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Some Current Issues in Agriculture; Dairy Riding High, But Rougher Times Ahead

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This article presents an overview of some recent and ongoing developments in U.S. agriculture and related industries. The article draws heavily on information presented at a national conference on cooperatives held in the Twin Cities in the early part of November, and pays particular attention to material presentation by Terry Barr, Chief Economist of the National Council for Farm Cooperatives. The issues discussed are relevant not only for those associated with agricultural cooperatives, but for all individuals associated with agriculture. While the article presents neither an all-encompassing set of topics nor many newly identified issues, a review of the current issues may provide further understanding of the extent to which U.S. and global agriculture are affected by ongoing changes.

Food Systems Restructuring

The U.S. food and fiber system is undergoing a series of rapid changes. Farmers and their families, individuals working in farm-related industries and others associated with agriculture are all affected by these changes. This transformation of U.S. agriculture is taking place on several fronts. First, agriculture and its affiliated industries are adjusting to structural changes taking place in U.S. society in general. Among these societal changes are two major demographic shifts that, in turn, affect consumer demand. One of the demographic changes is a decline in population growth. In the early 1950s, the U.S. population increased by more than 15% per decade. Since then, the population increase has dropped to around 10% per decade and it is projected to be around 8% by 2010. An important driver of population growth is immigration. Without immigration, the U.S. population is projected to increase by just over 5% per decade by the decade 2010. A second demographic change is in the age distribution of the U.S. population. During the period 1970-90, the group of individuals aged 25 to 44 constituted the most important driver of economic growth, while during the period 1990-2010 it (Continued on page 2)
acquisition of American Stores Co. by Albertson's—until then the second largest grocery chain in the U.S.—major mergers took place among large supermarket companies was 77%, while that of 20 largest companies placed in the retail sector, in the first part of this year, 17 had increased to 52%, Similar developments have taken place in the largest companies had a market share of 24% in the U.S. In 1995, the market share of the 100 largest industries controlled only 63% of the market and the 20 largest companies in the food and manufacturing sectors and the farm sector itself. For example, in 1972 the 100 largest industries associated with the farm sector, as well as in the food and fiber system. Under saturated market conditions, a company's profits may continue to increase by reducing costs, expanding consumer demand, realigning with other companies to increase market share, or increasing the company's economic flexibility through outsourcing. Evidence of the existence of mature markets is provided by a number of important indicators. For example, while the number of newly introduced food products increased from 8,183 to 16,863 between 1988 and 1996, it decreased to 13,266 in 1997. Also, the number of newly introduced non-food products declined from 19,572 in 1997, after increasing from 10,558 to 22,572 between 1988 and 1996. For both types of products, 1997 was the first year a decline occurred in newly introduced products.

A second illustration of the development of mature markets is the increased concentration among all industries associated with the farm sector, as well as in the food and fiber system. For example, in 1972 the 100 largest companies in the food and manufacturing industries controlled only 53% of the market and the 20 largest companies had a market share of 24% in the U.S. In 1995, the market share of the 100 largest companies was 77%, while that of 20 largest companies had increased to 52%. Similar developments have taken place in the retail sector. In the first part of this year, 17 major mergers took place among large supermarket chains. Not included in these mergers is the recent acquisition of American Stores Co. by Albertson's—until then the second largest grocery chain in the U.S.—creating the largest food retailer in the U.S. with a market share of 8.5% of total supermarket sales. The other five largest grocery chains in the U.S. are Kroger, Wal-Mart, Safeway, and Ahold (a Netherlands-based grocer), with sales of 6.3%, 5.9%, 5.3%, and 4.3% of total supermarket sales, respectively. Currently, the ten largest food retail companies control 44% of the U.S. food retail market (Feedstuffs).

The aforementioned structural changes in society also affect consumer eating patterns and food delivery. In 1950, more than 85% of U.S. food expenditures were comprised of grocery store sales and the remainder was spent on food-away-from-home. In 1997, 55% of total food expenditures included grocery sales and 45% were comprised of FAFH expenditures. Nearly 20% of total FAFH expenditures is accounted for by the four largest firms (McDonald's, Tricon Global Restaurants (which owns Pizza Hut, Taco Bell, and KFC), Diageo (Burger King), and Wendy's International.

In addition to industrial realignments on the output side of the food and fiber system, there are ongoing restructuring forces in the agricultural input industries. In the agricultural feed industry, integration in the livestock industry is forcing consolidation. Also, in the fertilizer industry, global competition and capacity increases have already led to consolidation. Furthermore, a major change is taking place in the seed and crop protection industries, where biotechnological changes and the increased use of integrated pest management techniques are leading to a decrease in the number of firms. In addition, mergers in railroad companies affect transportation costs and alternatives, and in the agricultural lending industry, bank mergers and changes in investment alternatives change the rules of the game. On the energy side, changes in the electric power industry are also causing realignments, and in the telecommunications industry mergers and internal agreements affect information provision. Last but not least, the farm sector itself is consolidating. In 1995, less than 6% of all farms—that is, those with annual sales of at least $250,000—accounted for 60% of total sales and 54% of cash expenses in the U.S.

### Technological Changes

In addition to structural changes taking place at all stages of the food and fiber system, a second challenge to agriculture is posed by the changing role of technology. Technological developments have improved information delivery and have increased both information quality and quantity. The improved information technology has particular benefits for highly integrated systems which tightly coordinate their supply chain networks. Information is shared at various stages of the agricultural system. This reduces the need for keeping inventories, which not only reduces costs and shifts risk burdens, but also affects planning and coordination at various stages of the food and fiber system. In addition to providing benefits within the supply chain, information systems also provide a link between consumer preferences and...
the various stages of the food system, including the farm sector. Vice versa, the information technology allows food products to be traced to the farm level, allowing for quality management, but also causing shifts in risk burdens within the food system.

Biotechnological advances are expected to lead to further market segmentation, although other specific impacts are not clear. Biotechnology will drive the demand for specific product traits, resulting in traitspecific systems from producer to consumer. For example, feeding genetically engineered corn to hogs may produce low-fat pork. Also, processors stand to benefit from using low-cost agricultural commodities, by converting them into products with specific traits using specialized processing techniques. An example of this approach is provided by Archer Daniels Midland, which purchases regular corn to produce lysine.

**Globalization**

The third major issue facing U.S. agriculture is that it is increasingly active in and exposed to global markets. An important reason for the U.S. presence in global markets is that there is an imbalance between agricultural productivity increases and the ability of domestic consumers to absorb agricultural products. For example, U.S. dairy production is increasing at a rate of 1% per year, while the domestic consumption of dairy products is increasing by 0.5%. A related reason for the increased global focus of U.S. agriculture is the potential existence of lucrative markets for U.S. products. While globalization opens up new markets, it also exposes U.S. agriculture to increased competition and gives rise to a new set of risk management options within the food and fiber system.

**Changes in Government Policy**

The fourth challenge to U.S. agriculture is caused by changes in government policies. Direct financial support to the farm sector by the federal government is set to decrease due to budget pressures, changing demographics, exposure to international markets, and shifts in political representation. Government involvement is shifting away from farm program payments towards other areas within the food and fiber system—including food safety, natural resource conservation and environmental issues, national and international market regulation and programs, and rural areas in general.

In addition to a shift of government involvement from production agriculture to other stages of the food system, agriculture is affected by government deregulation in railroad transportation, the banking industry, telecommunications, and the electric power industry. The changing role of the government in agriculture is likely to contribute to increased volatility in agricultural commodity markets, providing room for a new set of rules and regulations and further requiring a new set of risk management strategies on the farm and in agribusinesses.

**Summary and Conclusions**

Agriculture and its related industries are undergoing many changes. At the farm level, biotechnology, global product markets, environmental concerns, and reduced government programs are changing agricultural production and marketing. Processors, faced with food safety issues, foreign competition, and proprietary issues, have changed their product procurement and processing. Distributors and retailers, utilizing new information and communications technology, are attempting to eliminate inefficiencies throughout the food supply chain.

The transformation taking place in the food and fiber system has important implications for all individuals working in agriculture and its associated industries. As Barr pointed out: "The entire food chain from input provider to farmer to consumer is in transformation, and some layers will disappear. Under these conditions, the highest risks and the lowest margins are placed upon the weakest participants in the chain."

**References**


(Dairy Riding High....Cont'd from p.1)

Cheese, sour cream, and dips. Exports have increased. With reduced barriers brought about by the NAFTA treaty, exports of dairy products to Mexico increased from $110 million dollars in 1996 to $160 million in 1997.

Prior to 1985, high price supports for fat caused butterfat to accumulate in government warehouses. (The government had over 220 million lbs of butter in storage on Dec. 31, 1993.) Butter use dropped from about 18 lbs per person per year prior to WWII to 4.5 lbs by 1980. With the passage of the 1985 and 1996 farm bills, the butterfat problem was cured by lowering the support price for butter. That, coupled with new studies that said margarine was not any healthier than butter, and a desire for a natural product, helped people reacquire a taste for butter. (By October 1998, government owned butter was only 8,000 pounds.)

The rise in milk prices is due, to a great extent, to poor weather conditions in California, California, the biggest dairy state in the nation, had a cold wet spring and was wet much of the summer. This stressed cows and they were not able to produce as expected. Also, Pacific Northwest and Mountain States had lower than desired quality feed, which reduced production there. The Southeast and Southwest had extremely hot weather this summer, which stressed cows more than normal.
Changing Conditions

However, conditions are changing. The high milk price and low feed prices have induced dairies, especially in the West, to expand. On September 30, cow numbers were 7,000 head more than they were on July 31 and 5,000 more than they were on September 30, 1997. The replacement of El Nino with El Ninia could have a significant impact on dairies. Some forecasters say El Ninia will result in more favorable conditions for California and the Southwest and extra cold and wet winter for the central region of the country. If so, it will mean not only lower milk prices, but higher production costs for the Midwest. If California and the Southwest have more favorable conditions this winter and spring with El Ninia, production could rebound rapidly.

Butter prices at the CME spot auction have fallen for 9 consecutive weeks, dropping $1.4850 from $2.8100 in September to $1.3250 a pound on November 20. Extremely high prices have caused some industrial users (e.g. bakers) to reformulate their recipes to use butter substitutes. It will take a while to get these users back. Others were saved from switching when lower cost imported butter became available. Many retail buyers have also switched to substitutes and restaurants are less eager to serve butter.

Since cream prices are determined primarily by butter prices, lower butter prices mean lower cream prices, which in turn means lower milk prices. Midwestern cream prices have dropped from a range of $3.6530-$3.8080 per pound of butterfat in mid-September to $1.9250-$2.2750 in mid-November. The relationship between the price of cream and the price of butter is stated in “multiples,” which is the price of cream divided by the CME cash price for butter. In some areas, cream prices have fallen from 138% of the Grade AA butter price to a price equal to it. Midwestern cream multiples have decreased from 130-140 in early August to 110-128 in mid-November.

Conclusions

What should a dairy producer do? Basically, start preparing for rougher times ahead. This includes reducing debt, accumulating liquid financial assets to help carry one through periods when total revenues fall short of total expenses, and developing a marketing strategy to capture profitable prices, when they occur.

For those who have not developed a marketing plan, it is not too early to start. This includes examining the potential benefits of cash forward contracts, minimum price contracts, hedging and use of options. We know prices will not stay where they are. They may even go higher, but a realistic evaluation tells us that the risk of a price decline is much greater than the likely benefits of additional price increases. Now is the time to start protecting income while one can lock in record high prices through March 1999. A good marketing plan takes time to think through and set up. It involves asking a lot of “what if?” questions and having a plan to respond to each possibility. It will be a lot harder to do some creative marketing if prices drop back to $10 or $11/ cwt, although they are not expected to get that low in 1999.

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