Livestock Futures Implied Value of Gain

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Background and Assumptions

In a time of record-setting prices, it is helpful to remember that profitability in cattle feeding, as in any venture, depends on the margin between revenue and costs. The cost of light-weight cattle to be placed in the feedlot is the main cattle feeding expense and the sale of fed cattle is the source of revenue. The margin between the cost of the lightweight animal and sale of the fed animal is not a direct measure of profit since other costs are ignored. However, it is a major determinant in whether cattle feeding is profitable.

Livestock futures contracts offered by CMEGroup provide insights into market sentiment regarding the future value of live cattle relative to current value of feeder cattle. For example, consider placing feeder cattle on feed in January for a feeding period of 180 days. The JAN feeder cattle contract provides the best futures market estimate for current feeder cattle prices and, since the cattle would finish sometime in late June or July, the AUG live cattle contract is the futures market expectation for the eventual price received for the fed animals. The margin between those two prices is a major determinant in the expected profitability of placing feeder cattle on feed. Table 1 shows the criteria for aligning feeder cattle and live cattle futures prices using these assumptions.

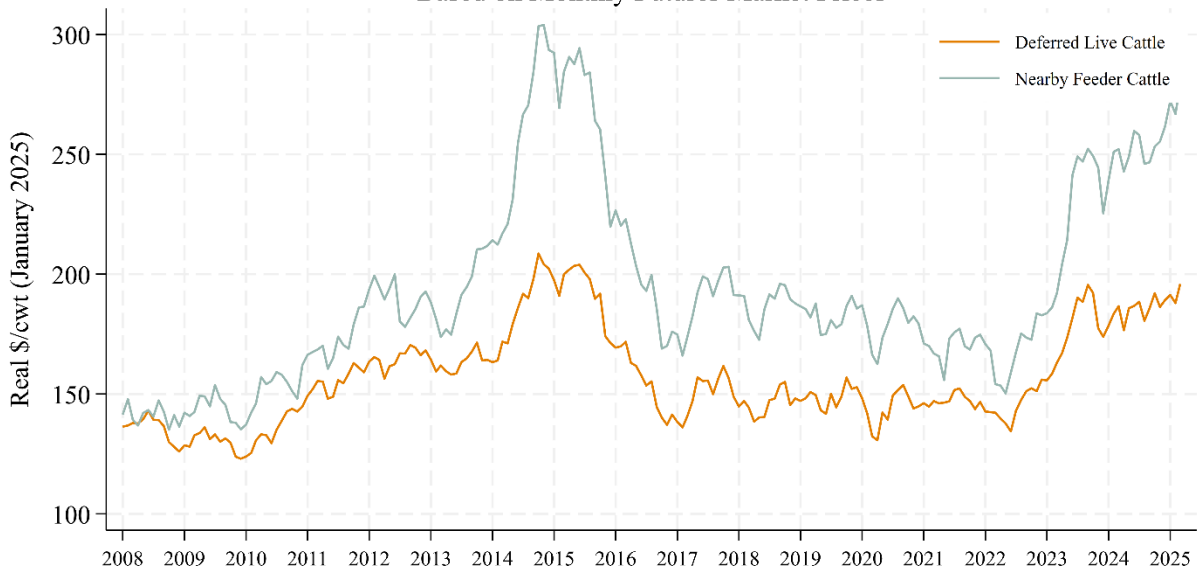
Table 1. Contracts Used to Calculate Implied Value of Gain

Current Month/Placement Month	Feeder Contract	Live Cattle Contract	Projected Finish Month
January	JAN	AUG	July
February	MAR	AUG	August
March	MAR	OCT	September
April	APR	OCT	October
May	MAY	DEC	November
June	AUG	DEC	December
July	AUG	FEB	January
August	AUG	FEB	February
September	SEP	APR	March
October	OCT	APR	April
November	NOV	JUN	May
December	JAN	JUN	June

Figure 1 shows the nearby feeder cattle futures price and the deferred live cattle price in terms of January 2025 dollars, as defined in Table 1, over time.

Figure 1. Nearby Feeder Cattle and Deferred Live Cattle Futures Price

Based on Monthly Futures Market Prices



Data Source: Futures market data compiled by LMIC
Live Cattle prices based on the 3rd or 4th deffered contract to approximate price at finish

Months when feeder cattle and deferred live cattle prices are closer together indicate that, all else equal, markets are more bullish toward cattle feeding returns. Between 2008 and March 2025, when deferred live cattle prices climb to historically high levels (2015 and 2025) they are outpaced by the increase in nearby feeder cattle prices. This is not surprising as 2014-2015 was a trough in the cattle cycle and 2025, if not the trough in the current cycle, is certainly close to it. In such times feeder cattle become more scarce due to smaller calf crops and the market begins to work to incentivize herd expansion. Feeder cattle price moves more in this process than live cattle price.

Implied Value of Gain

Using the same logic shown in Table 1, an implied value of gain can be calculated for each month. Doing so requires assuming a placement weight and finish weight. The resulting value of gain calculation is a market-level estimate that serves as a general indicator but will not reflect conditions of an individual cattle feeder. With that caveat, placement and finish weights are defined as follows. Since November of 2016, the feeder cattle contract per-animal par weight has been 700 to 899 pounds. The midpoint of the par weight range, 800 pounds or 8 cwt, is a reasonable assumption for placement weight since November 2016. Between 2005 and October 2016, the midpoint of the weight range was 750 pounds (7.5 cwt). The live cattle contract is physically deliverable and, therefore, has a more flexible par weight definition. Since 2014, average deliverable weight for live cattle has been 1,050 to 1,500 pounds with animals up to 1,550 pounds being deliverable at a discount. Weight specifications for the live cattle contract have been adjusted over the past couple of decades, but 1,400 pounds has been a deliverable weight since December 2007. This example uses 1,400 pounds (14 cwt) as the sale weight for the fed animals. For the sake of consistency in contract specifications, the time period of January 2008 to present is considered.

Implied value of gain per cwt (IVOG) is calculated as:

$$IVOG = (14P_{LC} - 7.5P_{FC}) / (14 - 7.5) \text{ prior to November 2016 and}$$

$$IVOG = (14P_{LC} - 8P_{FC}) / (14 - 8) \text{ from November 2016 forward}$$

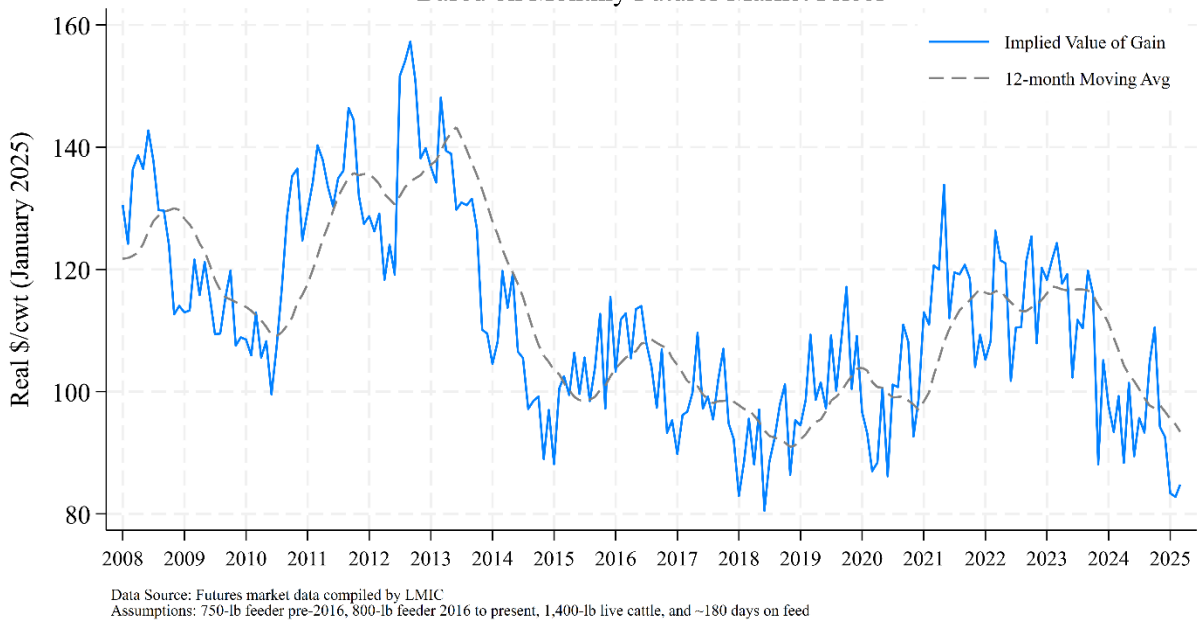
P_{LC} and P_{FC} are monthly futures prices of live cattle and feeder cattle, respectively, and are defined over time according to Table 1.

Historical Implied Value of Gain

Based on the procedure in the previous section, IVOG was calculated on a monthly basis from January 2008 to March 2025. IVOG was converted into January 2025 dollars using the producer price index for all commodities. IVOG is not a measure of profit as it ignores feed costs, vet expenses, death loss, and other important measures. However, IVOG provides an indication of how the market may reward placing feeder cattle on feed and growing them into fed cattle over the course of the next six months. Figure 2 shows IVOG since 2008.

Figure 2. Implied Value of Gain

Based on Monthly Futures Market Prices



Data Source: Futures market data compiled by LMIC
Assumptions: 750-lb feeder pre-2016, 800-lb feeder 2016 to present, 1,400-lb live cattle, and ~180 days on feed

Discussion

In real terms, the futures market IVOG is not as optimistic as previous years and is comparable to similar points in the US cattle cycle. In the current market environment, strong beef demand and tighter cattle supplies continue to support live cattle and beef prices but the increase in real feeder prices is more pronounced. The historically tight IVOG values underline the uncertainty faced by cattle feeders, even in times of elevated live cattle prices.