

## **Competition, Strategy, and Food and Agribusiness Firm Performance**

Christian Freberg, Michael Boland, and David Barton

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The authors are MS graduate research assistant, assistant professor, and professor in the Department of Agricultural Economics at Kansas State University in Manhattan KS. Funding for this research was provided, in part, by funding from the U.S. Department of Agriculture Rural Business Cooperative Services. Contribution no 00-xxx-x of the Kansas State University Agricultural Experiment Station.

## Competition, Strategy, and Food and Agribusiness Firm Performance

**Background and Motivation:** Over the 1980 to 1997 time period, accounting profitability in publicly traded U.S. firms dropped while financial market premiums (i.e., tobin's q) rose dramatically. Several reasons were given for this somewhat surprising trend including: 1) investors had more money to invest (supply of funds increases, financial market values increased) and firms diversified into markets with lower returns and 2) new technology coupled with investor expectations forced companies into capital projects which lowered accounting profitability. Managers craft strategies to improve performance over time. Yet, little quantitative evidence is available for managers to compare profitability within an industry over time.

**Objective:** Our objective was to compare business performance (accounting profitability) for publicly traded food and agribusiness firms in various U.S. Department of Commerce SIC industry classifications over the 1980 to 1997 time period. The ability of a firm to repeat their performance over time was calculated by comparing the first four year's performance with the last four year's performance for SIC industry classifications.

**Return on Investment:** Return on investment (ROI) measured the percentage return of a company based upon the amount invested in the company by providers of capital, common stock holders, preferred stock holders, and bondholders (i.e., also equals net assets minus current liabilities). This measure was derived by dividing income before taxes by the total of long-term debt, book value of preferred stock, and book value of common stock. The ROI measured the rate at which a corporation was increasing or decreasing the level of a corporation's common equity as a portion of the sum of total equity and total long-term debt. Since debt was repaid before equity when a corporation was dissolved, this measurement effectively reflected the corporation's ability to raise capital internally through profitability to repay debt and equity holders.

**Data:** Financial data of 78 publicly traded agribusiness, food processing, food wholesaling, food retailing, and eating establishments were obtained from Standard and Poors's Compustat Financial DataBase. These companies and their Standardized Industry Classifications (SIC) were identified by the Standard and Poors Compustat Database as operating in industries that related to agribusiness or the food marketing value chain.

Each company was classified using the first three digits of its SIC. For example, the industries of Meat Packing Plants (SIC 2011), Sausages and Other Prepared Meats (SIC 2013), and Poultry Slaughtering and Processing (SIC 2015) were aggregated into one industry classification as Meat and Poultry Products (201). The classification resulted in 60 sub-industry categories that were aggregated into 16 different industries.

The 16 industries were Agriculture Production and Crops (SIC 100), Food and Kindred Products (200), Meat and Poultry Products (201), Dairy Products and Ice Cream (202), Fruits and Vegetables-

Preserved (203), Grain Mill Products (204), Bakery Products (205), Sugar Products (206), Fats and Oils (207), Beverages (208), Miscellaneous Food Products (209), Medicine and Pharmaceuticals (283), Farm Machinery (352), Groceries Wholesale, Milk Wholesale Distribution (514), Farm Product Marketing (515), Grocery/Convenience Stores (541), and Eating Places (581).

Due to the classification into industries and the tendency of many firms to own diversified operations, the industries, mainly primary and secondary food processors, may not exhibit the actual performance of those industries were they reported exclusively by processing activity. In addition, generalizations have been made that these companies are representative of their particular industries. This may or may not be true, however due to restrictions associated with obtaining the data of companies in these industries, these generalizations must be made and were commonly used as representative of each industry.

**Methodology:** ROI was calculated for each firm. Effective strategies and strategy execution was usually highly correlated with a firm's profitability. The matrix developed by McGahan (1999) identified the movement of firms' performance in relation to other firms (table 1). Using ROI as performance indicators, firms were divided according to the highest 25%, medium 50%, and the lowest 25% during the time periods 1980-83 and 1994-97. Then, a comparison of the relative position was used to determine the sustainability of each firms' performance.

< insert table 1 about here >

This matrix was designed to determine the sustainability of past performance by public companies. In addition, it can also help answer Thompson and Strickland question in evaluating an industry through a competitive analysis, "Is the industry attractive and what are its prospects for above-average profitability?" (pg. 98, 1998). It also helps draw generalizations regarding the characteristics about not only the higher performing companies, but also the higher performing industries.

**Results:** The results were divided into a section discussing ROI and a section discussing performance over time.

#### *Return on Investment*

The aggregated time-series weighted average of all industries' ROI indicated a definite upward trend, increasing from 11.3% in 1980 to 15.3% in 1997, an increase of 4%. During this period of time interest rates decreased, making it less expensive to borrow. The difference indicated an increase in the amount of debt used to finance investments during this period of time. However, the weighted-average ROI across all industries was 11.07%. Bakery Products and Ag Production-Crops remained with the lowest ROI followed by Grocery/Convenience Stores, Farm Machinery, Groceries-Wholesale, and Meat and Poultry Products (Figure 1 and 2).

< insert figures 1 and 2 about here >

### *Performance Over Time*

For 1980 to 1983, the highest 25% of all firms had an ROI range of 13.92 to 24.21%; the middle 50% had a range of 7.54 to 13.48%; and bottom 25% had a range of -15.29 to 7.40%. For the 1995 to 1998 time period, the range of top 25% was 13.76 to 27.84%; middle 50% was 4.07 to 13.70%; and bottom 25% was -13.11 to 3.88%. These were used to place firms in categories similar to McGahan's matrix.

### Sustained High Performers

Firms who were in the top 25% in both time periods were considered high performers. Eight firms fit into this category. The companies in this category shared a common theme; they were leaders in their respective industries. This leadership position had been achieved through strong and valuable brands, and the greatest market share in their respective industries. Innovation in marketing, advertising, and product development had helped companies such as Coca-Cola, Kellogg, and Wrigley maintain their position as leaders. The long recognized leader in the hybrid seed industry, Pioneer Hi-Bred, had been a leader in product innovation. Anheuser Busch and Coca-Cola had a broad product line.

Common themes throughout the companies in this category were wide product lines, high market shares, low costs, and valuable brand names. These attributes, although not easy to replicate, contributed largely to the sustainability of these firms high performance. Tompkins (1999) reported that the most valuable brands were Coca Cola (first place), Budweiser (Anheuser Busch, 27<sup>th</sup>), Kellogg's (30<sup>th</sup>), and Wrigley's (34<sup>th</sup>). These companies are leaders within their markets, have clear differentiated products, and possess the largest market share within their respective product categories.

### Declining High Performers

Eight firms fit into this category. These companies are still strong, yet the companies above have achieved higher results. But these companies are well-known competitors in their industries. Many of the firms compete with the previous sustained performers but do not have the largest market share or most valuable brands. Some companies in this category, such as Super Valu, Winn-Dixie, McDonald's, and Wendy's fit into either supermarket retailing or eating places which had matured during this time period.

### Fallen High Performers

The three companies in this category appear to have greater amounts of debt and underwent significant reorganization that may yet put them in a higher category.

### Rising Moderate Performers

Ten firms comprise this group. Many of these companies were successful during the early 1980s and had innovated, refocused, and adapted to global competition. Many of these companies maintained the number one or two market share position in their respective product categories. Campbell Soup Company, General Mills, and Hershey Foods had refocused their efforts through divestiture. Albertson's had expanded in the western United States and merged with American Stores Company in

1998. Unilever and Cadbury-Schweppes had increased their global markets.

#### Steady Moderate Performers

There were 20 firms in this category. These companies all had established brands and in many instances, controlled the second most market share in their industries. The established brands of Pepsico, Tootsie Roll, McDonald's, and Wendy's had helped these companies maintain their positions within their industries. Pepsico had enjoyed high levels of success from its Frito Lay subsidiary. PepsiCo (32<sup>nd</sup>), McDonald's (8), and Heinz all had valuable brands. Many companies had reorganized from a commodity product line to branded and differentiated product lines by divesting themselves of lower margin manufacturing assets which they owned in the 1980s and focusing on brands (Flowers Industries, Hormel Foods, Sara Lee, Sysco, Bestfoods, and Ralston Purina).

#### Declining Moderate Performers

The six firms were food retailers and wholesalers. Retailers and processors were increasingly taking on some wholesaling responsibilities due to just in time delivery systems and electronic data interface that made this a logical step.

#### Turnarounds

Turnaround companies had either positioned themselves in industries and markets that have expanded rapidly since the early 1980s, or have undertaken significant restructuring due to competitive pressures. In particular, Deere and Company and Allis Chalmers were able to turn around their performance in the 1990s. Many of the nine firms in this category undertook reorganization efforts in the early 1980s, which may have dampened their success then but had now become profitable (i.e., Dole, Coors, Nestle, Tyson Foods, Interstate Bakeries).

#### Rising Under-Performers

There were no firms in this category.

#### Chronic Under-Performers

Several of the nine firms in this industry were no longer in business or have seen significant change in their business (Thorn Apple Valley Inc., Rymer Foods, Triarc, Foodarama, Great Atlantic & Pacific Tea Company). Some such as Chiquita Brand s were widely diversified and unfocused (purchasing and then selling John Morrell meat slaughter business).

**Additional Research:** Due to space constraints we have only presented a portion of the results.

Freberg (2000) has more extensive results including:

- A similar analysis based on return on equity,

- An industry comparison of ROI and ROE of 126 cooperative firms vis-a-vis 112 investor oriented firms in this data,

- Comparison of risk measures such as coefficient of variation, asset and equity betas, and equity risk premium on these data, and

Calculation of VEST coefficients for these industries.

**Conclusions:** The successful implementation of a firm’s strategy was measured over a long time period. Not all firms were able to craft a strategy that enabled them to achieve high business performance as measured by accounting profitability. However, some common indicators across successful firms included large market share, valuable brands, differentiated image or products, broad product line, and strong corporate image.

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Figure 1. McGahan’s Matrix for Analyzing Firm Strategy and Profitability Over Time

		Ending Performance, 1995 to 1998		
		High 25%	Medium 50%	Low 25%
Beginning Performance 1980 - 1983	High 25%	Sustained High Performers	Declining High Performers	Fallen High Performers
	Medium 50%	Rising Moderate Performers	Steady Moderate Performers	Declining Moderate Performers
	Low 25%	Turnarounds	Rising Under-Performers	Chronic Under-Performers