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Retail Merchandising of Beef, Pork and Poultry



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INTRODUCTION

Few farmers sell meat or poultry directly to consumers. Neither do many processors. Most of those products go through other hands before they reach the persons who consume them. The final handlers may be institutional food services, such as restaurants or public schools that serve lunches. However, about three-fourths of all meat and poultry is sold through retailers, most of which are large supermarkets.

The retailer is not a neutral agent. The retail firm has certain goals, which relate to firm-wide stability, growth, and earnings. Merchandising practices are adopted with the object of attaining those goals. They are not chosen according to their effect on the economic situation of the individual foods that are merchandised.

Yet merchandising practices are generally assumed to have an effect on the economic situation for individual foods. Doesn't it make a difference to the sales quantities and price trends for any food whether it is advertised, is priced at generally high or low margins, is selected for so-called price specials, or is otherwise actively promoted or not promoted?

This report examines three particular merchandising practices for beef, pork, and poultry, as observed in retail stores of selected midwestern cities. It particularly looks into how those practices compare with relative volumes of sales of the three species. The practices are (1) advertising, (2) relative pricing including degree of specialing and realized margins, and (3) display space in the meat case. Most of the data are derived from an on-going set of studies at this Station. The data provide tentative rather than conclusive answers to these broad questions. In particular, the data pertain to *short-term* (immediate) effects, whereas there may be important *longer term* effects of retail merchandising on relative consumer demands.

SOURCES OF DATA

In two midwestern cities, one metropolitan and one smaller, data on newspaper advertising lineage for meats were compiled during the summer of 1971. In the larger city, the data were collected for the largest retailers, which included four national chains, three affiliate groups, and eight local chains. In the smaller city, the information was taken for 14 supermarkets representing five national chains, four affiliated stores, and five local or regional chain units. Data were also collected for six of the 14 stores in the smaller city on certain meat pricing practices and allocation of shelf space.

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In a separate but related study in the larger city, data were gathered on prices and volume movements of most meat items in two retail stores. One store was a unit of a local chain, the other an affiliate. They followed substantially different merchandising practices.

ADVERTISING SPACE AND SALES BY SPECIES

Although beef exceeds pork in sales and consumption just about everywhere and is usually regarded as the glamour meat, the number of ad-mentions of pork about equalled those of beef in the large city and surpassed beef slightly in the smaller city (Table 1).

Table 1. Distribution of Newspaper Advertising by Meat Categories in Two Cities

	Small City	Large City
Beef Cuts	33.3%	38.3%
Ground Beef	6.7	5.8
All Beef	40.0	44.1
Fresh Pork	16.4	14.4
Sausage	5.0	5.4
Hams	13.1	12.9
Bacon	10.8	11.0
All Pork	45.3	43.7
Poultry	14.7	12.2

Notes: Only broiler ads are included in poultry in the large city making the categories slightly different. Ads of all major advertisers for 7 weeks in large city and for 16 weeks in small city — both in the summer of 1971.

Poultry, by contrast, received only 1/8 to 1/7 of all ad-mentions, or about a fourth as many as beef or pork alone.

These counts are of specific items priced in the ads, without allowance for pictures, enlarged type, etc.

Relative numbers of ad-mentions differed from store to store. For example, in the smaller city one supermarket divided total mentions 55% beef, 39% pork, and 6% poultry. At the other end of the range was a store that split ad-mentions into 26% beef, 54% pork, and 20% poultry.

Much beef moves in ground form. Even though ground beef is advertised from time to time its volume is so large that the ad-mention sales ratio is low.

Detailed data on volume of sales relative to advertising, collected for two stores in the larger city, indicate how much ground beef can influence overall relationships between ad-mentions and sales by species. Store I advertised beef more than pork (Table 2) and its ratio of ad-mentions to sales was not greatly different for the two species. Store II advertised pork much more than beef, and its ad-mention/sales ratio was about twice as high for pork as for beef.

But when the sizable volume of sales, and limited advertising of ground beef are omitted, Store I is found to have a very high ad-mention/sales ratio for beef cuts (excluding ground beef). Store II is closer to balance in ad-mention/sales ratios for beef cuts and pork.

Table 2. Distribution of Sales and Ads by Meat Categories in Two Supermarkets, Large City

	Store I		Store II	
	% Sales	% Ads	% Sales	% Ads
Beef Cuts	24.5	43.7	21.3	27.5
Ground Beef	22.3	7.5	25.1	3.8
All Beef	46.8	51.2	46.4	31.3
Pork Loins	7.9	2.3	10.6	12.5
Pork Ribs	2.3	1.4	2.4	2.5
Pork Butts	4.7	1.9	8.2	10.0
Pork Sausage	2.9	2.3	3.7	13.7
Hams	11.9	16.0	6.0	7.5
Bacon	7.6	18.8	8.7	10.0
All Pork	37.3	42.7	39.6	56.2
Broilers	15.9	6.1	14.0	12.5

Note: Sales on a tonnage basis.

It is notable, though probably not statistically significant, that relative sales were about the same in the two stores even though the distribution of advertising was sharply different.

Although broilers are a popular item for retail specials, in the stores studied in the summer of 1971 they received fewer ads relative to sales than did beef and pork.

In an overall sense, and disregarding differences in policies by stores, it appears that food retailers apportioned their ads in reasonable relation to sales by species. If these results are representative of the national scene, neither beef nor pork producers would seem to have much cause for complaint about the relative advertising emphasis given by retailers.

Display Space

It is often argued that sales of a food item are influenced by its position on the shelf or in the case, and by the size of the display: larger displays yield larger sales. These arguments have been tested in a few previous studies by controlled experiments in food stores though not usually for meat items. The results have been mixed. Thus far, it has appeared that larger or better shelf space is less important to a large-volume staple such as broilers or pork than to an impulse-buying item.

Display space in the meat case is a fixed total in the short run. It is allocated among the various species, categories and cuts according to the merchandising strategy of the manager. Most items (e.g., club steak, or bone-in rump roast) receive a single "facing"—i.e., a single row perpendicular to the length of the meat case. Some minor items share a facing (row) and some major items may have two or more facings.

A detailed measurement of allocation of meat counter space in the six supermarkets in the smaller city for three months indicated very little variation from week to week in the facings of each item. About 90% of the items had no change. Each store had its customary layout pattern with, for example, bacon first in the customer flow

pattern, followed by ground beef, hams, fresh pork, beef, pork sausage, and poultry. However, the order of individual items of beef or pork within this layout varied considerably from week to week.

The sales results of Store I and II suggest that moderately different allocations of space to beef and pork may have little impact on sales. The two stores contrasted in their space allocations to the two species while their sales proportions were very close (Table 3). Store I gave 38.6% of its space to beef and only 33.7% to pork while Store II reversed the allocation with 43.9% to pork and only 29.3% to beef. Yet both stores sold 20-25% more beef than pork.

Table 3. Average Sales and Space Allocation by Species

	Store I		Store II	
	% space	% sales	% space	% sales
Beef	38.6	43.1	29.3	42.5
Pork	33.7	34.2	43.9	35.2
Poultry	14.4	15.0	8.2	13.0
Lunch meat, etc.	13.2	7.6	18.7	9.2

Sales measured in pounds of retail cuts; space measured in linear inches; sales percentages differ from Table 2 because more meats are included in the totals of Table 3.

One should hasten to add that this was not a controlled experiment and other factors may have influenced these results. They must be taken as only one small piece of evidence in one particular situation. It's true that more extreme differences in space would have an effect—if customers don't find an item, they obviously don't buy it.

If space were a very important determiner of sales of a meat species or category, then weekly sales per inch should be fairly constant. The large ranges between low and high weekly sales per inch for any particular category in Table 4 are further evidence that weekly sales varied rather independently of display space within the space limits found in this study. An extreme example is the variation in Store II in weekly broiler sales from 11.3 pounds per inch to 73.6.

The variability among categories of sales per inch of display also supports the hypothesis that reasonable variations in display space have little discernible effect on sales (Table 4). Note that average sales per inch while varying considerably among categories were quite parallel for the two stores with the exception of sausage and bone-in hams (Table 4). The sausage example is noteworthy. Realized prices were the same in both stores. Store I sold fewer sausage items and ran fewer ads. It gave a display space of 52 linear inches to sausage, while Store II gave 113. Yet Store I's sales of sausage per linear inch were more than double Store II's. All that space in Store II didn't produce any more sales.

The other large sales divergence between stores—bone-in hams—has another explanation. Space was about the same in the two stores but realized price was considerably lower in the store with the higher sales per inch.

Table 4. Weekly Retail Sales and Display Space

Species or category	Store I				Store II			
	average space— linear inches	Sales per linear inch			average space— linear inches	Sales per linear inch		
		average	low week	high week		average	low week	high week
Beef:								
All Fore cuts	148	8.9	7.0	11.0	103	10.2	5.4	26.7
All Hind cuts	169	8.8	7.4	11.9	102	8.8	6.3	13.2
Ground	82	31.0	26.2	34.1	81	27.5	24.9	29.7
Pork								
Loins	78	10.9	6.9	18.9	102	9.1	7.2	11.2
Ribs	24	10.9	7.8	16.9	20	9.7	2.5	30.7
Butts	32	17.1	6.6	28.3	46	13.9	5.2	19.9
Sausage	52	6.4	5.1	9.9	113	2.9	2.0	4.0
Hams B.I.	23	24.2	12.0	43.1	26	6.0	1.8	9.5
Hams B.O.	42	19.8	15.6	24.0	35	13.5	4.3	30.6
Bacon	95	9.0	4.3	13.3	81	9.7	3.9	16.9
Broilers:								
Whole	42	21.2	19.2	26.1	37	23.3	11.3	73.6
Parts	99	9.3	8.1	10.9	42	8.7	5.8	11.9

Sales are measured in pounds of retail cuts.

Prices and Margins

Relative prices of meat species make a difference in rates of movement. We observe that fact regularly in the price-quantity adjustments that take place seasonally and cyclically.

Analyses of the store data collected in this study showed that week to week price adjustments brought changes in sales volume that were generally in the expected direction. For example, about 90 percent of advertised price cuts were associated with increased sales that week.

Producers and consumers alike raise little question about retailers' changes in prices that reflect similar changes in prices of meat at wholesale and of live animals. Both groups are sensitive, however, to retailers' pricing policies that are not directly related to their costs of product. That is, they are sensitive to practices regarding retail price margins for meat and poultry.

Do food retailers affect the volume of sales of a meat or poultry item by the size of the margin they take? This question can apply to how margins affect sales of one species over time—from week to week or month to month. It can apply also to how relative margins for various items influence relative sales of the three species.

To the extent that retailers take a higher margin on item A and a lower margin on item B, they tend to reduce the sales volume and therefore the income received by processors and by farmers who produce item A and increase volume and income on item B.

"Orchestrated" margins. It is well known that large food retailers choose a pattern of margins for various food items (not meat and poultry alone) that supposedly adds to their total volume and profitability of business. They take wide margins on one line of goods and narrow on another. They may also widen and narrow margins from time to time like an accordion. Sugar and coffee have been traditional examples of products on which margins have usually been kept comparatively narrow, and have even been cut further in specializing.

Much of the orchestrated or variable margins policy is adopted by rule of thumb. Many individual pricing decisions probably are influenced more by tradition or rule of thumb than by careful analysis. There is little evidence as to how effective various patterns of pricing may actually be.

However, the logic behind variable margins is fairly clear and simple. Many of the costs of handling thousands of food items are joint. Furthermore, even those costs that apply to particular foods are hard to estimate. The retailer is really selling a bundle of services. And since his object is to get the best operating results for the entire bundle—the entire store operation—he can rationalize low margins on those items he believes to be effective traffic builders.

It is hard to know where meat fits into the "orchestration". Supposedly, fresh meat items are held to margins that could be regarded as fairly narrow, taking into consideration the amount of preparation that is done in the store. Processed items, such as sausages, reportedly bear rather wide margins relative to the smaller handling costs. Data are needed on the question of what are the prevailing practices in meat pricing relative to wholesale prices and direct handling costs.

Data on marketing margins published by the U.S. Department of Agriculture fall short in two ways. First, the data are gross margins between wholesale and retail, and give no information on handling or other costs. Second, they are on a carcass basis and take no account of the usual mix in any retail meat department. They do not distinguish, for example, among the narrow margins for ground beef, somewhat wider

margins for fresh beef cuts, and the even wider margins (relatively) for processed products.

Survey Data. Data obtained in our detailed study of two supermarkets in the larger city throw some light on the margins question. Table 5 presents both gross and "adjusted" margins data for beef, pork, whole broilers, and broiler parts. Gross margins clearly were widest for broiler parts. The narrowest margins differed between the two stores, being found in beef in Store I and whole broilers in Store II.

Table 5. Retail Margin Percentages, Two Supermarkets

	<u>Gross Margin</u>		<u>Adjusted Margin</u>	
	<u>Store I</u>	<u>Store II</u>	<u>Store I</u>	<u>Store II</u>
Beef	20.7%	26.3%	7.3%	14.2%
Pork	28.8	29.9	18.4	19.7
Whole Broilers	31.1	21.4	11.9	0.7
Broiler Parts	47.4	48.8	32.2	34.8
All Meats	25.9	28.2	13.8	16.8

Percentage margins are margins \div gross sales.

Margins are retail sales minus wholesale costs.

Adjusted margins are regular margins minus estimated labor costs of the meat department.

Adjusted margins are gross margins minus meat department labor costs. The cost data were estimated on the basis of existing wage rates and published productivity standards.¹ The adjusted margins as so computed are still wider than net margins, for no deduction was made for other costs such as packaging. Nor is any account taken of all the joint or overhead costs—rent, utilities, etc. Nevertheless, adjusted margins by species appear to be a useful proxy for each species' contribution to overhead and profits.

The adjusted margin data reveal about the same pattern among species as gross margins. Again, broiler parts yield the widest margins, and the narrowest is reported for beef in one store and whole broilers in the others. The narrowest margins are narrow indeed, amounting to a negligible margin for whole broilers in Store II. These data support the prevailing notion that margins are in fact "orchestrated" with much amplitude. Also, the data fit with the ideas that specialty and manufactured items carry a rather wide margin relative to handling costs, and fresh product a narrow margin. Beef, with its high percent of fresh cuts and a big proportion of ground beef, appeared to carry rather narrow adjusted margins in both stores.

¹ Bruce Marion, et.al., *Meat Department Labor Requirements*, Ohio Research Bul. 982, June 1966.

Once again, it is necessary to be very guarded and to remind that data for two stores cannot be generalized into national patterns. On the other hand, the data conform roughly to pre-existing understanding about pricing and margin practices. To the extent the data as reported are indicative of prevailing practices, we must conclude that movement of whole broilers and of beef is sped along, and prices of live broilers and slaughter cattle strengthened in the short run, by retailers' willingness to accept comparatively narrow margins for those products.

SUMMARY AND CONCLUSIONS

Farm producers seldom sell directly to consumers. Merchandising practices of middlemen are widely believed to affect the sales of various farm products. Consequently, producers have legitimate concerns with how their particular product fares in the marketing channel.

This paper has examined briefly the extent to which an intermediary—food retailers—may be influencing the relative returns to producers of beef, pork, and poultry. The data are far from decisive.

Tentative conclusions are that the effects of retail advertising and space allocations were probably fairly neutral but that the retailers studied were subsidizing beef sales at the expense of pork. Retail advertising by species appears to have been allocated in reasonable relation to sales. While space allocations were proportionately less than sales of beef in both stores and less for poultry in one store, there was no discernible effect on sales by species.

Differential margins are a different matter. Retail price makes a difference. Short-run retail prices were affected by both stores taking narrow margins on beef and whole broilers while taking wider margins on pork. It seems very likely that this approximate practice was prevalent in the entire metropolitan area and that these stores were roughly in line with their competition. The extent of the "subsidy" to beef was not extremely large, and the estimation of all its short run and long run effects upon farm incomes would require a very complex analysis. It is a matter, however, worthy of the continued attention of pork producers. Since conditions may vary by time and place, some repeated monitoring of several metropolitan market areas is needed.