

**MERGERS, ACQUISITIONS, JOINT VENTURES,  
AND CONSOLIDATIONS IN AGRIBUSINESS:  
AN EXAMPLE OF ACQUISITION  
(ACQUISITION OF CONTINENTAL GRAIN BY CARGILL)**

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**Introduction**

In November 1998, Cargill, Inc. announced that it was going to acquire the grain business of Continental Grain Company. At that time, Cargill was the largest privately held company in the United States and Continental Grain was number five. If the acquisition was to be approved by the authorities, the transaction would lead to Cargill having both a monopoly and a monopsony in the U.S. grain market. During the recent years leading up to this event, highly intensive global competition conditions had strained Continental Grain's sales and market share. Both Continental's and the United States' grain export positions were in jeopardy due to competition from overseas and South American countries. The managers of Cargill realized that the same thing could happen to that company. The acquisition would make Cargill stronger by using Continental's high-fixed cost production system to capture economies of scale. At the same time, it seemed too late for Continental to solve its diversification of products problem, which required both large capital investments and time to develop. To be acquired by Cargill seemed to be the best choice for Continental Grain, because Cargill had what Continental needed.

In this study we briefly analyze a variety of approaches to business combination: mergers & acquisitions, consolidations, and joint ventures. In addition, we try to explain possible reasons for acquisitions by using monopoly, monopsony, and economies of scale theories.

In this study of Cargill and Continental Grain after the acquisition, Cargill would almost certainly have monopoly and monopsony power in the U.S. grain market and could make large profits from this position. Some of the questions to investigate are: "Will Cargill use that power or not?", "If it uses its market power,

who will be at a disadvantage?”, “Are farmers and local elevators going to lose?”, “Will Cargill share the profits with farmers and local elevators by paying them higher prices for their commodities?” And finally, “how will the acquisition affect Cargill’s competitors both overseas and in the domestic market?” We are able to attempt to answer some of these questions, but most of them will be answered in the future as a result of Cargill’s future strategies.

### **Mergers**

Mergers are fusions of two or more firms. Weston et. al. (1990) define mergers as transactions that form one economic unit from two or more previous ones. The Columbia Encyclopedia (1993) defines a merger in corporate business as a fusion of two or more corporations that transfer all their properties to one corporation. We can talk about three types of mergers. Weston et al. (1990) examine mergers as vertical, horizontal, and conglomerate. If two or more firms have different types of businesses, the merger is vertical; if they have similar businesses, the merger is horizontal; and if the firms are engaged in unrelated types of business activities, the merger is a conglomerate merger (for example a merger between Mobil Oil (an oil company) and Montgomery Ward (a consumer retail company)).

### **Acquisitions**

Ross et. al. (1996) indicate that acquisition types are the same as merger types (vertical, horizontal, and conglomerate acquisitions). If two firms compete with each other in the same industry and one decides to acquire the other, the acquisition type would be horizontal. In a vertical acquisition, the acquired firm and acquiring firm are at different steps of the production process. For example, acquisition by an airline company of a travel agency is a vertical acquisition. In a conglomerate acquisition, two unrelated firms unite. Acquisition of a food-products firm by a computer firm would be considered as a conglomerate acquisition.

Ross et. al. (1996) examine three basic legal procedures of acquisitions: (1) acquisition of assets, (2) acquisition of stocks, and (3) merger and consolidation. In the acquisition of assets, one firm acquires another firm by buying the firm’s assets and a formal vote of the selling firm’s shareholders is required, so that type of acquisition will avoid the potential problem of having minority shareholders.

A second type of acquisition is acquisition of stocks. Ross et. al. (1996) state that in this legal procedure, a firm purchases another firm’s voting stocks in exchange for cash, shares of stocks, or other securities by a private offer from the management of one firm to another. Sometimes the offer is taken directly to the selling firm’s stockholders by the use of a tender offer. A tender offer is a public offer (by newspaper advertising) to purchase shares of the target firm by bypassing

the target firm's management and the board of directors. Acquisition of stocks is usually unfriendly, because this effort circumvents the target firm's management, which may potentially be resisting the acquisition. The third legal type of acquisition, consolidation or merger will be investigated under the topic of consolidation.

### **Consolidations**

Ross et. al. (1996) indicate that a consolidation is similar to a merger, with the difference that the merging parties create a new firm. In a consolidation, the acquired firm and the acquiring firm lose their identities, which means both the acquired firm and the acquiring firm terminate their previous legal existences and become a new firm. The distinction between both firms is not important, and the rules for consolidations and mergers are almost the same.

Ross et. al. (1996) point out that acquisitions by consolidations and mergers refer to combinations of the assets and liabilities of acquired and acquiring firms. Suppose firm X acquires firm Y in a merger and suppose firm Y's shareholders are given one share of firm X's stocks in exchange for three shares of Y's. Although, from the legal standpoint, firm X's shareholders would not be affected by the merger, firm Y's shares cease to exist. In a consolidation, for a share of a created new firm, firm Z, firm X's shareholders and firm Y's shareholders would exchange their shares.

### **Joint Ventures**

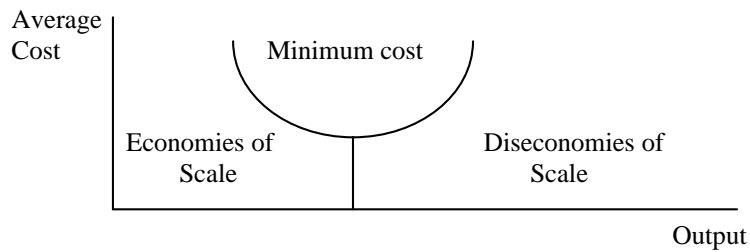
Weston et. al. (1990) define joint ventures as; two (or more) firms (parent firms) combining subsets of their assets for a specific business purpose and a limited duration which is usually ten to fifteen years or less. One of the publications of the Organisation for Economic Co-Operation and Development (OECD) (OECD Press, 1986) argues that unlike a merger, a joint venture typically involves only temporary, partial, and small activities. Thus the parent companies are still free to continue their activities separately. The idea is that in case a joint venture fails, the parent firms would be less affected. Since a joint venture has a limited time, it can be terminated after the business is completed.

### **Theoretical Framework**

#### **Economies of Scale**

For a firm, economies of scale are accomplished by increasing the level of productivity by reducing the average cost of production. Ross et. al. (1996) point out that firms can grow to an optimal point, but after that point diseconomies of scale occur and average cost increases (Figure 1).

**Figure 1:** Economies of Scale and the Optimal Size of the Firm



Ross et. al. (1996) emphasize that “spread of overhead” is related to economies of scale. That means companies who merge can share some basic facilities such as corporate headquarters, management, and computers. Thus, these costs can be spread out over a larger volume of output.

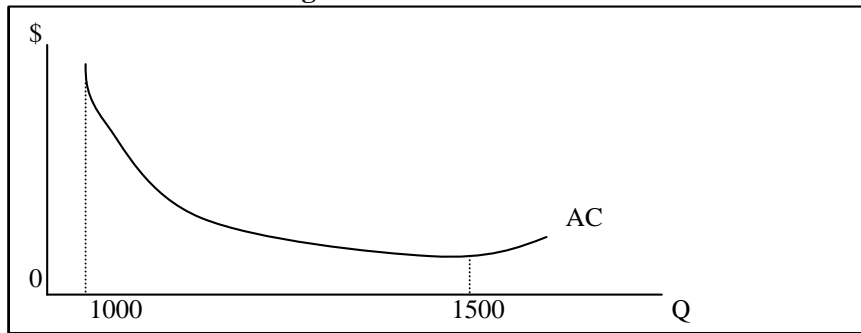
Shepherd (Shepherd, 1985) talks about several sources of economies of scale that are specialization, physical laws, and management. For the first source Shepherd says:

“Specialization has long been known as a basic cause of scale economies, ever since Adam Smith put it at center stage in 1776 in his *Wealth of Nations*. As a plant’s workforce expands, it can be put to more specialized tasks. The workers learn to do their specific tasks rapidly and precisely. They also avoid a loss of time and effort from shifting among tasks.”

According to Shepherd (1985), machines can be more specialized and thereby more efficient. Specialized machines are usually complex, expensive, and capable of long production periods. With long periods, the fixed costs of the machine are spread out per unit of output. The second source, physical laws usually favor larger size operations. For example, high-temperature processes usually work more efficiently, when they are used on a large scale. Thus, from 1920 to 1970, larger electric generators used greater levels of heat and become more efficient. The third source, management efficiencies are realized at larger plant sizes as a manager may be capable of managing hundreds of employees using modern methods of processing information (computers, telephones). Thus, management gains can reduce costs as production increases.

Hogendorn (1995) examines that a firm’s average cost declines as output increases, at least up to some level, if the firm commands significant economies of scale. Economies of scale (Figure 2.) are associated with large mass-production industries. For example, in figure 2, the average cost curve (AC) falls as the output level (Q) increases from 1000 to 15,000. At this point, we can say that all economies of scale have been achieved, and the AC curve rises after this point.

**Figure 2: Economies of Scale:**



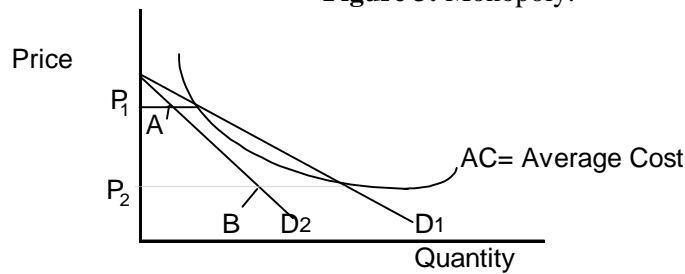
When economies of scale occur, average cost drops until production hits a quite high level. Minimum cost is reached at a large volume of output.

### **Market Power or Monopoly and Monopsony**

Merging of two firms can potentially cause a reduction in competition and an increase in prices charged to the consumer or a reduction in prices paid to the producer in the case of a monopsony. Ross et. al. (1996) emphasize that if the merger of two firms reduces competition, this may be challenged by the U.S. Department of Justice or the Federal Trade Commission (FTC). One of the most basic reasons to merge is cost reduction because a combined firm may operate more efficiently than two separate firms.

Hogendorn (1995) talks about the “natural monopoly”, and this is illustrated in Figure 3. When economies of scale occur, a firm may gain some control over the price that it charges. Let’s assume that D1 represents the entire market demand for a product that is being produced under conditions of decreasing cost. If only one firm was the producer in the industry, it could make a high profit by selling its products at P1 and P2 price levels. Let’s assume that another firm enters the industry and gets the half of the sales. Demand curve D2 shows that each firm faces a demand that is just half of what it was when only one firm was in the entire market. The quantity demanded along curve D2 is half what it was along D1 at any price level. In this case neither firm can make a profit because there is no price level that will cover the cost of production. For example, points A and B, which correspond to prices P1 and P2, respectively, both lie below the AC curve. Demand curve D2 lies below AC, so one firm can make a profit in this industry and will have the opportunity to choose the price it charges. Two firms can’t survive in this industry and a natural monopoly occurs. Hogendorn (1995) thinks that the weaker or less aggressive firm will be forced to merge with the stronger firm or it will be driven out of existence.

**Figure 3: Monopoly.**



In the figure there is not enough demand so that two firms can charge a price that equals or exceeds AC, but enough for one firm to do so.

Shepherd (1985) talks about monopsony. He states that in a pure monopsony there is a single buyer for the entire market and a monopsony is an attractive position for that buyer. His reasoning is that in a monopsony it is the buyer's market power against the sellers. Thus, a single buyer has a power to offer lower prices for sellers' products and the buyer can make a large amount of profit. This profit may be returned as salaries to the buyer's employees, as dividends to shareholders, as a higher price for sellers.

#### **Operating Synergy Theory**

Economies of scale or scope also relate to the operating synergy theory. Weston et. al. (1990) indicate that as in economies of scale, mergers can help achieve higher levels of activities. For example, one firm might be weak in research and development (R&D) but strong in marketing while the other may be in an opposite position. After merging, the problems of both might be eliminated. Weston, et. al. state: "Operating synergy or operating economies may be achieved in horizontal, vertical, and even in conglomerate mergers. The theory based on operating synergy assumes that economies of scale do exist in the industry and that prior to the merger, the firms are operating at levels of activity that fall short of achieving the potentials for economies of scale."

Weston et. al. (1990) point out that, because of indivisibilities, economies of scale arise. For example, people, equipment, and overhead may cause increasing returns if they are spread over a large number of units of output. Thus, heavy investment in plant and equipment may produce such economies in manufacturing operations. For example, a high-cost machine such as the large presses used to make auto bodies requires optimal utilization. Large chemical companies have a large staff of highly competent scientists who can develop and oversee a larger number of product areas.

There is one potential problem in merging firms; how to combine and coordinate the good parts of the firms and eliminate what is not required? Weston

et. al. state:“ Often the merger announcement will say that firm A is strong in research and development but weak in marketing, while firm B is strong in marketing but weak in research and development, and the two firms combined will complement each other. Analytically, this implies underutilization of some existing factors and inadequate investment in other factors of production.”

For example, as we will see later in Chapter V, Continental Grain excelled in bulk export trading but was not diversified enough in processing to effectively compete in the market unlike Cargill. By acquiring Continental, Cargill will use Continental’s experience and efficiency in processing bulk export products to lower cost.

### **Alternatives to Mergers and Discussion of Regulations: Mergers & Acquisitions, Joint Ventures, and Firms**

After merging, the new owner may change the firm’s structure in response to new technologies or even changes its strategic directions and use of resources. Indeed, some firms acquire other firms because they want to optimize the use of resources.

Rose et. al. (1996) discuss the fact that the value of a firm can increase when a firm changes its management style. In addition, Weston et al. (1990) argue about the inefficient management theory and say: “Another control group might be able to manage the assets of an area of activity more effectively. Or inefficient management may simply represent management that is inept in an absolute sense. Almost anyone could do better. If so, this would provide a rationale for conglomerate mergers. In the differential efficiency (or managerial synergy) theory, the acquiring firm’s management seeks to complement the management of the acquired firm and has experience in the particular line of business activity of the acquired firm.”

Weston et. al. (1990) also discuss the financial synergy theory. This theory hypothesizes about complementarities between merging firms. It is not about the management capabilities, but about the availability of investment opportunities and internal cash flows. A firm in a declining industry has few attractive investment opportunities, so it would typically produce large cash flows. A growth industry has more investment opportunities than cash with which to finance them, so the merged firm can have a lower cost of capital because of the lower cost of internal funds.

On the other hand, Killing (1983) thinks that joint ventures are difficult to manage because they have more than one parent and these parents, unlike shareholders of a widely held public corporations, are powerful and visible, so they may have problems on just about anything: how a joint venture should grow, how it should be organized. The other usual problems are who should be the general manager and how the board of directors’ decisions should be made. Making a

decision via the boards of directors could take time because of disagreements on data or strategies.

### **Are Joint Ventures an Alternative to Mergers and Acquisitions?**

OECD (1986) points out that the merger and joint venture (horizontal) of large companies may eliminate competition, but in some industries, where the economics of scale are substantial, they may be effective in saving distributions and transaction costs.

A joint venture may be used prior to a merger or acquisition. Cole (1998) shows that two companies may “check out” each other’s philosophy and style by way of joint ventures. After the business is done if they are still interested in each other, a merger or acquisition strategy may be pursued.

### **Mergers & Acquisitions, Joint Ventures, and Regulations**

The legal nature of mergers & acquisitions and joint ventures may play an important role when firms make decisions about arrangements between each other. OECD (1986) points out that legal authorities usually are more “gentle” to joint ventures because they are not cartel-type arrangements.

Mergers and acquisitions are different legal situations. Martin (1959) says: “As amended, Section 7 of The Clayton Act prohibits industrial corporations from acquiring either the stock or assets of another corporation, if there is a reasonable probability that the effect will be substantially to lessen competition in a market.”

Hoyenkamp et. al. (1994) argue that in the 1960’s, “Structure-Conduct-Performance” (S-C-P) type analysis was governing industrial organization theory. S-C-P suggested that the firms in concentrated industries would naturally find collusive or oligopolistic conduct more profitable. Hoyenkamp et. al. state: “The importance of the S-C-P paradigm was that market structure entailed poor performance, because the structure itself made oligopoly conduct inevitable; that is, given a highly concentrated structure, the profit-maximizing strategy for a firm was to behave oligopolistically.”

In the 1970’s, S-C-P came under increasing attack from those who argued that high concentration was necessary for firms to capture economies of scale and they could still continue to perform competitively even at high levels of concentration.

According to Hoyenkamp et. al. (1994), antitrust courts today are about as committed as ever to using underlying market structure as a guide in their decisions about the competitive consequences of mergers. In 1992, the Antitrust Division of the Department of Justice and the FTC jointly issued a “Guidelines” outlining their policies with respect to horizontal mergers. Wisner and Hayenga (1999) indicate that the Guidelines state that mergers should not be permitted to create market power.



## **The European Union and Mergers in the United States**

### **The European Union and Export Policy**

The European Union (EU) or the European Common Market was established in 1958. Today the EU has 15 members: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Cramer et. al. (1997) indicate that the first Common Agricultural policy (CAP) regulations were introduced in 1962. The first regulations covered grain, poultry, pork, eggs, fruits, and vegetables. Regulations for beef, milk, rice, fats and oils, sugar, tobacco, hops, seed, flax, and fish followed the first regulations. Historically, there were three components of CAP: Common Pricing, Community Preference, and Common Financing.

Common Pricing can be explained by an example from the grain market. In order to support sales, a target price is fixed in the major deficit consuming areas. Let's say the location used is Duisburg, Germany. For the operation of open market forces, small variations are permitted around this target price, which is called intervention price. The government purchases the grain at the intervention price. It does same thing when selling of grain stocks. For example, assume the target price for wheat is \$5 per bushel with a minimum intervention price of \$3.90 per bushel. Since we are transporting wheat from the port of entry to the major consuming areas, our threshold price is the floor intervention price minus the transportation cost. If we assume the transportation is 20 cents per bushel of wheat, the threshold price would be \$3.70 per bushel and this is also the price in the EU central grain market (Rotterdam). So the price in Duisburg would be \$3.70 plus 20 cents. The difference between the import price and the threshold price is the variable levy. The variable levy is the cost, (insurance and freight (CIF)) that is used for protection of the intervention price. Also it's a tax and is not fixed. It can be changed in the CIF import price or the target price of products. The EU eliminates price and quality competition from other countries by using this method.

Community Preference is accomplished by using variable levies and export subsidies. Imports could be restricted and the EU producers have historically been protected by using variable levies. Since there were no limitations on production, there have historically been surpluses and these subsidized surpluses have been dumped onto the world grain market.

Common Financing is the term used to describe the fact that all countries in the EU have to finance the CAP. They have the European Agricultural Guidance and Guarantee Fund from which all their expenditures come. This budget consists of member's contributions, custom duties, and levies on agricultural imports. Salvatore (1998) talks about results of these policies and states: " Particularly troublesome are the very high support prices provided by the European Union (EU) to maintain its farmers' income under its common agricultural policy (CAP). These

high farm subsidies lead to huge agricultural surpluses and subsidized exports, which take export markets away from the United States and other countries, and are responsible for some of the sharpest trade controversies between the United States and the European Union.”

The CAP is unfair to non-farmers groups especially for lower income groups because it keeps domestic consumer prices for agricultural products at high levels. In addition, it represents a misallocation of resources between the agricultural and non-agricultural sector. Large farmers benefit the most because of product-tied support. The CAP distorts world markets because the EU market has been closed to many countries for many products over the last three decades.

Folmer et. al. (1995) point out that from 1973 to 1990 the EU self-sufficiency ratios changed for cereals, sugar, wine, butter and beef. This trend indicated that the EU moved from being a net importer to being a net exporter (a regime switch).

**Table 1:** The European Union self-sufficiency ratios (1.00 = self sufficiency, <1.00 = importer, and >1.00 = exporter).

<b>Product (group)</b>	<b>1973</b>	<b>1990</b>
Wheat	0.93	1.29
Coarse grains	0.83	1.13
Sugar	0.91	1.39
Oilseeds	0.15	0.51
Wine	0.99	1.08
Beef	0.96	1.11
Cheese	1.03	1.09
Butter	0.98	1.21
Skimmed milk-Powder	1.43	1.4

Source: Calculated from FAO, Trade Yearbook and Production Yearbook, CEC, The Agricultural Situation in the European Community, 1995.

Table 1 illustrates that the EU’s 1990 self-sufficiency ratios have moved higher than in 1973 for all products except skimmed milk-powder.

Folmer, et al. (1995) examine the phenomena that the EU trade share plays an important role in the world trade. Table 2 illustrates that the EU has become an important exporter of cereals and also has an important and increasing role in other products, like sugar, cheese, beef but is losing share in butter and other dairy products.

**Table 2:** The European Union share in the world trade, percentage of world market  
**1980** **1989**

Products	Import	Export	Import	Export
Cereals	11.6	8.8	3.1	15
Oilseeds	44.1	0.1	44.3	0.2
Sugar	6.4	13.8	6.9	17.8
Butter	13.3	57.4	8.8	43.7
Cheese	13.4	44.4	13.1	49.3
Other dairy products	0.1	60	1.3	50.6
Beef	7	17.6	6.6	23.9
Ovine meat	37	0.3	29.8	0.8
Eggs	2.5	20.5	9.3	30.4

Source: Adapted from Berkhout and Buck (1994) Note: Cereals excluding rice.

### **The US Agricultural Policies**

Wilson and Dahl, (1999) indicate that the 1980s were dominated by export subsidies in the world wheat trade. After the EU's export expansion programs, the US established the Export Enhancement Program (EEP). In response to these programs, other exporting countries also changed their trade and production systems. Wilson and Dahl state: "An important aspect of EEP was that it was a discriminatory subsidy mechanism, resulting in different subsidy levels and quantity values across customers. This particular feature of the program was in stark contrast to export subsidy schemes operated before 1972."

The US government and market development organizations were able to execute targeted strategies by using price and quantity as strategic variables after institution of the program. That was not possible under the prior nondiscriminatory regime.

According to Cramer et. al. (1997), there have historically been three primary agricultural policies in the United States: two-price plans, land retirement programs, and direct payments programs.

Two-price programs take advantage of the different elasticity of demand in different markets. If domestic demand is inelastic and foreign demand is elastic for the agricultural products, the foreign market can be used to the producers' advantage. Therefore this program increases revenue for producers by reducing domestic sales that has inelastic demand and increase exports, which have a more

elastic demand.

Land retirement programs restrict production and increase agricultural income. The purpose of this program is to prevent the supply curve from shifting (i.e. an increase in supply) to the right and to decrease overproduction and government storage costs.

In the direct payment programs, a target price is determined by government for producers. The results of implementing these programs are: the production increases, domestic prices fall and the difference between the domestic price and the target price is paid by government.

### **Structural Changes in the U.S. Grain Marketing System**

Wilson and Dahl (1999) feel that there are four major changes in the U.S. grain sector: Changing Composition of Firms, Vertical Integration, Value Added, and Joint Ventures.

Changing Composition of Firms: After the entry of Japanese trading companies, the participation of regional cooperatives in the handling sector is increased. It should be said that the entry of the South American countries' companies, the EU and China factors also caused that change.

Vertical Integration: Most of structural changes have been vertically between firms because of the benefits from the integration. The benefits are: market power, quality control, and logistical control.

Value - Added: As a result of vertical integration, both integrated firms would have the advantage of integration. For example, integration of the malting industry by the brewing sector.

Joint Ventures: Much of structural changes have been as joint ventures because of market power they provide and lower costs.

Since export support programs have high costs for the government, joint ventures and mergers & acquisitions may help to decrease these costs by creating competitive firms. These firms can thus survive with less government support or even without support. In 1999, the U.S. grain market had one of the biggest acquisitions: acquisition of Continental Grain by Cargill. If we analyze this acquisition we may see how the U.S. grain export market benefits without direct government support. Although there is a risk that Cargill might use its market power after the acquisition, the Federal Trade Commission approved the acquisition.

### **An Example of Acquisition in Agribusiness: Acquisition of Continental Grain by Cargill**

In November 1998, Cargill announced that it was going to acquire Continental Grain and that this acquisition would be completed by the end of the first quarter of 1999. Since both companies had a significant share of the grain

business in the United States, the announcement had a significant effect in the grain markets and the Federal Trade Commission (FTC) announced that both companies would be investigated. In July 1999, after the investigation, the FTC approved the acquisition.

### **Cargill**

Cargill was opened as a “flat house” in Conover, Iowa after the Civil War and today it has become one of the largest privately held companies in the world. The “World of Cargill” (Cargill Press, 1995) states that Cargill processes oil seed, merchandises petroleum, trades and transports grain, mills flour, mines rock salt. It has business in 65 countries and has headquarters in Minneapolis, Minnesota with more than 70,000 employees.

According to Kilman (1997), prior to the Continental acquisition, Cargill controlled 25% of America’s grain exports, it controlled one-fifth of U.S. corn-milling capacity and one-fourth of the oilseed-crushing capacity and owned 300 grain elevators. Cargill had record earnings at the end of May 1996 of \$902 million, and half of the company’s revenue was generated by its overseas operations. Cargill’s products are used in Quaker Oats and Kellogg breakfast cereals, the corn sweetener in Pepsi and Coke, the chocolate in Chips Ahoy cookies and the coffee in Folgers.

The “World of Cargill” (Cargill Press, 1995) points out that Cargill’s merchandising of grains and oilseeds begins with country elevators, located in North and South America, Europe and Asia. Cargill purchases harvested grains and oilseeds directly from farmers and stores them until marketing opportunities emerge and then ships them around the globe.

### **Continental Grain**

The “Continental Grain Company” handbook (Continental Press, 1995) points out that the company was founded in 1913 in Arlon, Belgium. It merchandised, stored, transported, milled, and processed grain and oilseeds within the world market. It produced poultry pork, beef cattle, and cotton. It had more than 18,000 employees and it had business in most countries. Its headquarters were in New York City, New York.

Continental had five major grain divisions: the North American Grain Division, the European Grain Division, the World Grain Division, the South American Division and the Rice Division. The first division (located in New York City) merchandised and exported 20% of the company’s total grain to the global market. The second division (in Geneva) had significant merchandising, storage and transportation facilities. The third division (in Hong Kong & Sydney) merchandised grain and originated Thailand maize for export to the Middle and Far East. The fourth division focused on the origination, processing and export of

grains, oilseeds and oilseed products to Argentina, Brazil, and Paraguay. The last division (in New York City) exported rice throughout the world.

**Cargill, Continental Grain and the U.S. Agricultural Market**

Table 3 illustrates storage capacity of the 10 largest U.S. grain elevator, milling and processing companies between the years 1981 and 1999. As can be seen in the table, in 1981, Cargill’s total storage capacity was 148 million bushels, Continental was 110, and Cargill was the number one firm and Continental was the third. In 1999, in terms of storage capacity, Cargill had increased its total storage capacity about 212 % ( from 148 to 463 mil. bu.), while Continental’s total storage capacity had increased just 53 % ( from 110 to 169 mil. bu.). Thus, Cargill and Continental found a new place on the list, with Cargill number two after ADM, and Continental falling to number five. After the acquisition, both companies’ total storage capacity is 632 million bushels, which is greater than ADM’s total storage capacity.

**Table 3:** Storage capacity of 10 largest U.S. grain elevator, milling and processing companies, 1981 and 1999.

1981		1999	
Company	Total Capacity (mil. bu.)	Company	Total Capacity (mil. bu.)
Cargill	148	ADM	611
Far-Mar-Co	122	Cargill	463
Continental Grain	110	ConAgra/Peavey	198
Union Equity Co-Op	67	Farmland Grain Div	178
Pillsbury	54	Bunge	170
Central Soya	51	Continental Grain	169
Bunge	47	Cenex Harvest States Coop	146
The Andersons	43	Riceland Foods	102
Lincoln Grain	39	The Andersons	80
Indiana Grain	39	General Mills	72

Sources: Structural Change and Performance of the US Grain Marketing Industry; Milling and Baking, News Grain and Milling Annual, 1999, PP 21-22;

According to Forbes (1998), Cargill was the largest privately held company and Continental was number 5. As table 4 illustrates, although Continental Grain was at that time the fifth largest privately held company in the U.S., it looked like a small company when it is compared with Cargill. Financially Cargill was just about four times bigger than Continental ( Cargill’s 1998 revenue, net profit and employees were 3.43, 4.68, 4.61 times bigger than Continental’s, respectively).

**Table 4:** Cargill and Continental Grain Financial Data for 1998.

<b>Year 1998</b>	<b>Cargill</b>	<b>Continental Grain</b>
Revenue (billion \$)	51.4	15
Net Profit (million \$)	468	100
Employees ( thousands)	80.6	17.5

Source: Wisner and Hayenga, (1999).

Table 5 shows the largest U.S. grain storage firms and Table 6 indicates the top four firms' national export shares. Table 5 summarizes USDA data on off-farm storage capacities in the U.S. by company and by total port volume. Table 6 includes the following ports: Mississippi River (New Orleans), Texas Gulf, Atlantic Coast, Great Lakes, and the Pacific Northwest.

Table 5 illustrates that Cargill's storage capacity is 6.18% of the U.S. total and it is the largest company. However, its barge loadout capacity (12.68%) is lower than ADM and Bunge's. When the acquisition was completed, Continental's barge loadout capacity would increase Cargill's capacity in this area to 21.03% which would make Cargill number one on the table. Cargill's ship loadout capacity will also increase from 33.44% to 46.43%. That means Cargill would control almost half of the entire U.S. grain market ship loadout capacity.

Table 3 and table 5 Cargill (463 and 439 bil. bu.) storage capacity numbers are not same for 1999. The reason for that is those numbers were collected from different sources.

**Table 5:** Largest U.S. grain storage firms.

Name	Storage (bu.)	% of total	Barge loadout(bu.)	% of total	Ship loadout (bu.)	% of total
Other	5,090,191,808	71.54	6,279,000	26.55	4,206,666	20.32
<b>Cargill</b>	439,868,644	6.18	2,999,000	12.68	6,924,000	33.24
ADM	412,398,225	5.8	4,285,000	18.12	3,160,000	15.26
Conagra	181,332,000	2.55	462,000	1.95	1,380,000	6.66
Bunge	158,567,000	2.23	3,875,000	16.38	800,000	3.86
<b>Continental</b>	155,402,327	2.18	1,974,000	8.35	2,690,000	12.99
Cenex	133,386,000	1.87	1,040,000	4.4	655,000	3.16
Farmland	118,819,000	1.67	0	0	0	0
Riceland	98,201,000	1.38	220,000	0.93	0	0
The Andersons	78,547,389	1.10	0	0	0	0
General Mills	65,793,000	0.92	0	0	640,000	3.09
Consoli. Grain	57,241,950	0.8	2,275,000	9.62	0	0
Central Soya	52,013,000	0.73	0	0	0	0
The Scoular	30,061,073	0.42	0	0	0	0
MFA Inc.	25,168,538	0.35	40,000	0.17	0	0
Topflight Grain	13,920,000	0.20	0	0	0	0
Louis Dreyfus	4,668,000	0.07	205,000	0.87	250,000	1.21
<b>Total</b>	<b>7,115,578,954</b>		<b>23,654,000</b>		<b>20,705,666</b>	

Source: U.S. Department of Agriculture; Grain Inspection, Packers & Stockyards Administration, 1999.

**Table 6:** Export market shares by top four firms.

National Exports	Total Port Volume	Top 4 Volume	Top 4 Share Percent	Top 4 Companies
Corn	35,862,622	29,022,788	80.9	ADM, Cargill, Continental, Zen-Noh
Wheat	25,922,437	12,068,195	46.6	Cargill, Columbia, Peavey, United Gr
Soybeans	22,402,723	14,531,886	64.9	ADM, Cargill, Continental, Zen-Noh

Source: U.S. Department of Agriculture; Grain Inspection, Packers & Stockyards Administration, 1999.

It can be seen in table 6 that Cargill and Continental were two of top five firms in their share of the U.S. agricultural export market in 1999.

#### **Why Did Cargill Acquire Continental Grain? - Some Assumptions**

The September 1996 issue of World Grain magazine had news about Continental Grain's president Paul Fribourg, who outlined the impact of free trade on Continental and Continental's role in international grain trade. He indicated



that the North American Free Trade Agreement was a great opportunity for their industry and continued:

“In place of the artificial trade barriers formerly imposed by the Mexican government, we found ourselves confronted by the very real trade barriers produced by economic collapse: depreciating currencies, private customers who could not pay, and a mass of cheap food products flowing back into the U.S. to compete with our own, not a very pleasant short term picture.”

According to Fribourg (World Grain, 1996), the fall of Communism created 16 new countries with new opportunities. He thought that “freedom” produced “chaos” in these countries and caused major breakdowns in the food and distribution systems, so the transition to a free market has been difficult. And he said:

“If all goes well, we will have the best of all worlds, freedom for all of us to produce, store and market our products in the most efficient and effective manner.”

In the 1990’s, did everything go well for Continental Grain? According to USDA (1998), although U.S. wheat production rose 596 million metric tons, global wheat stocks increased by nearly 14 million tons due in part to a slight decline in world wheat trade volume. In April 1998, Crossroads Radio Network (1998) indicated that U.S. corn exports were expected to be down more than 5 million tons from the previous year. Rising U.S. corn stocks are part of the reason behind the weaker prices. But the basic problem was an extremely competitive world marketplace. In August 1998, U.S. agricultural exports dropped below both August 1997 and July 1998 levels. Cumulative U.S. agricultural exports (1998) reached \$50.3 billion, but this was 5% below exports in the first 11 months of fiscal 1997. In addition, Argentina and Brazil had been major competitors by using better technology and making wiser input decisions.

Frank Remley (1998) stated that U.S. farmers had experienced low prices because of the Asian financial crisis. Asians paid record high prices for imported corn because of their devalued currency. Although in the domestic market the US producers were receiving less for corn, the low price of corn did not create a large demand. According to USDA (1998), the U.S. had also been facing strong competition from South American Countries (Argentina and Brazil). China was a significant importer of corn in 1994-95, but in 1997-98 it became a net exporter and contributed to a reduction in the U.S. exports. In addition, the European Union (EU) had become another strong competitor. For example, according to USDA (1998), the forecast for fiscal year 1998 wheat and flour exports were reduced by 2 million tons from the February forecast of 26.5 million tons. The reason was strong competition, especially from the European Union.

Since Cargill and Continental Grain have grain merchandising offices and facilities in 43 countries and 30 countries respectively, they considered many of the

developments that have already been examined. Cargill and Continental Grain were also two of the top five firms in the U.S. agricultural export market (Table 6) and when U.S. agricultural export volume and agricultural products' prices fell, both companies' profit, market share, and demand for commodities decreased. The result is that products stayed in storage and stocks increased, the demand for commodities declined, thus farmers and elevators (local or private elevators) had to sell their products at lower prices. If it is summarized diagrammatically (In the summary, the U.S. Company is Continental Grain or maybe Cargill in the future or before the acquisition. Elevators represent local elevators for farmers or private elevators):

Figure 4: Results of Competitive the European Union Countries (price, quantity or item, implies or leads to).

**Competition in Overseas (For their consumers) Increases - Relative Prices of U.S. Agricultural Products (For international consumers) Increase - Global Market Share (US companies) Decreases - US Agricultural Export Decreases - U.S. Company Profit (From overseas operation) Decreases - Domestic Grain Stocks Decrease - Prices in Domestic Market Increase - U.S. Company Profit Decreases - Demand for Commodities (buying from elevators & farmers) Decreases - Prices of Commodities (buying from elevators & farmers) Decrease - Elevators Profit & Farmers Income Decrease.**

The above assumptions translate into significant negative impacts for Continental Grain and Cargill. Because Continental had large bulk export commodity storage capacity that probably meant Continental had product selling problems overseas as well as in the domestic market. Continental Grain and other sources (Continental Grain Web Page and Wisner & Hayenga) verified that Continental Grain excelled in bulk export trading but was not diversified enough to effectively process grain in the market. Unlike Cargill, Continental couldn't raise its capacity of transforming commodities into final products. Increasing capacity of processing would require high fixed-cost technology investment and instead of doing so, if it was acquired by Cargill this could provide this capability. Cargill already had a large processing capacity and it had experience in this area. The ongoing Asian crisis and growing Chinese production, and strong competition from South American countries and the European Union could be anticipated to further reduce Continental's market share in the world grain market. In this case, the same thing could happen to Cargill. Cargill and Continental may compete with those developments if the acquisition was completed. Using Continental's high-fixed cost facilities overseas and South America may help Cargill to increase its global grain market share and Continental Grain would be part of that through the acquisition.

In addition, in this figure, after all these steps, recovery policies would be needed by the government for the entire grain market. Therefore, the government expenditures would increase.

#### **Assumption 1**

**Continental had some market share and facility usage problems and Cargill wanted to increase economies of scale.**

Wisner and Hayenga (1999) indicated that the industry speculation was that Continental excelled in bulk export trading but was not diversified enough in processing to effectively compete in the market. Its market share of the export market and the company's storage capacity had declined over the last 10 years. Cargill wanted to capture economies of scale by using Continental's facilities, which were a high-fixed cost system.

#### **Assumption 2**

**Cargill wants to better serve customers and suppliers.**

Wisner and Hayenga (1999) stated: "Continental has had a significant presence in the identity preserved grain market, with half its international feed customers converted to high oil corn. Cargill expects to better serve the producer by enhancing productivity and passing some of the cost savings on in the form of better prices to their suppliers and customers." Continental (<http://www.continentalgrain.com/why.html>.) supported Wisner and Hayenga's comments and pointed out that reasons for the acquisition were challenges by foreign competitors, expansion of supply, and downward pressure on prices. In addition, Cargill had more experience in processing commodities and could supplement Continental's weak processing capacity.

#### **Assumption 3**

**With the growth of the European Union, Cargill realized it would need market power to compete.**

After the union of 15 European countries, the cost of production for companies in overseas markets might decrease because of the regulations in the EU. It is anticipated that the European Union agreement lifts barriers between those countries and they were going to be one market. This might eliminate trade taxes and new investment costs and companies who are regulated by the EU agreement would have an advantage. Their cost of production might fall, prices they charge decline and their global market share increase, while companies in other countries would move in opposite condition. This picture is one of the challenges that Continental had in selling its products overseas and made Cargill decide to acquire it. This acquisition would make Cargill stronger overseas.

This assumption is used for the statistical analysis.

#### **Assumption 4**

#### **Stronger companies may reduce government expenditures in agricultural sector.**

Although all countries goal in international trade is to maximize surplus from free trade conditions, many countries also have domestic economy protection programs. The EU and the U.S. have implemented some of those programs in the agricultural sector in the past. The EU has The Common Agricultural Policy (CAP) that protects its own producers against imported products. The U.S. also has similar programs like two-price plans, land retirement, and direct payment programs combined with EEP's for the same reason.

The EU has been one of the stronger competitors for the U.S. grain industry, in fact U.S. grain companies have been losing grain market share. One of the solutions for this problem is to allow mergers and acquisitions in order to create stronger companies. If mergers and acquisitions create stronger companies that can pay farmers higher prices, the government support programs would be unnecessary. Therefore the government may have a tendency to be more gentle in approving merger and acquisition agreements in agricultural business. It might be said that the Federal Trade Commission's decision about the Cargill and Continental case was part of this assumption. Cargill had been a leading trading firm that benefited from government support programs. Paarlberg (1990) indicates that as a result of the subsidy program (EEP is a subsidy program, which inside the U.S. economy, primarily benefits agribusiness), Cargill received more than \$445 million in bonus bushel value over the first four years of the program. A stronger, bigger Cargill might not need this government support after the acquisition.

#### **Conclusion**

#### **What Does the Future Hold ?**

According to Continental (<http://www.continentalgrain.com/why.html>), Cargill will acquire Continental's grain storage, transportation, export and trading operations in 50 countries. The Acquisition Agreement will not include some activities (domestic and international poultry, pork or animal nutrition business, or liquefied petroleum gas).

Feedstuffs (1999) states that after the acquisition, Cargill will be the buyer of 10-13% of U.S. grain production and the seller of one-third or more of US grain exports. Cargill also will own 3% of U.S. grain houses and 6% of commercial grain storage space.

Looker (1999) indicated that after the acquisition was completed, Cargill would control 71% of the river terminals. Wisner and Hayenga (1999) indicate that Cargill and ADM have grain merchandising joint ventures with some regional cooperatives.

Although Cargill expects better prices for suppliers (elevators and farmers), many people don't believe it. The concern is that after the acquisition Cargill may have market power (monopsony power) and may use it to pay lower price to farmers. Looker (1999) thinks that the joining of these companies is very bad news for farmers and that the Federal Trade Commission and the Justice Department should have blocked the deal.

Although there are some concerns about the acquisition, another result may be seen by this transaction. Cargill may capture economies of scale by using Continental's high-fixed cost facilities in overseas and domestic markets. Cargill may become a stronger competitor overseas and in South America as it's increasing its market share and reducing costs by capturing these economies of scale. Thus, Cargill's global market share may increase with the export volume, grain stocks would be optimized, and selling prices for elevators and farmers may increase because of Cargill's increased demand for commodities (buying products (corn, wheat, and soybeans etc.) from farmers and local elevators). Farmers' income and local elevators' profit may increase. In addition, while Cargill's export volume increases, its domestic selling product prices may be the same as global prices. So for the other companies, nothing may change because the prices of products they sale are already supposed to be at the level of the global market if there is free trade (if they are not, agricultural imports rise, cheaper products come into the domestic market until both domestic and foreign product prices reach the same level). The acquisition may not make a big difference for the other competitors in the domestic market and it may not be bad news for the U.S. elevators and farmers because they may sell their products at higher prices. If we use the same summary as above (The U.S. Company refers to Cargill, after the acquisition. Prices of Cargill's products may decrease because of the lower cost provided by economies of scale. Elevators represent local elevators for farmers or private elevators):

Figure 5: Results of Competitive US Companies.

**U.S. Competition Overseas Increases - Relative Prices of U.S. Agricultural Products (for international consumers) Decrease - Global Market Share Increases - U.S. Agricultural Export Company Profit (from overseas operations) Increases - Grain Stocks Decrease - Prices in Domestic Market Decrease (selling to consumers at lower prices by reducing cost) - U.S. Company Profit Increases - Demand for Commodities (buying from elevators and farmers) Increases - Selling Prices (for elevators and farmers) Increase - Elevators Profit and Farmers Income Increase.**

In this figure, government support programs are not necessary for the grain market because the entire market is better off. Farmers and local elevators don't need government support as well because they receive better offer for the products they sell to companies like Cargill.

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