



Market Advisor

► by **Tim Petry**, livestock marketing economist, NDSU Extension service

The cattle cycle revisited

For many years cattle producers experienced a somewhat predictable 10-year cattle cycle. However, during the last decade an abnormal number of outside events has caused the cycle to be less predictable and has left producers wondering if the cattle cycle is relevant for planning purposes.

Cattle cycle explained

There are actually three components to a cycle — the cattle inventory cycle, the beef production cycle and the cattle price cycle. Cattle inventory cycles experience periods of increasing numbers called accumulation phases, and periods of decreasing numbers called liquidation phases. Beef production cycles lag inventory cycles by about one year, because to liquidate numbers, more cattle must be harvested; to accumulate numbers, fewer cattle are harvested.

Price cycles are typified by periods of increasing prices called increasing phases, and decreasing prices called decreasing phases. Cattle price cycles tend to be opposite of beef production cycles. The two factors that most affect the length of cattle cycles are the reproductive biology of cattle and weather.

Cattle inventory cycles typically experience six- to eight-year accumulation phases and three- to four-year liquidation phases. Therefore, a typical cycle would be about 10 years in length. The accumulation phases are longer because of the relatively long time compared to other livestock species that it takes to rebuild herds. A heifer calf retained in the fall for breeding purposes will be bred the following summer, have a calf the next spring, and that calf will not reach slaughter weight and be reflected in the market as beef production until the following year. Because this reproductive biology cannot be changed given current technology, cattle cycles will likely continue to occur.

Cycle thrown off

What happened this past decade? A whole host of unexpected and unpredictable events plagued the beef industry and caused cattle producers to manage from one event to the next. From 2000 to 2008, severe drought occurred in major cattle-producing areas of the United States, including North Dakota, where I am. On a number of occasions, more than 50% of the U.S. beef cow herd was in areas experiencing severe to exceptional drought.

Add to that many unforeseen beef demand shocks, beginning with the terrorist attacks on Sept. 11, 2001; then the late December 2003 and subsequent BSE cases; the 2008-2009 financial crisis causing the worst recession since the 1930s; and the unfortunate misnaming of the H1N1 virus as the swine flu in 2009. Federal government policies, including the Energy Policy Act of 2005, which mandated a renewable fuel standard, caused a rapid increase in the use of corn for producing ethanol with increasing and volatile corn prices.


More of the corn crop harvested in fall 2011 will be used for ethanol production than for feeding the entire U.S. livestock sector. Higher corn prices affect the profitability of cow-calf production in several ways. Higher corn prices drive up prices on the entire feed complex, including hay. Increases in costs of feeding cattle result in feedlots paying less for feeder cattle unless fed-cattle prices increase. Higher crop prices

tend to increase land values and cause pasture and hay land to be converted to growing crops.

The global market and increasing U.S. beef and byproduct exports are also adding to cattle price volatility. International trade policies, weather and catastrophic events around the world, such as the recent tsunami in Japan and foot-and-mouth disease (FMD) in Korea, quickly reverberate to prices paid for calves at auction markets throughout the United States.

Will the cycle continue?

There are a multitude of reasons, and these are not all-inclusive, why beef cow numbers did not increase significantly after the previous cyclical and record high in calf prices in 2005.

Now that calf prices are record high again, will beef cow numbers increase cyclically? The safe answer to that question is that they should. However, another severe drought in the Southern Plains has caused beef herd liquidation there. Historically high crop prices in the Corn Belt are causing land values to escalate, with pasture and hay land being converted to cropland. Beef cow numbers have increased in the Northern Plains and Mountain States where moisture conditions are good and pasture and rangeland is not suitable for cropping. Depending on which region you live in, you would probably answer my question differently. 

Editor's Note: *Tim Petry is a livestock marketing economist at NDSU Extension Service.*