

In The Cattle Markets

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What Are the Main Drivers of Profit Risk?

Back in the September 8, 2008 issue of [*In the Cattle Markets*](#), we talked about the historical differences in profitability between traditional calf-finishing systems and backgrounding/yearling finishing systems. Based on our analysis of these systems from 1996 to 2007, the average profit differences between the two systems were relatively small and statistically insignificant. However, these differences varied greatly from year to year, and profits overall were variable across years as well.

In further examining this profit variation across time, we have examined what factors tend to be the biggest drivers of that profit variability over time. For the calf-finishing system, we considered the impact of fed cattle sales price, feeder cattle purchase price, corn prices during the feeding period, interest rates, average daily gain, and feed conversion. In the yearling system that included winter backgrounding on corn stalks, summer grazing, and fall finishing, we considered the impact of fed cattle sales price, feeder cattle purchase price, corn stalk and pasture rental prices, corn prices, interest rates, average daily gain, and feed conversion. In quantifying the impact these variables have had on profit variation, or risk, across the years, we estimated regression parameters and converted them to standardized beta coefficients. Such standardized coefficient estimates allow us to easily compare the impact of each variable on profit risk because the estimates are unitless.

Figure 1 illustrates these coefficient estimates for the calf-finishing system. The results indicate that fed cattle sales price and feeder cattle purchase price were the largest drivers of calf-fed profit variation over time. The standardized coefficient estimate of 1.7 indicates that if the fed cattle sales price increased (decreased) by one standard deviation, calf-fed profit would have increased (decreased) from its mean by 1.7 standard deviations. Conversely, the -1.3 standard beta coefficient assigned to the calf-feds' feeder cattle purchase price implies that for every one standard deviation increase (decrease) in feeder cattle purchase price, calf-fed profits would have decreased (increased) by 1.3 standard deviations from its mean. So, while all the variables shown in Figure 1 had a statistically significant role in explaining calf-fed profit variation over time, corn prices, interest rates, and cattle performance had a smaller role in determining this profit risk over time. That isn't to say, however, that these variables aren't important in achieving profits – they just don't cause as much year-to-year variability.

Figure 2 illustrates the standardized coefficients for the yearling system. Similar to the calf-fed system, the yearling system's profit risk was most heavily driven by fed cattle and feeder cattle price variation over time. While the other variables were also important determinants of yearling system profit variation, the impact of corn prices on yearling system profit risk was

relatively bigger than it was for the calf-fed system. That might be due to the shorter feeding period in the yearling system and high volatility of corn prices in recent years.

The results suggest that risk management efforts may be best directed towards hedging fed cattle and feeder cattle price risk to minimize profit variability over time. While feeding performance and other variables are also important, most of the profit risk seems to come from cattle prices. In an upcoming issue of *In the Cattle Markets*, we'll discuss some cattle price hedging alternatives.

Figure 1 Calf-fed Profit Variation Caused by Prices and Performance, 1996-2007.

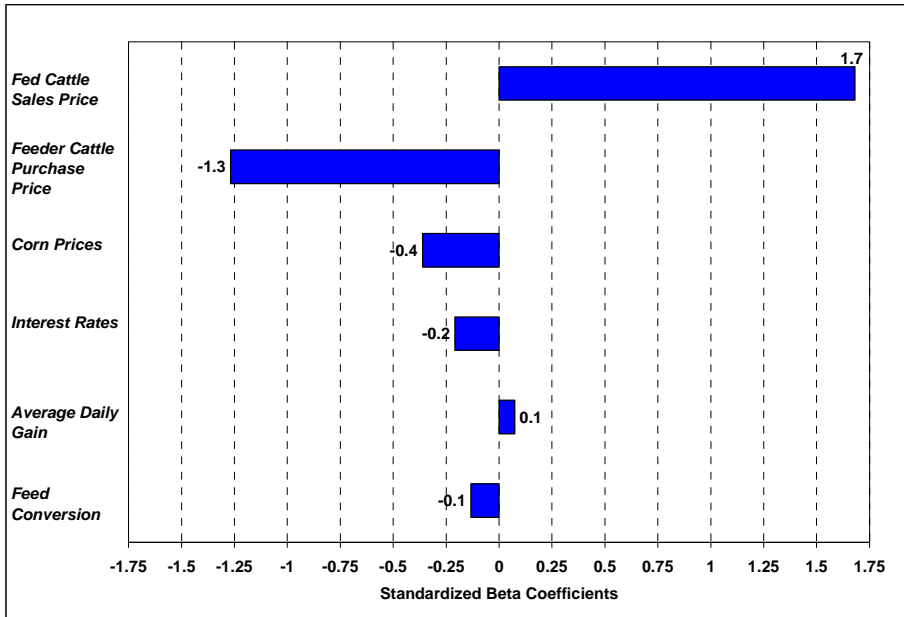
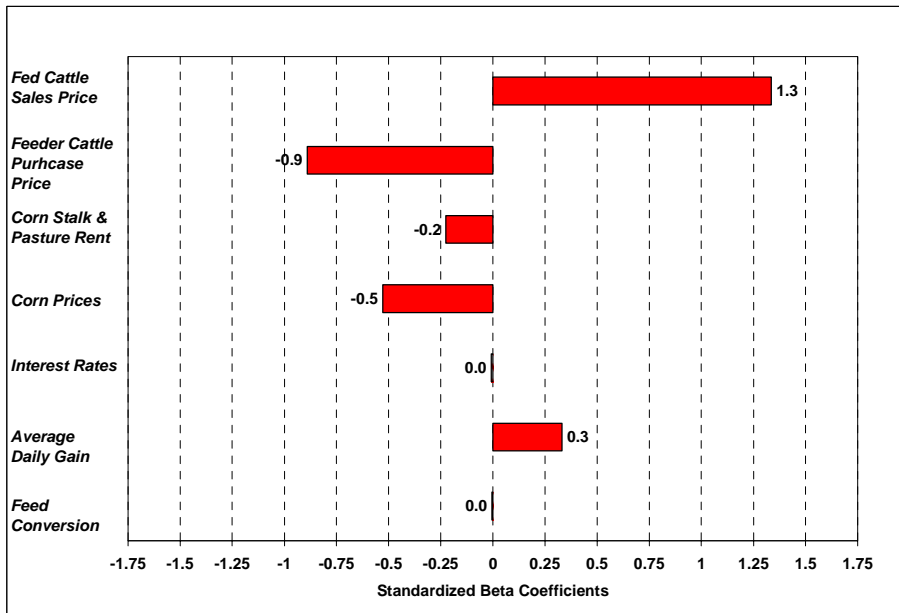


Figure 2 Yearlings (All Phases) Profit Variation Caused by Prices and Performance, 1996-2007.



The Markets

Last week's fed cattle trade was \$1-2 higher on a live weight basis and \$2-3 higher on a dressed basis. Nebraska dressed steer prices averaged \$137.34 while live prices in Kansas averaged \$85.96. Choice boxed beef prices averaged \$2.52/cwt higher last week, and the Choice-Select spread reverted back to its usual pattern of Choice beef prices being higher than select. Still, the Choice-Select spread remains historically small at \$0.73/cwt. Last week, the feeder cattle market was steady to stronger, with yearling weight steers in Kansas seeing the largest average increase of more than \$5/cwt, while steer calf prices in both Kansas and Nebraska were both within a \$1 of the previous week's prices. Corn prices lost \$0.12/bu through Thursday of last week and dried distillers grain prices averaged about \$1/ton lower.

	Week of 4/10/09	Week of 04/03/09	Week of 04/11/08
Kansas Fed Steer Price, live weight	\$85.96	\$84.57	\$86.95
Nebraska Fed Steer Price, dressed weight	\$137.34	\$134.62	\$141.53
700-800 lb. Feeder Steer Price, KS 3 market average	\$101.19	\$95.53	\$102.43
500-600 lb. Feeder Steer Price, KS 3 market average	\$117.61	\$116.66	\$121.01
700-800 lb. Feeder Steer Price, NE 7 market average	\$99.70	\$98.49	\$103.03
500-600 lb. Feeder Steer Price, NE 7 market average	\$115.26	\$115.52	\$120.96
Choice Boxed Beef Price, 600-900 lb. carcass	\$137.72	\$135.20	\$140.91
Choice-Select Spread, 600-900 lb. carcass	\$0.73	(\$0.13)	\$0.68
Corn Price, Omaha, NE, \$/bu (Thursday quote)	\$3.79	\$3.91	\$5.61
DDG Wholesale Price, Iowa, \$/ton	\$120.50	\$121.50	\$168.50