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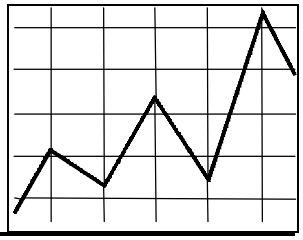

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WHEN WILL U.S. FIRMS BECOME MAJOR DAIRY EXPORTERS?

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Summary

No definite answer can be provided to the question appearing in the title of this Marketing and Policy Briefing Paper. The world dairy industry is being buffeted by changes that may make it advisable for more U.S. firms to prepare to export dairy products. However, incentives for U.S. firms to expand dairy exports in the next few years will be lower than those facing firms in New Zealand, Australia, and the "Southern Cone" of South America. While U.S. firms may feel no urgent need to expand dairy exports, they will likely forfeit market shares to aggressive foreign firms if they fail to do so. Moreover, U.S. firms will find it difficult to regain market share lost as a result of being a late mover into exporting. Successful foreign firms are emphasizing (1) exports of differentiated (value-added) dairy products, and (2) being an early mover into new foreign markets for differentiated dairy products. U.S. dairy firms may find these strategies worth emulating.

Introduction

Some who are familiar with the U.S. dairy industry will think it curious to ask, "When will U.S. firms become major dairy exporters?" A few will claim that it is wrong to suggest that the U.S. is a "bit player" in international dairy markets, noting that:

- During 1992-94, an average of about 25% of U.S. nonfat dry milk (NDM) production was exported under the USDA's Dairy Export Incentive Program (DEIP) export subsidy program.

- U.S. firms sell in foreign markets without export subsidies differentiated dairy products such as specialty cheeses, dried whey, whey protein concentrate, lactose, dairy-based food ingredients, premium ice cream, and fluid milk. Wisconsin firms are prominent exporters of some of these products.

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Others concede that, except for when the DEIP is heavily used, the U.S. has a small presence in international dairy markets. But, they frequently add in the next breath that it is pointless to be concerned about when U.S. firms will become major dairy exports because the U.S. domestic dairy product market is large and more profitable to serve than "thin," volatile foreign markets. They label foreign dairy markets as being "thin" and turbulent partly because the equivalent of only about 5% of world milk production enters international markets and government export subsidies frequently depress and destabilize international dairy product prices. Still others observe that world dairy industries are being buffeted by forces that make it advisable for more U.S. dairy firms to prepare to export within the next few years. These forces will reduce government dairy export subsidies and increase access to domestic dairy markets.

This paper argues that the last point is important. Accordingly, the paper (1) identifies changes which may call for more U.S. dairy farmers and marketing firms to prepare to expand dairy exports, (2) describes recent U.S. dairy exports and imports, (3) evaluates incentives that U.S. firms will have to expand dairy exports, (4) describes views of leading foreign dairy exporting firms on the export market environment, and (5) identifies potentially useful strategies for U.S. firms that decide to expand dairy exports.

Changes That Call for More U.S. Dairy Firms to Prepare to Export

Changes buffeting the U.S. and world dairy industries which call for larger numbers of U.S. dairy firms to gear up to export include the following:

- The USDA's current dairy price support program (which is based on product purchases) will end after 1999, eliminating government price floors for butter, cheese and NDM. This may cause export markets to be looked upon favorably as an outlet for U.S. dairy products not saleable at acceptable prices in the domestic market.

- Many dairy product and other food markets in the U.S. are mature. Nestle, one of the worlds largest food companies, characterizes U.S. and European food markets as being "flat and fiercely competitive [10]." This has caused Nestle (and other firms mimicking Nestle's strategy) to increase dairy product sales in the growth markets of Asia and Latin America.

- The North American Free Trade Agreement (NAFTA) has expanded dairy exporting opportunities in Mexico. For example, the Mexican market for imported cheese has grown rapidly in recent years, from 3% to 8% of the total domestic cheese market and over 30% of the market for hard and semi-hard cheeses. Another increase in cheese imports is expected in 1997. Barriers to cheese imports are dropping under the NAFTA and by 2003, U.S. produced cheese will enter Mexico duty-free compared to a rate of 40% for cheese imported from Europe and Oceania [11, p. 12].

- The MERCOSUR trade agreement involving Argentina, Brazil, Uruguay and Paraguay has fostered an expansion of dairy trade within the region. Brazil is the most important destination for dairy exports from Argentina and Uruguay. Argentine and Uruguayan dairy exporters are likely to expand exports to countries outside the MERCOSUR in the future.

- The Uruguay Round GATT agreement has increased access to domestic dairy markets and reduced government export subsidies. While the Uruguay Round GATT agreement is only a first step toward freer trade in dairy products, it begun to reduce the impact of subsidies on world dairy markets. For example, the agreement required European Union (EU) exporters to reduce subsidized cheese exports by about 25% from mid-1995 to 2000. It also will prevent U.S. firms from making large subsidized exports of NDM under the DEIP. For example, DEIP exports of NDM averaged 116 thousand metric tons (mt)--25% of production--during 1992-94. In 2000, subsidized DEIP exports of NDM will be limited by the GATT agreement to a maximum of 68 thousand mt (59% of the 1992-94 average DEIP exports of NDM).

- World Trade Organization negotiations scheduled to begin in 1999 almost certainly will increase access to domestic dairy markets and further reduce government dairy export subsidies, increasing incentives for expanded world dairy trade.

- EU dairy exporters are likely to become less dominant in dairy exporting within 5 to 10 years. Presently, EU dairy exporters collectively have dominant market shares in major dairy export markets. Their leading market shares produce world market prices for bulk dairy products that tend to equal the EU internal market prices minus EU export subsidies. WTO negotiations will bring about further reductions in EU dairy export subsidies and increase access to the EU market. When this happens, EU export market shares and the price depressing influence of subsidized EU exports on world dairy product prices will diminish.

- Dairy exporters in other countries are preparing to take advantage of possible expanded dairy exporting opportunities. Moreover, the New Zealand Dairy Board (NZDB), the world's largest private dairy exporter, has concluded that early mover advantages exist for exporting differentiated dairy products. The NZDB claims that initial entrants gain about a 15% advantage over second entrants and larger advantages (third entrants break even and fourth and later entrants lose money) over later entrants. While it is unclear whether sequence of entry into a foreign market has such a close relationship to profits, there are undoubtedly early mover advantages. This point has significant implications for firms planning to export into gradually opening world dairy markets.

These items point to gradually opening world dairy markets and identify strategic moves of a few exporters to take advantage of the opening markets.

Recent U.S. Dairy Exports and Imports

U.S. involvement in international dairy markets was limited in 1996 (Table 1). U.S. firms exported 34 thousand mt of NDM, which was equivalent to 7.1% of U.S. NDM production in 1996 but substantially below the totals recorded during 1992-94 when the DEIP was used more heavily. U.S. butter and cheese exports were equal to 3.2% and 0.9% of national production, respectively.

Table 1. U.S. Exports and Imports of Major Dairy Products, 1996.*

Product	Exports, 1996		Imports, 1996	
	Mt (1,000)	% of Production	Mt (1,000)	% of Consumption
Cheese	30	0.9%	152	4.5%
Butter	17	3.2	3	0.6
Nonfat Dry Milk	34	7.1	2	0.4

*Source: U.S. Department of Agriculture, "Dairy: World Markets and Trade," FD 1-97, January 1997.

A few important exporting successes recorded by U.S. firms are concealed by the summary exporting figures in Table 1. One is the gain made by U.S. firms in the Korean cheese market where they have acquired about a one-third market share [7]. A second was the increase in unsubsidized exports of U.S. butter in 1995 and 1996. Finally, the figures fail to reflect the high value of certain differentiated dairy products exported by U.S. firms.

However, several other countries are much more heavily involved in dairy exporting. New Zealand, for example, exported 238 thousand mt of butter (84% of production), 173 thousand mt of cheese (73% of production), and 150 thousand mt of NDM (77% of production) in 1996. Moreover, the New Zealanders emphasize exports of differentiated dairy products. While the EU exported a smaller percentage of dairy product production than New Zealand, the absolute quantities of dairy products exported by EU firms were large in 1996. Excluding intra-EU trade, EU firms exported 158 thousand mt of butter (9% of production), 549 thousand mt of cheese (10% of production), and 260 thousand mt of NDM (22% of production) in 1996.

U.S. involvement in the international dairy trade is largest for cheese imports. In 1996, U.S. cheese imports equaled 152 thousand mt (4.5% of consumption). In terms of tonnage of cheese imported in 1996, the U.S. ranked second only to Japan which had imports of 160 thousand mt. However, the U.S. ranked far below Japan in percentage of cheese consumed which was imported--Japanese cheese imports accounted for 84% of that nation's cheese consumption.

Incentives for U.S. Firms to Export Dairy Products

The material on "early mover" advantages for securing new differentiated dairy export markets and the need to "catch up" to experienced dairy exporters in other countries identify incentives that U.S. firms will have to expand exports of dairy products in the next few years. These considerations suggest that it will be better for U.S. firms to prepare to expand dairy exports sooner rather than later. However, these points may not be sufficiently tangible to persuade many U.S. dairy firms to expand exports.

Impact of Milk Production on Incentives to Export. Figures on U.S. milk production relative to other dairy exporting countries provide additional information on the incentives of U.S. firms to

export dairy products. The figures employed to compute the year-to-year changes in milk production in Table 2 reflect USDA forecasts for 1997. Thus, the information may not

Table 2. Classification of Major Milk Producing Countries Based on Average Year-to-Year Changes in Cow's Milk Production, 1992-97.*

Country Category and Average Year-to-Year Change	Countries in Category
Rapidly Expanding Countries (>5% per year)	Argentina, Brazil, Chile, Uruguay, New Zealand, Australia, and China
Moderate Growth Countries (2% to 5% per year)	India
Slow Growth Countries (0 to 1.99% per year)	United States, Canada, Mexico, and Japan
No Growth Countries (Quota effect)	European Union
"Turn Around" Country (-to+ change per year)	Poland
Contracting Countries (0 to -7% per year)	Russia, Ukraine

*Sources: U.S. Department of Agriculture, "Dairy: World Markets and Trade," FD 1-97, January 1997 and Scandinavian Dairy Information, 2/96.

adequately take into account the droughts in the Southern Cone Countries of South America (Argentina, Brazil, Chile, and Uruguay) that occurred in late 1996 and early 1997. Nonetheless the categorization of the countries in terms of milk supply growth is probably accurate.

Incentives of U.S. firms to export dairy products will be limited if U.S. milk production continues to grow slowly. In a slow growth environment, domestic market expansion will tend to absorb at acceptable prices much of the increase in U.S. milk production. This "slow growth" pattern of course could be changed to a higher growth rate by several developments, including a string of good grain and forage crops, structural adjustments in Wisconsin's dairy industry which expand milk production, increased use of Bovine Somatotropin in parts of the U.S., and lagged supply response created by increases in domestic milk and dairy product prices. It is frankly difficult to tell whether and how soon the U.S. will move out of the slow growth milk production category.

Four current or emerging dairy exporting blocks are represented by Table 2. The four dairy exporting blocks are the U.S., EU, Australasia (New Zealand and Australia) and the Southern Cone countries of South America. Few would express surprise at identification of the first three countries or country groups as major current or potential dairy exporters. Less widely recognized is the

emergence of the Southern Cone countries as an important additional dairy exporting block. Milk production in these countries is expanding at about the same rapid rate as in New Zealand and Australia. Argentina--with its pasture-based dairy farming system--is the largest dairy exporter in the group. USDA analysts describe the Argentine dairy industry as follows [11, p. 5]:

> "A stable economy, a free dairy sector, and increased domestic consumption in the past five years have made the sector one of the most profitable at both the farm and processor levels. The rapid growth is attracting large investment in the sector, mainly from local companies already in the business, but also from new foreign companies. The dairy industry, which currently boasts the highest per cow yields in South America, is expected to become even more efficient as investment increases."

The USDA's description of the Argentine dairy industry appears accurate. While Argentine dairy firms are currently exporting mostly to MERCOSUR partner Brazil, they may expand dairy exports to Northern South America, Mexico, the U.S., Japan and other countries in the future. What is the implication of emergence of the Southern Cone countries as a dairy exporting block? Mainly, it suggests that U.S. firms will have incentives to be early movers in dairy exporting, lest an additional strong competitor challenge them for sales in gradually opening dairy export markets.

Price Incentives for Exporting Commodity Dairy Products. U.S. dairy firms would have price incentives to export bulk, commodity dairy products without subsidies if U.S. prices for the products declined to levels at or below world dairy product prices and promised to stay there for extended periods. Generally world prices for butter, cheese, and NDM have been below U.S. support prices for these products in recent years. (U.S. butter prices represented an exception in 1995-96.) Therefore, U.S. firms have had little price incentive to export bulk dairy products without export subsidies.

What would drive U.S. prices for butter, cheese, and NDM to world price levels or below? Two main developments would do it. One is substantially expanded imports of dairy products from the New Zealanders, Australians, and others. The second is increased domestic production of milk, butter, cheese, and NDM and flat or slowly growing demand for the products after the USDA's dairy price support program ends.

The Uruguay Round GATT agreement will not permit increases in dairy imports in amounts that would depress U.S. dairy product prices substantially. Under the Uruguay Round GATT agreement, access to the U.S. domestic cheese market is scheduled to increase to about 5% of domestic consumption by 2000. As shown earlier, the U.S. in 1996 imported the equivalent of about 4.5% of domestic cheese consumption. Hence, the additional cheese imports that would occur under the "within quota" rates of the GATT Agreement tariff rates quotas presumably would be small. U.S. butter and NDM imports are likely to be minuscule during the next few years. However, increased casein imports could put downward pressure on NDM prices because of substitution possibilities between casein and NDM.

Reductions in U.S. prices for butter, cheese, and NDM are more likely to occur as a result of expanded domestic milk and dairy product production and possible reductions in domestic dairy product demand. Whether, in the absence of the USDA's dairy price support program after 1999,

these developments will drive U.S. domestic butter, cheese and NDM milk prices to world price levels is unclear. However, it is possible to get indications of whether this will happen based on recent history.

Table 3. Number of Months when U.S. Market Prices for Dairy Products were Less than 5% Higher than Support Price and World Price, 1990-96.*

	Number of Months during 1990-96 When U.S. Market Prices were Less than 5% higher than:	
Product	Support Price	World Market Price
Cheddar Cheese	11	0
NDM	33	0
Butter	40	17

*Sources: U.S. Department of Agriculture, "Dairy: World Markets and Trade," Various Issues, 1991-97. Domestic dairy product prices used in the analysis were for the following locations and specifications: Cheese; 40 lb. blocks at Wisconsin Assembly points. NDM; U.S. Market Central. Butter; Chicago (AA-Salted). World prices consisted of midpoints of high and low prices for cheddar cheese, NDM, and butter, FOB Northern European ports.

The information in Table 3 identifies incentives that U.S. firms might have to export bulk dairy products. The indicators in Table 3 compare U.S. market prices for dairy products to threshold prices that are 5% higher than the USDA support price and world price, drawing the implications noted below.

- When U.S. prices for cheddar cheese, NDM, and butter fall to levels less than 5% above the support price, this identifies times when domestic supplies of the products are relatively abundant relative to demand. Frequent evidence of market prices below this threshold level suggests that price incentives to export bulk products might emerge when the USDA's dairy price support program ends after 1999. This would be true only if U.S. dairy product supply-demand balances continued at recent levels or weakened.

- When U.S. prices of cheddar cheese, NDM, and butter are less than 5% above the world price, this indicates the existence of incentives to export bulk products before the end of the USDA's dairy price support program and forecasts strong incentives to export after the end of the price support program. This screen recognized that at times U.S. butter prices, in particular, were lower than world prices during 1990-96.

The selection of screens set at levels 5% above the support prices and world prices was to some extent arbitrary. Other low percentage figures could have been used. Note also that the USDA will retain a recourse loan program for dairy processing/marketing firms after the current price support program ends. While the recourse loan program will permit firms to finance dairy product inventories at cheaper interest rates than will be available in private credit markets, the program is

unlikely to provide government price floors under U.S. dairy products.

Figure 1 shows the relationship among U.S. cheese prices (for the National Cheese Exchange), the USDA support price, and world prices as measured by the mid-point of prices FOB Northern European ports. The information is similar to that indicated in Table 3, but a noteworthy point is the sustained upward movement of world cheese prices that began in about 1994. This movement put world cheese prices near the U.S. support price beginning in about mid-1995. This increase in world cheese prices reflects a host of developments including strong demand and the reduction in subsidized EU cheese exports.

Among U.S. dairy product prices, those for cheddar cheese have remained the highest compared to domestic support prices and world prices. U.S. market prices for cheddar cheese fell to levels less than 5% above the support level in only 11 of the 84 months in the 1990-96 period. Moreover, there were no months when U.S. prices for cheddar cheese fell to within 5% of the support price between January 1993 and December 1996. These relationships reflect both the effects of slow growth in the U.S. milk supply and generally strong domestic demand for cheese. However, the relatively low cheddar cheese prices that emerged in the spring of 1997 may signal an end to the period when U.S. cheddar cheese prices remained substantially above the government support level.

U.S. NDM market prices fell to levels less than 5% higher than the support price in 33 of the 84 months in the 1990-96 period. This occurred most recently in April 1996.

U.S. market prices for butter clearly plumbed the lowest levels relative to support prices and world prices. In 40 of the 84 months during 1990-96, U.S. market prices for butter were less than 5% higher than the support price. Moreover, in 17 of the months--notably in all of 1995 and early 1996--U.S. butter prices averaged less than 5% higher than the world price threshold. Reflecting these developments, some U.S. butter was exported without export subsidies in 1995 and 1996.

Hence, price incentives appear to be greatest for U.S. butter exports to be made at without export subsidies in 2000 or before. The next most likely candidate for exporting without export subsidies is NDM. Detailed figures on the relationship between domestic prices for cheddar cheese, NDM, and butter appear in Appendix Tables 1,2 and 3. These tables reveal the volatile nature of the relationship between market prices and support prices. For example, in 1996, monthly U.S. market prices for butter ranged from 126% above the world price to 23% below the world price. The USDA described the recent volatility of U.S. butter prices as follows [11]:

> "The recent gyrations of U.S. butter prices which ranged from around $3,375/metric ton down to $1,605/ton and back up to $2,010/ton in the space of three months will undoubtedly present a hurdle for prospective exporters for the same reasons cited for NDM."

The "same reasons cited for NDM" relate to lack of availability of domestic supplies which produces price volatility and makes U.S. suppliers reluctant to commit substantial volumes for export at fixed prices.

Price comparisons of the type made above for bulk dairy products are not meaningful for differentiated products such as specialty cheeses. Highly differentiated dairy products can sell for prices that are multiples higher than those for bulk products. Hence, exports of these products will be influenced strongly by firms' ability to produce to specification and the marketing prowess of the exporter. Price will be less important. As noted elsewhere in the paper, certain experienced dairy exporters find differentiated products more attractive to export than bulk dairy products.

How do Major Foreign Dairy Exporting Firms View the Export Market Environment?

U.S. firms thinking of expanding dairy exports may find it useful to know how competitors view the international dairy environment and how these firms position themselves to operate successfully in it. Previous observations made by Nestle and the New Zealand Dairy Board will not be repeated. However, additional points relating to the New Zealand Dairy Board's practices for operating in the emerging market environment will be noted.

1) The New Zealand Dairy Board (NZDB). The Wellington, New Zealand-based NZDB, which is the world's largest private dairy exporting firm with sales of US$ 3.7 billion in 1995/96, has single desk or monopoly exporting privileges but no other government support [9].

The NZDB has long recognized the risks associated with selling bulk dairy commodities into thin international dairy markets. Accordingly the firm has attempted to increase the percentage of exports sold as differentiated or partially differentiated products. In the firm's 1996 annual report, the NZDB described the problem with exporting bulk dairy commodities as follows [9, p.7]:

> "Commodity markets are declining in absolute size and are quite incapable of absorbing the (New Zealand) industry's increasing milk production. This inescapable dynamic underscores the need for the industry to continue pressing forward with its value-added strategies."

Risk exposure for the NZDB is less for differentiated products. However, the firm has not found it simple to expand the percentage of exports sold as differentiated products in New Zealand where sharp increases in milk production have been triggered by the Uruguay Round GATT agreement and other developments. The NZDB apparently can export as differentiated or partially differentiated products flowing from increases in milk production as large as 4% or 5% per year. However, larger increases often must be marketed by the Board as commodity products.

2) Ireland's Dairy Board (IDB). The IDB, a Dublin, Ireland-based firm with export sales of US$ 1.9 billion in 1995, believes that it will encounter strong competition in world dairy markets from Australasian (New Zealand and Australia) firms, U.S. firms, and others as a result of the Uruguay Round GATT agreement which will require reductions in EU export subsidies for dairy products [6]. Accordingly, the IDB plans to expand dairy product exports to the internal EU market where it will face little or no disadvantage in terms of raw product cost. Since the Uruguay Round GATT

agreement will reduce EU subsidies on exports of cheese more than on butter and NDM, presumably the IDB will have incentives to expand cheese sales within the EU relative more than sales of butter and milk powder in the Union in the short-run.

Reflecting a consensus in Ireland's dairy industry that food ingredients represent a profitable growth area, the IDB plans to expand exports of dairy-based food ingredients.

3) The Kerry Group. Once a relatively small dairy cooperative, the Kerry Group headquartered in Tralee, Ireland, has transformed itself into a cooperative/public limited company and has become a large exporter of differentiated dairy products and other food items during the past 25 years.

Kerry Group officials claim that larger, more efficient dairy farms, milk processing plants, and marketing organizations will rapidly become the norm around the world. D. Brosnan, Kerry Group CEO, said that the challenge facing many dairy exporting organizations is to "diversify or merge." Brosnan, whose firm has emphasized diversification and product differentiation, explained the recommendation as follows [2]:

> "The Kerry type of organization succeeds because it has many different businesses depending on different raw materials and different customers in various countries of the world. When one area turns down, there always is something else to compensate...The alternative is for merged entities to have their own strong sales and marketing arm. The world marketplace is calling for size and world marketers...The ultimate solution is to be a global marketer...Only global marketers will be noticed in a few decades from now."

4) M.E. Franks. M.E. Franks, a St. Davids, Pennsylvania U.S.-based firm owned by Ecoval of Belgium, has long recognized that developments in the rest of the world are more and more likely to have an impact on the future of the U.S. dairy industry. In addition, an officer of the firm pointed out in 1990 that "there are forces at work which will narrow the gap between returns on the domestic and international markets [5]." The remarks were prophetic. The firm has long exhorted the U.S. dairy industry to prepare for these developments.

M.E. Franks frequently has been the largest exporter of dairy products under the DEIP program, concentrating on large customers such as the government importing agencies of Mexico and Algeria. The company's actions suggest that it believes that its competitive advantage lies in being a low cost exporter of commodities.

5) Foreign Direct Investment of European Dairy Exporters. A number of EU dairy firms are expanding foreign direct investment in regions of the world where milk production/ and or dairy demand are expanding. EU firms taking such actions include Hoogwegt (Netherlands), Danone (France), Parmalot (Italy), Nestle (Switzerland), Avonmore Foods (Ireland), Ireland's Dairy Board (Ireland), and Kerry Group (Ireland). Hoogwegt's actions are noteworthy. The firm has established dairy product procurement and marketing arms in the U.S., Australia, and Argentina. The actions of the EU firms are partly a reaction to EU farm milk production quotas which create excess plant and management capacity in the Union.

The dilemma facing EU exporters is suggested by Table 4 which describes likely changes in milk production for the four exporting blocks described earlier. It was assumed that the EU will be required to reduce milk production by two thousand metric tons to satisfy Uruguay Round GATT requirements relating to subsidized dairy exports by 2000 [4]. Figures appearing in Table 4 for 1997 are USDA forecasts. Except for the EU, the estimates in the table for 2000 represent

Table 4. Milk Production in Four Exporting Blocks, 1997 and 2000.*

Exporting Block		MILK PRODUCTION			
		1997		2000	
		(1,000 mt)	% of EU	(1,000 mt)	% of EU
1)	EU	120,536	100.0%	118,536	100.0%
2)	U.S.	70,675	58.6	72,062	60.8
3)	Australasia	20,352	16.9	23,980	20.2
4)	Southern Cone of S.A. (Argentina, Brazil, Chile & Uruguay)	34,437	28.6	41,611	35.1
5)	U.S., Australasia & Southern Cone of S.A.	125,464	104.1	137,653	116.1

*Sources: U.S. Department of Agriculture, "Dairy: World Markets and Trade," FD 1-97, January 1997 and Scandinavian Dairy Information, 2/96.

extrapolations of rates of increase in milk production recorded for 1992-97 to 2000. The projections suggest that milk production in the three other dairy exporting blocks will increase from 104% of EU milk production in 1997 to 116% of EU milk production in 2000. This change, which likely will be reflected in future export market shares, helps to explain EU foreign direct investment in other countries.

Strategies for U.S. Firms Planning to Expand Dairy Exports

No definite answer is provided to the question: "When will U.S. firms become major dairy exporters?" However, one can evaluate the strength of incentives that U.S. dairy firms will have to export and draw implications.

A Dilemma. Incentives facing U.S. firms to export dairy products apparently will be limited--at least during the next few years. In addition, incentives of U.S. firms to export dairy products will be weaker than those of firms in two other exporting blocks. The Australasian and Southern Cone (mainly Argentina and Uruguay) firms find themselves in countries with rapidly increasing milk production and domestic markets that will not absorb the production at acceptable prices. Firms in these two blocks face what former U.S. Agriculture Secretary, Earl Butz, called a "sell it or smell it" problem. For them, selling "it" involves exporting. The firms could encourage their countries' dairy farmers to slow the expansion of milk production or shrink. These options are painful to farmers and

will not be the first pursued. Hence, expect firms in these countries to aggressively pursue dairy export markets.

This will create a dilemma for U.S. dairy firms. Aggressive exporters in countries where milk production is rapidly growing may have acquired substantially larger market shares in foreign markets by the time that U.S. firms begin to expand exports substantially. Getting market share away from the aggressive foreign firms will be no easy task. Hence, the advantage to U.S. firms associated with being an early mover into dairy exporting.

EU dairy exporters seeking to maintain sales in Asian markets targeted by the NZDB and Australian dairy firms appreciate the aggressiveness of the Australasian firms. USDA analysts described the competition faced by the EU firms in Asia as follows [11, p. 16]:

> "Based on estimated (NDM) prices it appears that the Oceania countries marketed their product at well below EU prices in order to capture the Asian markets. This is evident since Oceania prices were at their most aggressive during the August and September (1996) period when they traditionally market the bulk of their initial and anticipated production. Since the EU export prices are dependent on the fixed level of restitutions they are fairly transparent and predictable and thus easily undercut."

U.S. firms gain another advantage from being an early mover. Gearing up to export differentiated products, in particular, will equip U.S. firms with skills needed to defend the domestic market against expansion-minded foreign firms. Expect foreign firms to pursue U.S. markets aggressively either through direct investment or through exports, especially after the WTO negotiations cause the U.S. dairy market to become more open.

Viable Strategies. It would be presumptuous to prescribe strategies for U.S. firms to employ in the emerging dairy exporting environment. The optimal strategy for a U.S. firm will depend greatly on the firm's individual circumstances and resources. Many will find it most profitable to continue to serve the domestic market exclusively. Nor will the need to be a dependable supplier of quality products to export markets be emphasized. These points are well recognized. Rather a short list of practices followed by successful foreign dairy exporters will be noted. U.S. firms planning to expand dairy exports may benefit from being reminded of these points.

1) Differentiated products return a higher price and provide greater market security than bulk, commodity products. Many U.S. firms presently involved in exporting emphasize differentiated products. Hence, expansion of dairy exports would involve a familiar activity.

2) U.S. firms that plan to emphasize exports of differentiated products should be prepared to make relatively large R&D expenditures. Practices of successful exporters of differentiated products suggest that the necessary R&D expenditures could exceed 1% of gross sales. Officials of the Kerry Group in Ireland and the NZDB emphasize this point.

3) Be an early mover into new export markets for differentiated dairy products. The importance of this point was underscored in the paper. More market research and the development of dairy exporting infrastructure of types being developed by the Wisconsin Department of

Agriculture, Trade, and Consumer Protection and U.S. Dairy Export Council would be helpful in this regard.

4) U.S. firms planning to export bulk, commodity dairy products should plan to be a low cost producer-processor-exporters.

5) Develop sophisticated marketing and policy intelligence capabilities. To avoid damaging surprises, U.S. exporters will need early warnings of impacts of policy and business developments in the EU and Mexico, in particular. The EU will be forced to change its dairy subsidy policies within the next few years, possibly with far reaching effects on the world dairy industry [3]. Mexico is launching an import substitution program that could limit Mexico's dairy imports during the next few years [1,8].

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APPENDIX TABLE 1. PERCENTAGE BY WHICH U.S. MARKET PRICES FOR CHEDDAR CHEESE EXCEEDED GOVERNMENT SUPPORT PRICES AND WORLD PRICES FOR CHEESE, 1990 - 1996*

YEAR	ANNUAL AVERAGE DIFFERENCE	MONTHLY DIFFERENCES LARGEST	SMALLEST	MONTHS WHEN DIFFERENCE < 5%
		MARKET PRICES VS. SUPPORT PRICES		
1990	22.7%	37.2%	0.9%	OCT, NOV, DEC (3)
1991	11.0	25.1	0.4	JAN, FEB, MAR, APRIL, MAY (5)
1992	13.9	23.0	4.0	MAR, APRIL (2)
1993	17.2	28.4	4.9	JANUARY (1)
1994	17.1	28.9	6.3	NONE
1995	17.8	30.2	8.3	NONE
1996	29.3	52.5	12.0	NONE
		MARKET PRICES VS. WORLD PRICES		
1990	71.4	96.0	44.1	NONE
1991	56.8	81.3	42.4	NONE
1992	41.6	55.8	32.9	NONE
1993	60.3	77.1	42.4	NONE
1994	56.0	86.0	29.6	NONE
1995	29.4	39.5	18.9	NONE
1996	33.8	55.7	19.0	NONE

*SOURCE: U.S. DEPARTMENT OF AGRICULTURE, "DAIRY: WORLD MARKETS AND TRADE," VARIOUS ISSUES, 1991-1997.

Note Regarding Computations in Appendix Tables 1, 2 and 3:

1) U.S. market prices for dairy products used in analysis were for the following locations and specifications:
   Cheddar Cheese: 40 lb. blocks at Wisconsin Assembly points.
   Nonfat dry milk: U.S. Central market.
   Butter: Chicago (AA-Salted)
   World prices consisted of midpoints of high and low prices for cheddar cheese, nonfat dry milk and butter, FOB Northern European ports, as reported by the USDA in "Dairy: World Markets and Trade."

2) The monthly differences appearing in the Appendix tables were computed using a procedure that involved subtracting the support prices and world market prices from the U.S. market prices for cheddar cheese, butter and nonfat dry milk. Thus, for example, when negative numbers appear in the Appendix table for butter, this means that the support price was higher than the U.S. market price for butter or that world prices for butter were higher than the U.S. market price for butter. This creates some ambiguity in the "Smallest Monthly Difference" Column. For example, the -28.9% figure in the smallest monthly difference column for butter for 1995 means that in one month (December, 1995) the world price, as measured by the midpoint of prices FOB Northern European ports, was 28.9% higher than the U.S. market price for butter in that month.

APPENDIX TABLE 2. PERCENTAGE BY WHICH U.S. MARKET PRICES FOR NONFAT DRY MILK EXCEEDED GOVERNMENT SUPPORT PRICES AND WORLD PRICES FOR NONFAT DRY MILK, 1990- 1996*

YEAR	ANNUAL AVERAGE DIFFERENCE	MONTHLY DIFFERENCES LARGEST	SMALLEST	MONTHS WHEN DIFFERENCE < 5%
		MARKET PRICES VS. SUPPORT PRICES		
1990	21.0%	52.0%	1.4%	FEB, OCT, NOV, DEC (4)
1991	10.9	38.2	0.2	JAN THRU JUNE (6)
1992	11.8	19.8	4.5	JAN, FEB (2)
1993	11.5	18.6	5.3	NONE
1994	4.4	7.5	3.1	MAY THRU DEC (8)
1995	4.8	14.1	3.1	JAN THRU OCT (10)
1996	14.6	24.3	3.2	FEB, MAR, APR (3)
		MARKET PRICES VS. WORLD PRICES		
1990	53.1	87.1	7.7	NONE
1991	51.8	69.8	37.8	NONE
1992	39.2	51.2	24.5	NONE
1993	60.7	86.2	40.0	NONE
1994	55.9	76.9	34.6	NONE
1995	13.6	29.0	6.8	NONE
1996	39.4	56.8	14.7	NONE

*SOURCE: U.S. DEPARTMENT OF AGRICULTURE, “DAIRY: WORLD MARKETS AND TRADE,” VARIOUS ISSUES, 1991-1997.

APPENDIX TABLE 3. PERCENTAGE BY WHICH U.S. MARKET PRICES FOR BUTTER EXCEEDED GOVERNMENT SUPPORT PRICES AND WORLD PRICES FOR BUTTER, 1990 - 1996*

YEAR	ANNUAL AVERAGE DIFFERENCE	MONTHLY DIFFERENCES LARGEST	MONTHLY DIFFERENCES SMALLEST	MONTHS WHEN DIFFERENCE < 5%
		MARKET PRICES VS. SUPPORT PRICES		
1990	0.2%	2.0%	- 2.1%	ALL MONTHS (12)
1991	3.7	11.4	- 1.0	JAN THRU JUNE (6)
1992	2.2	9.2	- 1.2	FEB, MAR, APR, JUNE, JULY, AUG, SEP, DEC (8)
1993	4.6	14.6	- 1.2	JAN, FEB, MAR, APR, MAY, JUNE, JULY, DEC (8)
1994	8.0	16.4	- 0.4	JAN, FEB, MAY, JUNE, DEC (5)
1995	23.1	53.7	0.0	JAN (1)
1996	52.4	135.9	10.8	NONE
		MARKET PRICES VS. WORLD PRICES		
1990	58.3	68.4	41.1	NONE
1991	59.5	76.2	45.7	NONE
1992	20.5	37.3	7.3	NONE
1993	21.1	30.0	8.1	NONE
1994	20.2	28.8	- 7.4	DEC (1)
1995	- 18.0	- 5.2	- 28.9	ALL MONTHS (12)
1996	42.6	125.7	- 23.4	JAN, FEB, MAR, APR (4)

*SOURCE: U.S. DEPARTMENT OF AGRICULTURE, "DAIRY: WORLD MARKETS AND TRADE," VARIOUS ISSUES, 1991-1997.