A Price Discovery Analysis Using NETBIO and Sulphur Springs Livestock Auction Data

Mr. Rachid Aziz, Ms. Glenna Dianne Sparks, and Dr. Jose Lopez
Department of Agricultural Sciences, Texas A&M University-Commerce

**Introduction**

This study will conduct a price discovery and price determination analysis by using data from the Northeast Texas Beef Improvement Organization (NETBIO) and Sulphur Springs Livestock Auction (SSLA). The NETBIO regularly conducts auctions for the preconditioned feeder livestock in order to get better quality of beef in the industry. This study will provide a better understanding of the price differences, how demand and supply interact to determine the market price, and the process of how buyers and sellers agree on one a transaction price.

**The Hedonic Model**

This study will use a hedonic econometric model, where the independent variables are related to quality and the dependent variable is the difference between the futures market and the spot market (basis). The Mean absolute percentage error (MAPE) and the root mean square error (RMSE) will be used as indicators to predict the sale price based on descriptive variables.

The Hedonic Model

Basis = f (herd size, avg. weight, gender, and a random error).

**Motivation**

The aim of this study is to help determine price differences in local auctions. This will help buyers and sellers understand the market mechanism for bidding and settlement process, and the use of information from the futures market and other related markets to predict the price differences, and reduce the price risk and uncertainty.

**Data**

Seven-year data was gathered from the local Sulphur Springs Livestock and Dairy auction, and the NETBIO past sales. The data consists of gender, weight, and price per pound.