measure was used rather than the more typical share of sales because the latter is the product of price and quantity; as a result, market sales share is correlated with price. Average quantity shares in 1980 were .092 for 104 cooperative brands and .078 for 1053 proprietary brands.

NEIS items were assigned advertising expenditures from Leading National Advertisers (LNA) 1978, for all items of a brand included in the same Census seven-digit product category (e.g., canned apricots). In some cases even broader categories were used (e.g., canned fruit). This procedure was mandated by the use of less detailed categories by LNA than by Nielsen. The measure is probably appropriate because advertising messages are rarely as narrowly focused as the items selected for comparison. Del Monte may advertise canned apricots but it probably doesn't advertise canned whole apricots in 303 cans. Consistent advertising categories were used for all brands within a product class. Advertising expenditures were expressed in millions of dollars per year. Mean values of advertising in the sample were $223,000 for cooperatives and $552,000 for other brands.

Cooperative brands were identified using Ward and Morrissy and supplementary information. Their listing of about 300 brands marketed by 82 cooperatives includes some brands sold only in food service or producer goods channels. Forty-six of the brands were in the sample taken from NEIS, some in more than one product. About half of the 145 products had at least one cooperative brand. Slope dummy variables were constructed by multiplying explanatory variables by a cooperative binary variable, equal to one if the brand was marketed by a farmer cooperative and zero otherwise. Thus, the slope dummies have a value equal to that of the explanatory variable for cooperative brands and zero for other brands.

Private label (store or wholesaler brands) and generic items were not identified by manufacturer. All private label brands were lumped together in the NEIS data; likewise for generic products. The prices for private label and generic products are averages over all sales regardless of manufacturer. Private labels and generics were assigned zero quantity share. Separate variables measured the total quantity shares of private label brands and generics respectively.

Differences in relative prices were hypothesized to be caused by differences in market shares, advertising and type of manufacturer (cooperative v. non-cooperative). Each of these variables can affect both the price of the brand and the price of the leading brand, the denominator of relative price. As a result, the leading brands' (Brand 1) advertising, market share and ownership type were also included to explain each brand's relative price. Leading-brand variables have a single value for all brands within a product class. Cooperatives owned

the leading brand in 15 products; those products had a total of 121 brands. Leading brands of processed food products marketed by cooperatives included Land O'Lakes, Treetop, Sunsweet, Sun Maid, Welch and Ocean Spray.

Ordinary Least Squares (OLS) estimation revealed evidence of heteroscedasticity. As a result, estimates of standard errors and t-statistics used in tests of the significance of OLS coefficients would be biased. A generalized least squares (GLS) estimation procedure was used to eliminate the bias. The GLS procedure assumed

$$y_i = \underline{X}_i' \underline{\beta} + e_i;$$
$$E(e_i) = 0,\ E(e_i^2) = \exp[Z'\underline{\alpha}],\ E(e_i\ e_j) = 0\ \forall\ i \neq j;$$

where y_i is the dependent variable, relative price, $\underline{X}_i'$ is a vector of explanatory variables, $\underline{\beta}$ is a vector of their coefficients, e_i is the residual and $\underline{\alpha}$ is a vector of coefficients on the variables, $\underline{Z}_i'$, that explain the variance of the residuals. It was assumed that $\underline{Z}'$ takes the form [1: log Z_{i1} : log Z_{i2} : ...]. Therefore $\underline{\alpha}$ was estimated by regressing log $\underline{e}^2$ on Z. The estimate of the first element of $\underline{\alpha}$ using this procedure is inconsistent, but that is irrelevant since it does not enter the GLS estimation of $\underline{\beta}$.

GLS coefficients and t-statistics were estimated by dividing the dependent and independent variables by

$$Z_{i1}^{\frac{1}{2}\alpha_1}\ Z_{i2}^{\frac{1}{2}\alpha_2}\ Z_{i3}^{\frac{1}{2}\alpha_3},$$

and running ordinary least squares on the transformed variables.

Three variables were associated with heteroscedasticity. They were: (1) the percent of stores offering the brand; (2) the brand's average share of product sales in stores that carried it; and (3) the

share of national product sales by the four largest brands. The first variable reflects the effect of averaging on the accuracy of the reported price. The more stores that carry an item, the more likely reported prices are to reflect market conditions rather than the potentially arbitrary or incorrect decisions of a few sellers. Moreover, greater opportunities of consumers and retailers to compare prices across stores are likely to both force retailers to sell the brand at a rational, uniform price and improve their ability to choose a price that is appropriate for market conditions.

The other two sources of heteroscedasticity are also related to the cost of obtaining information with which prices can be accurately set. Unless a retailer realizes that a brand is significantly differentiated, the retailer may fail to price the brand as high as consumers would accept. Similarly, a manufacturer may have difficulty determining the likely market response to a change in the relative price of its brand. The higher a brand's average share of product sales per store, the larger the incentive of the retailer to acquire sufficient information about market conditions to price the brand rationally. Furthermore, manufacturers whose brands have a high share of product sales in a store probably can apply some pressure on the retailer to prevent it from setting the retail price higher than is justified. Finally, the more concentrated the sales of a product, the easier it is for both manufacturers and distributors to assess competitors' prices and promotional efforts. Thus, because they raise the value of market information and make it easier to get that information, market share per store and concentration are negatively related to the variance of brand price.

The samples for 1979 and 1980 were pooled using Zellner's method to obtain more efficient (ZEF) estimates by taking advantage of error components that appear in both years. OLS, GLS, and ZEF coefficient estimates should all be unbiased; GLS estimates of standard errors should be unbiased; and ZEF estimates, reported below, should be both unbiased and efficient.

3. Results

The coefficients for proprietary brand advertising and quantity share were significant at the 5 percent significance level (Table 1). Higher levels of advertising and quantity share were associated with higher relative prices for the processed food products analyzed. Private label brands and generics had significantly lower prices on average.

Tests of the significance of coefficients on the cooperative brand variables indicated whether or not pricing of cooperatives' brands was different from that of brands marketed by corporations. For example, in 1979, a 10 percent increase in a proprietary brand's share of product sales was associated with an increase in price of about 1 percent; the increase in price for a cooperative's brand associated with a similar market share gain was about half that amount -- $(.105-.055) \times .10 = .005$. The market share coefficients were not significantly different, however, at conventional significance levels.

The coefficient on cooperative brand advertising was higher than that on proprietary brand advertising in 1979 and lower in 1980. The differences were not significant in either year.

Table 1: Regression Results Comparing Cooperative and Proprietary Brand Relative Price Determinants

Estimate	ZEF 1979	ZEF 1980
VARIABLE		
Intercept	.970	.953
Quantity Share	.105	.118
	(4.28)	(4.62)
Co-op Quantity Share	-.055	-.039
	(-.84)	(-.58)
Advertising	.007	.008
	(3.81)	(3.81)
Co-op Advertising	.014	-.002
	(.86)	(-.13)
Co-op Dummy	.029	-.005
	(1.60)	(-.24)
Private Label Dummy	-.045	-.058
	(-2.78)	(-3.54)
Generic Dummy	-.233	-.248
	(-10.21)	(-10.13)
Private Label QS	-.144	-.126
	(-3.74)	(-3.25)
Generic Quantity Share	.184	.106
	(.67)	(.33)
Brand 1 Quantity Share	-.071	-.067
	(-3.21)	(-2.97)
Brand 1 Co-op QS	.123	.127
	(2.00)	(2.05)
Brand 1 Advertising	-.004	-.004
	(-3.82)	(-3.09)
Brand 1 Co-op Advertising	-.017	.006
	(-1.52)	(.48)
Brand 1 Co-op Dummy	-.066	-.053
	(-3.09)	(-2.51)
Observations	----------2714----------	
R^2 from OLS	.122	.148

* t-statistics in parentheses refer to hypotheses that coefficients equal zero. t-statistics correspond to significance levels in two-tailed tests as follows:
1.65 -- 10.0% significance level; 1.96 -- 5.0% significance level;
2.33 -- 2.0% significance level; 2.58 -- 1.5% significance level.

Similarly, the intercept cooperative dummy variable changed signs and was insignificant in both years. Thus, there is no evidence in general that cooperatives were consistently priced higher or lower than other firms for reasons other than their shares of sales and advertising.

Leading brand coefficients require a more detailed explanation. The leading brand variables were included to account for changes in the relative price due to changes in the denominator, leading brand price. Thus, in general, leading brand variables would be expected to have the opposite sign and similar magnitude as the variables discussed above. This was the case for leading proprietary brands although the magnitudes of leading brand quantity share and advertising coefficients were somewhat smaller than the estimates for all brands suggesting some nonlinearity. This is discussed further below.

When leading brands were distributed by cooperatives, the coefficients for cooperative leading brand quantity share, the cooperative leading brand dummy and, in the GLS estimate, cooperative leading brand advertising were significantly different from both the general cooperatives' coefficients and from the coefficients on leading proprietary brand variables. Consistent with the lower coefficient on general cooperative brand quantity share, cooperative leading brand quantity share seems to have less impact on price than does leading proprietary brand quantity share. Perhaps this is due to a lack of supply control.

There may be several explanations for the differences in the cooperative and proprietary leading brand advertising coefficients. First, the differences between the performances of leading cooperative

and proprietary brands may be due to differences in the characteristics of markets in which cooperatives are the leading brand rather than to the cooperatives' operations. An indication that the products may differ is that leading cooperatives had only one-third the advertising of the leading proprietary brands on average; moreover, Combs and Marion reported that cooperatives usually produced products with lower than average value-added and sales concentration. Another explanation is that non-linearity in the effect of advertising on price may make advertising appear to be more effective at the lower levels associated with leading cooperatives. Non-linear estimates of this model are available from the author. Quadratic advertising variables improved the explanatory power of the model significantly. General conclusions are unaltered, but the non-linear model is more cumbersome.

The cooperative leading brand dummy variable may also reflect different market characteristics. Other potential explanations may include less unified management objectives for large cooperatives than for large corporations, the inability of cooperatives to issue stock to raise funds for capital improvements, market development and promotion, or higher costs caused by the role of major cooperatives in absorbing and storing surplus commodities or diverting them to other markets. Each of these suggestions has limitations and is subject to counter-examples. More research is needed to explain the empirical finding.

The net effect of brand and leading brand variables can be seen using some simple examples. Table 2 illustrates relative prices of cooperatives and proprietary brands under four market situations based on the 1980 regression. In 2a, the leading brand in the market is

proprietary, heavily advertised and has a high market share. Unadvertised manufacturers' brands with small market shares in that situation are priced about 12.5 percent below the leading brand. It can be seen that the predicted relative prices rise as advertising and market shares increase to the average level for proprietary brands ($550,000 advertising and 8 percent share of sales).

Situations 2b and 2c illustrate predicted relative prices when the leading brand has advertising ($3 million) and market share (36 percent) that are average for a leading proprietary brand. Relative prices are higher in 2c than in 2a because of the lower price of the leading brand when its advertising and market share are lower. Comparing 2b and 2c indicates that leading brands tend to be priced about 1 percent lower when they are owned by cooperatives than when they are owned by corporations under these circumstances.

Finally, 2d illustrates the comparatively high relative prices when there is a typical leading cooperative brand with $800,000 advertising and 34 percent of product sales. Leading cooperative brands in this situation are priced only about 6.5 percent higher than unadvertised brands with small market shares. This is about half the price advantage that leading proprietary brands had in 2a. In each of the four scenarios, the prices of cooperative brands are lower than those of proprietary brands with identical advertising expenditures and quantity shares. That difference increases as the levels of advertising and quantity share rise.

Table 2: Examples of Relative Prices Predicted by Regression, 1980.

2a: Brand 1 is proprietary with high advertising ($10 million) and high market share (.60).

Brand Type	Advertising ($millions)	Quantity Share	Predicted Relative Price
Cooperative	0	.01	.873
Proprietary	0	.01	.878
Cooperative	.55	.08	.881
Proprietary	.55	.08	.890

2b: Brand 1 is cooperative with high advertising ($3 million) and moderate market share (.36).

Brand Type	Advertising ($millions)	Quantity Share	Predicted Relative Price
Cooperative	0	.01	.924
Proprietary	0	.01	.929
Cooperative	.55	.08	.932
Proprietary	.55	.08	.941

2c: Brand 1 is proprietary with average advertising ($3 million) and average market share (.36).

Brand Type	Advertising ($millions)	Quantity Share	Predicted Relative Price
Cooperative	0	.01	.914
Proprietary	0	.01	.919
Cooperative	.55	.08	.922
Proprietary	.55	.08	.931

2d: Brand 1 is cooperative with average advertising ($800,000) and average market share (.34).

Brand Type	Advertising ($millions)	Quantity Share	Predicted Relative Price
Cooperative	0	.01	.931
Proprietary	0	.01	.936
Cooperative	.55	.08	.939
Proprietary	.55	.08	.948

Conclusions and Implications for Capper-Volstead Enforcement

The results of the regression model indicate that there was price enhancement related to both market share and advertising by proprietary brands. They also show that, at least in the periods analyzed, cooperative brands with similar market shares and advertising tended to obtain lower, but not significantly different, prices than their corporate competitors.

It is not possible to determine whether the lower prices obtained by cooperatives' brands were due to differences in the type of products sold by cooperatives (i.e., lower elasticities of demand), inadequate control over supply to achieve a price premium, or failure to exploit available market power. It seems likely that at least the first two were contributing factors.

The coefficients on cooperatives' advertising and quantity share were not only not significantly different from the coefficients on proprietary brands' variables but, except for cooperative leading brand advertising in 1979, the coefficients on cooperative brands' variables were not significantly different from zero. In other words, there is no evidence that cooperatives in general enhanced prices significantly above competitive levels. The lack of significance of coefficients for cooperatives may reflect larger differences among cooperatives than among non-cooperatives in their ability to control supply and exploit market power.

Without significant differences in the effectiveness of market share and advertising for cooperative and proprietary brands, undue price enhancement by cooperatives -- using my standard -- would be

possible only if cooperatives were allowed higher market shares or advertising levels than those that can be attained by other firms. Since there are no effective restrictions on either market share or advertising for corporations, there is little probability of finding that a cooperative violates the standard outlined here. If antitrust treatment of corporations were changed to effectively restrict market share or advertising, then evidence like that presented here could be used to identify a level of price enhancement which would be considered "undue".

The Capper-Volstead exception from the Sherman Act appears to have enabled some cooperatives to receive prices above those that could be achieved with no advertising and negligible market shares. Performance as atomistic competitors should not be the basis for judging price enhancement, however. Willard F. Mueller, a member of the Economic Advisory Panel for the National Commission for the Review of Antitrust Laws and Procedures wrote:

> Although the number of firms has declined and their size increased, the fundamental structural characteristics that set agriculture apart from industrial markets in the 1920s remain today. Indeed, whereas the structure of agriculture remains atomistic, the structure of much of the rest of the economy has become more concentrated and its power more deeply entrenched...
>
> Antitrust offers little prospect of improving performance in these and other industries with entrenched power...
>
> For these reasons, the performance of cooperatives should be judged within the context of an economy where varying degrees of market power are a rule not an exception, and a public policy

environment in which little has or is likely to be done about entrenched power (Mueller 1981, p. 3).

No Secretary of Agriculture has brought charges against a marketing cooperative for undue price enhancement. The main accusations of undue price enhancement have been leveled at cooperatives dealing in undifferentiated primary commodities. Those products were not included in the sample studied here. For processed food products, however, the results of this analysis indicate that the failure to act may be justified. Cooperatives selling branded processed foods appear to have been at only a slight disadvantage relative to their competitors; they certainly do not appear to have been uniquely able to raise their prices. It is highly questionable, therefore, that their price enhancement can be considered "undue" when viewed within the context of pricing behavior commonplace within food manufacturing. Broad generalizations charging the Secretary of Agriculture with inadequately enforcing Section 2 appear to be unjustified.

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