Assessing the Effect of the COVID-19 Pandemic on Feeder Cattle Prices on Northeast Texas

Kelley L. Smith, Dr. Jose Lopez

College of Agricultural Sciences and Natural Resources, Texas A&M University-Commerce

Abstract

With beef being a prominent commodity in the United States, it is clear that the COVID pandemic has affected the beef industry. There are several stages from farm to fork within the beef industry (cow-calf operations, feeder cattle, stockers, etc.). One that serves as a solid component for the longevity of the beef industry is preconditioned cattle sales. Preconditioned cattle seem to be a less risky and better suiting market to some feedlots which can procure sales in the auction ring depending on characteristics such as breed, weight, and gender. Ultimately this study will examine the pre and post effects of the COVID pandemic on preconditioned cattle prices auctioned in Northeast Texas.

Methodology

This study will use a least-squares regression model to analyze the effect of the COVID pandemic on preconditioned feeder cattle prices. The model is as follows:

$$P_{casht} = \beta_0 + \beta_1 TotalWeight_t + \beta_2 Sex_t + \beta_3 Lotsize_t + \beta_4 Breed_t + \beta_5 LotSize^2_t + \beta_6 TotalWeight^2_t + u_t$$

The variable *TotalWeight* represents the average total weight of the cattle in the lot. *Sex* is the gender of the marketed cattle. The variable *lotsize* is the total head of cattle categorized to the lot, *Breed* is the color or marking description associated with the lot. The variable *LotSize²* indicates the lot average squared, and *TotalWeight²* is the representation of the average weight squared. Last, the variable u_t serves as the error term. The Analysis will compare precondition feeder cattle prices at auction throughout various critical time periods during the pandemic.

Literature Review

In the early stages of the pandemic the wholesale value of beef and pork had increased driving up the gross farm value of beef and pork. This also led to "decreases in the supply of prepared meat to enter the wholesale and retail markets" (Balagtas and Cooper, 2021). Typically producers will see a urge in demand as a encouragement to sell with the enticement of prices. The Report from the University of Tennessee claims that factors such as weather are "short-lived" (Griffith and Martinez, 2020) and producers are typically able to bounce back with a few weeks. However conditions such as the Corona Virus and pandemic brought uncertainty to producers.

Background

In Northeast Texas, a preconditioned calve sale known as North East Texas Beef Improvement Organization, commonly referred to as NETBIO, is utilized by many farms and ranches within the area as well as numerous counties throughout Texas and several other southern states. NETBIO holds numerous calve sales a year for producers to market their cattle to bigger feedlot operations. The NETBIO closes the communication gap between feedlots and local producers. In addition the NETBIO also opens the door to premium price efforts for the producer, simply because the feedlots are able to purchase more from a quantity perspective which entices them to pay the price. The sale is designed specifically to appeal to feedlots. The cattle are weighed and classified by color and gender upon arrival. Upon completion of the sale, these cattle are shipped to feedlots all across the Midwest and central United States to serve packing houses.

Study Significance

The vast uncertainty of the COVID pandemic has spread throughout many industries and is difficult to define. There is an increasing amount of research highlighting the economic effect of the virus. This study will serve as a reference point highlighting the economic effect of the virus on preconditioned feeder cattle sales, benefitting producers and industry representatives that could use this information to evaluate and adjust their financials standings in account for COVID. The cattle market in its entirety is facing effects each day from the supply and demand that has been orchestrated through the pandemic.
Prices of the cattle market currently are at a high to off set the push back that occurred at the beginning pandemic when there was an abundance of cattle to be processed.

Graphic

These two photos are both yearlings that have been placed in the NETBIO sale. These cattle are accustom to being grain fed in the months prior to the sale date.

References

- Balagtas, J., and J. Cooper.. "The Impact of Coronavirus COVID-19 on U.S. Meat and Livestock Markets". Washington, DC: Office of the Chief Economist, U.S. Department of Agriculture, preliminary working paper. Internet site: https://www.usda.gov/sites/default/files/documents/covid-impact-livestock-markets.pdf
- Griffith, A. P., & Martinez, C. "Tennessee Cattle Marketing Influenced by COVID-19." AgEcon Search . (2020, July). Internet site: https://ageconsearch.umn.edu/record/303907.