The Evolution of Dairy Price Discovery and Risk Management

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While new in some parts of the world, dairy futures trading started in the early-mid 1990's in the U.S. at both the New York Coffee, Sugar, and Cocoa Exchange (CSCE) and the Chicago Mercantile Exchange (CME). By the late 1990's, the CME became the central marketplace for futures and cash trading of the main U.S. dairy products. Since that time, cash markets transitioned from weekly to daily, futures trading hours expanded to 23 hours per day, and futures and cash trading moved from open outcry in the pits to electronic platforms.

The CME spot market has long been the central price discovery point for cheese and butter. Several years ago, the NFDM trading rules were modernized and the market became relevant. In 2013, only 120 loads of spot NFDM were traded at the CME. In 2016, nearly 800 loads of NFDM traded and 170 loads traded in Q1 2018. This trend is seen in total dairy spot trading as well. In 2013, 1,715 spot loads were transacted for the year. In 2017, nearly 4,700 spot loads of cheese, butter, and NFDM traded following the transition to the electronic platform. While there was concern by some about losing liquidity, it is clear electronic trading has been a boon to dairy markets.

In addition to cheese, butter, and NFDM, advances are being made in price discovery for several whey products. In March, the CME launched a new spot dry whey contract. The goal is to provide a more timely price signal to the whey market. By making the weekly USDA National Dairy Products Sales Report (NDPSR) dry whey price more responsive to current market conditions, it will also help improve the effectiveness of dry whey futures by reducing basis risk.

In addition to the new spot whey market, Global Dairy Trade (GDT) recently launched a U.S. multi-seller pool for lactose. After consulting with participants in the whey industry, there was an identified need for improved price discovery for whey products. Lactose was chosen given the high volume of U.S. exports aligns with GDT's customer base. A multi-seller pool was developed that aggregates volumes and prices across multiple sellers. Early results have reflected lackluster demand for lactose, but the goal is to develop a credible, market-based reference price for U.S. lactose.

For the other whey products, more work needs to be done to improve the price discovery process. Opportunity exists in whey permeate, whey protein concentrate (WPC), and even whey protein isolate. Some will say there is too much differentiation in those products to develop a commodity specification. However, price ranges could be reported, similar to today's Dairy Market News price series, to at least give indicative prices. For products like WPC 34 and whey

permeate, there may be more interest in developing a spot/cash market similar to dry whey and lactose.

The U.S. in not alone in making improvements to price discovery for milk and dairy products. In Europe, the EEX trades futures contracts for butter, whey, and SMP. Unlike the U.S., there is no "official" milk price on which to base a futures contract. Work is being done to develop some sort of centralized market or price report. In addition, futures trading and hedging are new concepts to dairy farmers in Europe, just like they were to most dairy farmers in the U.S. 20 years ago. As the U.S. example has shown, it will take time to develop the proper hedging mechanisms for farmers. However, Europe can use learnings from the U.S. and other commodities to fast-adapt and develop tools needed by the marketplace.

In Oceania, the New Zealand Stock Exchange, NZX, offers futures and options contracts based on several GDT products. Volume has grown over time, and as liquidity increases, more market participants become involved as illustrated by the growth in the CME markets. The method of pricing milk is quite different than the U.S., but NZX started a milk futures contract in May 2016 allowing farmers to hedge against the projected payout from Fonterra. In Australia, work is being done to improve price discovery and transparency for farmers. There are no futures contracts for dairy products, but research has been conducted to determine what other tools could be used to manage dairy price volatility.

While improvements are being made in price discovery and risk management tools, it should be pointed out that government policies, while well intentioned, can and will disrupt market signals. A visible example of this is the current situation with SMP stocks in the EU intervention program. Similar to the old Commodity Credit Corporation and the U.S. support price program, the EU intervention program stands as a ready buyer for surplus product, in this case, skim milk powder. The goal in the short-term is to provide support for farmers' milk prices. If the volumes entering the intervention program are small, they can be reintroduced to the market over time without much impact. However, the EU program has built up a large stockpile of SMP, which has negatively impacted the global market for milk powders, and will continue to do so until the inventory is absorbed. Politicians believe this intervention is helpful, when in reality, these actions often end up prolonging the downturn in prices by interfering with market signals.

I grew up on a grain farm and worked in the grain industry before starting in dairy. In the grain markets, futures contracts have long been used for price discovery with local prices determined as a basis to futures. I am convinced the same could work for milk and dairy products. My vision has been to have fully functional, liquid futures markets for price discovery and commercial transactions. To achieve this vision, the industry needs timely and accurate market information, which includes government reports and spot market prices. The more we do to improve the quality and availability of market information, the industry will benefit from better price transparency throughout the dairy supply chain.