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***An Evaluation of The Impact of Globalization
on the U.S. Dairy Industry:
Threats, Opportunities and Implications***

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AN EVALUATION OF THE IMPACT OF GLOBALIZATION ON THE U.S. DAIRY INDUSTRY: THREATS, OPPORTUNITIES AND IMPLICATIONS

W.D. Dobson¹

EXECUTIVE SUMMARY

In October 2009, the Innovation Center for U.S. Dairy (ICD) released what is arguably the most comprehensive analysis ever produced of the global economic environment facing the U.S. dairy industry.

The ICD forecasts that net global import demand for dairy products will grow faster than net export supply at least through the next decade. The strong import demand growth is projected to come mainly from developing economies in Asia, Latin America, North Africa and the Middle East. The ICD contends that the U.S. dairy industry can be well positioned to fill the export demand gap (excess of demand over supply) in the near term (10-15 years). But, beyond this 10-15 year window of opportunity, new sources of low cost supply from Brazil, the Ukraine and other countries might deliver significant quantities of competing dairy products onto the global market, blunting or eliminating U.S. export opportunities.

Brazil clearly could become a major supplier of dairy products for the world market, and before 10-15 years. The Ukraine appears much less likely to become a major dairy exporting country in the foreseeable future.

If U.S. dairy companies take early actions to become more globally competitive, they could escape the role of residual supplier, increase the percentage of differentiated dairy products in their export product mix, and limit the amount of head-to-head competition they face from emerging country suppliers of commodity dairy products. .

The ICD concluded that New Zealand—with its pasture-based farming system—cannot increase milk production by much more than about 30 percent in the next five years. This suggests that New Zealand will have limited ability to fill the forecasted dairy export demand gap. The ICD's emphasis on country (rather than company) sources of increased dairy supplies understates the competitive threats facing U.S. dairy exporters. For example, Fonterra of New Zealand—the world's largest dairy exporting firm—is well-equipped to access dairy products from many locations outside New Zealand, including the U.S. and South American countries. If Fonterra can secure needed expansion capital, the cooperative will compete vigorously with U.S. firms and others to fill the projected dairy product demand gap and will not be heavily constrained by milk production in New Zealand. In addition, big international dairy-food companies such as Nestle, which can also source dairy products from locations world-wide, will compete strongly to fill the dairy export demand gap.

In discussing “wild cards” that will affect dairy exports, the ICD provided mixed signals about the impact of exchange rates on U.S. dairy exports. Exchange rates are notoriously difficult to predict accurately. A likely scenario for the next year or two is for the U.S. dollar to remain relatively strong relative to the euro, in particular. Over the longer-run, however, the U.S. dollar is likely to weaken relative to the currencies of other major dairy exporting countries. The weak dollar will help to keep U.S. current account deficits manageable and make U.S. dairy exports and other dairy exports priced in U.S. dollars relatively inexpensive. Dairy farmers and exporters in countries with currencies that strengthen relative to the U.S. dollar (probably including Brazil and Australia) will be adversely affected when dairy exports priced in U.S. dollars are converted to their local currencies.

The ICD analyzed four strategic options that the U.S. dairy industry could pursue to take advantage of emerging export demand opportunities, namely fortress USA, status quo, consistent exporter, and global dairy player. The ICD's board of directors recommended that the U.S. dairy industry pursue the consistent exporter option. The

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global dairy player option was regarded as a stretch for the U.S. dairy industry but might be feasible to pursue after the industry gains experience with the consistent export option.

The ICD recommended a number of company-specific and collective industry actions to implement the consistent exporter strategy. All the actions appeared to represent sound business or policy practices. However, the reforms of regulated milk pricing and dairy price supports recommended by the Center are likely to be difficult to achieve. Trade policy measures recommended by the Center also show little prospect of success, at least in the near term, given the stalled WTO Doha Round negotiations.

Strategies which U.S. dairy firms could pursue to export successfully were analyzed, including those employed by three global dairy players: Fonterra of New Zealand, the Kerry Group of Ireland, and Nestle of Switzerland. Emulating the strategies of these firms could help U.S. dairy firms become successful, consistent exporters.

Fonterra of New Zealand is supplied by low cost producers, has achieved economies of scale in processing, and has produced differentiated dairy products. The benefits of these three items are additive. The cooperative continues to struggle to obtain needed capital.

The Kerry Group of Ireland adjusted effectively to the hostile economic environment facing the firm in the 1970s. Kerry has prospered by acquiring food ingredients firms, implementing sophisticated R&D programs, and converting from a cooperative to a public limited company, which has a market capitalization of about US\$5.0 billion.

Nestle, the world's largest food company, has sophisticated R&D capabilities and global reach. The firm has focused successfully on the long-run and has balanced sales between low-risk, low-growth countries of the developed world and high-risk, high growth countries in Asia, Latin America and Africa. The firm has developed or acquired a large stable of successful brands.

INTRODUCTION

In October 2009, the Innovation Center for U.S. Dairy (ICD) publicly released a summary of the results of an extensive study of U.S. dairy export opportunities in a report titled, *The Impact of Globalization on the U.S. Dairy Industry: Threats, Opportunities and Implications, Globalization*. The study is arguably the most comprehensive analysis ever produced of the global economic environment facing the U.S. dairy industry. Dairy Management Inc., and the U.S. Dairy Export Council (USDEC) provided staff assistance in conducting the study. Underlying research and analysis was carried out by Bain & Company, a major management consulting firm.

In developing the report, the goals of the ICD and associated organizations were as follows [25]:

- **Primary:** To provide a strategic analysis of the global dairy landscape and establish a common understanding of the challenges, opportunities and threats posed by increasing globalization to the U.S. dairy industry.
- **Secondary:** To determine from the analysis if there are suitable programs of work at an industry level to address the opportunities and challenges of globalization, and thus help U.S. dairy industry participants be better prepared to compete for increased sales in the global dairy marketplace, including dairy demand in the U.S.

Based on findings in the report, the ICD board of directors recommended that the U.S. dairy industry pursue a consistent exporter option. Interestingly, the ICD's exhaustive analysis provides support for earlier observations made by Thomas Suber, then Executive Director of the USDEC, who in 1999 characterized the U.S. dairy industry as one where real costs of milk production are declining, domes-

tic demand is growing modestly, and the role of government is declining. Suber claimed that under these conditions "...the processors, cooperatives, traders, and farmers who determine USDEC policy face the future with a cold realism that either we compete internationally or we shrink as an industry [40]." For the most part, ICD's findings also are consistent with those appearing in studies carried out by the Babcock Institute [13,14,15,16,17].

The ICD is to be commended for obtaining insights from a task force of experienced officials of major dairy companies (listed in the Appendix) who are involved in exporting dairy products manufactured in the United States. These companies included Glanbia, United Dairymen of Arizona, Dairy Farmers of America, Darigold, California Dairies, Inc., Schreiber Foods, and Leprino Foods. The massive Dairy Globalization Project Fact Base developed by Bain & Company also provided detailed support for findings and recommendations in the study.

The purposes of this Discussion Paper are to (a) briefly summarize key findings and recommendations in the ICD report, (b) summarize exporting options for the U.S. dairy industry considered by the ICD, (c) raise questions about certain findings and recommendations in the report, and (d) discuss strategies that U.S. companies and the U.S. dairy industry might employ to exploit opportunities in the emerging global dairy environment.

This summary of the ICD's findings and recommendations should not be regarded as a substitute for careful reading the October 2009 report itself. Indeed, in the opinion of this writer, the ICD report should be required reading for anyone concerned about the future of the U.S. dairy industry.

KEY FINDINGS

Selected findings that underpin the ICD report's conclusions can be categorized as demand and supply factors [25]:

Demand Factors

- The number of middle-class consumers in emerging markets will triple by 2030, reaching one billion in that year. These consumers will demand more animal proteins for their diets, including dairy products.
- China has 20 percent of the world's population and growing per capita income. China's dairy product consumption is expected to increase by about 10 percent annually in the coming years.
- Dairy product consumption is expected to grow by 4 to 9 percent annually in Southeast Asia, depending upon the country.
- Mexico, Algeria, and Saudi Arabia have recorded increases in dairy product consumption and are open to dairy imports. Mexico, in particular, will continue to represent a growing market for U.S. dairy exports.
- Canada is unlikely to change the country's protective dairy policies in the foreseeable future. This will limit access to Canada's dairy markets.

Supply Factors

- New Zealand has the potential to increase total milk production by not much more than about 30 percent over the next five years using the country's pasture-based model. Fonterra, a New Zealand cooperative that is the world's largest dairy exporting firm, faces challenges including those associated with managing member-producers' differing views on strategic direction

for the firm, environmental activism, and difficulties in raising sufficient capital.

- Australia's future milk production and dairy product export growth will be limited by persistent drought.
- EU milk production is expected to grow at less than one percent annually over the next five years as producers and processors adjust to reduced government support. Net EU exports will fall as consumption growth outpaces production growth.
- Brazil will become a major source of low-cost dairy products in the next 15 years.
- While Argentina will continue to export dairy products, it will not become a global production and exporting leader due to chronic economic, political, and climate instability.
- Ukraine may become a key source of low-cost milk production and dairy exports.
- The U.S. accounts for 13 percent of global milk production and 17 percent of key tradable commodity dairy production, including butter, cheese, and nonfat dry milk. The U.S. has a flexible and diverse supply and processing base, and could be well positioned to expand production if global opportunities are available.

Based on these major demand and supply factors, the ICD projects that net global import demand for dairy products will grow faster than net export supply through 2013, leading to a latent demand gap that will exist for additional years. Demand growth in this period is projected to come mainly from developing economies in Asia, Latin America, North Africa, and the Middle East.

These findings are broadly consistent with demand figures reported by C.K. Prahalad in his book entitled, "The Fortune at the Bottom of the Pyramid [40]." Prahalad points out that more than 4.0 billion people

make up the bottom of the pyramid and that nine countries—China, India, Brazil, Mexico, Russia, Indonesia, Turkey, South Africa and Thailand—collectively are home to about 3.0 billion people, representing 70 percent of the developing world population. He adds that in purchasing power parity terms, the group of nine has a Gross Domestic Product of \$12.5 trillion, which represents 90 percent of the developing world total. Prahalad's figures, like those of the ICD, identify the huge latent demand existing in developing countries.

While the ICD forecasts of future conditions in global dairy markets are plausible, they must be interpreted with caution. Recall that few if any analysts predicted the severity of the 2008-2009 Great Recession, underscoring how difficult it is to make accurate long-term forecasts like those appearing in the ICD report.

The poorly anticipated Great Recession has implications for the U.S. dairy industry: Lowell Bryan, business analyst, writing in the McKinsey quarterly, notes that the Great Recession "...shook the confidence of many business leaders in their ability to see the future well enough to take bold action [7]." Eschewing timidity, the ICD advocates bold action on the part of the U.S. dairy industry to take advantage of foreign market opportunities. However, the report does offer a caveat in noting that the "...analyses and conclusions should not be construed as definitive forecasts or guarantees of future results [25, p. 3]."

An additional caveat seems appropriate. Many countries identified by the ICD as growth markets for dairy products are difficult places to do business. The World Bank's Doing Business 2010 report ranks countries from 1 to 183 based on 10 criteria that affect the ease of doing business in the countries. Criteria include such things as enforcing contracts, employing workers, getting credit, paying taxes, and closing a business [45]. Table 1 shows ease of doing business rankings for several countries within each of the regions designated by ICD as leading potential markets for U.S. dairy exports. These countries were also top-10 importers of one or more dairy products from the U.S. in 2008.

Six of the 14 countries in Table 1 have rankings that identify them as more difficult than average places to

TABLE 1. World Bank's Ease of Doing Business Rankings for Selected Dairy Importing Countries, 2010 ²

Region and Country	Ease of Doing Business Ranking
Asia:	
China	89
Indonesia	122
Malaysia	23
Philippines	144
South Korea	19
Thailand	12
Vietnam	93
Latin America:	
Mexico	51
Panama	77
North Africa:	
Algeria	136
Egypt	106
Morocco	128
Middle East:	
Bahrain	20
Saudi Arabia	13

Source: World Bank Group [45].

²Figures used for rankings cover period of June 2008-May 2009.

Key: 1 = greatest ease of doing business; 183 = greatest difficulty of doing business. U.S. rank = 4.

do business. North Africa and three countries in the Asia group rank among the most difficult countries in which to do business. China ranks in the middle.

U.S. firms thinking of expanding dairy product exports will note that the U.S. ranking of 4 identifies the U.S. domestic market as an easier place to do business than any of the foreign markets listed in Table 1. However, as indicated earlier, the growth of the U.S. dairy product market will be slower than that of many of those countries.

The ICD argues that the U.S. dairy industry can be well positioned to capture the demand gap (excess of demand over supply) in the near term (10-15 years). But, beyond this 10-15 year window of opportunity, new sources of low-cost supply from Brazil and Ukraine (and possibly other countries) might deliver significant quantities of competing dairy product supplies onto the global market.

Brazil's emergence as a major competing player in dairy export markets may be delayed sufficiently to give U.S. dairy firms the 10 to 15 year window of opportunity mentioned in the Center's report. However, a Babcock Institute Country Study indicates that Brazil could become a leading global dairy exporter (especially of whole milk powder) as early as 2015 [16]. This estimate, which is based on projections of growth in domestic production and consumption that were plausible in mid-2008, suggests that Brazil could export about four million tons of milk equivalent products by 2015. If achieved, this export total would put Brazil behind only New Zealand, Germany, France, and Australia in terms of tonnage of dairy exports.

It is doubtful whether the Ukraine will become a major dairy exporter any time in the foreseeable future. The ICD concedes that the Ukraine has problems with a struggling economy, a poor chilled supply chain infrastructure, and persistent quality issues. The Economist provides additional insights about the Ukraine's institutions and economy, in these terms [20]:

Corruption is rife, the courts are bent, institutions are dysfunctional and the economy (dominated by Soviet-era steel and chemical factories) is sick.

Ukraine's problems in agriculture stem partly from the country's inability to transition effectively from a Soviet-style, state-owned and collectivist farming and processing system to a market-based agricultural sector. Ukraine's economy also was hit hard by the 2008-2009 global recession. As a result of such problems, the Ukraine has been slow to realize its potential for producing quality dairy products and other agricultural commodities. Cynics once labeled Brazil as "a country of the future and always will be." Brazil has changed for the better. But, unless there are big and fairly timely changes, the label once reserved for Brazil will fit the Ukraine.

New sources of dairy product supplies may emerge before 10-15 years from places other than Brazil and possibly the Ukraine. New Zealand may not be able to increase domestic milk production by more than about 30 percent in the next five years. While this is a reasonable supply forecast, it fails

to recognize that Fonterra of New Zealand—the world's largest dairy exporting firm—has developed the ability to access dairy products from multiple country locations, including the U.S. and South America. Fonterra is likely to use this ability to access dairy products from multiple locations to fill part of the emerging global dairy product demand gap. Large companies such as Nestle—which can access dairy products from multi-country locations—may also fill a portion of the latent demand gap identified in the ICD report.

The ICD conveys mixed signals about how soon the U.S. dairy industry will need to make the changes needed to become a successful, consistent exporter. At one point the report suggests that the U.S. dairy industry may have as much as 10 to 15 years (characterized as the near-term window of opportunity) for filling the emerging dairy product demand gap. But the following warning follows [25, p. 10]:

*This window may, in fact, be narrower if we return to a period of high prices which could hasten the emergence of a competitive source of low cost supply— thus, **there is a need to take action.***

The warning appears appropriate because of a potentially high probability that alternative sources of low-cost supplies will emerge before 10-15 years. In addition, U.S. dairy companies concluding that they have 10 to 15 years to take advantage of the international market demand gap may fail to achieve early mover advantages. For evidence on this point, consider the following comments made by Mr. Neville Martin, a New Zealand Dairy Board official, in 1995 [33]:

Initial entrants into a market gain, on average, a 15 percent advantage over second entrants. Third place entrants into a given market tend to break even. Entering a market later is a strategy for losing money.

While early mover advantages probably cannot be defined as precisely as Martin suggests, it is likely that those advantages are substantial and argue for moving sooner rather than later into new export markets.

In summary, questions can be raised about implications of certain demand and supply projections in the

ICD report. However, these questions detract little from the overall reasonableness of the projections.

WILD CARDS

The ICD report listed four “wild cards” that have the potential to significantly change dairy demand, supply, and the comparative/competitive position of the U.S. dairy industry in global markets:

- Currency (Exchange rates)
- Oil prices
- Shift to lower-fat milk and dairy products
- Threat of substitutes.

Currency (Exchange rates)

With respect to exchange rates, the ICD reported that, “Currently, third party sources are expecting the U.S. dollar to appreciate against the currencies of other key exporting countries in coming years [25, p. 22].” The report then comments about the impact of a stronger dollar while noting a few effects of a weaker dollar.

As the above quote suggests, Bain & Company was not asked to develop detailed exchange rate forecasts. ICD instead accepted consensus views of economists and finance officials on exchange rate trends. While exchange rates are important to the dairy trade, they are exceedingly difficult to forecast accurately and currency predictions developed in 2009 probably would have been of limited value anyway in view of international developments that have unfolded since that time.

Exchange rates are notoriously difficult to forecast accurately partly because they are affected by central bank policies, International Monetary Fund actions, World Bank actions, and the monetary and fiscal policies of individual countries. Predicting the net impact of actions of these players on a given country’s exchange rate is problematic. In addition, forecasts must take into account the impact of global economic conditions affecting interest rates and exchange rates. Thus, the exchange rate forecaster operates in an

extremely complex system that makes it nearly impossible to forecast exchange rates accurately.

A few tendencies about the strength of the U.S. dollar vs. the currencies of dairy exporting countries can be advanced. In regards to the European Union (EU), a strong-dollar/euro exchange rate would have been rejected as unreasonable prior to developments that unfolded in the EU in late 2009 and early 2010. It might be recalled that the U.S. dollar/euro exchange rate fell to a 14-month low of about 1.50 in October 2009. Then the full range of problems besetting the economies of Greece, Portugal, Spain, and Ireland became evident and the euro weakened by 18 to 19 percent relative to the U.S. dollar over a seven-month period. In an economic environment where troublesome sovereign debt problems—such as those that battered Greece—can emerge quickly, the dollar could remain relatively strong for at least the next year or two relative to the euro because of the U.S. dollar’s value as a safe haven currency.

It is even harder to forecast how strong the U.S. dollar will be relative to the currencies of other important dairy exporting countries such as Australia, New Zealand and Brazil. However, Australia and Brazil, at least, have burgeoning economies that should strengthen their currencies relative to the U.S. dollar over the long-run.

One piece of evidence points to longer-term weakness in the U.S. dollar. Economists for Global Insight forecast that the U.S. will run a relatively large current account deficit (mostly an excess of imports over exports) of about 4.2 percent of real GDP from 2010 through 2015 [22]. And during this period, the U.S. current account deficit is likely to remain substantially above the 3 percent of GDP figure that Bergsten of the Petersen Institute for International Economics identifies as a sustainable target [5, p. 31]. A stronger dollar would limit exports and prevent the U.S. from closely approaching the 3 percent target. Moreover, policy pronouncements of the Obama Administration and the Federal Reserve give little indication that the U.S. will

pursue a higher interest rate, strong dollar policy that would jeopardize U.S. exports.

On balance, in the next two to three years as the global economy recovers, it is likely that the U.S. dollar will exhibit weakness rather than strength. Mainly this is because a weak dollar will be needed to keep overall U.S. exports reasonably robust and the U.S. current account balance manageable [19]. A relatively weak dollar should help to keep U.S. dairy exports inexpensive at least in comparison to those of a few strong currency countries for the foreseeable future. Dairy farmers and exporters in countries with currencies that are strong relative to the U.S. dollar (probably including Brazil and Australia) will be adversely affected when dairy exports priced in U.S. dollars are converted to their local currencies.

Oil Price

We have no quarrel with the ICD forecasts regarding the other “wild cards.” Oil price volatility can be expected to continue. This volatility can have complex impacts on the supply and demand for dairy products in the U.S. and other countries. The ICD recommended that the U.S. dairy industry develop a contingency plan to mitigate the industry’s exposure to short-term oil price spikes and longer-term oil price appreciation.

Shift to Lower-fat Milk and Dairy Products

As noted in the report, the shift to lower fat milk and dairy products already has occurred in the U.S., France, UK and Denmark. It is unclear whether this shift is occurring in Germany, Italy, and Eastern Europe. The ICD notes that emerging markets bear watching to see if the trend will appear in those markets. Industry adjustments may be needed to deal with further erosion of demand for higher fat dairy products.

Threat of Substitutes

The ICD urges the U.S. dairy industry to be aware of the threat posed by substitutes. The report notes that while dairy ingredients are generally considered to be superior in flavor and function to non-dairy substitutes, the increasing incidence of unexpected price spikes has driven some consumer goods companies to relatively more price-stable substitutes such as soy protein, maltodextrin, and other vegetable proteins. This is consistent with findings of the Babcock Institute. For example, a 2009 Babcock Institute country study found that Mexican dairy processors frequently substitute vegetable fats for dairy fats in a number of products and warned that Mexico would continue to be a price sensitive market where such substitutions would continue [17].

STRATEGIC OPTIONS

Based on its conclusions about the latent global dairy demand gap, the ICD identified and evaluated four strategic options that could more advantageously position the U.S. dairy industry both at home and abroad [25]:

Fortress USA

- Complete focus on domestic market
- Use of additional tariff and non-tariff barriers to overcome foreign competition
- Supply management as a means of balancing supply and demand and reducing price volatility
- Attempt to limit the effects of globalization

Status Quo

- Limited industry efforts to address globalization
- Current policies and regulation
- Opportunistic participation in global trade as prices allow
- Individual companies may choose to develop differentiated export capabilities
- Limited efforts to manage volatility

Consistent Exporter

- Commitment to global opportunities for U.S. milk supply
- Broad efforts to improve commercial focus and align product portfolio
- Collective action to reform FMMO and price supports
- Efforts to improve forward contracts, and futures markets
- Strong domestic market as a basis for global trade
- Joint industry efforts to build insight/capability

Global Dairy Player

- Consistent exporter strategy, plus:
- Industry moves to an export-focused model that includes milk supply and processing facilities outside the U.S.
- Commercial and innovation capability development
- May include off-shore investment and other significant efforts
- Capabilities will support domestic market, though investments may be diverted globally

As noted earlier, the ICD Board recommended that the U.S. dairy industry pursue the consistent exporter option. Good reasons readily come to mind for rejecting the Fortress USA option. First, if pursued, this option would involve the U.S. dairy industry in a futile effort to limit effects of globalization and could result in abandoning dairy exporting initiatives already undertaken. Secondly, efforts to use additional tariff and non-tariff barriers to overcome foreign competition would conflict with U.S. commitments under the World Trade Organization (WTO), North American Free Trade Agreement, and other trade agreements. Finally, supply management measures contemplated under this option would encounter opposition from certain U.S. dairy farmers, especially those seeing advantage in expanding their dairy farms.

The status quo option is not so easily dismissed. This option describes key characteristics of how the U.S. dairy industry currently functions and is underpinned by powerful forces of inertia. Many findings in the report suggest why this option is probably unsustainable and not the best route for the U.S. dairy industry.

The global dairy player option is regarded by the ICD as a stretch for the U.S. dairy industry at present but might be a feasible option to pursue after the industry gains experience as a consistent exporter.

Many components of the consistent exporter option would strengthen the U.S. dairy industry. Achieving

the results called for by this option would involve both company specific and collective industry actions:³

Company Specific Actions

- Investment in cross border commercial capabilities/partnerships*
- Develop capabilities to package/manufacture high value-added products to meet international standards
- Reduce costs and increase productivity

Company Specific and Collective Industry Action

- Reform regulated milk pricing systems (federal and state) and price supports*
- Develop mechanisms for risk management/reduction of volatility*
- Continue pursuit of trade treaties that provide net export benefits*
- Develop sales/marketing capabilities
- Develop ability to deliver products to customer specifications
- Build on existing food safety assurances and traceability as a competitive strength*
- Product and technology innovation (possibly with financial incentives)

There can be little quarrel with these recommended actions, although some listed under company specific and collective industry actions (e.g., developing sales/marketing capabilities, developing the ability to deliver products to specification, and innovations relating to product and technology) might better be designated as important company-specific actions. But regardless of how the actions are categorized, they represent good business practices.

The initiatives that would involve a large component of collective industry effort are likely to be the most difficult to achieve. The reform of regulated pricing systems (state and federal) and dairy price

supports would clearly top the list in terms of difficulty. The worthiness of reform of these devices is not questioned. The price floors provided by the USDA dairy price support program and the readiness of the USDA to serve as a buyer for surplus dairy commodities reduce the incentives for the U.S. dairy industry to develop new products and new domestic and foreign markets. At times in the past, the USDA price support program also has priced certain U.S. dairy products out of world markets. Thus, it is no accident that U.S. whey and lactose products have been big export items. Prices for these products have never been supported by the USDA.

The ICD claims that federal milk orders increase price volatility and limit the opportunity for implementing a well-developed forward/futures market for milk. It is unclear whether federal orders have strong impacts in these areas. But it is evident that the orders distort internal U.S. and external milk prices. The price discrimination mechanisms embodied in the orders increase Class I (fluid) milk prices, reduce the amount of milk going into fluid uses, and increase the quantities of milk entering manufactured uses. The last effect presumably increases the amount of manufactured dairy products channeled into export markets as compared to a situation absent the orders.

Economists have suggested that federal milk orders might be subject to challenge under the WTO dispute settlement machinery for distorting world dairy export markets. While such challenges may emerge, it is not clear which countries would have strong incentives to launch such a challenge. Moreover, other agricultural products and trade distortion claims are likely to represent a higher priority for countries that employ the complex and costly WTO dispute settlement machinery to settle trade disputes.

The ICD report contains few details on how the U.S. dairy industry could successfully pursue collective action to actually reform the USDA dairy price support program and federal milk orders. Bain & Company, it should be noted, was instructed not to determine how to change U.S. pricing policies. This task is to be carried out by dairy industry panels. Whether those panels can achieve reforms is unclear. Talk of the need for

³Actions followed by an asterisk are those requiring the highest amount of company or collective industry effort.

TABLE 2. Annual Dairy Export Subsidy Limits Authorized Under the WTO			
Product	EU-27	U.S.	U.S. as % of EU
	1,000 mt		
Skim milk powder	323.4	68.2	21.1%
Whole milk powder	232.3	0.0	0.0
Cheese	331.7	3.0	0.9
Butter	411.6	21.1	5.1

Sources: Berry and Dobson [6, 12].

reform of U.S. milk pricing policies is not new. And the deterrent effect these devices—particularly the dairy price support program—have on dairy exports is recognized. Yet the devices have so far been immune from fundamental reform. Indeed, a dairy industry Rip Van Winkle who fell asleep in 1950 and who awakened today would have no trouble recognizing the USDA dairy price support program and federal milk orders. Rip Van Winkle's experience underscores the amount of inertia that must be overcome before these devices will be reformed.

Harvard Business School strategy guru, Michael Porter, provides a concise explanation for the lack of needed regulatory reform in an industry (such as the U.S. dairy industry), as follows [38, p.87]:

Deregulating a protected industry...will lead to bankruptcies sooner and to stronger, more competitive companies only later.

Elimination of the USDA dairy price support program would be a suitable objective for an industry interested in becoming a consistent dairy exporter. And waning industry support suggests this might be easier than a major reform of marketing orders, which protect politically-powerful dairy regions of the country like the Northeast.

The current Dairy Product Price Support Program (authorized under the 2008 Farm Bill) contains intervention prices for butter, cheese and nonfat dry milk that are below world market prices that are likely to prevail given IDC's projected world supply and demand conditions. And the program contains provisions to reduce intervention prices if government stocks reach trigger levels. The intervention price for nonfat dry milk, usually the largest U.S. dairy export

item by value, has been consistently below the Oceania skim milk powder price since 2004 [44]. Even during the severely depressed world dairy market of 2009, Oceania skim milk prices remained above the U.S. intervention price and ended the year almost twice as high.

Nevertheless, the mere existence of a market intervention program like the Dairy Product Price Support Program can stand in the way of the U.S. being perceived as a consistent supplier.

Pursuit of trade treaties that expand net export benefits is a laudable objective. Completing the Doha Round of WTO negotiations, which begin in 2001, could open additional markets for U.S. dairy products and eliminate trade distortions associated with dairy export subsidies. Eliminating export subsidies might be particularly advantageous for the U.S. since the U.S. is permitted to make only small subsidized exports compared to the EU (Table 2). Only in the case of skim milk powder is the U.S. permitted to export significant quantities of dairy products with subsidy.

However, it is unclear whether the Doha Round WTO negotiations can ever be completed. After all, the Doha Round trade ministerials, mini-ministerials, summits, and negotiating sessions held in Cancun, Mexico (2003), Geneva, Switzerland (2004), Paris, France (2005), Hong Kong, China (2005), Geneva, Switzerland (2006), Potsdam, Germany (2007), Geneva, Switzerland (2008), and Geneva, Switzerland (2009) all ended in collapse or stalemates. This is not an encouraging record. Moreover, big players such as the U.S., EU, India, Brazil, and China seem to be in no hurry to agree to proposals that have been advanced to date.

For a host of reasons, the Obama Administration and officials of other major trading nations have

placed completing negotiations for the Doha Round WTO agreement negotiations on the back burner. The Obama Administration has also chosen not to bring trade agreements negotiated by the Bush Administration with South Korea, Panama, and Colombia up for a ratification vote. In this environment, pursuit of trade treaties to secure additional, profitable dairy export markets may yield little, at least in the near term.

BROADER IMPLICATIONS OF CHINA'S MELAMINE CRISIS

The melamine scandal that struck China's dairy industry in 2008 underscores what happens if food safety is given insufficient attention. The scandal arose because melamine, a poisonous industrial chemical used for making plastics, fertilizers, fire retardants, and other products, was added to milk in China to artificially elevate the protein content of the milk.

The melamine contamination of Chinese dairy products led to at least four deaths and illnesses of nearly 400,000 people [14]. Sanlu Dairy, in which Fonterra of New Zealand had a 43 percent equity interest, went bankrupt as a result being identified as a seller of contaminated dairy products. Fonterra found it necessary to take a US\$95 million impairment charge as a result of problems at Sanlu Dairy. Fonterra also risked sully the "clean-green" image of New Zealand dairy products as a result of the cooperative's linkages to Sanlu and its less than skillful handling of the melamine crisis—mainly because the cooperative tolerated lengthy delays in getting contaminated Sanlu products removed from the market.

C. Cumming, writing in the New Zealand Herald, argued that Fonterra should have been aware of the risks associated with milk contamination in China. Equally important, Cumming showed that China's dairy industry represented the "wild west" as a place to do business in a September 2008 article [8]:

..Fonterra must have been aware of the risk of product tampering in China. When the news [of melamine poisoning of milk] reached New Zealand this week, a Venture Southland official, Steve Canny, recalled the concerns of a Chinese busi-

ness man negotiating to buy 1,500 tons of baby formula in Southland earlier this year. He insisted the formula be supplied in sealed 1 kg containers to avoid the risk of contamination with materials like talcum powder or chalk once it reached China.

This brief quote forewarns U.S. exporters about the risks associated with serving China's growth market for U.S. dairy exports. Among other things, the quote suggests that products that reach China in safe form won't necessarily remain that way.

The USDEC took action in the aftermath of China's milk contamination crisis to develop a Melamine Certification Program, which qualifying exporters could employ to assure buyers of U.S. dairy products that the products are melamine free. This timely action was useful for assuring buyers of the safety of U.S. dairy products.

U.S. dairy exporting opportunities, as noted earlier, may be most abundant in developing countries in Asia, Latin America, North Africa, and the Middle East in the near term. These markets may not exhibit the difficult conditions found in China. But problems associated with product safety could emerge in these markets since firms in other developing countries adulterate milk and dairy products with water and harmful chemicals.

The Corruption Perceptions Index (CPI) published by Transparency International is potentially useful for identifying markets where corrupt business practices and ethical lapses of the type that occurred in China might arise. The Asian, Latin American, North Afri-

can, and Middle Eastern countries for which CPI figures are listed in Table 3 were Top-10 importers of one or more dairy products from the U.S. in 2008.

Transparency International argues that CPI scores below 5.0 are “troublesome,” partly because such scores identify a country where a corrupt, risky business environment exists that discourages private investment. Note that all but two of the CPI scores in Table 3 were below 5.0 in 2009 and that all the scores were lower than the U.S. figure of 7.5.

While importance of the CPI scores should not be overstated, they may have practical implications. Indeed, U.S. dairy firms entering developing country markets either as an exporter or a foreign direct investor may want to stress test their financial involvement in those markets to assess the impact of product contamination problems such as those that hit Fonterra after China’s melamine crisis.

TABLE 3. Corruption Perceptions Indexes for Selected Dairy Importing Countries, 2009		
Region and Country	CPI Score	Rank Among 180 Countries Surveyed
Asia:		
China	3.6	79 (tied with 3 other countries)
Indonesia	2.8	111 (tied with 8 other countries)
Malaysia	4.5	56 (tied with 4 other countries)
Philippines	2.4	139 (tied with 3 other countries)
South Korea	5.5	39 (tied with 2 other countries)
Thailand	3.4	39 (tied with 4 other countries)
Viet Nam	2.7	120 (tied with 5 other countries)
Latin America:		
Mexico	3.3	89 (tied with 5 other countries)
Panama	3.4	84 (tied with 4 other countries)
North Africa:		
Algeria	2.8	111 (tied with 8 other countries)
Egypt	2.8	111 (tied with 8 other countries)
Morocco	3.3	89 (tied with 5 other countries)
Middle East:		
Bahrain	5.1	46 (tied with 2 other countries)
Saudi Arabia	4.3	63 (tied with 1 other country)

Source: Transparency International [43].

Key to interpreting CPI scores: 0 = highly corrupt; 10 = highly clean. High, low, and median CPI scores for the 180 countries surveyed were 9.4, 1.1, and 3.3, respectively. The U.S. CPI score was 7.5.

OTHER FOOD SAFETY INITIATIVES

The U.S. dairy industry may find it beneficial to support food safety measures employed by the U.S. Food and Drug Administration (FDA). The FDA employs practices which help to insure the safety of dairy products produced within the U.S. and at foreign firms that export dairy products to the U.S.

The dairy and meat industries were among the first to employ traceability to protect food safety. Maintaining traceability allowed dairy and meat products that were found to have unacceptable bacteria levels (especially of *E. coli* or salmonella) or intolerable levels of pesticide or chemical residues to be quickly removed from store shelves. Traceability systems allow retail-

ers and other units of the supply chain to identify the source of contamination and initiate procedures to remedy the problem.

Traceability is designed to maintain food safety, but it also can be a component of product differentiation. In view of food safety problems that have arisen in a number of countries, traceability as a component of product differentiation is likely to become more important. Moreover, the traceability of a dairy product probably has a moderately high income elasticity of demand, especially for the growing number of middle class consumers who make up a large part of the expanding dairy export market.

SYNOPSIS OF ICD'S KEY FINDINGS AND EXPORTING OPTIONS

The ICD report marshals persuasive evidence that satisfies the primary and secondary goals of the study. The Center might have given more attention to the importance of early mover advantages in dairy export-

ing, the major uncertainties surrounding the impact of future exchange rates, and the difficulty of achieving certain collective actions associated with being a consistent exporter. However, these are minor shortcomings.

STRATEGIES FOR THE U.S. DAIRY INDUSTRY IN THE GLOBAL ENVIRONMENT

Strategy guru, Michael Porter, indicates that, "The essence of formulating competitive strategy is relating a company to its environment [39, p. 3]." The IDC clearly has provided U.S. dairy companies with a thoroughly researched, comprehensive description of the economic environment facing the industry. The Center's report also suggests strategies that would allow the industry to become a consistent exporter and competitive in the emerging global environment. In particular, the recommended company specific actions and

certain other actions describe strategies that it would be advisable for many U.S. dairy companies to pursue.

Much of the remainder of this paper will focus on identifying strategies that have worked effectively (and some that did not work well) for major dairy-food companies that have sought to expand dairy exports or foreign direct investment in dairy-food businesses. Many examples were obtained from previous studies conducted by the Babcock Institute.

Generic Strategies

Certain concepts in strategy, while not “natural laws,” can be applied to advantage by companies in most businesses, including the dairy business:

- When evaluating the international competitiveness of your business, benchmark against the best in the world.
- If you produce a commodity and sell it in a competitive market you must be a low-cost producer to remain profitable over time.
- A firm need not be a low-cost producer if it sells a value-added (differentiated) product. Product differentiation does not allow a company to ignore costs, but costs need not be the primary strategic target for a firm selling differentiated products.
- Being a low-cost producer of a differentiated product yields additive benefits, and can make a firm a formidable competitor.
- A company “stuck in the middle” lacks the market share, capital investment, and resolve to play the low-cost game, fails to effectively differentiate its products, and lacks the focus to create differentiation or a low-cost position in a more limited competitive sphere. Such a firm is in a poor strategic position.
- Companies tend to define their business too narrowly. As an example, some U.S. dairy firms mistakenly define their businesses too narrowly as a subset of the dairy business, e.g., fluid milk, cheese, or whey ingredients rather than more broadly as the “dairy business” or the “food business.” This can limit a firm’s flexibility and strategic options.

These generic strategies represent potential sources of competitive advantage for U.S. dairy exporters and U.S. direct investors in foreign dairy-food companies. Moreover, as noted later, variations of these strategies have been employed successfully by foreign dairy companies, including global dairy players.

Dairy Exporting Strategies

A. Zwanenberg, an analyst with Netherlands-based Rabobank, listed challenges facing international dairy businesses that are similar to those reported by the ICD. Zwanenberg argues that growth is a key component of most leading firms’ strategies [46]. The growth strategies of leading dairy firms, the Rabobank analyst notes, generally have focused on practices that help the firms to (a) become more efficient in manufacturing, (b) open new markets, (c) gain market share and market power, (d) expand brand portfolios, (e) strengthen innovative capacity, (f) secure needed milk supplies, and (g) improve access to capital.

In what follows, strategies of three leading dairy exporters and investors in foreign dairy-food businesses are analyzed to obtain insights for U.S. dairy exporters. The foreign firms that are the focus of the analysis are the Fonterra Cooperative Group, the Kerry Group of Ireland, and Nestle of Switzerland, arguably among the best in the world.

Fonterra Cooperative Group, Ltd.

Headquartered in Auckland, New Zealand, Fonterra had gross revenues of NZ\$16.0 billion (about US\$10.95 billion) for the August 1, 2008-July 31, 2009 fiscal year [21].

Fonterra represents the 2001 union of the New Zealand Dairy Board (NZDB) and two large New Zealand cooperatives—Kiwi Cooperative and the New Zealand Dairy Group. In its earlier years, the NZDB served as the single-desk (monopoly) exporter for scores of small cooperatives. In 1960/61, for example, the NZDB functioned as the exporting arm for about 180 New Zealand cooperatives [11]. As a result of industry consolidation, the number of New Zealand dairy cooperatives declined to four in 2000. Farmer-members of two of the four remaining cooperatives—Kiwi Cooperative and the New Zealand Dairy Group—accounted for about 95 percent of New Zealand’s milk production in 2000.

When Fonterra was created, the organization relinquished the government-granted monopoly exporting privilege possessed by the NZDB. However, Fonterra

retained exporting privileges that allowed the firm to capture dairy import quota rents in the EU, U.S., and certain other markets for six years [2].

The NZDB held the title of world's largest dairy exporter during its multi-decade existence—a title that it passed along to Fonterra after the 2001 merger. The NZDB and Fonterra adjusted in logical ways to the evolving business environment.

In the late 1980s and early 1990s, the NZDB adopted a core strategy and certain subsidiary strategies. The core strategy called for the NZDB to lift the 30 percent to 40 percent of New Zealand milk sold as value-added (differentiated or partially differentiated) products to close to 100 percent as soon as possible [41]. The NZDB's subsidiary strategies mostly elaborated on how the Board would increase product differentiation, expand the international food service business, and take advantage of opportunities created in Europe by the Uruguay Round WTO agreement. The Board also sought to superimpose the core and subsidiary strategies onto a strategy of being supplied by the world's lowest-cost milk producers.

The NZDB's strategies evolved during 1999 to 2000 in ways that reflected in part the difficulty of selling almost all milk produced in New Zealand in the form of differentiated products. In particular, the Board's strategy morphed heavily toward one emphasizing growth in this period, as the firm sought to create a global dairy business four times larger than the New Zealand dairy industry of 2000 within 10 years. As part of these strategies, the Board sought to create value for New Zealand's dairy farmers by manufacturing and marketing (a) value-added dairy products and dairy commodities made from New Zealand milk, and (b) dairy products made from milk produced in other countries using the New Zealand dairy industry's technology and experience.

The latter point reflected the NZDB's willingness to use foreign milk where shelf life restrictions ruled out use of New Zealand milk and to be prepared to do business in countries where tariff barriers priced New Zealand products out of the market.

In Fonterra's early years, the cooperative sought to:

- Integrate the manufacturing and marketing arms of New Zealand's major firms to allow the

industry to compete more effectively in world dairy markets.

- Obtain scale economies in R&D and brand development.
- Seek coordinated acquisitions of, and joint ventures with, companies already operating in inaccessible parts of the world dairy market—93 to 94 percent of the market.

Fonterra's 2002-2003 Annual Report contains elements of earlier strategies and, in addition, included a strategy calling for the firm to be an "effective developer of dairy ingredient partnerships in selected markets."

A noteworthy element of the ingredient partner strategy was the New Zealand Milk Products (NZMP)-DairyAmerica Agreement. In 2001, NZMP signed agreements with DairyAmerica to become the major exporter of U.S. nonfat dry milk (NDM) [9]. DairyAmerica is an association of nine U.S. producer-owned cooperatives, namely Dairy Farmers of America (DFA), California Dairies, Land O'Lakes, Agri-Mark, United Dairymen of Arizona, O-At-KA Milk Producers, Maryland and Virginia Milk Producers, Lone Star Milk Producers, and St. Albans Cooperative. DFA withdrew from the DairyAmerica Agreement in the autumn of 2009.

Fonterra argues that the agreement is advantageous for DairyAmerica because it allows the U.S. cooperatives to shift the job of exporting to Fonterra and concentrate on doing what they do best—market dairy products in the U.S. domestic market. The arrangement appears to be unambiguously good for Fonterra. Among other things, it gives Fonterra additional global market share for an important dairy export item. It is potentially a desirable arrangement for the U.S. cooperatives if they receive good value for the commission they pay Fonterra for handling NDM exports. But, questions have been raised about the wisdom of the arrangement for the U.S. firms, namely: Does it pay to have a major competitor handling exports of an important U.S. dairy export item? Does the arrangement preclude U.S. cooperatives from gaining needed exporting experience when the U.S. dairy industry is becoming more export-oriented?

DairiConcepts is another partnership between Fonterra and a U.S.-based company. DairiConcepts was created by Fonterra's legacy organizations in 2000 and continued under Fonterra. The DairiConcepts joint-venture was a 50-50 limited partnership between DFA and NZMP. This alliance combined DFA's manufacturing capacity with Fonterra's innovation and advanced R&D. DairiConcepts has manufactured cheese and other dairy ingredients for industrial customers.

Fonterra's Dairy Partners Americas (DPA) has become an important player in South America's dairy industry. This partnership, which was launched in Brazil in 2003, continued to grow in 2008-2009, as noted below [21, p. 24]:

DPA extended its manufacturing footprint and now operates at 15 sites across the region. During the year, DPA acquired additional production capacity at Ibia in Brazil's central region, and opened a concentration plant at Palmeiras daz Missoes in southern Brazil.

The alliances and partnerships entered into by Fonterra carry a noteworthy benefit for the firm. Fonterra, via these arrangements, increases its capabilities as a supplier for multinational firms because the cooperative can access product from multiple sources.

Fonterra's Involvement in China's Milk Scandal. Fonterra's strategies generally were successful until 2008 when the firm became embroiled in China's milk contamination scandal.

As noted earlier, Fonterra's involvement in China's milk scandal was linked to the firm's equity interest in Sanlu Dairy. Sanlu began as a large-scale state enterprise raising dairy cows, and processing and packaging milk and milk powders. The firm in the mid-2000s produced about 60 varieties of milk powder, including baby formulas and nutritional supplements, and had expanded into liquid milk, yogurt, and flavored drinks [36]. Sanlu believed that it would benefit from partnering with Fonterra since this would give the dairy access to Fonterra's management experience, R&D, and advanced marketing skills.

Fonterra also expected to gain important benefits from purchasing an equity interest in Sanlu for reasons

mentioned by Mr. Andrew Ferrier, Fonterra's CEO, in 2006 [37]:

Developing a closer working relationship with Sanlu is the logical next step for Fonterra's business in China...It complements our existing importing and consumer businesses there by partnering us with a local company that has access to local fresh milk supplies...New Zealand has been a successful exporter of dairy ingredients to China for decades, but as local production increases to meet the rapidly growing local demand, becoming part of the local industry will give Fonterra further opportunities to employ our expertise in all areas of the business from milk collection to consumer goods.

A few observers have pointedly criticized Fonterra for not being better prepared for the melamine scandal. Critics also question the cooperative's continuing strategic commitment to China. Financial writer, S. Louisson, provided a representative comment [31]:

Beyond the human toll, the scandal has damaged Fonterra management's reputation—the cooperative bosses took far too long to take effective action...Fonterra's CEO, Andrew Ferrier, downplays the melamine disaster on the basis that Sanlu represents a relatively small investment. But the farmers may see it differently—as more trouble than it is worth and a sign management can't control its sprawling empire.

What might Fonterra have done differently to avoid the problems associated with China's melamine scandal? Fonterra might have "stress tested" its plan for the equity investment with Sanlu Dairy to gauge how the operation would perform in the presence of a major milk scandal. This could have given the cooperative a more balanced view of the costs and benefits of the Sanlu investment. Moreover, given Fonterra's bad experience with milk contamination in China, such stress testing may be a useful strategy for future foreign investors in China's dairy industry.

Fonterra's Recent Strategies. The cooperative's late 2008 and 2009 strategies appear orthodox and, for the most part, build on successful earlier strategies and carry limited risk. In recent periods, Fonterra has emphasized strategies to cut processing costs, increase processing flexibility, and change the capital structure.

Processing cost savings were sought partly through scale economies. As an example, Fonterra brought on line the world's largest milk drier at an Edendale site in Southland [21]. This drier has the capacity to process more than 15 million liters of milk per day.

The cooperative launched efforts to improve the firm's ability to move production between commodity ingredients such as powders, cheese and casein to make the most of profitable market opportunities. To achieve this result, the firm strengthened the linkages between customers, global market trading, and the supply chain including all of Fonterra's factories. If successful, this initiative will make Fonterra a more agile competitor in global dairy markets.

Fonterra took steps to increase its ability to raise capital in 2008-2009. This was necessary since, as noted in the ICD report, capital issues represent a long-standing problem for Fonterra. The cooperative described as follows how the problem worsened during the 2008-2009 recession, necessitating steps to increase farmer-member capital investments in the firm [21, p. 7]:

Our current capital structure puts Fonterra at a disadvantage, with large sums of money washing in and out of the cooperative each year as milk production fluctuates. The situation has been made worse by the global economic crisis. Although we are reducing our debt, we are still carrying too much. We are consulting with our shareholders on a multi-step approach to evolve our capital structure—based on New Zealand farmer shareholders retaining 100% control and ownership, and no consideration of a public share listing. We want to provide stronger incentives for farmers to invest more equity in their cooperative...

If this strategy works effectively, Fonterra may adjust the way the firm's shares are valued to reflect

the fact that share ownership is restricted to farmers only. Still later, the cooperative could move to a system where farmers buy and sell shares among themselves, rather than transacting through the cooperative. When fully implemented, the system is supposed to provide additional permanent equity capital for Fonterra.

These steps appear unlikely to deal effectively with Fonterra's capital problems. First, there is no assurance that farmer-members will have incentives to provide the additional equity capital needed by Fonterra. After all, dairy farming—even in New Zealand's "no-frills" farming operations—is a capital-intensive business. Fonterra's dairy farmer-members are likely to need most of the capital they can raise to fund their own on-farm investments.

Fonterra's dairy farmer members have long feared losing control of their cooperative. This, in part, accounts for their unwillingness to allow Fonterra to make public share offerings to raise capital. Fonterra's misadventures with Sanlu dairy in China probably will cause farmer-members to adhere to this view for the foreseeable future. Thus, capital shortages will continue to limit Fonterra's expansion capabilities and global competitiveness.

Accordingly, Fonterra's officers and farmer-members probably will need to devise additional ways to raise capital if the firm is to realize its full potential in international dairy-food markets. In particular, a capital-starved Fonterra will not be able to take full advantage of its ability to source dairy products from multiple country sources to fill part of the global dairy product demand gap identified in the ICD report.

Kerry Group, plc

While no longer primarily a dairy firm, the Kerry Group of Ireland provides a clear example of how a firm adjusted successfully to a difficult business environment. Headquartered in Tralee, Ireland, the Kerry Group, plc is now a diversified food ingredients, consumer foods, and bioscience company. The firm grew from a small dairy cooperative that had sales of about \$50 million in 1974 to a multinational company with

revenues of 4.5 billion euros (about U.S.\$6.4 billion) in 2009, a 128-fold increase [28].

Kerry currently has manufacturing facilities in 20 different countries and 20 international sales offices in 20 other countries from which the firm sells 15,000 food, food ingredients and flavor products to customers in 140 countries across the globe [27].

An accident of history shaped the strategies of Kerry in important ways. In the early 1970s, a brucellosis eradication program reduced the milk supply of Kerry Cooperative (parent of the current organization) by about 20 percent. Facing this situation, the Kerry Cooperative's management and board of directors concluded that, if the firm was to grow, it needed to reduce its reliance on commodity dairy products. Accordingly, the firm embarked on a path that included the following strategies [18]:

- Emphasize production and sale of food ingredients.
- Acquire firms selling branded food products.
- Beginning in 1986, exchange the assets of Kerry Cooperative for a majority holding in a public limited company, mainly to obtain capital for growth.
- Emphasize quality and continuity of management.
- Increase expenditures on R&D to 2 to 3 percent of sales in order to remain competitive in the food ingredients business.
- Emphasize growth through acquisitions, especially of profitable food ingredients businesses.

Certain of these basic strategies remain as prominent parts of the firm's practices to the present day. For example, Kerry has continued to make acquisitions to foster growth. In addition, Kerry's R&D expenditures continue to be relatively high. In 2009, for example, Kerry's R&D spending equaled 3.3 percent of revenues [28]. Finally, as a result of share sales to 30,000 customers, Kerry's market capitalization rose to 3.5 billion euros (about U.S.\$5.0 billion) in 2009 [26].

While Kerry's acquisitions remain a major vehicle for fostering growth, the firm's portfolio of businesses is far from static. For example, from 2000 to early

2010, Kerry acquired 51 businesses, purchased stakes in three other companies, and made 12 divestitures [3].

In addition, Kerry's financing of acquisitions has changed over time. Capital raised via share offerings was an early source of revenue for acquisitions and other business purposes. But Kerry made substantial use of debt capital for acquisitions during the 1980s and 1990s. In 2010, Kerry reported that its free cash flow (367 million euros or about U.S.\$526 million for 2009) will permit the firm to make profitable acquisitions (possibly a large acquisition) without raising its debt as a percentage of earnings [28].

Implementing these strategies propelled the firm into a world leadership position in food ingredients and other highly differentiated products. Simultaneously, these strategies and other decisions caused sales of Irish-based dairy ingredients to decline to only about 12 percent of the firm's total revenues in the mid-2000s.

Kerry did experience problems during the 2008-2009 recession. For example, the company's sales of food products in Ireland fell about 8 percent from year-earlier levels in 2009 as Kerry's brands underperformed compared to private label products. In addition, the company's food exports from Ireland to the UK were reduced by depreciation of the pound sterling/euro exchange rate in 2009. Cost-cutting helped Kerry to limit the impact of the recession and related developments on the company's profits from sale of branded food products.

Kerry's Recent Strategies. Kerry's recent strategies continue to emphasize product differentiation under what is called "Kerry's Dual Strategy for Growth." For its ingredients and flavors businesses, Kerry reports that it will [27]:

- Leverage Kerry's technology-based ingredients, flavors and integrated solutions in global food and beverage growth markets.
- Realign the Group's ingredients, flavors and bio-science businesses around core technology platforms and end-use market applications.

For consumer foods, the company will:

- Continue to invest in added-value dairy, meat, convenience and carry-out food categories.
- Enhance brand, marketing investments, and low-cost manufacturing.

While the recent strategies are orthodox and general in nature, they do involve sophisticated product differentiation. The strategies for ingredients and flavors, in particular, build upon Kerry's well-developed R&D capabilities and create competitive advantages that will not be easily duplicated by competitors.

Kerry's success in transforming itself from a small dairy cooperative into a profitable multinational firm provides useful lessons for dairy companies in other countries:

- Kerry's early decisions were partly an accident of history. But the actions also reflect the firm's decision to eschew tying its fortunes to the quota-limited Irish dairy industry.
- Kerry's shift from commodity dairy products to differentiated dairy products, non-dairy food ingredients, flavorings and bioscience products may be a useful model for other dairy companies.
- The firm pursued a strategy that involved trading Kerry Cooperative's assets for a majority holding in a public limited company. By selling Kerry shares on the Dublin and London exchanges, the Kerry Group was able to raise expansion and operating capital. While Kerry's successes may reside more in the firm's ability to hire and keep capable management than with converting to a public limited company, the change to a public limited company may be worth considering by capital-short cooperatives located outside of Ireland.

While the Kerry Group succeeded after converting from a cooperative to a public limited company, the difficulty of making such a conversion effectively should not be underestimated. Other Irish and foreign dairy cooperatives making similar moves have not been as successful. The differences in outcome undoubtedly are traceable to a number of factors, including differences in management and the product mix of the firms. Kerry's attractiveness to investors

probably is due partly to the firm's emphasis on differentiated products and its strong move away from commodity dairy products.

Nestle

Headquartered in Vevey, Switzerland, Nestle is the world's largest food company, boasting sales of US\$99.4 billion in 2009 [35]. The company traces its origins to the Anglo-Swiss Condensed Milk Company founded in 1866 in Cham, Switzerland. Nestle's food and beverage products include milk powders, ice cream, yogurts, bottled water, fruit juices, coffees and candies. Over the years, Nestle has developed or acquired a large stable of well-known brands including Nestle, Nido, Carnation, Coffee-mate, Stouffer's, Dreyer's, Edy's, Nescafe, Milo, Nesquick, and Purina.

In 2009, Nestle operated 456 factories in 83 different countries and marketed products in more than 140 countries [35]. The company is no newcomer to major foreign markets. Nestle claims that it has gained important competitive advantages from its long presence in major markets, noting that it has more than 100 years of local experience in Australia, China, Germany, the UK, and the U.S.[34].

Once considered a "sleeping giant," Nestle is regarded as a model firm by many international dairy firms. Helmut Maucher, CEO of the firm from 1981 until the late 1990s, is credited with awakening Nestle from its slumber. Strategies that Maucher used to awaken Nestle, most of which relate to the company's foreign direct investment and management practices in dairy and other food businesses, include the following:

- Focus on the long-run and balance sales between low-risk and low-growth countries of the developed world and high-risk and high-growth countries of Asia, Latin America, and Africa.
- Keep brands local and people regional. Only technology goes global.
- Deepen the pool of Asian and other developing country managers to acquire a cadre of autonomous regional managers who know more about the culture of local markets than Americans or Western Europeans.

- Engage in continuous improvement and nearly constant cost cutting. Discover the root causes of competitive advantage for the firm.

Helmut Maucher's prescience about China's emergence as an important but risky country in which to do business was evident in a 1996 comment [4, p. 11]:

In spite of free market reforms...China (continues to be) a difficult and uncertain place to do business. Yet, even with the risks, the potential gains are so great that no major food company can afford not to enter the market.

Presumably such knowledge of China's business climate is embedded in Nestle's market intelligence archives. Thus, it is no surprise that Nestle's China operations largely avoided the problems that struck Fonterra and Sanlu during China's milk scandal in 2008. In part, this is because Nestle has long employed a milk collection system to obtain milk supplies of the needed quality and quantity directly from farmers—about 600,000 in total—in China and other developing countries.

Nestle uses the milk collection system because the company considers it risky to buy milk from third parties (middlemen) in most developing countries. The company also employs the mechanism as a vehicle for providing technical assistance and about US\$26 million in micro loans annually to the firm's dairy farmer suppliers.

Goldberg describes Nestle's milk district system as follows: [23, p. 97]:

In simplest terms, setting up a milk district involves negotiating agreements with farmers for twice-daily collection of their milk; installing chilling centers in the larger communes and collection points in the villages or adapting existing collection infrastructure; arranging transportation from collection centers to the district's factory; and implementing a program to improve milk quality.

The orthodox strategies and milk procurement practices employed by Nestle would hardly qualify the

firm as a model. However, the strategies and practices have contributed to the firm's successes.

Nestle's Recent Strategies. While the basic strategies have received different names under recent management, certain strategies appear to have remained largely intact at Nestle. Nestle in its 2008 Management Report said that its aim was to transform the company from a food and beverage company into a nutrition, health and wellness company. Many of the firm's longer-term strategies are being employed to forge this transformation.

Nestle claims that it possesses four competitive advantages that will help it make the transformation, namely:

- a) Unmatched product and brand portfolio
- b) Unmatched R&D capability
- c) Employees, culture, values and attitude
- d) Unmatched geographic presence

Evidence supporting point (a) is apparent from material noted earlier. As evidence of point (b), Nestle noted that the firm spent 2.0 billion Swiss Francs (about US\$2.15 billion) on R&D in 2008, more than any other food company. In addition, Nestle had about 5,000 people from over 50 countries working in the firm's R&D centers, product technology centers, and application groups around the world. Nestle claims that point (c) permits the company to leverage its scale and take an agile approach to business opportunities. It also supposedly aligns Nestle's 283,000 employees with the firm's vision.

Claims regarding point (d) are supported by data showing Nestle's presence in over 140 countries. This point has implications for Nestle's risk management practices. The company has orthodox risk assessment and risk mitigation practices—e.g., hedging and supply contracts. In addition, Nestle claims that “The Group's wide geographical and product category spreads represent a tremendous natural hedge [35, p. 26].”

Nestle's strategic pillars for achieving its new vision are summarized as:

- a) Innovation and renovation

- b) Operational efficiency
- c) Whenever, wherever, however
- d) Consumer communication

The innovation and renovation strategic pillar appears very much like the continuous improvement strategy mentioned earlier. The operational efficiency strategic pillar calls for on-going cost-cutting initiatives that cover the entire value chain from raw materials, manufacturing, packaging, distribution, and the consumer [34, p. 46].

Nestle describes the “whenever, wherever, and however” strategic pillar as follows [34, p. 48]:

For our consumer business, this means a multiple channel strategy, ranging from traditional retailers—hyper and supermarkets, hard discounters, ‘mom and pop’ stores, and street markets—to all impulse opportunities, especially street vendors, kiosks and vending machines that are so vital to ice cream and confectionary sales...The objective is to have our products available for any occasion, any place—railway and service stations, offices, sports centers, ski slopes, at fairs, exhibi-

tions and cinemas, in fact wherever people go for work, leisure and pleasure.

The consumer communication strategy seeks to create strong consumer loyalty. To achieve this objective, the company seeks to gain deeper levels of consumer understanding than its competitors. This, Nestle reports, is achieved by spending time living and shopping with customers, and getting first-hand understanding of their needs, motivations, routines, purchasing habits, and decision-making [34, p. 48].

Nestle’s strategies appear orthodox and effective. The firm emphasizes product differentiation, near constant cost-cutting, and gaining in-depth knowledge of consumer demand in the many markets the company serves. Secondly, Nestle has gained important early-mover advantages for serving the developing country markets that the ICD report notes will become increasingly important in the coming years. Finally, competitors cannot easily duplicate the strategic advantages that Nestle has gained from its somewhat cryptically-named “whenever, wherever, however” strategy for serving developing countries.

SYNOPSIS OF STRATEGIES: FONTERRA, KERRY GROUP, AND NESTLE

The strategies of these three firms provide insights about what is required to become a successful global dairy player. All three have gained important early mover advantages for serving foreign markets. The early mover advantages will present a challenge for a U.S. firm that seeks to move from being a consistent exporter to a global dairy player.

Importantly, the basic strategies of Fonterra, Kerry, and Nestle have remained relatively consistent over time. The strategies might be summarized as follows:

- Each firm has adjusted strategies to deal effectively with changes in the business environment.
- Kerry and Nestle have placed heavy emphasis on product differentiation and the R&D needed to support product differentiation.

- Fonterra has emphasized scale economies in processing and has developed the ability to source products from multiple countries.
- Nestle and the Kerry Group have access to capital in the share markets.
- Fonterra appears not to have developed mechanisms that will allow the firm to acquire needed expansion capital. Thus, the cooperative will probably continue to place heavy emphasis on debt capital. Fonterra will be limited in its ability to fill part of the global dairy demand gap if the cooperative fails to develop new ways to raise expansion capital.

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APPENDIX

GLOBALIZATION TASK FORCE MEMBERS AND COMPANY CAPTAINS	
Task Force Members	Company Captains
Kevin Toland, Glanbia (Chair)	Carol Kitchen, Land O'Lakes
Keith Murfield, United Dairymen of Arizona	Dermot Carey, Darigold
JP Ruiz Funes, Land O'Lakes	Jimco Hrusovszky, United Dairymen of Arizona
Jay Waldvogel, Dairy Farmers of America	Lavonne Dietrich, Dairy Farmers of America
John Underwood, Darigold	Niamh Kelly, Glanbia
Richard Cotta, California Dairies, Inc.	
Steve Shelley, Schreiber Foods	
Sue Taylor, Leprino Foods	

Source: Innovation Center for U.S. Dairy. [25]