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**Dairy Policy Options for the 2007 Farm Bill:
A Pennsylvania Perspective**

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Executive Summary

Dairy Policy Options for the 2007 Farm Bill: A Pennsylvania Perspective

By Ken Bailey

The objective of this paper is to explore broad policy options in both the 2007 Farm Bill and the current Doha Round of trade negotiations (WTO) that could be favorable to Pennsylvania. It will be argued that the most favorable outcomes will have two features: 1) improve and stabilize market demand for fluid milk, and 2) expand national demand for manufacturing milk. This policy recommendation recognizes that the U.S. will continue to expand milk production over time. It also assumes a continuation of federal milk marketing orders.

Specific recommendations are as follows:

1. **Revise Class I pricing formulas.** Fluid milk prices at the farm level (called Class I prices in federal orders) are too volatile. This at times harms consumption, particularly when high Class I costs result in expensive milk in the grocery store. Less fluid milk consumption results in even more milk flowing into manufacturing purposes. The formula for Class I milk could be altered to make it less volatile, yet still reflective of market supply and demand.
2. **Have only two classes of milk in federal orders.** Federal orders have multiple classes of milk in order to increase revenue to farmers and dispose of surplus milk. But it is not clear this is working. Instead, why not have one fluid and one manufacturing class for milk? This will make processors compete more for farmer's milk.
3. **Create a real cash market for cheese and butter.** Farm prices are based indirectly on cash prices at the Chicago Mercantile Exchange. But very little actual cheese and butter are traded there. It is suggested that

improvements be made since farm milk checks depend so heavily on this market.

4. **Alter the current dairy price support program.** This program has not been fundamentally reformed since the 1950's. It will likely need to be altered if there is an agreement reached in the current WTO negotiations. Either reforms will be made to this program, or it should be phased out over time. The objective should be to increase the demand for manufactured milk, not store surplus product. Demand is the cornerstone of support for milk prices in the U.S.
5. **Maintain but transform the MILC payment program.** While this program is controversial among dairy producers, there is strong support for small family farm programs in America. However, the MILC program must be altered. First, it will likely be subject to future budget cuts. Second, it must fit within the disciplines of a WTO trade agreement. Similar changes in direct producer support programs are already underway in Europe. Perhaps these changes could provide ideas for a future Farm Bill?

Are There Benefits to These Proposed Changes?

Pennsylvania dairy farm families will benefit from the above changes if they result in increased demand for manufacturing milk. Growing demand is the key to stable and strong milk prices. But this means improving the overall market demand for manufacturing milk, particularly in the West. If these changes are not made, Western milk will flow to the East coast, resulting in lower farm milk prices. But growth in demand will only come about with innovation in processing and greater market orientation of dairy programs.

Dairy Policy Options for the 2007 Farm Bill: A Pennsylvania Perspective

Introduction

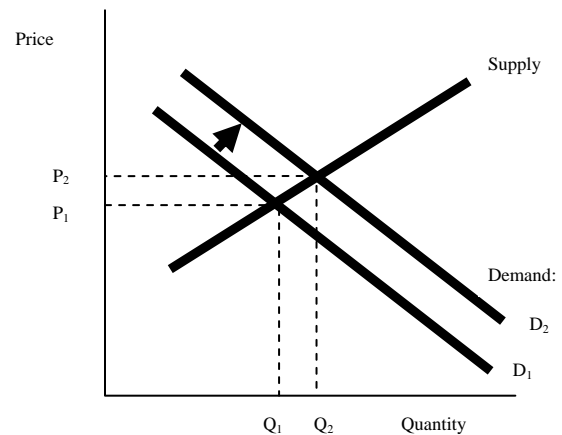
The Pennsylvania dairy industry is at a critical cross road when one considers the convergence of the following factors: the 2007 Farm Bill, the Doha Round of the World Trade Organization (WTO) on agriculture, consolidation of farm numbers and an aging farm population, and greater concentration of dairy cooperatives and processing companies. In addition, consider the following marketing trends: the milk supply is growing 1 percent per year, fluid milk consumption is declining 0.5 – 1.0 percent per year, and per capita consumption of cheese is slowing. Thus there is potential for a growing gap between supply and demand that will result in a surplus. Currently this marketing gap is being exported in the form of nonfat dry milk. But how well are we positioned over the next 5-10 years to process and market dairy products without cutting back on production? If milk production grows and demand does not, then milk prices will decline, and farm program costs will rise.

The objective of this paper is to explore broad policy options in both the 2007 Farm Bill and the current WTO round that could be favorable to Pennsylvania. The broad theme is that the options explored must be market oriented for reasons to be explained later. As such they may be viewed as controversial. But real opportunity will prevail for Pennsylvania if the entire U.S. dairy industry is positioned for moderate growth in demand over time. This will only occur if strong and viable growth in manufacturing demand for milk in the West is realized. This economic concept is illustrated in Figure 1 where growth in demand (rightward shift in the demand curve) results in higher milk prices.

It is possible that some national trade associations will expect Pennsylvania to agree to a status quo dairy policy mix. That means the Milk Income Loss Contract (MILC) program, which has been

quite beneficial to Pennsylvania producers, may not be fully supported by some segments of the industry due to its controversial nature. A status quo policy mix may also mean a continuation of the dairy price support program (DPSP) even if this program is less beneficial to Pennsylvania than the MILC program or a MILC-like program involving direct payments to small farms.

Figure 1. Impact on Prices and Production of an Expansion in Demand for the U.S. Dairy Industry



Pennsylvania as a Unique Dairy State

There has been strong consolidation in the U.S. dairy industry with regard to farm numbers and the size of dairy farms. Table 1 indicates that the number of farms producing milk in the U.S. fell by nearly 50 percent between 1993 and 2004, and that 64 percent of the U.S. milk supply is now produced on farms with 200 cows or more.

Yet the data in Table 2 indicates that Pennsylvania has a unique farm structure when compared to U.S. average data. The state is a major player in terms of milk volume and has followed the national trend towards fewer and bigger farms. However, in 2004,

Table 1. U.S. Farm Numbers and Milk Production by Farm Size

<i>Number of Dairy Farm Operations by Herd Size for the U.S.</i>			
	<u>1993</u>	<u>2004</u>	<u>% Chng</u>
1-29	59,250	23,720	-60.0%
30-49	35,390	15,525	-56.1%
50-99	42,920	24,055	-44.0%
100-199	14,900	10,445	-29.9%
200+	6,900	7,695	11.5%
Total	159,360	81,440	-48.9%

Source: USDA.

Percent Milk Production by Size Group for the U.S.

	<u>1993</u>	<u>2004</u>	<u>Change</u>
1-29	4.1	1.4	-2.7
30-49	13.1	5.4	-7.7
50-99	27.6	15.5	-12.1
100-199	18.9	14.3	-4.6
200+	36.3	63.4	27.1
Total	100.0	100.0	0.0

Note: Farms with 500 cows or more represented 47.4% of the milk supply in 2004.

only 23.5 percent of the milk in Pennsylvania came from farms with 200 cows or more. The average herd size was just under 60 cows per farm. Thus Pennsylvania is unique since it remains a large dairy state with small sized dairy farms.

Milk produced in Pennsylvania is used for a number of purposes. In fact, Pennsylvania has a good balance between fluid and manufacturing uses. Data from the Northeast federal milk marketing order indicates that roughly 47 percent of milk is used for fluid purposes, just under 20 percent for soft manufacturing purposes such as ice cream and cottage cheese, 23 percent for cheese production, with the balance used for butter and nonfat dry milk production. The fluid milk sector is vital to the state since it provides premiums that are set above manufacturing prices (Class I differential and over-order premiums). Premiums for Class I milk also

Table 2. Pennsylvania Farm Numbers and Milk Production by Farm Size

<i>Number of Dairy Farm Operations by Herd Size for Pennsylvania</i>			
	<u>1993</u>	<u>2004</u>	<u>% chng</u>
1-29	3,400	1,900	-44.1%
30-49	4,300	2,800	-34.9%
50-99	4,200	3,100	-26.2%
100-199	930	980	5.4%
200+	170	320	88.2%
Total	13,000	9,100	-30.0%

Note: there were just 50 farm operations in 2004 that had 500 cows or more.

Percent Milk Production by Size Group for Pennsylvania

	<u>1993</u>	<u>2004</u>	<u>Change</u>
1-29	5.5	2.5	-3.0
30-49	23.5	16.0	-7.5
50-99	42.7	34.0	-8.7
100-199	19.9	24.0	4.1
200+	8.4	23.5	15.1
Total	100.0	100.0	0.0

Note: Farms with 500 cows or more represented 9% of the milk supply in 2004.

help create an environment which generates additional premiums for milk used for manufacturing purposes. These premiums are the reason farm prices for milk in Pennsylvania are high relative to other states. And it is the high milk prices that allow Pennsylvania to maintain a small farm structure.

A strong, vibrant, and growing national manufacturing sector is vital to Pennsylvania even though our share of national manufacturing is very small. Fluid milk prices are based fundamentally on commodity prices: cheese, butter, nonfat dry milk, and dry whey. If these commodity markets become weak, commodity prices will decline. This will drive down fluid milk prices in Pennsylvania. While Pennsylvania produces some manufactured products, most cheese, butter and nonfat dry milk is produced in the West and Upper Midwest. The

western states also continue to produce more and more milk each year. Thus it is vital to Pennsylvania that strong and sustained growth occurs year after year in the demand for manufactured dairy products. Without this strong growth more Western milk will find its way into Eastern markets, depressing over order premiums, or result in surplus commodity production. This paper will explore those areas of federal policy that could impinge or impede growth in the manufacturing sector.

Growth in the U.S. manufacturing sector will not occur simply by processing more nonfat dry milk or more butter. There is limited demand for these basic commodities in the U.S., particularly at domestic supported levels. Growth will only come from finding more creative value-added markets and exploring new innovative processing technologies. Such technologies involve fractionating protein and milkfat, using ultra filtration techniques to separate lactose and water from valuable dairy components, further processing whey proteins, or producing pharmaceutical grade products from lactose and other dairy components. There are global dairy cooperatives that are making this transition. One European dairy cooperative I visited, for example, is focusing more research on protein hydrolysis to develop products for consumers allergic to milk proteins, protein peptides for blood pressure treatments, and lactoferrin for decontaminating beef carcasses. They are already processing pharmaceutical grade lactose for use in inhalants and for manufacturing pills. Such efforts will create growth in demand which will provide a new home for greater supplies of dairy components. This will prevent excess milk production from depressing fluid milk prices in the Northeast.

Immediate Problems

Cash Market for Dairy Commodities

Three commodity prices drives most of the manufacturing value of milk in the U.S.: cheese,

butter, and nonfat dry milk. Nonfat dry milk prices are determined mainly by the DPSP and prices in global markets. Butter and cheese prices are determined by cash markets at the Chicago Mercantile Exchange (CME).

There is ample evidence that butter and cheese prices at the CME are not always determined by fundamental market forces of supply and demand. Prices at times, particularly for cheese, appear to move in the opposite direction of obvious market intelligence. For example, during the first half of 2005 milk and cheese production grew, cheese stocks rose, and demand for cheese was weak. Yet cheese prices remained at relatively strong levels. Also, there have been limited trades at the CME, or many times no trades at all. Since price discovery works best when there are many buyers and sellers trading a product, this lack of activity results in a disconnect between supply, demand, and pricing.

The CME in many ways functions as a market of last resort for surplus cheddar cheese and butter inventory. Cheese processors and some buyers go to the CME to either unload surplus inventory or procure a few car loads to fill short term needs. For example a dairy processor that produces 40-pound blocks or 500-pound barrels of cheddar cheese could be a seller, and a dairy cooperative that cuts and wraps cheese or produces process cheese for retail purposes could be a buyer. Most cheese produced in the U.S. is directly contracted between buyers and sellers. The prices used in these contracts are set at premiums/discounts relative to the CME established price. These premiums and discounts are supposed to show up in the voluntary USDA surveys of wholesale prices for butter and cheese.² Unfortunately, the voluntary USDA survey mirrors the CME prices exactly after accounting for a one or two week lag. That either means cheese processors and buyers are paying exactly the CME prices (which would imply we don't need the USDA survey after all), or the voluntary survey is not reflective of what is really

² See Dairy Product Prices, URL: <http://usda.mannlib.cornell.edu/reports/nassr/price/dairy/>.

happening with regard to pricing of butter and cheese in the U.S. What is obvious is that the CME prices directly affect the level of prices in the USDA surveys, and these survey prices are used in federal milk marketing orders.

A specific example may help clarify the situation. In 2004 the CME traded roughly 43.1 million pounds of fresh cheddar cheese (less than 30 days old) and 83.8 million pounds of Grade AA butter. This represented approximately 1.5 percent of U.S. cheddar cheese production and 6.8 percent of U.S. butter production that year. In fact, looking at all the cheese produced in the U.S. in 2004, these CME trades represented just 0.5 percent of production. While these figures may be at reasonable levels to enable price discovery for butter, its not enough for cheese. The total value of cheese and butter traded at the CME was roughly \$230.7 million in 2004, a small amount relative to the total value of milk production. These trades at the CME help establish the prices that dairy plants pay milk producers for their raw materials (i.e. butterfat and protein) according to formulas established in federal milk marketing orders. Thus these two markets, albeit very small, established \$27.4 billion of the farm value of fluid and manufacturing milk in 2004.³ Again, there were not enough actual trades of cheese at the CME to justify accurate and reasonable price discovery.

This lack of real market price discovery could create a lack of confidence in the functioning of the dairy markets. The lack of a solid cash market may also explain why there is limited participation in the futures markets. The U.S. dairy industry will not be able to move forward with any degree of confidence until a new cash system of trading is introduced. Elements of a reformed system might include the following:

1. Broader definition of cheese traded at the CME. Currently only fresh cheddar cheese is traded. Efforts should be made to include

³ Estimate based on the 2004 milk production level times the all-milk price (170.8 billion pounds of milk times \$16.05/cwt).

all forms of American cheese (aged and fresh), and possibly mozzarella. This would increase the likelihood that cheese will trade in a robust market environment.

2. Eliminate the current NASS survey used by USDA to price milk components in federal orders. The survey is not useful as it simply tracks the CME. It also adds a one to two week lag in USDA prices.
3. Have two basing points for commodities: Central and West. This means having two cash markets. Again, it will increase the likelihood of more trades if West coast commodities could trade on a cash exchange.
4. Move to an anonymous system of electronic trading so as to encourage more participation.
5. Augment the CME cash market by requiring U.S. processors to report both production and sales and the wholesale value of all cheese and butter produced in the U.S. in a timely manner (daily, weekly, monthly). In other words, require mandatory reporting of all cheese and butter. This could become the basis for pricing milk components in federal orders.

Many in the industry will argue that such proposals are naïve, have been tried and failed before, or are simply not particularly practical. They may argue that mandatory price and production reporting is too draconian. Yet we are talking about price discovery for a \$27 billion industry at the farm level.⁴ The U.S. dairy industry can be creative in coming up with a viable option to the way we currently price milk in the U.S. This could become even more important if the new Farm Bill requires a better system of pricing commodities used in the economic formulas for class prices under federal milk marketing orders.

⁴ The entire U.S. dairy industry could be valued at \$50-\$75 billion a year if the processing, transportation, and retail components of the marketing chain are accounted for.

Alter Manufacturing Pricing

The present system of pricing milk components for Class II, III and IV uses is not economically justified. It was argued that Class IV milk pricing was needed to help defray balancing costs and make components available for cheese processing. Yet there is no real need for a separate balancing class of milk. Cooperatives and proprietary processors should allocate manufacturing milk to the highest and best use just like they do elsewhere in the world. That would result in the best returns for dairy producers. There should be one cost for protein, milk fat, and lactose that all processors must pay no matter how the milk is used for manufacturing purposes. Manufacturers should then allocate these valuable milk components to uses that will realize the highest economic return. Processors that have excess milk supplies during certain periods of the year should investigate economically efficient options including protein processing (casein, caseinate, and MPC), butter production, or simply producing condensed or ultrafiltered dairy components. This results in a more efficient system.

Currently cooperatives simply allocate surplus milk to Class IV uses only because they receive a guaranteed return for every 100 pounds of milk they process. If that margin were no longer guaranteed (for example, if the price support program were eliminated or scaled back), greater care would be taken in allocating milk to its highest and best uses. Processors in Australia, New Zealand, the EU countries, and countries of the former Soviet Union don't manufacture dairy products within the confines of a classified pricing system. A classified system is not required to price milk!

But allocating milk to its best economic uses won't be practical if the cost of milk components changes with alternative classes. In other words, under our present system, the cost of protein and milk fat to a manufacturer changes according to how it is used. There is one price if it is used for fluid purposes, another if it is used in yogurt or ice cream, another

if it is processed in a cheese vat, and still another if it is used in butter or nonfat dry milk production. Processors will end up "playing the system" rather than making economically rational choices. In the case of beverage milk or drinkable yogurts they may try to lower the nonfat solids content in milk or substitute alternative imported proteins in order to skirt around standards of identity or classification rules in an attempt to lower processing costs. In still other cases processors at times may purchase nonfat dry milk to supplement cheese production not because it improves processing efficiency, but because the cost of protein in nonfat dry milk may be cheaper than protein in milk used to make cheese.

Rather than the present system, there could be one class of manufacturing milk and the cost of protein, milk fat and lactose should be the same no matter how the milk is used. Thus manufacturers would compete for available supplies and a more efficient system would prevail. Cooperatives with seasonally excess supplies would invest in new technology in order to produce more value added products in order to avoid passing on losses to their members. Of course this assertion of focusing on more value-added markets sounds like pure academics. But the reality is that processors in Western Europe, Australia, and New Zealand have been making this switch for years and over time the processing industry and milk producers in those countries have benefited. Currently these countries export value-added products like milk protein concentrates (MPC), casein, caseinates, etc., products that have not been historically produced in the U.S.

It would not be difficult to determine economic formulas that would create prices for protein, milk fat and lactose in manufacturing uses. Clearly protein would be based on some combination of cheese and nonfat dry milk since these dairy commodities are high in protein. And milk fat would be priced off of butter as it currently is. We already use economic formulas in federal milk marketing orders that link the value of milk

components (protein, milk fat and lactose) to commodity markets. These formulas were established by USDA during a hearing process. The same procedure could be developed to revised these formulas under guidelines set out in a new Farm Bill. Again, the U.S. dairy industry would be in a favorable position to determine these economic formulas.

Revising Class I Pricing

The current method of pricing Class I milk is based on a forward priced Class I “mover” plus a local Class I differential. For example in June 2005 the Boston Class I mover was \$13.62 per 100 pounds of milk (cwt) and the Class I differential was \$3.25 per cwt. The mover varies month to month, is based on a two-week average of commodity prices, and is used in all federal orders each month. On the other hand, the differentials were last altered in January 2000 and were set for each county in the U.S. Arguing to alter existing Class I differentials or eliminating federal orders entirely would be highly contentious, particularly in the Northeast. This paper assumes that the present system of setting a Class I price and pooling (sharing) the higher milk values among producers participating in the order is retained, but “tweaked” to create improvements.

The advanced pricing feature in the present Class I mover introduces many problems. First, it is priced predominately off of the cheese price in Chicago, and to a lesser extent the prices for nonfat dry milk and butter. The Class I price in turn directly affects retail prices.⁵ Thus the cheese price in Chicago directly determines the Class I price of fluid milk in the Northeast (see Figure 2). Does this make economic sense particularly given the lack of confidence in cheese pricing in Chicago?

Another problem is that Class I prices in federal orders sometimes move in the opposite direction of

Figure 2. Boston Class I Price in Federal Orders vs. the Block Cheese Price (lagged one month) in Chicago

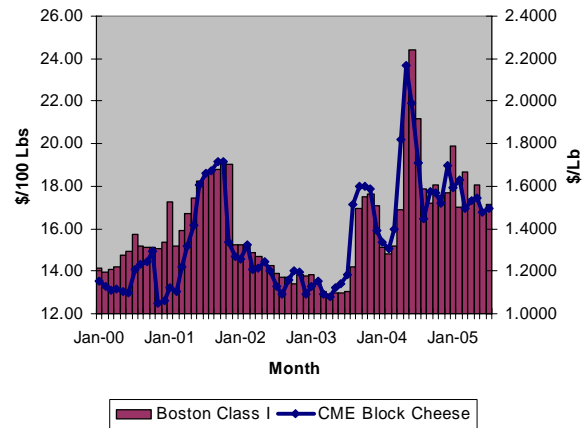
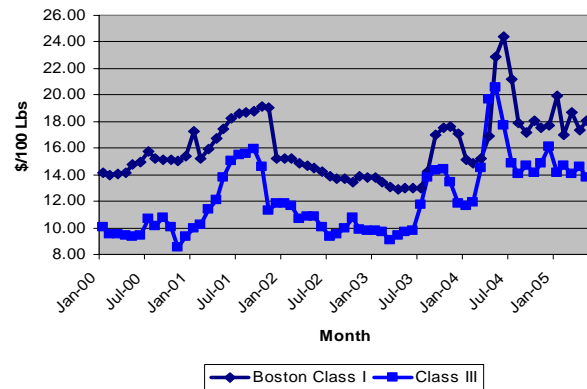


Figure 3. Relationship between the Boston Class I Price and the Class III Price



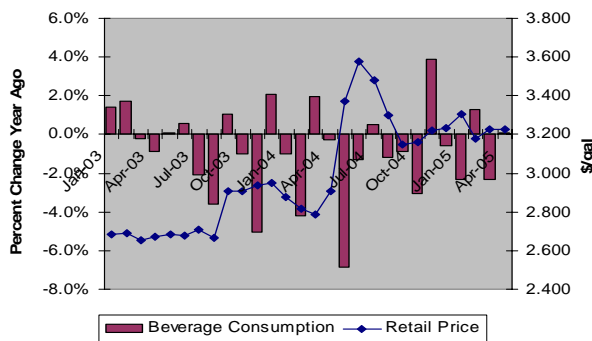
the Class III value of milk (see Figure 3), creating a negative producer price differential (PPD) in certain federal orders.⁶ Examples for the Northeast order include August 2003 (-\$0.08/cwt), April 2004 (-\$2.38/cwt), and May 2004 (-\$0.74/cwt). The whole purpose of linking the Class I mover to commodity prices was to introduce economic discipline to the Class I market. It was thought that supply and demand factors should raise and lower the mover and hence the Class I milk price. But

⁵ There is an obvious statistical relationship between the Class I cost of fluid milk and retail milk prices. However, retail prices are much less volatile than the farm level Class I price.

⁶ Farmers in Pennsylvania receive two prices on their milk check: one price for milk components (class III value) and another from classified pricing in federal orders. The latter refers to the PPD, which is equal to the pool price less the Class III price.

that is not the case when there is advanced pricing and a lagged linkage to commodity prices. Also, the Class I mover is extremely volatile (see Figure 2). This volatility is not really necessary to price Class I milk. In fact, milk processors, retailers, and consumers really don't like all this volatility in the Class I market. Economists would argue that Class I price spikes have introduced unreasonably high Class I costs that have resulted in high retail prices, which in turn have depressed fluid milk consumption. Figure 4 shows how the percent change in daily fluid milk consumption has changed adversely in the face of high and volatile retail prices. Thus a new pricing formula could be established that is less volatile and more conducive to fluid milk consumption.

Figure 4. Daily Average Fluid Beverage Consumption vs. Retail Prices



Unfortunately one recognizes immediately that any correction to current Class I pricing introduces an obvious contradiction. If the Class I mover is replaced by the current monthly manufacturing value (in other words, eliminate forward pricing of Class I milk) then there would no longer be any negative PPD's. However, if reduced volatility is desired, then the current Class I mover should be replaced with some type of a moving average of market prices. However, such a replacement would still allow the possibility of negative PPD's. Thus the following are alternative options that could improve Class I pricing:

1. Eliminate the advanced feature of the Class I mover and replace it with the same monthly protein, milk fat and lactose prices that

would prevail in the manufacturing market. This would break the link between the cash cheese market, which is thinly traded in Chicago, and a two-week advance price. Farmers would still have the Class I differentials and premiums. Unfortunately, there would still be a lot of volatility in the Class I and retail price of milk.

2. Introduce a new mover that would be less volatile and would rise and fall with protein, milk fat and lactose values over a given quarter. One could create a simple moving average over a three month period. This would be more stable and would provide some degree of economic discipline. Such movers were analyzed by USDA under federal order reform in 1999.

Longer Term Problems

There are a number of structural problems that currently exist in the U.S. dairy industry. These problems exist because we have a patchwork of policies that don't always work together well. These policies have been reviewed earlier by USDA (2004).

The problem is that one cannot reasonably expect the manufacturing market to expand over time and create demand for more milk components unless that market is fundamentally reformed. There are other reasons for reform: the budgetary costs of regulation and possible compatibility with the Doha Round of the WTO. For a review of compatibility issues with the Doha round, see Dobson and Jesse and Suzuki and Kaiser.

Alter the Price Support Program

Like any policy the Dairy Price Support Program (DPSP) has both costs and benefits. Dairy cooperatives will argue that it creates a floor under dairy commodity prices (butter, cheese and nonfat dry milk) at a relatively low cost to taxpayers. While butter and cheese prices have rarely touched down to support levels, market prices for nonfat dry

milk have typically been right at support levels in most years.⁷ This is illustrated in Figures 5-7. Thus the program has supported the market price of nonfat dry milk. But there have also been other costs that have resulted from the program. It has guaranteed a margin on skim milk processing, thus eliminating market risk to powder processors. These processors are not required to face risk and have not had any incentive to innovate their processing capabilities (particularly for skim milk). Doing so would create the possibility of losses in some months for certain products. Any market losses or poor investments would require them to pass back lower farm prices to their members. Thus the price support program has limited the incentive of processors to explore other more risky value-added processing that could result in an expansion of demand. This will fundamentally harm the long term viability of the U.S. dairy industry.

The DPSP introduces a number of inefficiencies:

1. Places a floor on the global price of nonfat dry milk. The US at times becomes a supplier of last resort in the global powder market.
2. Creates huge domestic stockpiles whenever global prices for nonfat dry milk fall at or below support levels of 80 cents/pound.
3. Limits incentives for processors, particularly milk cooperatives in the West, to process other higher value milk protein products like casein, caseinates, and MPC. There are strong markets for these products in the U.S., but margins may not be as high and as stable as regulated prices under the DPSP.
4. Justifies the use of a Class IV price for milk in federal orders. If the system is going to allow for surplus disposal of protein and lactose (in the form of nonfat dry milk) to the government, then a price support program which sets a minimum sale price for surplus nonfat dry milk is required. That in turns sets the minimum cost of protein

Figure 5. Chicago Mercantile Exchange Block Cheese Prices: Market vs. Support

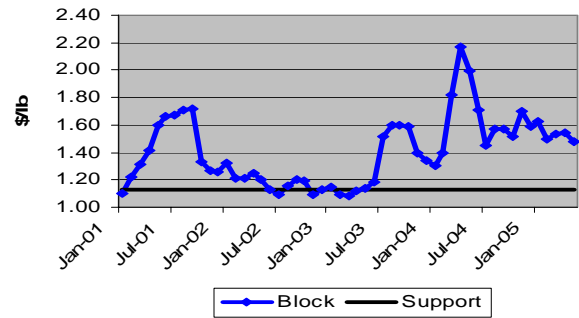


Figure 6. Grade AA Butter Prices at the Chicago Mercantile Exchange: Market vs. Support

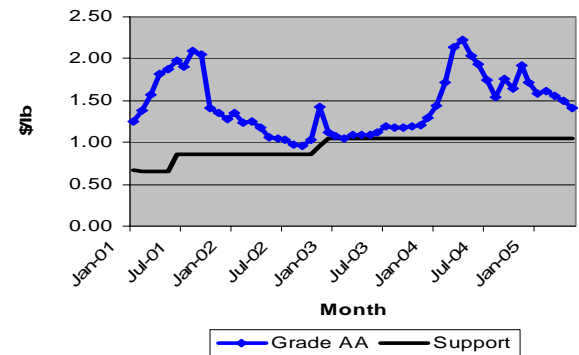
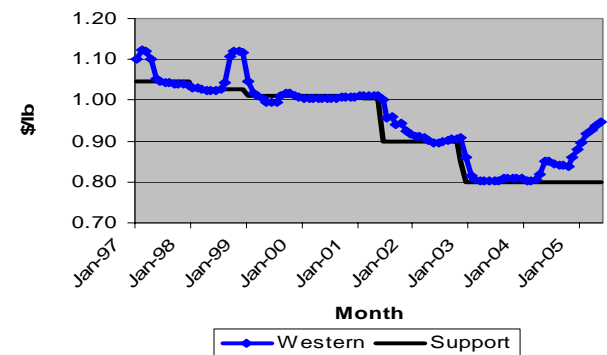


Figure 7. Nonfat Dry Milk Prices: Market vs. Support



⁷ Recent years have been an exception for nonfat dry milk due to strong global demand and favorable U.S. exchange rates.

and lactose in federal orders for Class IV uses, which generates a guaranteed margin and market. Cooperatives argue that this allows them to recoup balancing costs.

5. Creates an income subsidy for cooperatives and producers rather than a minimum price floor. The price support program was created with the intention of creating a minimum floor for dairy commodities. But nonfat dry milk prices often remain at floor prices for months at a time, and government removals in some years exceed normal annual consumption. Thus the program has in some years become an income support program. It prevents processors from passing back market losses to their members, thus effectively raising and stabilizing producer income.
6. Drives investment decisions in plants. Rather than creating an environment whereby processors investment in plants in order to maximize potential market returns, cooperatives have made investment decisions based on price support levels announced by USDA. Even in the European Union, which has a highly regulated dairy industry, they have recognized the economic inefficiencies of such a policy (the EU is phasing down the intervention program for butter and nonfat dry milk).

The reality is that the real price support program in the U.S. is the market place. Strong demand for cheese and butter relative to supply has supported market prices well above support levels. There have been very few months when the DPCS was required to support the price of butter and cheese. But that has not been the case for nonfat dry milk which until very recently was heavily supported. Thus the best price support program is strong sustained growth in demand.

There have been discussions to maintain the current support price for milk and perhaps introduce slight reforms, such as requiring USDA to revisit the butter/powder tilt each quarter or to introduce a new

subsidy scheme for MPC production in the U.S. But such slight program changes won't address the concerns raised above. The only option that will better position the U.S. dairy industry in the future is to introduce a structured reduction in the price support level for milk over a 5 year period with the intention of limiting or phasing out the program. This is the approach that has been used in the EU. An alternative would be to modify the program to lower program costs and adverse market impacts. One could limit the months that product would enter the program, require a cap on total annual volume that could be placed into the DPSP, introduce mandatory "tilts" each quarter if such action will limit program spending, or somehow link the support price to global prices in order to prevent large inventory buildups while providing minimum support prices.

The benefit to the dairy industry of a more market orientated system would be clear and transparent price signals, more efficient allocation of milk components to manufacturing, reduced imports of processed proteins like MPC and casein, and greater opportunities for exports.

Incentives to Make Better Use of Forward Contracting

There is no doubt that the U.S. dairy industry can benefit positively from greater use of forward contracting programs. There have been unfounded claims that expanded use of forward contracting would depress Class I prices, and that temporary authority to operate forward contracting programs for proprietary manufacturing plants should not be extended by the Congress. Growth in forward contracting has been hindered by the DPSP which creates a price floor for nonfat dry milk. If the DPSP were eliminated and dairy producers and processors were allowed to forward contract all classes of milk, then futures markets would increasingly be used as milk producers and processors attempt to deal with greater price uncertainty. Volatility in farm prices can be

managed with effective use of forward contracting programs.

Modern dairy farming requires huge investments. These investments are threatened in poor price years when dairy farmers must not only produce milk at a loss, but refinance their businesses and lose hard earned equity. Successful dairy farmers of all sizes will increasingly learn to use forward contracting tools if they are provided the opportunity to do so.

What would ultimately be desirable would be to create a futures market for both protein and milk fat. After all, these are the major components that are produced, purchased, and processed by the dairy industry. These components represent a significant portion of a dairy farmer and processors price risk. Greater use of forward contracts and an expansion of forward pricing tools would only come about, however, with a more decisive move to less market regulation and the creation of an improved cash market.

WTO Compatibility

There will likely be very little incentive for the U.S. dairy industry to make substantial changes in current policy or in the upcoming Farm Bill prior to a possible agreement on the Doha Round of the WTO. Most of our industry feels that dairy got a bad deal in the last WTO. Some doubt whether there will be any new trade agreement and therefore there is little need to make significant changes now.

The Doha Round of the WTO is attempting to make progress in three main areas (called pillars): 1) reducing levels of domestic support, 2) improving market access (more trade), and 3) reducing and eventually eliminating export subsidies, foreign donations, and export assistance. The idea is that such changes will improve global trade in agricultural products.

The concern for the U.S. dairy industry is that it has policies that fall under all three pillars of support.

The U.S. dairy industry depends on import protection to maintain high domestic prices and limit farm program spending. This import protection consists of tariffs and tariff rate quotas on both dairy products and products that contain significant quantities of dairy products. The dairy price support program (DPSP) supports domestic prices above world prices. It contributes significantly to our current measures of support for agricultural products (called the Aggregate Measure of Support).⁸ According to the WTO, price support programs transfer revenue from consumers to producers and distort agricultural trade. The DPSP is currently classified under the WTO as spending that contributes adversely to global trade and should be reduced or phased out over time (called Amber Box spending). The Milk Income Loss Contract (MILC) payment program has not yet been classified by the U.S. in our reporting of AMS to the WTO, but it is likely to be considered a counter cyclical payment linked to a fixed level of production. This type of program, since it is limited to a fixed level of production, may be acceptable for now, but must be reduced over time (called Blue Box spending). The U.S. is also heavily involved in export assistance programs. We have the Dairy Export Incentive Program (DEIP), which is currently limited by the Uruguay Agreement on Agriculture (current WTO). And the U.S. has recently made significant foreign donations of nonfat dry milk to many countries. And, on top of this, the U.S. has provided very limited amounts of nonfat dry milk from the DPSP to U.S. processors at below market prices for conversion to casein. This is clearly a casein production subsidy. Casein production subsidies are used more extensively by the EU and are strongly objected to by U.S. dairy producers.

The European Union (EU) has already made substantial changes in their Common Agricultural Policy (CAP). Many of these changes will likely be viewed as favorable in any agreement in the Doha

⁸ The USDA reported a total aggregate measure of support (AMS) in 2001 of \$14.4 billion, of which the dairy price support program accounted for 31.1 percent.

Round. It's true that the EU has very good reasons to make these changes: the cost of the CAP, greater urbanization of the population, lower levels of employment from agriculture, and restructuring costs due to the inclusion of 10 new member countries in the EU. That said, the EU has made the following fundamental changes in the CAP:

1. Agreed to phase out export subsidies with the intention of ultimately eliminating them.
2. Reduced use of production subsidies on casein.
3. Structured reduction over time in support levels for butter and nonfat dry milk (called the intervention program).
4. Conversion of all direct producer subsidies into decoupled payments.
5. Greater use of green payments as a way to support small family farms and enhance rural environments.

The reality is that EU spending on the CAP will not likely be reduced anytime soon. But they are making policy changes that will make them more "WTO proof." Unfortunately, little has been done in the US in this regard. For a review of U.S. dairy programs and compatibility with the WTO, see Jesse.

There is likely to be strong support in the U.S. for farm programs that are targeted to small family farmers. Historically most farm program spending has gone to very large farms. The MILC program is one example of a targeted program designed to help producers with 144 cows or less. The problem with this program is three fold. First, it is very expensive. Second, politically it pits large farms against small farms. It also pits the Northeast and Upper Midwest against the West. Third, it is considered a counter cyclical payment and under current WTO discussions will be limited in the future.⁹

⁹ This assumes the MILC payments will be classified as "Blue Box" spending by the U.S. under a future WTO agreement. Currently the U.S. is in the process of reporting our AMS spending for 2002. The U.S. has not yet classified counter cyclical payments.

If it is considered desirable by U.S. taxpayers to have programs to support small dairy farms, than all or part of the current MILC program should be converted into a payment scheme that is unrelated to individual production levels (so called decoupling). Instead it could be linked to environmental causes or proximity to cities. Another option would be to maintain the MILC program, but further limit program costs. This would reduce the budget costs and limit our domestic measures of support (under Blue Box spending). A modified MILC-like program in the up coming Farm Bill would help support a small farm structure in Pennsylvania and would not contribute adversely to over production of dairy commodities and trade distortions. However, this type of program will still be expensive and subject to farm program spending limits.

Conclusions

Dairy producers and some processors want a highly regulated dairy industry plus the ability to expand milk production 1-1.5 percent per year. But a tight federal budget, reduced fluid milk consumption, and steady per capita consumption of cheese over time will not support this growth. Instead, market demand must grow over time. But demand will likely not grow as long as we maintain restrictive policies that attempt to over charge for some dairy ingredients, distort price signals, or provide false pricing incentives. In addition, if current discussions to reduce domestic spending and export subsidies in the Doha Round prevail, the U.S. could reform dairy policies and emerge as a significant exporter of dairy products onto the world market.

This paper is not advocating deregulation of the U.S. dairy industry or elimination of federal milk marketing orders. Instead, it presents a discussion of policy options. It is concluded that volatile fluid milk prices and an overly regulated manufacturing sector as it is now constituted will ultimately harm the Pennsylvania dairy industry. That's because Pennsylvania fundamentally depends on the fluid

milk sector, and indirectly on a growing manufacturing market in the West.

A more stable fluid milk pricing formula in federal milk marketing orders will prevent adverse price swings which are transmitted into retail fluid milk prices. Strong upswings in retail fluid milk prices adversely affects fluid milk consumption. That results in more milk flowing into manufacturing uses. Also, greater national demand for manufacturing milk is ultimately beneficial to Pennsylvania. If surplus milk continues to be created in the West, that milk will either increasingly travel towards the east coast, or it will depress U.S. commodity and milk prices. Thus it is critical to Pennsylvania that policies which limit growth in the manufacturing sector be eliminated or curtailed over time. That would result in innovation in the processing sector and increased demand for raw milk components in the West. Strong growth in manufacturing demand coupled with stable demand for fluid milk in the East will maintain strong milk prices for Pennsylvania.

Another “wish” for the Farm Bill wish list may be a modified version of the existing MILC program. It is possible to create an income support program for small dairy farms that is WTO compatible. Such an effort is currently underway in the EU. While economists may provide many reasons why such a program is inefficient or expensive, society may have other considerations. Longer term maintenance of small farms, rural communities, and rural landscapes may be something that city dwellers and tax payers are willing to invest in. However, such programs must be decoupled from production in

order to avoid infringing on existing and new trade agreements. In addition, if such a program still maintains a counter cyclical nature (payments rise when milk prices fall), it must be limited with some kind of spending cap or production limit.

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