

Overview

U.S. dairy markets received a one-two punch during the first weeks of June in the form of collateral damage from the developing tariff wars between the United States and some of its major trading partners. First came Mexico's announced imposition of retaliatory tariffs on most cheeses imported from the United States, followed by China's similar action on virtually all U.S. dairy product imports.

These actions have set back the improvement in the U.S. milk price outlook for this year that has been slowly developing over the past few months. Judging by the dairy futures market reactions, based on price expectations from a few days before the Mexico announcement to a few days after the one from China, the dairy futures estimated the average price impact during the second half of 2018 as a loss of about \$1.10/cwt. for these two actions. A more formal economic analysis points to about this same effect.

The futures are constantly changing, and could improve in their general outlook, especially if the issues underlying these governmental actions are resolved and the proposed increased tariffs withdrawn. But this market snapshot, taken during the brief period when the tariff actions dominated the news about the dairy outlook, can be viewed as broadly indicative of the potential negative impact of those actions, given that they took place during a time when other indicators of the dairy outlook were largely positive, particularly with respect to increased exports and slower milk production growth.

Commercial Use of Dairy Products

Domestic commercial use of milk in all products declined on a skim solids basis during February–April, as skim ingredient exports surged. Domestic use of cheese was relatively robust

during this recent period, particularly for American-type cheese. On a moving three-month average basis, total fluid milk sales have declined year-over-year each month for more than two years. The rate of decline during February–April was just slightly above the average rate over this longer period.

Domestic Commercial Use	Feb–Apr 2018	Feb–Apr 2017	2017–2018 Change	Percent Change
	(million pounds)			
Total Fluid Milk Products	11,677	11,860	-183	-1.5%
Butter	446	434	13	2.9%
American-type Cheese	1,197	1,148	49	4.3%
All Other Cheese	1,754	1,716	38	2.2%
Nonfat Dry Milk / Skim Milk Powders	206	237	-31	-13.2%
All Products (milk equiv., milkfat basis)	50,016	49,844	172	0.3%
All Products (milk equiv., skim solids basis)	43,375	43,739	-364	-0.8%

U.S. Dairy Trade

Surging exports of dairy ingredients, led by skim milk powder, lactose and whey protein concentrate, are driving total U.S. dairy exports to record volume levels so far in 2018. April exports set an all-time record for a single month for both volume of milk solids exported and percentage of total U.S. milk solids production exported. Total April dairy exports were equivalent to 18.8 percent of U.S. milk solids production during April, more than a full percentage point above the previous monthly record of 17.7 percent set in March 2014.

The estimated milk solids content of April exports was almost 5 percent higher than the previous record volume set just the month before, and almost 12 percent above the record before that, again in March 2014. However, March 2014 retains the record for the highest value of U.S. dairy exports for a single month. In fact, the five highest months for U.S. dairy export values are

those in the span of March through July of 2014, due to both the high volume of exported products and record-high export prices at that time.

As of April 2018, the product categories that accounted for almost two-thirds of the volume of milk solids imported into the United States during the first four months this year, cheese and concentrated milk proteins, extended their continuing decline, on a moving three-month basis, to at least a full year.

Milk Production

Expansion of the nation's dairy cow herd is slowing to levels last experienced in 2016, which is to say virtually unchanged from a year earlier. The slowdown helped to cut the annual increase in U.S. milk production to just above 1 percent during February–April, with April production up just 0.6 percent. Milk solids production was up by an additional half percentage point

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U.S. Dairy Exports	Feb–Apr 2018	Feb–Apr 2017	2017–2018 Change	Percent Change
		(metric tons)		
Butter	6,604	3,934	2,670	68%
Anhydrous Milk Fat/Butteroil	4,236	899	3,337	371%
Cheddar Cheese	16,146	9,826	6,319	64%
American–type Cheese	16,236	9,927	6,309	64%
Total Cheese	94,859	84,369	10,491	12%
Nonfat Dry Milk/Skim Milk Powder	208,293	155,940	52,353	34%
Whole Milk Powder	14,850	6,198	8,652	140%
Dry Whey	94,570	88,461	6,109	7%
Whey Protein Concentrate/Isolate	58,342	42,567	15,775	37%
Lactose	109,537	89,168	20,369	23%
Percent of Milk Solids Exported	17.8%	14.5%	3.3%	23%

U.S. Dairy Imports	Feb–Apr 2018	Feb–Apr 2017	2017–2018 Change	Percent Change
		(metric tons)		
Butter	6,380	5,915	465	8%
Cheese	38,728	43,309	-4,581	-11%
Nonfat Dry Milk/Skim Milk Powder	200	132	69	52%
MPC (all protein levels)	14,002	15,566	-1,565	-10%
Casein	14,092	15,564	-1,472	-9%
Percent of Milk Solids Imported	3.1%	3.5%	-0.4%	-11%

Milk Production *from page 2*

over the increase in raw milk production. Most of the 23 states for which USDA reports monthly milk production have followed the United States as a whole over the past few months in experiencing slowing milk production growth. In most of the others, production was static.

Dairy Products

Although USDA reports that total commercial use of nonfat dry milk and skim milk powder combined is up by double-digit percentages, led by very strong export growth, combined

production of the two products grew by less than 2 percent during February–April. The recent export growth has instead been fueled by drawing down product stocks. The monthly growth rate for total cheese production has been broadly correlated with growth in total milk production in recent months.

Dairy Product Inventories

April's 5-percent increase in butter stocks over a year earlier caught the attention of the markets, but the April stock level was only a few days of commercial use above the average for that month. April and May have the highest average levels for seasonally cyclical butter stocks. The surge in nonfat dry

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Milk and Dairy Products Production	Feb–Apr 2018	Feb–Apr 2017	2017–2018 Change	Percent Change
Milk Production				
Cows (1,000 head)	9,403	9,380	23	0.2%
Per Cow (pounds)	5,783	5,732	51	0.9%
Total Milk (million pounds)	54,378	53,766	612	1.1%
Total Milk Solids (million pounds)	6,981	6,869	113	1.6%
Dairy Products Production		(million pounds)		
Cheese				
American Types	1,282	1,255	27	2.2%
Cheddar	933	945	-12	-1.3%
Italian Types	1,359	1,324	35	2.7%
Mozzarella	1,050	1,023	26	2.6%
Total Cheese	3,162	3,087	75	2.4%
Butter	527	500	28	5.5%
Dry Milk Products				
Nonfat Dry Milk	503	477	26	5.4%
Skim Milk Powder	129	144	-15	-10.6%
Dry Whey	266	249	16	6.5%
Whey Protein Concentrate	125	121	4	3.7%

Dairy Product Inventories	Apr 2018	Mar 2018	Apr 2017	2017–2018 Change
		(million pounds)		
Butter	307	274	292	5%
American Cheese	781	767	805	-3%
Other Cheese	565	558	499	13%
Nonfat Dry Milk	274	298	267	2%

Dairy Product Inventories *from page 3*

milk/skim milk powder exports over the past few months has been supplied by inventory draw-downs rather than production growth. Stock levels reached a recent peak surplus level in September 2017, but had dropped to slightly deficit by this past April.

Dairy Product and Federal Order Class Prices

May was the second month in a row during which the prices of the four basic dairy commodities reported by USDA/AMS all rose from the month before. December 2016 was the last time

this had occurred prior to this April. The four federal order class prices were also all up over a month earlier in both April and May, for the first time since August 2017. These are continued signs of a general recovery in milk prices that has been building during the spring of 2018.

U.S. average retail prices for fluid whole milk reported by the U.S. Bureau of Labor Statistics are about \$0.40/gallon less than at the beginning of 2017, but that rapid and sizeable drop seems to have encountered a floor of about \$2.90/gallon over the past several months. By contrast, following a similarly dramatic fall that ended in May 2017, the retail price of natural Cheddar cheese has subsequently regained about half of that earlier drop.

Dairy Product and Federal Order Prices	May 2018	Apr 2018	May 2017	2017–2018 Change
AMS Commodity Prices		(per pound)		
Butter	\$2.338	\$2.245	\$2.164	\$0.174
Cheese	\$1.635	\$1.574	\$1.539	\$0.096
Nonfat Dry Milk	\$0.794	\$0.713	\$0.870	-\$0.077
Dry Whey	\$0.271	\$0.259	\$0.509	-\$0.238
Class Prices for Milk		(per hundredweight)		
Class I Mover	\$14.44	\$14.10	\$15.20	-\$0.76
Class III	\$15.18	\$14.47	\$15.57	-\$0.39
Class IV	\$14.57	\$13.48	\$14.49	\$0.08
Retail Dairy Product Prices				
Fluid Milk (per gallon)	\$2.919	\$2.924	\$3.242	-\$0.323
Cheddar Cheese (per pound)	\$5.131	\$5.030	\$4.748	\$0.383

Milk and Feed Prices	Apr 2018	Mar 2018	Apr 2017	2017–2018 Change
Producer Prices				
All Milk (per cwt.)	\$15.80	\$15.60	\$16.50	-\$0.70
Feed Prices				
Corn (per bushel)	\$3.58	\$3.51	\$3.43	\$0.15
Soybean Meal (per ton)	\$386	\$380	\$306	\$80
Alfalfa Hay (per ton)	\$183	\$166	\$148	\$35
2014 Farm Bill Feed Cost (per cwt.)	\$9.18	\$8.83	\$7.95	\$1.23
2014 Farm Bill Margin (per cwt.)	\$6.62	\$6.77	\$8.55	-\$1.93

Milk and Feed Prices

The U.S. average all-milk price rose \$0.20/cwt. from a month earlier in April, while the Margin Protection Program (MPP) feed cost formula increased by \$0.35/cwt. over the same period, thus dropping the MPP margin by \$0.15/cwt. to \$6.62/cwt. for April. Each month since January, all three feed cost components of the MPP feed cost formula have risen from a month earlier. In April, the largest contribution to the monthly increase came from a higher alfalfa hay price, which boosted the MPP feed cost by \$0.23/cwt. of milk, out of the total \$0.35 increase. This was the largest hay price-generated increase in the MPP feed cost by far since May 2014.

Looking Ahead

USDA has lowered its monthly forecasts of 2018 U.S. milk production for the past two months by a total of one billion pounds, but raised its mid-point projection of the U.S. average all-milk price by almost \$1.00/cwt. over the same two months. This puts the department's updates of these two key indicators

of the U.S. dairy outlook back into their expected relationship with each another. This followed the better part of a year during which USDA's monthly outlook updates mostly dropped both their production and their price forecasts. However, contrarianism remains at work with respect to the major sources of information on U.S. dairy outlook. The dairy futures were showing an improving milk price outlook while USDA was still lowering its forecast. But now that USDA is showing price improvement, the futures have gone south, battered by the tariff wars that have broken out this month. However, one point of agreement was that, at the time USDA released its June update, the futures and USDA were both pointing to the same average milk price for calendar year 2018: \$16.80/cwt. As of the third week in June, despite the tariff-related resets, the futures continued to indicate that the monthly milk price will rise steadily through late in the year. It may be that the worst of the news affecting the dairy outlook, following the tariff retaliation announcements, is already baked into the futures, in which case there will be more upside than downside potential to the outlook going forward.

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