



July 2001

Farm to Retail Price Relationships for Fluid Milk

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The relationship between farm prices and the retail prices of milk and dairy products has received a great deal of attention recently. As farm milk prices fell to low levels last year, farm groups questioned why the price of milk at the supermarket didn't seem to be falling to the same degree. When the issue of the relationship between farm and retail prices arises, it is often focused on fluid milk, because that product undergoes relatively little transformation from the farm to the supermarket. The decline in the proportion of the consumers' dollar received by dairy farmers is often cited as evidence that "something is wrong" with farm to retail price relationships.

How have farm-to-retail price relationships for fluid milk changed over time? To explore this question, it is helpful to adopt a long-term perspective. During the past 30 years, both farm and retail prices have increased for fluid milk (Figure 1). Since 1990, farm milk prices have been highly variable but average prices have not increased. National average prices of fluid milk at the farm and retail level tend to be highly related over this period.

The *gross marketing margin* is defined as the difference between the retail price and the farm equivalent value of the milk used in the product. It includes all costs associated with transforming, transporting, and selling the product at the wholesale and retail level, it is not directly equivalent to profits earned by wholesalers and retailers. For fluid milk, the gross farm-to-retail marketing margin has increased in steps over the last 30 years. What accounts for

widening marketing margins? A variety of factors have been advanced as the underlying cause, all of which likely have some merit. At a basic level, however, increases in the marketing margin over time can reflect increases in marketing costs (for processing, transportation, distribution, etc.), increases in the profit margins of processors, wholesalers, or retailers, or a combination of the two.

There are four underlying reasons for these increases in the gross marketing margin for fluid milk: increased costs of labor, packaging, and fuel for fluid milk processors and food retailers; costs associated with development of new products and changes in the packaging; changes in retailer perceptions about the role of milk and milk prices in the retail store; and consolidation of firms in milk processing and retailing. Statistical analyses of national-average data indicate that much of the increase in gross marketing margin is associated with increased costs for processors and retailers. That is, increases in margins do not reflect primarily increases in profits by dairy processing companies or retailers at the expense of dairy farmers.

Another main theme in the debate about dairy price relationships concerns whether dairy product prices respond “adequately” to changes in the underlying farm milk price. There is a commonly-held perception that retail prices can and should respond immediately and to both increases and decreases in the farm milk price. It is often stated that retail prices of dairy products respond only to increases in the farm milk price, but not to decreases. This “asymmetric” response to price changes is seen as evidence that wholesalers and retailers are taking advantage of farmers and consumers by using variation in farm milk prices to increase profits.

Statistical analysis of what is called “price transmission” from the farm to retail level is used to examine this question. A number of studies have been made since the mid-1980s, and most of them have found evidence that wholesalers and retailers respond more quickly to farm milk price increases than to decreases, at least over the period of a few months. As a result, wholesalers and retailers tend to earn higher net margins for a short time when farm prices drop than if they responded equally to farm price increases and decreases. This “short-run asymmetry” is sometimes cited as evidence of unfair treatment of farmers and consumers. However, it can also be viewed as a retailing strategy that helps maintain price stability for consumers, because retailers tend not to pass on the full amount of a farm-price increase. The evidence about the long-run effects of price changes at the farm level, where an increase in the

farm milk price results in a permanent increase in the retail price even if farm prices subsequently decrease, is much less consistent. This “long-run asymmetry” has been found in certain periods in certain regional markets, but does not seem to characterize all fluid milk markets at all times.

It is helpful to consider additional sources of information to evaluate how marketing margins for milk have changed over the last three decades. One is whether increases in retail dairy product prices and margins are in line with increases for food products more generally. A 1999 USDA study reported that retail prices for all food items increased 61% from 1982 to 1997, but retail prices for dairy products increased only 47%. This suggests that retail price and marketing margin increases for dairy products are similar to—but somewhat less than—increases for other food products. A second source of information is the profitability of dairy processors and food retailers over time. Many dairy processors are privately held firms, so information on their profitability over time is largely unavailable. Profitability information reported by Coopers and Lybrand for 12 US dairy processing companies in 1999 indicated that the average return on assets was 3.7%, far less than the 11.9% average for all food industry companies. Publicly-traded food retailers earned about 3% return on assets in 1999. These figures suggest that fluid milk processing and food retailing are low net margin, volume-driven businesses.

In summary, the gross marketing margin for fluid milk has increased over the past 30 years. This is primarily due to increases in costs of processing and retailing. There is a strong relationship between farm and retail prices, although for short periods of time retail prices may increase more rapidly than they decrease in response to changes in the farm milk price.

This article is adapted from “Farm to Retail Price Relationships for Fluid Milk and Dairy Products”, a “weblet” available at the Cornell Program on Dairy Markets and Policy website, www.cpdmp.cornell.edu.

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