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**DOING BUSINESS IN AN INDUSTRY WITH DIFFICULT  
ECONOMICS—FOOD MASTER'S EXPERIENCE IN DAIRY  
PROCESSING AND MARKETING IN KAZAKHSTAN**

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# DOING BUSINESS IN AN INDUSTRY WITH DIFFICULT ECONOMICS— FOOD MASTER'S EXPERIENCE IN DAIRY PROCESSING AND MARKETING IN KAZAKHSTAN

Saulesh Esenova and W.D. Dobson\*

## Executive Summary

### Introduction

- This Discussion Paper used the following quote from investor, Warren Buffett, as part of the framework for analyzing the experience of Food Master (a dairy processing and marketing firm) in Kazakhstan's dairy business [3]:  
*"When a management with a reputation for brilliance tackles a business with a reputation for poor fundamental economics, it is the reputation of the business that remains intact."*
- Findings relating to favorable and unfavorable economics provide insights about dairy marketing and processing conditions in Kazakhstan. Food Master, a dominant dairy processing and marketing firm in the Almaty region of Kazakhstan, and an important dairy firm in Astana (Akmola region) has found itself in a business with difficult fundamental economics. And despite having excellent top management and doing many things correctly, this case firm lost money in 1999 and was forced to restructure. While there have been positive developments for the business in 2000 and 2001, the firm's long-term profit prospects are uncertain.
- The paper provides background information on Food Master, describing the firm's excellent top management, what the firm did right, what went wrong in the late 1990s, why Food Master will continue to face difficult economics, and lessons from Food Master's experience for investors and Kazakhstan's government agencies.

### Background Information on Food Master

- The ownership of Food Master is split between Developed Technology Resources, Inc. (DTR) and Agribusiness Partners International (API), both U.S. firms. DTR owns a 30% share and API a 70% share of Food Master.
- Food Master owns a controlling interest in eight dairy firms, five in Kazakhstan, two in Moldova, and one in Ukraine.
- The firm has a 50% to 55% market share of fluid milk sales in the Almaty region and lower market shares in the Akmola region.
- The origins of Food Master's operations in Kazakhstan began in Almaty, Kazakhstan in 1995 as a joint venture between DTR and the Kazakh firm, Ak-Bulak Dairy.
- In March 1997, DTR and API formed Food Master. DTR contributed its dairy businesses in Almaty, Kazakhstan and API contributed U.S.\$6.0 million in cash to create Food Master.
- Food Master reported its first profitable year in March 1998. Company sales in Kazakhstan totaled U.S.\$14 million in 1998 and were projected to be substantially higher in 1999.
- However, in April 2000 Food Master reported losses of U.S.\$6.2 million for 1999. The losses were deep and spread across the firm's dairy operations in Kazakhstan, Moldova, and Ukraine.
- Mr. John Hupp, President of DTR, attributed the losses to sales reductions associated with the economic crisis that hit Russia in August 1998 and spread to Kazakhstan, Moldova, and Ukraine, negatively affecting Food Master's dairy operations. The crisis saw the Kazakhstan tenge fall in value from 82 to one U.S. dollar in December 1998 down to 139 to

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one U.S. dollar at the end of 1999 (over 60%), reducing the dollar value of the firm's earnings and increasing the price of imported inputs.

- In mid-1999, Food Master began to restructure by eliminating certain dollar-denominated expenses and by adopting rationalization measures.

### **Food Master's Excellent Top Management**

- Food Master experienced problems in Kazakhstan despite the presence of strong top management for DTR and Food Master. The strength of the top management for the two firms derives from the background and experience of Mr. John Hupp and Mr. Erlan Sagadiev.
- Mr. John Hupp, DTR President, has good Russian language skills and had extensive business experience in Russia and the former Soviet Union before joining DTR.
- Mr. Erlan Sagadiev, General Director of Food Master in Kazakhstan, is fluent in Russian and English. He is a native of Kazakhstan who completed a graduate education in the U.S., has a prestigious family background, and possesses good political connections in Kazakhstan.
- Hupp characterized Sagadiev's value to the firm as follows: "Erlan Sagadiev is the real reason that DTR went into Kazakhstan. It was Erlan's honesty and connections that made Food Master a reasonably successful business." This success came about because the company:
  - Entered via a joint venture with a Kazakh firm.
  - Made a well-timed entry.
  - Gained potential advantages from entry and exit barriers.
  - Made extraordinary efforts to maintain a suitable milk supply.
  - Chose effective marketing practices for the firm's products.
- However, these actions did not shield the firm from incurring losses in 1999 and the need to restructure.
- Whether Food Master will achieve above normal profits (or even normal profits) over the longer-run will depend on whether the firm can consistently overcome challenges associated with operating in an industry with difficult economics.

### **What Went Wrong in the Late 1990s?**

- DTR attributed the losses incurred by the firm in 1999 mainly to a demand-depressing regional economic crisis that culminated in devaluation of the tenge.
- While the problems encountered by Food Master in the Almaty and Akmola regions that stem from macroeconomic conditions are arguably transitory, the firm faces other conditions that will cause difficult economics to persist in Kazakhstan's dairy industry.

### **Why Food Master Will Continue to Face Difficult Economics**

- The firm will continue to face difficult economic conditions because:
  - Capable middle and lower-level managers will remain in short supply.
  - Quality milk will remain scarce.
  - The Akmola region presents unique problems.
  - Credit constraints exist.
  - Corruption.
- Problems associated with obtaining an adequate supply of quality milk and corruption are likely to be deep-seated, long-term problems for the firm. Milk production declined 39% in Kazakhstan from 1990 to 1998 in response to adverse developments that—for the most part—still persist.
- The dearth of capable middle and lower managers, problems in the Akmola region, and credit shortages should be manageable, intermediate-term problems.
- It is too early to tell how profitable Food Master's operations will be in Kazakhstan over the longer-run. Despite the persistence of problems, there is little reason that DTR and Food Master should, in the language of Warren Buffett, "change vessels" rather than "continue to patch leaks."

- There is an encouraging sign for Food Master—DTR's shares, which trade as a NASDAQ BB stock in the U.S., rose in price during February 2001.

#### **What Are the Lessons for Investors in Kazakhstan's Dairy Industry?**

- Food Master was probably positioned better than most foreign-Kazakh joint venture firms to succeed in Kazakhstan's dairy industry. Therefore, other investors should be prepared to encounter problems at least as difficult as those experienced by Food Master in Kazakhstan.
- Lessons for investors, ranked in order of importance, are as follows:
  - Dependable supplies of quality milk will be difficult for many processors to obtain for the foreseeable future.
  - Corruption will be a problem for foreign-based processors that fail to employ a politically well-connected Kazakh in the business.
  - Dairy processing and marketing firms will need to devote substantial efforts to training programs to give employees management and marketing skills needed to operate under market conditions in Kazakhstan.
  - Credit and equity capital for use in Kazakhstan's dairy businesses will remain scarce and/or costly.
  - Due diligence inquiries will assume importance for dairy processing and marketing investments in all parts of Kazakhstan.

#### **What are the Lessons for Kazakhstan's Government?**

- Certain problems affecting Food Master and the firm's domestic competitors have implications for government agencies wishing to foster sound investments in Kazakhstan's dairy processing and marketing businesses, and in dairy farming. These relate mainly to credit availability, milk supply, and corruption.
  - Credit problems will defy easy solution by government agencies. The problem is both one of lack of available credit for dairy processors and dairy farmers and, at times, high real interest rates.
  - A possible cost-effective way for Kazakhstan's government agencies to ensure that more credit becomes available to dairy processing and marketing firms, and to dairy farmers would be to expand guarantees of credit provided by banks and other commercial lenders.
  - Infusions of capital and skilled management into dairy farming will be needed to foster an environment where mid-sized and larger dairy farms can be established with reasonable prospects for success. Expansion of credit guarantees, business management assistance to farmers, and improved terms of trade for dairy farmers are called for to deal with this problem.
  - Corruption is an impediment to foreign investment in dairy processing and other agricultural businesses in Kazakhstan. This problem must be addressed by government if it is to be reduced.

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**Introduction**

*"When a management with a reputation for brilliance tackles a business with a reputation for poor fundamental economics, it is the reputation of the business that remains intact."*

Warren Buffett [3]

This simple point describes an important part of the management philosophy of Warren Buffett, one of the world's most successful investors. Interestingly, Buffett's comment provides a useful framework for analyzing the experience of Food Master (a dairy processing and marketing firm discussed at length in this paper) in Kazakhstan's dairy business. In short, Buffett contends that investors should avoid businesses with difficult economics. He adds that "Should you find yourself in a chronically leaking boat, energy devoted to changing vessels is likely to be more productive than energy devoted to patching leaks [3, p. 47]." Buffett concedes that businesses with good fundamental economics cannot be identified with engineering precision. However, he provides guidance on this point, suggesting that securities in companies selling commodity-like products should come with a warning label that, "competition may prove hazardous to human wealth."

Buffett emphasizes that management foibles, which he labels as the "institutional imperative," can exacerbate the effects of difficult economics [3, pp. 95-96]. In this connection, he argues that (a) as if governed by Newton's first law of motion, an institution will resist any change in its current direction, (b) just as work expands to fill available time, corporate projects or acquisitions will materialize to soak up available funds, (c) any business craving of the leader, however foolish, will be quickly supported by detailed rate-of-return and strategic studies prepared by his troops, and (d) the behavior of peer companies, whether they are expanding, acquiring, setting executive compensation or whatever, will be mindlessly imitated.

Michael Porter, a well-known business strategist at Harvard's Business School, offers similar arguments relating to good fundamental economics and difficult economics—albeit in less colorful language, pointing out that [16, pp. 3-4]:

Not all industries have the same potential. They differ fundamentally in their ultimate profit potential as the collective strength of the forces (driving industry competition) differs; the forces range from intense in industries like tires, paper, and steel—where no firm earns spectacular returns—to relatively mild in industries like oil-field equipment and services, cosmetics, and toiletries—where high returns are quite common.

Porter indicates that the four primary forces affecting industry competitors and rivalry among existing firms are (a) bargaining power of suppliers, (b) threat of new entrants, (c) bargaining power of buyers, and (d) threat of substitute products or services. In an earlier paper, the authors found that *lack* of bargaining power of milk suppliers has an important impact on competitive conditions in Kazakhstan's dairy industry [9]. Most milk suppliers in Kazakhstan have so little bargaining power that it is difficult for them to stay in business.

What do the arguments about favorable or unfavorable fundamental economics have to do with dairy marketing and processing in Kazakhstan? Quite a bit it turns out.

Food Master International (Food Master), a dominant dairy processing and marketing firm in the Almaty region of Kazakhstan, and an important dairy firm in Astana (Akmola region), has found itself in a business with difficult fundamental economics. Despite having excellent top management and doing many things correctly, the firm incurred losses in 1999 and was forced to restructure. Food Master's experience provides important lessons for other firms planning to invest

in Kazakhstan's dairy businesses and for government policy to encourage sound investments in Kazakhstan's dairy industry.

This Discussion Paper provides background information on Food Master. It describes the firm's excellent top management, what the firm did right, what went wrong for the firm in the late 1990s, why Food Master will continue to face difficult economics, and lessons based on Food Master's experience for investors and Kazakhstan's government agencies. The paper reflects insights gained by the authors from interviews conducted in Kazakhstan in the summer and fall of 2000.

## **I. Background Information on Food Master**

The ownership of Food Master (a limited liability company) is split between Developed Technology Resources, Inc. (DTR) and Agribusiness Partners International (API), both U.S. firms [4]. DTR owns a 30% share and API a 70% share of Food Master. Food Master currently owns a controlling interest in eight dairy firms—five in Kazakhstan, two in Moldova, and one in Ukraine. Food Master's dairy plants in Kazakhstan are located in Almaty (Kazakhstan's largest city and former capital), Yessyk, Chimkent, Kurdai and Astana (Kazakhstan's new capital). Figure 1 shows the location of the cities of Almaty and Astana.

The firm has a 50% to 55% share of fluid milk sales in the Almaty region. Food Master's market shares are lower in Astana—about 45% of the fluid milk market, 30% of the kefir market, and 13% of the ice cream market in the winter [24]. The firm's market shares for fluid milk items in the Akmola region, in particular, decline in the summer when farmer-distributors become strong competitors.

The origins of Food Master's operations in Kazakhstan—the main focus of this paper—began in Almaty, Kazakhstan in 1995 as a joint venture between DTR and the Kazakh firm, Ak-Bulak Dairy. The joint venture business began with the production of yogurt and expanded into kefir, fluid milk, fluid cream, sour cream, ice cream, cheeses, fruit juices, and snack foods. Food Master subsequently bought the kefir business of the joint venture partner, reducing the contribution of Ak-Bulak Dairy to the business.

More detailed information on the evolution of DTR, API, and Food Master and selected financial data for the firms appear below [4,6]:

- March 1997: DTR and API formed Food Master. DTR contributed its dairy businesses in Almaty, Kazakhstan and API contributed \$6 million in cash.
- March 1997: Food Master's operations in Astana, Kazakhstan were established.
- October 1997: Food Master Kazakhstan revenues grew from \$3.27 million in 1996 to \$8.18 million in 1997.
- March 1998: DTR reported the first profitable year in its history. Company sales in Kazakhstan totaled U.S.\$14 million in 1998 and were projected to be substantially higher in 1999.
- October 1998: API committed an additional \$6 million for expansion of Food Master.
- August 1999: The European Bank for Reconstruction and Development (EBRD) became an investor in the firm's Kazakhstan operations. The EBRD investment provided working capital to complete Food Master's state-of-the-art fruit juice and milk packaging plant in Kazakhstan.
- April 2000: Food Master reported losses of \$6.2 million for 1999. The losses were deep and spread across dairy locations in Kazakhstan, Moldova, and Ukraine.



Mr. John Hupp, President of DTR, attributed the losses to a regional economic crisis, as follows in April 2000 [12]:

The economic crisis that hit Russia in August 1998 significantly affected our businesses in Kazakhstan, Moldova, and Ukraine in late 1998 and early 1999. The crisis saw the Kazakhstan tenge fall from 82 tenge to the dollar in December 1998 to 139 to the dollar at the end of 1999, with similar devaluations in Moldova and Ukraine. The crisis occurred at the same time Food Master was investing in new dairy assets, including our state-of-the-art aseptic juice and milk packaging factory in Kazakhstan. *Unfortunately the currency devaluation was not matched by internal inflation within these countries, making it impossible to raise prices sufficiently to maintain margins* (emphasis supplied). Demand dropped with price increases, creating overcapacity and difficulty in covering overhead expenses, many of which were dollar denominated expenses.

Hupp described the restructuring that was undertaken to deal with Food Master's losses, as follows [12]:

In mid-1999, some initial restructuring began, with the elimination of some of the expatriate, dollar-based employee expenses. In the summer of 1999, more than 200 employees at our Ukraine operation were terminated to bring expenses in line with reduced margins. In November of 1999, DTR and Agribusiness Partners International agreed to eliminate the overhead in Minneapolis and move the management to the local levels. Further cuts in expatriate employee wages were made in December.

Hupp described Food Master's problems as stemming mainly from a regional economic crisis. This was clearly an important cause of the firm's losses. However, as noted later, the problems facing Food Master extend beyond those associated with the regional crisis.

## II. Food Master's Excellent Top Management

Food Master experienced problems in Kazakhstan despite the presence of strong top management for DTR and Food Master. The strength of the top management for the two firms derives partly from the background and experience of Mr. John Hupp and Mr. Erlan Sagadiev. John Hupp has a Russian Area Studies degree and law degree from the University of Illinois. He acquired valuable business experience involving Russia and the former Soviet Union prior to joining DTR. That experience included the position of Senior Project Manager and Corporate Counsel for Management Partnerships International of Chicago, Illinois during 1990-92 where his duties included [10]:

- Overseeing five project managers involved in developing businesses in the Soviet Union and Eastern Europe.
- Establishing new joint ventures between Russian, Czech, and American companies.
- Negotiating joint venture, licensing, loan and repayment agreements, construction and management agreements, and profit sharing agreements with Soviet Union, Eastern European and American businesses.

Employing his legal and Russian language skills (Russian is an important language of business in Kazakhstan), Hupp designed, organized, and edited a three-volume Russian legal publication in 1992-93.

Hupp began his career with DTR in 1993 as Director of Legal Affairs and was appointed President of DTR in 1995. While in the latter position, he acquired about \$1.8 million in U.S. government grants for expansion of DTR in the former Soviet Union and negotiated the company's dairy acquisitions in Kazakhstan, Moldova, and Ukraine.

A native of Kazakhstan, Mr. Erlan Sagadiev is General Director of Food Master in Kazakhstan. He is fluent in English and Russian. His English language skills were gained in part during his studies for a Masters degree in Agricultural & Applied Economics at the University of Minnesota. He has a prestigious family background and good political connections. His father was President

of the country's Academy of Sciences. After achieving success as General Director of Food Master, Sagadiev was appointed to President Nazarbayev's advisory board. Hupp characterized Sagadiev's value to the firm as follows, "Erlan Sagadiev is the real reason that DTR went into Kazakhstan. It was Erlan's honesty and connections that made Food Master a reasonably successful business [11]."

While the qualifications of the top managers of DTR and Food Master appear to be superior, this is apparently not true of Food Master's mid-level and lower-level management. More on this point later.

### **III. What Food Master Did Right in the Mid- to Late-1990s**

#### **Entry Via a Joint Venture**

As noted earlier, DTR entered the dairy markets in the Almaty region of Kazakhstan using a joint venture with Ak-Bulak Dairy. Joint ventures have been employed frequently by foreign investors as a vehicle for entering a host of product markets in Kazakhstan. Foreign firms opt to use joint ventures for entering Kazakhstan's markets for political reasons, to gain business contacts, and to gain access to distribution channels [1, p.16]. In addition, the domestic joint venture partner could be useful for dealing with problems that arise when the government fails to enforce contract provisions, difficulties created by unpredictable tax law changes, and problems created by the general "messiness" of tax regulations.

It might not have been essential for DTR to use such a mechanism to enter Kazakhstan's dairy markets since Erlan Sagadiev, General Director of Food Master, is a politically-well-connected native of Kazakhstan. However, the use of the joint venture doubtless had some of the conventional advantages.

#### **Well-Timed Entry Into a Potentially Promising Market**

When DTR entered the dairy processing and marketing business in the Almaty region in the mid-1990s, the dairy industry there was in transition, fragmented and ripe for consolidation. This was a potentially favorable time for a firm with superior top management and better access to capital than the competition to get into the dairy processing and marketing business in Kazakhstan.

DTR characterized the opportunities for Food Master in the dairy and snack food businesses in Kazakhstan and other markets in the former Soviet Union as follows [4]:

By entering the relatively under-developed consumer markets of the former Soviet Union, our dairy and snack food plants are creating for the first time in these markets local brand awareness and loyalty. By insisting on high quality and exceptional value, we are changing the way the consuming public views the products they buy.

Information on a cross section of domestic competitors in Food Master's sales areas in Kazakhstan appears in Profile No. 1 [9,14]. As noted later, this information suggests that Food Master was positioned to compete effectively against domestic competitors in Kazakhstan in the mid- to late-1990s.

#### **Profile No. 1. Background Information on Zhiger Dairy Company and Other Domestic Dairy Processing and Marketing Firms, Almaty and Akmola Regions of Kazakhstan in the Mid- to Late-1990s**

##### **Zhiger Dairy Company**

- **BACKGROUND:** The firm was created in 1936. In the early years it was a major ice cream producer. Beginning in the mid-1950s, the Zhiger Company became a mega operator in the Almaty area. The mega firm consisted of two large dairy processing plants located in Almaty and seven smaller plants located in surrounding rural areas. Each small plant

collected, cooled, and carried out some initial processing of milk (30-60 tons of milk per day). Most of the milk collected by the small plants was transferred to the larger plants in Almaty for further processing.

- **PEAK PRODUCTION CAPACITY:** Zhiger Dairy Company in May, 1989 received and processed 829 tons of milk in one 24-hour peak production period. In the Almaty dairy plants alone, the firm processed 760 tons of milk in one day of peak production.
- **REORGANIZATION:** In 1992, the Zhiger Company was transformed into a limited liability company. Fifty one percent of all shares of the limited liability company were sold to 64 milk producers in the Almaty area. The reorganization didn't produce expected results. During 1995 to 1997 under the privatization arrangement, food stores and other customers failed to pay Zhiger for the approximately U.S.\$500,000 of dairy products supplied to the customers. The processor, in turn, could not pay milk producers. This development forced a shut down (or drastic curtailment) of milk processing by the privatized firm in 1997.
- **RESUMPTION OF PRODUCTION:** In 1998, Zhiger Dairy Company re-opened an Almaty plant and by mid-2000 had pushed milk processed in the plant up to about 60 tons per day. In 2000, the firm re-opened three small milk processing plants in Talgar, Chilik, and Kegen. An economist for the firm observed that Zhiger and other dairy firms now provide a greater variety but a much smaller quantity of dairy products for food stores than in Soviet times.
- **CHALLENGES:** The challenges facing Zhiger Dairy Company include (a) problems with over capacity, (b) strong competition for retail, differentiated dairy product accounts, and (c) shortages of capital at acceptable interest rates and repayment terms.

#### **SMAK Company Ltd.**

- **BACKGROUND:** This company, which produces ice cream and fluid milk products, is owned by a former manager of a state milk plant. Nine dairy farmers, with whom the firm had supply contracts, supplied SMAK with milk in 1999. SMAK had processing capacity of 30 to 40 tons of milk per day in the late 1990s, but in 1999 obtained only about 15 tons of milk per day from farmers.
- **PRODUCT LINE AND SELLING PRACTICES:** SMAK delivers ice cream and fluid milk products to Almaty supermarkets, and also sells dairy products from truck locations in and around the city of Almaty.
- **CHALLENGES:** The major challenges facing the company include (a) the expense of acquiring imported packaging material from Finland and Germany, (b) the mismatch between seasonally high milk production and weak demand in summer, and the low milk production and seasonally higher demand in other seasons, and (c) the short shelf life of the firm's fluid milk products. Imported packaging material represented a large expense because of devaluations of Kazakhstan's currency and a 20% tariff on the imported packaging material.

#### **Agro Products**

- **BACKGROUND:** This Almaty dairy processing plant produced fluid milk items, a new cream cheese, chocolate dessert product, and distributed ice cream produced by a plant in Northern Kazakhstan. All of Agro Products' employees formerly worked at state plants that have been privatized. The firm began operations by processing two tons of milk per day, but in 1999 their operations were substantially larger.
- **SELLING PRACTICES:** Agro Products sold most of its products through a chain of kiosks and vendor trucks, and smaller amounts through retail food stores.
- **CHALLENGES:** Challenges facing the company included (a) strong competition for food store accounts and retail consumers of dairy products, (b) the sharp differences in seasonal production and seasonal demand for dairy products, (c) the high cost of imported packaging material, (d) shortages of credit at acceptable terms, and (e) problems associated with the short shelf life of the firm's fluid milk products.

### Farmer Distributors

- **BACKGROUND:** Individual farmer-distributors deliver milk and dairy products directly from the farm to residential areas in both Almaty and Astana. Farmer-distributors appear to be more important as competitors in Astana than in Almaty. An officer of the Food Master company in Astana said that in the summer he has about 17 competitors—the majority of whom are farmer-distributors—while in winter the number of competitors declines to five or six as farmer-distributors withdraw from milk distribution [24].
- **PRODUCT LINE AND SELLING PRACTICES:** Farmer distributors sell mostly milk or dairy products that require limited processing. Farmer distributors frequently come to the same delivery point every day, giving consumers a regular place to buy milk. Prices charged by farmer distributors are lower than those charged in food stores or kiosks. This is because these vendors incur no packaging costs—consumers supply their own milk containers—and the vendors may escape taxation, sales fees, and safety control (veterinary and sanitary inspection).
- **CHALLENGES:** The challenges facing farmer-distributors included those associated with (a) offering a product that is of limited appeal to middle- or upper-income people, (b) problems associated with extreme seasonal variation in milk sales (especially in the Akmola region), and (c) selling a product that frequently would not be safe to consume unless boiled.

The list of competitors appearing in Profile No. 1 is not exhaustive. However, it does describe the general nature of the competition that Food Master faced as the firm launched its dairy business in the Almaty and Astana areas. The domestic dairy industry was fragmented, beset by numerous important challenges, and presumably fertile ground for a new competitor using modern processing and marketing practices and catering to upmarket consumers in Almaty and Astana. In this environment, a well-managed firm such as Food Master could expect to extract returns substantially higher than those available to domestic competitors.

Food Master's timing was good from another standpoint. Large supermarkets began to emerge in Almaty and Astana in the late 1990s, but these supermarkets did not place the same demands on suppliers as large supermarkets in North America and Western Europe. (This conclusion reflected beliefs of the Director of the SMAK Food Company who was interviewed by the authors in 2000 and is consistent with our other findings [18]). Supermarkets in Western Europe, in particular, have become demanding, creating situations where only suppliers with exceedingly low costs are positioned to serve many of them. While supermarkets in Almaty and Astana are likely to eventually become more like North American and Western European supermarkets, Food Master will have time to make the adjustments required to serve such demanding customers effectively.

### Advantages Gained from Entry and Exit Barriers

The situation regarding entry and exit barriers in the dairy industry in Kazakhstan in the mid- to late-1990s arguably gave Food Master advantages. Porter in Figure 2 provides a simple diagram relating firm profitability to entry and exit barriers [16, p.22].

The competitive situation facing Food Master in milk markets in the Almaty region in the mid- to late-1990s was that of a dominant firm facing a competitive fringe that included firms such as SMAK Company, Agro Products and farmer-distributors. The Zhiger Dairy Company would not fall into the fringe category and, if ideal conditions materialized for the firm, might eventually challenge Food Master's status as dominant firm. However, Zhiger lacks processing technology as advanced as that of Food Master's state-of-the-art fruit juice and milk packaging plant. Moreover, the capital costs associated with acquiring such new, specialized processing equipment might be prohibitively high, effectively discouraging Zhiger from moving into the same competitive set as Food Master.

**Figure 2. Entry and Exit Barriers and Profitability\***

		Exit Barriers	
		Low	High
Entry Barriers	Low	Low, stable returns	Low, risky returns
	High	High, stable returns	High, risky returns

\* Source: Porter [16, p.22].

Thus, there are high barriers to entry into Kazakhstan's dairy markets at the size and level of sophistication at which Food Master operates. The capital costs and scale economies associated with achieving status comparable to that of Food Master are large. Moreover, the specialized nature of the processing equipment that Food Master requires give that equipment few alternative uses. Accordingly, Food Master could be expected to stay in the industry in the face of temporarily low returns, creating a situation that produces a high exit barrier for the firm.

Fringe firms could enter the business using processing equipment and facilities available at low cost from plants that operated in the former Soviet Union. These firms might be enticed into the industry by upturns in economic conditions or temporarily profitable conditions. Furthermore, a fringe operator could enter the market expecting to sell small, hopefully profitable, amounts of dairy products in niche markets using kiosks and vending trucks. This situation equates to one of low entry barriers. The exit barriers for fringe operators could be either intermediate or high. If employment prospects outside the dairy business became dismal (not an unusual situation), the fringe operator could be expected to stay in the dairy business despite low returns. This exit barrier would be reinforced by the specialized nature of such a firm's dairy processing equipment that would have few alternative uses.

The implications of Porter's Figure 2 are that Food Master could expect to have "high risky returns" while competing fringe operators could anticipate earning "low, possibly risky returns." The implications for a firm such as Zhiger are unclear.

### **Extraordinary Efforts Made to Maintain a Suitable Milk Supply**

Food Master found it necessary to make a number of major, costly adjustments to maintain an adequate supply of milk during the late 1990s. A number of developments caused a sharp decline in Kazakhstan's cattle numbers and an associated decline in milk supplies available to milk processors from 1991 to 1999. These included the withdrawal of Soviet Union government subsidies for dairy farms and massive difficulties that farmers encountered in adjusting to a market economy. The Kazakh Institute for Feed and Pastures reports that cattle numbers in Kazakhstan declined by about 56% from 1991 to 1999 [9, p.6]. While dairy cattle numbers appear to have declined less than beef cattle numbers, the country's dairy cattle herd also fell sharply during this period. Office of Economic Cooperation and Development (OECD) figures indicate that Kazakhstan's milk production fell from 5.6 million tons in 1990 to 3.4 million tons in 1998 (39%), a decline in percentage terms that was similar to that for other Newly Independent States (NIS-4) countries (Table 1).

However, the percentage decline in milk production in Kazakhstan was larger than that recorded in several Central and Eastern European Countries (CEEC-10). For example, in percentage terms, the fall in milk production in Poland from 1990 to 1998 was only about half as large as that recorded in Kazakhstan (Table 1).

**Table 1. Milk Production in the Former Soviet Union, 1990 and 1998\***

Country	1990	1998	% Change 1990-98
	(Million tons)		
Kazakhstan	5.6	3.4	-39.3%
Russia	55.7	33.2	-40.4
Ukraine	24.5	13.5	-44.9
Belarus	7.5	5.3	-29.3
<b>NIS-4</b>	93.3	55.4	-40.6
Czech Republic	4.8	2.7	-43.8%
Hungary	2.9	2.0	-31.0
Poland	15.9	12.6	-20.8
Slovak Republic	2.0	1.2	-40.0
Slovenia	0.6	0.6	NC
Bulgaria	2.5	1.7	-32.0
Romania	4.6	5.7	+23.9
Estonia	1.3	0.8	-38.5
Latvia	1.9	1.0	-47.4
Lithuania	3.2	2.0	-37.5
<b>CEEC-10</b>	39.7	30.3	-23.7

\* Source: OECD [15].

Food Master, of course, experienced first hand the impact of the decline in cattle numbers and reduction in milk production. In 1996, about 95% of the milk collected by Food Master for its Almaty region plants came from large, Soviet-type cattle breeding farms that specialized in milk production. The large farms proved to be inefficient in the post-Soviet period and tended to dissolve. Consequently, in 1999 about two-thirds of Food Master's milk supply for the Almaty market was obtained from smaller farms.

Food Master came to rely heavily on direct purchases from the smaller farms almost by default. After witnessing the decline in milk production on the Soviet-type farms, the firm first tried to purchase needed milk supplies from intermediaries. This system proved to be unworkable because the intermediaries returned relatively low prices to milk producers. This, in turn, discouraged producers from staying in business and reduced the amount of milk available to Food Master.

Faced with these problems, Food Master invested about U.S.\$1.0 million in 1998 to create 28 milk collection stations in the Almaty region. Over fifty people were trained by Food Master to work at the collection stations, which consisted of an Alpha Laval milk cooler with one ton capacity, laboratory equipment, and a power generator. Milk from about 30 producers was collected at each cooling station.

Food Master also established collection stations in the Akmola region. These consisted mainly of eight large cooling stations located more than 100 kilometers from Astana. The large stations accept milk in quantities of 0.5 ton to 1.0 ton at a time. The firm employs a number of smaller cooling stations to collect smaller quantities of milk from individual farmers in locations distant from Astana. Milk collected at the cooling stations is channeled to Food Master's milk processing plant in Astana.

By establishing the collection stations, Food Master pursued a practice that is being employed by firms at other locations in the former Soviet Union and in a number of countries where systems for the transportation, cooling and processing of milk are not well developed. Food Master changed the structure of the dairy business in the two regions of Kazakhstan where it operates, making it more attractive for producers and the firm itself to operate in those regions. This system appeared likely to create win-win situations for milk producers and the firm. But, as noted later, the milk collection and cooling facilities were not the panacea expected.

### **Effective Marketing Practices Chosen for the Firm's Products**

Food Master employed appropriate marketing practices for its up-market product line. The firm's products are distributed through large- and medium-sized supermarkets and other retail stores in Almaty. Food Master delivers products to large Almaty supermarkets but requires smaller supermarkets to pick up the company's dairy products themselves. The company also had a network of distributing companies that placed the firm's products in about 100 stores in Almaty in 1999. The distributing companies receive a discount but are required to see that Food Master products marketed by a distributor sell for the same price as established in stores where the firm makes direct sales.

These marketing practices might not be considered remarkable. However, the firm's practices reflect appropriate strategies for serving large-volume supermarket customers and prevent distributors from undercutting prices for Food Master products sold directly. Requiring small supermarkets to pick up products and use of the distributor system presumably permits the firm to realize marketing cost savings. Moreover, by emphasizing sales of differentiated dairy products, the firm avoided the problems described by Buffett associated with selling commodities.

Food Master's emphasis on fluid milk products also shielded the firm from some import competition. This is potentially important since Kazakhstan imported about U.S.\$30 million in dairy products in 1998 [19, p.24]. Most of the imports presumably were manufactured dairy products (butter, cheese, and ice cream) that can be economically shipped long distances and would not compete with Food Master's fluid items.

### **IV. What Went Wrong in the Late 1990s?**

Food Master clearly did a number of things to enhance the firm's chances to be profitable. However, this did not shield the firm from incurring losses in 1999, or from need for restructuring. Losses of the type that the firm experienced in 1999 may be transitory if the cause of the red ink lies mainly with unfavorable macroeconomic conditions in Kazakhstan. However, whether Food Master will achieve above normal (or even normal profits) over the longer-run will depend on whether the firm can consistently overcome challenges associated with operating in an industry with difficult economics.

Let us review how depressed economic conditions depressed Food Master's sales in the late 1990s and consider why those effects might be transitory. Mr. John Hupp, as mentioned earlier, attributed the losses incurred by Food Master in 1999 mainly to a regional economic crisis and impacts of a sharp devaluation of Kazakhstan's tenge. Kazakhstan's currency declined in value from 86.75 tenge to 1 U.S. dollar in March 1999 to 142.25 tenge to 1 U.S. dollar in March 2000 (over 60%) [8, p.26]. Hupp explained that the currency devaluation was not matched by internal inflation, making it impossible for Food Master to raise prices sufficiently to maintain margins. Dairy product sales, he added, fell with price increases, creating over capacity and difficulty in covering overhead expenses, many of which were dollar denominated expenses.

Kazakhstan experienced a recession that began prior to the devaluation of the tenge, the timing of which is revealed in the following schedule showing the country's quarterly real Gross Domestic Product (GDP) growth during 1998, 1999 and the first quarter of 2000 [8, p.21]:

Year	Real Gross Domestic Product				
	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter	Yearly Average
1998	1.8%	0.8%	-2.8%	-4.7%	-2.5%
1999	-3.6	-3.5	5.1	4.8	1.7
2000	7.0				

Certainly the shrinkage in real GDP during the third and fourth quarters of 1998 and first quarter of 1999 could be expected to depress Food Master's dairy product sales. However, it would be a mistake to assume that the persistence of depressed economic conditions in Kazakhstan's economy will continue to weigh on the firm's profits more or less permanently. Indeed, the macroeconomic figures in Table 2 for Kazakhstan's economy during the mid- to late-1990s present a mixed picture that included favorable developments. For example, real GDP and real wages trended upward during the last half of the 1990s. Consumer prices were also trending downward until the exchange rate-induced increase in 1999-2000.

**Table 2. Selected Figures for Kazakhstan's Economy, 1995-2000\***

Year	Real GDP Growth	Jobless Rate**	Increase in Consumer Prices	Real Wage Increases
1995	NA	13.0%	175.6%	0.4%
1996	0.5%	8.6	39.1	2.9
1997	1.7	7.3	17.4	2.7
1998	-2.5	6.6	7.3	5.3
1999	1.7	NA	8.4	9.7
2000	7.0***	NA	20.4***	NA

\* Source: EIU, Country Report, April 2000 [8]. N.A.= Not Available

\*\* Includes registered and hidden unemployed expressed as a percentage of labor force.

\*\*\* Figures for first quarter of 2000 only.

If Kazakhstan's economy in the future performs at least as well as indicated by the trends in Table 2, the exchange rate effect might be a one-off development that will not persistently fuel inflation. Moreover, there is even a possible bright spot for Food Master in the behavior of inflation. The Economist Intelligence Unit (EIU) reported that in the first quarter of 2000, the fastest-rising consumer prices were those for foodstuffs and services [8, p.24]. This development was undoubtedly distasteful to many Kazakhs. But in this price environment, Food Master might have been positioned to increase dairy product prices faster than in 1999—alleviating a development that contributed to Food Master's losses. Thus, inflation developments in Kazakhstan in 2000 and selected figures in Table 2 might foreshadow a resumption of profits (or at least smaller losses) and a more benign macroeconomic environment for Food Master's dairy business over the longer-run.

The points noted above even raise questions about why Food Master experienced losses as a result of macroeconomic conditions that arose in Kazakhstan in the late 1990s. What in the macroeconomic environment could account for Food Master's losses in 1999? The explanation probably lies in developments having a disproportionately large impact on foreign firms or joint ventures involving large financial contributions from foreign firms. In this connection, the EIU reports that the rise in consumer prices in 1999 was overshadowed by "raging producer price inflation" [8, p.24]. Thus, producer price inflation in 1999 averaged 17.3%, more than double the average consumer price inflation of 8.4%. Industries experiencing the fastest cost increases were those where there has been a significant amount of foreign investment and which tend to rely on imported inputs and capital goods. This includes Food Master, which was using some imported components to build a state-of-the-art juice and milk packaging plant during 1998-1999. If, as

seems likely, Food Master imported packaging material during 1998-1999, these items also would have sharply increased in price (measured in U.S. dollars) as a result of the devaluation of the tenge.

Food Master's experience in the late 1990s cannot be interpreted in isolation from the impacts of macroeconomic developments on the firm's domestic competitors. Domestic dairy processing and marketing firms that purchased few foreign inputs and services during the late 1990s undoubtedly sustained smaller losses as a result of tenge depreciation than did Food Master. However, as noted in Profile No. 1, some domestic dairy firms faced the challenge of obtaining packaging material from foreign sources—mainly Finland and Germany. The cost of these materials, which are purchased with hard currencies, would have increased sharply with the devaluation of the tenge. Farmer-distributors, of course, would not have incurred the higher packaging costs.

Hupp noted that a portion of Food Master's administrative expenses in the late 1990s were U.S. dollar denominated—a condition that did not apply to the firm's domestic competitors. However, DTR has transferred more of the administrative responsibility for Food Master's operations to Kazakhstan, increasing the portion of the latter firm's expenses that would be denominated in tenge and reducing the impact of possible future currency depreciation on Food Master's profits. DTR also cut other dollar-denominated employee expenses.

Food Master and many other businesses also should benefit from demand increases stemming from the increase in oil and gas revenues that are in prospect. Kazakhstan's oil and gas production in 1999 were 15.6% and 18.9% higher, respectively, than in 1998 [8, p.28]. The higher production took place during a period of strong world prices for oil and gas. High revenues from oil production appear likely to be a feature of Kazakhstan's economy in the future given the large reserves in Kazakhstan's Tengiz field and the discovery of additional large oil reserves in the Kashagan oil field off the coast of Kazakhstan in the Caspian sea.

## **V. Why Food Master Will Continue to Face Difficult Economics**

While the problems encountered by Food Master in the Almaty and Akmola regions that stem from macroeconomic conditions are arguably transitory, the firm faces other conditions that will cause difficult economics to persist in Kazakhstan's dairy business.

### **A Shortage of Capable Middle- and Lower-Level Managers**

DTR and Food Master have strong top management, but the same cannot be said of the quality of middle and lower management available to Food Master in Kazakhstan. Hupp, in a candid statement, said that most of the middle- and lower-level managers he encountered had "no clue" on how to manage and that it was difficult to get them to accept responsibility. These managers, he added, were particularly deficient in their knowledge of modern consumer marketing concepts and tended to uncritically reason that bigness was synonymous with profitability.

Erlan Sagadiev has put in place training programs and team-building practices to remedy the shortcomings of the managers. Hupp characterized this initiative as being only partially successful. The problems encountered by Food Master stem partly from the business experience gained by middle-aged and older workers in former Soviet Union businesses. These businesses apparently provided little experience that could be used to advantage in Food Master's dairy operations in Kazakhstan. Partly as a result of problems experienced with middle- and lower-level management, Food Master has vowed "not to hire anyone over 35." Whether the firm will be able to hire adequate numbers of middle- and lower-level managers based on this notion is questionable.

### **Quality Milk Will Remain in Short Supply**

Whether Food Master will be able to obtain an adequate supply of quality milk over the longer term remains a question mark, for reasons outlined below. The number of cattle on Kazakh farms

(mostly smaller dairy and beef farms) recorded a small increase from 1998 to 1999 (Table 3). However, total cattle numbers in Kazakhstan declined from 1998 to 1999 by roughly 7%. This occurred partly because of a sharp fall in the number of cattle on ex-sovhozes (former state farms). The National Statistics Board of Kazakhstan reported that the number of cattle on these farms fell by about 44% from 1998 to 1999, signaling a continued migration of livestock activity away from these farms.

**Table 3. Percentage Change in Livestock Numbers in Kazakhstan, 1998 to 1999\***

Livestock Species	% Change in Number of Livestock on Farms, 1998-1999	% Change in Total Number of Livestock, 1998-1999
Cattle	+2.0%	-7.0%
Sheep	+1.0	-8.0
Hogs	+0.7	-2.0
Horses	-0.5	-11.0
Camels	+10.0	-2.0

\* Source: National Statistics Board of the Republic of Kazakhstan [23, p.45].

Because Table 3 only provides information on aggregate cattle numbers (including both beef and dairy cattle) in Kazakhstan, it is necessary to rely partly on anecdotal information to understand recent trends in dairy cattle numbers. Ms. Maria Kremer, Chief Economist for the Zhiger Dairy Company, is one source of anecdotal information. She claimed that the year 2000 was the best year for milk production in the Almaty region since 1991, explaining this development as follows [14]:

One of the reasons for the decline in milk production (in the Almaty region) in previous years was urban migration. Many villagers tried to establish themselves in businesses other than those based in agriculture. Most of the commercial enterprises that these people established collapsed in 1999 or before. Nowadays these villagers are returning to agriculture. They are attempting to develop commercial farming enterprises that would provide resources that could be used to expand their milk production businesses and/or reinvest in crop or other herding enterprises.

Kremer's comments present a more optimistic outlook than other anecdotal information obtained by one of the authors during interviews conducted in farm areas in 2000. These interviews suggest that dairy and other livestock farms are suffering from effects of withdrawal of government agricultural research and veterinary services, overgrazing (especially near villages), reductions in the availability of electricity and irrigation water, and lack of credit at acceptable terms. Moreover, information on livestock numbers and pasture conditions previously supplied by Kazakhstan's Institute of Feed and Pastures was not available in 2000, making it difficult to reach informed judgements about the condition of dairy farming in Kazakhstan.

Conditions existing on a pair of farms in 2000 are described briefly in Profile No. 2. The farms profiled are general farms with dairy enterprises in a village in the Almaty region. The village is located 50 kilometers from the city of Almaty and has a population of about 2000. The village's facilities were privatized in 1991. Each family in the village received from one to nine hectares of land under a 99-year lease, together with rights to transfer and inherit land use rights. The cows, horses and sheep that were previously part of the collective village economy were distributed among the villagers. The village's tractors and trucks were also privatized and ended up in the hands of a relatively few people.

## **Profile No. 2. Information on the Economic Situation Facing Two Co-ops in the Almaty Region**

### **Co-op No. 1**

- **BACKGROUND:** The father of the present owner of the farm founded the co-op in 1991. The co-op includes nine hectares of land suitable for cropping and seasonal pasturing. In

1993, the farm had 100 sheep, 10 horses and a few cows. During the first two years of operation, the farm had access to electricity, which provided heat and power for pumping water from underground sources. The power company cut the electricity supply for the village in the winter of 1993 because of unpaid bills. Appeals to the local akim (local representative of the state) for subsidies to permit restoration of electric power were unsuccessful.

- **SHORTAGES OF IRRIGATION WATER:** During socialism, an irrigation system provided irrigation water that was shared by several sovkhozes and villages. That system was terminated. An irrigation system was recently re-instated by the Almaty Water Channel Office. Now farmers have access to irrigation water, but few have the money to pay for the water.
- **CURRENT SITUATION:** The farmer operating Co-op No. 1 in 2000 had only 30 sheep, six milk cows, and one horse. He believes that livestock production is a viable business and would like to expand his herding enterprises. However, to do so he needs to re-install electric power lines, pay old bills, and purchase gas. He does not have access to credit under terms that would permit him to make those purchases and pay old bills. The farmer is thinking of moving to another village closer to Almaty that has a better-developed infrastructure. He is thinking of selling his house, certain agricultural facilities, and land use rights.

#### Co-op No. 2

- **BACKGROUND:** The owner of this farm and her husband established the 16-hectare farm in 1993. They built a house and obtained access to an electric power line after the farm was established. The owner of the farm is a relative of the local akim who subsidized the installation of the power line. Initially the farm produced sugar beets and sunflowers—both enterprises were successful.
- **LIVESTOCK ENTERPRISES ESTABLISHED:** In 1999, the farm added livestock and in 2000 had 10 milk cows, 20 sheep, and 10 horses. The sheep and horses are taken to mountain pastures in the summer. The milk cows are kept at the farm to produce milk sold to local dairies.
- **IMPACT OF RISING PRICES FOR GAS AND IRRIGATION WATER:** Owners of the farm fear that rising prices for gas and irrigation water will cause them to become insolvent. The farm pumps water from underground for the home and for producing livestock. Irrigation water is available from the same Almaty Water Channel Office mentioned in the discussion of Co-op No. 1. The cost to the farm for using the irrigation water is prohibitively high. Reflecting a cutback in use of irrigation water for the crop, corn yields on the farm in 2000 were 50% lower than normal.
- **SHORTAGES OF FARM CREDIT:** The farmer would like to obtain loans to purchase farm inputs (e.g., gas and seeds) on a timely basis. The terms of available loans generally were unacceptable. She was told that bankers consider agricultural businesses to be high-risk enterprises. Thus, the amount of collateral required for a farm loan is high, interest rates may exceed 25%, and the term of available loans may only be three to six months. This term is too short to finance some farming activities. The farmers also feared that they would lose valuable collateral if the loan was not repaid under terms specified by the lender.
- **THE FUTURE:** While the owner of Co-op No. 2 may have achieved greater success than Co-op No. 1, the future of this farm operation is unclear. Certainly lack of credit will limit the ability of the farm to expand.

Profile No. 2 shows the impediments to expansion of dairy farms and other commercial farming operations. The experiences of the two farms provide little foundation for the rosy scenario described by Kremer. However, other persons interviewed generally thought that dairy cattle numbers had not shown the downward spiral exhibited by beef cattle numbers in Kazakhstan in the late 1990s and 2000.

Food Master helped to slow the decline in dairy cattle numbers and milk production in regions where the firm provided milk coolers and milk assembly facilities for small farmers, and because they paid farmers promptly for their milk. However, the milk coolers were not the panacea Food Master hoped for because the quality of milk obtained from smaller farmers was sometimes low. This happened in part because farmers added off-flavored milk to the milk collection tank, spoiling or reducing the value of the entire tank. The off-flavors stem in part from feeding practices of farmers. Some of Food Master's farmer-suppliers feed onions or other products to dairy cows that impart strong odors and off-flavors to milk. Food Master also reported that yields of hard cheese obtained from milk collected from small farmers was sometimes low. Low cheese yields are frequently caused by high somatic cell counts in milk stemming from mastitis infections in the udders of dairy cows.

In addition, milk sanitation problems gave fluid milk obtained through Food Master's collection and cooling tanks a short shelf life. The manager of Food Master's Astana operations said that fluid milk processed in the firm's plants only had a two- to three-day shelf life. This creates consumer complaints and caused the firm to incur additional expenses for handling milk returns. Fluid milk packaged in the U.S. and Western Europe, by contrast, has about a two-week shelf life.

Food Master has opted to experiment with own-farm production of milk to obtain a dependable supply of high-quality milk. Vertical integration arrangements of this type are not widely used in the U.S. and Western Europe. Firms in the latter countries have been able to obtain adequate supplies of high quality milk in a cost-effective fashion directly from farmers. That Food Master has opted to undertake such an experiment is one symptom of the difficult economics facing the firm.

### **Problems in the Akmola Region**

Food Master faces unique problems in the Akmola region that are related to the seasonality of milk production and competition. Milk supplied to the firm by farmers increases sharply in the summer, creating a disparity between supplies and fluid needs. Thus, Food Master receives about 50 tons of milk per day in the summer, but needs only about 20 tons per day to satisfy the firm's fluid milk customers. This mismatch between supplies and fluid requirements creates additional expenses for Food Master as the firm must process milk that is surplus to current fluid needs into storable, manufactured dairy products and incur the inventory carrying costs associated with storing the manufactured products. As noted below, some of the manufactured products produced by Food Master in the summer are used to make reconstituted milk in the winter.

Farmer-distributors compete strongly against Food Master in the summer for fluid milk sales in the Akmola region. In this season, Food Master has about 17 competitors, 11 or 12 of whom are farmer-distributors. The Rodina Farm—a large farmer co-op located near Astana—is Food Master's biggest farmer-distributor competitor. The farmer-distributors reduce Food Master's share of fluid milk markets in the Akmola region substantially in the summer and exacerbate the firm's problems with surplus milk disposal.

In the winter, Food Master does not obtain enough milk to satisfy the fluid milk needs of customers. This is so even though Food Master buys milk from certain farmers who serve as farmer-distributor competitors in the summer. In order to satisfy the seasonally high demand in these seasons, the company makes reconstituted milk out of butter and milk powder. Complaints have arisen about the flavor and quality of such reconstituted milk. This is not surprising since processors in many parts of the world receive complaints about "cooked flavors" or other off-flavors in reconstituted milk. However, this is not an inconsequential problem for Food Master. The firm's competitors in the Akmola region use such complaints to encourage customers to purchase their milk.

## Credit Constraints

Credit will remain a constraint on Food Master's dairy operations in Kazakhstan. Food Master is undoubtedly one of the more creditworthy food processing firms in Kazakhstan. Moreover, the firm presumably has access to additional equity capital from DTR and API. However, the amount of equity capital available to the firm from these sources is constrained because of the losses incurred by Food Master in 1999. U.S. investors undoubtedly will wish to see a string of sustained profits before putting substantial amounts of additional equity into the business.

Investment opportunities in other countries will limit investment funds available to Food Master in Kazakhstan. According to John Hupp, Food Master's decision to build the state-of-the-art fruit juice and milk packaging plant in Kazakhstan reduced the amount of capital available for expanding the firm's dairy processing facilities in the large Ukrainian market. This was a matter of concern. Thus, in the future, investment funds may not be forthcoming for Food Master's dairy businesses in Kazakhstan unless returns from those funds exceed returns available elsewhere in the former Soviet Union and other countries by more than a small margin.

While constraints facing Food Master's in efforts to obtain credit in Kazakhstan's domestic credit markets are not as difficult as less credit-worthy domestic competitors, they are not trivial. The firm paid 18% to 20% interest rates on hard currency loans obtained from domestic creditors in the late 1990s. These rates are at least several percentage points higher than those paid by many similar firms operating in the U.S. or Western Europe.

## Corruption

Presently corruption may not be a serious problem for Food Master in Kazakhstan because of the political connections enjoyed by the firm's General Director, Erlan Sagadiev. Nonetheless it could be a serious problem for the firm in the future.

Corruption appears to be pervasive in Kazakhstan. Transparency International ranks countries according to a Corruption Perceptions Index (CPI) where 10 equals highly clean and 0 equals highly corrupt. There are shortcomings to the CPI, which is based on perceptions of the degree of corruption as seen by business people, risk analysts, and the general public. In particular, the index numbers for individual countries frequently are based on a small number of observations and, for that reason, may not reflect the extent of corruption with exactness. For Kazakhstan, for example, the 1999 index score was based on only five responses.

**Table 4. Corruption Perception Index Numbers for Transparency International's Bottom 20 Countries, 1999\***

Country	Perception Index	Average Number of Surveys Used
Armenia and Bolivia	2.5	5.0
Ecuador and Russia	2.4	8.5
Albania, Georgia and <i>Kazakhstan</i>	2.3	4.7
Kyrgyz Rep., Pakistan and Uganda	2.2	4.0
Kenya, Paraguay and Yugoslavia	2.0	4.7
Tanzania	1.9	4.0
Honduras and Uzbekistan	1.8	3.5
Azerbaijan and Indonesia	1.7	8.5
Nigeria	1.6	5.0
Cameroon	1.5	4.0

\* Source: Transparency International Corruption Perceptions Index, 1999 [21].

Shortcomings associated with such indexes caused three World Bank officials to conclude that the CPI and other similar indexes are useful only to group countries into three groups: the 20 or so least corrupt, the 20 or so most corrupt, and the majority in between [7]. However, even using this grouping arrangement, Kazakhstan ends up in the bottom 20, along with a number of other countries in the former Soviet Union (Table 4).

How does corruption manifest itself at Food Master? Erlan Sagadiev complained about the presence of "gray imports" of hard dairy products (especially ice cream) during a 1999 interview. These are imports that enter Kazakhstan without tariffs. The gray imports may be a product of generally ineffective border protection which, in turn, could reflect a host of factors, including border officials who are so poorly paid that they ignore their jobs or accept payments to permit gray imports to enter without tariffs.

Hupp described the more insidious impacts of corruption on foreign firms, claiming that a foreign company generally must be connected to a prominent Kazakh in order to do business successfully in Kazakhstan. He conceded that businesses can invest in Kazakhstan without connections. Indeed, according to Hupp, a foreign business might be encouraged to "come on in." However, if such a business started to generate profits, it might receive a visit from a local official, who would claim that the firm had not registered the company. This comment might be forthcoming from a local official even if the company had been registered with appropriate government agencies. This development then might trigger the beginning of payments to a local official, ostensibly to compensate for failure to register the firm. Hupp said that such payments could exceed four or five percent of a company's revenues. While Food Master may be left alone as long as Erlan Sagadiev serves as General Director of the firm, what will happen if Sagadiev leaves that position?

Other evidence of corruption was revealed in interviews of meat company officials conducted by the authors in 1999. Among the more noteworthy was a requirement imposed by veterinary inspection officials in the Almaty area. These officials sometimes required meat-processing firms to provide excessively large (two to three kilos of valuable meat cuts) meat samples for use in making tests to determine the safety of the product.

According to analyst Robert Samuelson, bribes and corruption seem to correspond loosely to the level of regulation [17, p.208]. This raises questions about the interpretation to be given comments made by Mr. Ivan Kravchenko, Managing Director of Becker and Company, a German-Kazakh joint venture which is the largest supplier of boiled sausage for the Almaty market. Kravchenko in a 1999 interview said, "The only challenge we face is the local bureaucracy. We are not trying to take advantage of the local system of taxation, sanitary, and veterinary regulations. We carefully follow all standards and legislation adopted by the state. The only thing that we need is that the bureaucracy does not create requirements that interrupt the smooth running of our business [9, p.8]." It is probably reasonable to conclude that Kravchenko's concerns relate to a mixture of normal difficulties with bureaucracies and corruption.

### **A Summary of the Challenges Facing Food Master**

On the basis of the above material, the challenges facing Food Master in Kazakhstan can be summarized as shown in Table 5.

Macroeconomic problems should be self-correcting especially in Food Master's main sales areas of Almaty and Astana. The firm gradually should be able to acquire more capable mid-level and lower-level managers through training programs and by hiring young workers with contemporary educations and experience in firms that have operated in market economies. While difficult, the problems in the Akmola region will lend themselves to solution by the firm over time.

**Table 5. Classification of Challenges Facing Food Master in Kazakhstan**

<b>Challenge</b>	<b>Transitory Problem</b>	<b>Manageable, Intermediate-Term Problem</b>	<b>Deep-Seated, Long-Term Problem</b>
1) Depressed Economic Conditions	X		
2) Dearth of Capable Middle- and Lower-Level Managers		X	
3) Shortage of Quality Milk			X
4) Problems in Akmola Region		X	
5) Credit Shortages		X	
6) Corruption			X

Credit shortages for Food Master's domestic competitors fall in the deep-seated, long-term problem category. This is not the case for Food Master because of the firm's access to at least some foreign, equity capital—especially if the firm becomes consistently profitable—and domestic hard currency loans.

Corruption is placed in the deep-seated, long-term problem category because of developments that might take place if the firm's General Director should leave his position. If Food Master was unable to obtain the services of a similarly connected Kazakh to replace Erlan Sagadiev, it might find itself experiencing difficult problems with corruption.

Food Master's immediate deep-seated, long-term problem is to keep an adequate supply of quality milk. The firm has experimented with expensive collection practices to secure a quality milk supply with less than full success. The firm has also embarked on an experiment with vertical integration, with little assurance that this will be a cost-effective way to obtain adequate supplies of quality milk. With some exceptions, the condition of dairy farmers appears to be improving very slowly in Kazakhstan. Conditions on dairy farms probably will have to improve substantially before this problem goes away.

### **What is the "Bottom Line" for Food Master in Kazakhstan?**

It is clearly too early to tell how profitable Food Master's dairy operations will be in Kazakhstan over the longer-run. The firm will continue to face difficult economics that will produce intermediate and longer-term challenges for the firm. The long-term challenges associated with obtaining a dependable supply of quality milk are likely to be acute. Despite the persistence of problems, there is little reason for DTR and Food Master to, in the language of Buffett, "change vessels" rather than "continue to patch leaks." The lack of need to "change vessels" can be traced in part to the apparent near absence of management foibles associated with Buffett's "institutional imperative."

There is another encouraging sign for Food Master. DTR's shares, which are traded as a NASDAQ BB stock in the U.S., rose in price during February 2001. The stock, which had traded in the U.S.\$1 to \$2 range during much of 2000, increased in price to a high of U.S.\$3.44 in early February 2001 [20]. It is noteworthy that DTR's stock prices also varied widely during 2000 and early 2001, ranging in price from U.S.\$0.62 per share to the U.S.\$3.44 figure during the 52 weeks prior to reaching the high noted for early February 2001. This variability was not surprising since Porter's diagram showing the relationship between entry barriers, exit barriers, and profitability (Figure 2) predicts that Food Master's returns would be variable.

The prices of DTR shares are, of course, highly imperfect predictors of Food Master's profit prospects in Kazakhstan's dairy industry. Those share prices reflect the firm's profit prospects elsewhere in the former Soviet Union, as well as in Kazakhstan and a host of other considerations.

## **VI. What are the Lessons for Investors in Kazakhstan's Dairy Industry?**

Foreign and domestic investors can draw important lessons from Food Master's experience in Kazakhstan's dairy industry. Food Master was probably positioned better than most foreign-Kazakh joint ventures to succeed in Kazakhstan's dairy industry. Therefore, other investors should be prepared to encounter problems at least as difficult as those experienced by Food Master. The lessons, ranked in approximate order of importance, are as follows:

- Dependable supplies of quality milk will be difficult for many processors to obtain for the foreseeable future. Profit prospects for Kazakhstan's dairy farmers must become more favorable before milk supplies will increase substantially. Backward integration into production may be a solution to the problem for some milk processors. However, large-scale milk production is likely to be a capital-intensive, costly proposition for milk processors.
- Corruption may be a problem for foreign-based processors who fail to have a well-connected Kazakh in the business. Food Master's experience suggests that obtaining the services of a politically well-connected, knowledgeable Kazakh through a joint venture or other business arrangement can save the firm substantial revenue.
- The value of previous management experience will vary in Kazakhstan. Food Master's practice of "not hiring anyone over 35" would be viewed as politically incorrect and perhaps illegal in the U.S. However, the practice reflects the firm's disappointment over the usefulness of skills gained by middle-aged and older workers in plants in the former Soviet Union. The skills possessed by these employees apparently had little value for Food Master. Processors probably will need to devote substantial efforts to training programs to give employees management and marketing skills needed to operate under market conditions in Kazakhstan.
- Credit and equity capital probably will remain scarce and/or costly. Economic conditions in Kazakhstan will likely improve, reflecting the impacts of higher oil and gas revenues. As a byproduct, there likely will be domestic investors in Kazakhstan seeking to diversify their investment portfolios. For firms with reasonable profit prospects, these investors may be a source of capital. Bank credit for dairy processors promises to be limited and expensive. It is not clear when this situation will change.
- Market conditions in dairy markets will vary from place-to-place in Kazakhstan. For example, Food Master's dairy business in Astana is beset by more difficult economics than Almaty. Among other things, this means that firms will have incentives to carry out careful due diligence inquiries prior to investing in each potential investment spot in the country rather than assuming that investment opportunities will be similar throughout the country.

## **VII. What are the Lessons for Kazakhstan's Government?**

It is assumed that Kazakhstan's government is interested in fostering sound foreign and domestic investments in Kazakhstan's dairy processing businesses, dairy farming, and other livestock businesses. The Government of Kazakhstan levies a 15% tax on profits repatriated by a foreign firm to its home country. While this levy is obviously a deterrent to foreign investment in Kazakhstan, we heard no complaints about this levy. Other problem areas affecting Food Master and the firm's domestic competitors appear to be more important and have broad implications for government agencies wishing to foster sound investments in dairy processing and dairy farming. These problem areas relate to credit availability, milk supply, and corruption.

## Credit Availability

Both domestic milk processors and milk producers complained of a lack of credit at acceptable repayment terms and interest rates. Zhiger Dairy Company, for example, said that the firm could advantageously expand its output if it could secure long-term credit at low interest rates. In particular, Zhiger desired a 15 to 20-year loan at interest rates in the 3% to 5% range [14]. Assuming that Zhiger was speaking of nominal interest rates in the request, this was really a request for a long-term loan at negative real interest rates.

Officials of smaller dairies interviewed wanted to secure additional credit to finance processing operations and expand their businesses. They complained that banks were excessively bureaucratic, required too much collateral, and tended to require long periods of time to evaluate loan requests. Growth of these smaller businesses has been retarded by forced reliance on retained earnings for financing growth.

Farmers complained that little credit was available to them in acceptable forms. Their concerns were numerous and varied: Banks were said to lack knowledge about the credit needs of farmers, collateral requirements were too high, and the terms of the loans did not coincide with times when loan funds were needed (e.g. to purchase farm inputs) and when funds were available to repay the loans. With respect to the last point, the farmers said that the loans frequently had to be repaid before the harvest generated funds for servicing the loans. Farmers also feared that valuable collateral would be lost if they were unable to repay the loan. There was speculation that lenders might make loans primarily for the purpose of obtaining the collateral after borrowers defaulted on the loans. Banks claimed that they restricted farm credit partly because production agriculture in Kazakhstan is a risky, cyclical business and farmers lacked suitable business plans.

The actions of Kazakhstan's lenders and investors appear to have produced a system of capital allocation priorities (in descending order of preference) that approximates that shown in the following schedule:

- Capital intensive enterprises (mineral resources and trade) with foreign participation.
- Domestic capital intensive enterprises (mineral resources and trade).
- Domestic capital extensive enterprises promising high sustainability (meat and milk processing, and to some degree dairy farming).
- Domestic capital extensive non-commercial enterprises promising sustainability over time (dairy farming and other herding enterprises).

Hupp acknowledged that credit constraints and considerations such as those shown in the lending and investing priorities schedule limited the commercial activities of domestic dairy processors and farmers. However, he was not critical of commercial lenders, saying that the dairy processing businesses and farms are risky enterprises and that there is not a well-established tradition of repaying commercial loans in Kazakhstan.

There are several programs operated by international banking organizations such as the European Bank for Reconstruction and Development (EBRD), World Bank, and Asian Development Bank that operate through domestic banks in Kazakhstan to provide loans to rural-based businesses such as dairy processors, meat processors, and farmers. However, these programs often have specific designs—for example, the EBRD generally grants credit to well-established enterprises and excludes small farmers. For a host of reasons, business people interviewed wanted more government help in securing credit. Farmers, it was pointed out, frequently were not aware of programs that might provide credit.

A recent development may signal the emergence of more farm credit. In June 2000, Kazakhstan's Temirbank signed a farm loan agreement with the World Bank. Under this agreement, the World Bank will provide loan funds to be delivered through the Temirbank to farmers, mostly producers in the Almaty and Taldy-Kurgan regions (see Figure 1 for the location of these regions). Most loans are expected to be for the equivalent of U.S.\$4,000 to U.S.\$5000

per farmer and to carry a 12% interest rate. As part of this program, there will be an offer of free professional help to farmers for preparing business plans according to required loan application standards. This type of program would appear to remedy many of the credit problems that farmers complained about. However, it is unclear whether the program will be of sufficient scope to help large numbers of farmers in Kazakhstan.

Domestic dairy processors and dairy farmers undoubtedly would welcome credit subsidies—perhaps subsidies large enough to push real interest rates on loans to negative levels. However, such subsidies are costly and difficult for government agencies to administer in an even-handed fashion.

Credit problems are clearly difficult and defy easy solution by government agencies. The problem is one of credit availability and (sometimes) high real interest rates. The latter point is noteworthy. While real interest rates in Kazakhstan were high by international standards during parts of the mid- to late-1990s, those real interest rates fell to low levels and, at times, became negative for a few months in 1999 and early 2000 [8, p.16].

A way for Kazakhstan's government agencies to ensure that more credit was made available to dairy processors and dairy farmers would be to expand credit guarantees provided by banks and other commercial lenders. The government might guarantee to pay 85% (or a similar large percentage) of a loan extended by a commercial lender in the event of default by a borrower. Loan guarantees are advantageous because they help to leverage government funds. Moreover, commercial lenders do much of the paper work associated with extending a loan. In addition, the lender has incentives to monitor loans to see that the loans are repaid since the government does not guarantee 100% of the loan.

Of course any expansion of commercial lending to dairy farmers in Kazakhstan probably will need to be accompanied by management assistance that would help farmers develop the records needed to support a loan application and manage the farm operation. The World Bank-Temirbank management assistance program for farmers mentioned above may provide a useful model.

## **Milk Supply**

Milk processors will enter or expand milk-processing businesses in Kazakhstan at their peril if there is not greater assurance that they can obtain adequate supplies of milk. Government programs needed to increase available supplies of high quality milk are, of course, related to those associated with expanding the availability of credit to farmers.

An important need is to foster an environment where viable mid-sized and larger dairy farms can be established with reasonable prospects for success. The small farms, such as those described in Profile No. 2, are not likely to be a source of large quantities of high-quality milk. These farms face unfavorable terms of trade and lack the size needed for achieving important efficiencies.

Infusions of capital and skilled management talent into dairy farming will be needed to produce such a result. Small amounts of capital and skilled management might be forthcoming from backward integration into milk production by individual dairy processors. These backward integration arrangements may be useful models for other farmers. However, infusions of capital and management from vertical integration arrangements are not likely to be adequate to provide much in the way of larger supplies of high quality milk for the industry. Capital requirements for establishing efficient, vertically integrated dairy farming systems are likely to be so large as to limit their use.

Credit guarantees, additional business management assistance to farmers, and improved terms of trade for farmers are called for to deal with this problem. Credit guarantees and additional management assistance could be provided by government. Both measures would give farmers and lending organizations additional experience with use of commercial farm credit. Farmers might graduate to fully commercial credit after acquiring such experience. Improving the terms of trade will be difficult for government agencies to bring about under any sort of short-term arrangement.

Long-term programs to improve rural infrastructures, macroeconomic conditions, and a host of other factors affecting farm profitability will be required to bring about needed improvements in farmers' terms of trade. If the economic environment for dairy farmers cannot be improved in an acceptable amount of time, an alternative is for the government to permit imports of long shelf life milk and other dairy products at low tariffs to provide adequate supplies of dairy products for domestic consumers. This might not be an attractive option given that Kazakhstan's government has attempted to increase import substitution in agriculture and other businesses.

### Corruption

It is beyond the scope of this paper to prescribe ways of curbing corruption. It is sufficient to note that corruption is an important impediment to foreign investment in dairy processing and other agricultural businesses in Kazakhstan. It is also a problem that must be addressed by government if it is to be reduced.

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**Appendix. Persons Interviewed for the Study In Addition to Those Listed in the References**

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Person	Affiliation
1. Daulet Abishev	Agro-Hozu
2. Alexander Dyagtyarev	Becker and Company
3. Alaudin Gaytugiev	Balapan Farm
4. Tartu Hasenovich	Bektas Company
5. Gani S. Kopbaev	Kamensky State Livestock Farm
6. Saule M. Musabaeva	Temirbank
7. Berik A. Sarin	Temirbank
8. Dr. Alimaev	Kazakh Research Institute of Feed and Pastures

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