



Cal-Maine Foods, Inc.

Derrick Loth derrick.loth@ttu.edu

Tanner Norrell tanner.norrell@ttu.edu

Ralph Johnson ralph.w.johnson@ttu.edu

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Analyst Recommendation	Buy	Undervalued	
Cal-Maine Foods Inc. (4/1/16) \$51.66			
	Low	High	
52 Week Range	\$38.74	\$63.14	
2015 Revenue	\$1,576.00	million	
Market Capitalization	2,259.50		
Shares Outstanding (4/1)	43,738,000		
Profitability and Growth			
ROE (2015)	27.15%		
ROA (2015)	19.87%		
IGR (2015)	12.10%		
SGR (2015)	16.52%		
Altman's Z Score	2013	2014	2015
Scores	5.9	11.59	8.66
Cost of Capital			
	Beta	R ²	
20 year Regression	1.36	3.73%	
Google Finance	0.73		
Yahoo Finance	0.85		
Backdoor Ke	8.75%		
Yahoo Ke	10.75%		
Google Ke	9.90%		
	Actual	Upper	Lower
Cost of Equity	8.90%	14.33%	3.46%
WACC bt	8.38%	12.83%	3.92%
WACC at	8.01%	12.46%	3.55%
Financial Based Regression			
Trailing P/E	\$50.54		
Forward P/E	\$143.95		
Price to Book	\$47.34		
Dividend to Price	\$102.93		
P.E.G. Ratio	\$86.91		
Price to EBITDA	\$70.65		
Price to Free Cash Flow	\$29.53		
EV to EBITDA	\$63.76		
Average	\$74.45		
Intrinsic Based Valuation			
Discounted Dividends	\$45.51		
Free Cash Flows	\$54.72		
Residual Income	\$53.21		
Residual Income Perpetuity	\$35.73		

Executive Summary

Company Overview

Cal-Maine Foods Inc. is headquartered in Jackson, Mississippi and is the largest producer of shell eggs in the United States. The company was founded in 1969, when Fred Adams, the owner of Adams Foods Inc. merged with Dairy Fresh Products Company of California and Maine Egg Farms to create the goal of distributing shell eggs all from the east coast to the west coast. Their production facilities can be found all across the Southeast region of the United States, with a few in the Midwest region. Cal-Maine is not just limited to shell egg production as they also grade, package, market and distribute their eggs as well.

Cal-Maine is the leader in shell egg production because they have the largest flock in the United States consisting of 33.7 million layers and 8.4 million pullets and breeders. They also have the largest market share of grocery store chains, and sell shell eggs to a majority of the largest food retailers in the nation. Though their primary market focus is in large grocery store chains, Cal-Maine has a diverse group of customers including club stores, regional grocery stores, foodservice distributors and egg product consumers. Their extensive marketing is shown by the number of brands that the company operates under. These brands include Egg-Land's Best, Land O' Lakes, Farmhouse, and 4-Best. A significant portion of Cal-Maine's market share (27.2% in 2015) is from the sale of specialty eggs. These specialty eggs consist of nutritionally enhanced eggs, cage free eggs, brown and organic eggs.

The large size of Cal-Maine and their flock can be attributed to the eighteen acquisitions that they have completed since 1989. In each of these acquisitions, Cal-Maine was able to attain anywhere from 600,000 to 7.5 million layers. Industry consolidation is the primary focus of the company in regards to their growth strategy.

Industry Overview

The demand for shell eggs in the United States has been shown by recent studies to increase in line with the same growth rate of the overall population. This rate averages at the rate of about 1% per year; however, in recent years the demand for shell eggs has been growing at about 2% per year. There has also been an increase in the prices for shell eggs every year since 2012 due to falling feed ingredient prices, as well as the increasing demand for shell eggs. As for the industry as a whole, the increase in demand and shell egg prices have been great news for the production companies.

Although the shell egg industry is highly profitable, the industry remains highly fragmented with close to 200 shell egg production companies in the U.S. that have 75,000 hens or more in their flock. The most common growth strategy amongst those in shell egg production lies within company acquisitions. Throughout our report we will be comparing some of the biggest shell egg and poultry producers in North America. These companies will include Sanderson Farms, Pilgrim's Pride, and Industrias Bachoco.

Accounting Analysis

To complete a thorough valuation of a company, we must first look at a firm's accounting quality and flexibility when it comes to reporting values. Cal-Maine does an excellent job in reporting figures for us as analysts to discover values related to key success factors. Flexibility allows managers of a firm to report values such as goodwill and research and development costs in inappropriate ways which can distort an analyst's view of the firm. We discovered only goodwill on Cal-Maine's financials, but it only represented a minimal percentage of overall assets allowing us to consider its effects on our valuation negligible. As such, no restatement of financials is necessary.

Cal-Maine is an aggressive company in their statement of goodwill and other disclosures causing the firm to report higher earnings and value of goodwill. The firm also has a high level of disclosure in its financial statements with lots of discussion for

transparency, allowing our valuation to be well informed of the company and industry practices.

To keep expanding and growing as a company, Cal-Maine consistently undergoes acquisitions to build its company. The firm also does not regularly impair the value of goodwill on their balance sheet, which could lead to an inflated value of the firm's assets. With goodwill increasing consistently over time, we made sure to check this value against our own standards and found it to not be of concern and therefore not a "red flag" figure. As Cal-Maine only deals with goodwill on its balance sheet, choosing not to capitalize any leases or research and development costs, there are no additional concerns with the firm's accounting.

Financial Analysis

To determine the value of a company also requires a comprehensive analysis of a firm's financial documents and performance. For our analysis, we utilized financial ratios to assess areas of liquidity, operating efficiency, profitability, and capital structure. Using this analysis, a forecast of the financial statements, i.e. the balance sheet, income statement, and statement of cash flows, was done over a ten year horizon. Finally, after these forecasts, we assessed Cal-Maine's cost of capital.

Our analysis of liquidity included calculating Cal-Maine's current and quick-asset ratio. Cal-Maine outperformed the industry average current ratio continuously over the past five years and is currently at a ratio of 3.86. However, Cal-Maine underperformed the market every year using the quick-asset ratio. This concludes that Cal-Maine is very liquid and has no concerns in a stable economy, but in times of economic downturn, they may not be able to cover all of their short term obligations.

Operating efficiency ratios utilized were inventory turnover, accounts receivable turnover, working capital turnover, and the firm's cash to cash cycle. Cal-Maine currently has the lowest inventory turnover of any company, and has underperformed the industry average for accounts receivable in all previous years analyzed. This

concludes that Cal-Maine does not convert its inventory into sales as fast as its competitors. Also, the firm does not collect on accounts as quickly as others in their industry. This slower cycle means that Cal-Maine takes about 12 days longer than its competitors to convert cash put into inventory to cash returned as profits.

The next section of ratios analyzed Cal-Maine's profitability. To do this, we used the company's sales growth, gross profit margin, operating profit margin, net profit margin, asset turnover, return on assets, and return on equity. Using these ratios, we discover that Cal-Maine is above the industry for sales growth with growth ranging from 18% to 9.38% in 2015. The three margins analyzed showed that Cal-Maine is the best at retaining its sales revenue into profits in 2015, coinciding with the aggressive nature of Cal-Maine's accounting policies. Cal-Maine's returns for assets and equity have also been increasing since 2013, which shows that Cal-Maine's management is excellent at minimizing costs for their business and delivering higher profits.

For profitability we also analyzed growth in the form of internal growth rate and the sustainable growth rate. The internal growth rate measures how fast a firm can grow using current internal funds. Sustainable growth rate is the rate that a firm can grow while maintaining its current capital structure, measured using the debt to equity ratio. For these growths, we find the maximum that Cal-Maine could grow in one year; these values will be used in the following forecasts.

The final sections of ratios analyzed are related to capital structure. The ratios used in this section are debt to equity, times interest earned, and Altman's Z-Score. Cal-Maine's debt to equity measure is fairly constant over time compared to competitors and the firm has no problem covering its interest expenses. The Z-Score shows that no one in the industry is nearing bankruptcy or in danger of it.

After completing the ratio analysis of Cal-Maine, we forecasted the firm's financial statements to estimate how the firm will perform over the next ten years. Using rates and trends from the ratio analysis, as well as the most recent 10-Q report, we were able to more accurately estimate these future values.

The final task in this section is to calculate Cal-Maine's cost of debt, equity, and weighted average cost of capital (WACC) on a before and after tax basis. Utilizing the CAPM equation and the backdoor cost of equity, we calculated Cal-Maine's cost of equity to be 8.9%. The cost of debt was calculated to be 6.01%, making the before-tax WACC 8.38% and the after-tax 8.01%.

Valuation Summary

In order to complete the valuation analysis of Cal-Maine, we used two methods to compute value. The method of comparable uses competitors and industry averages in order to calculate firm value while intrinsic valuation models use our forecasted financial statements. This section tries to discover if the current market price for the company's shares are under, over, or fairly valuing the company. Our benchmark for these conclusions will be based on the observed share price as of April 1, 2016 of \$51.66. We used a range of 10% above or below this value, \$56.83 to \$46.49, to represent fairly valued in the market. If the models determine share price to be above the upper bound then we will consider Cal-Maine to be under-valued by the market while values below the lower bound consider Cal-Maine as over-valued. Our results from the market comparable method show a prevailing conclusion that Cal-Maine is under-valued by the market.

Conclusion	
<u>Comparable</u>	<u>Result</u>
Trailing P/E	Fairly Valued
Forward P/E	Under-Valued
Price to Book	Fairly Valued
Dividends to Price	Under-Valued
Price/Earnings Growth	Under-Valued
Price to EBITDA	Under-Valued
Price to Free Cash Flow	Over-Valued
Enterprise Value to EBITDA	Under-Valued

Additionally, we used four intrinsic valuation models to calculate share price for Cal-Maine. The models used are the discounted dividends model, the free cash flow model,

the residual income model, and the residual income perpetuity model. These models use different values from our forecasted financial statements in order to find the present value of these future cash flows the firm will recognize. All of the models find these values and then additionally adjust them to the valuation date of April 1 as well as provide some sensitivity analysis.

The discounted dividends, free cash flow, and residual income are based on ten years or forecasted amounts of certain cash flows and then a perpetuity that represents all years after the tenth year. All of these models resulted in stock prices that were fairly valued or slightly over-valued. However, looking at some sensitivity variations we find that with small changes to the cost of equity, the stock quickly becomes under-valued. Based on previous analysis, we feel that it is more likely the true cost of equity is either at or below our value and definitely not above. Therefore, the market price is either fairly or under-valued. The residual income perpetuity model concluded that the firm is over-valued in some circumstances and under-valued in others. Combining both the results of the comparable method and the results of the intrinsic models, we conclude that Cal-Maine is under-valued by the market and recommend the stock be bought.

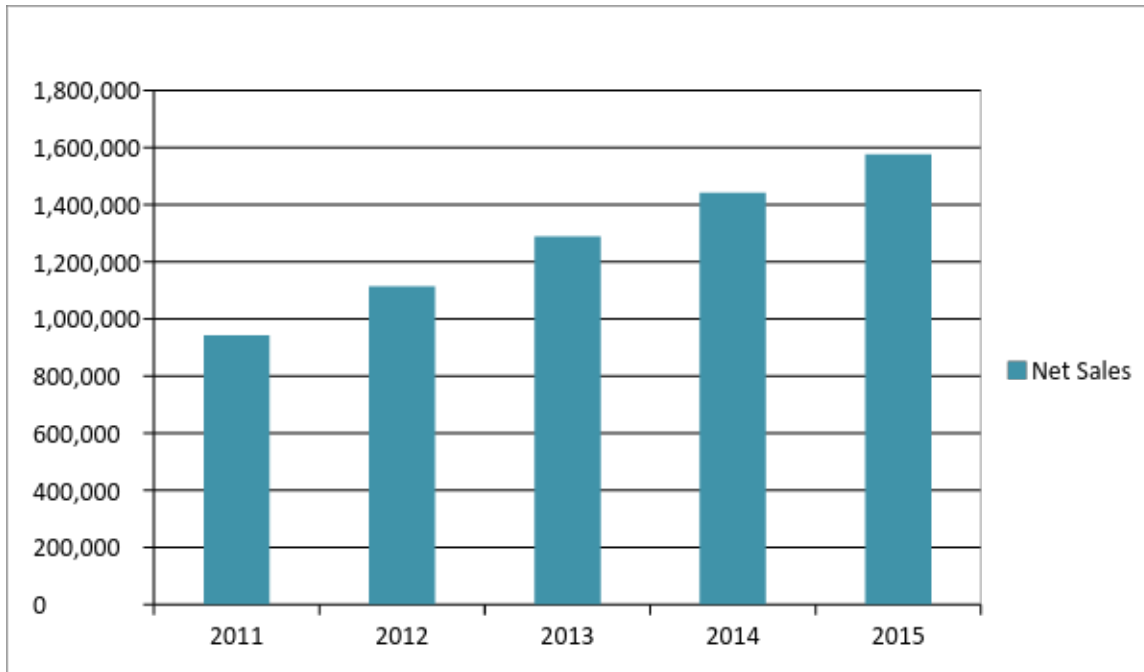
End of Executive Summary

Overview of Firm and Industry

Cal-Maine Food Inc. was founded in 1969 when Fred Adams, owner of Adams Food Inc., merged business with Dairy Fresh Products Company of California and Maine Egg Farms, creating the business it is known today as Cal-Maine Foods Inc. In merging with these two companies, its goal was to distribute eggs from the west coast of California to the east coast of Maine.

Cal-Maine Foods Inc. is the largest producer of shell eggs in the United States. Cal-Maine not only produces these eggs, but they grade, package, market, and distribute these shell eggs all over the southwestern, southeastern, mid-western, and mid-Atlantic regions of the United States. Among the company's flock of chickens are layers, pullets, and breeders. Layers are mature female chickens, pullets are young female chickens, and breeders are mature males and females. Breeders hatch fertile eggs so that those chicks grow up to become pullets then eventually grow into layers and are put into a production flock. As of now, Cal-Maine has 33.7 million layers and 8.4 million pullets and breeders throughout the U.S.

Cal-Maine has been growing from year to year and appears to not be slowing down any time soon. In the fiscal year of 2015, Cal-Maine Food Inc. sold around 1,063.1 shell eggs, which is around 23% of the majority of the egg sales across the United States (Cal-Maine,2015). Also the company's assets have continued to grow over the past years leading them to a strong position. A statistical analysis shows that over the past five years Cal-Maine has a Total Asset Growth of 9.50% yearly. The asset growth increases year by year, generating a climb in the amount each share is worth for the company. As observed on April 1st, 2016, the price per share is \$51.66, which puts the company price at a market cap of \$2.448 billion. Cal-Maine also has a financial year-end of May 31st. Below in Figure 1-1 shows the net sales of Cal-Maine Foods, Inc. over the past five years. As the chart shows, Cal-Maine has grown significantly its net sales over the past five years.



Net Sales	\$
2011	\$941,981
2012	\$1,113,116
2013	\$1,228,104
2014	\$1,440,907
2015	\$1,576,128

Figure 1

Industry Overview

In October 2015 the shell egg production industry brought in a total of \$6.66 billion dollars. The egg industry has approximately 305 million layers, which are hens that produce these eggs, and Cal-Maine is responsible for around 33.7 million of these layers. Recent facts show that there are around 186 shell egg production companies in the United States, which all have at least 75,000 flocks of hens. When looking at

competing companies, we look at Sanderson Farms, Pilgrim's Pride, and Industrias Bachoco. These companies all compete in similar industries as Cal-Maine Foods Inc. and continue to be in competition with each other. Cal-Maine and its competitors are the primary businesses that produce and distribute poultry, poultry products, and eggs.

Porter's Five Forces Model

Porter's Five Forces Model is used to evaluate an industry based on five factors: 1) Rivalry Among Existing Firms, 2) Threat of New Entrants, 3) Threat of Substitute Products, 4) Bargaining Power of Suppliers, and 5) The Bargaining Power of Consumers. All of these combined will give a glimpse into the competitive nature and micro-economy of an industry.

5 Forces Summary	
Factor	Competition Rating
Rivalry Among Firms	High
Threat of New Entrants	Medium
Threat of Substitute Products	Low
Bargaining Power of Consumer	High
Bargaining Power of Producer	Low

Rivalry Among Existing Firms

The first factor of the Five Forces Model is Rivalry Among Existing Firms. In essence, it can be broken down into seven sub-sections (Industry Growth, Differentiation, Switching Costs, Scale/Learning Economies, Fixed to Variable Costs, Excess Capacity, and Exit Barriers) detailing the competition that already exists within the industry. The poultry industry is a highly competitive one, but Cal-Maine has what is almost a monopoly. In fact, Cal-Maine has ten million more layers (hens that lay the eggs) than

the next largest shell-egg company (Rose Acre Farms) in the United States. They are also the largest egg producer in the world with two million more layers than the next largest company. It should also be noted that the shell-egg industry, though highly competitive, has a team mentality to it. There are conglomerate groups (The American Egg Board, United Egg Producers, the USDA, etc.) that promote egg consumption as a whole and many shell egg executives sit on their boards. Cal-Maine's main competitors in the egg industry are private companies, and therefore financial information for those companies could not be obtained. For the purposes of this analysis, Cal-Maine's competitors will be split into two groups: shell-egg and poultry. Companies in the shell-egg industry (Rose Acre Farms, Rembrandt Enterprises, and Daybreak Foods) will be used to evaluate Cal-Maine's activities on an operational basis, while those in poultry industry (Sanderson Farms, Industrias Bachoco, and Pilgrim's Pride) will help evaluate Cal-Maine's financial information.

Industry Growth

Industry Growth is the first sub-factor in the Firm Rivalry factor. In the poultry industry, there is growth but it is slow. Historical evidence shows that consumption trends within the shell egg industry increase in line with overall population growth. Companies are able to increase their market share, either by acquisitions like Cal-Maine or by increasing output like Sanford Farms, in order to be competitive. Figure 1-1 provides a deeper look at growth between the firms themselves.

	2011% Growth	2012 % Growth	2013% Growth	2014% Growth
Pilgrims Pride	9.50%	7.77%	3.57%	2.05%
Industrias Bachoco	0.001%	52.181%	0.363%	-6.657%
Cal-Maine Foods	3.50%	18.17%	15.72%	11.86%
Sanderson Farms	2.73%	20.63%	12.44%	3.42%
Industry Average	3.93%	24.69%	8.02%	2.67%

Figure 1-1

There was a spike in 2012 for Cal-Maine, Sanderson Farms, and Pilgrim's Pride due to the USDA buying \$40 million worth of chickens to help the recession stricken industry.

Industrias Bachoco however saw their abnormal increase in sales growth, because they acquired OK Industries in 2011 thus increasing their total firm size by 9%.

Concentration

Concentration is the number of firms present in the industry and their relative size. In the poultry industry (which includes chickens for slaughter, hens for egg production, and breeders) concentration is high. While the poultry industry is split between two different market sub-segments (meat and egg production) all of the firms still compete for the same resources: chickens, land, and feed. In the shell-egg industry, as of 2014, there were 59 different shell-egg producers, owning approximately 93% of the total U.S. layer population. This leads to high concentration in the industry where a few companies are responsible for most of the production of shell eggs.

Differentiation

Differentiation is the extent to which firms can avoid head-to-head competition with diverse products. In the poultry industry, differentiation is present, but not extensive enough to really influence consumers. Though in the sub-markets there is little differentiation to be had (from meat and egg grades, to organic and free-range), all of the products are homogenous in the average consumer's eyes. In order to combat the competition, companies have to engage in aggressive marketing. In fact, in order to increase share in the specialty shell eggs (organic, free range, and cage-less) Cal-Maine spent 21% more on advertising and franchising in 2015 (as compared to 2014). Unlike Cal-Maine, Pilgrim's Pride's advertising costs have been decreasing (from \$6.5 million in 2012 to \$4.7 million in 2015) showing that they are beginning to focus on production volume instead of differentiation.

Switching Costs

Switching Costs are the costs associated with switching to another line of business in case the current one experiences a slow-down. In the shell egg industry, the switching costs are high. Because the shell-egg market is a specific one, shutting down operations

to explore another line of business would be expensive. Also, the facilities used to produce, gather, and grade shells eggs contain specific technology that is not easily repurposed for another use. However, if there was a switch in the market towards already existing product lines (as has been seen the past two years), companies will spend money to capitalize on the opportunity. Cal-Maine, for example, has been increasing their spending on specialty egg shells by 40% from 2014 to 2015 in order to meet market demand. Industrias Bachoco, one of the largest producers in Mexico, makes no mention of specialty eggs or advertising in general in their 2015 20-F or annual report.

Economies of Scale

Economies of Scale are the cost advantages earned by having more output, i.e., producing more is optimal because it helps reduce fixed costs when variable costs are low. This is the largest cause of inter-firm competition in the poultry industry. Fixed costs are high in the poultry industry; therefore, in order to run a successful operation firms need a strong infrastructure in place no matter how many chickens (layers or broilers) the firm has. There must be large buildings to house the layers; efficient methods (conveyor belts) of egg collection and inner-building carcass transport; large, refrigerated holding areas to store eggs and meat (to FDA standards); and the energy it takes to run a farm. The variable costs in the industry are relatively low; from purchasing chickens (though most firms produce their own layers, it is not uncommon in times of rapid expansion to purchase them), and transportation costs (the more produced, the more deliveries that need to be made, the high the cost). Because the fixed costs are high, firms have to produce more efficiently.

Learning Economies

Learning Economies refer to the ability for employees to do their jobs well, the expertise required to run an operation, reduction on defective products/waste, and the efficiency of the production process. The poultry industry has become a complex operation; the process for harvesting and collecting chickens has become heavily automated, leaving little room for error from direct human interaction. A cornerstone in this industry, as companies here find themselves as price takers, is to efficiently cut down on costs.

Fixed to Variable Costs Ratio

Fixed to Variable Cost Ratio						
	2010	2011	2012	2013	2014	2015
Cal-Maine	-	-0.37522	0.031145	-0.00602	0.619637	1.943554
Sanderson Farms	-	-0.88087	2.083492	0.583224	-2.08872	-0.61594
Industrias Bachoco	-	-0.44825	4.296021	-10.5468	-2.7649	0.16782
Pilgrim's Pride	-	-0.47865	-33.8501	-3.49869	-1.46714	0.623722
Industry Average	-	-0.54575	-6.85985	-3.36708	-1.42528	0.529789

Figure 1-2

The Fixed to Variable Costs Ratio is a ratio that helps explain the percent of fixed costs that make-up total cost. Fixed costs are important because it is the cost that will be incurred no matter how eggs or chickens are harvested, and allows insight into how efficient companies are. As seen in the chart above the industry average runs into the negatives on a regular basis (every year but 2015) meaning that the industry spends more on their fixed costs than variable costs. This is a common trend expected to be seen with companies who need as many fixed resources as poultry does.

Excess Capacity

Excess Capacity, in essence, is the criteria of whether there is enough demand to meet the production capabilities of the industry. In the poultry industry there is very little excess capacity. This means that the firms are operating at an optimal level of output;

meaning that the firms are able to produce enough to keep the high exit barriers in check.

Exit Barriers

Exit Barriers are the obstacles that stand in the way should the industry become unprofitable, and a company wants out. The poultry/egg industry has large exit barriers due to the specialized equipment used, the large, specialty buildings that they occupy, and the nature of their inventories. As discussed above, the buildings used include access to a refrigerated warehouse, which may seem like an advantage, but the cost to cleanse the facility would be high should the firm close. Buildings also contain specialized equipment used solely for collecting eggs and processing meat. Also, the inventory these companies keep are live animals that would be costly to transport (if layers) or send to slaughter (transport costs and the increased holding cost of the chickens and their carcasses). Below is a chart of the amount of property, plant and equipment each firm has.

(in thousands)	Property, Plant, and Equipment					
	2010	2011	2012	2013	2014	2015
IBA	608,126.81	602,141.41	689,188.13	672,054.80	695,257.73	760,625.23
Sanderson Farms	493,727.00	505,505.00	495,313.00	674,067.80	596,125.00	682,334.00
Pilgrims Pride	1,358,136.00	1,241,752.00	1,189,921.00	1,151,811.00	1,182,795.00	1,352,529.00
Cal-Maine	234,111.00	224,887.00	222,615.00	266,008.00	314,935.00	358,790.00
Industry Average	673,525.20	643,571.35	649,259.28	690,985.40	697,278.18	788,569.56

Figure 1-3

By examining this chart, it is evident of the large amounts of fixed costs shell egg and poultry production companies would incur by repurposing and selling these large specialized assets.

Conclusion

In conclusion, we believe that the in the poultry industry inter-firm competition is high. Because firms sell homogenous products and fixed costs are high there is a strong need for economies of scale in order to maximize profits. With that said, the shell egg-

industry has a “team” mentality by using consortiums to promote egg sales throughout the industry.

Threat of New Entrants

A major factor that the shell egg and poultry industry must also be concerned with is the threat of new business entering their industry. These threats affect the entire industry in which these firms operate. These threats will be assessed in the following section.

Economies of Scale

As discussed above, economies of scale are present and important in the poultry industry, so much so that a new entrant would not be able to compete with large firms immediately. Rather, if a new firm tried to enter the market it would have to spend a substantial amount of money in the beginning just to gain a piece of the market share. Because the fixed cost in the industry is high, any new firm would have to mimic (or obtain) economies of scale in order to compete and become profitable.

First Mover Advantage

The First Mover Advantage is the advantage gained from being an innovator in an industry (such as having a patent or developing a new technology). Due to the homogenous nature of the poultry market it is important to be an innovator in means of production, especially in terms of cutting costs. However, none of the companies examined in the poultry industry have a patent. Rather, companies in the industry use best business practices such as Pilgrim’s Pride improving their training in quality control. These companies can also develop advantages through making contracts with suppliers for feed or retailers selling product. However, this is seldom done in the poultry industry as prices for feed and other inputs are constantly changing. Therefore, only developing new practices to increase the production of eggs create advantages.

Distribution Access

Distribution Access is a company's access to distribution lines and their ability to take advantage of them. In the poultry industry, most companies (including all examined here) have their own distribution lines and centers. Without that, companies would have to rely on third-party centers and distributors in order to move their product. Though distribution is readily available, the companies' are susceptible to factors outside of company control (mainly weather) that could harm business operations (based on the fact that the average inventory kept on hand for distribution is four days' worth).

Relationships

Relationship management is important because it helps give established companies an advantage over new companies. Because the poultry industry sells homogenous products, relationships are a key factor in the industry. The poultry industry, for example, does not rely on long-term contracts with retailers; rather many behave like Cal-Maine by making short-term agreements with customers (retail stores) to sell products. They take this risk because they believe that their customers will continue to partner with them because 1.) They are the largest egg producer in the US and 2.) They deliver quality products consistently. Another key relationship is the one between fellow companies in the industry. Competitors in the poultry industry (especially the egg industry) team together to mass advertise their products under a single banner. These relationships also allow for enhanced collaboration to increase revenues for multiple companies, which is what occurred when Cal-Maine partnered with Rose Acre Farms (second largest egg producer) to build a new production facility for a company they share a stake in.

Legal Barriers

Legal Barriers are hurdles such as patents and government regulations that keep new companies from gaining an effective foothold in the industry. As discussed earlier, Cal-

Maine and industry competitors do not rely on patents to gain an advantage over one another. However, government regulation is a large factor in the industry. Because the poultry industry deals with consumable goods, there is a large regulatory presence throughout. Whether it be the FDA, the USDA, or state and local governments, companies must obtain the required permits and maintain facilities to pass inspections (which is an expensive task).

Conclusion

Threat of new entrants is the danger of new companies starting up and taking away market share. Though it is relatively easy to get a start in the poultry industry (all a company needs is a coop and a few chickens), it is difficult to actually be competitive and gain a steady foothold in the industry. Therefore, the threat of a single new entrant is low, but the threat of multiple small farms entering the market increases the risk. This threat is higher now given the growing consumer demand for information about the food that they buy. Therefore we believe that the threat of new entrants is moderate: individual companies that are beginning to start are not a threat, but collectively there is the opportunity for them to take market share.

Threat of Substitute Products, Relative Price, and Performance

Substitute products are products that could be used for the same purpose. In the poultry industry the substitutes are pork and tofu. The price of pork on the market is lower than that of poultry, but it is also more volatile as shown below in figure 2-1. However, according to Nicole Perry of Nasoya, tofu is also a cheaper alternative that is becoming more popular amongst consumers due to the health benefits over chicken while still providing a similar taste and texture.

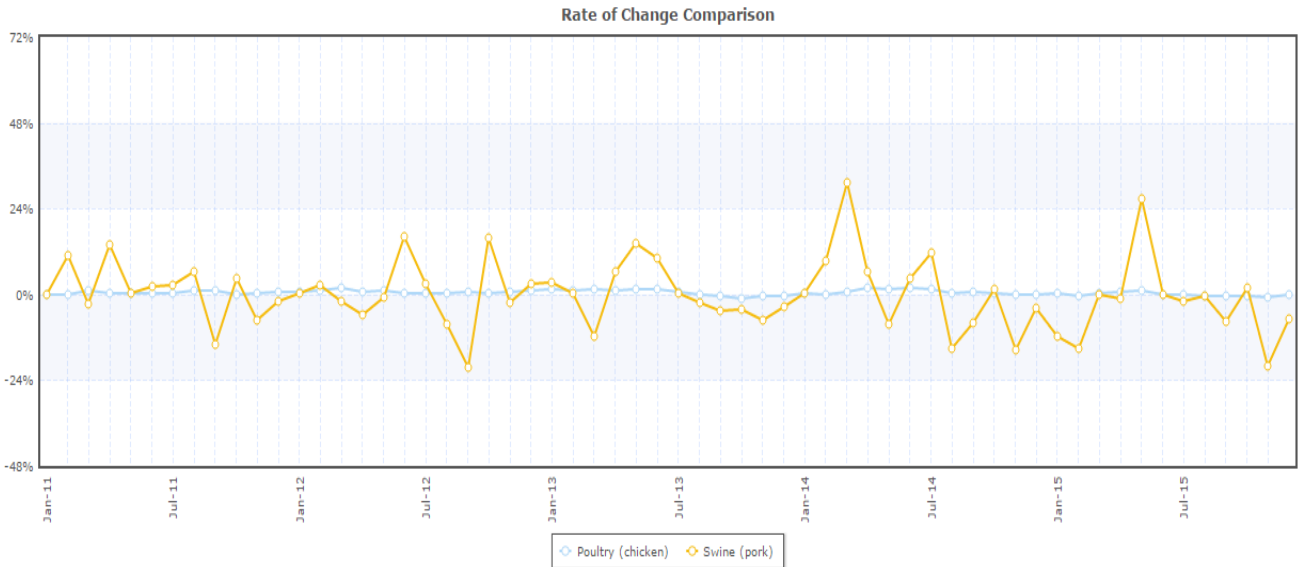


Figure 2-1 (2011-2014)

Buyers' Willingness to Switch

Finally with substitute products, choice all depends on customer preference. Though substitute products do exist, neither pork nor tofu are perfect alternatives. Ultimately customer taste is what matters most. During the outbreak of Avian Flu in April 2015, the poultry industry did lose some potential business because customers switched while the issue was resolved. However, the threat of substitutes is low, as long as companies keep up with changing opinions in product lines, the willingness of buyers to switch to products other than poultry is correspondingly low.

Power of Customers

The power of customers to set prices for shell eggs in this industry is related to the customer's ability to switch to another provider, the differentiation between products, and the volume of customers buying the product. These factors affect the entire shell egg industry, and give the buyers of shell eggs an advantage over the suppliers. Large retailers such as Wal-Mart and Sam's Club account for a significant portion of shell egg sales in the industry. These two large customers, along with many others, are able to

influence the price shell eggs sell for. The following section will analyze the factors mentioned above and show their influence to the power of customers.

Switching Costs

In the United States there are a large number of producers of shell eggs. In 2014 there were 59 producers that owned about 93% of the total mature female chickens in the U.S. used to produce shell eggs. Although the total amount of producers has been consolidating in the past years, the total amount of shell egg production has increased to keep pace with growing population. Grocery store chains, club stores, and foodservice distributors are all main customers for the egg industry and with the high amount of suppliers, who all produce with over one million chickens; it is relatively easy to switch to different suppliers. Many suppliers also do not require contracts for buyers to continue purchasing their product for a long term. All of these factors lead to low switching costs for buyers.

Differentiation

The United States Food and Drug Administration, the USDA, and the Environmental Protection Agency all regulate the shell egg industry. This causes there to be little to no differentiation in the products produced. All shell eggs, and other specialized products; have to meet strict guidelines in order to be sold in stores. The only true differentiation in the industry relates to marketing the brands of the different producers. However, the actual product is very similar no matter the producer. This low level of differentiation causes price to become a main factor for buyers.

Power of Suppliers

The power of suppliers to bargain the price of their product was analyzed for the egg production industry as well. For suppliers to obtain more power to set prices they need to provide specialized products and have few firms producing. The section that follows analyzes these areas of the shell egg industry.

Specialized Products

Recently, there has been a demand for specialty shell egg products. These products are directed toward customers who are sensitive to environmental, health, and animal welfare issues. Firms who are able to produce these products as well as regular shell eggs can create a price advantage above those who do not. These specialized products allow the suppliers some bargaining power over prices for these products. However, these products are also highly regulated therefore causing small amounts of differentiation. Expanding product lines does give some bargaining power to the supplier.

Number of Suppliers

As stated above, there are around 59 producers of shell egg products in the industry. This number has been steadily decreasing in the past few years due to consolidations in the industry where larger firms are acquiring small businesses in order to add to their total production. Although there are fewer firms today than in prior years, there are still a large amount of suppliers for customers to purchase shell egg products from. This high number of suppliers causes buyers to have a greater advantage in bargaining since it is not difficult to find another provider for shell eggs.

Company	Total Layers (in thousands)
Cal-Maine Foods	36,380
Rose Acre Farms	25,590
Michael Foods	13,450
Hillandale Farms	12,500
Trillium Farm	11,400

The table above shows the five largest egg producers in the U.S., each with over 10 million layers used for production. These high producing companies are able to provide shell eggs all across the U.S. so for buyers looking to switch producers, they can easily find other suppliers for eggs.

Conclusion

In conclusion, buyers have a significant power over suppliers in the shell egg production industry. A large number of firms exist to produce eggs and their products vary minimally due to regulations, so customers are able to switch between suppliers relatively easily. Therefore, since the buying firm is more critical to the supplier, they have a bargaining advantage over suppliers. Suppliers have some bargaining ability in the price of their specialized products, but overall they have very limited power to bargain with buyers.

Analysis of Key Success Factors

For the shell egg industry, there are a few factors that firms must concern themselves with in order to be competitive. Some main concerns are the variance of price for shell eggs, production and costs, and finally firm growth. Companies in this industry are able to gain market share as well as earn considerable profits if they can understand and take advantage of these factors.

Prices for Shell Eggs

The prices of shell eggs are determined by two factors: the Urner Barry wholesale quote and the company's formulas that include the cost of production. In the last year, shell egg prices have increased by \$0.25 from \$1.28 in the years of 2011 through 2014 to \$1.53 per dozen in the fiscal year of 2015. The increase in shell egg prices in the last year are primarily due to the Avian Influenza disease that had wiped out almost 13% of the layers used for producing eggs. The poultry industry as a whole experienced a shortage of egg producing layers during this time but also saw a rise in prices for their products since there was less production but still large demand.

Shell Egg Production and Costs

In the shell egg industry, to be a leading producer in eggs, the success can be heavily dependent on the company being fully integrated. Not only should they produce, process, and package their own eggs, they need to hatch chicks, grow and maintain flocks of pullets, layers and breeders, and manufacture their own feed. Having a shell egg company that is vertically integrated creates a competitive advantage over its competitors who purchase shell eggs from third parties rather than produce themselves. While efficiently and effectively exercising economies of scale and scope, shell egg producers fully benefit from vertical integration.

The concern with producing and selling this amount of eggs is the expenses that it takes to do so. The primary costs for shell egg producers is feed, which makes up over half the costs in the industry and can represent 62% to firm's expenses. The price of feed varies depending on the sources from which the feed comes from, the weather which can either restrict or grow the feed needed for chickens, and the supply and demand factors of the feed for the season. While the industry doesn't have a say on the price of feed prices and is dependent on good weather, feed prices were 11% lower in 2015 than they were in the previous year.

Growth Strategy & Acquisitions

What gives shell egg producers another competitive advantage over competitors in the industry is having the resources to perform acquisitions that allow full use of economies of scale and scope. Firms in the shell egg industry continue to grow their flocks by breeding chickens but also by purchasing smaller companies as production facilities. Large producers make acquisitions of smaller firms to increase their flock size and thus their total shell egg production. By doing this, firms are able to spread fixed costs across greater amounts of products, allowing them to take full advantage of economies of scale.

Firm Competitive Advantage Analysis

Cal-Maine Foods is currently the largest shell egg producer in the United States, and will continue to be for many years to come. Because the egg industry consists of very few product alternatives, the only way to gain a competitive advantage is through the implementation of cost leadership strategies and acquiring smaller firms. The large success of Cal-Maine can be credited to its efficient production, growth strategy and acquisitions, as well as economies of scale. These factors are the main competitive advantages that Cal-Maine possesses in the industry, which will be analyzed in the following section.

Efficient Production

Cal-Maine implements an outstanding production system through its successful use of vertical integration. The shell egg producer has fully integrated operations that are located in 16 different states. The vertically integrated production system includes the production, processing, packaging, and distribution of shell eggs. The company also hatches chicks, grows and maintains flocks of pullets, layers, and breeders, as well as manufacturing their own feed. In the fiscal year of 2015, Cal-Maine produced about 75% of its total shell eggs sold, 94% of which came from company owned facilities, and the last 6% came from contract producers. The shell eggs produced by Cal-Maine are all predominantly processed, graded, and packaged without being touched by human hands. Having an almost fully automated system enables Cal-Maine to operate as a low-cost supplier by lowering labor costs. Cal-Maine continually builds new "in-line" facilities to further their production volumes. These newer facilities focus on efficiency by implementing a more fully automated production system. This helps the company control and lower labor costs. As a result of the production of new facilities and acquisitions, Cal-Maine's "net sales amounted to \$910.1 million in fiscal 2010 compared to net sales of \$1,576.1 million in fiscal 2015" (Cal-Maine, 2015).

Growth Strategy & Acquisition

One of Cal-Maine's biggest competitive advantages is the constant growth strategy it pursues that is focused on the acquisition of existing shell egg producers. The shell egg producer has completed 18 different acquisitions since 1989. Some of these companies are Egg-Land's Best, Land O'Lakes, 4 Grain, and Farm House branded eggs. Not only has this company acquired many brand name companies, they also have exclusive licensing agreements with Egg-Land's Best in several key territories and the company's trademark Farmhouse and 4 Grain brands. These acquisitions are the main contributors to the company's large size. Cal-Maine's growing size and production gives it effective use of economies of scale. The company's primary focus lies in its state-of-the-art facilities and efficient production lines, which are all high fixed-costs. Because the variable costs to produce eggs and poultry are low, Cal-Maine is able to benefit from the cost advantages earned by having one of the highest outputs of the nation's shell eggs.

While Cal-Maine Foods growth strategy focuses on the acquisitions of existing shell egg producers and their facilities, it continues to build new farms making the company more efficient. Using its resources to invest back in itself, the company has built many "in-line" production and processing facilities that can produce up to 12,000 dozen eggs per hour while being less labor intensive and more efficient. Cal-Maine Foods strategy has taken the company's eggs sold and increased them by 200 million over the last 5 years. As a result in the increase of eggs sold, net sales increased about \$600 million over the last 5 years making Cal-Maine the largest egg producer and distributor of shell eggs in the United States.

Conclusion

Cal-Maine Foods successfully uses cost leadership strategies associated with efficient production, growth strategy and acquisition, and economies of scale. We conclude that these are sustainable competitive advantages because of the abundant funds and resources that Cal-Maine has available as the nation's largest shell egg producer.

Formal Accounting Analysis

With the industry analysis completed, using the Five Factor Model, we will perform an accounting analysis. The accounting analysis allows us to have an in-depth look at how a company is actually performing in an industry. In this section we will evaluate Cal-Maine as well as the shell-egg and poultry industry based on their Key Accounting Policies, Assess the Degree of Accounting Flexibility, Evaluate Actual Accounting Strategy, Evaluate the Quality Disclosure using qualitative analysis, Identify Potential “Red Flags”, and finally we will undo any accounting distortions that may exist. Once this analysis is done we will conclude whether or not Cal-Maine’s financial statements need to be restated for the purposes of our valuation.

Key Accounting Policies

We have identified two types of accounting policies that affect a firm: Type 1 and Type II. Type I accounting policies are directly related to key success factors we identified earlier. They describe the amount of discussion and disclosure relating to Key Success Factors. Type II accounting policies are those that might potentially distort the view of a firm. These are typically significant assets on the balance sheet such as capitalized leases or goodwill. By analyzing the accounting policies related to these items, we will be able to better value Cal-Maine foods.

Type I Accounting Policies

Type 1 accounting principles are those that relate to the key success factors identified for the industry. These accounting principles should support and disclose information regarding value drivers for the industry. The Type I accounting policies we have identified for Cal-Maine and its competitors are economies of scale and production efficiency.

Economies of Scale

As discussed above in Key Success Factors, having economies of scale is crucial to success in the shell egg industry. The shell egg industry is highly reliant upon producers to create a product quickly and with minimal expenses. However, almost all of the producers in the shell egg industry are private firms and do not release data to the public, so there is very little industry disclosure for the shell egg industry. Since Cal-Maine is the largest shell egg producer, their disclosure is some of the only industry data that is attainable.

Cal-Maine's financial statements describe the benefit of economies of scale through the disclosure of such items as cost per dozen and their increase in net sales as they continue to acquire other businesses. Cal-Maine discloses tables that show the change in feed costs and its effect on cost per dozen eggs produced.

Fiscal Year End	31-May-14	1-Jun-13	Percent Change
Feed	\$0.49	\$0.54	-9.30%
Other	\$0.25	\$0.02	4.20%
Total	\$0.74	\$0.78	-5.10%

Farm Production Cost (per dozen produced)

Cal-Maine also discusses this topic in depth as they show how the market prices for feed have changed, and how these changes affect their prices. By reporting figures such as feed used per dozen eggs produced, it is evident that Cal-Maine Foods utilizes economies of scale to generate a cost leadership strategy in their industry. Also, by continually increasing their sales through acquisitions of other firms, Cal-Maine increases their scale for a cost leadership strategy.

Efficiency

Efficiency can be defined as how well an organization uses its resources to achieve financial goals. The poultry industry is very concerned with efficiency as firms try to hatch, feed, and process chickens as quickly, and with as little cost, as possible. Firms like Sanderson Farms, discuss efficiency in their statements heavily. The process and costs of completing these steps are charted in their reports and discussed as well. The use of mechanical facilities to quickly gather and process chickens is a standard for the industry and for cost reduction strategies.

Cal-Maine references their use of "in-line" facilities multiple times in their 10k report in order to describe how efficient their farms are. "In-line' facilities provide gathering, grading, and packaging of shell eggs by less labor-intensive, more efficient, mechanical means." (Cal-Maine 10-K) By utilizing this technology, Cal-Maine is able to process 12,000 dozen eggs per hours (Cal-Maine 10k). As cost is the largest concern for Cal-Maine, being able to produce eggs by mechanical means allows for lower labor cost. This savings in wage expenses allows Cal-Maine to lower its price of production and therefore its final cost for shell eggs. By implementing this type of production into all of Cal-Maine's facilities, the firm is able to be highly efficient. They produce a large number of eggs and are able to reduce the cost per unit in the process. Using this technology, Cal-Maine is able to take advantage of cost leadership strategies and stay competitive in their industry.

Type 2 Accounting Policies

Type II accounting policies are those that can materially affect the view of a firm. Cal-Maine chooses not to use capital lease structure for any of their leases and also does not capitalize research and development costs. The only Type II accounting policy that may materially affect our view of Cal-Maine is the accounting and amortization of Goodwill on their balance sheet.

Goodwill

Goodwill is the amount over fair value that a company pays to acquire another firm and all of their assets. Difficulty exists when reporting goodwill since it is an intangible asset, meaning it cannot be seen or touched, and its impairment is subjective depending on the analyst in the years following the initial acquisition.

Cal-Maine checks their goodwill for impairment annually, at the end of the fiscal year, by first looking at qualitative analysis and then determining if a quantitative analysis is necessary. In the past seven years, Cal-Maine has only impaired their goodwill by \$338,000, in 2010, from \$22,455 to \$22,117 (Cal-Maine 10k). Since then, goodwill has only increased in value to a total of \$29,196 in 2015. Throughout this time, there have also been years when goodwill has remained unchanged from one year to the next.

According to Cal-Maine's annual report "goodwill is evaluated for impairment annually by first performing a qualitative assessment to determine whether a quantitative goodwill test is necessary," (Cal-Maine Annual Report). It appears that Cal-Maine's yearly assessment of goodwill has concluded that there is no impairment on the value of their goodwill.

Assess Degree of Potential Accounting Flexibility

Accounting flexibility refers to the ability of managers to choose how to report certain items on their financial statements. High flexibility means that managers are able to decide how to report values while low flexibility means that managers must follow a strict set of guidelines when reporting values. By having flexibility, managers are able to greater distort the financials of a firm, which can affect our valuation of the business. Cal-Maine has some flexibility in their reporting of goodwill by being able to decide whether or not their goodwill is impaired from one year to the next and then taking corrective action to impair Goodwill if needed. However, this is almost no flexibility on reports pertaining to efficiency or economies. For these reasons, we will focus on Cal-Maine's reporting of Goodwill.

Evaluation of Accounting Strategies

To evaluate Cal-Maine's accounting strategies, we will be focusing on two main areas: level of disclosure and accounting culture. High disclosure companies are ones that disclose relevant, decision useful, information concerning their accounting. These companies should provide extensive discussion on their reports and their process. Low disclosure firms will only provide required information and offer little to no discussion in their reports.

Accounting culture is split into aggressive and conservative categories; aggressive firms are categorized with higher reported earnings and larger reported asset amounts while conservative firms report lower earnings and have lower values for goodwill and intangible assets. Culture and strategy are linked together in terms of effectiveness of an accounting analysis.

Goodwill

Cal-Maine discloses extensive information regarding their statement of goodwill. Their 2015 10-K reports all acquisitions since 1999 as well as revisions. The 10-K also discusses Cal-Maine's policy on assessing the value of goodwill how the firm goes about evaluating any impairment. This amount of information disclosure on goodwill, leads us to the conclusion that Cal-Maine is a high disclosure company when it comes to reporting of goodwill.

In past years, Cal-Maine has impaired goodwill very minimally. Their only impairment occurred in 2010. This resulted from a revision in the incremental purchase price of Hillendale Farms, LLC which was purchased in 2006 (Cal-Maine 10-K). Cal-Maine has also revised Hillendale two other times, but these changes resulted in an increase of collectively \$11.7 million. We conclude that Cal-Maine's reporting of goodwill is aggressive as they have reported impairment very few times and increases, or no change, with a lot more frequency. This leads to higher reported earnings for the firm.

Conclusion

We conclude that Cal-Maine Foods is aggressive in their reporting of Goodwill and other disclosures. With minimal amounts of impairment made to Goodwill over the past few years, Cal-Maine is reporting higher value of the asset than may actually exist. This will need to be addressed and possibly restated for final valuation of the company. Cal-Maine is also classified as a high disclosure firm. The company's reports provide large quantities of discussion on all topics covered and provide full transparency for all sections of their income statement and balance sheet items. With this Cal-Maine follows suit with the majority of the shell egg industry; giving high levels of disclosure about their operations.

Quality of Disclosure

Quality of disclosure is important as it refers to how well information is conveyed to investors and analysts through the financial statements. In order to make informed decisions, the company should provide investors ample information from statements and discussion. Analysts also need to be provided with quality information in order to accurately forecast and value the company. We will measure the quality of disclosure by the level of disclosure, discussion, and analysis by the company in their statements. All of these factors will be key in our identification of the quality of information for qualitative analysis.

Qualitative Analysis

To measure the quality of the accounting we will use qualitative analysis. In short, we are going to analyze the quality, clarity, and decision usefulness of Cal-Maine and their competitors. This section will give us a better view of how informative and accurate Cal-Maine's financials are.

Level of Disclosure

Cal-Maine discloses information on all of its production steps so readers can understand their process. Their use of concrete numbers, such as their population of egg laying chickens, also allows Cal-Maine to easily be compared to others on many bases. Cal-Maine also discloses a vast amount of information on their quarterly investor presentation, including charts of which acquisitions may occur in the near future and relevant financial information for the quarter.

This disclosure is in line with the shell-egg industry as a whole. Rose Acre Farms and Rembrandt Foods give the same look into their production and operations as Cal-Maine does; providing information regarding farm size (in terms of layers) and current feed costs; the American Egg Board, made up of a conglomerate think tank for the shell egg industry, also provides overall industry analysis and performance. However, because Cal-Maine is publicly traded their level of financial performance disclosure is higher.

When compared to Cal-Maine's level of disclosure, only Pilgrim's Pride provides the same amount of information for the poultry industry. Cal-Maine and Pilgrim's Pride both have extensive openings to their 10-K's disclosing the various risk and background for their companies business, as well as future prospects. Along with the 10-K, both have thorough investor presentations; however, Cal-Maine does not publish their investor conference call (audio or transcript) while Pilgrim's Pride does. This is relevant because in the analyst conference call the opportunity for outside investors to ask questions about a company to be asked and answered by senior management. Without this being published there could be important questions that have not been publicly answered about a company's safety and health.

Potential Red Flags

Although many regulations such as GAAP attempt to create accurate statements, areas do exist where values can be manipulated by managers. These manipulations can distort the view of the company to investors and make the firm look more profitable

that it actually is. Common red flags include such things as asset write-offs, fourth quarter adjustment, and special purpose entities. For Cal-Maine's purposes, they do not report any of these issues that could distort a view of their firm. Also, information could not be found that raised any concern about the company's reports. Cal-Maine chooses not to deal with any of these red flag procedures, and, from our research, no potential red flags are evident for the company.

Undo Accounting Distortions

Along with red flags, companies also have incentives to state significant items in uncommon ways. These distortions are not unaligned with GAAP, and are widely used. Firms can, for instance, capitalize research and development costs instead of taking them as a normal expense. These distortions can also be in the form of large goodwill values on the balance sheet, capitalized operating leases, and goodwill impairments. The significance of these items can cause financial statements to appear better than they really are. If it is found that Cal-Maine has engaged in any of these practices, and that they cause significant distortions, then their financials will be restated. Cal-Maine does not report any research and development expense so only goodwill and leases will be considered.

Goodwill

Goodwill is a major asset on most firm's balance sheets. This asset increases as companies purchase other firm's for more than their market value. These additional funds used for the purchase cause additions to goodwill. However, over time this asset loses its value and needs to be impaired so that it reflects the goodwill being used over time. For the purposes of our report, we will use the assumption that goodwill has a five year useful life and needs to be amortized, depreciated, over those five years in an equal amount each year. By using straight line depreciation and a five year life, we will discover if goodwill needs to be restated. The two boundaries used to discover distortions are if goodwill exceeded 30% of net fixed assets and if goodwill impairment eliminated 30% of operating income.

Goodwill Impairment Proof						
	2010	2011	2012	2013	2014	2015
Operating Income	\$102,604,000.00	\$83,483,000.00	\$88,652,000.00	\$59,593,000.00	\$146,052,000.00	\$235,335,000.00
Goodwill	\$22,117,000.00	\$22,117,000.00	\$22,117,000.00	\$24,417,000.00	\$29,196,000.00	\$29,196,000.00
Goodwill Impairment		\$4,423,400.00	\$4,423,400.00	\$5,379,200.00	\$5,379,200.00	\$5,379,200.00
Fixed Assets	\$234,111,000.00	\$224,887,000.00	\$222,615,000.00	\$266,008,000.00	\$314,935,000.00	\$358,790,000.00
%Goodwill to Fixed Assets	9.45%	9.83%	9.94%	9.18%	9.27%	8.14%
% of Impairment-OpInc		5.30%	4.99%	9.03%	3.68%	2.29%

Figure 2-2

To accurately report goodwill we gathered information over the past five years concerning goodwill and restated values using our assumptions as stated above. Our impairment costs were higher than reported by Cal-Maine, but these values were not significant enough to warrant a restatement. Cal-Maine's property, plant, and equipment alone account for over \$350 million of assets. Goodwill would have to account for at least \$105 million in order to make up 30% of this single asset. As shown above, goodwill is very low in value compared to fixed assets so it does not need to be restated.

Operating income for Cal-Maine in 2015 was \$235.3 million. For goodwill to materially alter the financial statements it would need to account for \$70.6 million in value. Goodwill also does not come close to this high of value, so therefore it does not need to be restated.

Capitalized Operating Leases

Cal-Maine chooses not to report any of their leases as capitalized operating leases. On their 10-K report, Cal-Maine classifies all of their leases are normal operating leases, expensed on the income statement. Because Cal-Maine chooses to report leases in this way, there is no need to restate their leases.

Conclusion

Neither goodwill nor leases warrant Cal-Maine's financial statements to be restated. The quality of information produced is very high and no other red flags exist that we feel

need to be investigated further. For the purposes of this report, we will continue by doing all analysis on an as-stated basis.

Introduction to Financial Analysis

To properly value a firm, we need to conduct an analysis of Cal-Maine's financial statements, as well as their competitors. The following section will focus on the analysis of ratios, forecasts of Cal-Maine's restated financials, as well as the use of cost of debt and equity. The cost of debt and equity will then be used to estimate the weighted average cost of capital (WACC). Ratios are appropriate for this analysis because they remove the size aspect of the firms, and make their financials comparable no matter what the market capitalization is for that specific company. These ratios will allow us to determine Cal-Maine's ability to cover its short-term debt, use their assets effectively, and how they finance their business. After the ratio analysis is complete, we will then conduct a forecast of Cal-Maine's financial statements over the next ten years using the ratios as a basis for the forecast. We will then be able to use the forecasted financials to calculate Cal-Maine's cost of equity and cost of debt, in order to determine the firm's weighted average cost of capital.

Liquidity Ratios

Liquidity ratios measure a firm's ability to cover its short-term obligations with its current assets. Firms with high liquidity ratios are able to pay off short-term obligations with ease and are less likely to fall into financial distress. These liquid assets allow for companies to have a favorable outlook to financial institutions as well and are therefore in a better position to be lent money if needed. To determine the level of liquidity, we will be using the current ratio and the quick asset ratio.

Current Ratio

The current ratio is a measurement of a company's ability to cover its short-term debt obligations with short-term assets. This ratio is a good indicator of liquidity as the firms with more current assets compared to current liabilities will be able to easily generate cash quickly to cover immediate costs under normal economic conditions. A desirable current ratio is anything greater than one.

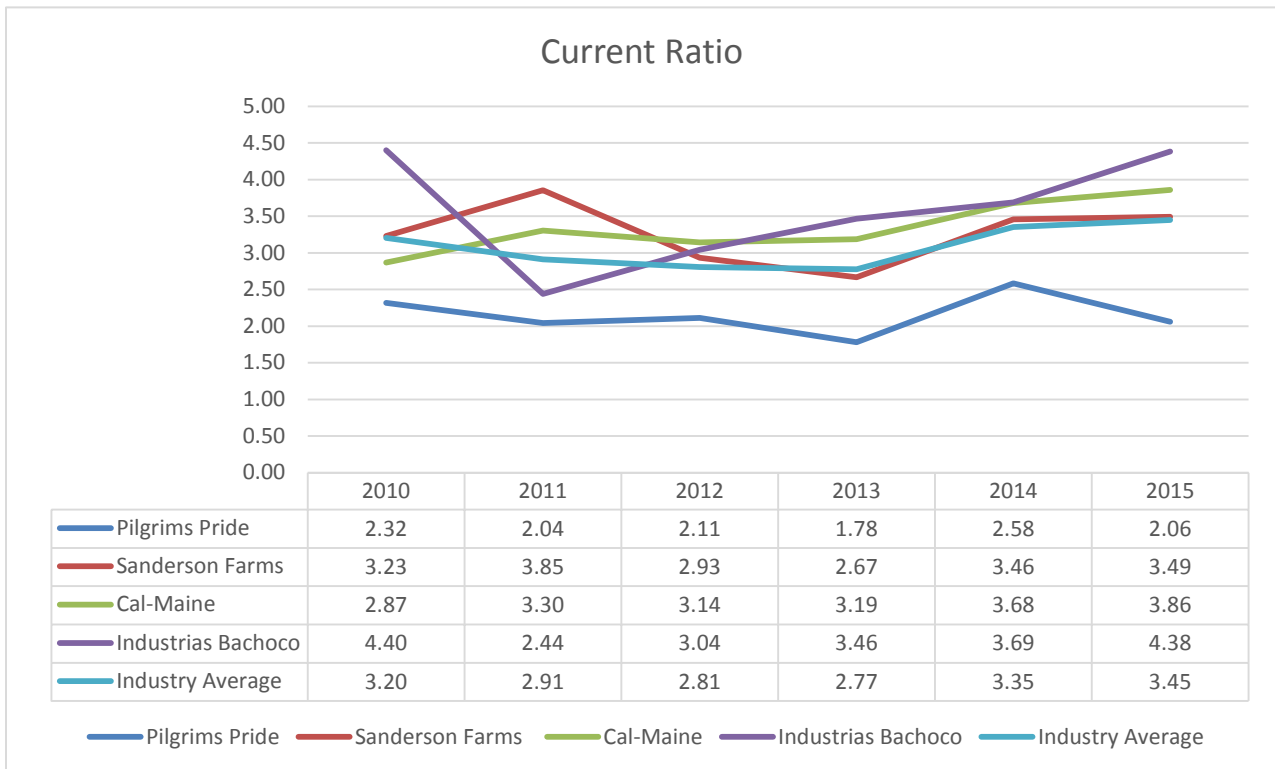


Figure 3-1

All competitors in the shell egg and poultry industry have current ratios above one, with most of them keeping above two for the past years. Cal-Maine is currently the industry leader with a current ratio of 3.86, which is very good for liquidity and puts them in a highly liquid position. Also, the industry appears to move consistently with each other, with every company posting a current ratio above 2 for the current year. This suggests that the industry as a whole would still be able to pay short-term obligations in the event of unusual economic conditions. Specifically in the years 2013-2014 we see an increasing industry wide trend of current ratios. We believe that this is due to lower

volatile ingredient prices, which decreased in these years because of favorable weather conditions.

Quick Asset Ratio

The quick asset ratio is very similar to the current ratio calculation. However, the distinct difference is that the quick ratio does not use the total current assets as the numerator. Instead, only cash and cash equivalents are included, which exclude items such as inventory and prepaid expenses. This ratio gives a better measurement of worse case scenarios, ones where there is large economic downturn, and shows if firms will still be able to cover current liabilities. This ratio is a more conservative look at liquidity since the assets included are only those that can be converted to cash quickly. A higher ratio is better; however, amounts less than one can still be considered non-concerning.

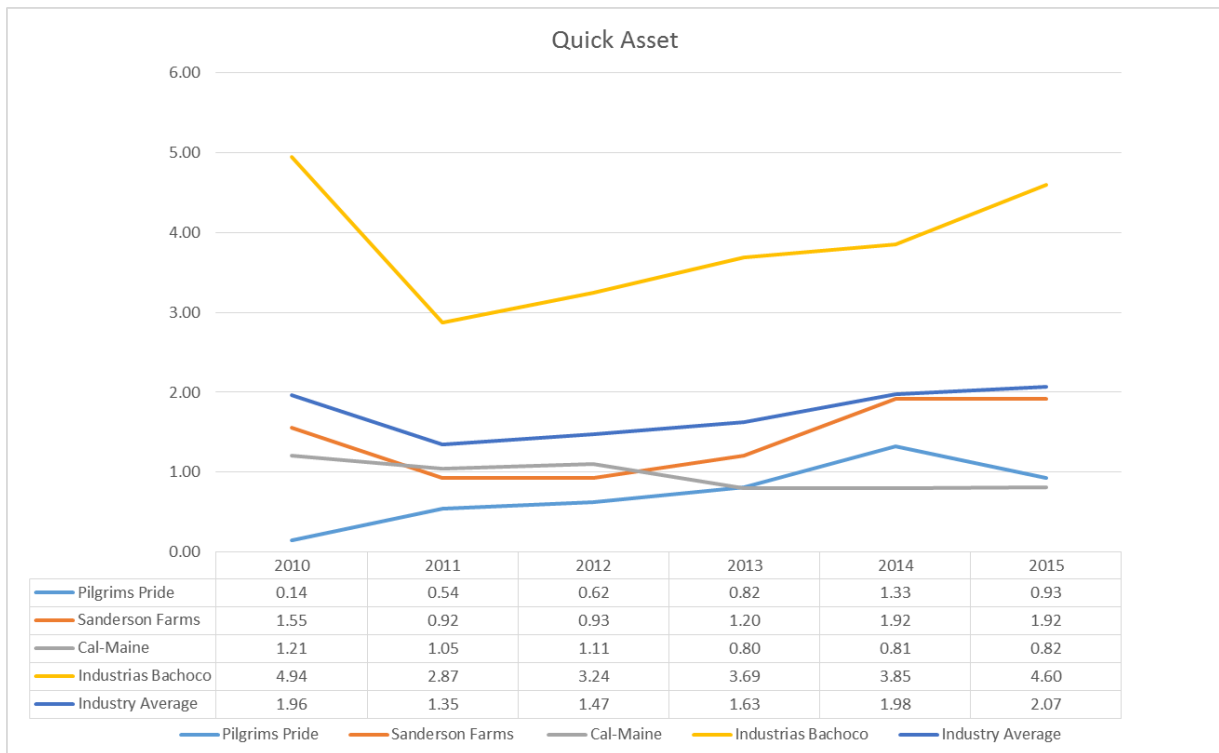


Figure 3-2

There is a large decline from the current ratio to the quick asset ratio due to the fact that companies in the poultry industry keep large amounts of inventory on hand. However, the inventories do not only include product, but also factors of production such as feed, supplies, and livestock. Because the ratio falls under one for Cal-Maine, this raises concerns especially in tough economic times where they might not be able to cover short-term obligations.

Conclusion

Most of the firms in the industry we analyzed are considered liquid firms. In 2015, every firm maintained a current ratio above two, and some even above three. This means that in normal economic conditions, no firm should have problems paying off its current obligations. Quick asset ratios are lower than current ratios across the board but most firms still operate above a one ratio. Cal-Maine and Pilgrim's Pride both have quick asset ratios below one in the current year which can be a cause of concern if large economic downturns occur. Overall, the industry, with the exception of Industrias Bachoco moves consistently in terms of liquidity.

Operating Efficiency Ratios

Operating efficiency ratios measure the efficiency of a company and how well it is able to turn over certain key accounts. We will use inventory turnover, accounts receivable turnover, and working capital turnover. The initial calculations will be followed by another ratio that allows us to look at the actual amount of days it takes to turnover these accounts. We will be using days' supply of inventory, day's sales outstanding, and the cash to cash cycle to determine these. Firms with high levels of efficiency are able to sell inventory quickly and collect money on their receivables faster, thus increasing their liquid assets. Generally, companies with high levels of operating efficiency are linked to have a high level of liquidity because they are able to turnover inventory more often and quickly collect on receivables.

Inventory Turnover

Inventory turnover measures how many times a firm is able to convert its inventory into sales. This ratio is calculated by dividing cost of goods sold by inventory. In the shell egg and poultry industry, inventories turn over more often since these goods can deteriorate over time and may spoil. Higher turnovers are more favorable as they point to a firm's ability to sell its inventory in a timely manner before having to spend unnecessary expenses to help keep the product fresh (or even worse having the product go bad and ultimately not being sold).

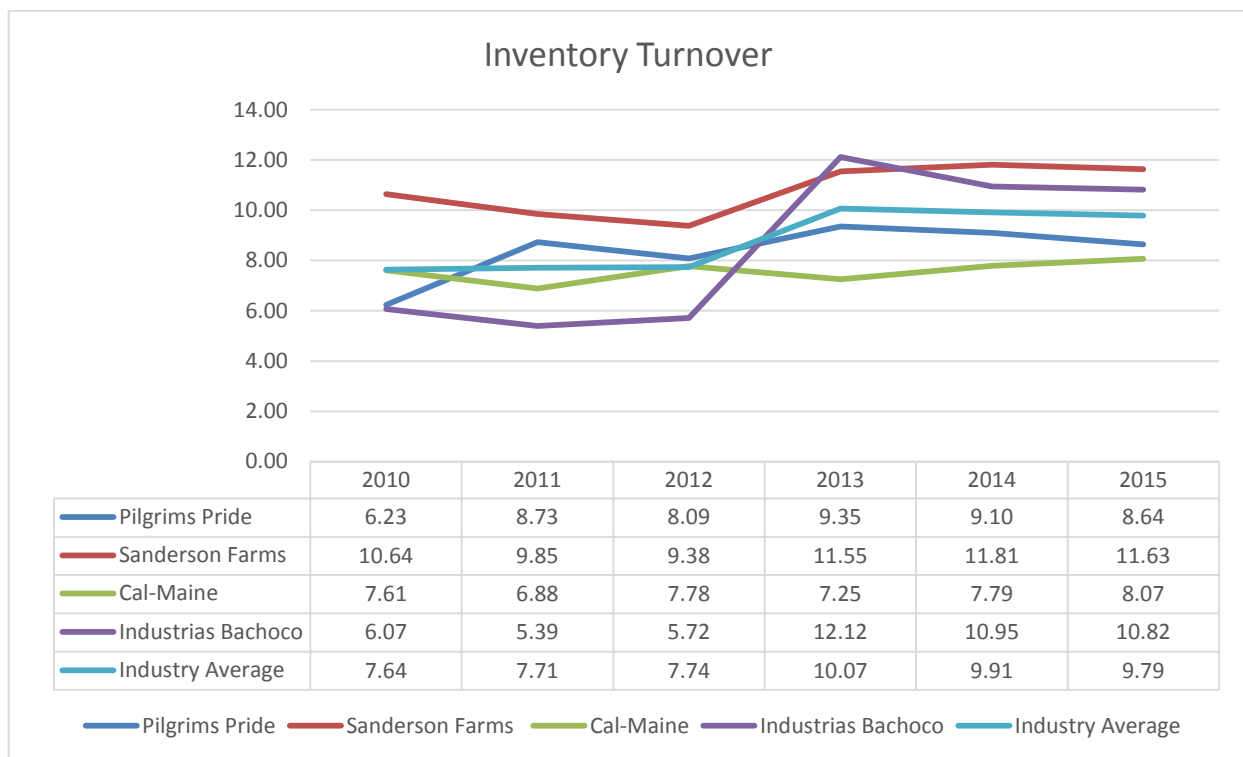


Figure 3-3

Inventory turnover is relatively constant for firms in this industry. The largest range on turnover is about three, occurring in 2015, with Cal-Maine being the lowest in the industry. This can be a cause of concern as lower turnover could lead to lower profitability for the firm. However, since Cal-Maine is the largest firm in their respective industry, they also have a much larger inventory. The size of the Cal-Maine can explain

this lower amount of turnover compared to competitors. Also, the industry is very stable in turnover, with Industrias Bachoco having the largest change in one year, increasing from 5.72 to 12.12 in the years 2012-2013. During this time period, Industrias Bachoco drastically decreased the amount of net inventory held by almost 50%, while posting a higher total revenue from the previous year. However, we believe that this ratio is not entirely reflective on how well a company in this industry is operating, because inventories consists of the factors for production such as feed, supplies, and livestock. For example, Cal-Maine’s shell eggs only represent 10% of their total inventory.

Days Supply Inventory

Days supply inventory is a measurement of the amount of days a firm’s inventory can supply until it must restock new inventory. Inventory for the shell egg industry includes shell eggs, feed supplies, and livestock amounts. This is calculated by dividing 365 by the inventory turnover. A lower amount of days is more desirable as it means a firm is able to sell and renew its inventory more often.

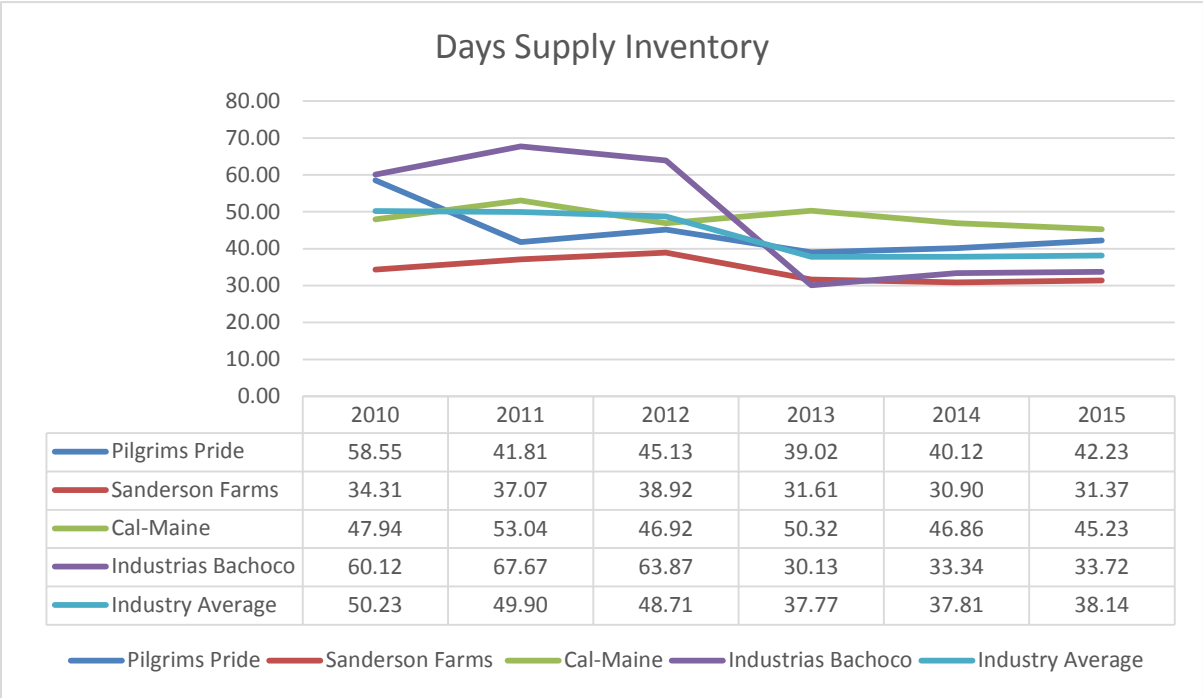


Figure 3-4

Figure 3-4 again shows Cal-Maine as the worst in the industry with a 45.23 day turnover for its inventory. Since this ratio is based off of days' supply of inventory it is not odd that the two come out with similar conclusions. Such a high days supply of inventory can raise some concern because shell eggs are perishable items and have to be sold in a timely manner before they spoil. This is a difficult measurement since it does not only account for shell eggs, but other inventory, so not as applicable of a ratio to shell egg industry since it includes factors needed to produce eggs as well as shell eggs. As a whole, the industry seems to be moving together and only has about a 14-day variance as of 2015.

Accounts Receivable Turnover

Accounts receivable turnover is a measure of a firm's ability to collect on its receivables. A higher ratio is desired since it reflects a company collecting its receivables more frequently. This ratio is calculated by taking total sales and dividing them by accounts receivable. Since shell eggs are sold to retailers, it makes sense that a lower ratio would mean the firm is able to be paid by retailers faster.

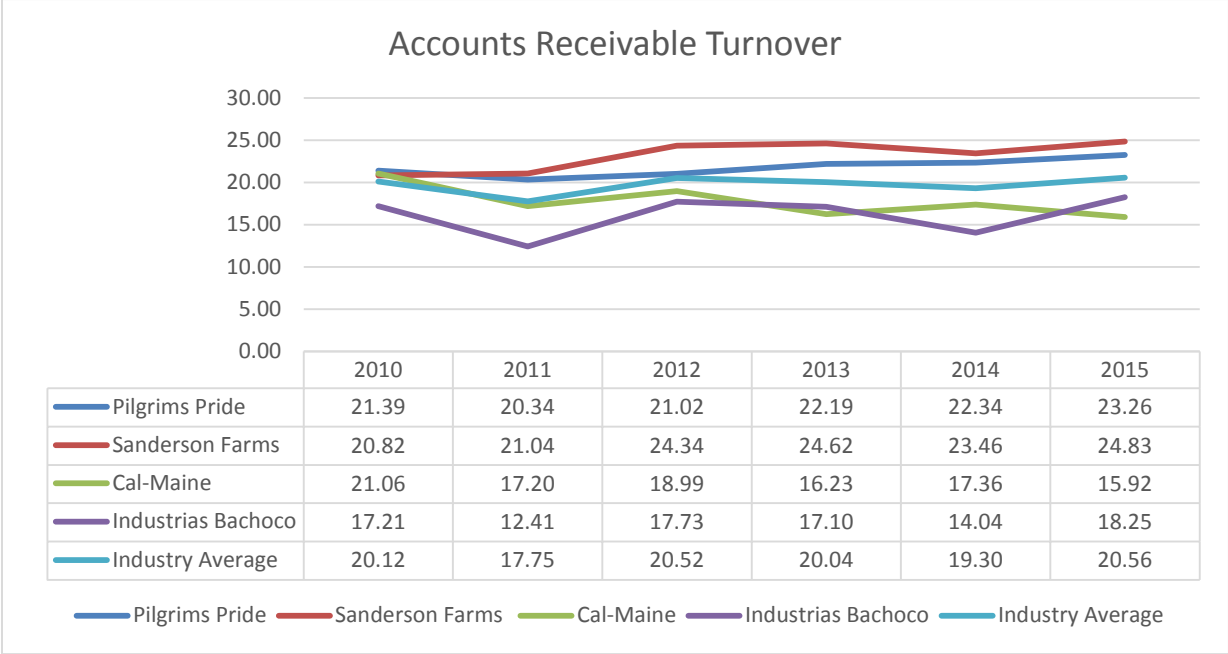


Figure 3-5

As with inventory turnover, Cal-Maine is again one of the lowest firms in the industry. Their receivables turnover about 16 times a year, compared to the industry average of 21.34. This decreased turnover can be explained by Cal-Maine being a supplier to large retailers such as Wal-Mart and Sam’s Club who purchase shell eggs on large accounts and are slower to pay their accounts than smaller retailers are. During the fiscal year of 2015, 4 large retailers contributed to more than 50% of Cal-Maine’s total sales. However, currently Cal-Maine is behind the industry average turnover rate by about five. The low turnover rate and the increased time to collect on accounts raise concerns because it decreases the firm’s liquidity, cash on hand, and can mean they either have poor collection processes or customers with financial difficulties.

Days Sales Outstanding

Days sales outstanding is similar to day’s supply of inventory, in that it measures how many days it takes a company to collect on its accounts. This calculation is done by dividing 365 by accounts receivable turnover. A fewer amount of days to collect is more desirable for this measurement.

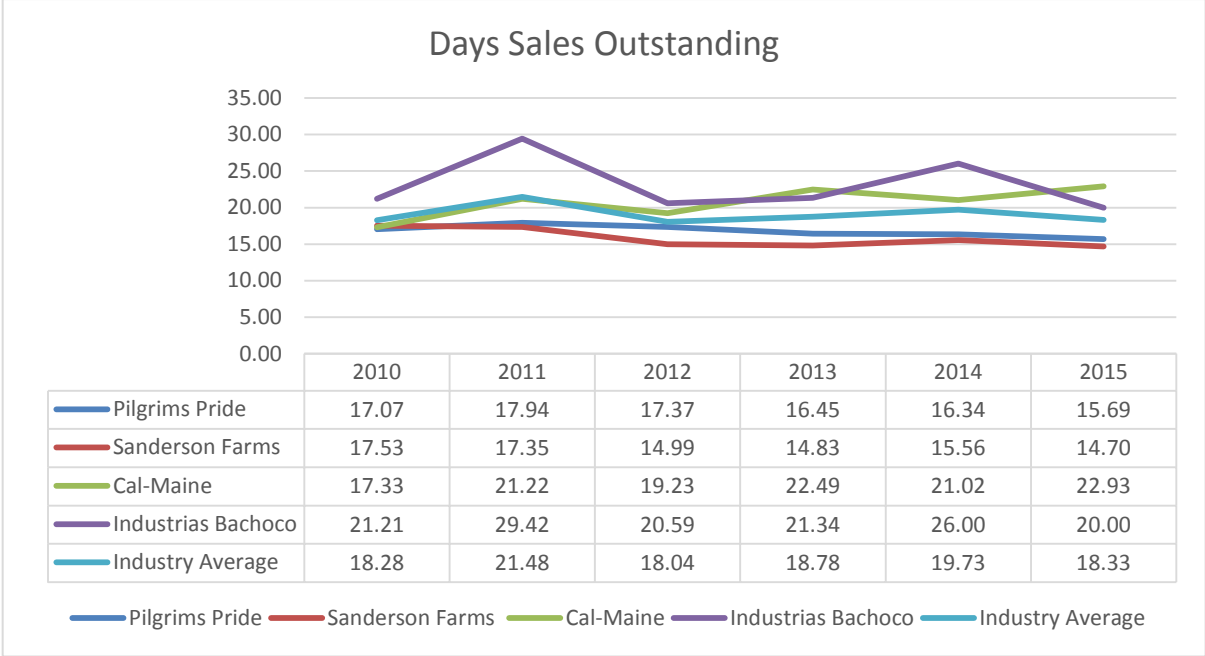


Figure 3-6

Reflecting the same conclusions as accounts receivable turnover, Cal-Maine is currently lagging behind other competitors in the industry. Cal-Maine takes about 23 days to collect on accounts whereas the industry average is closer to 18 days. This results in nearly a one-week difference in collections, where Cal-Maine will collect once a month, the average firm would collect twice. This is a cause for concern like above, as it reflects Cal-Maine taking increased time to receive payments. The industry as a whole has a much lower day sales outstanding than most other industries. For example, the clothing industry takes about 55 days and the chemical industry takes about 50 days. We believe that the lower ratio of the poultry industry is caused by the nature of the business on both the retail and supply sides. The products sold are perishable, therefore suppliers (i.e. Sanderson Farms) have to sell their products quickly to a retailer (i.e. Wal-Mart) who then have to sell the product quickly as well. This creates an almost never ending cycle of transactions between the two companies, which results in money being paid back faster in order to keep their lines of credit.

Cash to Cash Cycle

The measurement of a firm's cash to cash cycle measures how long it takes a firm to convert cash from a non-cash account, inventory and accounts receivable, to a cash account. This is calculated by take the days' supply outstanding and adding it to the days sales outstanding. A lower number of days for a cash to cash cycle is better and reflects a more efficient firm.

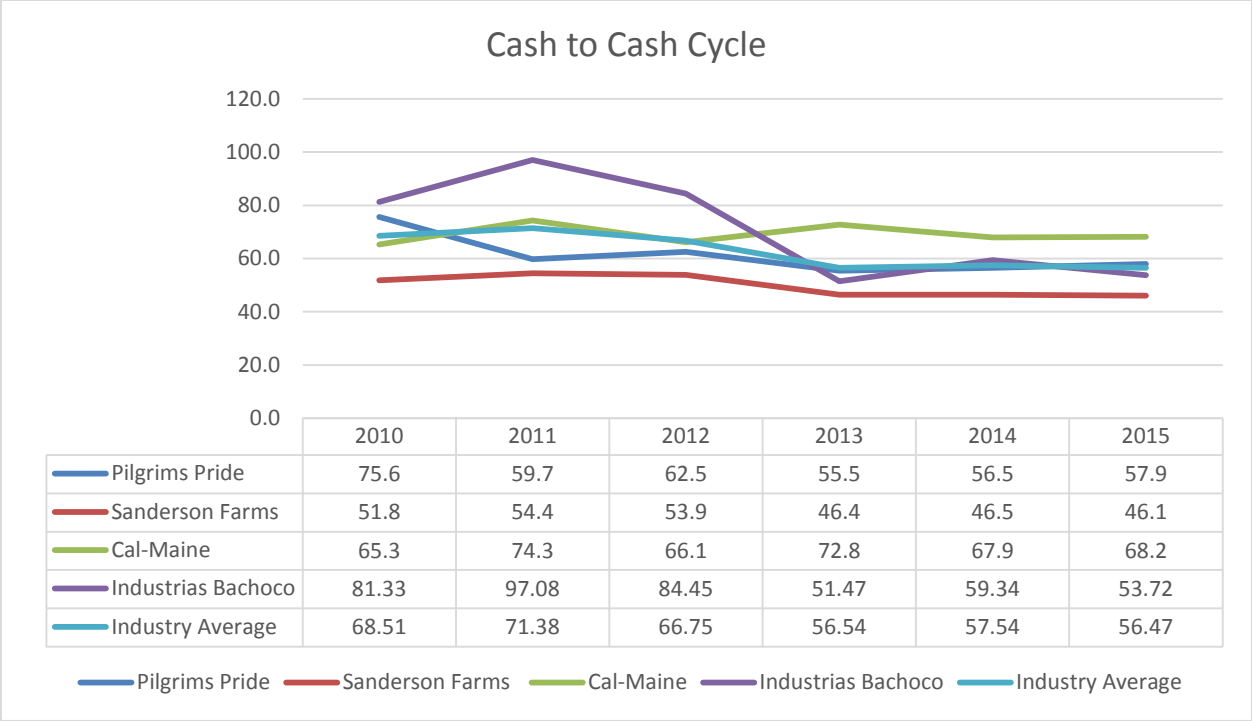


Figure 3-7

Since 2013 the values for this cycle have been very consistent, Cal-Maine consistently taking the longest to collect, Pilgrim’s Pride nearly mirroring the industry average, and Sanderson Farms leading the industry. This conclusion fits with the previous measures that Cal-Maine takes the longest out of all firms to collect on accounts and to turn their inventory. However, since there is such stability over the past years, this can be explained by firm size. Larger firms such as Cal-Maine take longer to turn their larger inventory and collect on their larger accounts, while smaller firms such as Sanderson Farms are able to quickly turn their relatively smaller inventory and frequently collect on accounts with smaller retailers.

Working Capital Turnover

The working capital turnover is a measure of how efficient a firm is able to utilize its working capital to create sales. Working capital is measured by current assets minus current liabilities, and turnover is calculated by dividing net sales by working capital.

Firms want higher turnover amounts, meaning that they are able to generate larger amounts of sales with their operations.

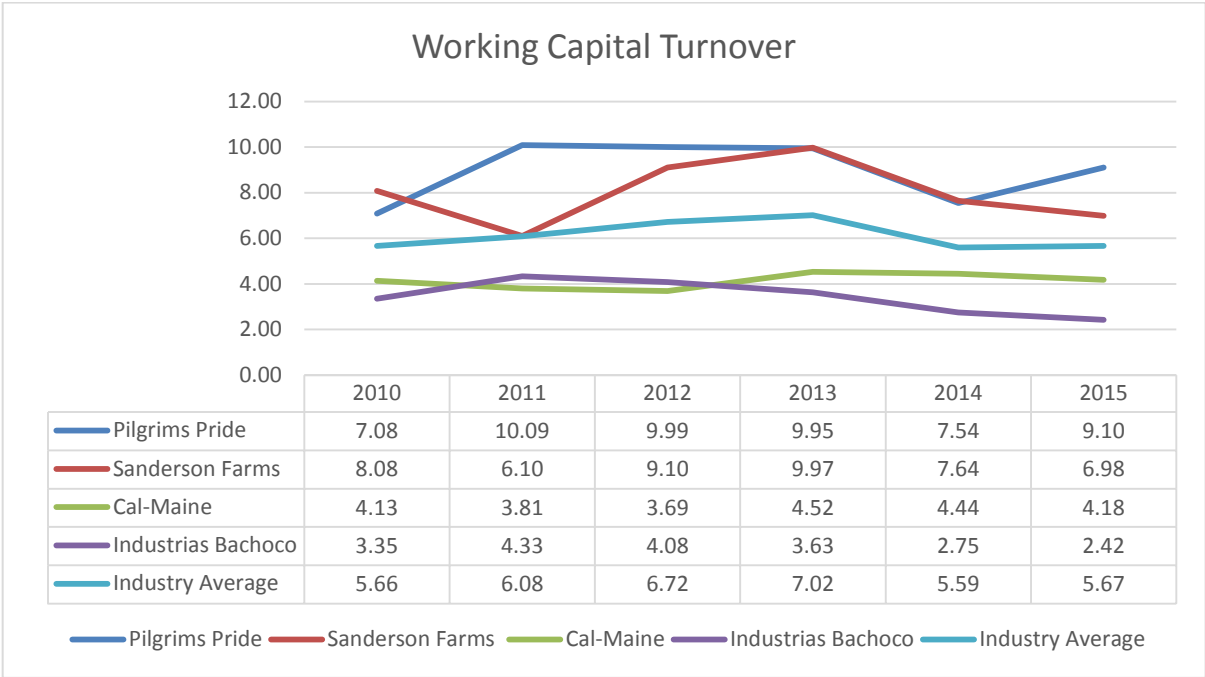


Figure 3-8

Cal-Maine lags behind in this area as well, creating less sales for their amount of working capital. The industry overall does not seem to be converging on any value either, so firm size may also be a factor in this ratio. Looking further into Cal-Maine’s financials we discover that they have very large current asset accounts and very little short-term obligations to satisfy. This allows us to conclude that working capital turnover may not be a good measure to compare the firms in this industry.

Conclusion

In terms of operating efficiency, we will consider all other ratios besides working capital turnover. The reason for this is that differences in capital structuring between large and small firms has a large impact on the amount of working capital available and skews the ratio. We concluded that the bargaining power of the consumer is high because of the fact that the product is perishable; therefore the suppliers are forced to sell their

inventory in a timely manner before it spoils. This is shown in the low amount of days sales outstanding, customers are able to frequently purchase shell eggs on account because suppliers have a limited time to sell the product before it goes bad. From inventory and accounts receivable turnover we conclude that Cal-Maine is the least efficient firm and Sanderson Farms is the most efficient firm in the industry. Sanderson Farms has the highest turnover rates and the lowest days sales and days supply of inventory amounts out of any company. Further, we conclude that the industry has been very stable in all of these areas over past years.

Profitability Ratios

Profitability ratios measure how successful a company is able to turn its sales into profits. The following ratios will be presented as a percentage of sales and also as a rate of return on assets and equity. High profitability ratios are a good indication that firms will be more likely to survive in the long term.

Sales Growth

Sales growth is calculated by making a percentage change from the prior year's sales to the current year's sales. This is done by dividing the previous sales by the current sales and then subtracting one to get a percentage. The sales growth percentage indicates the increase in total revenues from the year prior, and gives us insight as to whether the company has the ability to sustain its operations long term.

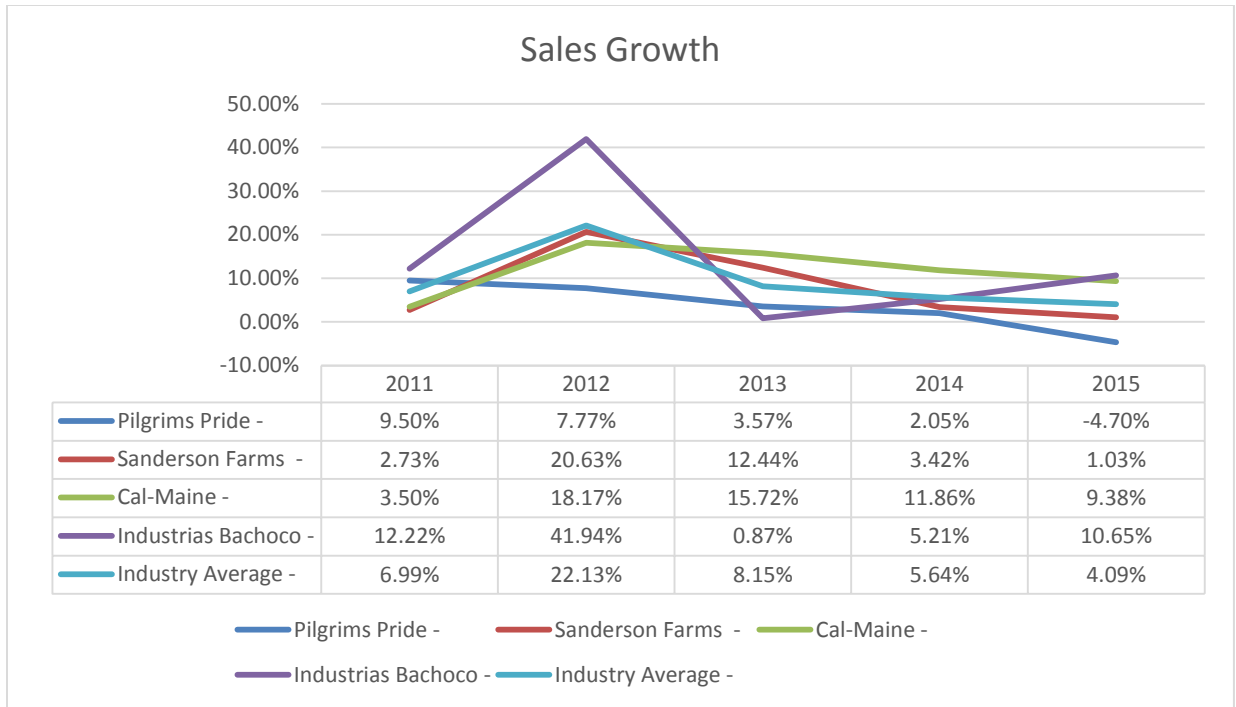


Figure 3-9

The data in the chart above shows the sales growth percentages over the past five years. Cal-Maine has been leading the industry since 2013 with sales growth of 15.72%, 11.86%, and 9.38%. Over this time there is also a trend of sales growth decreasing over time after the spike in 2012. This trend is consistent for all firms except Industrias Bachoco, located in Mexico. Overall, the industry also rose and fell together over the past years with the exception of Pilgrim's Pride which has been steadily declining. There appears to be large trends in regard to sales growth in the industry.

Gross Profit Margin

Gross profit margin is a calculation used to determine how much of sales a firm is able to retain after accounting for cost of goods sold. This profitability ratio reveals the basic product profitability of a firm. For the poultry industry, this mostly accounts for feed costs, but there are some other factors as well. This margin is measured as gross profit divided by sales. A higher gross profit margin reflects a firm's ability to minimize input costs or raise prices.

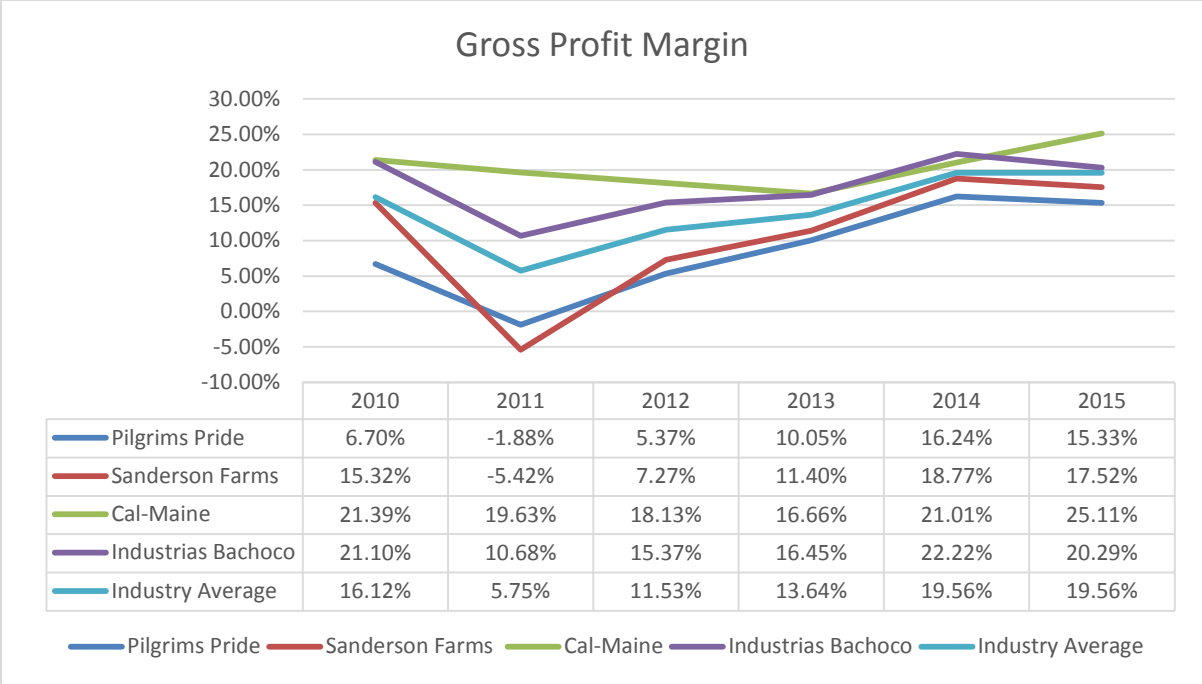


Figure 3-10

Again, there is high industry consistency with gross profit margin. All companies fall and rise in the same years, although by different amounts. Cal-Maine is no exclusion to this even with their large size, since feed costs affect all companies in the industry. The recent increase in Cal-Maine’s gross profit margin can be attributed to recent low feed costs as well as increased egg selling prices. As for the recent gross profit margin decline of the other firms in the industry, this can be attributed to the recent Avian Influenza outbreak in the upper Midwestern United States the spring of 2015. Because it affected a vast majority of the upper Midwest, Cal-Maine did not report any cases of the Avian Influenza due to most of their facilities being located in the Southeastern region. Cal-Maine has been able to maintain the highest gross profit margin in the past and does so currently, only dropping below Industrias Bachoco in 2014. Cal-Maine is in a very good position in regards to this margin, leading the industry by 5%.

Operating Profit Margin

Operating profit margin is calculated similarly to gross profit margin, by dividing operating income by net sales. Higher operating profit margins reflect firms that are

able to minimize operating expenses and retain a greater percentage of their sales as income.

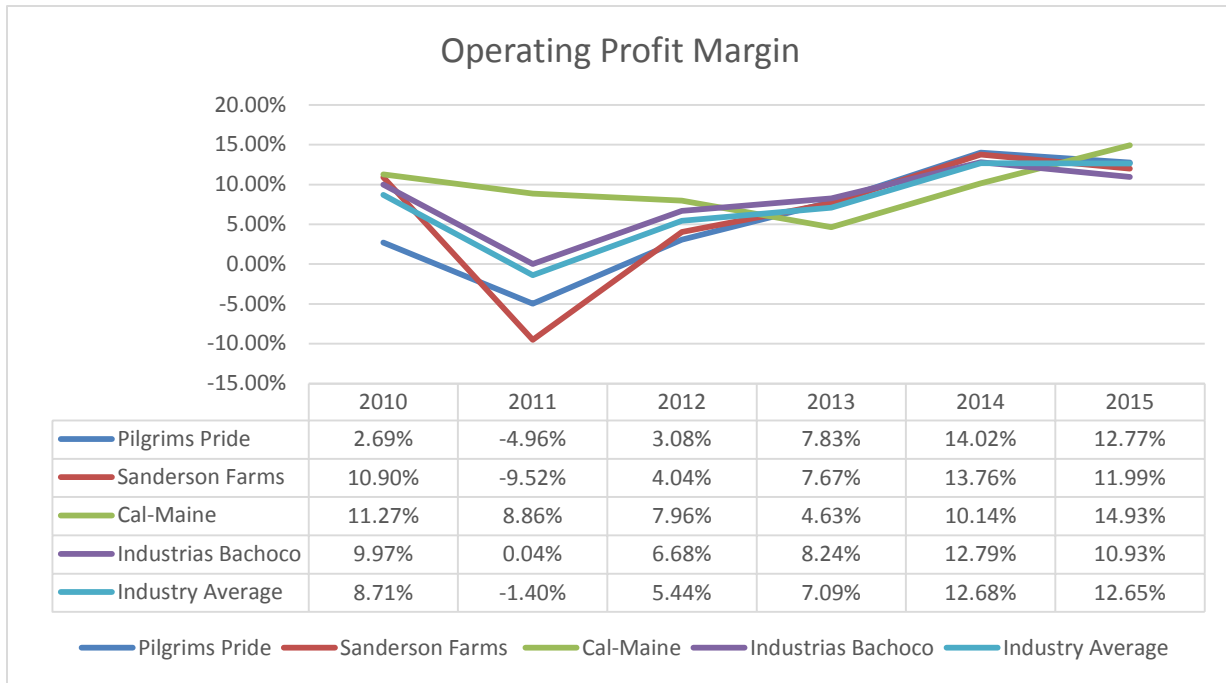


Figure 3-11

This margin is very consistent across all firms in the industry currently. All competitors are within 2-3% of each other for this margin and move the same over years. From 2010-2011, Cal-Maine was leading the industry by a large margin, but over time this margin has declined greatly and become much more stable as well. In 2011 there is a significant decline amongst the entire industry which is the result of a rapid increase in feed costs across the entire nation. Though, for Cal-Maine 2013 was an anomaly; they were settling a legal settlement during that year.

Net Profit Margin

The last margin we will look at is net profit margin. This is calculated by taking net income divided by total sales. Net profit margin represents the percentage of sales that a firm is able to keep and pay out as dividends or keep as retained earnings after all other expenses have been paid. Larger margins for net profit are more desirable as with all previous margins.

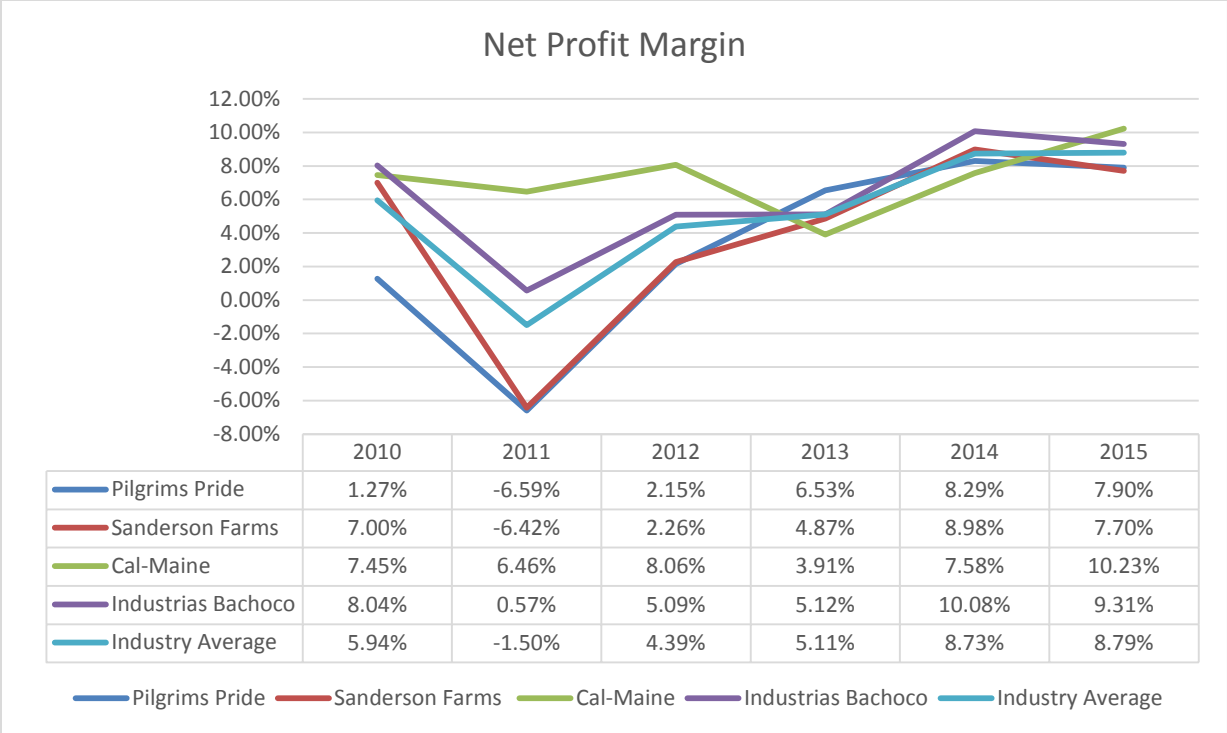


Figure 3-12

Net profit margin shows the same conclusion that operating profit margin does. Cal-Maine led the industry from 2010-2012, but eventually dropped to a level similar to all other firms. There was a large decrease in 2011, similar to previous years, where all firms, except Cal-Maine, fell a great deal in regards to this margin. Doing some research into this consistent drop in all three margins, we discovered that in 2011 there was a rapid increase in feed cost, as well as some of the after effects of the financial crisis. These two factors caused a major economic downturn for the poultry and shell egg industries. However, in 2012 the industry began to bounce back because of the USDA buying \$40 million dollars' worth of chickens from producers and giving them to companies in these two industries. These events explain the large downturn and increase over these two years. Currently the industry has been moving consistently between all firms, with Cal-Maine doing slightly better in 2015.

Asset Turnover

Asset turnover is the ratio of a company's sales produced relative to value of their assets. It indicates how productive assets are in generating sales. For this ratio we will use a lagged ratio as well, which makes our formula utilize net sales of the current year divided by total assets of the previous year. This change allows us to analyze how productive assets are that are already owned, and not those acquired during a given year. A higher turnover implies that a company is generating more dollars' worth of sales per dollar of asset.

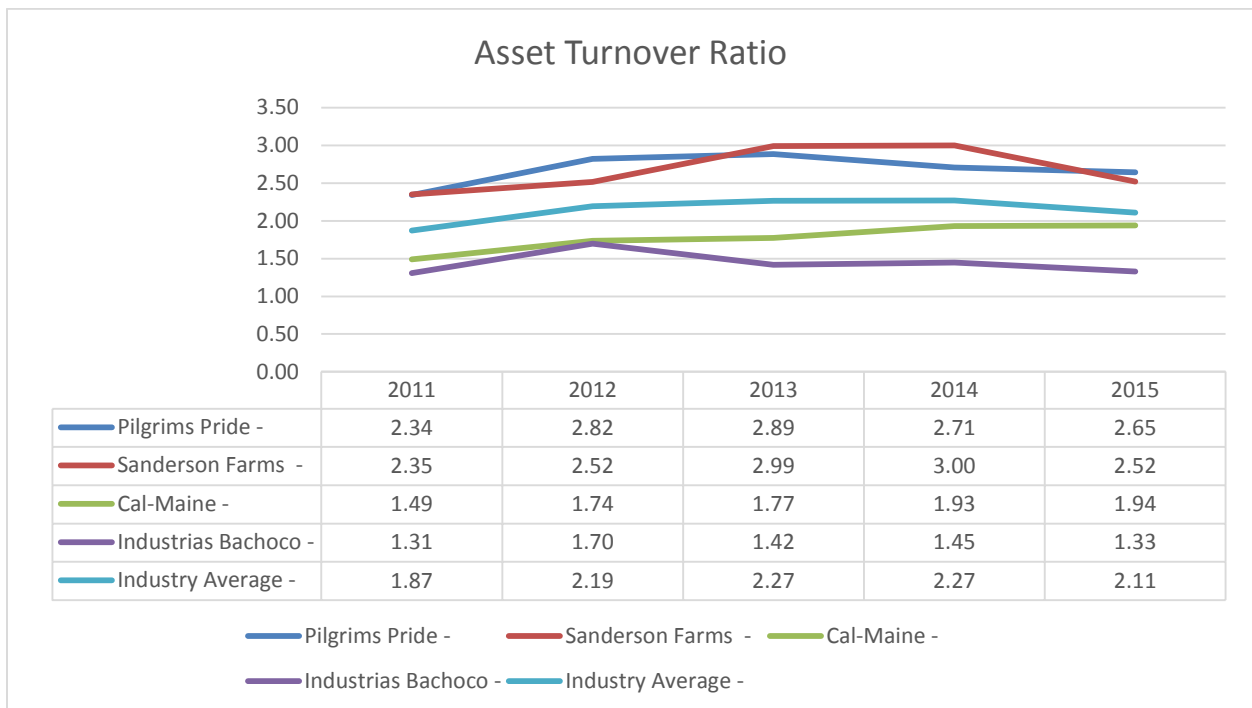


Figure 3-13

Cal-Maine has consistently been beneath the industry average over the past years. The market segmentation that we see from the data shows Pilgrim's Pride and Sanderson Farms well above the industry average with Cal-Maine and Industrias Bachoco consistently below. This is caused by each firm's involvement in different sectors of the poultry industry. Cal-Maine and Industrias Bachoco are primarily egg producers and have higher total assets because they include all of their laying hens in their inventory. While Sanderson Farms and Pilgrim's Pride focus on the meat sector of the industry,

they report lower assets in comparison because they are forced to kill their inventory to generate profit.

Return on Assets

Return on assets (ROA) is a measure of the profitability of a firm in relation to its total assets. Although it is similar to asset turnover, this ratio gives us an idea on how efficient management is at using its assets to generate earning, by measuring how much income is generated per dollar of asset.

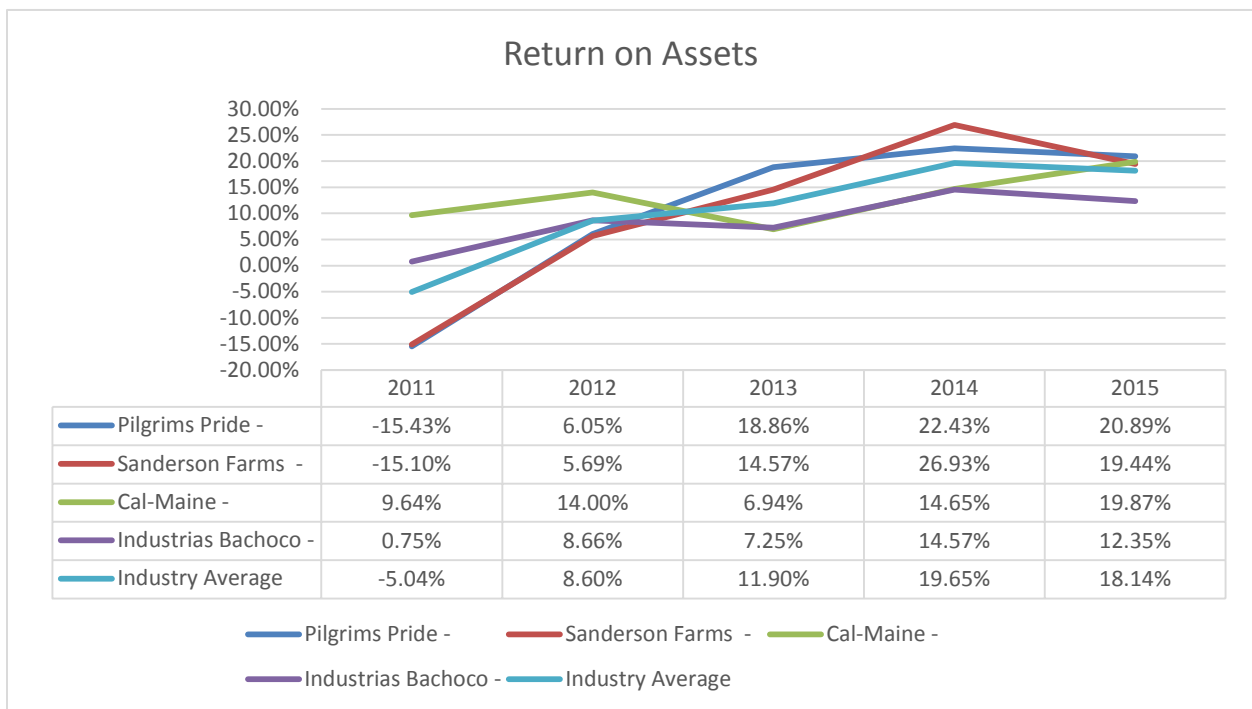


Figure 3-14

Return on assets has been a converging percentage over recent years. All firms are approaching values around 20% and only vary by about 1%. Cal-Maine and Industrias Bachoco appear to be growing to this amount, while others like Sanderson Farms are falling to this percentage. There is a growing industry trend after the year of 2012 due to a climb in shell egg prices. This increase in price results in a higher net sales for the firms, which is in correlation with the ROA. The industry overall seems to be very stable and consistent at 20% return on assets.

Return on Equity

Return on Equity (ROE) is a measure of how much net income a company generates in relation to its stockholders' equity. ROE provides a good indication of the firm's profitability by revealing how much profit is generated with the money that shareholders have invested. The ratio is calculated by taking net income and dividing it by total shareholder's equity. It is also lagged, similar to the previous two. A higher return on equity is desirable as it represents firms using their equity more efficiently and generating a higher return as a result.

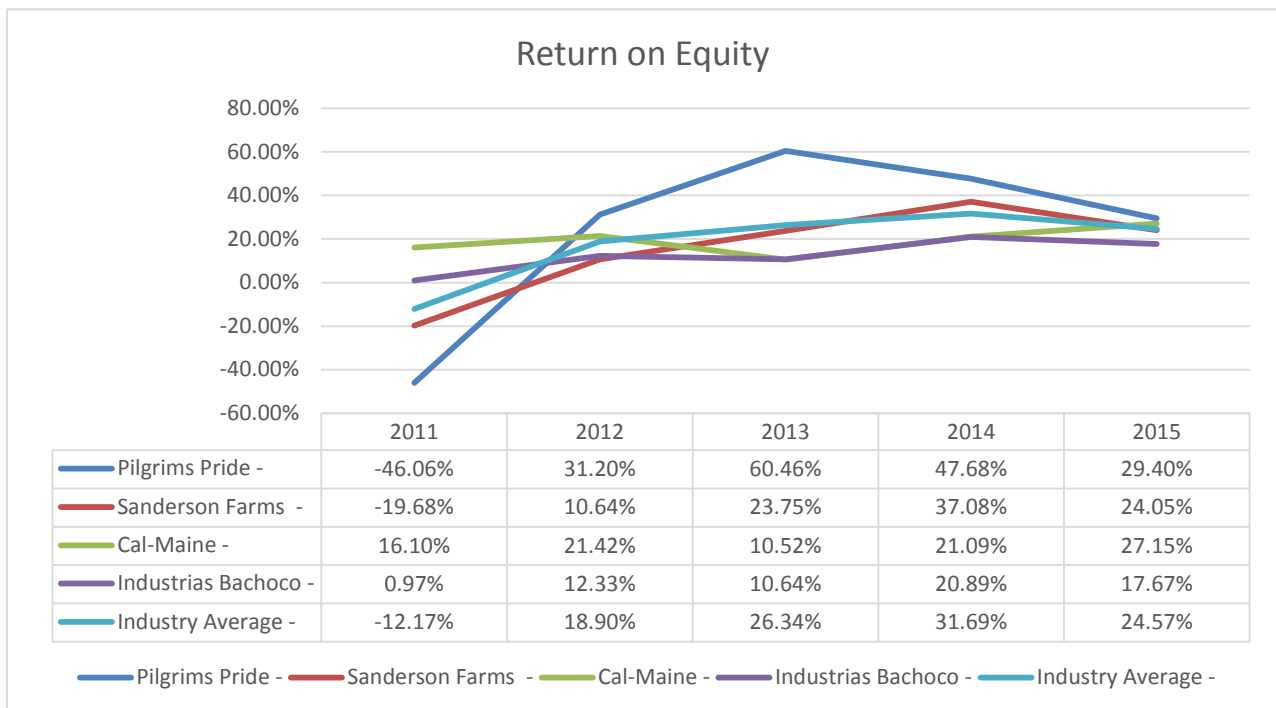


Figure 3-15

Overall the industry has been converging on a 27% return on equity. As stated earlier, the 2012 industry wide increase in ROE is a result of the large increase in shell egg prices during that year. Aside from Pilgrim's Pride who made a large return and then decreased down to this level, most firms have been steadily rising over time and moving consistent with one another.

Internal Growth Rate

The internal growth rate is a calculation to discover what level a firm is able to grow at without relying on additional debt financing. The internal growth rate is calculated by using the following formula: $ROA * (1 - \text{Dividend Payout Ratio})$. A high internal growth rate indicates a firm's ability to utilize internal resources in order to grow and gain value.

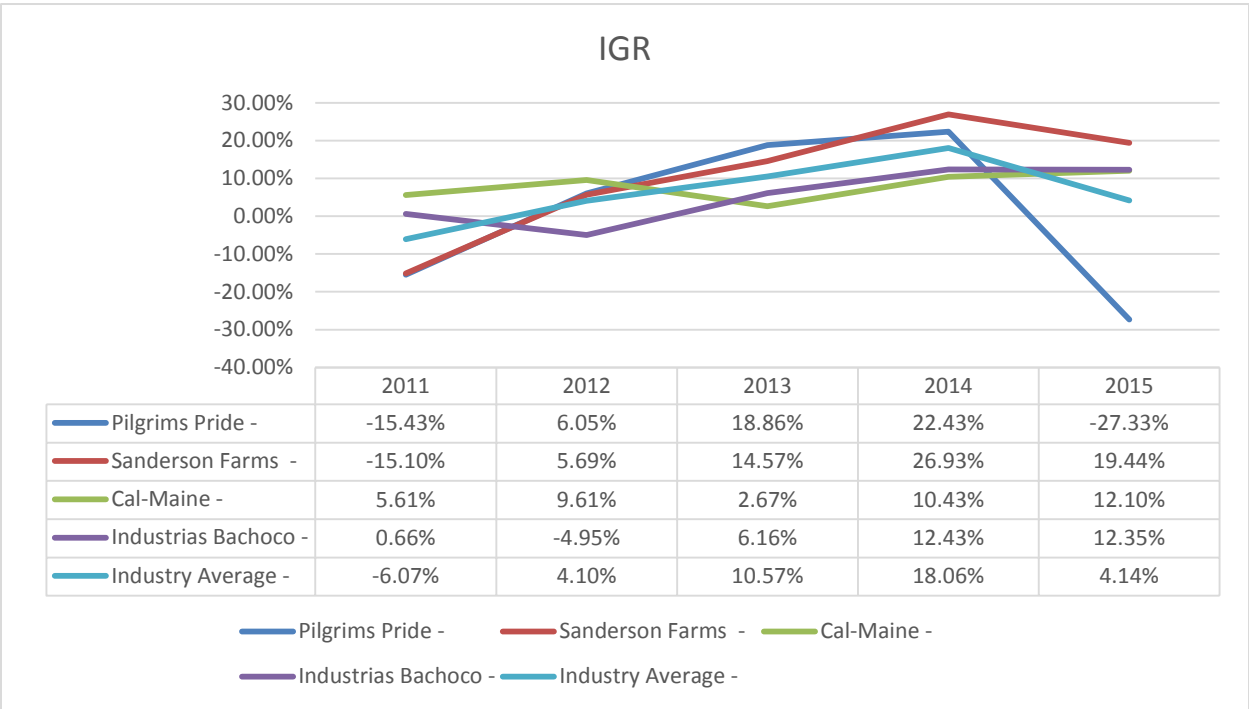


Figure 3-19

In the past, all companies' internal growth rates have been growing consistently with each other. However, in 2015 all firms diverged from one another. Sanderson Farms currently has the highest growth rate with Cal-Maine trailing them by 7%. During the years 2012 through 2014, Cal-Maine experienced an 8% decrease, and then rises back up again. This decrease is due to the nearly 40% increase of the dividend payout ratio which causes the internal growth rate to lessen. In the year 2014, Cal-Maine decreased their dividend payout by another 40% which caused the internal growth rate to rise back up again. Although these are generally inversely related, in 2015 we see Cal-Maine increase in both the dividend payout ratio and internal growth rate. This is a direct

result of a 5% increase in the return on assets (ROA) due to net sales rising by roughly \$130 million from the previous year.

Sustainable Growth Rate

The sustainable growth rate formula assumes a constant debt to equity ratio and represents how quick the firm has the ability to grow without taking on additional financial leverage. Assuming a constant debt to equity ratio implies that as firms grow, their debt may only increase at the same rate as their equity. The formula for the sustainable growth rate is the following: $(IGR) * (1 + Debt/Equity)$. The value for Debt/Equity is lagged, which means that it is taken from the previous year to show that they are not increasing their leverage (i.e. more debt).

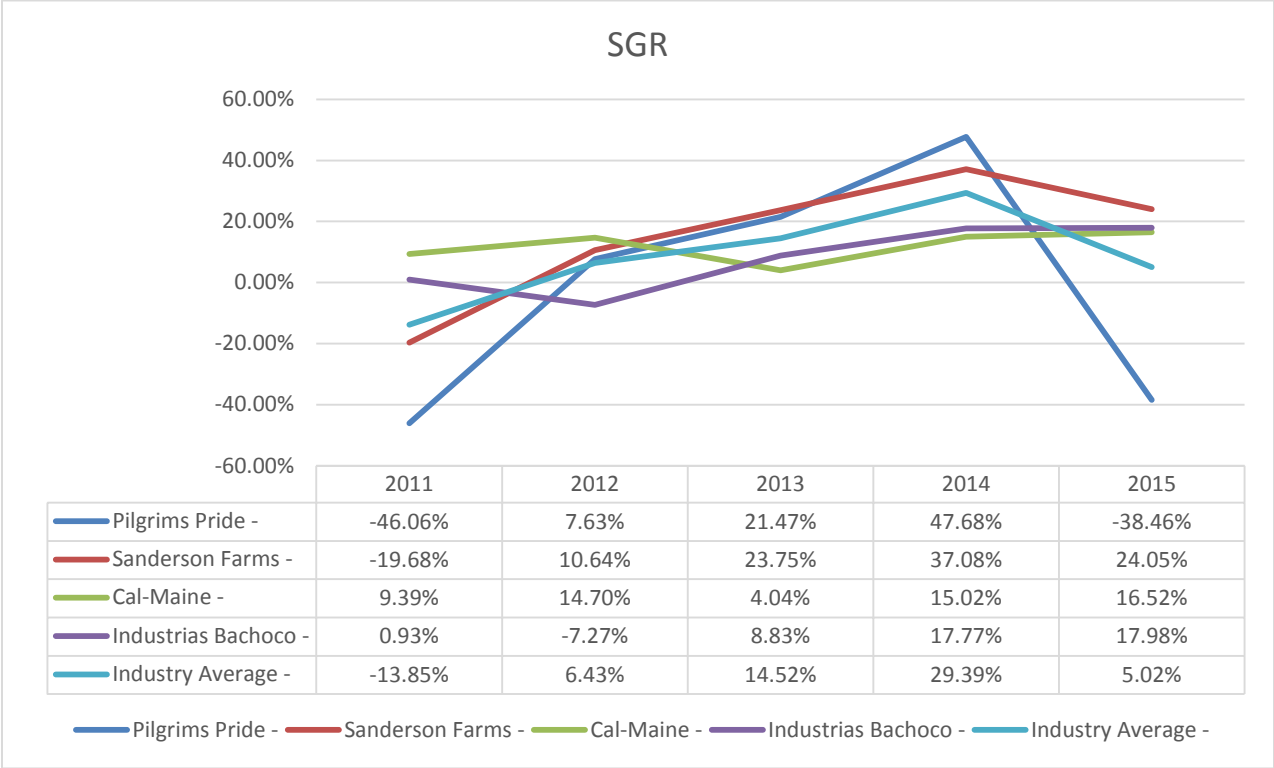


Figure 3-20

Sustainable growth rate follows the same trend as internal growth rate. All companies were increasing over time until 2015, when there became large differences between firms. Sanderson Farms still leads the industry in this growth rate with Cal-Maine again following closely behind. This puts these two firms in an even more favorable position for growth over the coming years, and growth greater than the industry average

Conclusion

Cal-Maine has been consistently beating the industry and all other competitors in every margin we measured. Cal-Maine also lags behind in their asset turnover, and is very close with other firms in ROA and ROE calculations. In conclusion, Cal-Maine does not generate as many total sales per asset as others, but they do retain higher percentages of their sales into gross profit, operating income, and net income. This combined with generating similar returns to the market leads to the conclusion that there is no cause for concern in the area of profitability for Cal-Maine.

Capital Structure Ratios

Capital structure ratios are a way of determining how a company funds its assets, by either using debt or equity. Capital structure refers to the mixture of debt and equity a firm possesses to finance total assets. Larger amounts of debt financing lead to higher interest expenses for a company and therefore cause it to be increasingly riskier than a firm that contains less debt. This increase in risk causes firms to generally have a higher cost of equity than cost of debt because equity has a residual claim during bankruptcy proceedings, debt is paid first and equity is paid whatever is left. The capital structure ratios we will utilize include debt to equity, times interest earned, and Altman's Z-score.

Debt to Equity

The debt to equity ratio is a calculation of the amount of debt a company holds relative to their amount of equity. It is calculated by dividing the total liabilities by the book value of the shareholder's equity. This ratio measures a firm's capital structure, and the larger the ratio the more leverage the firm has. A highly levered firm is more risky from

holding increased debt and should generate a higher return for their equity holders as a result.

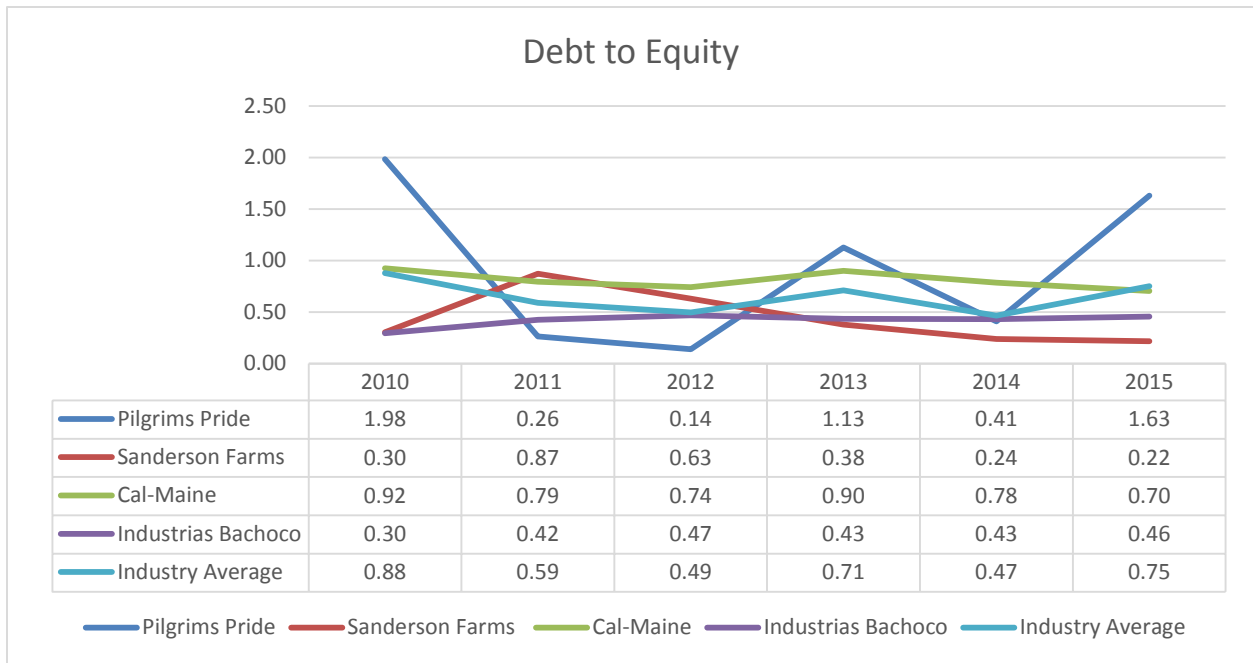


Figure 3-21

For the shell egg and poultry industry there appears to be no consistent capital structure that all firms are converging at. Pilgrim’s Pride appears to be very volatile in their capital structure, skewing the average. It is notable that Cal-Maine has remained relatively consistent with their capital structure compared to their competitors. Cal-Maine varies from 0.7 to 0.92 over the past years which is much more stable than other firms, and it is less than one meaning the firm’s total equity outweighs its total debt. This consistency of the ratio being valued lower than 1 shows that Cal-Maine has low leverage, making it less risky compared to other companies such as Pilgrim’s Pride, who has a ratio of 1.63.

Times Interest Earned

Times interest earned measures how easily a firm is able to cover its interest payments as they come due. This ratio is computed by dividing operating income by the interest expense of the corresponding year. A higher ratio relates to a firm being able to cover

its interest expense by a greater amount, and that a firm will be able to receive funding from banks more easily.

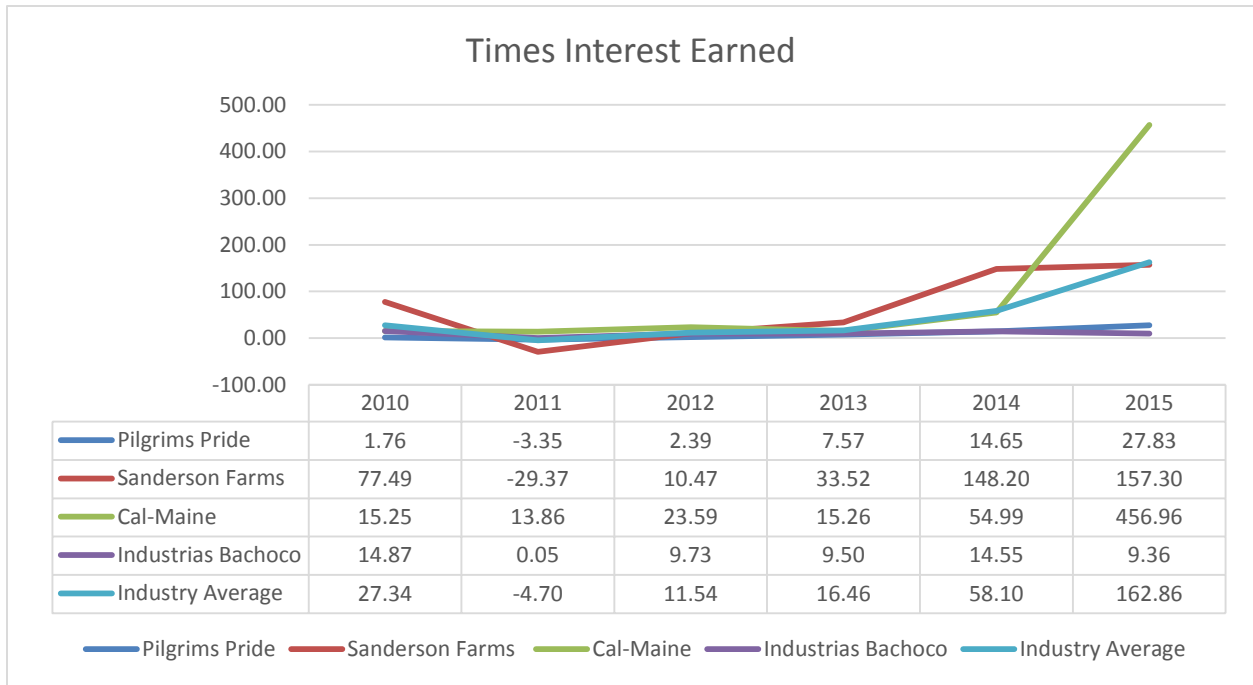


Figure 3-22

From 2010 to 2013, the industry was relatively consistent in this ratio. In 2012, we begin to see all firms with positive ratios because in the same year egg prices began to significantly rise and therefore increasing operating income for all producers in the industry. In the following years, the industry trend started to diverge, and in 2015 Cal-Maine was the leader by about 250 times. This means that Cal-Maine can cover its interest expense nearly 250 more times than the industry average, a very desirable place for a firm. This divergence in 2015 shows Cal-Maine in a leading position.

Altman’s Z-Score

Altman’s Z-Score is based on five different ratios that are multiplied by a factor and then added together. This equation describes the credit quality of a firm, and its likeliness of falling into bankruptcy. The equation is as follows:

$$Z = 1.2 \left(\frac{\text{Working Capital}}{\text{Total Assets}} \right) + 1.4 \left(\frac{\text{Retained Earnings}}{\text{Total Assets}} \right) + 3.3 \left(\frac{\text{EBIT}}{\text{Total Assets}} \right) + 0.6 \left(\frac{\text{Market Value of Equity}}{\text{Total Liabilities}} \right) + 1.0 \left(\frac{\text{Sales}}{\text{Total Assets}} \right)$$

Equation 3-1

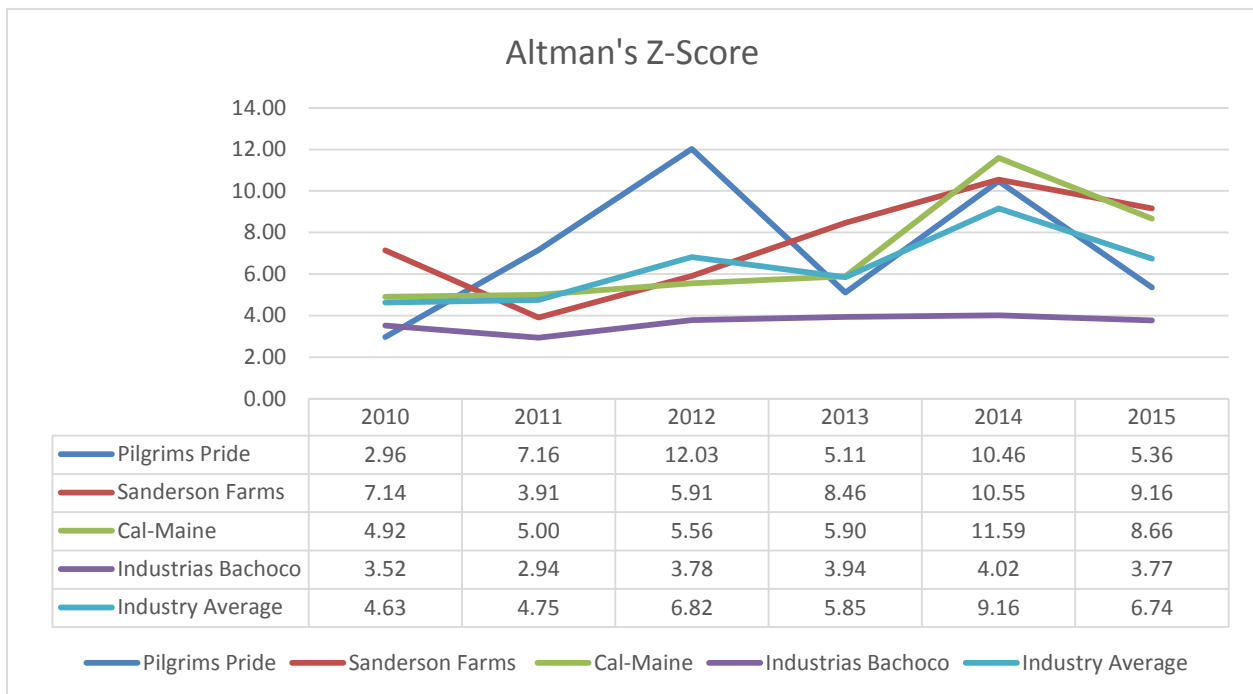


Figure 3-23

A score of 1.81 or below concludes that a company is likely heading towards bankruptcy soon. A score above 3 signals that a firm is not likely to fall into bankruptcy. There is little to no consistency over time, with some consistent rise and fall between firms in the industry, but not all. However, neither Cal-Maine, nor any of their industry competitors, are in danger of bankruptcy by this calculation.

Conclusion

There is no industry standard or converging amount of debt that firms in the shell egg and poultry industry are converging to. There was some consistency in the industry prior to 2015, but in the past year firms have made some different changes to their capital structure creating large differences in growth rates. Cal-Maine is mainly focused on equity financing with their current debt to equity ratio of 0.7. The times interest earned ratios presented an industry trend for all of the years, with an industry increase in 2012 due to a significant increase in shell egg prices. There is also no concern of bankruptcy for Cal-Maine as they cover all of their interest expense by large amounts and their Z-score is well above 3. Cal-Maine, therefore, does not present any capital structure concerns and are looking to grow at high rates over the next few years.

Financial Forecasting

Financial forecasting of the three major financial statements is a very important step when valuing a firm. These forecasts are based on assumptions made using previous year's data, along with industry trends. We also take into account the ratio analysis done in the prior section to aid in determining accurate estimated values for the statements. Our forecasts are for a ten-year horizon, going until the year 2025. However, it should be understood that forecasting out financials for ten years with complete accuracy is unreasonable. Our analysis and forecasts will reflect what we feel is the most likely and accurate scenarios to occur over the following years. We will start our forecasting with the income statement, and then continue on to the balance sheet, and finally end with the statement of cash flows.

Income Statement

To begin forecasting, we started with sales growth. Cal-Maine is experiencing a slowing growth rate in sales. They had a large spike after the USDA helped the industry during

the tough economic conditions set on by the Avian flu and financial crisis. However, for our forecasting purposes, we will not assume that this is a regular occurrence. Instead, we will rely on the past data where Cal-Maine, and the industry, has been growing in sales: however, it has been at a decreasing rate over the past four years as shown by the trend in years 2012-2015. This can be attributed to their increasing size and market share as well.

To begin, we will be using the most recent 10-Q issued on February 27th, 2016 to forecast 2016. Using Cal-Maine's historical IGR, our forecasting model also assumes that Cal-Maine's sales growth will increase by 11% for 2 years (2017 & 2018) year. We then expect sales to drop to 10% in 2019, and then level off at 8% for the remainder of the forecast. We assume by this point Cal-Maine will have reached a mature stage and large increases in sales year to year are very rarely, if ever seen. This maturity level will cause Cal-Maine to see more constant sale growth rather than the spiking and trailing off as before.

As stated above, we utilized the available three quarters worth of financial information for fiscal year 2016, allowing us to only have to forecast out one quarter for the year 2016. Referencing the last three quarters, we expect Cal-Maine to increase to \$1,953,117 in net sales. We also believe that 2016 is an anomaly year and a 20% sales growth is not a sustainable forecasting base.

We will additionally forecast out the values for cost of sales, gross profit, operating income, selling and administrative expenses, income tax expenses, and finally net income. By forecasting constant expenses we will be able to calculate our gross profit, operating income, and net income without have to make as many assumptions about these values. To aid our forecasting, we also utilized a common sized income statement where values are represented as percent of net sales. This allows a reader to find past trends or consistencies with greater ease.

For Cost of Sales, we use 80% of sales as constant for 2017 and on for forecasting. This value is assumed because over the past years the common sized income statement

shows cost of sales ranging from about 75% to 83%. However, recently in the 2016 10-Q reports, Cal-Maine has been showing a drop in these costs to around 60%. Again, we feel that 2016 is an anomaly year and believe that the cost of sales will remain around 80% of net income.

We will use our assumptions from cost of sales and sales growth to calculate a corresponding gross profit for the years forecasted. Due to the decline from 2013-2015, in conjunction with the 10-Q released on February 27th, we believe that Cal-Maine will be able to keep their cost of sales around 80%, or below, for future years. To forecast gross profit we simply took the difference between net sales and cost of sales to generate forecasted gross profit. This allowed us to make fewer assumptions allowing us to have consistent data over time.

Selling and General Administrative Expenses were the next value for our forecasting of the income statement. These expenses have been extremely consistent over the past six years, as shown by the common sized income statement, at around 10% of net sales. For our forecast, we assumed these expenses would continue at 10% of net sales for the foreseeable future.

Next in our forecasting is Operating Income. We will not make any assumptions about anomalies pertaining to the income statement such as legal fees (as Cal-Maine experienced in 2013) that could materially affect operating income. Instead, we will calculate operating income the same as we did gross profit. . The value will be based on gross profit minus selling and general admin expenses. Since general and administrative expenses have been stable over the past years, it is more reasonable to use this method to forecast than to base operating income over a less consistent ratio.

Finally, Net Income is forecasted. We found that net income increased in 2013 from 3.91% of sales to near 18% in 2016 (based on forecasts) (Cal-Maine 10-Q). We do believe, however, that the net income margin will decrease to 13% for 2017 and then drop to a constant 10.2% for the remainder of the forecast. We do not think that their net income margin will increase past the 10.2% because Cal-Maine as a company is

already experiencing economies of scale. Using this assumption, we were able to complete our forecast of Cal-Maine's income statement.

Income Statement

Fiscal end May 31st	Fiscal Years Ended															
Statement of Operations Data (in thousands)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Net sales	\$910,143	\$941,981	\$1,113,116	\$1,288,104	\$1,440,907	\$1,576,128	\$ 1,953,117	\$ 2,167,960	\$ 2,406,435	\$ 2,647,079	\$ 2,858,845	\$ 3,087,553	\$ 3,334,557	\$ 3,601,322	\$ 3,889,427	\$ 4,200,582
Cost of sales	715,499	757,050	911,334	1,073,555	1,138,143	1,180,407	\$ 1,269,526	\$ 1,734,368	\$ 1,925,148	\$ 2,117,663	\$ 2,287,076	\$ 2,470,042	\$ 2,667,646	\$ 2,881,057	\$ 3,111,542	\$ 3,360,465
Gross profit	194,644	184,931	201,782	214,549	302,764	395,721	\$ 683,591	\$ 433,592	\$ 481,287	\$ 529,416	\$ 571,769	\$ 617,511	\$ 666,911	\$ 720,264	\$ 777,885	\$ 840,116
Selling, general and administrative	92,040	101,448	113,130	126,956	156,712	160,386	\$ 195,312	\$ 216,796	\$ 240,644	\$ 264,708	\$ 285,885	\$ 308,755	\$ 333,456	\$ 360,132	\$ 388,943	\$ 420,058
Legal settlement expense	0	0	0	28,000	0	0										
Operating income	102,604	83,483	88,652	59,593	146,052	235,335	\$ 488,279.25	\$ 216,796	\$ 240,644	\$ 264,708	\$ 285,885	\$ 308,755	\$ 333,456	\$ 360,132	\$ 388,943	\$ 420,058
Other income (expense):																
Interest expense, net of interest income	(6,728)	(6,022)	(3,758)	(3,906)	(2,656)	(515)										
Loss on early extinguishment of debt		(2,648)	0	0	0	0										
Equity in income of affiliates	3,507	4,701	7,495	3,480	3,512	2,657										
Gain on sale of investment in Egglands Best		4,829	0	0	0	0										
Distribution from Egglands Best		0	38,343	0	0	0										
Patronage dividends		4,885	6,607	14,300	6,139	6,893										
Other, net		2,443	1,738	2,101	8,795	2,179										
Total other income	4,199	8,188	50,425	15,975	15,790	11,214										
Income before tax and noncontrolling interest	103,493	91,671	139,077	75,568	161,842	246,549										
Income tax expense	37,961	33,403	49,110	24,807	52,035	84,268										
Net income including noncontrolling interest	65,532	58,268	89,967	50,761	109,807	162,281										
Less: Net Income (loss) attributable to noncontrolling interest	(2,291)	(2,571)	232	338	600	1,027										
Net income attributable to Cal-Maine Foods,	\$67,823	\$60,839	\$89,735	\$50,423	\$109,207	\$161,254	\$ 360,000.00	\$ 281,834.78	\$ 288,772.25	\$ 270,002.06	\$ 291,602.22	\$ 314,930.40	\$ 340,124.83	\$ 367,334.82	\$ 396,721.60	\$ 428,459.33
	7.5%	6.5%	8.1%	3.9%	7.6%	10.2%	18.4%	13.0%	12.0%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%

Common Size Income Statement

Statement of Operations Data (stated in thousands)	Fiscal Years Ended															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Annual Sales Growth		3.38%	15.37%	13.58%	10.60%	8.58%	19.30%	9.91%	9.91%	9.09%	7.41%	7.41%	7.41%	7.41%	7.41%	7.41%
□Net sales	100.000%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
□Cost of sales	78.614%	80.37%	81.87%	83.34%	78.99%	74.89%	65.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
□Gross profit	21.386%	19.63%	18.13%	16.66%	21.01%	25.11%	35.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
□Selling, general and administrative	10.113%	10.77%	10.16%	9.86%	10.88%	10.18%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
□Legal settlement expense	0.000%	0.00%	0.00%	2.17%	0.00%	0.00%										
□Operating income	11.273%	8.86%	7.96%	4.63%	10.14%	14.93%	25.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
□Other income (expense):																
□Interest expense, net of interest income	-0.739%	-0.64%	-0.34%	-0.30%	-0.18%	-0.03%										
□Loss on early extinguishment of debt	0.000%	-0.28%	0.00%	0.00%	0.00%	0.00%										
□Equity in income of affiliates	0.385%	0.50%	0.67%	0.27%	0.24%	0.17%										
Gain on Sale of Investment in Eggland's Best	0.000%	0.00%	3.44%	0.00%	0.00%	0.00%										
Distribution from Egglands Best Patronage Dividends	0.000%	0.52%	0.59%	1.11%	0.43%	0.44%										
□Other, net	0.000%	0.26%	0.16%	0.16%	0.61%	0.14%										
□Total other income	0.461%	0.87%	4.53%	1.24%	1.10%	0.71%										
Income before tax and non-controlling interest	11.371%	9.73%	12.49%	5.87%	11.23%	15.64%										
□Income tax expense	4.171%	3.55%	4.41%	1.93%	3.61%	5.35%										
□Net income including noncontrolling interest	7.200%	6.19%	8.08%	3.94%	7.62%	10.30%										
□Less: Net income (loss) attributable to noncontrolling interest	-0.252%	-0.27%	0.02%	0.03%	0.04%	0.07%										
□Net income attributable to Cal-Mane Foods,	7.452%	6.46%	8.06%	3.91%	7.58%	10.23%	18.43%	13.00%	12.00%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%

Dividend Forecast

Cal-Maine's policy, as stated in their 10-Q, for paying dividends is that they will pay out no more than $\frac{1}{3}$ of the prior quarter's income. This amount will vary from year to year depending on the amount of net income realized, however, since it is a stated percentage, Cal-Maine's dividends will be based on a percentage of their net income. Not only is this stated in the 10-k but over the past five years, the average dividend payout ratio has been 34.9%. For our forecast, we will use a 33% dividend payout ratio as it is a good estimate between these two values. Will use 33% because the calculated 34.9% contains 2 special dividends that were greater than the stated 33%. We will also assume a constant amount of shares outstanding for the forecasting period, meaning we do not assume any new shares will be issued or stock repurchased. For our forecast of dividends, we will not use an assumed constant dividend amount, rather a fixed dividend payout rate of net income to be paid to shareholders. Below is the chart for actual and forecasted dividends per share for 2010-2025.

Dividends Per Share															
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0.613	0.5215	0.4175	0.636	0.727	1.0095	2.4948	2.629469	2.540638	2.202334	2.728692	3.312632	3.93872	4.58467	5.221939	5.947788

Figure 3-24

There is a dramatic increase in dividends after 2015, but this is consistent with the 33% of net income assumption. Coupled with the fact that Cal-Maine is looking to expand their operations (and have a higher net income) explains the increase.

Balance Sheet

After completing a forecasted income statement and dividend policy, we will begin to forecast the balance sheet. The reason we started with the analysis and forecasting of the income statement and dividends is because the value of net income and dividends will effect changes to the equity section of our balance sheet. Also, the sales growth projections over the next ten years will allow us to determine the size of our assets.

Additionally, we created a common sized balance sheet where values are stated as percentages of total assets. This allowed us to determine trends and consistencies within the balance sheet, similar to the income statement.

To begin forecasting, we started with the amount of total assets. This will be based off of a forecasted, lagged asset turnover rate. From previous data, we determined that asset turnover rose sharply one year and then increased very minimally the next year. For 2016, we used the three quarters that have already been stated and forecasted out the final quarter ending at a total asset amount for 2016 of \$1,154,000,000.

For Asset turnover, we will follow the previous assumption that sales growth will continue to decline. This will also cause a decline in our asset turnover as this smaller growth cannot support such high asset turnover without decreasing the total asset amount. We do not assume that Cal-Maine will be decreasing its total asset amount at any point so therefore the asset turnover must drop in value. For our forecast we will use 1.43 in 2016 and then the turnover rate will steadily decline to 1.35 in 2019 and stay constant at this value throughout future years. This is consistent with prior assumptions made.

After forecasting our total asset amount, we were able to forecast current and long-term asset totals. Referencing our common sized balance sheet, we found that current assets remained at a fairly constant amount, about 55%. We assume that current assets will continue at this constant 55% of total assets as coordinated with previous data. Therefore, long-term assets must be 45% for all forecasted years.

Following the completion of forecasting the asset side of the balance sheet, equity and liabilities must also be forecasted. It presents a great difficulty to forecast both of these amounts with high degrees of accuracy and certainty. For the purposes of this report, we will focus on the valuation and forecasting of equity and leave liabilities to be plug figures.

To begin, we forecasted retained earnings. To calculate retained earnings we took the previous year's value of retained earnings and added the net income to it as well as subtracting off the dividends paid for that year. Using the calculations for dividends as stated before, and the value for net income as forecasted in the income statement, retained earnings could be forecasted without any additional assumptions. Retained earnings flow into total stockholder's equity so it was forecasted next. Since we assume no changes to the amount of shares outstanding, all other values in the stockholders' equity section will remain constant. Therefore, total stockholders' equity is calculated by taking the previous year's total stockholders' equity and adding on the changes in retained earnings. No further assumptions we made about this value.

Finally, liabilities were forecasted. Since total liabilities and equity must equal total assets, total liabilities are calculated as the difference between total assets and total stockholders' equity. This calculation allows us to keep our balance sheet in check, and not subject to anomalies. To finish the forecast of Cal-Maine's balance sheet, we forecasted total current liabilities. For this value we used an average from the past 5 year and came up with 54% of liabilities are on average current liabilities. Holding this percentage constant, we forecasted out current liabilities until 2025.

Balance Sheet

Consolidated Balance Sheets (in thousands)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets																
Current assets:							24%	47%	12%	12%	8%	8%	8%	8%	8%	80%
Cash and cash equivalents	\$99,453	\$57,679	\$97,128	\$24,984	\$14,521	\$8,667										
Investment securities available-for-sale	76,702	118,750	163,623	157,904	194,738	249,961										
Investment securities trading	22,900															
Receivables less allowance for doubtful accounts	43,212	54,774	58,630	79,352	82,978	99,013										
Other	375	3,008	4,138	3,234	4,538	2,964										
Insurance Receivable	43,587	62,790														
Inventories	93,968	110,021	117,158	147,993	146,117	146,260										
Prepaid expenses and other current assets	1,550	5,801	1,525	1,414	2,501	2,099										
Total current assets	338,160	355,041	442,202	414,881	445,393	508,964	\$ 634,700.00	\$ 932,070.07	\$ 1,039,923.89	\$ 1,164,714.76	\$ 1,257,891.94	\$ 1,358,523.30	\$ 1,467,205.16	\$ 1,584,581.57	\$ 1,711,348.10	\$ 3,080,426.58
Other assets:																
Other investments	17,708	19,142	22,330	20,413	6,786	18,843										
Non-current Notes Receivable		3,049	2,583	565		0										
Goodwill	22,117	22,117	22,117	24,417	29,196	29,196										
Other intangible assets	12,523	10,063	8,028	12,326	10,423	7,560										
Other long-lived assets	6,665	6,544	6,441	7,017	4,717	5,300	\$ 210,862.41	\$ 76,478.17	\$ 88,488.07	\$ 66,071.09	\$ 71,356.78	\$ 77,065.32	\$ 83,230.55	\$ 89,888.99	\$ 970,801.10	
Other Long Lived Assets cont.	59,013	60,915	61,499	64,738	51,333	60,899										
Property, Plant, and Equipment less accumulated depreciation	234,111	224,887	222,615	266,008	314,935	358,790	\$ 450,060.00	\$ 660,922.41	\$ 737,400.58	\$ 825,888.65	\$ 891,959.74	\$ 963,316.52	\$ 1,040,381.84	\$ 1,123,612.39	\$ 1,213,501.38	\$ 2,184,302.48
Total assets	\$631,284	\$640,843	\$726,316	\$745,627	\$811,661	\$928,653	\$ 1,154,000.00	\$ 1,694,672.86	\$ 1,890,770.72	\$ 2,117,663.20	\$ 2,287,076.26	\$ 2,470,042.36	\$ 2,667,645.75	\$ 2,881,057.41	\$ 3,111,542.00	\$ 5,600,775.60
change in ppe		(\$9,559)	(\$85,473)	(\$19,311)	(\$66,034)	(\$116,992)	(\$225,347)	(\$540,673)	(\$196,098)	(\$226,892)	(\$169,413)	(\$182,966)	(\$197,603)	(\$213,412)	(\$230,485)	
							ATO \$ 1.88	1.42	1.4	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Liabilities and stockholders' equity																
Current liabilities:																
Trade accounts payable	\$37,479	\$50,122	\$55,227	\$47,234	\$38,974	\$44,709										
Accrued dividends payable	7,009	2,424	12,419	0	10,497	15,372										
Accrued wages and benefits	9,426	10,802	12,434	14,407	15,205	16,939										
Accrued income taxes payable	0	0	12,092	359	2,983	5,288										
Accrued expenses and other liabilities	14,106	8,621	11,552	9,827	12,775	9,173										
Accrued legal settlement expense (see Notes 14 & 20)	0	0	0	28,000	0	0										
Current maturities of long-term debt	29,974	11,743	11,458	10,373	10,216	10,065										
Deferred income taxes	19,980	23,770	25,474	19,995	30,451	30,391										
Total current liabilities	117,974	107,482	140,656	130,195	121,101	131,937	\$ 125,728.74	\$ 315,724.26	\$ 317,139.30	\$ 341,974.50	\$ 327,955.86	\$ 312,815.74	\$ 296,464.40	\$ 278,804.96	\$ 259,732.77	\$ 1,448,902.32
Long-term debt, less current maturities	104,699	76,418	64,762	54,647	50,877	40,795										
Other noncurrent liabilities	3,299	3,346	3,165	4,322	4,436	5,745										
Deferred income taxes	28,356	34,720	38,405	38,419	40,502	45,614										
Total Non-Current Liabilities	136,354	114,484	106,332	97,388	95,815	92,154										
Total liabilities	254,328	221,966	246,988	227,583	216,916	224,091	\$ 232,831.00	\$ 584,674.55	\$ 587,295.00	\$ 633,286.11	\$ 607,325.67	\$ 579,288.41	\$ 549,008.16	\$ 516,305.49	\$ 480,986.60	\$ 2,683,152.45
Stockholders' equity:																
Common Stock Issued	351	351	351	351	351	703										
Class A Convertible Common Stock issued	24	24	24	24	24	48										
Paid-in capital	32,699	33,419	33,651	39,052	40,476	43,304										
Retained earnings	365,821	406,361	466,164	498,711	572,874	679,969	\$ 921,169.00	\$ 1,109,998.30	\$ 1,303,475.72	\$ 1,484,377.09	\$ 1,679,750.58	\$ 1,890,753.95	\$ 2,118,637.59	\$ 2,364,751.92	\$ 2,630,555.39	\$ 2,917,623.15
Accumulated Other Comprehensive Income, net of tax	0	(320)	(222)	166	561	22										
Treasury Stock	(20,966)	(20,929)	(20,843)	(20,572)	(20,453)	(20,482)										
Total Cal-Maine Stockholders Equity	377,929	418,906	479,125	517,732	593,833	703,564	\$ 944,764.00	\$ 1,133,593.30	\$ 1,327,070.72	\$ 1,507,972.09	\$ 1,703,345.58	\$ 1,914,348.95	\$ 2,142,232.59	\$ 2,388,346.92	\$ 2,654,150.39	\$ 2,941,218.15
Noncontrolling interest in consolidated entities	(973)	(29)	203	312	912	998										
Total Stockholders Equity	376,956	418,877	479,328	518,044	594,745	704,562										
Total liabilities and stockholders' equity	\$631,284	\$640,843	\$726,316	\$745,627	\$811,661	\$928,653	\$ 1,154,000.00	\$ 1,694,672.86	\$ 1,890,770.72	\$ 2,117,663.20	\$ 2,287,076.26	\$ 2,470,042.36	\$ 2,667,645.75	\$ 2,881,057.41	\$ 3,111,542.00	\$ 5,600,775.60

Common Size Balance Sheet

Consolidated Balance Sheets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets																
Current assets:																
Cash and cash equivalents	16%	9%	13%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Investment securities available-for-sale	12%	19%	23%	21%	24%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Investment securities trading	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Receivables less allowance for doubtful accounts	7%	9%	8%	11%	10%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Insurance Receivable	7%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inventories	15%	17%	16%	20%	18%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Prepaid expenses and other current assets	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total current assets	54%	55%	61%	56%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
Other assets:							0%									
Other investments	3%	3%	3%	3%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-current Notes Receivable	0.00%	0.48%	0.36%	0.08%	0.03%	0.00%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Goodwill	4%	3%	3%	3%	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other intangible assets	2%	2%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other long-lived assets	1%	1%	1%	1%	1%	1%	8%	23%	8%	10%	7%	8%	8%	9%	10%	105%
Other long-lived assets	9%	10%	8%	9%	6%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Property, Plant, and Equipment less accumulated depreciation	37%	35%	31%	36%	39%	39%	39%	71%	79%	89%	96%	104%	112%	121%	131%	235%
Total assets	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Current liabilities:																
Trade accounts payable	14.74%	22.58%	22.36%	20.75%	17.97%	19.95%	-18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued dividends payable	2.76%	1.09%	5.03%	0.00%	4.84%	6.86%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued wages and benefits	3.71%	4.87%	5.03%	6.33%	7.01%	7.56%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued income taxes payable	0.00%	0.00%	4.90%	0.16%	1.38%	2.36%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued expenses and other liabilities	5.55%	3.88%	4.68%	4.32%	5.89%	4.09%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued legal settlement expense (see Notes 14 & 20)	0.00%	0.00%	0.00%	12.30%	0.00%	0.00%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Current maturities of long-term debt	11.79%	5.29%	4.64%	4.56%	4.71%	4.49%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Deferred income taxes	7.86%	10.71%	10.31%	8.79%	14.04%	13.56%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total current liabilities	46.39%	48.42%	56.95%	57.21%	55.83%	58.88%	11%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%
Long-term debt, less current maturities	41.17%	34.43%	26.22%	24.01%	23.45%	18.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other noncurrent liabilities	1.30%	1.51%	1.28%	1.90%	2.05%	2.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Deferred income taxes	11.15%	15.64%	15.55%	16.88%	18.67%	20.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Non-Current Liabilities	53.61%	51.58%	43.05%	42.79%	44.17%	41.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total liabilities	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Statement of Cash Flows

Once the balance sheet is forecasted, the statement of cash flows can be done. This is the most difficult statement to forecast since changes to the other statements are not always reflect in actual cash flows. For our purposes, we will forecast Cash Flows from Operating Activities (CFFO), Capital Expenditures (CAPEX), and Payment of Dividends.

To begin forecasting CFFO a ratio to sales had to be determined in order to find a relationship between this cash flow and the income statement. There were three possibilities that could be used to represent this relationship. The CFFO were calculated as a percentage of sales, operating income, and net income. Based on historical data, it was determined that the ratio compared to net income was the most stable, and will be used for forecasting. The ratio is currently 0.825 for 2015 and we expect this to rise 0.9 by 2020. Cash flow from operating, as a percentage of sales, is expected to rise by 0.15% every year until 2020 and then remain constant for the next five years.

CAPEX forecasting follows CFFO in the cash flow statement. It is listed as purchases of property, plant, and equipment on Cal-Maine's statement of cash flows and does not include acquisitions. Based off of 10-Q statements, we estimate 2016 capital expenditures to amount to \$157,742. This was forecasted by taking the difference in Property, Plant, and Equipment on the balance sheet of 2015 and the forecasted in 2016. Because, as stated above in the balance sheet section, we believe that 2016 is an anomaly year is the reason why 2016 is so high. After 2016 however we expect capital expenditures to be 55% of the change in property, plant and equipment to account for changes in depreciation and unexpected changes in expenditures (i.e. machines and vehicles breaking down).

The final item on the statement of cash flows in need of forecasting is the payment of dividends. As stated in the prior section, Cal-Maine pays dividends on a percentage of net income basis. Since estimations and forecasting has already been complete, we assume that this policy will continue into the future. By using this method we avoid making additional assumptions about dividends paid.

Statement of Cash Flows

Consolidated Statements of Cash Flows (In thousands)	Fiscal year ended															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cash flows from operating activities																
Net income including noncontrolling interests	\$65,532	\$58,268	\$89,967	\$50,761	\$109,807	\$162,281	\$ 360,000.00	\$ 281,834.78	\$ 288,772.25	\$ 270,002.06	\$ 291,602.22	\$ 314,930.40	\$ 340,124.83	\$ 367,334.82	\$ 396,721.60	\$ 428,459.33
Adjustments to reconcile net income to net cash provided by operating activities:																
Depreciation and amortization	31,785	30,754	30,752	34,173	37,203	40,708										
Deferred income taxes	2,066	10,354	5,330	(5,747)	7,625	5,108										
Equity in income of affiliates	(3,507)	(4,701)	(7,495)	(3,480)	(3,512)	(2,657)										
Non-cash gain on Delta Egg acquisition					(3,976)											
Gain/ - Loss on disposal of property, plant and equipment	(67)	(2,219)	1,496	651	568											
Stock compensation expense, net of amounts paid	(533)	(2,392)	736 (impairment)	411	1,273	2,268										
Interest on obligation	88															
Impairment (recovery) of note receivable				912		(584)										
(Gain) loss on fair value adjustment of contingent consideration				(1,250)	4,359	256										
Change in operating assets and liabilities, net of effects from acquisitions																
Increase in receivables and other assets	13,106	(22,200)	4,305	(21,670)	(2,282)	(18,961)										
(Increase) decrease in inventories	5,311	(16,112)	(7,137)	(6,377)	8,909	(143)										
Decrease in accrued expenses for payment of legal settlement expense					(28,000)											
Increase (decrease) in accounts payable, accrued expenses and other liabilities	2,887	12,282	21,892	8,309	(8,137)	6,486										
Net cash provided by operating activities	116,668	62,310	98,058	57,538	123,920	195,330	\$ 428,571.43	\$ 329,631.33	\$ 331,922.13	\$ 305,087.07	\$ 324,002.47	\$ 349,922.67	\$ 377,916.48	\$ 408,149.80	\$ 440,801.78	\$ 476,065.93
Cash flows from investing activities																
Purchases of investments	(82,824)	(156,906)	(160,630)	(181,721)	(142,585)	(202,506)										
Sales of investments	31,537	137,238	115,796	188,110	108,117	146,779										
Acquisition of business, net of cash	(508)			(74,907)	(11,548)											
Investment in Southwest Egg Specialty LLC						(8,160)										
Payments Received on Notes Receivable	4,785	3,587	5,352	6,640	5,003	2,019										
Purchases of property, plant and equipment	(20,786.00)	(20,742.00)	(26,845.00)	(26,290.00)	(59,188.00)	(82,263.00)	\$ (157,742.90)	\$ (297,370.07)	\$ (107,853.82)	\$ (124,790.87)	\$ (93,177.18)	\$ (100,631.36)	\$ (108,681.86)	\$ (117,376.41)	\$ (126,766.53)	\$ (185,000.00)
Increase in notes receivable and investments and affiliates	(705)	(516)	(138)	(294)												
Net Proceeds from disposal of P,P,E	6,950	1,905	1,073	124	818	2,499										
Net cash used in investing activities	(61,551)	(30,605)	(27,049)	(88,338)	(99,383)	(141,632)										
Cash flows from financing activities																
Long Term Borrowings	30,000															
Principal payments on long-term debt	(25,667)	(46,512)	(11,941)	(11,200)	(10,745)	(10,233)										
Distributions to noncontrolling interest partners		421				(940)										
Payment of Purchase Obligation	(8,149)															
Proceeds from issuance of common stock from treasury (including tax benefit on nonqualifying disposition of incentive stock options)		143	318	380	279	531										
Payments of dividends	(19,039)	(24,883)	(19,937)	(30,524)	(24,534)	(48,910)	\$ (118,800.00)	\$ (93,005.48)	\$ (95,294.84)	\$ (89,100.68)	\$ (96,228.73)	\$ (103,927.03)	\$ (112,241.19)	\$ (121,220.49)	\$ (130,918.13)	\$ (141,391.58)
Net cash used in financing activities	(22,547)	(73,479)	(31,560)	(41,344)	(35,000)	(59,552)										
Decrease in cash and cash equivalents	32,570	(41,774)	39,449	(72,144)	(10,463)	(5,854)										
Cash and cash equivalents at beginning of year	66,883	99,453	57,679	97,128	24,984	14,521										
Cash and cash equivalents at end of year	\$99,453	\$57,679	\$97,128	\$24,984	\$14,521	\$8,667										
Supplemental cash flow information:																
Cash paid during the year for:																
Income taxes, net of refunds received	\$14,381	\$28,934	\$27,075	\$42,667	\$41,626	\$75,533										
Interest (net of amount capitalized)	6,876	6,449	4,407	3,543	3,152	2,313										
Supplemental schedule of non-cash investing and financing activity:																
Issuance of stock from treasury (see Note Notes receivable from noncontrolling interest holdings)		\$4,123		5,000												
Contingent consideration recognized in acquisition of business				2,500												

Cost of Capital Estimation

To complete the valuation of Cal-Maine, we will also calculate an appropriate discount rate. For our discount rate we will utilize the Weighted Average Cost of Capital (WACC). This cost of capital calculation is based off of two component part: the cost of debt and the cost of equity. The cost of equity will be greater than the cost of debt as shareholders do not receive regular interest payments, and, in the event of bankruptcy, the shareholders have a residual claim on assets. This means that shareholders will get paid last if the firm fails, making equity more risky than debt, thus allowing shareholders a higher return.

We also will determine a before tax and after-tax WACC, because interest expenses can be a tax deductible for firms. Accurately determining the WACC is important for valuing a firm; a WACC that is too high will cause our valuation to undervalue Cal-Maine, while a rate that is too low will give us a value of the firm much greater than its actual value. The equations for WACC are stated below.

Before Tax WACC:

$$\text{WACC} = (\text{Debt}/\text{Assets})(R_d) + (\text{Equity}/\text{Assets})(R_e)$$

After Tax WACC

$$\text{WACC} = (\text{Debt}/\text{Assets})(R_d)(1-T_c) + (\text{Equity}/\text{Assets})(R_e)$$

Cost of Equity

To estimate an appropriate cost of equity (K_e), we will utilize the Capital Asset Pricing Model (CAPM). This model is widely used to calculate suitable rates of return that can be expected based on the risk free rate, the market risk premium (rate required by the market minus the risk free rate), and a beta of a company's equity that represents systematic risk. Though not in the traditional CAPM model, we will also use a size premium based on a firm's market capitalization. This equation, in short, gives investors

a fair rate of return that they should expect based on the amount of risk that they are taking.

$$R_i = R_f + \beta(R_m - R_f) + \text{Size Premium}$$

Equation 3-2

To calculate the monthly risk free rate, we will use the St. Louis Federal Reserve 20-year Treasury bond rate. The values were given in annual rates; therefore we converted them to monthly rates for our analysis. We also determined an appropriate risk free rate to be 2.9%, and do not expect it to change in the near future. Size premium is a plug figure, obtained from chart 8-5 in the textbook, *Business Analysis Valuation: Using Financial Statements*. With a market capitalization of 2.48 billion (as of 3/31/2016 – 4/1/2016) Cal-Maine lies in the 6th row of the table below The corresponding size premium we will be adding in to CAPM to account for the size of Cal-Maine is 1.8%.

TABLE 8-5 Stock Returns, Volatility, and Firm Size						
Size Decile	Market value of largest company in decile in 2010 (\$ millions)	Fraction of total market value represented by decile in 2010 (%)	Average annual stock return 1926–2010 (%)	Beta, 1926–2010	Size premium (return in excess of CAPM - %)	
1 – smallest	235.6	1.0	21.0	1.41	6.4	
2	477.5	1.3	17.2	1.35	2.9	
3	771.8	1.7	16.5	1.30	2.7	
4	1,212.3	2.2	15.4	1.24	1.9	
5	1,776.0	2.6	15.0	1.19	1.8	
6	2,509.2	3.5	14.8	1.16	1.8	
7	3,711.0	4.3	13.9	1.12	1.2	
8	6,793.9	7.4	13.6	1.10	1.0	
9	15,079.5	13.6	12.9	1.03	0.8	
10 – largest	314,622.6	62.3	10.9	0.91	–0.4	

Figure 3-25

Our measure of Beta is determined by discovering the relationship between the return of Cal-Maine’s stock and the return of the overall market. Because Beta systematic risk component allows us to understand how much of Cal-Maine’s return on their equity

comes from the market, and how much comes from their individual company. To calculate, we used five time horizons at 24, 36, 48, 60, and 72 months. From these five time horizons we were able to do regression analysis and determine five possible Beta measures for Cal-Maine. Regression analysis also will give us a value for R^2 , which is a value that represents how much of Cal-Maine's returns are explained by changes in the market returns. A higher R^2 value means that more of the associated risk is systematic and can be explained by the Beta amount. Therefore, our choice Beta will be the one with the highest R^2 value.

20 Year Treasury										
Observations	Beta	Beta Lower Bound	Beta Upperbound	R^2	Size Premium	MRP	R_f	K_e	K_e LB	K_e UB
24	0.092067687	-1.812548361	1.996683735	0.04%	1.89%	7%	2.90%	5.43%	-7.90%	18.77%
36	0.63891185	-0.707490166	1.985313866	2.58%	1.89%	7%	2.90%	9.26%	-0.16%	18.69%
48	0.710953324	-0.358185407	1.780092056	3.67%	1.89%	7%	2.90%	9.77%	2.28%	17.25%
60	0.5870	-0.18945751	1.363396202	3.73%	1.89%	7%	2.90%	8.90%	3.46%	14.33%
72	0.460251609	-0.140795016	1.061298233	3.18%	1.89%	7%	2.90%	8.01%	3.80%	12.22%

Figure 3-26

The regression analysis above (Figure 3-26) shows the results of the five different regressions run to determine Beta. The result with the highest R^2 , and therefore the regression with the best ability to explain the relationship is the 60 month. We will use the statistics from this regression to estimate our cost of equity with a coinciding Beta of 0.5870. A Beta less than 1 concludes that a company's return volatility is not tied to the volatility of the market. Because Cal-Maine's Beta is less than 1, we can conclude that Cal-Maine's returns are not highly correlated with those of the market. Using all of these values in the CAPM equation, we calculate a cost of equity for Cal-Maine Foods to be 8.9%, with an upper bound of 14.33% and a lower bound of 3.46% (with a 95% confidence level). This K_e is different from those using Yahoo Finance or Google Finance Betas (10.75% and 9.90% respectively). We believe that our cost of capital is more accurate than Google's or Yahoo's because the shell egg industry is a relatively safe industry.

Backdoor Cost of Equity

Another way to estimate an appropriate cost of capital is using the backdoor cost of equity method. In this method (as shown in the equation below) the price to book ratio (P/E) is equal to the return on equity (ROE) minus the capital divided by the cost of capital minus the dividend growth rate.

$$\left(\frac{P}{B}\right) - 1 = \frac{ROE - Ke}{Ke - g}$$

Equation 3-3

After running the calculation we came to a cost of equity equal to 8.75%. This lies within our upper and lower boundaries and is only .15% less than our Ke calculated using CAPM.

Cost of Debt

Cal-Maine utilizes several different long-term debt contracts, each with different amounts and different rates. To calculate the cost debt, we took a weighted average of all long-term debt currently outstanding.

Weighted Cost of Debt			
Year of Maturity	Interest Rate	Amount	Weighted Avearge Percent
2017	6.35	\$10,300,000.00	1.71
2018	6.40	\$3,140,000.00	0.53
2018	5.40	\$4,750,000.00	0.67
2018	5.40	\$6,311,000.00	0.89
2019	2.00	\$159,000.00	0.01
2019	6.20	\$13,500,000.00	2.19
2021	5.99	\$12,700,000.00	1.99
	Total	\$ 38,160,000.00	6.01

Figure 3-27

Based on the weighted average rate calculation, we determine that Cal-Maine's cost of debt is 6%.

Weighted Average cost of Capital (WACC)

For calculation of a firm's weighted average cost of capital, we multiply the weight of debt and equity by their respective costs. We will be doing this calculation on a before tax and an after-tax basis as well. By running this equation, we can compute the overall cost of capital for Cal-Maine.

For our purposes we will be using the book value of liabilities and the book value of equity in the year 2016. We used 18% for the weight of debt and 82% for the weight of equity. After determining these values, we multiplied them by their respective required rates of 6% for debt and ran our upper and lower bound K_e from CAPM to find the before tax WACC. The after tax cost of capital will be the same equation with an additional component to account for tax expense, 34.1%.

	Cost of Debt	Weight of Debt	$K_d * W_d$	Cost of Equity	Weight of Equity	$K_e * W_e$	Tax Rate	WACC
WACC BT								
WACC	6%	18%	1.08%	8.90%	82%	7.29800%	N/A	8.38%
WACC LB	6%	18%	1.08%	3.46%	82%	2.837200%	N/A	3.92%
WACC UB	6%	18%	1.08%	14.33%	82%	11.75%	N/A	12.83%
WACC AT								
WACC AT	6%	18%	1.08%	8.90%	82%	7.30%	34.10%	8.01%
WACC AT LB	6%	18%	1.08%	3.46%	82%	2.84%	34.10%	3.55%
WACC AT UB	6%	18%	1.08%	14.33%	82%	11.75%	34.10%	12.46%

Figure 3-28

As of 2016, Cal-Maine's WACC is 8.38% before tax and 8.01% after tax. Cal-Maine has a large amount of equity when compared to debt so the value is closer to their cost of equity than it is their cost of debt.

Conclusion

In conclusion, with a cost of equity of 8.90% Cal-Maine falls below the cost of equity for the market (9.06%) but are above the 7.59% required for food processing showing that

they are less volatile than the market (according to the Stern College of Business, NYU *Cost of Capital by Sector*). However, just because they require less of a return than the market doesn't make them any less risky. Because they are higher than their competitors Cal-Maine poses a higher risk to investors who want exposure in the food processing sector, but do adequately compensate for that risk. Our opinion on Cal-Maine is that they are company that is more stable than the market, but pose a high risk than food processing; which we believe is caused by their relative small size to the rest of the industry.

Equity Valuation

Method of Comparables

We will now begin our valuation of Cal-Maine Foods. With all previous measures and information covered, we can now utilize several different models in an attempt to find the true value of the firm. To start, we will use a valuation technique based on market multiples such as price to earnings and price to book ratios. This model is simple in nature, only using these ratios to find the value of the company, and therefore can be unreliable in its accuracy. To determine whether or not Cal-Maine stock is undervalued or overvalued we will be using a 10% allowance from the price as of April 1, 2016.

Price to Earnings Trailing

The first multiple we will use to find price per share is the trailing price to earnings ratio which is calculated by dividing the current share price by the earnings per share. This ratio shows how much investors are willing to pay for every dollar of earnings. The lower the ratio, the less shareholders have to pay for the earnings that they are receiving, thus increasing returns. For our calculation we will use Cal-Maine's current earning per share multiplied by the industry average trailing P/E ratio of 10.508. By doing this calculation, we find that Cal-Maine's share price should be \$50.54 which is fairly valued under our 10% allowance for variance.

Trailing P/E	
<u>Company</u>	<u>Trailing P/E</u>
Industrias Bachoco	12.12
Pilgrims Pride	10.12
Sanderson Farms	12.66
Cal-Maine	7.13
Industry Average	10.5075
Cal-Maine price using multiple	\$50.54

Figure 4-1

Forward P/E

The forward P/E ratio is very similar to the trailing ratio with one important distinction. This ratio uses forecasted earnings per share of next year, instead of current earnings. The ratio still shows the same thing for investors, but bases it on future benefits rather than earnings that have already been recognized and distributed. To calculate Cal-Maine's share price using this ratio we took the industry average of 13.04 and multiplied it by the forecasted earnings per share of Cal-Maine. By doing this we find that Cal-Maine's share price should be \$143.95, which results in the stock being highly undervalued in the market.

Forward P/E	
<u>Company</u>	<u>Forecasted P/E</u>
Industrias Bachoco	12.39
Pilgrims Pride	12.34
Sanderson Farms	13.77
Cal-Maine	13.66
Industry Average	13.04
Cal-Maine price using multiple	\$143.95

Figure 4-2

Price to Book

The price to book ratio is calculated by taking a firm's price per share and dividing it by the book value of equity per share. This measure shows how much over book value a stock is trading for in the market. A ratio of one relates to a stock that is trading at par value, a ratio above one results in a stock trading above book value. Therefore, a value below one means that the stock is trading in the market for less than the book value of the share. This measure is a good tool to find how much value investors put on a firm's assets and the return that they believe investors can receive from the company.

Price to book ratios of Cal-Maine and its competitors ranged from 5.22 down to 1.68. Based on the companies, the average is 2.94 and when this value is multiplied by the current book value of equity for Cal-Maine we conclude that their share price should be \$47.34. Using our 10% allowance, we conclude that this stock is fairly valued.

Price to Book	
<u>Company</u>	<u>Price/Book</u>
Industrias Bachoco	1.68
Pilgrims Pride	5.22
Sanderson Farms	1.97
Cal-Maine	2.89
Industry Average	2.94
Cal-Maine price using multiple	\$ 47.34

Figure 4-3

Dividends to Price

The dividend to price measures the dividend yield for a company's stock. By taking annual dividends and dividing them by the respective share price, a return is generated showing how much investors receive in dividends as a percent of the cost they paid for the share. Cal-Maine's annual dividend payments came out to \$1.92 per share with a dividend yield of 3.71%. To value the shares we divided the \$1.92 annual dividend by

the industry average dividend yield to get a share price of \$102.93. This value concludes Cal-Maine to be extremely undervalued. There are some limitations with this model that make it a less reliable statistic compared to some of the others in this section. For the shell egg industry, some firms pay steady dividends like Sanderson Farms or Pilgrim's Pride but others have dividends that vary greatly over time, Cal-Maine and Industrias Bachoco. Because of this variance, the multiple will vary greatly from quarter to quarter and will result in different values for stock prices.

Dividends to Price			
<u>Company</u>	<u>Dividends</u>	<u>Price</u>	<u>Dividend Yield</u>
Industrias Bachoco	1.5	75.22	1.99%
Pilgrims Pride	0.069	26.12	0.26%
Sanderson Farms	1.38	93.15	1.48%
Cal-Maine	1.917	51.66	3.71%
Industry Average			1.86%
Cal-Maine price using multiple			\$ 102.93

Figure 4-4

Price/Earnings to Growth

The Price/Earnings to Growth ratio is calculated by taking a company's P/E ratio and dividing it by the forecasted growth in earnings. This is similar to the previously discussed forward P/E ratio, but instead of using forecasted earnings to drive the value of the figure, it uses the growth rate of earnings. The industry average for P/E to growth in the poultry industry is 0.1925. Related to the P/E, both forecasted and trailing, this figure shows that there must be large growth opportunities for this industry in order to make P/E to growth this low while forward P/E is 13.04 and trailing P/E is 10.5. To calculate the price per share for Cal-Maine stock, we take the P/E growth rate and multiply it by earnings per share and the growth in earnings to get a share price of \$86.91. This value is greater than the observed share price and outside the 10% margin for variance concluding that Cal-Maine is undervalued according to this metric.

Price/Earnings to Growth	
Company	PEG Ratio
Industrias Bachoco	0
Pilgrims Pride	0.24
Sanderson Farms	0.33
Cal-Maine	0.2
Industry Average	0.1925
Cal-Maine price using multiple	\$ 86.91

Figure 4-5

Price to EBITDA

Price to earnings before interest, taxes, depreciation, and amortization (EBITDA) is also similar to the P/E ratio but adds back in taxes, depreciation, and amortization into the denominator. By doing this, price to EBITDA is able to compare firms of different sizes, capital structures, and tax rates. This value shows how much investors will pay for one dollar of these earnings.

To use this metric in valuation, we took the industry average of 5.461 and multiplied it by the value of Cal-Maine's EBITDA to find the value of the total firm. Then we divided by total shares outstanding to find the price per share of \$70.65. Using our 10% variation, we conclude that Cal-Maine is undervalued based on this multiple.

Price to EBITDA			
Company	Market cap	EBITDA	Price/EBITDA
Industrias Bachoco	2,493,982,269.71	311,338,595.85	8.010514286
Pilgrims Pride	6,690,000,000.00	1,265,202,702.70	5.287690254
Sanderson Farms	2,070,000,000.00	332,173,913.04	6.231675393
Cal-Maine	2,257,438,680.00	565,333,333.33	3.993110873
Industry Average	3,377,855,237.43	618,512,136.23	5.461259431
Cal-Maine price using multiple			\$ 70.65

Figure 4-6

Price to Free Cash Flow

A Price to Free Cash Flow model is used to find the relationship between an observed stock price and a firm's free cash flow. These cash flows are calculated by taking cash flows from operations and subtracting away capital expenditures. The remaining value

represents funds that a firm can use to create value for the firm and, by extension, the shareholders. So, if firms have larger free cash flows they should intuitively hold greater value than firms which do not.

For our valuation we determined the free cash flow amount for each firm and then divided that figure by the market capitalization rate to get a price to free cash flow ratio. To determine Cal-Maine's value, we then took the industry average of price to free cash flow ratio of 11.41 and multiplied it by Cal-Maine's individual free cash flow to get total firm value. Finally, dividing this amount by the amount of shares outstanding gave us a price per share of \$29.53. Being below our 10% variance margin, this value concludes that Cal-Maine is overvalued in the market.

Price to Free Cash Flow			
Company	Market cap	FCF	P/FCF
Industrias Bachoco	2,493,982,269.71	130,241.94	19.14884122
Pilgrims Pride	6,690,000,000.00	801,064.00	8.351392648
Sanderson Farms	2,070,000,000.00	139,517.00	14.8369016
Cal-Maine	2,257,438,680.00	113,067.00	19.9654955
Industry Average	3,377,855,237.43	295,972.49	11.41273396
Cal-Maine price using multiple			\$ 29.53

Figure 4-7

Enterprise Value to EBIT

The enterprise value over earnings before interest, taxes, depreciation, and amortization (EV/EBITDA) calculation is used to identify how much firm's equity is worth by taking out debt and cash. The equation uses the industry average EV/EBITDA of 5.34 and multiplies it by the EBITDA of Cal-Maine. Then it subtracts out debt and cash from the figure to give a total value for equity. This measure of value excludes debt because firms taking on debt do not directly create value for investors and since Cal-Maine enters into many acquisitions to grow its business, this measure gives more accurate results. By subtracting these things out, firms cannot increase value by taking out large amounts of debt and then acquiring assets with levered funds. Because of

this, the EV/EBITDA is a more reliable value than some of the previous measures such as dividends to price ratio.

Enterprise Value to EBITDA			
Company	Enterprise Value	EBITDA	Enterprise value/EBIT
Industrias Bachoco	1,849,351,259	311,338,596	5.94
Pilgrims Pride	7,490,000,000	1,265,202,703	5.92
Sanderson Farms	1,910,000,000	332,173,913	5.75
Cal-Maine	2,120,000,000	565,333,333	3.75
Industry Average	3,342,337,815	618,512,136	5.34
Cal-Maine price using multiple			\$ 63.76

Figure 4-8

When we divide the previous value of the firm by total share, it results in a price per share of \$63.76. This value, being above our 10% margin, makes the firm considered undervalued in the market.

Conclusion

By using the market method of comparable ratios to value Cal-Maine we were given differing results. Five of the eight measures resulted in undervalued conclusions and only one gave an overvaluation. Currently, we conclude that Cal-Maine is an undervalued firm in the market. However, there are some difficulties with the market multiple method as discussed in the prior section, so we will also run intrinsic valuation models in order to get additional valuation data of Cal-Maine.

Conclusion	
Comparable	Result
Trailing P/E	Fairly Valued
Forward P/E	Under-Valued
Price to Book	Fairly Valued
Dividends to Price	Under-Valued
Price/Earnings Growth	Under-Valued
Price to EBITDA	Under-Valued
Price to Free Cash Flow	Over-Valued
Enterprise Value to EBITDA	Under-Valued

Figure 4-9

Intrinsic Valuation Models

The next models we will use to calculate a value for Cal-Maine are based on our previously forecasted data, and therefore include all of the information we have previously covered. Because these models include this additional information, they are more reliable than the previous, comparable valuations because they allow us to look at future cash flows. However, since the basis of these models is on forecasted amounts, they may contain some forecast error. This is a concern as mistakes in forecasts can have great effects on valuations. To counteract this problem, each of the following models will use the next ten years forecasted data and then assume a growing perpetuity for the years after the forecast. By doing this, we are able to minimize effects that forecasted years will have on our valuations. The models we will be discussing include the discounted dividends model, the free cash flow model, the residual income model, and the residual income perpetuity model.

In order to fairly value Cal-Maine we will be using a share price of \$51.66 with a $\pm 10\%$ (46.49 and 56.83).

Discounted Dividends Model

One of the main value drivers for a firm is their dividend payments to shareholders. The discounted dividends model (DDM) takes into account forecasted dividends over future years and discounts them back to the present. This model is valuable because it will be able to show how much of the company value is derived from its future dividend payments. There are several weaknesses with this model, however. The DDM assumes that dividends will grow at a constant rate over time and can place high value on forecasted dividends data. For our model we used a 3.3% dividend growth. This 3.3% is based on our IGR multiplied by 33% (the stated amount of net income that are dividends in the Cal-Maine 10-k). For our K_e estimates we used the upper, lower, and calculated cost of equity from our CAPM analysis (14.33%, 3.46%, and 8.90% respectively). Along with those we chose 6% and 12% as they provide a middle ground between our calculated K_e and will give a deeper look into Cal-Maine's actual value.

In order to calculate this model we will use the following two discounted dividends equations. The first helps value the forecasted dividends and the second helps us value the perpetuity for the un-forecasted dividends. These equations take a summation of all of the dividends from time t+1 and discounts them back to t.

$$PPS_t = \sum_{t=1}^{\infty} \frac{E(\tilde{d}_{t+1})}{(1 + k_e)^t}$$

Equation 4-1

$$PPS_t = \frac{E(\tilde{d}_{t+1})}{r - g}$$

Equation 4-2

Discounted Dividends						
	1%	2%	3.3%	4%	5%	
3.46%	149.11	227.22	1788.27	0.00	0.00	
6%	65.68	74.28	94.99	117.28	203.28	
8.90%	40.32	42.15	45.51	48.06	53.28	
12%	29.69	30.21	31.05	31.62	32.63	
14.33%	25.36	25.58	25.94	26.17	26.56	
	LB		Fairly Valued	UB		
	Under-Valued	56.83	51.66	46.49	Over-Valued	

Figure 4-10

For the rows we have the measure of K_e and the column headers we have the dividend growth. From this model we can come to the conclusion that Cal-Maine is overvalued when their cost of capital is over 8.90% (up to a dividend growth rate of 5%), and would be considered under-valued with a cost of capital less than 6% (except for when the dividend growth rate is larger than the cost of capital, then the value would be 0 (as the valuations turn negative).

In conclusion, the discount dividend model shows that Cal-Maine is over-valued. With a K_e of 8.90% and a dividend growth rate of 3.3%, the share price is \$45.51, much lower than the \$51.66 price observed on April 1st.

Discounted Free Cash Flow Model

The discounted free cash model also discounts future cash payments that the firm will incur in the future which also increase shareholder's wealth. This model uses a firm's free cash flow as future payments, rather than dividends, as the value driving mechanic. These cash flow can be used to pay dividends, but also show how much cash the firm can use to buy new assets or take on additional projects in order to create value. This model's greatest weakness is that it is based on forecasted cash flows which, as discussed previously, are the hardest values to forecast. These values can vary greatly from year to year, and it is this variation that causes difficulty for forecasting and the following valuation. For this model, we used the ten forecasted years values for cash flow from operating and capital expenditures (CAPEX), then utilized a perpetuity for year eleven onwards. After subtracting the two values above, we then discounted the value back using the firm's weighted average before tax cost of capital (WACC) to get the present value of these cash flows.

In order to run this valuation model we used our upper and lower bound before tax WACC, as well as our calculated WACC (12.83%, 3.92%, and 8.38% respectively). Using the equation below

$$V_{E,0} = \sum_{t=1}^{\infty} \frac{E_t \left(\tilde{FCF}_t \right)}{(1 + WACC)^t} - Liabilities_{MV,0}$$

Equation 4-3

Discounted Free Cash Flow Model					
	0%	2%	4%	6%	8%
3.92%	79.00	121.70	0.00	0.00	0.00
6.5%	52.67	61.45	84.27	289.65	0.00
8.38%	42.81	46.90	54.72	75.70	317.49
10%	36.88	39.26	43.24	51.19	75.05
12.83%	29.55	30.64	32.22	34.73	39.31
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	

Figure 4-11

Using our assumptions of a 4% perpetuity growth rate and a calculated WACC of 8.38% the free cash flow model tells us that Cal-Maine is fairly valued at a price of \$54.72. We can also determine that roughly 60% of the value comes from the total present value of the year by year cash flows while only 40% comes from the perpetuity cash flows, telling us that the majority of Cal-Maines value in the next 10 years relies heavily on how efficient they are with their cash flows.

Residual Income Model

The residual income model differs itself from the previous models because it compares the income a company actually made to what the company should have made based on the required return on shareholder equity. This model has advantages over the past two by being less sensitive to changes in growth and return on equity and instead uses forecasted net income as basis of calculation, a much more reliable forecasted value. Net income is the source of value for shareholders since equity is increased by net income and decreased by dividends. The model takes the previous year's book value of equity amount and multiplies it by the required return on equity for the company to find what the benchmark income should be to make investors earn their required return. Then the benchmark net income is subtracted from the actual net income to find the residual income. Over time a company should be able to make the return required and will not be able to sustain incomes higher than (or less than) the benchmark. Therefore, a positive residual income adds value to a firm, but will deteriorate over time and a negative residual income will do the opposite. The model is run based on the ten years

of forecasts and then perpetuity is used to value year eleven and past. A residual income model is subject to some forecasting error in the net income and dividends amount, but it will be less subject to error than cash flows.

For Cal-Maine we chose to use negative perpetuity growth rate. We chose to use a negative rate because after running a regression over Cal-Maine's past performance we determined a K_e (fair rate of return) of 8.90%. However, Cal-Maine's return on equity has ranged from 10% (2013) to 27% (2015). With an assumption based in economic theory and the reality of the growth of the shell-egg industry the long run fair rate of return will return to an equilibrium value (in Cal-Maine's case 8.90%).

Residual Income					
	-10%	-20%	-30.0%	-40%	-50%
3.46%	115.49	96.36	88.67	84.52	81.92
6%	82.52	73.31	69.21	66.90	65.41
8.90%	58.92	55.08	53.21	52.11	51.38
12%	43.02	41.76	41.10	40.69	40.42
14.33%	34.90	34.55	34.37	34.25	34.17
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	

Figure 4-12

As seen in the model above, the residual income model determines a fair value for Cal-Maine at \$53.21. We believe that this is a reasonable conclusion, as the cost of equity should not rise over 10% (as the shell-egg industry is a relatively safe one). Nor do we expect their cost of equity to fall near 3.5% as they do carry some risk.

Residual Income Perpetuity Model

The residual income perpetuity model (RIPM) is very similar to the residual income model, but contains one specific difference. This model bases all value into one perpetuity rather than forecasted amounts over ten years and then a perpetuity. This model examines how much value is created from the company's current book value of equity, return on equity, growth rate, and cost of equity. RIPM is a sensitivity driven model based on changes in the three rates mentioned above. As such, we created three

sensitivity charts in order to find how one value affects the firm when another is held constant.

To run our model we made the assumptions of a constant growth of 6%, a constant ROE of 10%, and finally a constant K_e of 8.90%. Using the equation below we were able to run a sensitivity valuation.

$$MVE_0 = BVE_0 + BVE_0 \left(\frac{\overline{ROE} - k_e}{k_e - g} \right)$$

Equation 4-4

Using this formula were able to come up with three different models holding various variables constant.

From the three charts below, the value of Cal-Maine should be \$35.73, thus stating that Cal-Maine is over-valued, when comparing to a price of \$51.66. However, this model takes into account a long run constant ROE that is much lower than has been seen by Cal-Maine in the previous two years, not accounting for years with a higher growth before becoming constant.

Long Run Residual Income Model					
Fixed ROE					
	2%	4%	6%	8%	10%
3.46%	113.34	0.00	0.00	0.00	0.00
6.5%	37.67	54.25	203.43	0.00	0.00
8.90%	25.03	28.20	35.73	76.76	0.00
12%	17.68	17.68	17.68	17.68	17.68
14.33%	14.59	13.93	12.95	11.36	8.31
	Under-Valued	Fairly Valued	Over-Valued		
	56.826	51.66	46.494		
Long Run Residual Income Model					
Fixed G					
	10.0%	13.0%	15.0%	18.0%	20.0%
3.40%	0.00	0.00	0.00	0.00	0.00
6.5%	135.62	169.53	203.43	237.34	305.15
8.90%	23.82	29.78	35.73	41.69	53.60
12%	11.79	14.73	17.68	20.63	26.52
14.33%	8.64	10.80	12.95	15.11	19.43
	Under-Valued	Fairly Valued	Over-Valued		
	56.826	51.66	46.494		
Long Run Residual Income Model					
Fixed Ke					
	2%	4%	6.0%	8%	10%
10.0%	20.02	21.15	23.82	38.38	0.00
13.0%	22.53	24.67	29.78	57.57	0.00
15.0%	25.03	28.20	35.73	76.76	0.00
18.0%	27.53	31.72	41.69	95.95	0.00
20.0%	32.54	38.77	53.60	134.32	0.00
	Under-Valued	Fairly Valued	Over-Valued		
	56.826	51.66	46.494		

Figure 4-13

Intrinsic Model Conclusion

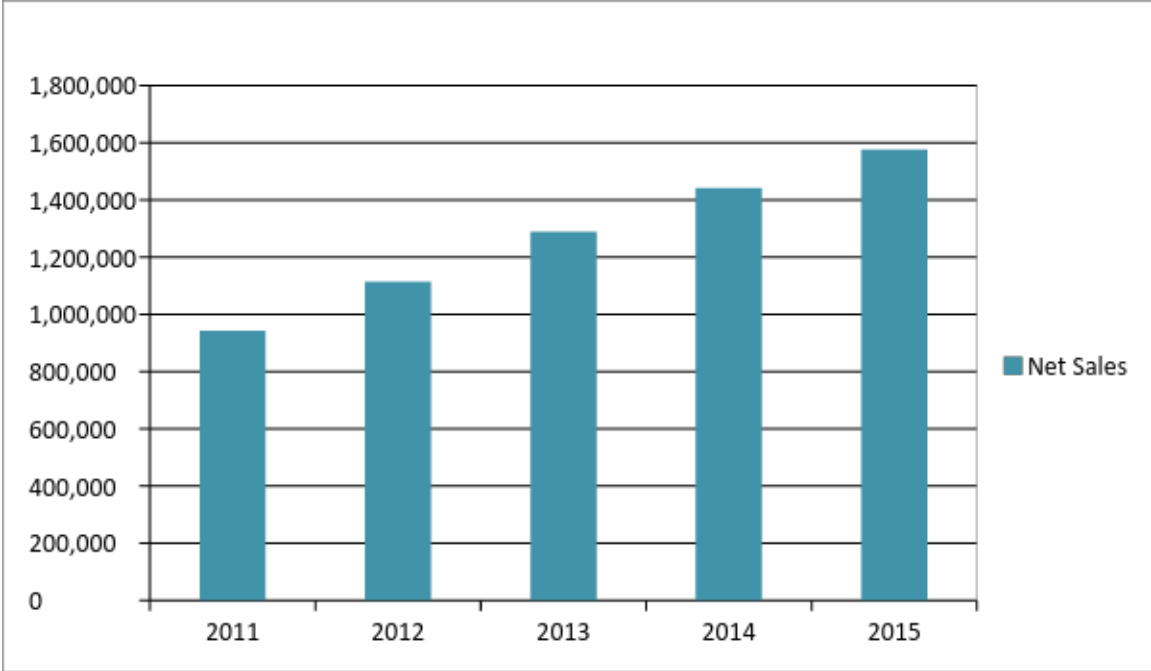
In conclusion, after running four different valuation models, we believe that Cal-Maine as of 4/1/2016 is under-valued. When looking at the discounted dividends, the discounted free cash flow model, and the residual income models they state that Cal-Maine is fairly valued or under-valued. For all of the models, Cal-Maine is over-valued when the cost of equity (whether it be K_e or WACC) rises over 10%. However, with the

relative safety of the shell-egg industry (and Cal-Maine in general as they begin to mature) we do not expect the cost of equity to rise above 10%, thus resulting in Cal-Maine being under-valued.

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Appendix – Industry Overview



Net Sales	\$
2011	\$941,981
2012	\$1,113,116
2013	\$1,228,104
2014	\$1,440,907
2015	\$1,576,128

Figure 1

	2011% Growth	2012 % Growth	2013% Growth	2014% Growth
Pilgrims Pride	9.50%	7.77%	3.57%	2.05%
Industrias Bachoco	0.001%	52.181%	0.363%	-6.657%
Cal-Maine Foods	3.50%	18.17%	15.72%	11.86%
Sanderson Farms	2.73%	20.63%	12.44%	3.42%
Industry Average	3.93%	24.69%	8.02%	2.67%

Figure 1-1

Fixed to Variable Cost Ratio						
	2010	2011	2012	2013	2014	2015
Cal-Maine	-	-0.37522	0.031145	-0.00602	0.619637	1.943554
Sanderson Farms	-	-0.88087	2.083492	0.583224	-2.08872	-0.61594
Industrias Bachoco	-	-0.44825	4.296021	-10.5468	-2.7649	0.16782
Pilgrim's Pride	-	-0.47865	-33.8501	-3.49869	-1.46714	0.623722
Industry Average	-	-0.54575	-6.85985	-3.36708	-1.42528	0.529789

Figure 1-2

(in thousands)	Property, Plant, and Equipment					
	2010	2011	2012	2013	2014	2015
IBA	608,126.81	602,141.41	689,188.13	672,054.80	695,257.73	760,625.23
Sanderson Farms	493,727.00	505,505.00	495,313.00	674,067.80	596,125.00	682,334.00
Pilgrims Pride	1,358,136.00	1,241,752.00	1,189,921.00	1,151,811.00	1,182,795.00	1,352,529.00
Cal-Maine	234,111.00	224,887.00	222,615.00	266,008.00	314,935.00	358,790.00
Industry Average	673,525.20	643,571.35	649,259.28	690,985.40	697,278.18	788,569.56

Figure 1-3

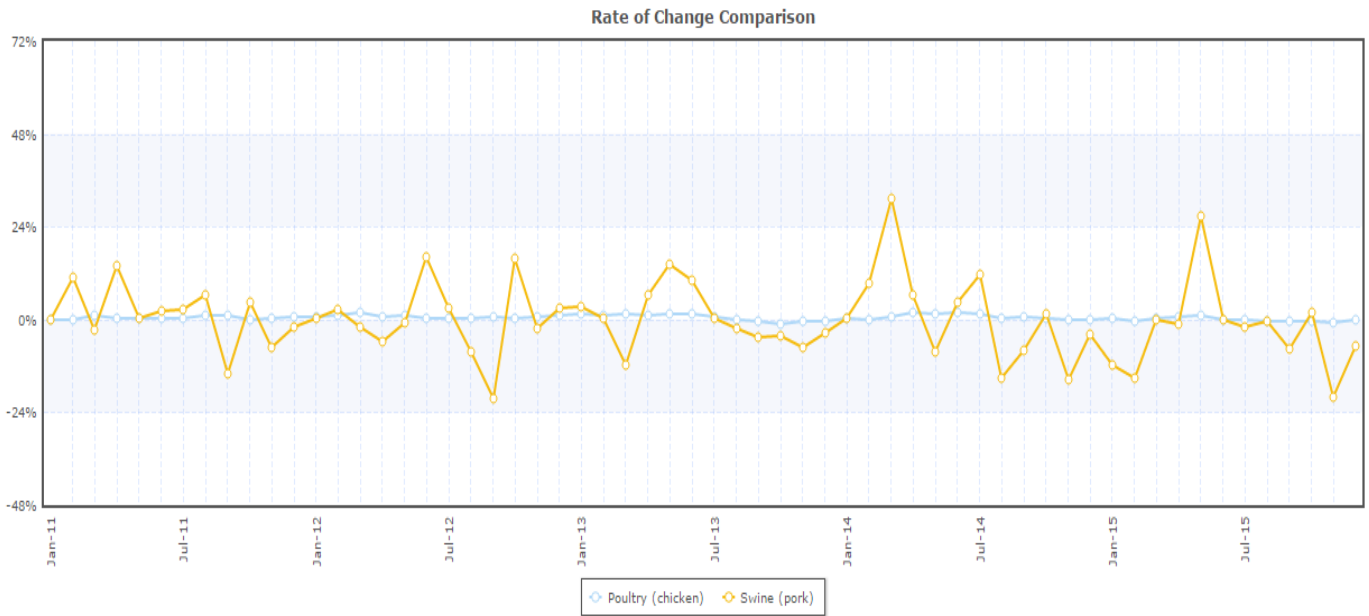


Figure 2-1 (2011-2014)

Goodwill Impairment Proof						
	2010	2011	2012	2013	2014	2015
Operating Income	\$102,604,000.00	\$83,483,000.00	\$88,652,000.00	\$59,593,000.00	\$146,052,000.00	\$235,335,000.00
Goodwill	\$22,117,000.00	\$22,117,000.00	\$22,117,000.00	\$24,417,000.00	\$29,196,000.00	\$29,196,000.00
Goodwill Impairment		\$4,423,400.00	\$4,423,400.00	\$5,379,200.00	\$5,379,200.00	\$5,379,200.00
Fixed Assets	\$234,111,000.00	\$224,887,000.00	\$222,615,000.00	\$266,008,000.00	\$314,935,000.00	\$358,790,000.00
%Goodwill to Fixed Assets	9.45%	9.83%	9.94%	9.18%	9.27%	8.14%
% of Impairment-OpInc		5.30%	4.99%	9.03%	3.68%	2.29%

Figure 2-2

Liquidity Ratios

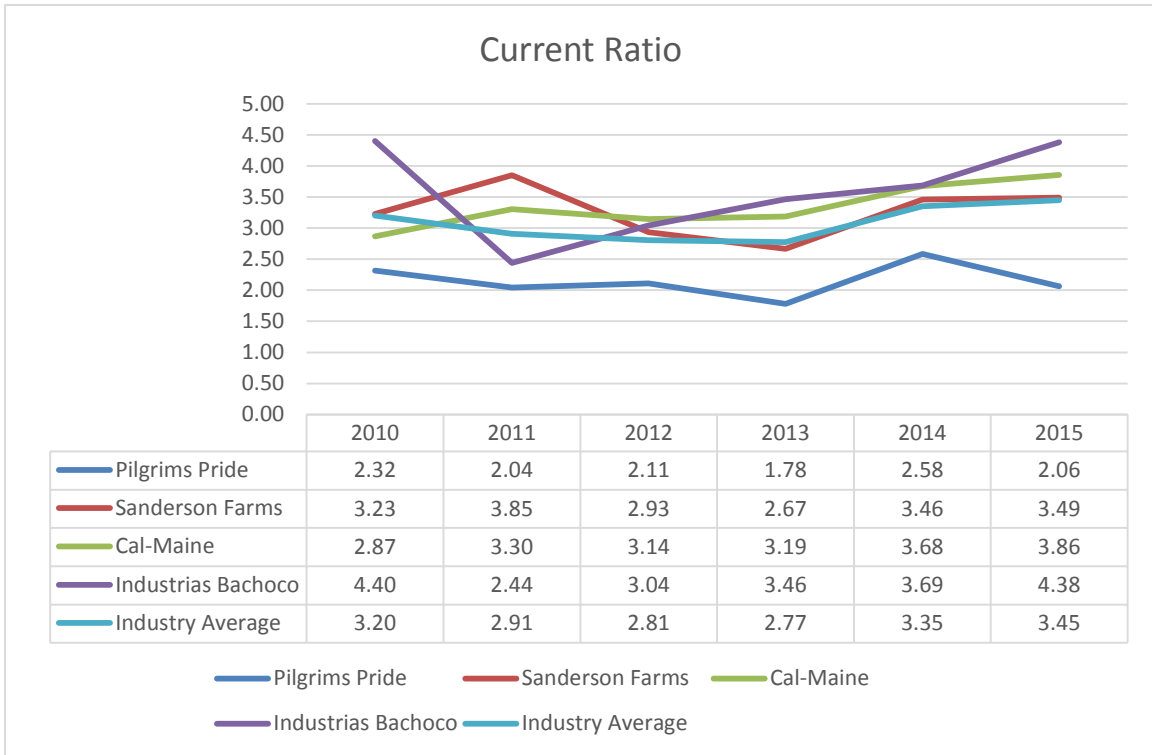


Figure 3-1

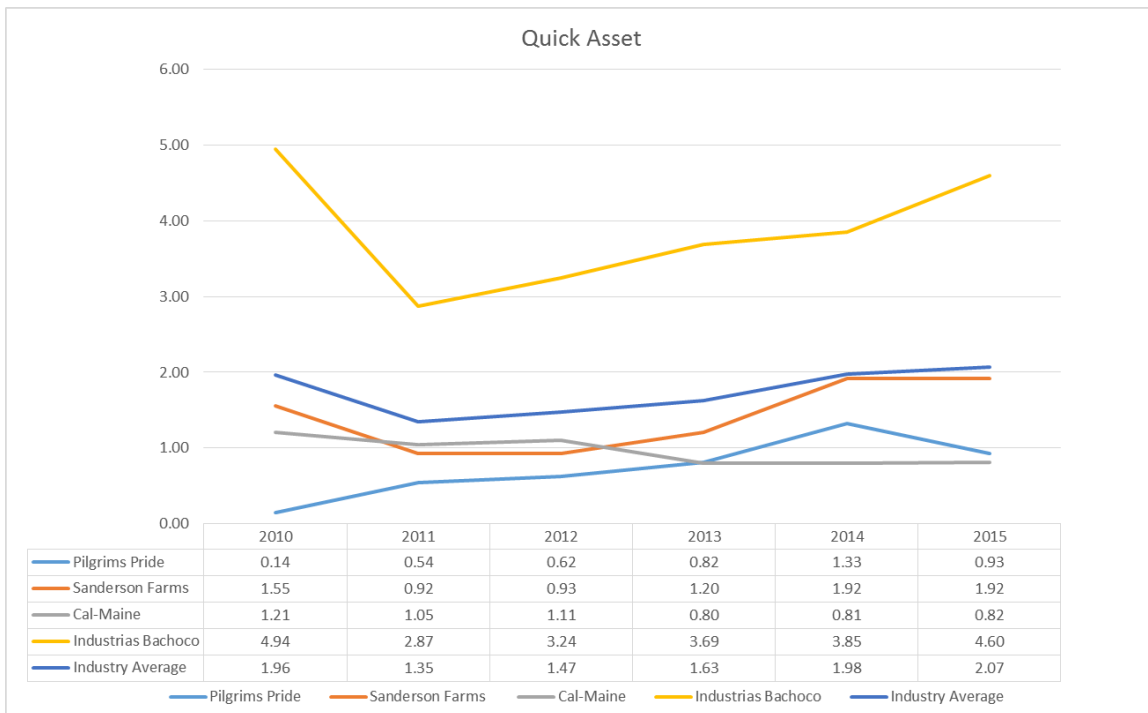


Figure 3-2

Operating Efficiency Ratios

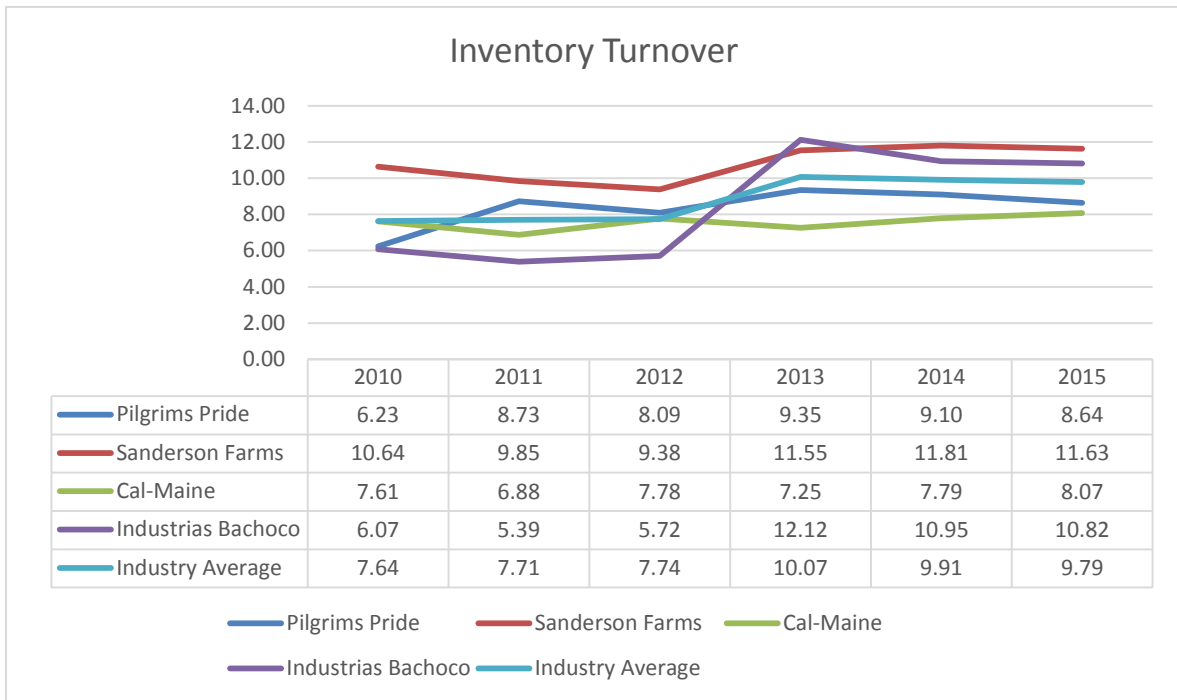


Figure 3-3

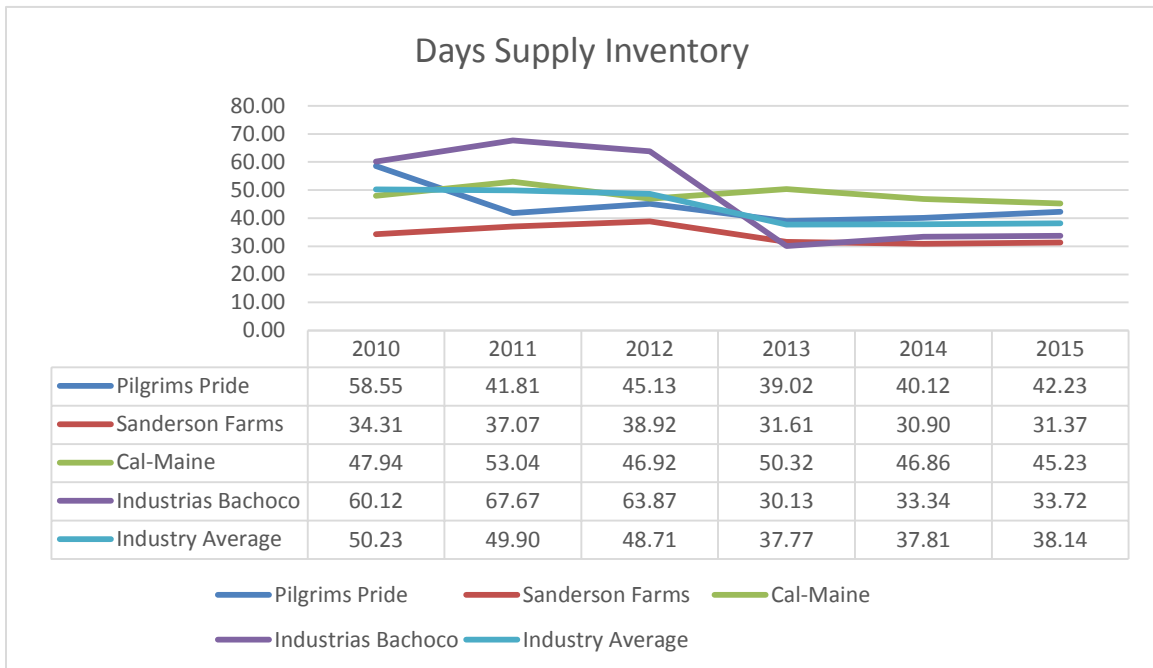


Figure 3-4

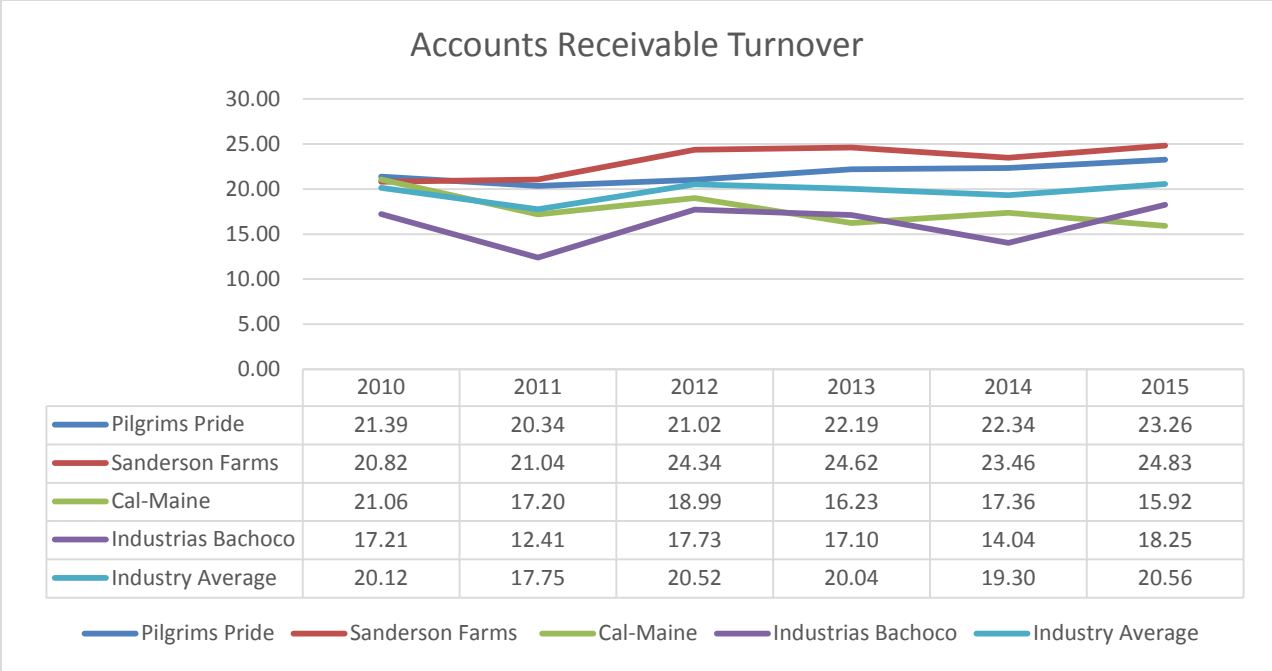


Figure 3-5

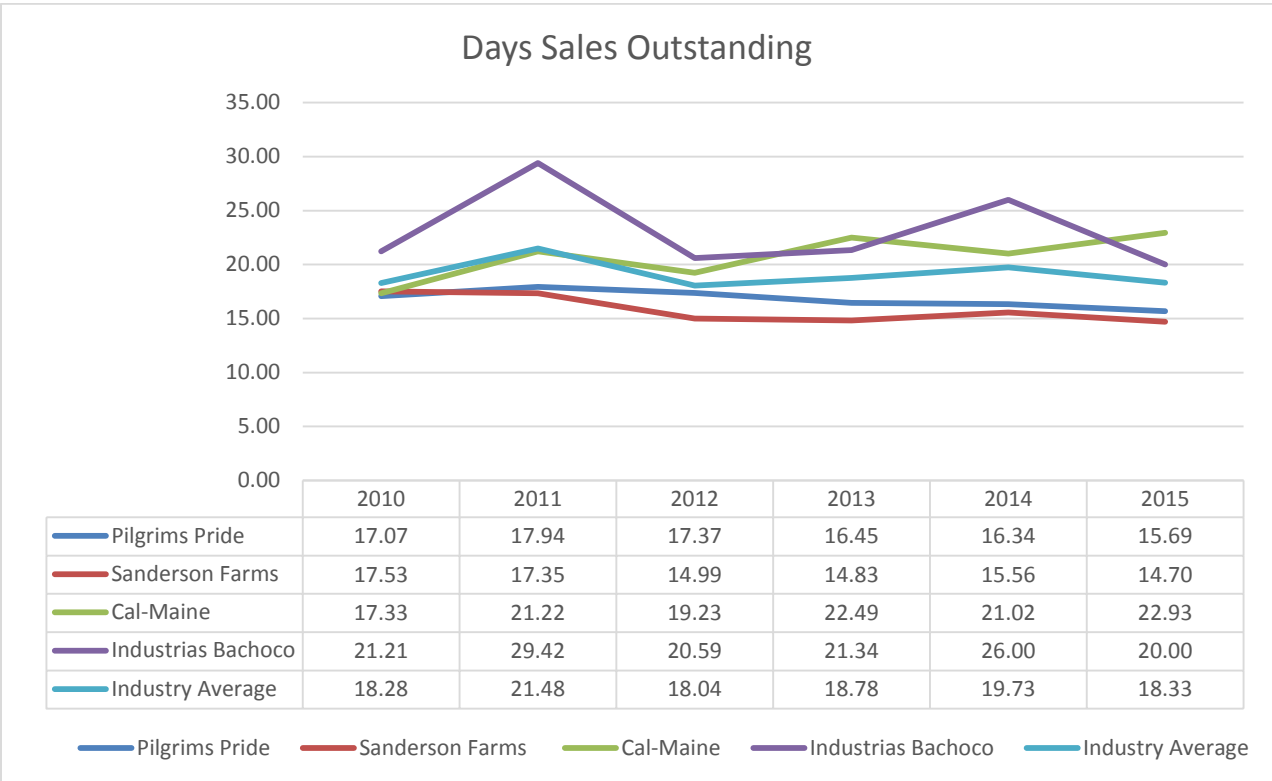


Figure 3-6

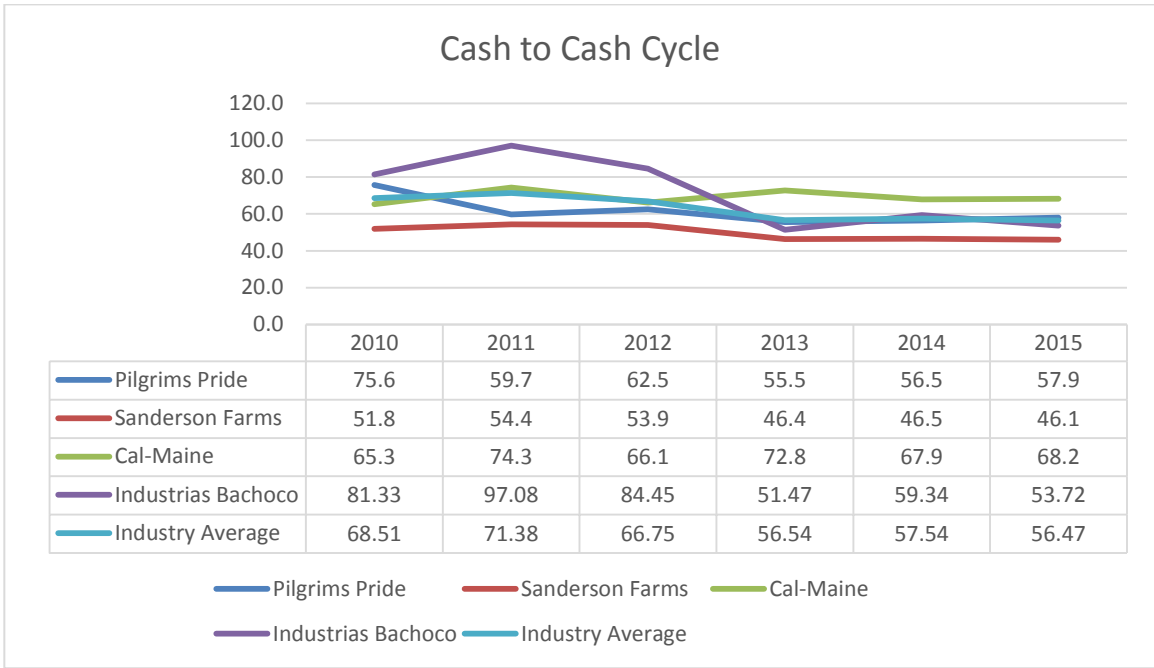


Figure 3-7

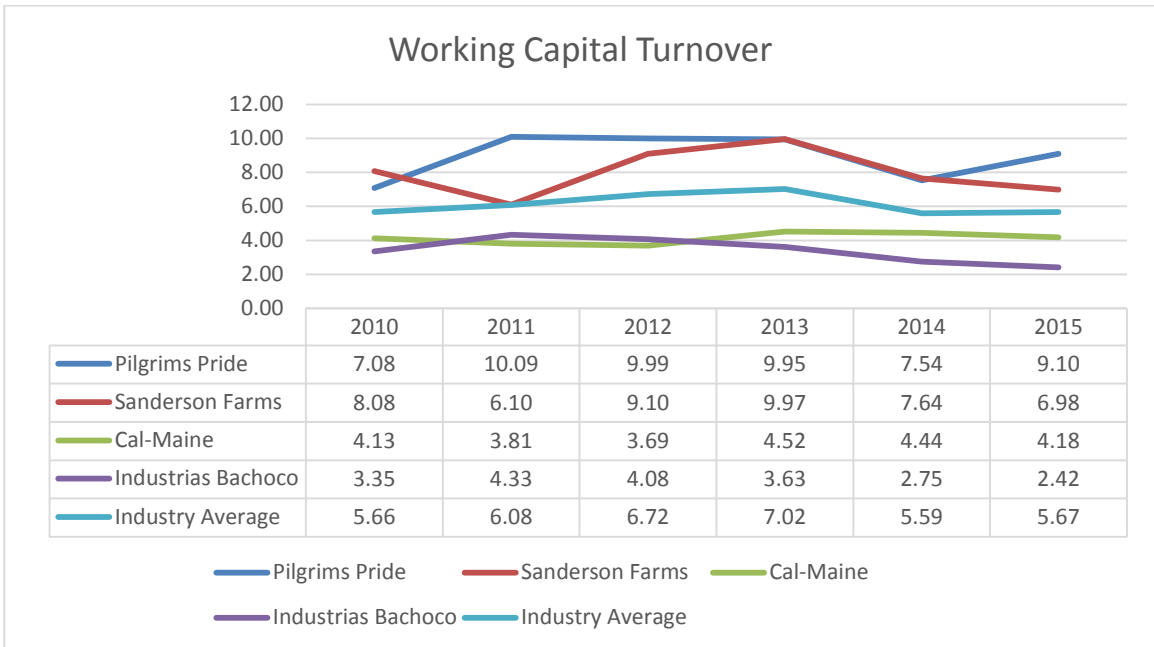


Figure 3-8

Profitability Ratios

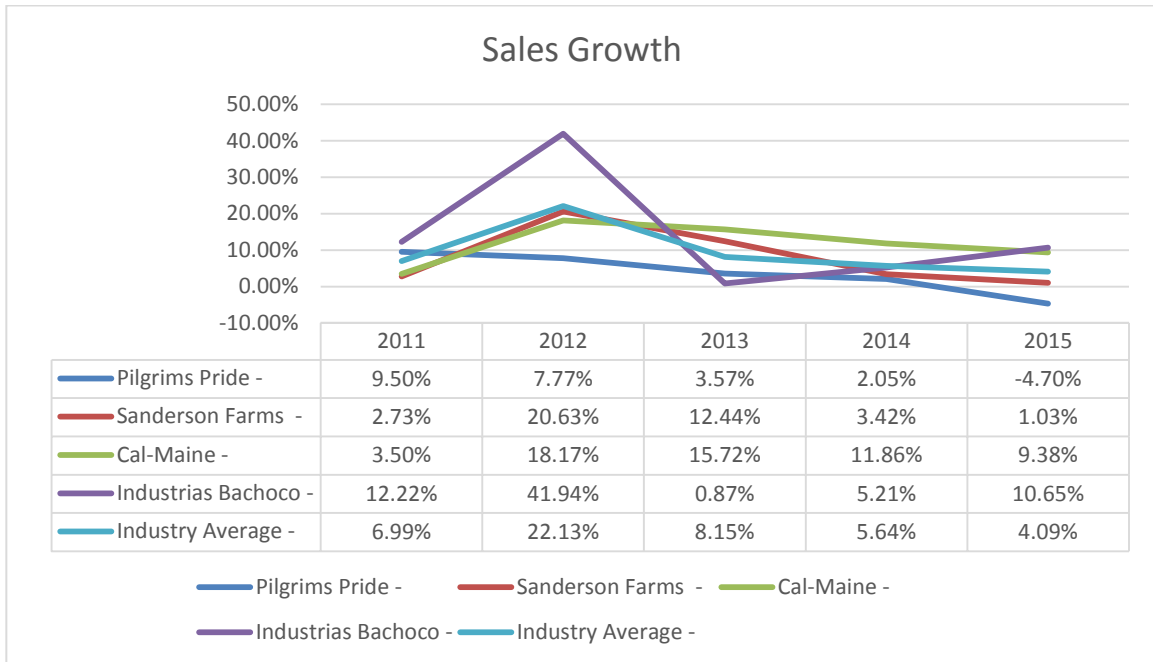


Figure 3-9

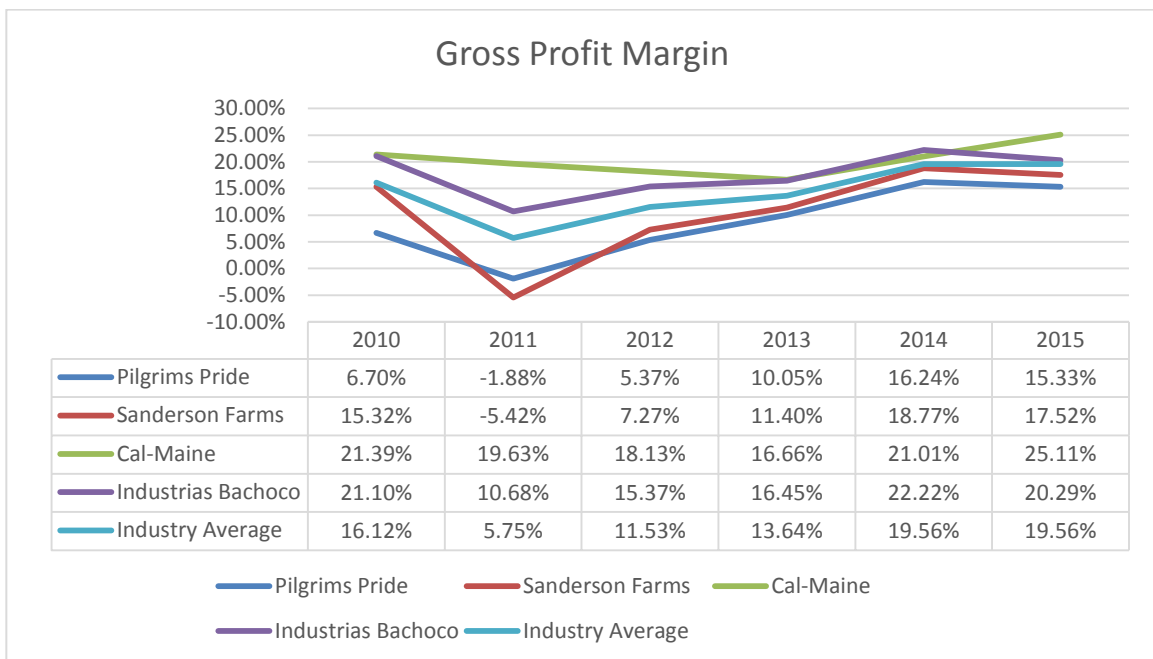


Figure 3-10

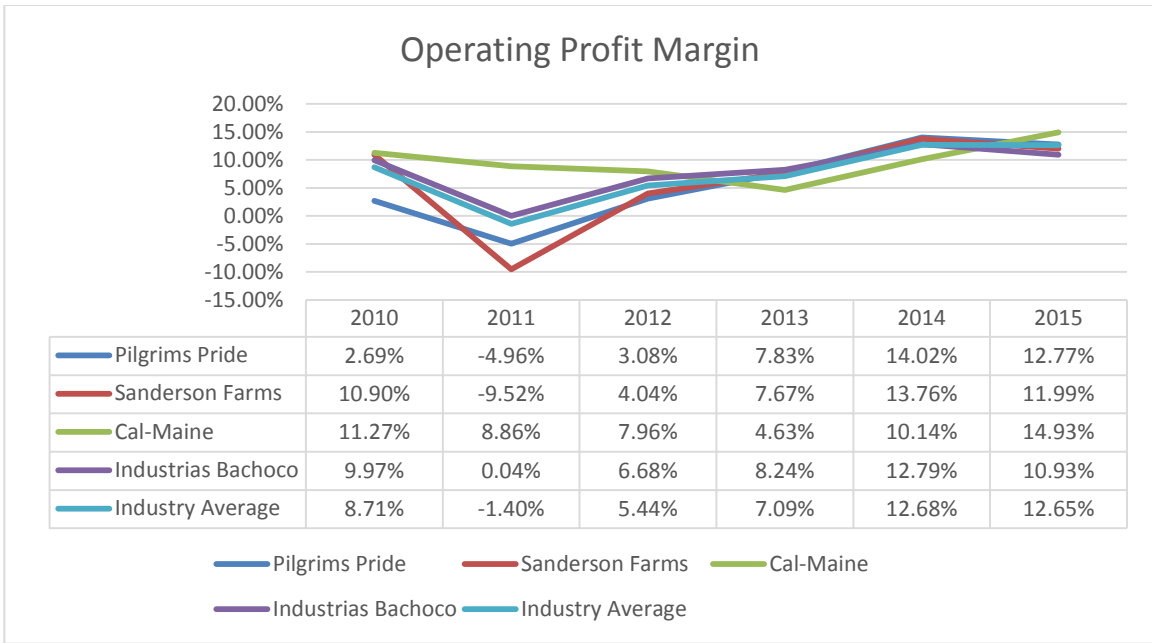


Figure 3-11

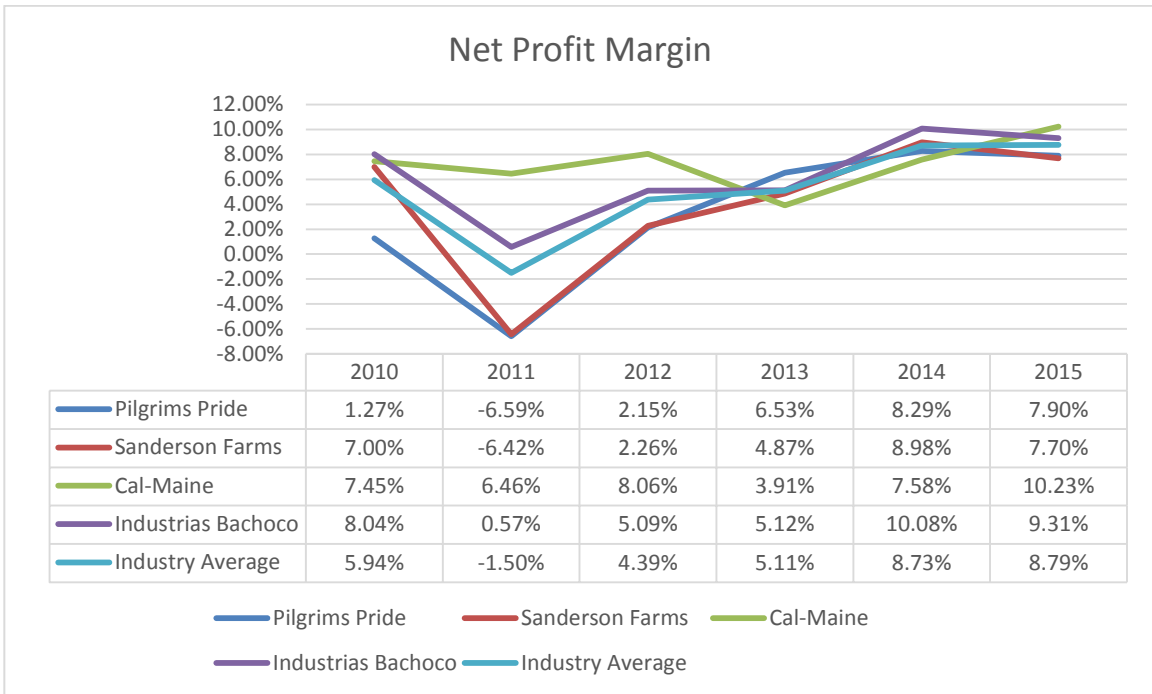


Figure 3-12

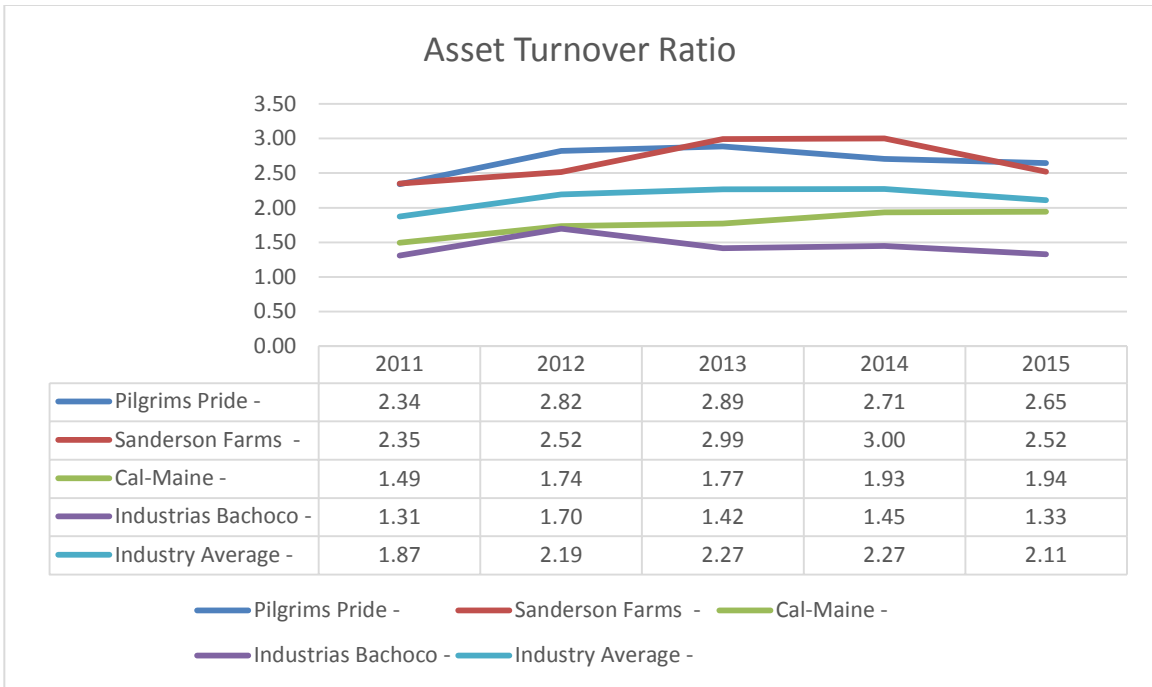


Figure 3-13

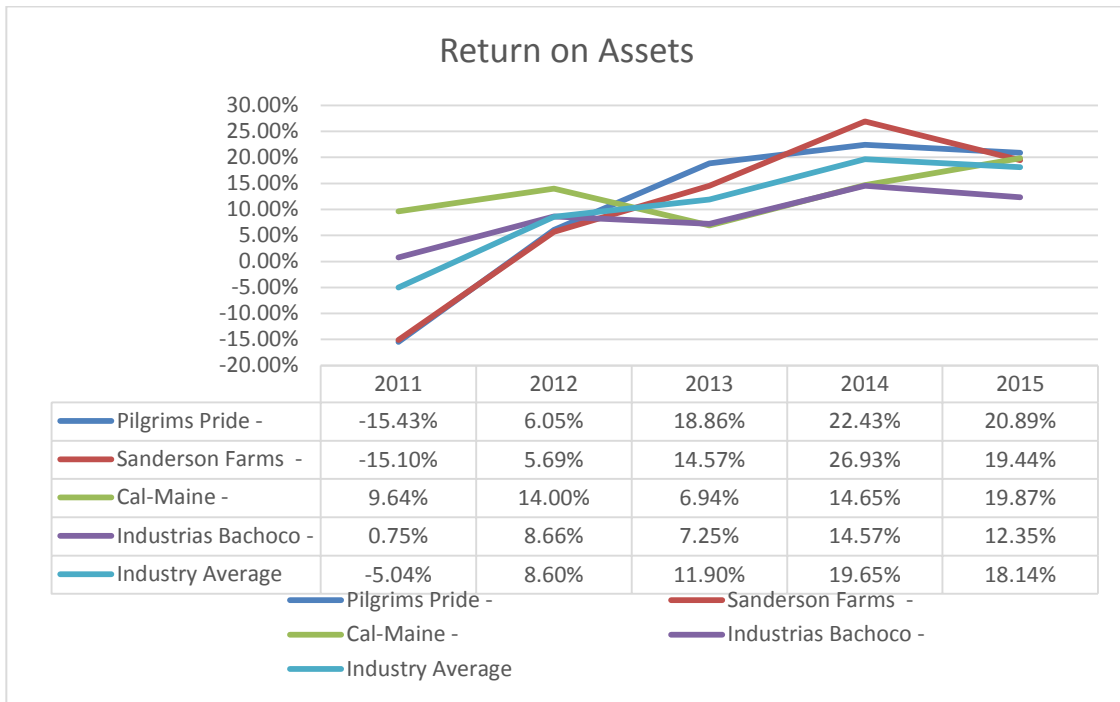


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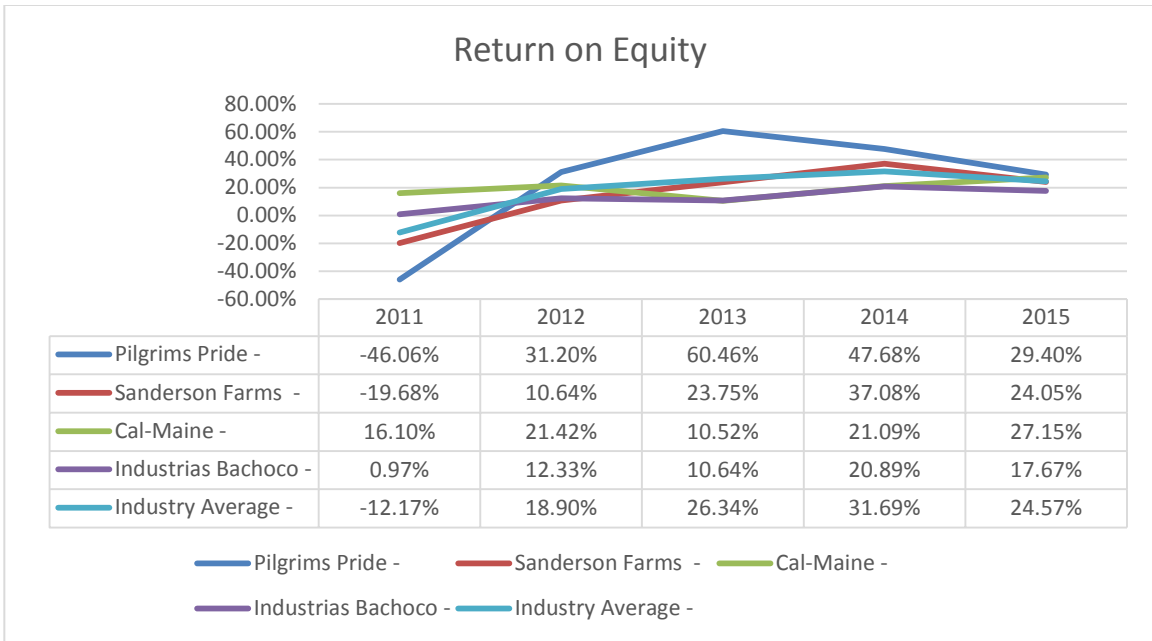


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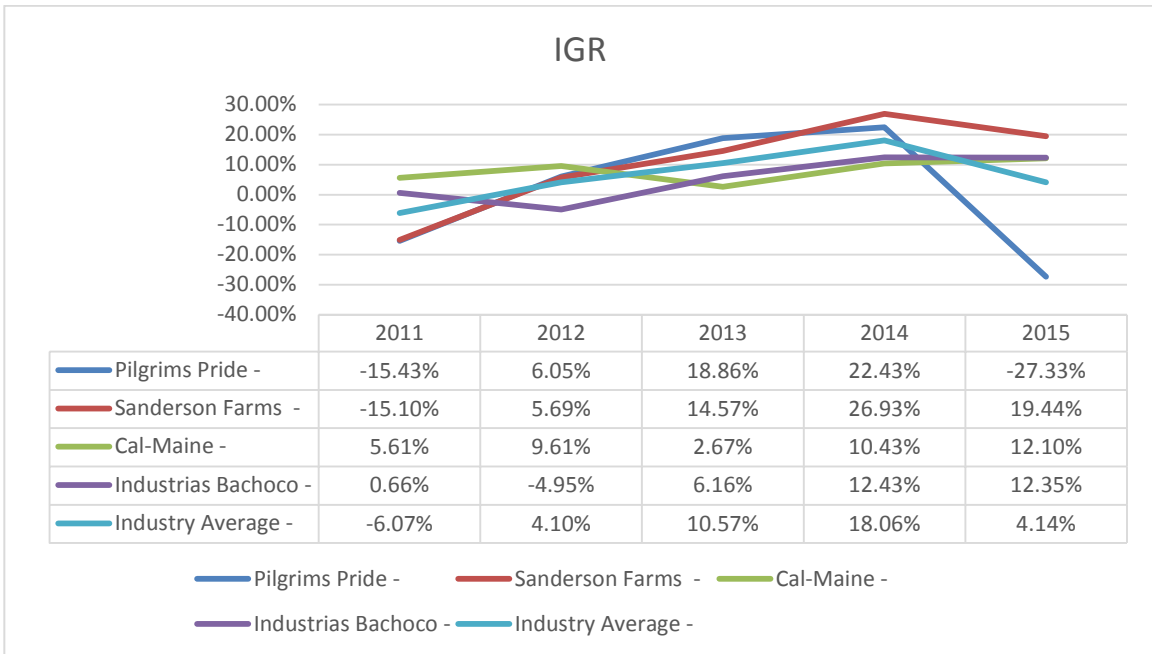


Figure 3-19

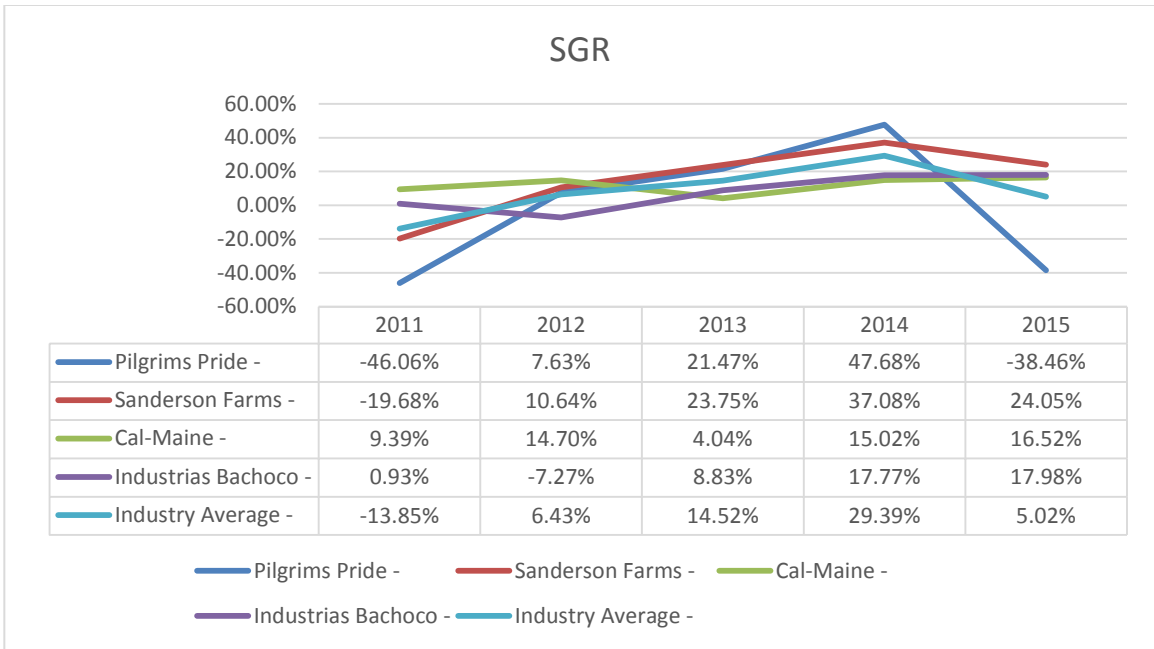


Figure 3-20

Capital Structure Ratios

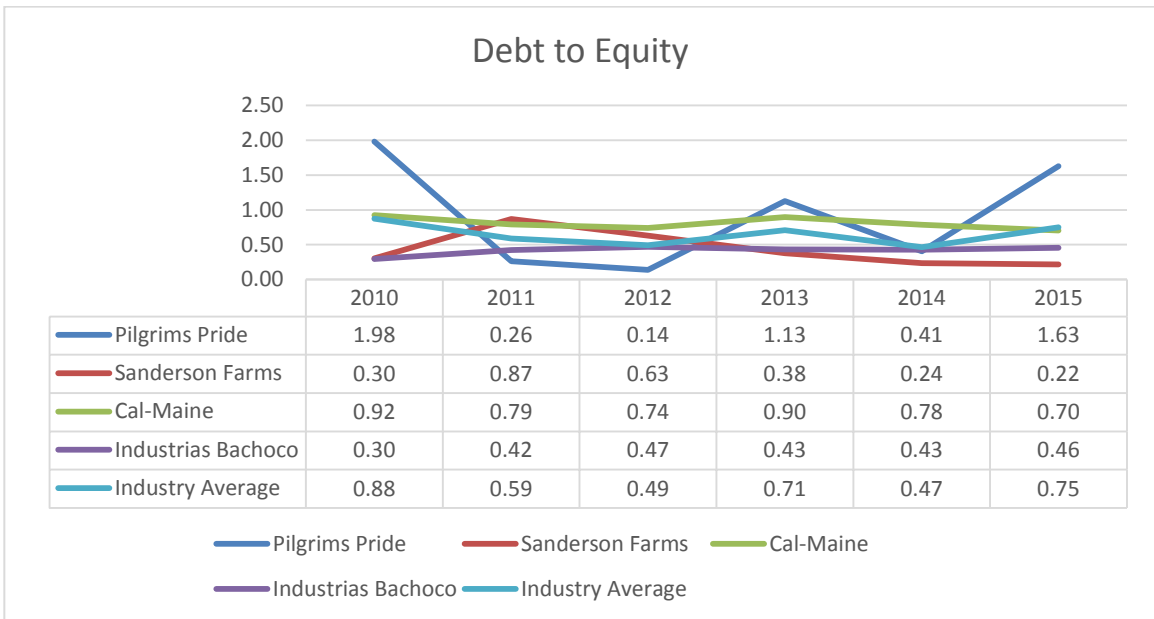


Figure 3-21

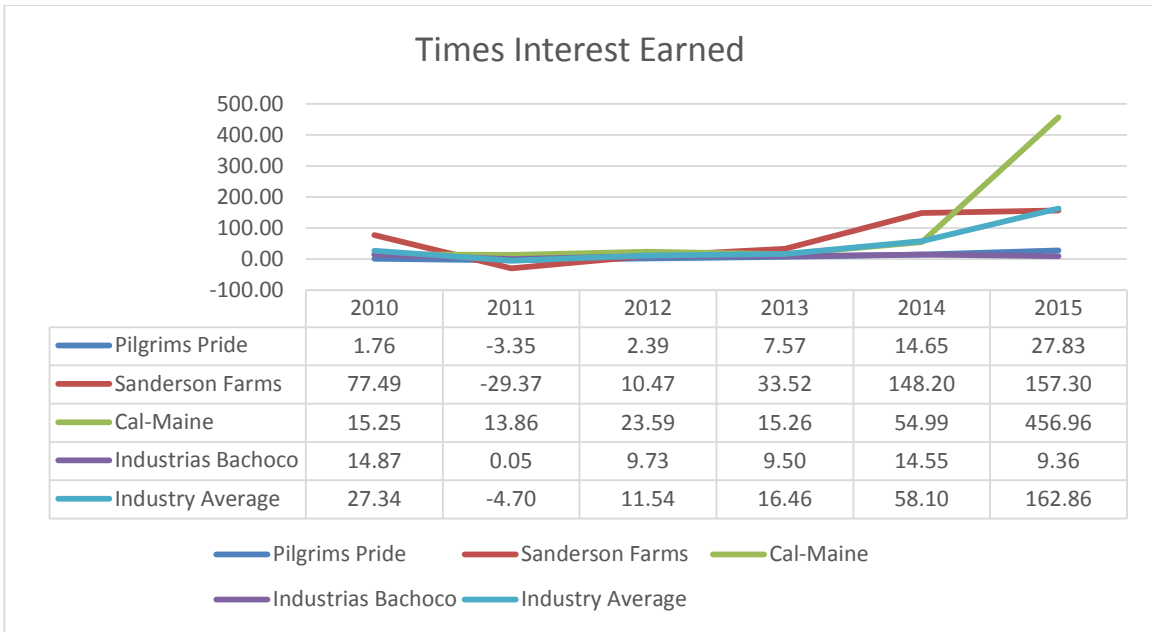


Figure 3-22

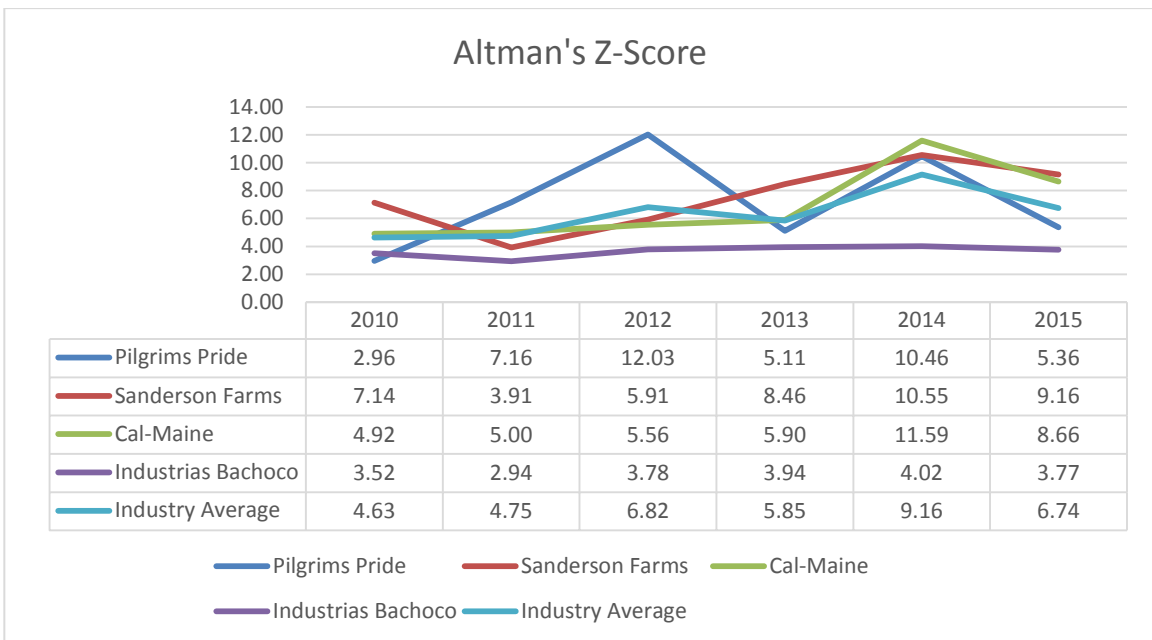


Figure 3-23

$$Z = 1.2 \left(\frac{\text{Working Capital}}{\text{Total Assets}} \right) + 1.4 \left(\frac{\text{Retained Earnings}}{\text{Total Assets}} \right) + 3.3 \left(\frac{\text{EBIT}}{\text{Total Assets}} \right) + 0.6 \left(\frac{\text{Market Value of Equity}}{\text{Total Liabilities}} \right) + 1.0 \left(\frac{\text{Sales}}{\text{Total Assets}} \right)$$

Equation 3-1

Cost of Capital Estimation

TABLE 8-5 Stock Returns, Volatility, and Firm Size					
Size Decile	Market value of largest company in decile in 2010 (\$ millions)	Fraction of total market value represented by decile in 2010 (%)	Average annual stock return 1926–2010 (%)	Beta, 1926–2010	Size premium (return in excess of CAPM - %)
1 – smallest	235.6	1.0	21.0	1.41	6.4
2	477.5	1.3	17.2	1.35	2.9
3	771.8	1.7	16.5	1.30	2.7
4	1,212.3	2.2	15.4	1.24	1.9
5	1,776.0	2.6	15.0	1.19	1.8
6	2,509.2	3.5	14.8	1.16	1.8
7	3,711.0	4.3	13.9	1.12	1.2
8	6,793.9	7.4	13.6	1.10	1.0
9	15,079.5	13.6	12.9	1.03	0.8
10 – largest	314,622.6	62.3	10.9	0.91	–0.4

Figure 3-24

$$R_i = R_f + \beta(R_m - R_f) + \text{Size Premium}$$

Equation 3-2

Dividends Per Share															
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
0.613	0.5215	0.4175	0.636	0.727	1.0095	2.4948	2.629469	2.540638	2.202334	2.728692	3.312632	3.93872	4.58467	5.221939	5.947788

Figure 3-25

20 Year Treasury										
Observations	Beta	Beta Lower Bound	Beta Upperbound	R ²	Size Premium	MRP	R _f	K _e	K _e LB	K _e UB
24	0.092067687	-1.812548361	1.996683735	0.04%	1.89%	7%	2.90%	5.43%	-7.90%	18.77%
36	0.63891185	-0.707490166	1.985313866	2.58%	1.89%	7%	2.90%	9.26%	-0.16%	18.69%
48	0.710953324	-0.358185407	1.780092056	3.67%	1.89%	7%	2.90%	9.77%	2.28%	17.25%
60	0.5870	-0.18945751	1.363396202	3.73%	1.89%	7%	2.90%	8.90%	3.46%	14.33%
72	0.460251609	-0.140795016	1.061298233	3.18%	1.89%	7%	2.90%	8.01%	3.80%	12.22%

Figure 3-26

$$\left(\frac{P}{B}\right) - 1 = \frac{ROE - K_e}{K_e - g}$$

Equation 3-3

Weighted Cost of Debt			
Year of Maturity	Interest Rate	Amount	Weighted Average Percent
2017	6.35	\$10,300,000.00	1.71
2018	6.40	\$3,140,000.00	0.53
2018	5.40	\$4,750,000.00	0.67
2018	5.40	\$6,311,000.00	0.89
2019	2.00	\$159,000.00	0.01
2019	6.20	\$13,500,000.00	2.19
2021	5.99	\$12,700,000.00	1.99
	Total	\$ 38,160,000.00	6.01

Figure 3-27

	Cost of Debt	Weight of Debt	Kd*Wd	Cost of Equity	Weight of Equity	Ke*We	Tax Rate	WACC
WACC BT								
WACC	6%	18%	1.08%	8.90%	82%	7.29800%	N/A	8.38%
WACC LB	6%	18%	1.08%	3.46%	82%	2.837200%	N/A	3.92%
WACC UB	6%	18%	1.08%	14.33%	82%	11.75%	N/A	12.83%
WACC AT								
WACC AT	6%	18%	1.08%	8.90%	82%	7.30%	34.10%	8.01%
WACC AT LB	6%	18%	1.08%	3.46%	82%	2.84%	34.10%	3.55%
WACC AT UB	6%	18%	1.08%	14.33%	82%	11.75%	34.10%	12.46%

Figure 3-28

Equity Valuation Models – Methods of Comparison

Trailing P/E	
Company	Trailing P/E
Industrias Bachoco	12.12
Pilgrims Pride	10.12
Sanderson Farms	12.66
Cal-Maine	7.13
Industry Average	10.5075
Cal-Maine price using multiple	\$50.54

Figure 4-1

Forward P/E	
Company	Forecasted P/E
Industrias Bachoco	12.39
Pilgrims Pride	12.34
Sanderson Farms	13.77
Cal-Maine	13.66
Industry Average	13.04
Cal-Maine price using multiple	\$143.95

Figure 4-2

Price to Book	
Company	Price/Book
Industrias Bachoco	1.68
Pilgrims Pride	5.22
Sanderson Farms	1.97
Cal-Maine	2.89
Industry Average	2.94
Cal-Maine price using multiple	\$ 47.34

Figure 4-3

Dividends to Price			
Company	Dividends	Price	Dividend Yield
Industrias Bachoco	1.5	75.22	1.99%
Pilgrims Pride	0.069	26.12	0.26%
Sanderson Farms	1.38	93.15	1.48%
Cal-Maine	1.917	51.66	3.71%
Industry Average			1.86%
Cal-Maine price using multiple			\$ 102.93

Figure 4-4

Price/Earnings to Growth	
Company	PEG Ratio
Industrias Bachoco	0
Pilgrims Pride	0.24
Sanderson Farms	0.33
Cal-Maine	0.2
Industry Average	0.1925
Cal-Maine price using multiple	\$ 86.91

Figure 4-5

Price to EBITDA			
Company	Market cap	EBITDA	Price/EBITDA
Industrias Bachoco	2,493,982,269.71	311,338,595.85	8.010514286
Pilgrims Pride	6,690,000,000.00	1,265,202,702.70	5.287690254
Sanderson Farms	2,070,000,000.00	332,173,913.04	6.231675393
Cal-Maine	2,257,438,680.00	565,333,333.33	3.993110873
Industry Average	3,377,855,237.43	618,512,136.23	5.461259431
Cal-Maine price using multiple			\$ 70.65

Figure 4-6

Price to Free Cash Flow			
Company	Market cap	FCF	P/FCF
Industrias Bachoco	2,493,982,269.71	130,241.94	19.14884122
Pilgrims Pride	6,690,000,000.00	801,064.00	8.351392648
Sanderson Farms	2,070,000,000.00	139,517.00	14.8369016
Cal-Maine	2,257,438,680.00	113,067.00	19.9654955
Industry Average	3,377,855,237.43	295,972.49	11.41273396
Cal-Maine price using multiple			\$ 29.53

Figure 4-7

Enterprise Value to EBITDA			
Company	Enterprise Value	EBITDA	Enterprise value/EBIT
Industrias Bachoco	1,849,351,259	311,338,596	5.94
Pilgrims Pride	7,490,000,000	1,265,202,703	5.92
Sanderson Farms	1,910,000,000	332,173,913	5.75
Cal-Maine	2,120,000,000	565,333,333	3.75
Industry Average	3,342,337,815	618,512,136	5.34
Cal-Maine price using multiple			\$ 63.76

Figure 4-8

Conclusion	
Comparable	Result
Trailing P/E	Fairly Valued
Forward P/E	Under-Valued
Price to Book	Fairly Valued
Dividends to Price	Under-Valued
Price/Earnings Growth	Under-Valued
Price to EBITDA	Under-Valued
Price to Free Cash Flow	Over-Valued
Enterprise Value to EBITDA	Under-Valued

Figure 4-9

Intrinsic Valuation Models

$$PPS_t = \sum_{t=1}^{\infty} \frac{E(\tilde{d}_{t+1})}{(1 + k_e)^t}$$

Equation 4-1

$$PPS_t = \frac{E(\tilde{d}_{t+1})}{r - g}$$

Equation 4-2

Discounted Dividends					
	1%	2%	3.3%	4%	5%
3.46%	149.11	227.22	1788.27	0.00	0.00
6%	65.68	74.28	94.99	117.28	203.28
8.90%	40.32	42.15	45.51	48.06	53.28
12%	29.69	30.21	31.05	31.62	32.63
14.33%	25.36	25.58	25.94	26.17	26.56
	LB		Fairly Valued		UB
	Under-Valued	56.83	51.66	46.49	Over-Valued

Figure 4-10

$$V_{E,0} = \sum_{t=1}^{\infty} \frac{E_t \left(FCF_t \right)}{(1 + WACC)^t} - Liabilities_{MV,0}$$

Equation 4-3

Discounted Free Cash Flow Model					
	0%	2%	4%	6%	8%
3.92%	79.00	121.70	0.00	0.00	0.00
6.5%	52.67	61.45	84.27	289.65	0.00
8.38%	42.81	46.90	54.72	75.70	317.49
10%	36.88	39.26	43.24	51.19	75.05
12.83%	29.55	30.64	32.22	34.73	39.31
	Under-Valued		Fairly Valued		Over-Valued
	56.826		51.66		46.494

Figure 4-11

Residual Income					
	-10%	-20%	-30.0%	-40%	-50%
3.46%	115.49	96.36	88.67	84.52	81.92
6%	82.52	73.31	69.21	66.90	65.41
8.90%	58.92	55.08	53.21	52.11	51.38
12%	43.02	41.76	41.10	40.69	40.42
14.33%	34.90	34.55	34.37	34.25	34.17
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	

Figure 4-12

$$MVE_0 = BVE_0 + BVE_0 \left(\frac{\overline{ROE} - k_e}{k_e - g} \right)$$

Equation 4-4

Long Run Residual Income Model					
Constant ROE					
	2%	4%	6%	8%	10%
3.46%	90.68	-183.87	-26.06	-7.29	0.00
6.5%	30.14	40.69	135.62	-22.60	0.00
8.90%	20.02	21.15	23.82	38.38	0.00
12%	14.14	13.26	11.79	8.84	0.00
14.33%	11.67	10.45	8.64	5.68	0.00
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	
		use centered value; it is the most likely outcome			
Long Run Residual Income Model					
Constant G					
	10.0%	13.0%	12.0%	18.0%	20.0%
3.40%	0.00	0.00	0.00	0.00	0.00
6.5%	135.62	169.53	203.43	237.34	305.15
8.90%	23.82	29.78	35.73	41.69	53.60
12%	11.79	14.73	17.68	20.63	26.52
14.33%	8.64	10.80	12.95	15.11	19.43
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	
Long Run Residual Income Model					
Fixed K					
	2%	4%	6.0%	8%	10%
10.0%	20.02	21.15	23.82	38.38	0.00
13.0%	22.53	24.67	29.78	57.57	0.00
15.0%	25.03	28.20	35.73	76.76	0.00
18.0%	27.53	31.72	41.69	95.95	0.00
20.0%	32.54	38.77	53.60	134.32	0.00
	Under-Valued	Fairly Valued		Over-Valued	
	56.826	51.66		46.494	

Figure 4-13

Forecasted Financial Statements

Income Statement

Fiscal end May 31st Statement of Operations Data (in thousands)	Fiscal Years Ended															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Net sales	\$910,143	\$941,981	\$1,113,116	\$1,288,104	\$1,440,907	\$1,576,128	\$ 1,953,117	\$ 2,167,960	\$ 2,406,435	\$ 2,647,079	\$ 2,858,845	\$ 3,087,553	\$ 3,334,557	\$ 3,601,322	\$ 3,889,427	\$ 4,200,582
Cost of sales	715,499	757,050	911,334	1,073,555	1,138,143	1,180,407	\$ 1,269,526	\$ 1,734,368	\$ 1,925,148	\$ 2,117,663	\$ 2,287,076	\$ 2,470,042	\$ 2,667,646	\$ 2,881,057	\$ 3,111,542	\$ 3,360,465
Gross profit	194,644	184,931	201,782	214,549	302,764	395,721	\$ 683,591	\$ 433,592	\$ 481,287	\$ 529,416	\$ 571,769	\$ 617,511	\$ 666,911	\$ 720,264	\$ 777,885	\$ 840,116
Selling, general and administrative	92,040	101,448	113,130	126,956	156,712	160,386	\$ 195,312	\$ 216,796	\$ 240,644	\$ 264,708	\$ 285,885	\$ 308,755	\$ 333,456	\$ 360,132	\$ 388,943	\$ 420,058
Legal settlement expense	0	0	0	28,000	0	0										
Operating income	102,604	83,483	88,652	59,593	146,052	235,335	\$ 488,279.25	\$ 216,796	\$ 240,644	\$ 264,708	\$ 285,885	\$ 308,755	\$ 333,456	\$ 360,132	\$ 388,943	\$ 420,058
Other income (expense):																
Interest expense, net of interest income	(6,728)	(6,022)	(3,758)	(3,906)	(2,656)	(515)										
Loss on early extinguishment of debt		(2,648)	0	0	0	0										
Equity in income of affiliates	3,507	4,701	7,495	3,480	3,512	2,657										
Gain on sale of investment in Egghands Best		4,829	0	0	0	0										
Distribution from Egghands Best		0	38,343	0	0	0										
Patronage dividends		4,885	6,607	14,300	6,139	6,893										
Other, net		2,443	1,738	2,101	8,795	2,179										
Total other income	4,199	8,188	50,425	15,975	15,790	11,214										
Income before tax and noncontrolling interest	103,493	91,671	139,077	75,568	161,842	246,549										
Income tax expense	37,961	33,403	49,110	24,807	52,035	84,268										
Net income including noncontrolling interest	65,532	58,268	89,967	50,761	109,807	162,281										
Less: Net income (loss) attributable to noncontrolling interest	(2,291)	(2,571)	232	338	600	1,027										
Net income attributable to Cal-Maine Foods,	\$67,823	\$60,839	\$89,735	\$50,423	\$109,207	\$161,254	\$ 360,000.00	\$ 281,834.78	\$ 288,772.25	\$ 270,002.06	\$ 291,602.22	\$ 314,930.40	\$ 340,124.83	\$ 367,334.82	\$ 396,721.60	\$ 428,459.33
	7.5%	6.5%	8.1%	3.9%	7.6%	10.2%	18.4%	13.0%	12.0%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%

Common Size Income Statement

Statement of Operations Data (stated in thousands)	Fiscal Years Ended															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Annual Sales Growth		3.38%	15.37%	13.58%	10.60%	8.58%	19.30%	9.91%	9.91%	9.09%	7.41%	7.41%	7.41%	7.41%	7.41%	7.41%
□Net sales	100.000%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
□Cost of sales	78.614%	80.37%	81.87%	83.34%	78.99%	74.89%	65.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%	80.00%
□Gross profit	21.386%	19.63%	18.13%	16.66%	21.01%	25.11%	35.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
□Selling, general and administrative	10.113%	10.77%	10.16%	9.86%	10.88%	10.18%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
□Legal settlement expense	0.000%	0.00%	0.00%	2.17%	0.00%	0.00%										
□Operating income	11.273%	8.86%	7.96%	4.63%	10.14%	14.93%	25.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
□Other income (expense):																
□Interest expense, net of interest income	-0.739%	-0.64%	-0.34%	-0.30%	-0.18%	-0.03%										
□Loss on early extinguishment of debt	0.000%	-0.28%	0.00%	0.00%	0.00%	0.00%										
□Equity in income of affiliates	0.385%	0.50%	0.67%	0.27%	0.24%	0.17%										
Gain on Sale of Investment in Egglan's Best	0.000%	0.00%	3.44%	0.00%	0.00%	0.00%										
Distribution from Egglan's Best Patronage Dividends	0.000%	0.52%	0.59%	1.11%	0.43%	0.44%										
□Other, net	0.000%	0.26%	0.16%	0.16%	0.61%	0.14%										
□Total other income	0.461%	0.87%	4.53%	1.24%	1.10%	0.71%										
Income before tax and non-controlling interest	11.371%	9.73%	12.49%	5.87%	11.23%	15.64%										
□Income tax expense	4.171%	3.55%	4.41%	1.93%	3.61%	5.35%										
□Net income including noncontrolling interest	7.200%	6.19%	8.08%	3.94%	7.62%	10.30%										
□Less: Net income (loss) attributable to noncontrolling interest	-0.252%	-0.27%	0.02%	0.03%	0.04%	0.07%										
□Net income attributable to Cal-Mane Foods,	7.452%	6.46%	8.06%	3.91%	7.58%	10.23%	18.43%	13.00%	12.00%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%

Balance Sheet

Consolidated Balance Sheets																
(in thousands)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets																
Current assets:							24%	47%	12%	12%	8%	8%	8%	8%	8%	80%
Cash and cash equivalents	\$99,453	\$57,679	\$97,128	\$24,984	\$14,521	\$8,667										
Investment securities available-for-sale	76,702	118,750	163,623	157,904	194,738	249,961										
Investment securities trading	22,900															
Receivables less allowance for doubtful accounts	43,212	54,774	58,630	79,352	82,978	99,013										
Other	375	3,008	4,138	3,234	4,538	2,964										
Insurance Receivable	43,587	62,790														
Inventories	93,968	110,021	117,158	147,993	146,117	146,260										
Prepaid expenses and other current assets	1,550	5,801	1,525	1,414	2,501	2,099										
Total current assets	338,160	355,041	442,202	414,881	445,393	508,964	\$ 634,700.00	\$ 932,070.07	\$ 1,039,923.89	\$ 1,164,714.76	\$ 1,257,891.94	\$ 1,358,523.30	\$ 1,467,205.16	\$ 1,584,581.57	\$ 1,711,348.10	\$ 3,080,426.58
Other assets:																
Other investments	17,708	19,142	22,330	20,413	6,786	18,843										
Non-current Notes Receivable		3,049	2,583	565	211	0										
Goodwill	22,117	22,117	22,117	24,417	29,196	29,196										
Other intangible assets	12,523	10,063	8,028	12,326	10,423	7,560										
Other long-lived assets	6,665	6,544	6,441	7,017	4,717	5,300		\$ 210,862.41	\$ 76,478.17	\$ 88,488.07	\$ 66,071.09	\$ 71,356.78	\$ 77,065.32	\$ 83,230.55	\$ 89,888.99	\$ 970,801.10
Other Long Lived Assets cont.	59,013	60,915	61,499	64,738	51,333	60,899										
Property, Plant, and Equipment less accumulated depreciation	234,111	224,887	222,615	266,008	314,935	358,790	\$ 450,060.00	\$ 660,922.41	\$ 737,400.58	\$ 825,888.65	\$ 891,959.74	\$ 963,316.52	\$ 1,040,381.84	\$ 1,123,612.39	\$ 1,213,501.38	\$ 2,184,302.48
Total assets	\$631,284	\$640,843	\$726,316	\$745,627	\$811,661	\$928,653	\$ 1,154,000.00	\$ 1,694,672.86	\$ 1,890,770.72	\$ 2,117,663.20	\$ 2,287,076.26	\$ 2,470,042.36	\$ 2,667,645.75	\$ 2,881,057.41	\$ 3,111,542.00	\$ 5,600,775.60
change in ppe		(\$9,559)	(\$85,473)	(\$19,311)	(\$86,034)	(\$116,992)	(\$225,347)	(\$540,673)	(\$196,098)	(\$226,892)	(\$169,413)	(\$182,966)	(\$197,603)	(\$213,412)	(\$230,489)	
ATO							1.88	1.42	1.4	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Liabilities and stockholders' equity							(\$202,812.30)	(\$378,471.00)	(\$137,268.50)	(\$158,824.74)	(\$118,589.14)	(\$128,076.27)	(\$138,322.37)	(\$149,388.16)	(\$161,339.21)	\$0.00
Current liabilities:																
Trade accounts payable	\$37,479	\$50,122	\$55,227	\$47,234	\$38,974	\$44,709										
Accrued dividends payable	7,009	2,424	12,419	0	10,497	15,372										
Accrued wages and benefits	9,426	10,802	12,434	14,407	15,205	16,939										
Accrued income taxes payable	0	0	12,092	359	2,983	5,288										
Accrued expenses and other liabilities	14,106	8,621	11,552	9,827	12,775	9,173										
Accrued legal settlement expense (see Notes 14 & 20)	0	0	0	28,000	0	0										
Current maturities of long-term debt	29,974	11,743	11,458	10,373	10,216	10,065										
Deferred income taxes	19,980	23,770	25,474	19,995	30,451	30,391										
Total current liabilities	117,974	107,482	140,656	130,195	121,101	131,937	\$ 125,728.74	\$ 315,724.26	\$ 317,139.30	\$ 341,974.50	\$ 327,955.86	\$ 312,815.74	\$ 296,464.40	\$ 278,804.96	\$ 259,732.77	\$ 1,448,902.32
Long-term debt, less current maturities	104,699	76,418	64,762	54,647	50,877	40,795										
Other noncurrent liabilities	3,299	3,346	3,165	4,322	4,436	5,745										
Deferred income taxes	28,356	34,720	38,405	38,419	40,502	45,614										
Total Non-Current Liabilities	136,354	114,484	106,332	97,388	95,815	92,154										
Total liabilities	254,328	221,966	246,988	227,583	216,916	224,091	\$ 232,831.00	\$ 584,674.55	\$ 587,295.00	\$ 633,286.11	\$ 607,325.67	\$ 579,288.41	\$ 549,008.16	\$ 516,305.49	\$ 480,986.60	\$ 2,683,152.45
Stockholders' equity:																
Common Stock Issued	351	351	351	351	351	703										
Class A Convertible Common Stock issued	24	24	24	24	24	48										
Paid-in capital	32,699	33,419	33,651	39,052	40,476	43,304										
Retained earnings	365,821	406,361	466,164	498,711	572,874	679,969	\$ 921,169.00	\$ 1,109,998.30	\$ 1,303,475.72	\$ 1,484,377.09	\$ 1,679,750.58	\$ 1,890,753.95	\$ 2,118,637.59	\$ 2,364,751.92	\$ 2,630,555.39	\$ 2,917,623.15
Accumulated Other Comprehensive Income, net of tax	0	(320)	(222)	166	561	22										
Treasury Stock	(20,966)	(20,929)	(20,843)	(20,572)	(20,453)	(20,482)										
Total Cal-Maine Stockholders Equity	377,929	418,906	479,125	517,732	593,833	703,564	\$ 944,764.00	\$ 1,133,593.30	\$ 1,327,070.72	\$ 1,507,972.09	\$ 1,703,345.58	\$ 1,914,348.95	\$ 2,142,232.59	\$ 2,388,346.92	\$ 2,654,150.39	\$ 2,941,218.15
Noncontrolling interest in consolidated entities	(973)	(29)	203	312	912	998										
Total Stockholders Equity	376,956	418,877	479,328	518,044	594,745	704,562										
Total liabilities and stockholders' equity	\$631,284	\$640,843	\$726,316	\$745,627	\$811,661	\$928,653	\$ 1,154,000.00	\$ 1,694,672.86	\$ 1,890,770.72	\$ 2,117,663.20	\$ 2,287,076.26	\$ 2,470,042.36	\$ 2,667,645.75	\$ 2,881,057.41	\$ 3,111,542.00	\$ 5,600,775.60

Common Size Balance Sheet

Consolidated Balance Sheets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Assets																
Current assets:																
□ Cash and cash equivalents	16%	9%	13%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
□ Investment securities available-for-sale	12%	19%	23%	21%	24%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Investment securities trading	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Receivables less allowance for doubtful accounts	7%	9%	8%	11%	10%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
▣ Other	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Insurance Recieveable	7%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
□ Inventories	15%	17%	16%	20%	18%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
□ Prepaid expenses and other current assets	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total current assets	54%	55%	61%	56%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
□ Other assets:							0%									
□ Other investments	3%	3%	3%	3%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-current Notes Receivable	0.00%	0.48%	0.36%	0.08%	0.03%	0.00%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
▣ Goodwill	4%	3%	3%	3%	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
□ Other intangible assets	2%	2%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
□ Other long-lived assets	1%	1%	1%	1%	1%	1%	8%	23%	8%	10%	7%	8%	8%	9%	10%	105%
□ Other long-lived assets	9%	10%	8%	9%	6%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Property, Plant, and Equipment less accumulated depreciation	37%	35%	31%	36%	39%	39%	39%	71%	79%	89%	96%	104%	112%	121%	131%	235%
Total assets	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Current liabilities:																
□ Trade accounts payable	14.74%	22.58%	22.36%	20.75%	17.97%	19.95%	-18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Accrued dividends payable	2.76%	1.09%	5.03%	0.00%	4.84%	6.86%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Accrued wages and benefits	3.71%	4.87%	5.03%	6.33%	7.01%	7.56%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Accrued income taxes payable	0.00%	0.00%	4.90%	0.16%	1.38%	2.36%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Accrued expenses and other liabilities	5.55%	3.88%	4.68%	4.32%	5.89%	4.09%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Accrued legal settlement expense (see Notes 14 & 20)	0.00%	0.00%	0.00%	12.30%	0.00%	0.00%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
▣ Current maturities of long-term debt	11.79%	5.29%	4.64%	4.56%	4.71%	4.49%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Deferred income taxes	7.86%	10.71%	10.31%	8.79%	14.04%	13.56%	0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total current liabilities	46.39%	48.42%	56.95%	57.21%	55.83%	58.88%	11%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%	54.00%
□ Long-term debt, less current maturities	41.17%	34.43%	26.22%	24.01%	23.45%	18.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
▣ Other noncurrent liabilities	1.30%	1.51%	1.28%	1.90%	2.05%	2.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
□ Deferred income taxes	11.15%	15.64%	15.55%	16.88%	18.67%	20.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Non-Current Liabilities	53.61%	51.58%	43.05%	42.79%	44.17%	41.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total liabilities	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Statement of Cash Flows

Consolidated Statements of Cash Flows (in thousands)	Fiscal year ended															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cash flows from operating activities																
Net income including noncontrolling interests	\$65,532	\$58,268	\$89,967	\$50,761	\$109,807	\$162,281	\$ 360,000.00	\$ 281,834.78	\$ 288,772.25	\$ 270,002.06	\$ 291,602.22	\$ 314,930.40	\$ 340,124.83	\$ 367,334.82	\$ 396,721.60	\$ 428,459.33
Adjustments to reconcile net income																
to net cash provided by operating activities:																
Depreciation and amortization	31,785	30,754	30,752	34,173	37,203	40,708										
Deferred income taxes	2,066	10,354	5,330	(5,747)	7,625	5,108										
Equity in income of affiliates	(3,507)	(4,701)	(7,495)	(3,480)	(3,512)	(2,657)										
Non-cash gain on Delta Egg acquisition					(3,976)											
Gain/ Loss on disposal of property, plant and equipment	(67)	(2,219)	(1,247)	1,496	651	568										
Stock compensation expense, net of amounts paid	(533)	(2,392)	(702)	411	1,273	2,268										
Interest on obligation	88															
Impairment (recovery) of note receivable				912		(584)										
(Gain) loss on fair value adjustment of contingent consideration				(1,250)	4,359	256										
Change in operating assets and liabilities, net of effects from acquisitions																
Increase in receivables and other assets	13,106	(22,200)	4,305	(21,670)	(2,282)	(18,961)										
(Increase) decrease in inventories	5,311	(16,112)	(7,137)	(6,377)	8,909	(143)										
Decrease in accrued expenses for payment of legal settlement expense					(28,000)											
Increase (decrease) in accounts payable, accrued expenses and other liabilities	2,887	12,282	21,892	8,309	(8,137)	6,486										
Net cash provided by operating activities	116,668	62,310	98,058	57,538	123,920	195,330	\$ 428,571.43	\$ 329,631.33	\$ 331,922.13	\$ 305,087.07	\$ 324,002.47	\$ 349,922.67	\$ 377,916.48	\$ 408,149.80	\$ 440,801.78	\$ 476,065.93
Cash flows from investing activities																
Purchases of investments	(82,824)	(156,906)	(160,630)	(181,721)	(142,585)	(202,506)										
Sales of investments	31,537	137,238	115,796	188,110	108,117	146,779										
Acquisition of business, net of cash	(508)			(74,907)	(11,548)											
Investment in Southwest Egg Specialty LLC						(8,160)										
Payments Received on Notes Receivable	4,785	3,587	5,352	6,640	5,003	2,019										
Purchases of property, plant and equipment	(20,786.00)	(20,742.00)	(26,845.00)	(26,290.00)	(59,188.00)	(82,263.00)	\$ (157,742.90)	\$ (297,370.07)	\$ (107,853.82)	\$ (124,790.87)	\$ (93,177.18)	\$ (100,631.36)	\$ (108,681.86)	\$ (117,376.41)	\$ (126,766.53)	\$ (185,000.00)
Increase in notes receivable and investments and affiliates	(705)	(516)	(138)	(294)												
Net Proceeds from disposal of P.P.E	6,950	1,905	1,073	124	818	2,499										
Net cash used in investing activities	(61,551)	(30,605)	(27,049)	(88,338)	(99,383)	(141,632)										
Cash flows from financing activities																
Long Term Borrowings	30,000															
Principal payments on long-term debt	(25,667)	(46,512)	(11,941)	(11,200)	(10,745)	(10,233)										
Distributions to noncontrolling interest partners		421				(940)										
Payment of Purchase Obligation	(8,149)															
Proceeds from issuance of common stock from treasury (including tax benefit on nonqualifying disposition of incentive stock options)		143	318	380	279	531										
Payments of dividends	(19,039)	(24,883)	(19,937)	(30,524)	(24,534)	(48,910)	\$ (118,800.00)	\$ (93,005.48)	\$ (95,294.84)	\$ (89,100.68)	\$ (96,228.73)	\$ (103,927.03)	\$ (112,241.19)	\$ (121,220.49)	\$ (130,918.13)	\$ (141,391.58)
Net cash used in financing activities	(22,547)	(73,479)	(31,560)	(41,344)	(35,000)	(59,552)										
Decrease in cash and cash equivalents	32,570	(41,774)	39,449	(72,144)	(10,463)	(5,854)										
Cash and cash equivalents at beginning of year	66,883	99,453	57,679	97,128	24,984	14,521										
Cash and cash equivalents at end of year	\$99,453	\$57,679	\$97,128	\$24,984	\$14,521	\$8,667										
Supplemental cash flow information:																
Cash paid during the year for:																
Income taxes, net of refunds received	\$14,381	\$28,934	\$27,075	\$42,667	\$41,626	\$75,533										
Interest (net of amount capitalized)	6,876	6,449	4,407	3,543	3,152	2,313										
Supplemental schedule of non-cash investing and financing activity:																
Issuance of stock from treasury (see Note Notes receivable from noncontrolling interest holdings)		\$4,123		5,000												
Contingent consideration recognized in acquisition of business				2,500												