

Chapter 6. Dairy — Markets and Policy

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2009 Dairy Outlook

Positive Factors:

- Excellent quality and quantity of feeds in the Northeast
- Lower feed, fuel and fertilizer prices

Negative Factors:

- Lower exports of dairy products
- Domestic economy in recession

Uncertainties:

- New Administration
- Length and depth of recession

New York Dairy Situation and Outlook 2007 Projected 2008, and Estimated 2009					
Item	2007	2008	2009	Percent Change	
				07-08	08-09
Number of milk cows (thousand head)	627	626	624	-0.2	-0.3
Milk per cow (lbs.)	19,303	19,900	20,000	3.1	0.5
Total milk production (million lbs.)	12,103	12,430	12480	2.7	0.4
Blended milk price (\$/cwt.) ^a	19.85	18.76	16.25	-5.5	-13.4

^a Northeast federal order statistical uniform price for farms shipping milk to Suffolk County, MA (Boston).

Table 6-1. U.S. Milk Supply and Utilization, 2000–2008

	2001	2002	2003	2004*	2005	2006	2007 ^a	2008 ^{*b}	2009 ^c
Supply									
Cows Numbers (thous.)	9,115	9,137	9,084	9,010	9,043	9,112	9,158	9,261	9,200
Production/cow (lbs)	18,139	18,612	18,748	18,958	19,565	19,951	20,267	20,423	20,627
Production	165.5	169.8	170.3	170.8	176.9	181.8	185.6	189.1	189.8
Farm Use	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Marketings	164.5	168.8	169.2	169.8	175.9	180.8	184.6	188.2	188.8
Beginning Commercial Stocks	6.8	6.1	9.9	8.3	7.2	8.0	9.5	10.4	12.8
Imports	5.7	5.1	5.0	5.3	5.1	5.0	4.6	3.3	4.0
Total Supply	177.0	180.0	184.2	183.4	188.2	193.8	198.7	201.8	205.6
Utilization									
Commercial Disappearance	169.8	169.8	174.7	176.4	180.2	184.3	188.4	189.0	189.5
Ending Commercial Stocks	7.0	9.9	8.3	7.2	8.0	9.5	10.4	12.8	14.0
DEIP	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Net Removals (excluding DEIP)	0.1	0.3	1.1	-0.2	0.0	0.0	0.0	0.0	2.1
Total Use	177.0	180.0	184.2	183.4	188.2	193.8	198.7	201.8	205.6

Source: Dairy Situation and Outlook, Milk Production, and Dairy Market News, U.S. Department of Agriculture. Note that total may not add exactly due to rounding.

* Leap year.

^a Revised.

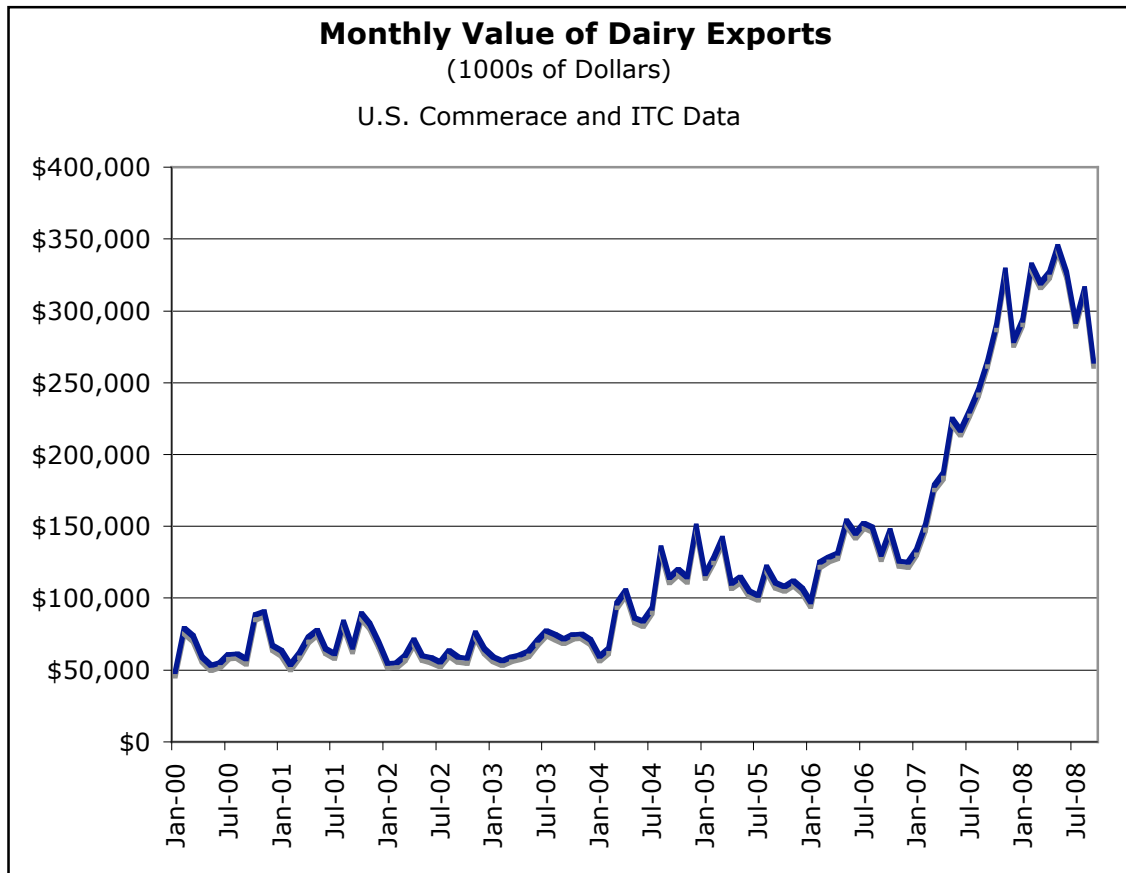
^b Based on preliminary USDA data and Cornell estimates.

^c Projected by Mark Stephenson.

The Dairy Situation

2008 continued our emergence as a major dairy exporting country. It wasn't many years ago that it was typical for us to export something like 2 to 3 percent of our milk solids and we imported about the same amount. Of course, we were typically importing very high value dairy products like specialty cheeses and exporting lower value products like butter or nonfat dry milk. This meant that from a dollar standpoint, we were always a trade deficit industry. In 2008 that changed.

For the first time ever, we will close the year as a net exporter in both volume and value, exporting something like 12 percent of our milk solids and close to \$1 billion more than we imported. At the time of this writing we only have export data for the first three quarters of the year, but, through September 2008, export value stood at \$3.09 billion, up 52 percent from year ago levels. Nonfat dry milk and skim milk powder exports were up 77 percent, cheese exports up 48 percent and butter shipments up an amazing 214 percent. The United States is capable of supplying a lot of dairy products into world markets



There are three primary reasons that dairy exports have been such a big story for the U.S.: world demand, world supply, and exchange rates. Income in many countries of the world has increased dramatically. Of course we cite China and the dramatic growth in their gross domestic product. However, as the worldwide price of oil has soared, so have incomes in oil exporting countries like

Russia, Mexico and the Middle East. In many of these countries, increased income is spent on improving the quality of their diet and dairy products have featured prominently in this effort.

At a time when world demand for dairy products was increasing, the supply of dairy products from traditional dairy exporters was faltering. The European Union has been implementing their Common Agricultural Policy (CAP) reform which calls for the end of subsidized exports of dairy products. Europe had been the largest exporter of dairy products but their exports are dramatically decreased as milk prices seek equilibrium in this new policy environment. Prior to the CAP reforms, the second largest exporter of dairy products was Oceania—Australia and New Zealand. Australia's milk production has been down by as much as 15 percent from the high water mark as they battle a prolonged drought (now in its seventh year). New Zealand began the 2007-08 production year with good pastures and increased milk production. However, they were also impacted by the drought during the latter half of their milk production cycle and ended the year with about an 8 percent decline in production.

Exchange rates have also been an important aspect of U.S. dairy trade. The value of the dollar had declined against most major currencies from 2002 through the first half of 2008. In fact, it had dropped to about half its value against the Euro. With no change in supply or demand, U.S. dairy products would cost half as much to purchase as they would have just a few years ago—good news for exporters.

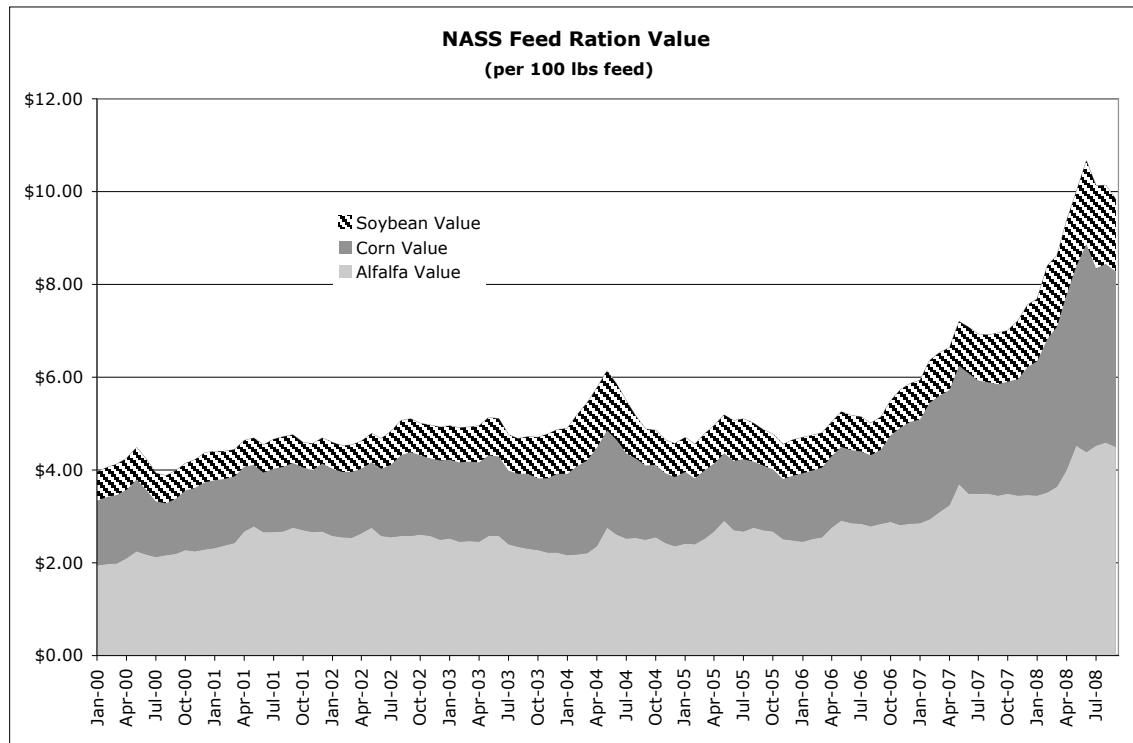
All factors taken together, U.S. dairy exports have soared and positioned us as a major player in world markets. Dairy exports have helped to give dairy producers the second highest milk price year, down just about a dollar per hundredweight from the record year of 2007.

The Milk Supply

Don Kullmann of Prairie Farms Dairy Cooperative used to talk about his “3M”, “5M ”and “7M” theories of milk production: “money makes milk,” “more money makes more milk ”and “much more money makes much more milk.” Given that we have just passed through the highest and second highest milk price years, you would think that we should be headed into a tsunami of milk production. This hasn't occurred largely because margins have not great. We should probably substitute the word “Margin” for “Money” in the Kullmann theory of milk production.

High fertilizer, fuel and feed costs have held down more dramatic increases in milk production. It has been typical for us to increase milk production by just more than 1 percent over year earlier levels. Adjusted for leap year, 2008 will have increased milk production by just about 1.6 percent which is a very ordinary long-run increase (we have increased by 2-3 percent in the prior three years).

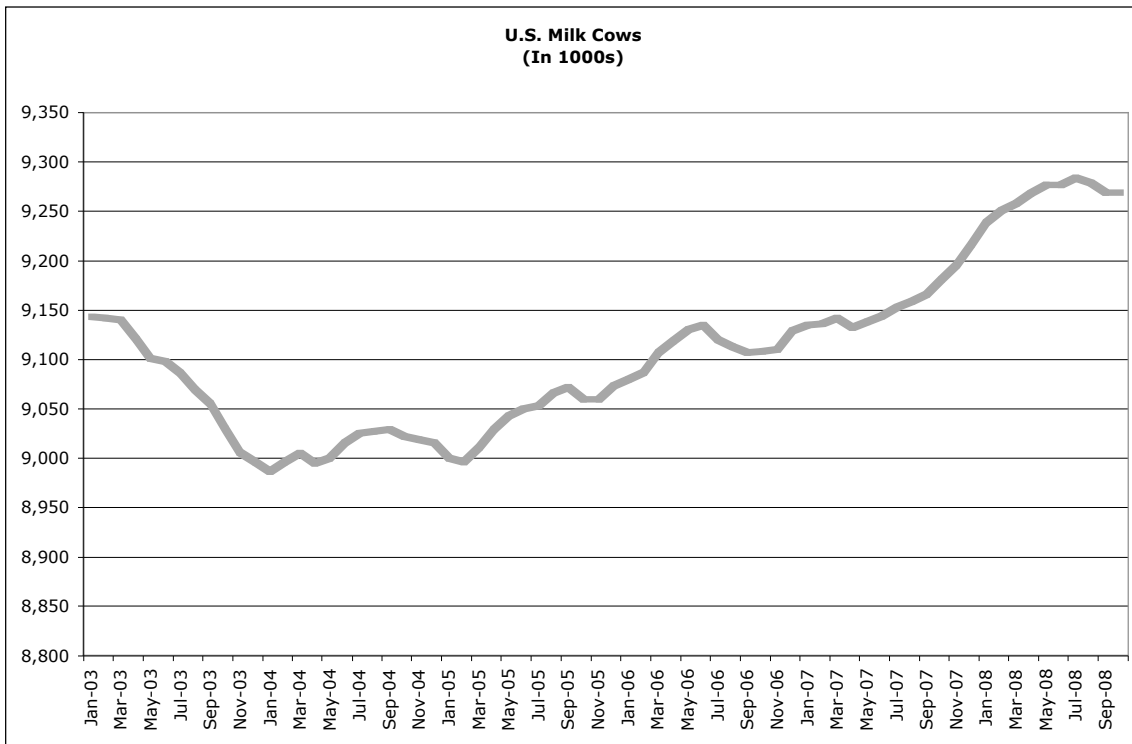
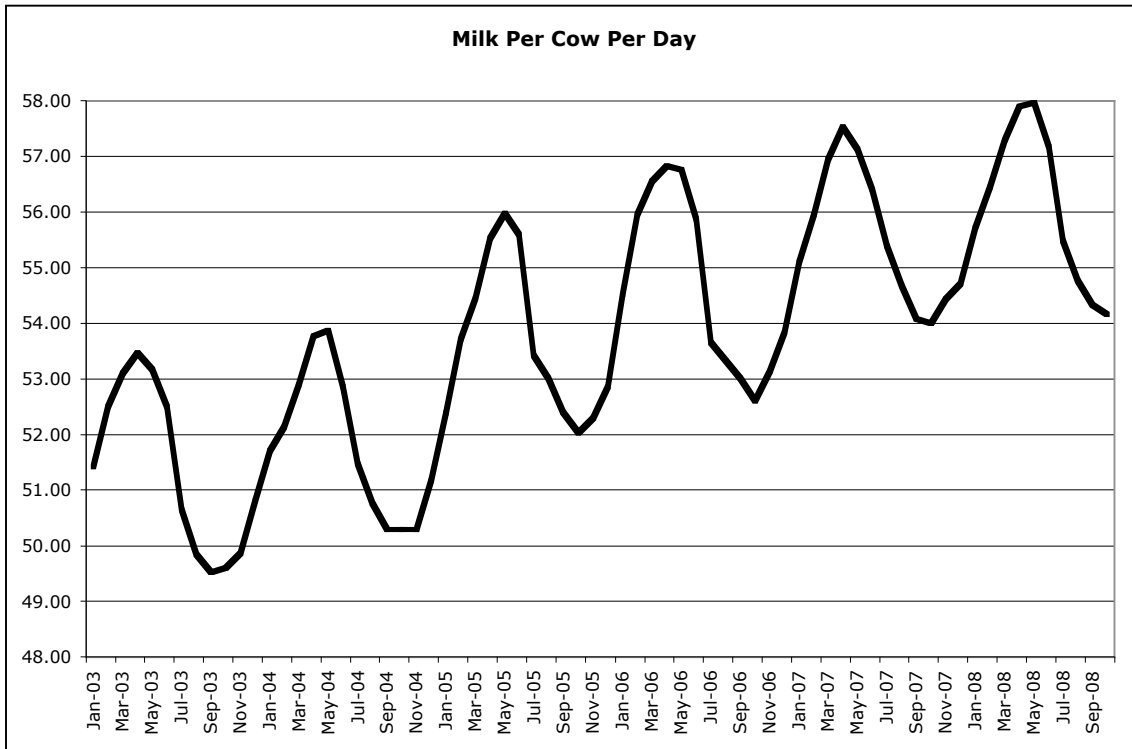
By any measure—milk price or margin—2007 was a very good year for dairy farmers. Credit reserves were restored from the beating they took in 2006 when we last experienced low milk prices. However, 2007 was the year that we began to see a dramatic increase in oil prices. With the higher oil prices came a new interest in corn-based ethanol as a sustainable bio-fuel and with the new demand for corn in ethanol production came higher feed costs for dairy producers. The chart below shows the dramatic increase in feed prices.



Because feed is the single largest cost category for milk producers, the National Agricultural Statistics Service (NASS) has published a Milk-Feed Price ratio to provide an indication of the well-being on dairy farms. The ratio was a reasonable indicator until we had a doubling of feed costs and a dramatic increase in milk prices. By historic standards of the milk-feed price ratio, 2008 looks like perhaps the worst year ever for dairy producers. However, it is probably more accurate to look at a milk-feed margin rather than a ratio. The margin also shows a good deal of tightening but not to the levels seen in 2006. That is probably why we have seen an ordinary increase in the milk supply.

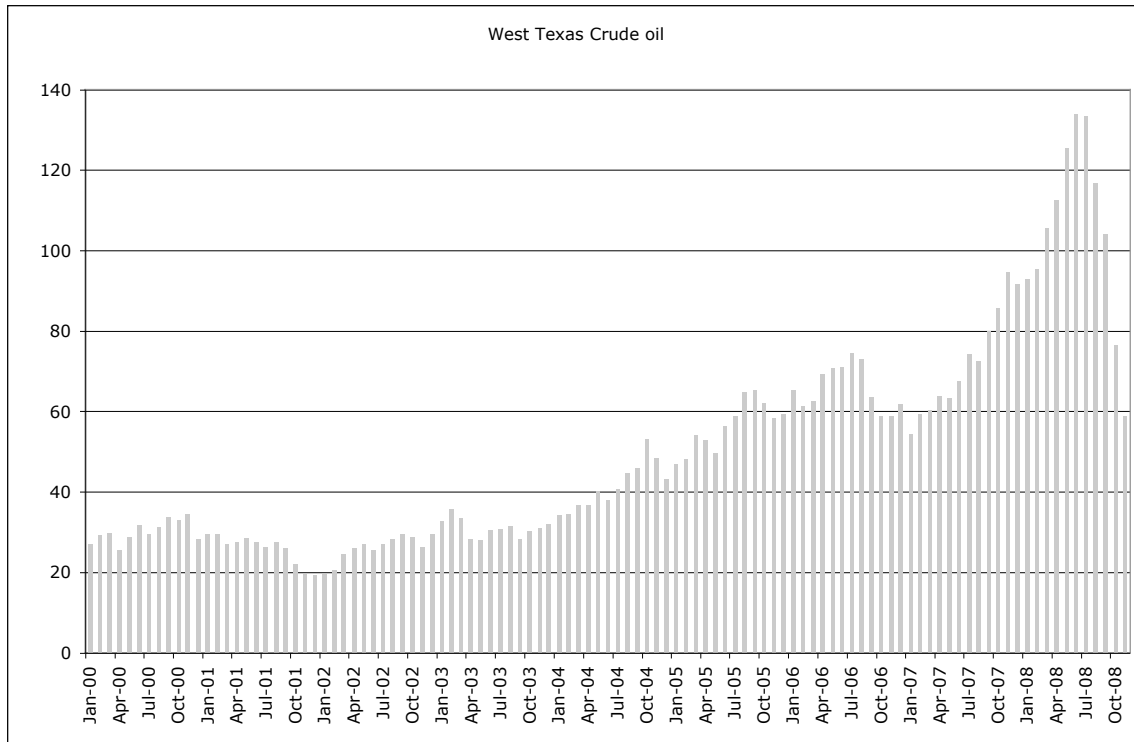
The increase in milk supply has come about primarily because of increased milk cow numbers. Milk production per cow has a nearly linear trend of increasing about 260 pounds per year. In 2008, the increase will be about 160 pounds and is well off the long-term trend. It is more typical for cow numbers to decrease over the long-run but, since 2004, cow numbers have been increasing. Only in the last quarter of 2008 have we seen cow numbers begin to decline once again.

With high feed prices (particularly concentrate prices) dairy farmers have chosen to not push productivity as hard and to milk more cows. This allows cows to make better use of forages and keep purchased feed costs (if not feed prices) to a minimum.



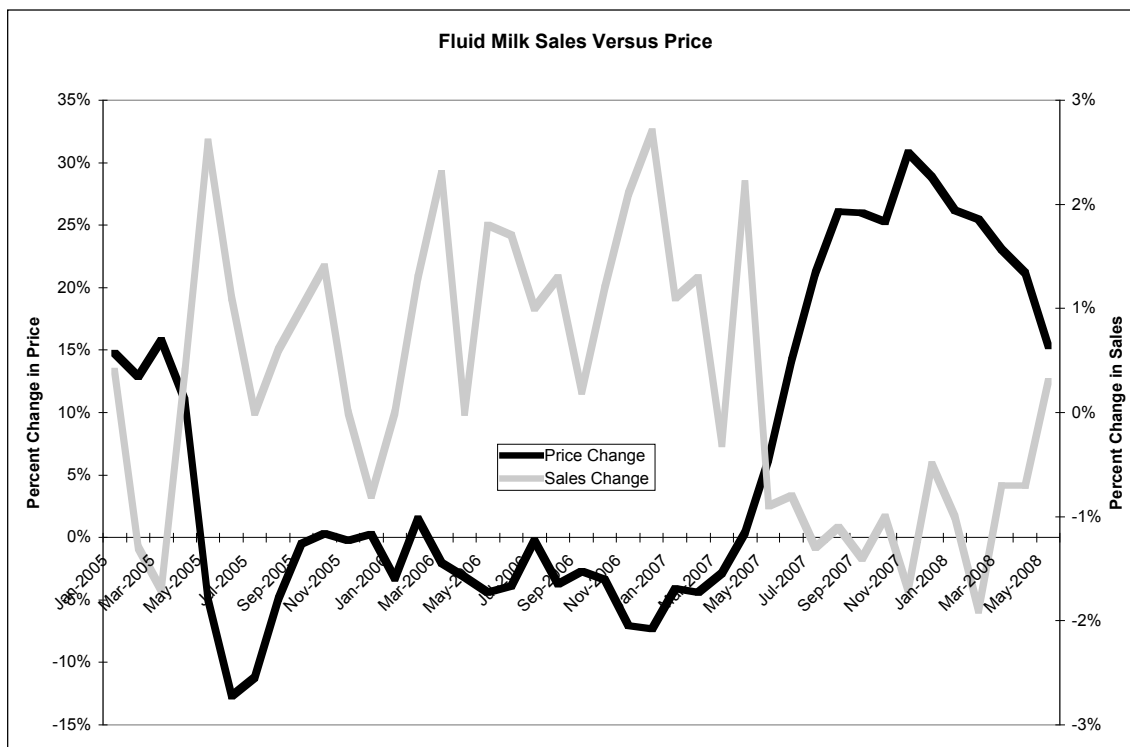
Dairy Product Demand

The dramatic increase in oil prices has sent shock waves through our economic system. It is simplifying a complex web of events but, U.S. consumers felt as though they had a lot of discretionary income when oil prices were below \$40 a barrel. We thought we could afford large homes that were significant distances from our workplace. However, commuting 100 miles a day in a large SUV became too expensive when oil burst through the \$100 a barrel mark in 2008. Consumers began defaulting on mortgages at an alarming rate and cutting back on discretionary spending like out-of-home eating.



Dairy products are prominently featured in out-of-home eating but as the restaurant business has seen significant decline over the past year, domestic consumption of dairy products has softened. The good news for dairy producers is that exports has picked up the slack in domestic consumption.

Virtually all research on dairy product consumption indicates that products are price inelastic. That doesn't mean that consumers will demand the same amount at any price, just that they are somewhat less price sensitive. The chart below indicates that consumers alter their buying behavior even with changes in fluid milk price. This is much more true with food service behavior toward manufactured dairy product prices.



The Dairy Outlook

Many factors look different at the end of 2008 than they did at the beginning of the year. For instance, Oceania has begun their 2008-09 milk production season with a strong start. Both Australia and New Zealand have increased milk production and, barring a recurrence of last year's drought, expect to export more milk products than they did last year. Also, the rest of the world's economies are following the United States economy down into a recession. And, as if this weren't bad enough news for U.S. exports, our dollar has strengthened significantly against most currencies. It is an almost sure thing that U.S. dairy exports will be well down in 2009.

If exports are down, the milk that would have been used to produce those products will be pushed back onto our domestic market. Unfortunately, I expect that our own domestic economy will suffer through all of 2009 and dairy products will not escape the consumer belt tightening. Table 6.1 is a U.S. Supply and Utilization table that tries to pull together these expected outcomes. I have commercial disappearance, which includes domestic consumption and non-government exports, as being up just slightly in 2009—well below trend. I also have U.S. milk production barely increasing over the year with cow numbers in decline and productivity below trend. Still, this causes an increase in commercial inventories which I think most manufacturers will be reluctant to do in the face of falling prices. Net Removals are the line item to pick up the slack.

Net Removals are purchases of dairy products by the Commodity Credit Corporation (CCC). In the two months since the beginning of October, 2008, the CCC has already purchased nearly 70 million pounds of nonfat dry milk. This is equivalent to nearly 1 billion pounds of milk production and I think that the CCC will be purchasing quite a bit more dairy product throughout the rest of 2009.

CCC purchases have implications for milk prices. If prices were to fall to support levels, then we would be looking at something like \$10 milk. I don't think that this is likely as exports would pick up at those levels of prices thus pushing market prices above support. However, I am expecting farm milk prices to drop by about \$2.50 from year earlier levels and, 2008 prices were already more than a dollar below 2007 levels. Milk prices will have to be low enough to discourage milk production and clear the markets.

If there is a silver lining to this forecast, it is that oil prices have fallen from recent highs near \$140 a barrel to below \$50 a barrel. This will considerably ease dairy farm costs of fuel, fertilizer and feed and ultimately, it will help consumers to climb out from under the dark cloud of recession and begin to increase purchases again. As an example, December 08 futures for corn have fallen from a high above \$6.00 a bushel in August of 2008 to less than \$3.50 a bushel three months later.

Dairy Policy

2007 was a Farm Bill year and legislation was passed. The bill contained only minor changes for dairy but did include an extension of the Dairy Export Incentive Program which might see some usage this year and an alteration to the Milk Income Loss Contract (MILC) program. The new program raises the production cap from 2.4 million pounds to 2.985 million and it increases the percentage payout above the trigger price from 34 percent to 45 percent. However, the biggest change was a means of raising the trigger price based on changes in the feed price. Currently, using futures market values for milk and feed prices, I don't expect any MILC payments in 2009. However, there are several months where the trigger price is close to being invoked and the possibility of payments exists if milk prices decline faster than feed prices.

The Farm Bill also called for the formation of a Federal Milk Marketing Order review commission. The commission was not funded in the Farm Bill and it is doubtful if it will ever be formed to carry out its task.

Federal Milk Marketing Orders did increase make allowances slightly in 2008 and there was an emergency hearing which resulted in changes to class I differentials in the Southeast. In the year ahead, I don't expect many dramatic changes in the order system but there are folks across the country who are talking about a national hearing to consider the entire class I price surface again. It is possible that such a hearing would be convened but it is unlikely that any such changes in Federal Orders would be promulgated in the year ahead.

The results of recent elections raise several questions with regard to dairy policy. One is who will be named the next Secretary of Agriculture. Another is whether the recently passed Farm Bill would be opened up for new considerations. Having a Democratic House, Senate and Administration could bring new policy affecting dairy in the year ahead.

Table 6-2. National Farm Prices for Milk; CCC Purchase, Wholesale, and Retail Prices for Cheddar Cheese, Butter, and Nonfat Dry Milk; and Selected Retail Price Indices, 1998–2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Farm Milk (\$/cwt.)											
All Milk (ave. fat)	15.50	14.38	12.40	15.04	12.18	12.55	16.13	15.19	12.96	19.21	18.29
Class III (3.5%)	14.20	12.43	9.74	13.10	10.42	11.42	15.39	14.05	11.89	18.04	17.37
Support (3.5%)	9.95	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
Milk Price: Feed Price Value	3.34	3.59	3.05	3.39	2.60	2.61	3.10	3.24	2.56	2.80	2.17
MILC payments ^c	0.00	0.00	0.00	0.06	1.21	1.09	0.22	0.04	0.61	0.07	0.00
Cheddar Cheese, Blocks (\$/lb.)											
CCC Purchase	1.115	1.100	1.122	1.131	1.131	1.131	1.131	1.131	1.131	1.131	1.131
Wholesale, Chicago Mercantile Exchange	1.569	1.404	1.149	1.439	1.182	1.317	1.649	1.492	1.239	1.758	1.862
Butter (\$/lb.)											
CCC Purchase, Grade A or higher, Chicago	0.650	0.650	0.668	0.855	0.855	1.050	1.050	1.050	1.050	1.050	1.050
Wholesale, Gr. AA, Chicago Merc. Exchange	1.769	1.229	1.177	1.663	1.106	1.145	1.817	1.549	1.236	1.368	1.498
Nonfat Dry Milk											
CCC Purchase, Unfortified (\$/lb.)	1.028	1.010	1.010	0.900	0.900	0.800	0.800	0.800	0.800	0.800	0.800
Wholesale, Central States	*1.069	1.031	1.015	1.004	0.928	0.838	0.858	0.985	1.001	1.804	1.300
Retail Price Indices (1982–84=100.0)											
Whole Milk	147.9	156.2	156.9	165.9	162.1	162.5	183.4	184.9	181.6	205.4	218.6
Cheese	152.3	162.6	162.8	167.6	170.0	169.4	180.8	183.3	180.8	191.5	212.7
All Dairy Products	150.8	159.6	160.7	167.1	168.1	167.9	180.2	182.4	181.4	194.8	209.8
All Food	161.1	164.6	168.4	173.6	176.8	180.5	186.6	191.2	195.7	203.3	212.7
All Consumer Prices	163.0	166.6	172.2	177.1	179.9	184.0	188.9	195.3	201.6	207.3	216.0

Source: Dairy Situation and Outlook, Dairy Market News, and Federal Milk Order Market Statistics, U.S. Department of Agriculture.

^a Revised.

^b Estimated by Mark Stephenson.

^c Milk Income Loss Contract payments began in October of 2001.

The Northeast Dairy Situation and Outlook

Receipts of Producer Milk by State, 1000s Pounds Northeast Federal Milk Marketing Order													
	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Total
CT	31,049	28,383	31,580	30,427	31,085	29,150	29,141	28,756	27,577	28,193	27,329	28,796	351,466
ME	48,091	42,662	47,506	46,409	49,188	49,199	50,401	49,593	47,756	48,492	46,618	48,375	574,290
MA	20,949	18,665	20,674	20,088	20,711	19,539	19,806	19,453	18,533	19,021	18,289	19,212	234,940
MD	75,004	67,140	84,740	75,335	78,337	75,525	73,326	68,821	68,052	70,385	70,096	74,509	881,270
NJ	13,684	12,311	13,694	13,167	13,723	12,583	12,780	23,205	22,481	22,955	22,271	13,004	195,858
NY	790,799	711,246	798,168	779,669	816,907	743,663	810,212	906,372	856,321	905,442	859,864	868,770	9,847,433
PA	633,885	573,395	684,456	673,559	708,775	668,492	681,273	653,055	628,187	654,903	645,275	678,530	7,883,785
VT	214,962	192,010	212,638	206,830	215,751	208,117	213,498	211,602	202,489	208,972	202,786	213,203	2,502,858
VA	7,498	7,095	8,266	8,161	8,401	8,201	8,048	7,684	7,619	8,111	8,524	8,512	96,120
Other Regional*	24,678	22,447	25,352	24,520	25,278	24,136	24,562	13,684	13,294	13,560	13,507	24,596	249,614
Other States**	18,560	16,997	21,853	23,292	20,286	17,973	17,946	16,158	14,438	16,322	18,056	17,942	219,823
Total	1,879,159	1,692,351	1,948,927	1,901,457	1,988,442	1,856,578	1,940,993	1,998,383	1,906,747	1,996,356	1,932,615	1,995,449	23,037,457

* Includes data for the states of New Hampshire, and Rhode Island.

** Represents restricted data for the states of Delaware, Indiana, Iowa, Michigan, North Carolina, Ohio, West Virginia, and Wisconsin.

Source: Northeast Monthly Federal Milk Order Market Statistics .

Dairy producer numbers have declined for many years as remaining farms have become larger. The Northeast is about 8 billion pounds of milk net deficit in total production. This can make pooling milk on this order attractive to distant producers. Producers from states as far away as Ohio, Michigan, Delaware, West Virginia and even North Carolina, Indiana and Iowa have pooled milk on this order.

It may be of interest to note that in July of 2008, Idaho surpassed New York as the number 3 milk producing state in the country.

Number of Producers by State Northeast Federal Milk Marketing Order													
	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Total
CT	142	140	141	141	139	140	138	136	135	134	137	135	138
ME	339	337	336	338	335	338	336	333	333	332	333	334	335
MA	166	164	163	163	164	164	163	521	524	518	515	166	283
MD	506	507	514	513	502	505	518	163	163	161	164	511	394
NJ	109	108	107	106	105	105	104	104	104	103	103	102	105
NY	5,192	5,196	5,178	5,205	5,190	4,928	5,111	5,118	5,099	5,095	5,086	5,078	5,123
PA	5,908	5,879	5,970	5,928	5,911	5,954	5,999	6,005	5,956	5,960	5,957	5,964	5,949
VT	1,121	1,112	1,105	1,110	1,118	1,094	1,085	1,086	1,087	1,090	1,087	1,082	1,098
VA	69	59	72	74	74	84	85	80	84	77	73	72	75
Other Regional*	145	146	149	150	150	149	147	147	146	145	148	147	147
Other States**	204	205	256	268	243	218	206	242	228	212	253	208	229
Total	13,901	13,853	13,991	13,996	13,931	13,679	13,892	13,935	13,859	13,827	13,856	13,799	13,877

* Includes data for the states of New Hampshire, and Rhode Island.

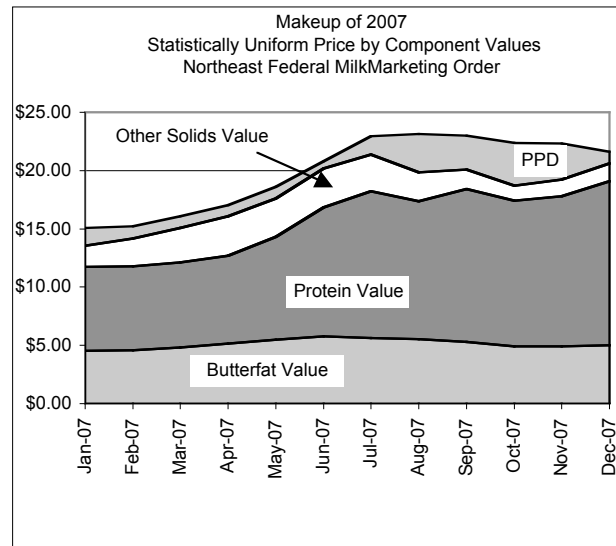
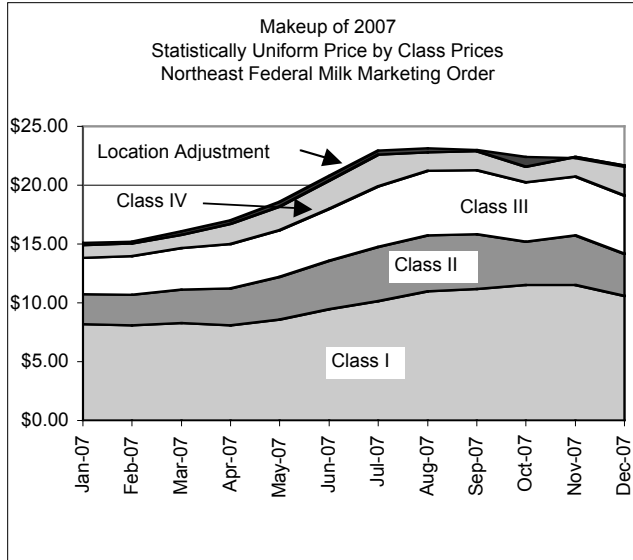
** Represents restricted data for the states of Delaware, Indiana, Iowa, Michigan, North Carolina, Ohio, West Virginia, and Wisconsin.

Source: Northeast Monthly Federal Milk Order Market Statistics .

Class Utilization and Prices Northeast Federal Milk Marketing Order												
	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
Class I Utilization	48.6%	48.6%	47.4%	44.3%	44.6%	44.8%	42.0%	43.8%	44.5%	46.4%	46.7%	45.4%
Class II Utilization	19.7%	20.0%	20.9%	21.6%	21.8%	21.9%	21.4%	21.3%	20.9%	20.3%	19.0%	17.3%
Class III Utilization	23.0%	23.0%	23.4%	23.4%	22.8%	22.0%	24.2%	27.6%	27.0%	26.9%	26.1%	23.9%
Class IV Utilization	8.7%	8.5%	8.4%	10.7%	10.7%	11.4%	12.4%	7.2%	7.6%	6.4%	8.2%	13.3%
Class I Price	\$16.84	\$16.64	\$17.50	\$18.25	\$19.17	\$21.09	\$24.16	\$25.01	\$25.16	\$24.84	\$24.70	\$23.29
Class II Price	\$12.85	\$13.08	\$13.60	\$14.51	\$16.62	\$18.89	\$21.40	\$22.41	\$22.16	\$21.90	\$22.07	\$20.82
Class III Price	\$13.56	\$14.18	\$15.09	\$16.09	\$17.60	\$20.17	\$21.38	\$19.83	\$20.07	\$18.70	\$19.22	\$20.60
Class IV Price	\$12.53	\$12.71	\$13.71	\$16.12	\$18.48	\$20.76	\$21.64	\$21.87	\$21.61	\$21.31	\$20.40	\$19.18
Butterfat Price	\$1.30	\$1.31	\$1.38	\$1.47	\$1.57	\$1.65	\$1.61	\$1.59	\$1.51	\$1.41	\$1.41	\$1.43
Protein Price	\$2.41	\$2.41	\$2.43	\$2.52	\$2.94	\$3.71	\$4.21	\$3.94	\$4.39	\$4.17	\$4.31	\$4.71
Other Solids Price	\$0.32	\$0.42	\$0.53	\$0.60	\$0.58	\$0.58	\$0.55	\$0.44	\$0.29	\$0.23	\$0.25	\$0.26
PPD	\$1.53	\$1.03	\$0.99	\$0.93	\$1.00	\$0.63	\$1.56	\$3.31	\$2.92	\$3.68	\$3.09	\$0.99

Source: Northeast Monthly Federal Milk Order Market Statistics .

The graphs below are created from the data above. They illustrate the where the money in the Northeast Federal Order pool is coming from and how it is being paid out. The first graph shows the contribution of processors from the four classes of milk to the pool. The second graph shows the disbursement of the pool dollars to producers in component values and the Producer Price Differential. Protein values dominated the contribution of components in the second half of the year.



MILK PRICE PROJECTIONS*			
Northeast Federal Order Blend Price			
3.5 Percent, Suffolk County, Massachusetts			
Last Quarter 2007-2008, Four Quarters 2008-2009			
Month	2007	2008	Difference
(dollars per hundredweight)			
October	22.38	17.44	-4.94
November	22.31	17.56 ^a	-4.75
December	21.59	16.44 ^a	-5.15
<i>Fourth Quarter Average</i>	22.09	17.15 ^a	-4.95
Annual Average	19.85	18.76^a	-1.09
Month	2008	2009 ^a	Difference
(dollars per hundredweight)			
January	20.97	16.01	-4.96
February	19.54	15.50	-4.04
March	17.89	15.26	-2.63
<i>First Quarter Average</i>	19.47	15.59	-3.88
April	18.55	15.58	-2.97
May	18.18	15.62	-2.56
June	19.56	16.07	-3.49
<i>Second Quarter Average</i>	18.76	15.76	-3.01
July	20.61	16.44	-4.17
August	19.50	16.71	-2.79
September	18.90	16.86	-2.04
<i>Third Quarter Average</i>	19.67	16.67	-3.00
October	17.44	16.95	-0.49
November	17.56 ^a	17.01	-0.55
December	16.44 ^a	16.99	0.55
<i>Fourth Quarter Average</i>	17.15 ^a	16.98	-0.16
Annual Average	18.76^a	16.25^a	-2.51

* Averages may not add due to rounding.

^a Projected.