

Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 1 *Cattleman's Day (1993-2014)*

Article 757

1992

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J. Mintert

R. Jones

F. Brazle

See next page for additional authors

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Recommended Citation

Mintert, J.; Jones, R.; Brazle, F.; and Schroeder, Ted C. (1992) "Production and marketing factors influencing fed cattle prices," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 1. <https://doi.org/10.4148/2378-5977.2160>

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Production and marketing factors influencing fed cattle prices

Authors

J. Mintert, R. Jones, F. Brazle, and Ted C. Schroeder

PRODUCTION AND MARKETING FACTORS INFLUENCING FED CATTLE PRICES

*T. Schroeder¹, J. Mintert¹, R. Jones¹,
and F. Brazle²*

Summary

An analysis of more than 1400 pens of cattle marketed during 1990 examined the influence of several cattle traits and marketing factors on fed cattle prices. Cattle quality grade had an important impact on packer bids and feedyard asking prices. However, both feedyard asking and packer purchase prices reflected less than 25%, on average, of estimated wholesale value differentials. Other factors, including estimated dressing percentage, finish uniformity, cattle weight, number of head purchased, presence of heiferettes, and cattle type had significant price impacts. Feedyards generally received what they asked for cattle; 65% of the pens sold for their asking prices. Price signals for differences in cattle "quality" are not fully transmitted to cattle feeders.

(Key Words: Cattle Marketing, Cattle Prices, Cattle Values.)

Introduction

Many segments of the cattle industry are concerned that fed cattle prices do not adequately reflect differences in beef end-use values. Our study was designed to explore how fed cattle are priced in southwestern Kansas. The objective was to quantify the market value of several characteristics affecting fed cattle transaction prices and to compare those characteristics to aggregate market values and feedyard asking prices.

How fed cattle are priced is important because pricing on averages instead of adjusting prices to reflect changes in beef end-use values sends incorrect production signals to cattle feeders. Poor transmission of prices from the retail market back to cattle feeders can lead to both production of products consumers find undesirable and use of inefficient production practices. Important in identifying impediments to value-based marketing is determining the extent to which fed cattle are priced "on the average" and to estimate the current market value of specific animal traits.

Experimental Procedures

Data were collected on 810 pens of steers (99,219 head) and 566 pens of heifers (67,119 head) marketed from May through November of 1990 from 13 feedyards in southwestern Kansas. The feedyard asking price, individual packer bids, sale date, transaction (sale) price, and cattle delivery date were recorded for each pen. Numerous animal traits relevant to sale prices were also collected. Live cattle characteristics included average weight, percentage of cattle expected to grade USDA Choice and Select, expected dressing percentage, estimated percentage of yield grade 4 cattle in the pen, finish uniformity, and weight uniformity. Other factors included number of cattle procured from the feedyard that day by the same packer, number of days cattle were on feed, number of brands on cattle, presence of bulls or heiferettes, cattle breed and type, buying

¹KSU Department of Agricultural Economics.

²Extension Livestock Specialist, Southeast Kansas.

packer, the feedyard, distance from feedyard to buying packer, and number of bids made per pen. Summaries of selected data are shown in Table 1.

Results and Discussion

Several cattle and pen traits had significant impacts on transaction and asking prices. The influence of specific traits on price were examined separately for steers and heifers. Estimated dressing percentage influenced steer prices but had no discernable effect on heifer prices. Steer transaction prices increased \$0.23/cwt, and asking prices increased \$0.37/cwt for each 1% increase in expected dressing percentage. Steers sold in pens that had uniform finish averaged \$0.35/cwt above those from nonuniform pens. Discounts for nonuniform cattle may reflect increased packer costs in sorting nonuniform cattle or carcasses. Finish uniformity did not influence heifer price differentials.

Large volume feedyards received slightly higher average prices than smaller volume yards. The number of cattle purchased from a feedyard by a particular packer during a day had a modest, but statistically significant, price influence. For each additional 500 head of cattle purchased per transaction by the packer, transaction price increased by \$0.02/cwt for steers and \$0.05/cwt for heifers. This could reflect the reduced packer transaction costs associated with purchasing a large number of cattle from one location. The number of head purchased by any individual packer did not influence asking prices.

The presence of heiferettes in a pen of heifers reduced transaction and asking prices by \$0.26/cwt and \$0.30/cwt, respectively.

The presence of bulls and staggy steers in pens did not influence steer prices. Pens of plainer quality steers received discounts of \$2.46/cwt. Number of days on feed, number of brands per head, and weight uniformity of cattle did not influence prices. Some of these factors may have been accounted for in other variables studied. For example, number of days on feed and percent of cattle in a pen expected to grade Choice are usually related.

Figure 1 illustrates the impact of weight on price received. Highest prices were paid for steers weighing from about 1060 to 1230 lbs and for heifers weighing 980 to 1080 lbs. Discounts for heavy cattle could reflect packers' concerns about buying carcasses that are too large for standard boxed beef packaging. Discounts for lighter weight cattle are probably related to increased slaughtering costs per pound.

Price effects of the percentage of cattle grading Choice are shown in Figure 2. Asking prices increased by about \$0.08 to \$0.10/cwt, and transaction prices increased by \$0.07 to \$0.08/cwt for each 10% increase in number of cattle expected to grade Choice. This indicates that cattle quality grade affects price. However, premiums for Choice grade cattle, or analogously, discounts for Select grade cattle, were considerably smaller than estimated wholesale beef value differences. For example, using the average estimated dressing percentage of steers of 63.4% and the average USDA carcass Choice to Select grade cutout price spread during the study period of \$6.85/cwt, the wholesale beef value of a 10% increase in the number of cattle grading Choice was \$0.43/cwt. Thus, the estimated live value differential attributed to cattle quality grade was less than 25% of the estimated wholesale value change.

Table 1. Summaries of Prices and Selected Pricing Factors for Fed Cattle in Western Kansas, May to November 1990

Variable	Steers			Heifers		
	Average	Minimum	Maximum	Average	Minimum	Maximum
Transaction price, %/cwt	77.32	72.50	82.00	76.94	71.00	82.00
Asking price, %/cwt	77.48	72.50	82.00	77.12	72.00	82.00
Estimated % Choice	54.0	40.0	80.0	53.6	40.0	70.0
Estimated dressing percent	63.4	62.5	64.0	63.3	62.5	64.0
Estimated yield Grade 4, %	1.2	.0	4.0	1.1	.0	5.0
Delivery weight, lb	1198.8	953.0	1416.0	1058.6	902.0	1303.0
No. of cattle purchased, single transaction	678.6	47	2489	580.1	58	2489
No. of cattle per pen	122.5	29	792	118.7	23	780
No. of bids per pen	1.8	1	9	1.7	1	9

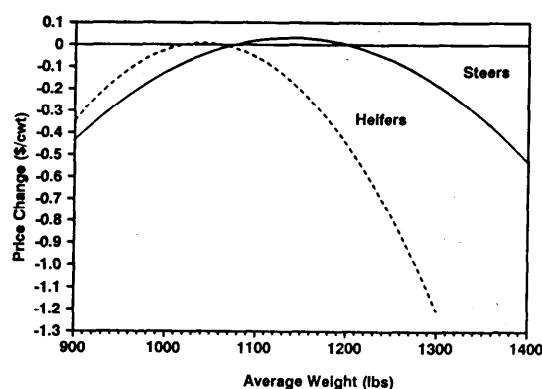


Figure 1. Estimated Price Changes Associated with Varying Cattle Weight Relative to Base Heifer Weight of 1060 lb and Base Steer Weight of 1200 lb.

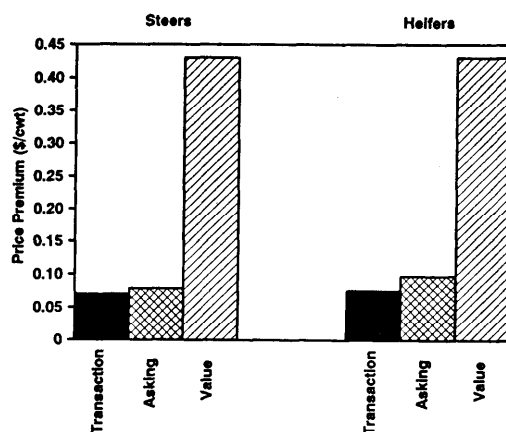


Figure 2. Estimated Transaction Price, Asking Price, and Packer Value Differentials of a Ten Percent Increase in the Number of Cattle Grading Choice, at Average Choice and Select Boxed Beef Carcass Prices.