Cattlemen's Day 1995

DETERMINANTS OF PRICES FOR COW-CALF PAIRS

J. L. Parcell [1], T. C. Schroeder [1], and F. D. Hiner [1]

Summary

A study of price determinants for cow-calf pairs was undertaken at a local Kansas auction company during 1993. Cow breed, age, health, condition score, horns, frame size, and whether the cow had been bred back impacted cow-calf pair values, as well as calf weight, health, and frame score. Additionally, pairs per pen significantly impacted prices. Young healthy cows with healthy large calves received the highest prices.

(Key Words: Cow-Calf Pair Prices, Cow-Calf Traits.)

Introduction

Our purpose was to estimate market values of characteristics of individual cow-calf pairs to assist producers in making informed management and marketing decisions. Prices paid for pairs ranged from $475 to $1350, with an average price per pair of $947.39. Typical price range on any given day at a cow-calf auction during 1993 was $700/pair (78% of the average price). This large variability indicates that producers have significant incentive to supply desirable pairs.

Experimental Procedures

Data on prices and physical characteristics of cow-calf pairs were collected from seven cow-calf auctions held at a local commission company. Average price per pair is the amount paid for a cow-calf pen divided by the number of pairs in the pen. A total of 496 pens was evaluated, consisting of 2092 pairs. The date;

price; pairs per pen; cow breed; cow condition; cow age; cow health; existence of horns on cows; cow frame size; type of buyer; whether the cow was registered; whether the cow was bred back; order of sale; twin calves; and calf age, weight, breed, health, frame size, and muscling were recorded for each cow-calf pen. Regression analysis was used to determine the values associated with various pair characteristics.

Results and Discussion

The regression analysis was able to explain approximately three fourths of the variation in pair prices. With all else constant and using Angus as the standard, average discounts per pair were $62.81 for Herefords, $35.05 for other English breeds, $36.96 for continentals, and $499.24 for Longhorns. Dairy breed pairs received a $201.77 premium relative to Angus.

Figure 1 illustrates that price per pair changes little until calves weigh about 200 lb and then increases at an increasing rate. Calves weighing below 200 lb are riskier for buyers, because growth potential and health conditions may not be apparent at this young age. Figure 2 shows that buyers prefer to fully utilize the capacity of their available transportation. Straight trucks and stock trailers were typical at this auction site, which corresponds to the optimal number of pairs per pen. Figure 3 illustrates that older cows are discounted because of fewer remaining reproductive years.

Lameness discounts were $67.69/pair for a cow and $389.73/pair for a calf. Cows with bad udders were discounted $65.34/pair. Cows that

---

[1]Department of Agricultural Economics.

were bred back received premiums representing the cost associated with breeding the cow; $68.24/pair. Cows with horns were discounted $66.64/pair.

Table 2 indicates premiums and discounts for cow condition, cow frame, and calf frame. A premium was paid for large-frame cows, which sold higher than medium-frame cows. Small-frame calves were discounted, but there was no premium for large-frame calves.

Wide variation in price received at cow-calf pair auctions makes it imperative that producers understand values of animal traits. This study found an unhealthy cow or calf to be of little value to the buyer. Smaller and thinner cows and calves were discounted relative to average-condition animals. Marketing pairs in sufficient number for efficient transportation increased the price. Heavier weight calves represent lower risk for the buyers than lighter weight calves.

Table 1.   Effect of Selected Traits on Price for Cow-Calf Pairs

Characteristic	Percent of Pens	Price Change ($/pair)
Cow		
Healthy	96.6	Default
Bad Eye	.6	-79.87
Lame	1.6	-67.69**
Bad Udder	1.2	-65.34*
Calf		
Healthy	98.8	Default
Bad Eye	.4	45.14
Lame	.4	-389.73**
Other	.4	-47.37
Horn	7.9	-66.64**
Bred Back	15.7	68.24**

**Significantly different from zero at the .05 level.
*Significantly different from zero at the .10 level.

Table 2.   Effect of Frame and Grade on Price for Cow-Calf Pairs

Characteristic	Percent of Pens	Price Change ($/pair)
Cow Frame		
Small	14.1	1.94
Medium	58.0	Default
Large	27.8	57.91**
Cow Grade		
Very Thin	6.6	-41.42*
Thin	40.9	-56.90**
Average	49.2	Default
Fat	3.2	4.85
Calf Frame		
Small	30.6	-46.37**
Medium	55.8	Default
Large	13.5	-1.38

**Significantly different from zero at the .05 level.
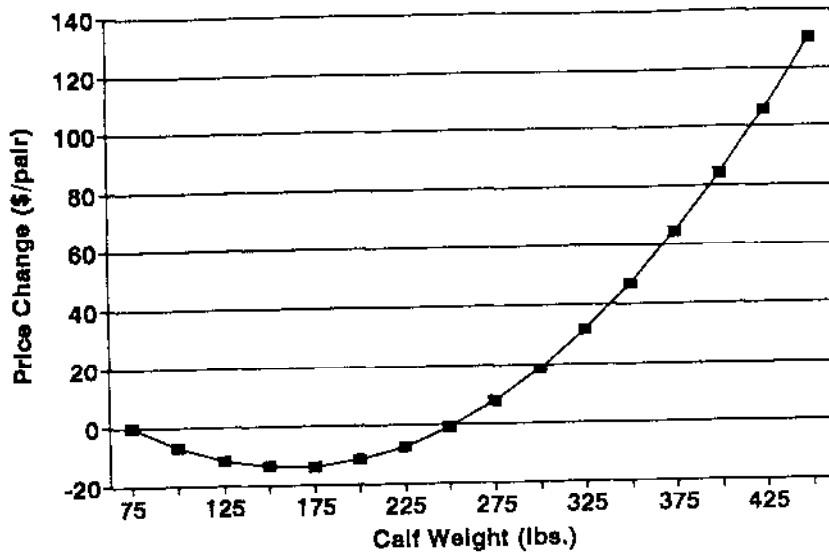*Significantly different from zero at the .10 level.

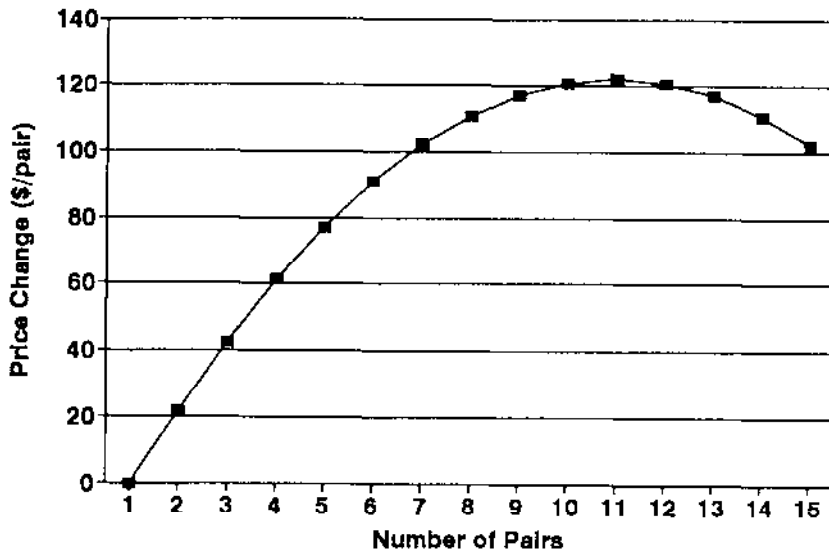**Figure 1.   Effect of Calf Weight on Price for Cow-Calf Pairs**

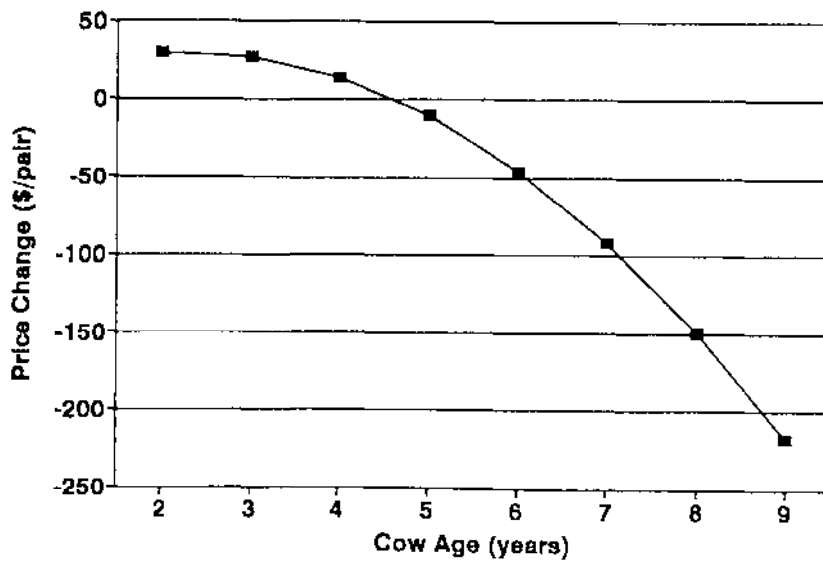**Figure 2.   Effect of Pairs per Pen on Price per Cow-Calf Pair**

Figure 3.   Effect of Cow Age on Price per Cow-Calf Pair