

Agribusiness Class Applies Value-Added Marketing Concepts to University Livestock Sale

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Abstract

A university livestock sale provided the framework for an application-based economic learning experience in a senior-level agribusiness marketing class. As a class project, the sale gave students the opportunity to apply value-added marketing concepts and principles. The processing of finished market animals included in the sale allowed students to disaggregate animal commodities into their constituent marketing and farm components. This vertically integrated marketing approach resulted in higher revenues and additional profit. Estimated marketing margins were demonstrated to differ by species for the finished market steers, hogs, and lamb that were sold and subsequently processed. These differences were attributed to both the amount of value-added in processing and the various costs of processing by species. The class project allowed students to apply concepts that are typically presented only within a theoretical framework in most undergraduate agribusiness marketing classes.

Introduction

Agricultural marketing can be viewed as the flow of food and fiber from the resources of production until they reach the ultimate consumer. Although this value-added process can be graphically shown in the classroom, the concepts of derived demand, derived supply, primary demand, primary supply, and marketing

margins often remain abstract to undergraduate students. *Learning can be more effective when students are directly involved in realistic learning situations and the application of economic theory to practical business experiences (Carlson and Schodt, 1995; Henneberry and Beshear, 1995). Learning retention and enthusiasm are greater where theoretical concepts have been integrated into practical experiences (Jack and Eversole, 1997). In addition, application-based learning experiences can help facilitate the transition for students from an academic to business environment (Hoerner, 1994).*

While the benefits associated with experiential economic learning are widely acknowledged, opportunities to apply economic theory in the classroom are often limited. Attempts to integrate economic theory into meaningful student-based applications have largely been directed toward computer-assisted scenarios and games or the use of case studies. Computer simulations generally attempt to model market complexity, dynamism and realism (Dahlgran, 1987). However, the pedagogical value of such simulations can be questionable due to seemingly unrealistic and abstract assumptions that must often be made on the part of the student. Many case studies have been criticized as lacking representativeness and rigor, which leads to subjective conclusions (Kennedy and Luzar, 1999). The objective of this paper is to illustrate how a university livestock sale provided a framework that allowed agribusiness marketing students to successfully apply value-added agricultural marketing principles.

Methods

For 28 consecutive years, Louisiana Tech University conducted an annual farm production sale that offered university-produced livestock at public auction. After a hiatus of eight years, the university farm production sale was reinstated in the spring of 1999 as part of a senior-level agribusiness marketing class project. Twelve students

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planned, organized, and promoted the return of the sale. Animals available for the sale included five show lamb prospects, eight show pig prospects, five finished market steers, five finished market hogs, one finished market lamb, two bred dairy heifers, and 16 horses.

Students were encouraged to be innovative and to apply the marketing theory and principles that they learned in Agricultural Business 430 (Principles and Practices of Agricultural Marketing) to the revival of the sale. These principles included vertical integration and the possibility of pursuing value-added marketing profits. Value-added is the transformation of inputs into products with higher uses. Value is added to a product as it moves along the marketing chain, beginning with the resources of production and ending with the consumer. Vertical integration occurs when various stages of production, processing, and distribution are coordinated by a particular firm, rather than coordinated by the overall market. For example, producers can integrate forward to process and distribute the farm commodities that they produce. Food retailers can integrate backwards, displacing wholesalers and processors (Tomek and Robinson, 1990).

The students recognized that the finished market animals represented multiple marketing opportunities for the university. If the finished market animals were also sold "as is" (i.e., without processing), the university would face a derived demand and primary supply and would sell to the processor (or buyer for the processor) at the farm price, P_f (Figure 1). Derived demand represents the demand for a product at the farm level. For example, the demand for hogs at the farm level is derived from the primary demand for pork chops and bacon at the retail level. Similarly, supply at the retail level (derived supply) is derived from the primary supply at the farm level. The marketing margin quantifies the value that is added by marketing activities that occur between the farm and the consumer. Marketing Margin 1 (MM1) represents the value that would be added by the processor (slaughter, aging, cutting into wholesale cuts, etc.). The processor would then sell to the retailer at a price of P_p . The second marketing margin (MM2 in Figure 1) represents the value that would be added by the retailer (cutting into retail cuts, wrapping, etc.). The retailer would then sell to the consumer at the price, P_r . Under this scenario, the animals would be sold without value-added by the university.

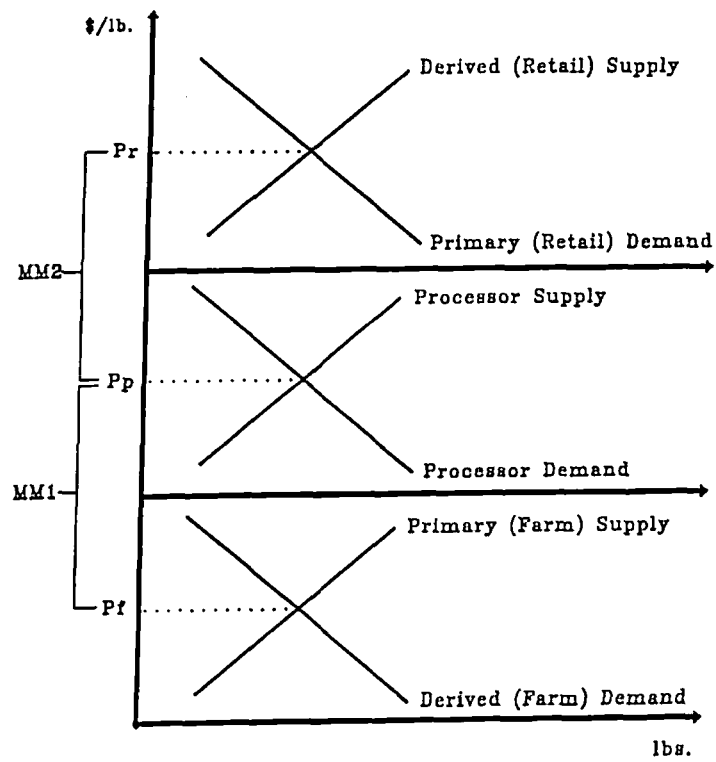
An alternative suggested by the students would be to offer the finished market animals to the public with value-added by the university meats laboratory. Under this scenario, the university could offer directly to the consumer the value-added services that would have otherwise been provided by the processor and retailer. These value-added services (slaughter, cutting, and wrapping into retail cuts, etc.) are represented by the single marketing margin, MM

(Figure 2). Therefore, instead of facing a derived demand and primary supply, the university would face a primary demand and derived supply and could sell the finished market animals at P_r in Figure 2. This would allow a vertically integrated marketing approach (integrating forward to process and distribute the animal commodities that the university produces) that could possibly result in higher revenues, additional profit, and at least a partial capture of the marketing margin.

Results and Discussion

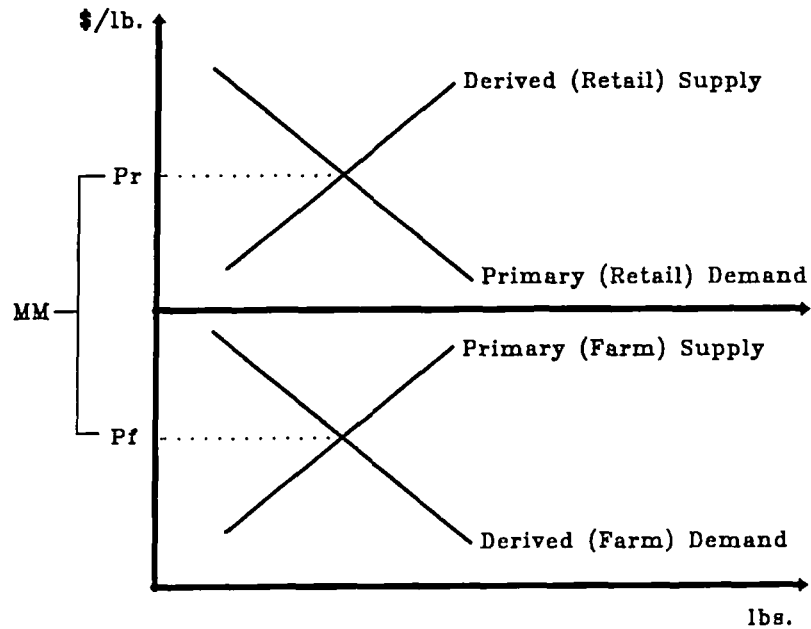
The students involved in the project requested permission to have processing included in the auction price of finished market animals to be offered at the Louisiana Tech University Farm Production Sale. Permission was obtained to offer processing by the Louisiana Tech University Meats Laboratory to buyers of finished market animals, under the stipulation that costs associated with animal processing be reimbursed to the university meats laboratory from the proceeds of the sale. All 11 finished market animals sold to the highest bidder and were subsequently processed by the university meats laboratory for buyer consumption. A comparison between local auction market prices and the prices received at the university farm production sale for finished market animals allowed the class to estimate marketing margins and value-added benefits associated with the vertically integrated approach (Table 1). Gross revenue generated by the finished market animals amounted to \$5,411.55. Revenue less processing costs (\$1,030) was \$4,381.55. Based on May 7, 1999 local auction market prices, the 11 animals had a market value of approximately \$3,446.19. Total value-added profit, net of processing costs, was estimated to be \$935.36 (processing costs in Table 1 represent average costs in labor and materials to process sale animals by the Louisiana Tech University Meats Laboratory and are not representative of actual industry costs). Value-added profit per animal ranged from as little as \$6.31 for the first steer sold to as much as \$212.52 for the last steer sold.

The average contribution to gross revenue by species was \$868.60 for steers, \$234.30 for the lamb, and \$166.85 for hogs. In contrast, the contribution to average profit from the value-added approach was \$157.58 for the market lamb \$80.74 for hogs, and \$74.81 for steers. Similarly, the average marketing margin by species was \$1.30 per pound for the market lamb, \$0.74 per pound for hogs, and \$0.15 per pound for steers. The project demonstrated that a particular species' average contribution to gross revenue can be extremely different from its average contribution to value-added profit and marketing margins. A frequently asked question in agribusiness marketing classes is "why do marketing margins differ among



Pr = retail price
 Pp = processor price
 Pf = farm price
 MM1 = marketing margin 1
 MM2 = marketing margin 2

Figure 1. Concepts of Derived Demand, Derived Supply, and Marketing Margins.



Pr = retail price
 Pf = farm price
 MM = marketing margin

Figure 2. Marketing Margin under Vertically Integrated Approach.

Table 1. Selling weights, prices, estimated marketing margins, and value-added profit for finished market animals.

Lot	Selling Weight (lbs.)	Selling Price* (\$/lb.)	Estimated Marketing Margin* (\$/lb.)	Gross Revenue (\$/head)	Cost of Processing (\$/head)	Gross Revenue Less Processing (\$/head)	Estimated Local Market Value* (\$/head)	Profit from Value-Added Approach (\$/head)
1 Steer	1170	0.66	0.10	772.20	150.00	622.20	615.89	6.31
2 Steer	1160	0.69	0.13	800.40	150.00	650.40	610.62	39.78
3 Steer	1300	0.70	0.14	910.00	150.00	760.00	684.32	75.68
4 Steer	1160	0.69	0.13	800.40	150.00	650.40	610.62	39.78
5 Steer	1325	0.80	0.24	1,060.00	150.00	910.00	697.48	212.52
6 Hog	168	0.79	0.57	132.40	50.00	82.40	34.74	47.66
7 Hog	182	0.90	0.68	163.80	50.00	113.80	37.64	76.16
8 Hog	195	0.93	0.71	181.35	50.00	131.35	40.33	91.02
9 Hog	164	1.15	0.93	188.60	50.00	138.60	33.92	104.68
10 Hog	164	1.03	0.81	168.10	50.00	118.10	33.92	84.18
11 Lamb	142	1.65	1.30	234.30	30.00	204.30	46.72	157.58
Totals				\$5,411.55	\$1,030.00	\$4,381.55	\$3,446.19	\$935.36

*Net of selling expenses.

**Based on local auction prices of \$0.56/lb. for fed steers, \$0.22/lb. for fed hogs, and \$0.35/lb. for fed lambs (including 6 percent deduction for commission, yardage, and insurance).

products?" The class project demonstrated that margins differ among products because marketing services differ. The magnitude of the marketing margin for different products is dependent on the costs of marketing functions performed (Kohls and Uhl, 1998). These marketing functions add both value and costs to unprocessed farm products. Therefore, the difference in estimated marketing margins for each species can be largely attributed to both the value-added in processing and the difference in specie processing costs that are reflected in Table 1.

Summary

The class project allowed students to disaggregate animal commodities into their constituent marketing and farm components. It was demonstrated that higher revenues and additional profits were possible with vertical integration into higher levels of the marketing chain. The resulting higher commodity prices and the capture of the marketing margin were shown to include both the expenses of performing marketing functions and the additional

revenue associated with the vertically integrated approach. Students learned that the marketing process consists of more than just selling commodities that are produced. Marketing includes all activities that are involved in converting resources of production into usable products and making these products available to the consumer. Integration in this marketing process can provide profitable opportunities for producers.

The experiences and knowledge that the students gained through planning, organizing, and promoting the sale far exceeded what can be achieved in the typical lecture class. The project provided an actual application of the concepts of derived demand, derived supply, primary demand, primary supply and marketing margins, which are typically presented only within a theoretical framework in most undergraduate agricultural marketing classes. Students were allowed to apply agricultural marketing principles and to evaluate the results of their decisions. Every student evaluated the class as excellent.

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