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Fostering a Dynamic Dairy Policy: Part II

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Fostering a Dynamic Dairy Policy: Part II[1]

Ronald D. Knutson

Part I of this paper identified serious problems with the current dairy policy including: forestalled industry adjustment to change, reduced producer returns, misallocated resources, by-passed opportunities for expanded consumption, needlessly volatile prices, and reallocated returns to particular industry segments. All of these effects were found to be contrary to the objectives of Federal Milk Marketing Orders (FMMOs) including: fostering orderly marketing, facilitating adjustment to change, serving the interests of consumers, being in the public interest, and avoiding unreasonable fluctuation in supplies and prices. Particular FMMO provisions that were found to be at fault for precipitating these consequences, in combination with the price support and direct payments programs, include: four milk classes, the "higher of" Class I pricing provisions, fixed-make allowances, and liberal de-pooling provisions.

Industry adjustment to rapid technological change has been complicated by political constraints on the ability of USDA to adjust component support price relationships (commonly referred to as tilt) to industry supply and demand conditions and by provisions of the new direct payment program that limit the amount of money received by large volume producers.

The identified program provisions and their related economic effects can be expected to persist because vested interests have developed within the industry. This means that if the program provisions were changed, these vested interests would be adversely affected. Moreover, the longer these provisions persist, the more difficult it will be to remedy the malady.

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[1] This paper has benefited from data and/or comments by Mary Ledman, Tom Cox, Bob Cropp, Bud Schwart, and David Anderson. The implications and conclusions drawn from these comments are those of the author and should not be attributed to any of these individuals.

The purpose of Part II of this dynamic dairy adjustments paper is to explain the long-run consequences of current dairy industry policies on the future of the US dairy industry and its component parts. The time frame for the analysis of future effects is 10 years. In other words, if the current policies are continued for 10 years, what are the consequences for the dairy industry? The forces of change influence the effects of policy and, in turn, influence policy. Therefore, Part II begins by setting forth the forces of change influencing the dairy industry that, in varying degrees, generally affect agriculture and the food industry. Subsequently, how these forces of change interact with dairy policy to influence the US dairy industry over the long run (10 years) will be addressed.

Forces of Change

In the 5th edition of their upcoming book, *Agricultural and Food Policy,* Knutson, Penn, and Flinchbaugh identify eight forces affecting agriculture and its policies.[2] These are the forces within which the dairy industry must operate over the next 10 years, including:

- **Instability.** The traditional problem confronting agriculture is that of instability of prices and incomes. Fluctuating prices are inherent in an agriculture sector with little government intervention. This is the case because both the supply and demand for farm products are highly price inelastic, meaning that in the short run both consumers and producers are not very responsive to price changes. As a result, either demand or supply shifts can be expected to result in proportionately larger farm price changes, unless they happen to change simultaneously and of equal magnitude in the same direction. Likewise, in the long run instability results from the interaction of technological changes at all industry levels,

[2] Ronald D. Knutson, JB Penn, and Barry L. Flinchbaugh, *Agricultural and Food Policy,* 5th edition (Upper Saddle River, NJ: Prentice-Hall, Inc., 2004), forthcoming May 2003.

changes in consumption patterns due to factors such as the level of economic activity or the aging of the population. Accentuating the instability problem in dairy is the length of the production process.

The important point is that dairy industry policy should allow the short- and long-run forces of supply and demand to be revealed in market prices. These policies should neither mask the forces of supply and demand, as has been the case of price support actions from time to time, nor should they accentuate their fluctuation, as Part I verified is the effect of current FMMO policies. The dairy industry will have instability but: (1) if supply and demand forces are allowed to operate, adjustments will be continuous and at the margin, (2) both producers and processors need to learn how to manage instability through the various forms of supply and price risk management.

- **Globalization** is a now widely used term that indicates the process by which economies, cultures, and political systems become increasingly interdependent. Growing globalization now requires that governments and economic agents must consider the effects of their actions on other countries as well as how they may be affected by the actions of others. From the 1930s through the 1960s, most agricultural and food products were practically excluded from international markets. The extent and nature of protectionism began to change in the 1970s with greater realization of the potential for trade and of the very high cost of that policy. A confluence of political and economic forces has led to gradual abandonment of price supports and production controls on most products in favor of less market intrusive and more transparent direct farmer payments. The rest of

the story is well known but certainly not well understood. Once US agriculture had adjusted to serving the world market by expanding its production capacity and infrastructure, it was both economically and politically infeasible to turn back. The world has become sufficiently interdependent through trade and other geopolitical forces that a new world order has developed, now referred to as globalization. As globalization continues, policy decisions increasingly will require consideration of US commitments under various international agreements as well as the consequences on other countries. The 2002 farm bill debate and the aftermath certainly illustrated this new reality. Never before has so much attention been given to whether particular provisions of domestic programs had the potential for violating the World Trade Organization (WTO) agreement.

The US dairy industry has done little to adjust to the world market economy and remains in many respects a closed system. While the 1996 farm bill contained provisions that challenged the industry to develop strategies designed to make the dairy industry more competitive internationally, the level of pursuit of these goals remains anemic at best. Some interest groups would desire to make the industry even more closed to outside competition by placing import barriers on offshore milk proteins and other dairy components. Incentives toward closed markets continue to be accentuated by other countries that maintain closed systems, such as the European Union and Canada.

As indicated in Part I, an alternative strategy would be to change the milk pricing system to give the industry a chance to be competitive internationally, thus taking advantage of the globalization movement. This is especially

important in light of the US position in the Doha Round of the WTO.[3] Whole economies of the world are finding it increasing difficult to isolate themselves from international competition. It can be anticipated that it is equally difficult for the US dairy industry to isolate itself, particularly if the competitive exporting sectors of world agriculture continue to pursue a freer trade strategy and given that there are elements within the US dairy industry that want to expand beyond the limits of domestic US dairy consumption growth. These elements tend to be comprised of cost competitive milk producers, processors, and manufacturers. While, in terms of numbers, these elements tend to be a minority in their trade associations, they are an ever-increasing share of the volume.

- **Technology** long has been recognized as a major economic force affecting agriculture. When occurring incrementally, technological advance cumulatively increases efficiency with widespread benefits. These benefits have been seen in dairy where milk output per cow has persistently increased at a predictable rate of about 2 percent annually. It has also been seen in major breakthroughs in technology ranging from the development of the milking machine to artificial insemination, rBST, and more recently sexed semen, which is now available in the United Kingdom. When combined with improved management systems, the

[3] In abbreviated form these US positions include:
- Eliminate export subsidies in equal increments over 5 years.
- Eliminate export taxes on agricultural products.
- Eliminate state trading enterprises
- Establish explicit rule on export credits, credit guarantees, and insurance.
- Harmonize all agricultural tariffs and limit them to no more than 25% in 5 years.
- Increase all tariff rate quotas by 20% and allocate a portion to developing countries.
- Eliminate special agricultural safeguards.
- Reduce trade distorting support levels to 5% of the total value of production.
- Stimulate the agriculture sectors of developing countries by giving preferential treatment in trade.

result has been very large size economies, making farms having over 5,000 cows increasingly common. While competitive milk production systems are being established in other countries, US dairy farms on the cutting edge of technology have not been able to test their competitiveness internationally. The same forces of technological change have operated in the processing, manufacturing, and distribution sectors of the dairy industry, with much the same effects—including the inability of US dairy processors and manufactures to expand their markets internationally using US products.

The most recent technological development in the processing sector, the ability to fractionate and isolate milk components, presents even greater challenges for the US dairy industry. The two key factors driving these challenges are the opportunity to reduce dairy ingredient costs and to increase product functionality. This is seen in increased utilization of these components in both dairy and nondairy products, both domestically and internationally. While this issue was pointed out by the University Study Committee in its 1997 FMMO reform report, it has been ignored by USDA policymakers—their only reaction, and for that matter the only producer organization reaction, has been one of hand wringing and discussions of increased protectionism. Concurrently, both dairy and nondairy processors are utilizing foreign sources of these components as a means of maintaining their competitiveness and profitability. Any visit to the ingredients warehouse of a cheese, yogurt, or ice cream plant reveals this reality.

The use of dairy and nondairy components is legal in products that do not have standards of identity, which prohibit such ingredients. The food service

sector, which accounts for about 50 percent of the value of food sales, is replete with products produced to specification outside of standards of identity, and the trend is now spreading to consumer products as consumers demand greater convenience. Questions arise as to whether standards of identity are any longer serving the interests of the dairy industry (including dairy farmers), particularly when dairy products and maple syrup are the only foods that require a hearing to modify the standards. Just as sugar producers fostered the development of the high fructose corn sweetener (HFCS) industry through their price support policies, milk producers are shooting themselves in the foot—with the help of policy makers.

- **Agricultural industrialization** is a catchall term used to reflect a wide variety of changing conditions in agriculture and the food system. These changes include the prominence of large-scale agribusiness firms; continued integration of agricultural production, marketing, processing, and distribution functions; the decline of farm-level cash markets; the development of supply chain management; and persistent technological advances. The major focus of industrialization as a policy issue tends to be its effects on the survival of traditional family farm agriculture where moderate-size predominates. This is particularly the case in the dairy industry where the February 2002 *Milk Production* report indicates that in 2000 the 2,795 largest dairy farms produced 39 percent of the milk. While large dairy farms exist in every state, there are wide regional differences in numbers and their share of production. Studies indicate that large dairy farms are generally the most efficient producers of milk, receive

discounts on the purchases of feed and other inputs, and often receive higher milk prices than their regional counterparts (particularly in traditional milk producing regions). These higher prices are due to the ability to ship tanker loads (sealed at the farm) and higher quality milk with lower somatic cell counts that enable the end user to get higher product yields and additional shelf life at the retail level.

Regional differences in the size of dairy farms and costs have combined with the ability to transport milk and its products at low cost have led to major geographic shifts in milk production and processing patterns. The diversity of farm size combined with geographic shifts in production and processing patterns have become a major source of divisiveness within the dairy industry--giving rise to policies designed to favor one industry segment at the expense of another, as explained in Part I. Both producer and processor segments that find themselves outside the cutting edge of change or who fear losing the profit advantages they have enjoyed have resisted market-oriented policy shifts designed to accommodate changes in the economics of the dairy industry.

- **Food safety.** The safety of the US food supply has been an issue from time to time dating back to the early 1900s. But the concerns greatly increased in the 1980s with outbreaks of *E. coli* bacteria in hamburger, *Salmonella* in poultry, and *Listeria* in dairy products. This was followed more recently with the discovery of bovine spongiform encephalopathy (BSE or mad cow disease) in Europe and the recognition that it could be transferable to humans. These incidents involving meat and dairy products are ironic in that the modern food inspection system originated in the dairy and meat packing sectors. Demands for food safety and

security are becoming increasingly stringent with future requirements likely including the application of HACCP and traceability throughout the dairy food chain—from farm to consumer. While a smaller number of large dairy farms will make it easier to fulfill these demands, there are certainly political risks in this option.

- **Environment.** The impact of agriculture on the environment now is a well-established and major consideration in policy development. The issues seem to grow without bound, are increasingly complex, and are intertwined with issues in the production, food safety, and international policy arenas. As noted previously, environmental issues are a key aspect of food safety, through pesticide use and residue tolerances, for example. Environmental issues also involve water quality, conservation, and air quality concerns. Conservation policy has been an aspect of US farm policy since the 1930s, often involving payments from the government to help farmers with the costs of compliance. Until recently the major beneficiaries of conservation policy were crop producers. The Environmental Quality Improvement Program (EQIP) and particularly its 2002 farm bill authorizations provisions, if followed by favorable appropriation actions, stand to remedy this inequality.

  Environmental issues are a key aspect of farm sector concentration, especially in large-scale confined animal production facilities. While there is a tendency to want to romantically hang on to smaller family farms with the myth that they are more environmentally friendly, this is not the case. The days of agriculture being sheltered under the umbrella of non point pollution are rapidly

coming to an end, meaning that all dairy farms will be point sources of pollution—just as processing and manufacturing plants already are. Size/scale economies of animal waste management are just as prevalent as other forms of size/scale economies in agriculture. Furthermore, ever increasing environmental regulation will force larger scale dairies to make compliance more cost effective by installing municipal style waste treatment plants.

- **Politics.** The political process makes policy. Therefore, it should not be surprising that politics play the critical role in determining the policies adopted and the programs chosen to implement them. There are many myths surrounding agriculture and its policies. One is that the political influence of farmers is decreasing. One could easily surmise this from the persistent decline in the number of farmers and the farm population (now less than two percent of the US total), reapportionment of Congressional districts every 10 years to reflect the shifting population, and the continual decline in farming's share of US economic activity as measured by the gross domestic product (GDP). But time and again farmers dispel the myth by securing enactment of legislation favorable to their economic interests and well-being. Suffice it to say that even though commercial farm numbers are dwindling and agriculture continues to lose its uniqueness compared with other industries, farmers continue to effectively practice the politics of a minority group.

  The necessity of operating as a minority makes politics a very important force of change. The farm lobby depends on a few very astute (and senior) members of the House with influential positions on the agriculture, budget, ways

and means, appropriations, and other key committees as well as key senators in similar positions. Farmers must have sufficient political diversity to maintain their base of support regardless of which political party controls the House, Senate, and White House. Likewise, farmers now must effectively participate in coalitions with other minorities (environmentalist, consumer advocates, and agribusiness), some of which may not always be allies on major issues. Passing a farm bill or securing a favorable appropriation act to implement the bill can indeed lead to strange bedfellows.

The political reality for the future dairy industry is clear; it must integrate government dairy policies and programs into the general framework of the farm programs applied to other commodities utilizing a combination of direct, fixed, and environmental payments within the legal framework of WTO. In addition, dairy could take a lesson from the most effective of the farm commodity lobbies—cotton. The National Cotton Council represents all segments of the cotton industry—farmers, gins, warehouses, merchants, and mills. They go into Washington with an agreed upon position—and more often than not get what they want. A comparable structure in dairy would involve a merger of the National Milk Producers Federation, the International Dairy Foods Association, and related organizations, which currently share some common membership. The result would be a more rational dairy policy that considers the effects of policy on all segments of the dairy industry.

- **Unforeseen events.** A common characteristic of the forces of change discussed thus far is that they are persistently operating to influence agriculture, its policies,

and its programs. However, history clearly reveals that unforeseen events occur from time to time of sufficient magnitude to cause major changes in the course of political, economic, and even technological events. One such occurrence was the terrorist attacks of September 11, 2001, and the profound influence on many aspects of people's lives. More than a year later, it is difficult to predict the impacts of terrorism in its many forms on the agriculture and food sector. It certainly has raised the spectra of bioterrorism and the need to protect against terrorism throughout the farm-to-table food supply chain. A direct effect was the creation of the Department of Homeland Security and the inclusion of portions of USDA that deal with border inspection and protection. In addition, the economic impacts of 9/11 on the US and world GDP growth have been to weaken US and world dairy demand. There undoubtedly will be numerous and more subtle implications yet unforeseen.

Long-Run Effects of Current Dairy Policies

There are profound effects associated with continuation of the current dairy policies for the industry. These effects need to be realized and taken into consideration by policy makers within the dairy industry, in USDA, and in the Congress. While they may be criticized and/or ignored as being conjecture, they are based on past experience in the dairy industry and in other industries, on logical reasoning, and on the results of research. These dairy industry effects include:

- **Expanded use of dairy and nondairy substitutes.** US consumer demand for US produced dairy products will continue to be eroded by the expanded use of dairy and nondairy substitutes. Substitutes for dairy products have been a concern since

the 1930s when margarine was developed. While it is difficult to quantify the extent to which substitutes have eroded the demand for US produced milk, one only has to visit the ingredients warehouse of modern food manufacturing plants, including dairy plants, to realize that substitutes are extensively utilized. Typically, dairy farmers' reaction to the invasion of substitutes has been a plea for restrictions on imports and a tightening of standards of identity. This has led to persistent, often counterproductive, efforts to plug current tariff code loopholes at US borders. The threat of substitutes has been substantially enhanced by the ability to utilize fractionated dairy components and to develop and manufacture nondairy substitute products. Likewise, the ability to restrict their importation has become increasingly difficult, not only because they are components but also because US obligations under WTO run the risk of encountering noncompliance and related penalties.

- **Restricted growth in US milk production.** Continued limited markets for exports and increased use of substitutes will restrict the demand for US produced milk. The US dairy industry will continue to grow primarily based upon the factors influencing domestic (US) consumer demand including population growth, income, and acceptance of substitutes, tastes, and preferences. While most other agricultural industries experience growth based upon expansion in both domestic and foreign demand, this will continue to not be the case for the US dairy farmers, except to the extent that the US government is willing and able to subsidize exports. Over the next 10 years, with the continuation of current policies, it is entirely possible that the demand for US produced milk will stagnate

and even decline, even though the demand for manufactured dairy products and their substitutes continues to rise.

- **Accelerated decline in the number of dairy farms.** Restricted growth in the demand for US produced milk combined with rapid farm-level technological change means acceleration in the rate of decline in the number of US dairy farms. Available research suggests that the operating costs for efficient cutting edge dairy farms are as low as $9.50 per cwt. Considering the current milk production technology-induced supply expansion by the largest and most efficient dairy farmers, their higher net cash income, their increasing share of milk production, and the current mix of policies, it is reasonable to anticipate that the Class III and/or Class IV price could rest on the current support level much of the time. The anticipated result would be further pressure to reduce the price support. Under these circumstances, smaller and moderate size farms exit the industry when they fail to generate sufficient income to keep up with the pace of technological change and make dairy farming attractive for the next generation of family farmers. Larger farms that fall by the wayside are those that do not realize the benefits of size, due largely to management inadequacies, and take on substantial debt. This type of structural change is not much different than in the past, although the pace of change will accelerate.
- **Incompatibility of price support and direct payments policy.** The combined forces of technological change, the production stimulating effects of direct payments, the price support floor, and the lack of competitive international market access will result in intolerably high program costs and/or huge government

stocks. The industry and the Congress will need to make a choice between direct payments and price supports.

- **Decline in the traditional dairy cooperatives' market share.** Cooperatives that adhere to traditional principles of one person-one vote, limited return on capital, and equal treatment of members will have more problems competing, resulting in a decline in the share of producer milk marketed and manufactured. Proprietary firms have an inherent advantage in competing for the business of large volume producers who deliver high quality milk in tanker loads. These competitive problems, which have been revealed in agricultural enterprises outside dairy, will place increased membership and financial pressures on dairy cooperatives. The need is for a new generation of dairy cooperative thought that provides producer benefits based on contribution to the cooperative's growth, provides increased access to capital markets, and allows adjustment to both capital and product market change. This will require changes in cooperative law at both state and federal levels. Only by this means will cooperatives be in a position to compete in the evolving dairy industry.
- **Reduced US role in global dairy economy.** Each of the above developments suggests that the US dairy industry will not be in a position to take advantage of the development of a global dairy economy. This is the same position as the EU and Canada find themselves. While some US cooperatives and proprietary processors are hedging their bets by building alliances with firms in other countries, the opportunities are limited by US dairy policy and program provisions that affect the products which are produced, their volumes, and prices.

Implications

The basic decision facing the US dairy industry is whether it is going to design its policies consistent with a dynamic and progressive growth strategy or face stagnation and decline. A continuation of current firm and industry policies suggests substantial long-run implications that are particularly adverse to smaller- or moderate-size dairy farmers, their cooperatives, and less progressive processors/manufacturers of US dairy products. While these industry segments will be challenged regardless of the policy changes, all segments of the US dairy industry are more likely to prosper if the following changes are made:

- **Make FMMO policies more market oriented.** This requires policy changes designed to enable and foster competition among uses and components of milk and with nondairy components. This suggests a reduction in the number of FMMO milk classes to no more than three, but potentially to as few as two classes. This does not necessarily mean fewer dollars in the pockets of dairy farmers. For two manufacturing classes to generate higher revenues, there must be differences in the price elasticity of demand with the more inelastic product having the higher price, and the possibilities for substitution of lower cost components must be foreclosed. While elasticity studies are lacking, there is no evidence that cheese is more price elastic than butter and NFDM.
- **Make producer safety net policies more market oriented.** Except for dairy, sugar, and tobacco, all US commodity price supports have been eliminated. Sugar and tobacco are not good company for dairy farmers. Optimally, a growth-oriented dairy policy requires that the milk price support be eliminated. A second

best solution is to require that the Secretary adjust (tilt) component support prices for butter, NFDM, and cheese to minimize government costs—that is, to surplus dairy products with US and world market forces. A variation on this theme would be for the price support program to only purchase cheese and to allow the butter and NFDM price to be world market determined. If direct payments are to be used, they should be available to all producers based on volume—no payment limits.

- **Reduce barriers to trade in dairy products.** US dairy farmers and their processors/manufacturers can be among the most efficient in the world—many already are. This suggests the need for an aggressive stance in the current Doha Round of WTO negotiations to reduce dairy subsidies throughout the world. It also suggests that the US should be prepared to include FMMO's classified pricing as a form of consumption and/or export subsidy (this would also affect Canadian dairy policies) and eliminate blue box exempt production control policies from WTO constraints (primarily affecting Canada and the EU).
- **Revamp cooperative policies.** At a minimum this suggests the need to modify state and federal cooperative laws to allow cooperatives to pay unrestricted dividends, maintain nonmember stock classes, and for members to vote in proportion to volume of product marketed. The result would be increased ability of cooperatives to attract large volume producers and nonmember equity capital. Currently, large volume producers find that either dealing directly with a proprietary processor or forming a limited liability corporation (LLC) as a cooperative proxy is a better option than becoming members of traditional

cooperatives. Changing cooperative law is a weighty issue for dairy cooperatives since they rely heavily on the Capper Volstead Act for antitrust exemption. However, since many dairy and nondairy cooperatives have experienced or are experiencing financial difficulties that are related to the same forces of change outlined previously, it may become necessary to revisit Capper Volstead.

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