

The Milk Economics of the COVID-19 Pandemic

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Milk has been in the news over the past few months as much as any food or farm commodity. Empty shelves in the dairy case, milk dumped at the farms, and billion-dollar government programs illustrate the complexities of milk economics during the pandemic.

Four basic facts about milk demand and supply are crucial to understanding the recent news, the current situation, and the outlook. First, fluid milk products—whether gallons at supermarkets, cartons at schools, or with coffee in cafes—represent a small share of the use of farm milk. Almost 80% of California-produced milk is used to make butter, milk powder, or cheese, which is shipped across the country and around the world.

Second, about 20% of milk is typically processed and packaged for food away from home. Third, the quantity consumed is relatively insensitive to price. Fourth, cows produce milk every day, and even with low prices, a farm cannot turn off the milk one day and start back a month later when markets look better. Moreover, raw milk produced each day must be processed immediately.

In the immediate aftermath of the shutdown of restaurants, schools, and many places of employment, dairy processors and marketers scrambled to shift products into grocery stores, where demand had surged. Some products, such as milk already in

school-size cartons, were not easy to adapt. Others, such as certain cheeses, which were designed for menu items, such as pizza, tacos, and cheese burgers, that were often purchased away from home, were moved into storage. The resulting mismatch left a few weeks of unfulfilled retail demand while processors worked overtime to prepare the right products for the larger retail market. As a result, the average retail prices of dairy products were almost 2% higher in April compared to February.

The domestic market disruption and a decline in exports, especially of milk powders to Mexico and Asia, caused storage capacity to fill, while about 10 million U.S. cows kept the milk flowing. Mexico and other importers have been hit by the same economic disruption and recession as experienced in the United States, and their imports of dairy products are responding to lower income and income prospects. By the middle of April, futures prices of milk used for products such as butter, milk powder, and cheese had fallen by more than one-third, reaching depths that were not economically sustainable, even for the most efficient California dairy farms.

In part because of the severity of the milk price collapse, Congress supplemented existing subsidy programs with new ad hoc payments. Nationally, direct payments to dairy farms are expected to add about \$3 billion, or

about 7%, to annual revenue. However, much California milk production may be ineligible for compensation because farms here are relatively large. Finally, USDA will begin purchasing dairy products that will be distributed through food banks and other programs to those in need, which may raise farm prices a little.

Dairy markets have risen since price lows in April. As of the middle of May, the futures price of milk for cheese has made up most of its losses. However, identical milk that is designated for butter and dry milk powder, remains down by about one-quarter. Prices of identical milk differ by use because of peculiarities of government milk marketing regulations. Table 1 shows the divergent pattern of milk product prices. Cheese and whey (and the milk used to produce those products) are near to or above the prices of a year ago. The prices of nonfat dry milk and butter (and of the raw milk used for those products), remain depressed by 15% and 36% below last year, despite rising in recent weeks.

Dairy farm prices and incomes are expected to crawl slowly back, but remain below normal for the rest of this year. Much depends on the depth of the global recession and when the demand for milk recovers. California and U.S. milk production is likely to fall and dairy farms will exit because they do not see profitability soon enough to make hanging on worthwhile. The full recovery seems many months away.

Author's Bio

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Table 1. Dairy Product Price Patterns

	May 15, 2020	Change from last week	Change from last year
	\$/Pound	Percent	Percent
Cheddar Cheese	1.60	+25	-4
Dry Whey	0.40	-0.5	+12
Nonfat Dry Milk	0.89	+9	-15
Butter	1.50	+20	-36

Source: Chicago Mercantile Exchange.