MarketView… U.S. Dairy Outlook Brief November 2009.

By Cameron Thraen, State Specialist, Dairy Markets and Policy, The Ohio State University Extension, The Agricultural, Environmental, and Development Economics, The Ohio State University

The current discussion front and center for everyone involved in the U.S. dairy industry involves how broken the current system is and in what manner can this be repaired. My comments in this issue of MarketView center on explaining what in the world is going on with U.S. dairy, milk prices, and dairy farm financial health.

My comments center on the two charts shown below. Chart 1 depicts the time path for the total number of milk cows in the United States over the period January 1998 through September 2009, and Chart 2 shows the relative contribution to the Class 3 milk price made by each dairy product market over the period January 2004 through August 2009.

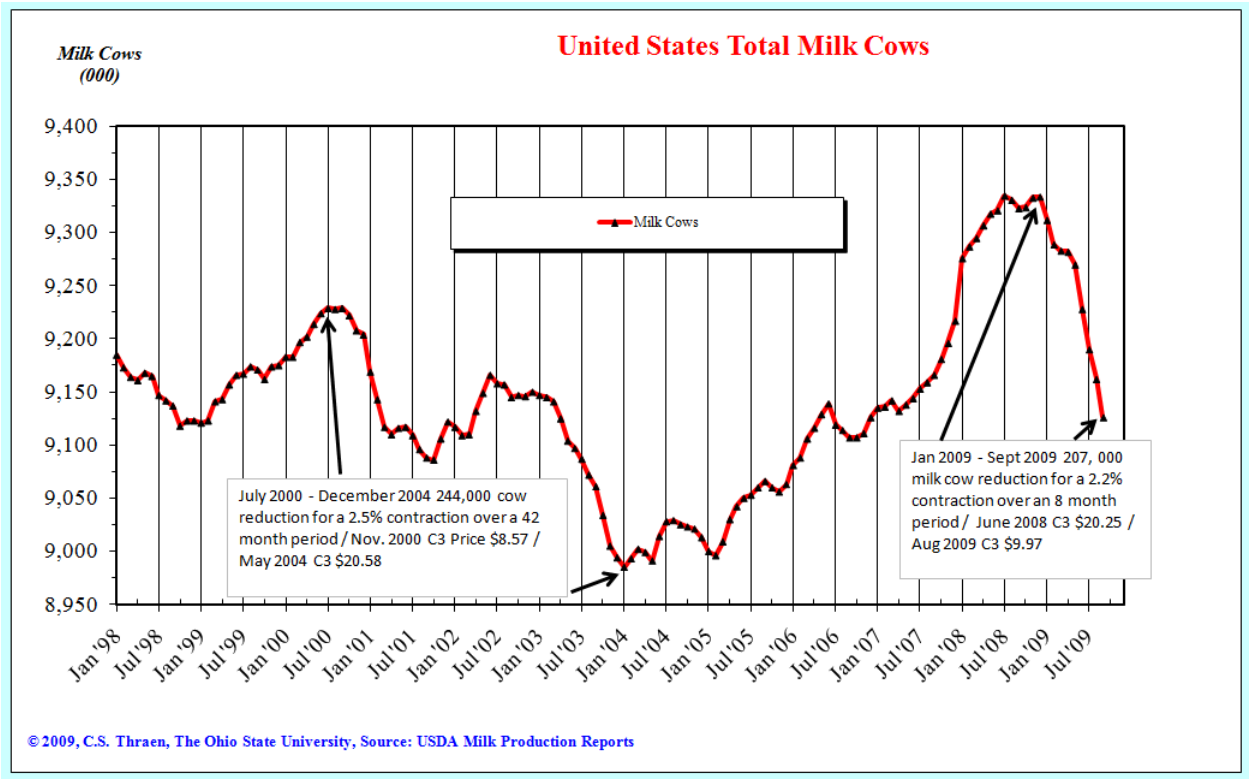

Chart 1. United States total milk cows.

Chart 1 depicts the total number of milk cows in the U.S. herd over the period January 1998 through September 2009. In particular I wish to draw your attention to the three sub-periods; July 2000 through December 2004, January 2004 through July 2008, and January 2009 through September 2009.

In the first period the U.S. total milk cow numbers show that the national herd peaked in the first three months of 2000 at an average of 9.228 million milk cows. Just following this period, the Class 3 milk

price reached its lowest price of $8.57 in November 2000. Over the next forty-two months, the number of milk cows declined (with a short period of reversal) from this 9.228 million to 8.985 million head, a 2.5% reduction of 244,000 head. Balancing supply with demand, which over this period was essentially domestic use, the Class 3 milk price rose from the low of $8.57 to $20.58 in May of 2004. Clearly reducing the number of milk cows produced a better and more profitable balance between milk supply and demand and a better bottom line for U.S. producers.

Now consider the period January 2004 through December of 2008. The total number of dairy cows in the U.S. dairy herd increased 3.87%, almost unabated, by 348,000 head to peak at 9.333 million head in December 2008. Over this period, the Class 3 milk price moved between a low of $10.83 in May of 2006 to an all-time high of $21.38 in July of 2007. What is different about this period versus the first period highlighted? Why with so many additional cows in milk, did the price manage to climb to over twenty dollars?

Chart 2 depicts the relative contribution to the Class 3 price from each of the products, butter, cheese and whey. The total value is the announced Class 3 milk price.

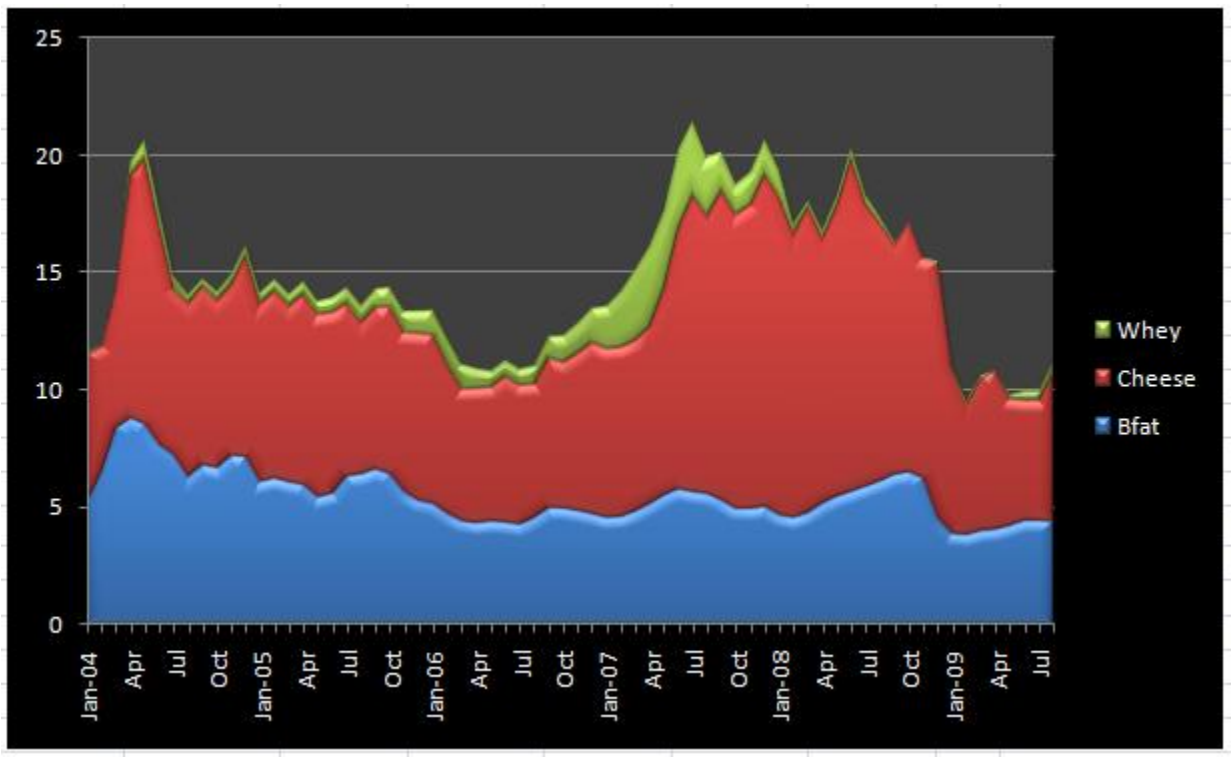

Chart 2. Dairy product contributions to the Class 3 milk price.

First, you can see that the contribution from butter (butterfat) peaked in early 2004, and has declined since that time. Second, the contribution from cheese (protein) has peaked with butter in early 2004, declined through the period until July of 2006, and then began an unprecedented rise in value. Third, the contribution from whey (other solids) grew substantially over the same period and then returned to more normal levels in early 2008. What is the explanation for these price patterns. In this period, the

balancing of domestic supply with domestic demand was augmented with the new demand for export products from the United States, primarily skim milk powder and whey proteins. This impacted prices first in the whey market, with the NASS whey price rising from $0.28 per pound in May 2006 to a high of $0.76 per pound in June 2007. Along with the whey market the skim milk powder market made dramatic advances, absorbing all of our considerable on-hand government stocks of nonfat dry milk, then the commercial supply of nonfat dry milk, finally impacting on the supply and demand balance for cheddar cheese. (The NASS nonfat dry milk price rose from $0.83 per pound in June of 2006 to a high of $2.06 in October of 2007 on the strength of this export demand. High skim milk powder prices over this period had an adverse impact on the production of cheddar cheese as cheese processors sought less expensive ways of making cheese milk). At the July 2007 peak, with the Class 3 price at $21.38, the absolute contributions from the respective markets were (i) butter, $5.64, (ii) cheese $12.58, and (iii) whey $3.15. This augmentation of domestic demand by export demand fueled the unparalleled increase the level of the milk price and ultimately the size of the U.S. milk cow herd over this period.

Now to the last section to highlight in Chart 1. The period January 2009 through September 2009. With the economic growth in the world economies coming to grinding halt over the period July 2008 – December 2008, this augmentation to domestic demand from exports vanished literally over a couple week period in mid December 2009. Without this additional demand to absorb the output from 9.3 million head of highly efficient dairy cows in the United States, there was no manner in which milk prices could remain at the $20 level. And of course they did not do so, falling almost immediately back to just under ten dollars, Chart 2. The reaction in the U.S. dairy industry has been dramatic. In a space of only eight months, the industry has jettisoned 2.2% of its cows, 207,000 head. The current number of milk cows, 9,126 million head represents a tremendous culling over a very short time period. Note that the time-frame is even more compressed as the real culling begins in earnest after April 2009 as producers hang on hoping for a market price adjustment that does not materialize. Culling to date puts the number of milk cows back to the December 2006 level, a level commensurate to balance domestic demand, but not at the $20 milk price, but at the $10 level. The cows going to slaughter represent primarily herd expansions on farms that will continue to produce milk, and complete dairy farms, such as those herds purchased by the Cooperatives Working Together program, which have exited.

The question before us now is where do we go from here? The Chicago Mercantile Exchange futures price on Class 3 is projecting a $14.49 price average for the coming twelve months. The September 2009 USDA Livestock, Dairy and Poultry report projects a Class 3 price in the $13.75 - $14.75 range. These prices reflect the view both in the market and from the dairy economists, that the cow herd must be reduced more if we are to see prices better than these projections.

On the policy side there are calls for a wait and see program, meaning do nothing on the supply management front, and let the natural exodus of cows and farms continue. At some point the balance between supply and domestic demand will be restored and prices will rise. Will they rise back to the levels of 2007 and 2008? That depends on the depth of the retrenchment and the speed with which the domestic and international demand returns. Clearly , a new balance will be achieved. As I have written in MarketView before, I believe that the number of milk cows which will restore normal profit margins to U.S. dairy farms requires another 100 to 140 thousand head exit the industry. This would put the U.S.

industry back to the January 2004 level with a milk supply that will balance against domestic plus some small amount of export demand. Make no mistake about this reduction. It will be painful for many as most of the cows that have been sent to slaughter are from expansions, and marginal producing cows. Those yet to exist will likely represent entire farms.

Others call for new federal programs designed to limit both the number of dairy cows and the efficiency of those cows on a farm by farm basis. These programs will work; they work in other countries such as Canada, but they do come at a cost to the U.S. industry. That cost is the overall efficiency of the U.S. dairy production sector. Supply management programs make it difficult for the dairy sector to react swiftly to new market opportunities, such as the growth of the export demand in 2007 and 2008. The cost of not implementing supply management program of some type will be the continued swings in dairy prices and farmer income and net returns. This is the thorny and difficulty challenge the industry will have to deal with in the coming months.