

BSE Update and Empirical Analysis

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The discovery of BSE in the United States in December will adversely impact U.S. farm income for 2004 and 2005. Global Insight estimates that income will be about \$5.5 billion lower in 2004 than what it would have been in the absence of BSE. The bulk of the decline in income is, as expected, concentrated in the livestock sector and is due to lower fat cattle and feeder steer prices.

Background

In the previous issue of the *Agri-View*, Global Insight presented some preliminary assessments of the discovery of a bovine spongiform encephalopathy (BSE) infected Holstein in Washington state. Once Secretary of Agriculture Anne Veneman announced that a “presumptive positive” case for BSE was discovered on December 23, 2004 (and confirmed Christmas day by the United Kingdom), markets reacted quickly. Cattle prices dropped, major markets for U.S. beef, including Japan, South Korea, and Mexico, banned imports, feed prices fell, and protein-rich crop commodity prices rose (on expectations that animal renderings used in feed would be banned). Consumers, perhaps, questioned the safety of America’s beef supply. Commodity markets reacted more to perception than supply-demand realities.

Since Secretary Veneman’s December 23 announcement, the USDA has taken several steps to ensure the safety of America’s beef. Initially, the herd from which the animal came was quarantined, off-spring of the infected animal tracked, potentially tainted meat recalled, and efforts to trace the animal’s origin initiated. The USDA also took steps to allay the fears of foreign countries. In addition, the following actions and/or information has come to light:

- The animal was born in Canada and was 6.5 years old when it entered the United States with 81 other cows in 2001. Of these 81 cows, 8 came from the same herd as the infected animal. USDA is tracking these animals too. Nine of the 81 are part of the same herd as the infected animal. Two animals are in dairy operations nearby (under hold orders).
- Downer cattle and specified risk material are banned from entering the food chain. Meat from normal cattle tested for BSE at slaughter will no longer be marked as “inspected and passed” until confirmation is received that the animals tested negative for BSE.
- Certain material related to the animal’s nervous system can no longer be in products labeled “meat.” Mechanically separated meat in human food will be prohibited.
- A workable national animal identification system will be implemented immediately.
- The herd containing the most recent bull calf offspring of the infected animal has been destroyed (about 450 animals).
- Delegations from the United States have been sent to Japan and Mexico to discuss the BSE issue and trade. Japan has also sent a delegation to the United States.
- Although a concern among U.S. consumers, the BSE issue does not seem to have eroded consumer confidence in the safety of U.S. beef—demand remains strong.

Empirical Analysis

Global Insight's agriculture group has done an analysis of the impact of BSE on U.S. agriculture. We report some of these empirical findings here. The focus of the analysis is on cattle prices, crop prices and select use, and farm income. The analysis is based on a few key assumptions. These assumptions are:

1. No additional cases of BSE are discovered. The case discovered in Washington state is an isolated incident. The fact that the animal came from Canada and that the USDA continues to trace the animals from the group imported in 2001 support this assumption.
2. Related to assumption 1, the USDA does not need to destroy large cattle populations in the United States.
3. The U.S. consumer maintains confidence in the safety of the U.S. food and fiber sector, and meat in particular. There appears to be no adverse consumer reaction to date, and the USDA is taking positive steps to improve the safety of U.S. meat supplies.
4. The U.S. agriculture sector is assumed to lose approximately 75% of its past beef export volumes in 2004. Exports of beef shipments return slowly (1/3 per year) over the next three years.

The discovery of BSE in the United States has adversely affected cattle prices and beef exports. Cattle prices were in the \$90-100/cwt range prior to December 23. As more information has become known, cattle prices have rebounded somewhat from the lows recorded as a consequence of the initial BSE announcement. They are now in the \$70-80 range. Texas-Oklahoma steer prices closed at nearly \$78/cwt on Wednesday, and feeder steers (Oklahoma City) were in excess of \$100/cwt.

In previous years, the United States had exported about 10% of its beef production. The loss of 75% of the export market has helped put downward pressure on prices. Changes in relative prices will affect farmers' decisions to liquidate/retain animals, purchase feed, etc. The ensuing analysis, which follows, is presented on an annual basis.

Livestock Sector

The cattle sector bears the brunt of the impact or cost of BSE in the near term and over the next few years. U.S. beef exports are assumed to be 1.9 billion pounds lower in 2004 than had BSE not been discovered in the United States. Over time, export markets are expected to return, and by 2006, beef exports are about 700 million pounds less.

Fat cattle and feeder calf prices are lower than would otherwise be the case. Slaughter steer prices are expected to average about \$11/cwt lower, on average, for 2004, and feeder calf prices will average about \$8/cwt less. The price effects diminish over time, but by 2006, the average cattle price is estimated to be about \$5/cwt. higher than what would have been realized in a non-BSE baseline scenario. Weaker fat cattle and feeder calf prices weigh on the entire livestock sector complex and result in lower hog prices in 2004 and 2005 as well, and higher prices in 2006.

Lower cattle prices adversely affect profitability in 2004. Fewer animals are retained, fewer animals are imported, and beef production is estimated to decline about 200 million pounds. Beef production is about 600 million pounds lower in 2005 and 400 million pounds lower in 2006 than would have occurred in the absence of BSE.

Crop Sector

The BSE discovery is expected to have minimal impact on the crop sector, based on the aforementioned assumptions. The primary impact of BSE on the crops sector is on feed grains. Demand will weaken

marginally for grains, and corn feed use will fall by about 50 million bushels in both 2004 and 2005 and go almost completely into inventory.

The season average corn price for 2003/04 year is 7 cents per bushel less than if BSE had not been discovered, although most of the adjustment to corn price occurs in the 2004 calendar year. Corn prices are about a nickel lower in 2004/05 and are expected to be higher in 2005/06. Soybean and wheat prices are modestly impacted, about 1 cent per bushel less.

Farm Income

Meat animal and total livestock cash receipts are expected to be reduced as a consequence of BSE being discovered in one Holstein in Washington. Meat animal receipts are expected to be about \$9 billion less in 2004, \$3 billion less in 2005, and higher—once the sector has adjusted—by \$3 billion in 2006 as prices improve.

Lower expected corn and modestly lower wheat and soybean prices in 2003/04 and 2004/05 will lead to lower cash receipts for crops. Downward corrections of about \$200 million in 2004 and \$100 million in 2005 are expected. Most of the decline in crop receipts will be offset by higher direct government payments.

The expected decline in feeder steer prices results in a reduction in cash expenses. Slightly softer feed prices also contribute to lower cash expenses. Cash expenses are projected to drop by about \$1.7 billion in 2004 and 2005 as a consequence of BSE.

In summary, net cash income is estimated to be about \$5.4 billion lower in 2004 than it would have been in the absence of BSE. Net cash income in 2005 is also lower by about \$800 million due to the BSE case.

Impacts of BSE on US Agriculture Differences: Pre BSE less Post BSE(1)

Livestock Sector	Units	2004	2005	2006
Beef Exports	mil. lbs.	1945	1349	707
Beef Production	mil. lbs.	200	641	442
Cattle Inventory, Dec. 31	mil. hd.	0.8	0.7	1.1
Direct Slaughter Steers, NE	\$/cwt.	11.03	1.02	-4.72
Feeder Steers, Okla. City	\$/cwt.	8.07	6.23	4.53
Hogs, Farm Price	\$/cwt.	4.51	1.08	-4.58
Crop Sector		2003/04	2004/05	2005/06
Corn, Feed Use	mil. bu.	50	40	-27
Corn Stocks	mil. bu.	-49	-88	-61
Corn, Season Avg Farm Price	\$/bu.	0.07	0.05	0.04
Soybeans, Season Avg Farm Price	\$/bu.	0.01	0.01	0.00
Wheat, Season Avg Farm Price	\$/bu.	0.00	0.01	0.00
Farm Income		2004	2005	2006
Cash Receipts, Meat Animals	bil. \$	8.9	3.2	-2.9
Cash Receipts, Total Livestock	bil. \$	6.8	2.3	-4.0
Cash Receipts, Crops	bil. \$	0.2	0.1	0
Government Payments	bil. \$	-0.2	-0.1	0.0
Cash expenses	bil. \$	1.4	1.5	0.7
Net Farm Income	bil. \$	5.42	0.77	-4.71

(1) Global Insight estimates