Journal of Agricultural and Applied Economics (2021), **53**, 552–562
doi:10.1017/aae.2021.24

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RESEARCH ARTICLE

Price Determinants for Feeder Cattle in Tennessee

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Abstract

A hedonic model was employed to examine factors impacting feeder cattle prices at a monthly video auction in Tennessee. Home-raised cattle were estimated to have a $2 per cwt. premium and cattle that have been tested for PI-BVDV (persistent infections with bovine viral diarrhea virus) sold for a premium of $1.19 per cwt. We also show how price varies across sale months for steers and heifers, suggesting opportune times to market gender-specific lots. Corn price was interacted with an average weight per head of the lot to show that lighter cattle were negatively affected, while heavier cattle prices were positively affected by increasing corn prices.

Key words: feeder cattle; hedonic pricing; value-added marketing

JEL Classification: Q12

1. Introduction

Beef cattle markets are often characterized as having a complex and segmented production system involving many industries including seedstock, cow-calf, backgrounding/stockering, finishing (feedlots), processing, and the retail/foodservice sectors. All these markets are ultimately driven by domestic and export demand for a wide array of beef products that range from high-valued steaks to much lower valued animal byproducts. One important segment that has received much attention is the trading of feeder cattle, which is loosely used to describe cattle that are sold for the purpose of being placed on full feed in a feedlot setting. The important distinction here is that feeder cattle are not ready for harvest, but rather are an input into the cattle finishing industry. For that reason, the value of feeder cattle is typically evaluated from a derived demand perspective, meaning that feeder cattle values are driven by factors that impact the profitability of their placement into these finishing programs (Bulut and Lawrence, 2007; Burdine et al., 2014; Halich and Burdine, 2015; Schulz, Dhuyvetter, and Doran, 2015; Lewis et al., 2016; Mallory et al., 2016; Tang et al., 2017; Williams et al., 2012).

Over the last couple of decades, a great deal has been learned about how factors such as cattle characteristics, changes in corn price, and lot size impact feeder cattle values. Studies have shown that gender, breed, hide color, marketing attributes related to health programs, and how the cattle have been raised all impact prices (Bulut and Lawrence, 2007; Burdine et al., 2014; Halich and Burdine, 2015; Lewis et al., 2016; Mallory et al., 2016; Schulz, Dhuyvetter, and Doran, 2015; Tang et al., 2017; Williams et al., 2012). For example, black-hided cattle have tended to be associated with higher prices (Bulut and Lawrence, 2007; Burdine et al., 2014; Zimmerman et al., 2012; Mallory et al., 2016; Parish et al., 2018; Williams et al., 2012) and Dhuyvetter and Schroeder (2000) found that continental cattle sold at a discount to English cattle. Additionally, prices decline when cattle are less uniform (i.e., similar size) (Burdine et al., 2014; Dhuyvetter and Schroeder, 2000).

In recent years, additional valued-added premiums have been related to factors that involve market access and production protocols. After bovine spongiform encephalopathy was confirmed in the United States in late 2003, age and source verification were necessary to reach certain export markets. Estimates of the price impact of age and source verification on feeder cattle prices have been mixed. Moderate premiums for age and source-verified cattle have been reported to result in a \$1–\$3 per cwt premium (Burdine et al., 2014; Zimmerman et al., 2012), but other studies have found these factors to have no impact on price (Mallory et al., 2016; Williams et al., 2012).

Since feed costs are the primary input for cattle finishing, corn price is a well-established driver of feeder cattle values (Anderson and Trapp, 2000; Buccola, 1980; Bulut and Lawrence, 2007; Burdine et al., 2014; Dhuyvetter and Schroeder, 2000; Halich and Burdine, 2015). As corn price increases, the cost to finish feeder cattle also increases, which results in lower feeder cattle prices, holding all other factors constant. This work also shows how the magnitude of the inverse relationship between corn price and feeder cattle price changes across feeder cattle of varying weights differently. Buccola (1980) established that increasing corn prices led to smaller price differences across cattle of different weights, which would be considered a narrowing of these prices slides. However, previous work considering corn prices as a price determinate mostly occurred when in a static corn price environment or over short periods with little corn price variation.

While these studies provide insight into the feeder cattle market, there are still some potential price determinants of feeder cattle that have never been investigated. One of these factors is related to groups of feeder cattle that are produced and sold from a single operation, as opposed to being sourced from numerous operations. The term co-mingled is typically used for groups of calves that were put together from multiple sources. It is common practice for backgrounding and stocker operations to source calves from multiple cow-calf operations or from multiple groups selling at an auction. There is nothing wrong with this practice; in fact, it adds value to smaller groups of calves. However, co-mingled calves are perceived to be of higher risk than single-owner calves. Studies have indirectly measured single-source benefits; no work has directly evaluated the price benefit of groups of feeder cattle that were produced and sold from a single operation.

Another factor that warrants examination is related to feeder cattle health. Bovine viral diarrhea virus (BVDV) has been a problem in cattle for some time, and it has been learned that some cattle are persistently infected with bovine viral diarrhea (PI-BVDV). Both BVDV groups can transmit the virus to other cattle, but the latter group often do not show actual symptoms of the virus. The impacts on morbidity and mortality can be extremely high. Testing can be performed to determine if animals are PI-BVDV. Animals that do test positive cannot be sold, given away, or transported without the approval of the State Veterinarian. They must be isolated and fed to slaughter or euthanized and disposed of properly. Thus, there is value to a buyer in knowing that all cattle in a group have tested negative for PI-BVDV. While logic suggests value exists in PI-BVDV testing for downstream entities, work has suggested limited benefits for operations testing their cattle (Larsen et al., 2002; Vestal and Richeson, 2015). An examination of the price impact at sale, for this value-added marketing trait, would be a needed addition to the existing literature and provide valueable information for cattle producers.

This work builds upon these previous studies by utilizing a unique dataset from a monthly feeder cattle auction in Tennessee. This dataset, and the approach taken to the analysis will expand the literature with respect to value-added feeder cattle characteristics, lot size implications, and the impact of changes in corn price on feeder cattle values. The primary objectives of this article are to (1) evaluate premiums associated with lots of feeder cattle that have tested PI negative and lots that are home-raised, (2) examine lot size implications as sale lot weights move above, and below, truckload quantities using a new lot approach to lot size specification, and (3) explore corn price dynamics and feeder cattle weight relationships over a long time that includes seasonal variation in corn price.

2. Data

Past studies have largely relied on data sets from the central and western regions of the USA. The sale data used in our study comes from the Lower Middle Tennessee Cattle Association (LMTCA) Video Sale for the time frame of 2015–2020. This video board sale occurs once a month, in Columbia, Tennessee. This sale is consignment-based, with a majority of the consignments from Tennessee, with additional consignments originating in North Alabama and Western North Carolina. The sale aims to market feeder cattle in load lots of 50,000 pounds. A catalog that contains a description for each lot is published a week prior to the sale date. The description for each lot includes information on: owner, number of head, estimated weight per head and range, United States Department of Agriculture feeder calf grades and flesh score, physical description, management description, weighing conditions, shrink, and slide direction and magnitude. Normal delivery dates are within 10 days of the sale, but if the delivery date is beyond 10 days it must be described in the catalog as delayed delivery.

LMTCA contracts with a bonded marketing agency to promote, conduct, and settle the sale. Representative of the marketing agency works directly with producers grading and describing the cattle. The physical description is an open-ended section for representatives to elaborate on the characteristics of the lot for the producer. Frequent descriptions include the percentage of home raised (50%, 75%, 100%), breed description, percentage of black hide (50%, 75%, 100%), physical defects (i.e., bad eyes (pinkeye scars), horns, scurs), and if the lot is PI-BVDV tested or PI-tested. The management description is like the physical description section, whereas representatives can disclose as much information as desired. Frequent examples of descriptions are the number of rounds and types of vaccination, feed given to the animals, and if the lot is guaranteed open (if they are heifers).

LMTCA sells cattle via public auction with bidders in attendance, on the phone, or online. Final weight and sale price are determined at the time of delivery. The reported final sale price and weight of the lot is received by the sale and is reported as actual weight and price. This means that the price includes any slide or shrink adjustments, even for the delayed weighted lots.

Table 1 defines, and Table 2 displays, summary statistics for the variables that are used in our study from the LMTCA sale, as well as the nearby corn futures price at the time of the sales (Livestock Marketing Information Center, 2021). Figure 1 shows the sale price of feeder cattle, and the corn futures price across the time of the dataset.

3. Methods

Hedonic pricing models are commonly used to determine the impact of specific factors on feeder cattle price (Bulut and Lawrence, 2007; Burdine et al., 2014; Halich and Burdine, 2015; Lewis et al., 2016; Mallory et al., 2016; Schulz, Dhuyvetter, and Doran, 2015; Tang et al., 2017; Williams et al., 2012; Zimmerman et al., 2012). We specify a log-level model by taking the log of the sale price, correcting the non-normality issue (Wooldridge, 2013). Since all cattle are sold in lots, we estimate the model using the lot as the observation for the monthly sale. The model is written as

$$\begin{aligned}\log(Price_{itm}) = {} & \beta_0 + \sum_{k=1}^{K-1} \beta_k X_{ik} + \beta_K W_{itm} + \beta_{K+1} HR_{itm} + \beta_{K+2} PI_{itm} + \beta_{K+3} IM_{itm} + \beta_{K+4} MB_{itm} \\ & + \beta_{K+5} DW_{itm} + \beta_{K+6} DF_{itm} + \beta_{K+7} CF_{tm} + \beta_{K+7} CF_{tm} \times W_{itm} + \beta_{K+8} S_{itm} \\ & + \sum_{m=1}^{M-1} \gamma_m SM_m + + \sum_{m=1}^{M-1} \gamma_{M+m} SM_m \times S_{itm} + \delta_1 L_i + \delta_2 L_i^2 + \nu_t + \varepsilon_{itm}\end{aligned} \quad (1)$$

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Table 1. Definitions of dependent and independent variable analyzed

Variable	Definition
Price	the average price per cwt for each lot
Actual weight	the average weight per head per lot
Weight class	=1 if lot less than or equal to 20,000 lb; =2 if lot was between 20,001 and 30,000 lb;=3 if lot was between 30,001 and 40,000 lb; =4 if lot was between 40,001 and 50,000 lb; =5 if lot was between 50,001 and 75,000 lb; =6 if lot was between 75,001–100,000 lb; =7 if lot was > 100,000 lb
Home raised	=1 if the lot was majority raised on the home farm; otherwise zero
PI test	=1 if the lot was PI tested; otherwise zero
Implanted	=1 if the lot was implanted; otherwise zero
Majority Black Hide	=1 if the lot was majority black hided; otherwise zero
Delayed weighed	=1 if cattle will be delivered at a later date (more than 10 days); otherwise zero
Weight difference	=1 if the estimated lot weight was less than the actual lot weight; otherwise zero
Sex	=1 if the lot was steers and zero if heifers
Corn futures	nearby corn futures at the time of the sale
Lot	number of lots in each monthly sale

Table 2. Summary statistics for the Lower Middle Tennessee Cattle association video sale from 2015 to 2020 (n = 1164)

Variable	Mean	Standard Deviation	Minimum	Maximum
Price	142.78	24.06	94.5	261
Actual weight	820.16	97.25	507	1134
Weight class	3.92	1.27	1	7
Home raised	0.52	0.50	0	1
PI test	0.10	0.30	0	1
Implanted	0.39	0.49	0	1
Majority Black Hide	0.97	0.17	0	1
Delayed weight	0.24	0.42	0	1
Weight difference	0.79	0.40	0	1
Sex	0.67	0.47	0	1
Corn Futures	3.66	0.24	3.19	4.35
Lot	101.85	58.74	1	215

where $\Pr ice_{itm}$ is the average price per cwt for cattle sold in lot i in time t during sale month m; X_k indicator variables are for the weight classes of lots at the time of the sale ($k = 1, \ldots, 7$); W_{itm} is the average weight per head; HR_{itm} is a binary variable for lots that were described as home raised; PI_{itm} is a binary variable for lots that had received a negative PI test; IM_{itm} is a binary variable equal to one if the cattle had received an implant; MB_{itm} is a binary variable for the lot being described as majority black hided; DW_{itm} is a binary variable for the lot if the delivery is delayed; DF_{itm} is a binary variable that describes if the actual sale weight is lower than the estimated sale

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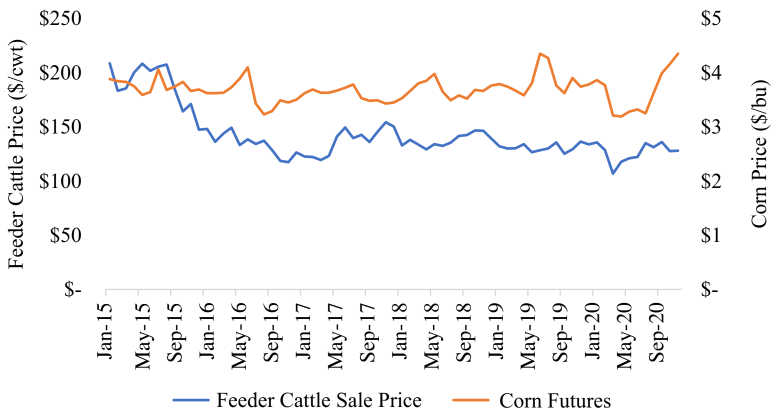

Figure 1. Average price of feeder cattle sold at the Lower Middle Tennessee Cattle Association Video Sale and corn futures from 2015 to 2020.

weight in the catalog; CF_{tm} is the nearby corn futures prices ($ per bu); S_{itm} is a binary variable for sex of the cattle; SM_m is a binary variables for the months the cattle are sold; L_i is the lot order of the sale; $\beta's$, $\gamma's$, and δ'sare parameters to be estimated; $v_t \sim N\left(0, \sigma_v^2\right)$is the year random effect; and $\varepsilon_{itm} \sim N\left(0, \sigma_\varepsilon^2\right)$ is the random error term. Independence is assumed across all four random components.

Parameter estimates can be converted to nominal dollar change in the price of a feeder cattle lot by multiplying the parameter estimated by the average predicted selling price of the feeder cattle in the sample. The models were estimated using maximum likelihood with the MIXED procedure in SAS 9.4 (SAS Institute, Inc 2011). Heteroscedasticity is a common problem for estimating cattle hedonic pricing models (Jones et al., 2008; Mitchell et al., 2018). The likelihood ratio test was used to determine if heteroscedasticity was present from year, actual weight, and total weight of the lot. If heteroscedasticity was present, we corrected it using multiplicative heteroscedasticity in the variance equation (Wooldridge, 2013).

4. Hypothesized Variable Signs

Signs of parameter estimates for several of these variables were hypothesized based on previous studies. For example, the literature supports an expectation that black-hided cattle and steers would sell for higher prices than non-black hided cattle and heifers (Bulut and Lawrence, 2007; Burdine et al., 2014; Mallory et al., 2016; Parish et al., 2018; Williams et al., 2012; Zimmerman et al., 2012). Also, as the average weight per head and corn futures increases, the feeder cattle sale price will decrease (Anderson and Trapp, 2000; Buccola, 1980; Bulut and Lawrence, 2007; Burdine et al., 2014; Dhuyvetter and Schroeder, 2000; Halich and Burdine, 2015). Furthermore, studies have been inconclusive on the impact of implants in feeder cattle (Burdine et al., 2014), but we anticipate the impact would be positive on price if it is present.

Price improvement associated with larger lot sizes has been established numerous times in the literature (Dhuyvetter and Schroeder, 2000; Bulut and Lawrence, 2007; Burdine et al., 2014; Halich and Burdine, 2015; Troxel and Gadberry, 2012; Troxel et al., 2002; Williams et al., 2012). The relationship has generally been established to be non-linear, although a range of modeling approaches have been employed. The use of both a linear and a squared term for lot size has been the most common (Bulut and Lawrence, 2007; Burdine et al., 2014; Dhuyvetter and Schroeder, 2000; Shulz, Dhuyvetter, and Doran, 2015). In a general sense, this approach fits with most logic as it exhibits diminishing marginal impacts of lot size. However, this specification will eventually

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force a negative impact as lot sizes get extremely large, which may not be consistent with logic. We use a dummy variable for weight classes, which is different from these specifications, but we anticipate a similar response.

Prices are expected to also vary across months. This is a commonly found result in the literature which could be explained by seasonal production (Burdine et al., 2014). Furthermore, the price difference between steers and heifers is expected to vary across months. This will likely be explained by the seasonal demand for heifers purchased for replacement intentions. Additionally, we anticipate sale prices will vary across the lot order. These variables are included in the model to account for added variation in cattle prices across lots of different qualities. The quadratic functional form is a common way to model these effects (Zimmerman et al., 2012).

A few variables are new to the literature, but included in this analysis, as they were available in the dataset examined. These include cattle that are home-raised, PI tested, delayed weight, and the difference in actual and estimated lot weight when sold. We anticipate home-raised cattle will bring a price premium since they will likely be more uniform and pose lower health risk from co-mingling. PI tested lots of cattle are expected to be associated with higher prices since these cattle are shown to not have BVDV. We are unsure of the impact that cattle being delivered after the 10-day window from the sale will have on feeder cattle.

5. Results

Table 3 shows the estimated parameter values and marginal effects of parameters on sale price. Heteroscedasticity was present and was corrected by using multiplicative heteroscedasticity in the variance equation. Various factors are significant, and the anticipated signs were as expected.

As the average weight per head of the lot increased, the price of cattle declined. Specifically, for every one-pound increase in the average per head weight of the lot, the price declined by $0.17 per cwt. Also, an increase in corn futures was also expected to result in lower feeder cattle prices. As corn prices increased by $0.10 per bushel, the price of feeder cattle declined by $1.52 per cwt. These inverse relationships are consistent with most previous work (Anderson and Trapp, 2000; Buccola,1980; Bulut and Lawrence, 2007; Burdine et al., 2014; Dhuyvetter and Schroeder, 2000; Halich and Burdine, 2015). Dhuyvetter and Schroeder (2000) showed there was an interaction between corn price and average weight per head. We followed this approach by estimating an interaction between corn price and average weight per head. For cattle that averaged 500 pounds, as corn price increases from $3.2 to $5.35 per bushel, the price received decreases (Figure 2). For 600 and 700-pound weight classes, as corn price increases from $3.2 to $5.35 per bushel, the weight classes slightly increase in price (Figure 2). However, for the cattle lots with an average per head weight between 800 and 1,000 pounds, the sale price increases as the corn prices increases (Figure 2). Dhuyvetter and Schroeder (2000) did not see prices increase for heavy cattle as corn price increased, but the average corn prices was much lower during their period of study. Our findings imply that when corn prices are high, demand increases for heavier weighted cattle (ceteris paribus), since these cattle will require less feed to finish. Also, demand for lighter cattle declines because these cattle will be more expensive in terms of feed to finish.

The indicator variables for weight classes of the lots showed price varies across lot sizes. Relative to the heaviest groups that were greater than 100,000 pounds, price declined for lots between 20,000 and 30,000 pounds and 30,000 to 40,000 pounds. Figure 3 shows the average price per cwt across the lot sizes, with letters showing differences across lot sizes at the 0.05 level. While it is not surprising that groups of cattle around the 50,000 level were associated with the highest prices, significant price improvement was seen once groups of cattle exceeded 40,000 pounds in total weight. While most previous work has treated lot size as a continuous variable, rather than grouping lots into lot size categories, the finding of price improvement as lot size approaches 50,000 pounds is consistent with the literature (Burdine et al., 2014; Dhuyvetter and

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Table 3. Estimated parameter values for the Hedonic pricing model

Parameter	Estimate	$ Change (in cwt.)
Intercept	5.4579***	
Actual weight	−0.0012***	$(0.17)
Weight class = 1	−0.01847	–
Weight class = 2	−0.02409**	$(3.40)
Weight class = 3	−0.02183**	$(3.08)
Weight class = 4	0.004505	–
Weight class = 5	0.0068	–
Weight class = 6	−0.00597	–
Home raised	0.01415***	$2.00
PI test	0.008411*	$1.19
Implanted	−0.00016	–
Majority Black Hide	0.01867**	$2.63
Delayed weighed	−0.00392	–
Weight difference	−0.01316***	$(1.86)
Corn Futures	−0.1077**	$(15.19)
Corn futures × actual weight	0.0002***	$0.03[a]
Sex	0.1197***	$16.88
January	0.2591***	
February	0.2441***	
March	0.2636***	
April	0.2315***	
May	0.2725***	
June	0.2785***	
July	0.2924***	
August	0.2968***	
September	0.2241***	
October	0.1809***	
November	0.12***	
January × sex	−0.0851***	
February × sex	−0.0541***	
March × sex	−0.0627***	
April × sex	−0.0358*	
May × sex	−0.0648***	
June × sex	−0.0515***	
July × sex	−0.0245	
August × sex	0.0019	

(*Continued*)

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Table 3. (*Continued*)

Parameter	Estimate	$ Change (in cwt.)
September × sex	−0.0085	
October × sex	−0.0172	
November × sex	−0.0148	
Lot	−0.0029***	
lot^2	0.00002***	

*,**, ***represent significance at the 10%, 5%, and 1% levels, respectively.
[a]See Figure 2 for visual interpretation.

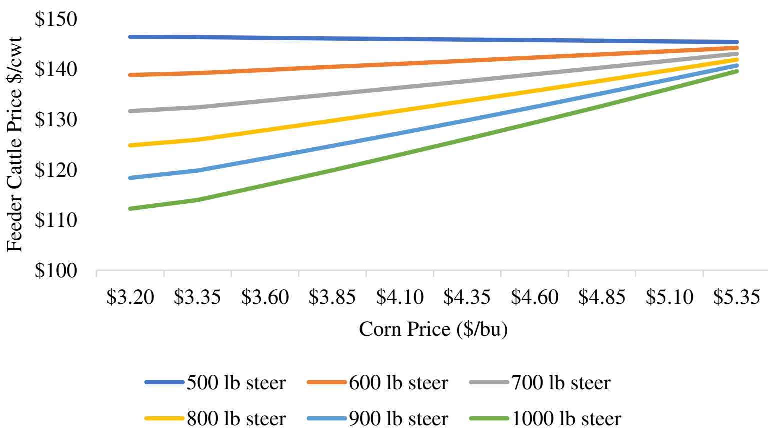

Figure 2. Average feeder cattle prices for steer across various Corn prices and cattle weights.

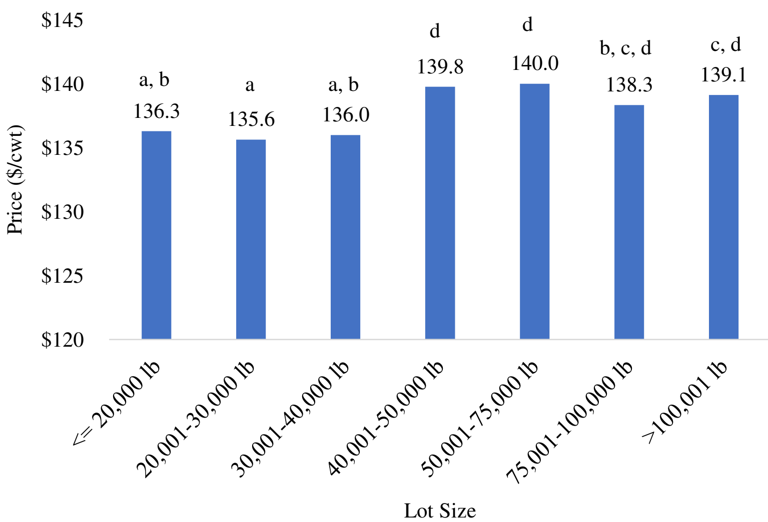

Figure 3. Average price of feeder cattle sold by weight classes at the lower middle Tennessee Cattle Association Video Sale from 2015 to 2020.
Note: For all variables with the same letter, the difference between the means is not statistically significant. If two variables have different letters, they are significantly different (i.e., a is statistically different than d). The letter represents statistical differences at the 0.05 level.

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Schroeder, 2000; Halich and Burdine, 2015; Schulz, Dhuyvetter, and Doran, 2015; Williams et al., 2012).

The fact that no significant price difference was found as total weight moved beyond that level speaks to the importance of numbers in these types of feeder cattle sales. Discounts were seen for cattle between 20,000 and 40,000 pounds, which is also logical as these cattle need to be grouped with other cattle to fill trucks and transport them efficiently. The finding that groups of cattle weighing less than 20,000 pounds were not associated with lower prices than the very large groups was an unexpected result and not consistent with any previous literature. However, it could be a function of competition for some of those small groups to fill loads within this sale. For example, if a buyer had purchased a group of cattle weighing 35,000 pounds, they might be inclined to bid aggressively on a group that weighed around 15,000 pounds as they need that group to have a marketable load lot around 50,000 pounds.

Steers were found to bring a $16.88 per cwt. premium over heifers and black-hided lots were sold at a $2.63 per cwt. higher price than non-black-hided lots. Home-raised lots were found to have a $2 per cwt. price premium, holding other factors constant, which previously had only been approximated through lot size impact estimation. By separating these two variables, this work finds value from both origin and lot size and suggests the home-raised premium is roughly equal to the discount of cattle in the 20,000–40,00 pounds range. In other words, a home-raised group of cattle in the 20,000–40,000 pounds range would be expected to sell for roughly the same as a multiple owner group of cattle around 50,000 pounds if all other characteristics were similar.

Lots that were PI tested were associated with a $1.19 per cwt higher price at the 0.10 level. This result combined with the premium for home-raised cattle suggests that buyers value cattle sourced from the same location that are healthy. It is likely prudent to consider this premium within the context of the cost of PI testing. While the cost of PI testing will vary by location, volume, and the type of test, producers are likely to spend around $4–8 per head on the test alone. With an average actual weight in this dataset of 820 pounds, this suggests a potential market premium just under $10 per head. However, it is important to understand that the cost of the test alone does not include additional time spent or facilities utilized working cattle for testing purposes. Nor does it include the risk of finding some positives that cannot be sold. This likely explains why PI testing is not yet common practice in feeder cattle markets.

Interestingly, if lot weight were listed in the catalog higher than the actual lot weight at the sale, these lots of cattle sold for $1.86 per cwt. less. That is, a producer who overestimated the cattle lot weight prior to the sale, sold cattle for a lower price after the price than those who underestimated their lot weight. This suggests that producers have an incentive to underestimate cattle lot weight prior to the sale. For example, if a producer expected feeder cattle to be sold at 40,000 pounds, we measure a premium if they list their lot weight in the catalog below 40,000 pounds. Finally, implants were not found to impact sale price, which is consistent with previous findings (Burdine et al., 2014). This is most likely an indication that buyers feel the impact of the implant has been exhausted by the time the cattle are offered for sale.

All months were found to be significant relative to December. Sale prices were the highest on average in August and lowest in December. When comparing heifer and steer prices, there seems to be a seasonal impact on the price difference. Figure 4 displays steer and heifer price, and the difference between steers and heifers. January has the smallest price differential at $4 per cwt., and August has the highest price differential at $18 per cwt. This difference might be explained by buyers valuing heifers more when purchasing for breeding. Similarly, in August, when price differences are the highest, heifers that did not get pregnant in the May and June breeding season and are being sold as open heifers and/or feeder heifers.

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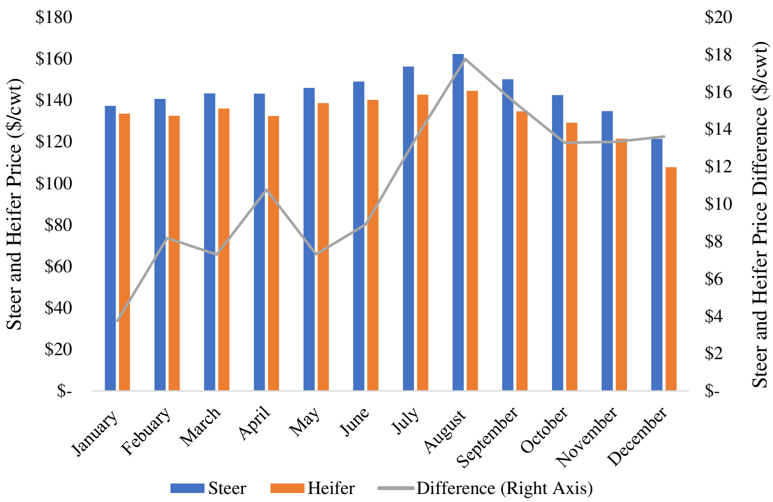

Figure 4. Predicted price of Steers and Heifers across months.

6. Conclusions

The objective of this article was to determine the factors that impact feeder cattle sale prices. While there is a plethora of research on this topic, this study adds to the existing literature by first exploring premiums for both home-raised groups of cattle and cattle testing PI negative. Secondly, it examines lot size factors using a different approach than has been utilized in previous work. Finally, it provides a fresh perspective on the impact of corn price on feeder cattle prices during the 2015–2020 period, which represents a much higher corn price level than was examined in most previous studies.

The fact that premiums were found to exist for home-raised cattle is noteworthy as it speaks to the potential price benefit of selling groups of cattle from the farm of their birth. This is especially important in the South where cow-calf operations make up much of the cattle industry. It is also interesting to report that PI tested cattle receive a price premium. We also found that prices increased after lot loads reached 40,000 pounds and load lots between 40,000–50,000 pounds and 50,000–75,000 pounds were sold at the highest price.

The final area where this article advances the literature is with respect to feeder cattle and corn price relationships. Higher corn prices have long been established to negatively impact feeder cattle prices as the cost of finishing those cattle increases. This article went deeper by examining the interactions between feeder cattle weight and corn price, in a much higher corn price environment than was examined previously (Dhuyvetter and Schroeder, 2000). While lighter feeder cattle were found to be negatively affected by higher corn prices, these findings suggest that heavy feeder cattle prices may be positively affected by increasing corn prices as feedlot demand shifts towards purchasing cattle that requires less feed to reach finished weights. This finding has implications for producers in the South as it suggests a greater value of gain and additional incentive to sell feeder cattle at heavier weights in high corn price markets. Furthermore, the findings suggest that for producers with lighter-weighted cattle, they could grow their cattle longer and utilize available grass. These results will be used in extension programs across the Southeast to help feeder cattle producers to add value to their cattle.

Financial Support. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflict of Interest. None.

Data Availability. The dataset that supports the findings of this study are available upon request from LMTCA. The corn futures data is available from Chicago Mercantile Exchange (CME). The corn data was compiled by LMIC.

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Cite this article: Martinez, C.C., C.N. Boyer, and K.H. Burdine. "Price Determinants for Feeder Cattle in Tennessee." *Journal of Agricultural and Applied Economics* (2021), **53**, 552–562. https://doi.org/10.1017/aae.2021.24