Milk pricing parameters – food for thought

Clearing the market

Determining a minimum price in the market place is tricky. If milk prices are set much lower than "market-clearing" levels then there is little benefit to having an order determining minimum prices. However, a much bigger problem exists if minimum prices are higher than "market-clearing" levels. In this case, milk producers will want to sell more milk than consumers are willing to buy. **Discovering a value for most products has never been easy but seems to be particularly difficult for milk.** Non-perishable products have the advantage of storability. If you don't like the price, a buyer's willingness to pay can be challenged by withholding product for a period of time. With most products, a demand curve can be examined by speeding up or slowing down production—something that is also difficult in the short-run with milk. It has also been true that there are many fewer buyers of milk than sellers and these characteristics, among others, have traditionally been thought to put dairy farmers at a disadvantage in the marketplace. This disadvantage has been neutralized by regulation in many countries of the world including the United States. – Excerpt from Milk Pricing Discovery – Alternatives to Current Product Price Formulas (2008) *by Dr. Mark Stephenson, Cornell*

Moving milk to its highest use

As milk utilization has changed from high percentage fluid to high percentage cheese, Federal Order reform in 2000 tried to address this with end product component pricing. It has not worked so well as volatility has increased markedly since 2000, and the industry finds itself facing some of the very same questions and problems it did in 1999. Order Reform also introduced an arbitrary make allowance for each of the four commodity products, which has since been raised twice. Interestingly, the sentiment by USDA in 2000 was that "dairy was too big and the problems too great" to simply incorporate as a piece of the Farm Bill, thus Federal Order Reform at the turn of the century was handled completely separate from the Farm Bill, falling midway between the 1997 and 2002 Farm Bills.

- *Possible policy point would be to approach key lawmakers about pulling dairy from the 'horse-trading' Farm Bill and give this important work its own agenda and timetable.*

"A little more than enough"

In the Federal Order system, one element we don't often talk about is its **original design to ensure 'a little more than enough' milk flowing through the pipeline at all times.** An enlightening document—"*Understanding FMMOs, from the farm to the table: A brief explanation of the why's and how's of Federal Milk Marketing Orders*"—is published on the Pacific NW Federal Milk Market Administrator's website. Authors of this 103-page document concede the only way to accomplish the objective of assuring consumers an adequate supply of milk is to always have more supply than demand so consumers always have enough.

In effect, when milk supplies begin to fall short, the price leads farmers back to over-supply to fulfill the purpose of the Federal Order. Since 2000, we have not seen a year of perfect balance between supply and demand. Price goes down, farmers sell cows or go out of business. Price goes up, fluid demand shrinks and mainstream media write about high milk prices.

Some would argue **striking a balance can never happen because this system exists, in the first place, to assure an adequate supply to domestic consumers, and now we have the 'wild card' of more exports throwing more volatility into that mix.** The "Understanding FMMOs" document specifically states that, "The only way to insure an adequate supply across the year is to have a little more than enough." In short, the system exists because of these market factors:

1) It is "not normal" for milk supply and demand to match,
2) Milk is "more highly perishable" than other commodities,
3) Milk has a "more inelastic demand" than other food products, and
4) Milk marketing is "inherently unstable."

The FMMO system was originally developed at a time when Class I fluid consumption was more than one-half of total milk use. Today Class I is one-third of total milk use.

More global = more volatile

With the above description of FMMOs in mind, consider these thoughts by Cameron Thraen, dairy economist at Ohio State University, concerning lessons learned in 2009:

One is a farm management lesson – "When you see milk prices move up quickly, you need to be prudent with what you do with that extra income. First thing you do is get your financial house in order. You don't look at it as if it's going to last because it doesn't," said Thraen. "You are going to have these boom and bust periods and during the boom periods you should follow sound financial advice, pay down debt, and build a cash-flow cushion."

The other lesson focuses on the industry – "If the industry wants to be a part of both domestic and international markets, you need to be ready to accept more price variability. International markets are more volatile than domestic markets," said Thraen. "You have to be thinking of management strategies to implement when that international partner walks away and you are stuck with a supply with not enough demand to support it."

Managing the international yo-yo

Exports used to be 3 to perhaps 5% of U.S. production, and then in 2008, exports reached 11% of U.S. production. In the first half of 2009, exports retracted back to 6% of U.S. production, but by the end of the year, the total chunk was closer to 10% because U.S. dairy farmers reduced production in the second half of 2009, while at the same time, exports increased … But a dear price was paid in between. If this is the future of milk marketing, then the current pricing system in the U.S. is in trouble.

As the yo-yo of the international market accounts for a larger percentage of U.S. production, mechanisms to "clear the market" when international buyers walk away are absolutely critical. This is especially true when you consider the current Federal Order system is constructed to ensure "a little more" supply than demand for the domestic market. That "little more" is fine when we have "a little more" export market (3 to 5%)… but as the export market grows to 10-12%, the industry expands for that market and then when that market diminishes, the domestic market is suddenly flooded with "a lot more" milk instead of "a little more" … and the system falls apart to the detriment of dairy farmers.

Concepts that introduce some stability in a volatile global marketplace

One practical approach may be to construct a "market base investment" that would allow producers to take advantage of the world market opportunities by building a "rainy day fund" as they expand production during the upside of the yo-yo when the opportunities push prices higher and producers make more milk to fill that international demand (which is the up-and-down 'wild card' in the market) and then use those dollars to protect producers during the downside of that yo-yo when the international market demand withdraws.

1) **Producers could pay a market investment fee in the boom cycle based on their expansion for that increasing market opportunity** (a quasi-supply management possibility for the supply management action group to consider but with relevance to the milk pricing action group's work as well).

2) **These dollars would be set aside for the purpose of "clearing inventory" when the international demand later withdraws from the market.**

3) **Clearing inventory from the market in the bust cycle could consist of:**
    i. Buying product and donating it to food banks and school lunch program
    ii. Buying product and donating to international "relief" agencies
    iii. Paying indemnities to producers for culling problem cows (high SCC, Johne's, Leukosis, etc.)
    iv. Paying incentives to producers for transferring dairy heifers (perhaps via a growth benchmark system) into the beef feeding supply.

4) **Adopt a national milk quality standard that reduces the SCC legal limit to 500,000 with a step-down program to get to 400,000 legal limit.**

    i. This includes enforcement of milk handlers and cooperatives to be sure individual farm loads at high SCC and bacteria levels are removed from the market instead of commingled and diluted. This is a consumer-focused move and also would have some effect on supply. Currently, there is evidence that handlers commingle loads that are already above the 750,000 limit and loads with high bacteria because the more milk there is on the market, the less they have to pay for it.

    ii. If dairy farmers focus on quality, they raise their stature in the world market and with domestic consumers while having a stabilizing effect on milk supplies and prices.

Determining market value

There are proposals right now that would price manufacturing milk on a straight national average cost of production. The Specter-Casey bill S. 1645 (Federal Milk Marketing Improvement Act of 2009) prices milk this way in a two-class system with the current Class I differentials in place. Using a two-tiered pricing system, when supply exceeds demand, 5% of the milk production can be docked as much as 50% of the COP average price as long as exports and imports are in balance.

While there are some positives in how this bill would handle total supply including imports, not just domestic supply, the stumbling block appears to be the national average cost of production as the starting price for manufacturing milk. (See S. 1645 Report for more information).

So how does a pricing system determine market value? Here are some ideas that are surfacing:

1) **Tie milk's market value to dairy market basket consumer price index (CPI).** This would use retail price indicators as the farm price "mover."

    i. **The market clearing aspect here is that in times of over supply, there would be more incentive to fully clear the market** right on through to the consumer by lowering retail prices so a full demand curve could be realized.

    ii. **At the same time, lower retail pricing in times of over supply would result in lower prices paid to dairy farmers, but the duration of the downturn would be potentially shorter** because product would clear from inventory to the benefit of producers and consumers – sort of like the grocers who do periodic specials to clear meat inventory from the case. Big box stores like Walmart will not like this arrangement because they want full-supply contracting and consistent product levels to keep same-low-price status and consistent flow-through at all times.

2) **Use trendline pricing and a bidding process.** In this proposal, a large percentage of the milk (90%) is contracted based on the historical trendline of prices (see Ration-All Milk Plan). That is the "stable but slowly rising" base price, and a transparent open bidding process would occur through the FMMO Administrators on the other 10% of the milk supply in order to establish ongoing "market value."

    i. **Proponents of this approach say it would make regional aspects relevant** insofaras lower bids would pull milk from farther away and incur transportation costs that would affect the bidding process for "local" or "regional" milk.

    ii. **At the same time, the trendline contract pricing of the bulk of the milk would provide stability for producers, processors and consumers,** softening the "blow" of erratic shifts in the market while the open bidding process on a smaller percentage of the milk provides a value determination.

    iii. **The only problem with this scenario, and other proposals, is what happens if dairy shifts toward vertical integration?** If producers lose full ownership of their milk due to vertical integration schemes, then those processors involved in the vertical integration would not participate in the market bidding process because they would have their own "value chain economy" operating their own closed loop outside of the market exchange and/or Federal Order system.

3) **NMPF's plan for Federal Order reform seeks to replace the current product price formulas with "region-specific competitive pay price."** According to NMPF, this would:

   i. Replace National milk classes (I, II, III, IV) with the region-specific pay price.
   ii. Pool only the Class I "differential."
   iii. Reflect "true regional milk value"
   iv. Eliminate "make allowance" issuesd
   v. Encourage product innovation, and
   vi. Allow product manufacturers / milk marketers to focus on long term supply agreements.

4) **Fair-Share pricing (state-wide could be regional).** Simply put, fair-share pricing as proposed by Univ. of Connecticut in 2006 would allow retailers to only mark up fluid beverage milk by a set percentage, such as 20% and then any additional mark up would be split with farmers by passing 50% of the additional markup back into a fund to pay back to the farmers. (See 2006-Fair-Share)

5) **Various people testified to Congress that # of Milk Classes should be reduced to two:** manufacturing and fluid, with fluid valued on a baseline because of the relatively inelastic demand by evaluating the current Class I differentials versus changes in producers costs over the past 10 years since the differentials were set. Manufacturing milk would then be the more variable class.

6) **Use new safety nets,** which are being touted by NMPF and IDFA. (Refer to NMPF "Foundation for Future" PDF for additional details).

   a. **Briefly, NMPF's foundation for future plan introduces a government subsidized income insurance program and seeks to change the MILC program.** The revenue insurance program would be voluntary and open to all producers regardless of size. It is interesting that this too would involve establishing a "historical production base" for participants because they advocate no premium or a very low premium on the producer's "historical base milk," while having the "option of insuring" expansion milk at a higher premium.
      i. But how is the concept of an over-base insurance premium here really any different from an industry-wide over-base market investment or access fee, which could be used as a rainy day fund to clear the market of inventory when the global demand they expand for goes bust?
      ii. It is dis-similar in that it is attached to an individual producer margin guarantee instead of being attached to a market clearing or supply management mechanism.
      iii. The income insurance proposal would also be voluntary vs. mandatory.

iv. Another difference is: Income insurance protects the individual's income (or margin between milk price and feed cost) using taxpayer subsidies while the idea of market investment fee on expansion milk could be used overall to stabilize the industry by clearing the market of inventories using that producer-paid rainy day fund.

v. Another difference is cost / benefit of income insurance would depend on the "over base" premium the producer pays and the actual milk margin that is guaranteed by the insurance, which if done as part of a cooperatives' long tern supply contract could affect the market value determination of milk by introducing captive supply into the milk market dynamics, particularly as income insurance is proposed as a 5-year sign-up. These are all thoughts and questions to explore.

7) Remove Dairy Product Price Support Program (DPPSP) and replace it with a Recourse Loan Program for processors and manufacturers.

i. Eliminates sale of product to CCC where it remains in "inventory" and overhangs the market.

ii. Encourages new product innovation. This is consistent with New Zealand-style government investment in product research and development vs. subsidies.

**You may want to read the parallel articles on apple (juice) industry (6 straight years of declining U.S. production with more than 60% apple juice on U.S. store shelves coming as concentrated powder from China.

*** You may also want to read the attached parallel article about the tomato industry and the USDA projection of how milk "refineries" may create the same changes in dairy.