Wm Wrigley Jr. Company Equity Valuation and Analysis

Valued November 1, 2007

Dr. MEM Analysts

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Executive Summary

Investment Recommendation   **Overvalued, sell**   November 1 2007

WWY-NYSE (11/1/2007)			60.19	Altman Z-score	2002	2003	2004	2005	2006
52 Week Range			48.89-68.44		16.52	14.52	15.08	7.48	6.35
Revenue			5.19B	**Valuation Estimates**					
Market Cap			16.612B	Actual Price (11/1/2007)		60.19			
Shares Outstanding			276M						
Percent Institutional Ownership			68.50%	**Financial Based Valuations**					
Book Value per Share			8.65	Trailing P/E		48.42			
ROE			23.91%	Forward P/E		39.56			
ROA			11.87%	P.E.G.		N/A			
				P/B		79.67			
Cost of Capital	R2	Beta	Ke	P/EBITDA		71.09			
3-month	-0.0002	0.1916	0.0664	P/FCF		N/A			
1-year	0.0001	0.1933	0.0675	EV/EBITDA		28.53			
5-year	0.0002	0.1937	0.0683	D/P					
7-year	0.0002	0.1936	0.0694						
10-year	0	0.1922	0.0708	**Intrinsic Valuations**					
				Discount Dividends		28.46			
				Free Cash Flows		43.83			
Published Beta			0.53	Residual Income		33.54			
Kd(BT)			4.48%	LR Residual Income		25.18			
WACC(BT)			5.68%	AEG		82.82			

Price history - WWY (11/1/2001 - 11/1/2006)

Price history - WWY (11/1/2001 - 11/1/2006)

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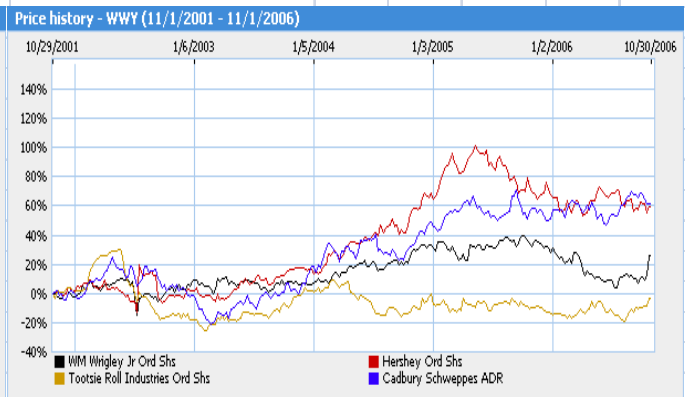
<center>**<u>Recommendation – Sell</u>**</center>

Industry Analysis

The Wm. Wrigley Jr. Company was founded in Delaware in 1891 by William Wrigley, Jr. It became a corporation in 1903 where it moved its corporate headquarters to Chicago Illinois. Wrigley Jr. Company competes in the confection industry with an emphasis on chewing gum. Wrigley began with two gum brands, spearmint and juicy fruit and has since become the words number one manufacture of chewing and bubble gum. The company distributes to over 180 countries and has 15,800 employees worldwide. The Wm. Wrigley Jr. Company is a publically traded company on the New York Stock Exchange under the symbol, WWY.

Wrigley's competitors include Hershey Co. (HSY), Cadbury Schweppes (CSG) and Tootsie Roll Industries Inc. (TR). Competition among firms in the confection Industry is relatively high, because of amount of substitute products in the market. Threat of new entrants is low in the confection industry. New firms have trouble competing for market share due to poor brand image which is a key success factor in the industry. New entrants also have a hard time competing on price due to their low economies of scale, as compared with existing firm's large economies of scale. Bargaining power of the customer is high in the industry. With so many similar products on the market price sensitivity and relative bargaining power is high in the industry. Suppliers bargaining power in the confection industry on the other hand are low. Because of the large number of suppliers, the commodities used to make chewing gum are readily available in the open market. Which gives manufactures power over price due to supplier competition. Successful firms in the industry put emphasis on investment in brand image and innovation. Other competitive advantages include product variety and quality, economies of scale and low-cost distribution.

Accounting Analysis

The purpose of accounting analysis is to evaluate how well a firm's accounting practices reflect its true value. GAAP has given manages the ability to be flexible in certain areas of reporting a firm's financials. This flexibility can be used my managers to disguise a firm's true value from potential investors. Through the use of accounting analysis, investors can more easily spot areas of distortion. By identifying key areas of distortion within a firm's 10-k report, and undoing these distortions, analyst can then get a better picture of a firm's true value. If a firm wants to be profitable it must link key success factors with key accounting policies. One of Wrigley's key success factors is innovation so accounting for investment in research and development becomes a significant accounting policy for Wrigley.

Quality of disclosure relates to how transparent a firm reports its financials. We found Wrigley's reports to be somewhat transparent, with the exception of their capital and operating leases, which was not clearly disclosed in the 10-k. When analyzing a firm's financials, analyst must look for "red flags". Red flags are areas of questionable accounting and must be look at more closely. Through the use of ratio analysis investors can pinpoint potential red flag areas. The first potential red flag was Wrigley's asset turnover ratio when compared to that of the industry. Wrigley's ratio has been on the decline over the last couple years where as the confectionary industry sales have been growing. Another red flag we found when analyzing Wrigley's was their goodwill, which when compared to that of its competitors was rather high. More goodwill translates to more assets which in turn would raise the overall value of a firm, something a manager would be inclined to do. The last red flag found pertained to the disclosure of Wrigley's capital and operation leases. When looking at Wrigley's 10-K we were unable to find detailed information on how they account for and calculate their leases. The lack of information on Wrigley's methods for calculating leases makes undoing the accounting distortions improbable.

Financial Analysis, Forecasted Financials, and Cost of Capital Estimation

In order to accurately break down companies' financial statements, analysts have created a multitude of ratios in order to help evaluate a company. Once their financials are broken down into these ratios, analysts can compare it to competitors within the same industry. These ratios accurately evaluate a company's liquidity, profitability, and capital structure. These comparisons can help determine if a specific company is performing at the same level as firms in the same industry. These ratios can then be used to forecast a company's future performance. These forecasts are not completely accurate but they set a good benchmark on what a company can expect if their performance continues to perform at the level it is now. Forecasted financial statements are also used to help find the value of the firm. The regression analysis helps determine an accurate beta which can be used to calculate cost of equity for a firm. Wrigley's regression results yielded a low r squared adjusted so a different approach was needed. A firm having a low r squared adjusted says that little to now risk for the firm is explained systematically. Cost of debt is calculated by taking the weighted average cost of each firm's liability multiplied by the corresponding interest rate for each line item.

By using the financial ratios in order to compare to Wrigley's direct competitors, we can see that Wrigley's is performing at a level similar to the industry average. However, it is seen that Wrigley's is not as liquid as some of the other firms in the industry, meaning it takes a longer time to turn inventory into cash. By using the financial ratios we also see that Wrigley's is a profitable company. They have the highest gross profit margin in the industry and are on the leading side of the return on assets (ROA).

Forecasting the firm's financials will help to value the company. Line items from the Income Statement, Balance Sheet, and Statement of Cash flows were forecasted 10 years out based on 5 previous year's data. Net Sales from Income Statement were forecasted with a 13.33% growth rate. Asset Turnover and change in retained earnings helped forecast the Balance Sheet. Net Earnings as a percent of cash flow

from operations and change in long-term assets were used in forecasting statement of cash flows.

Valuations

Is the stock price of a company really what the company is valued at? From using valuations one can figure out the true answer of this question. Once the financial analysis and forecasting is figured, an analyst can use these numbers to see how accurately priced a stock is. These valuations show if a firm is overvalued, undervalued, or fairly valued.

The fastest and easiest way to determine the actual value of a company is the method of comparables. By using this method you compare a company to the value of those within the industry. From these valuations you can get a good idea of what the firm is valued at however it is not always as accurate as some of the other valuations models, and therefore should not be used as the only method of valuation. From using the method of comparables with Wrigley, we have seen that Wrigley's can range from significantly overvalued to undervalued.

Along with the method of comparables, one must use the Intrinsic Values to determine the true value of a firm. One method for this is the Discount Dividends Model. However, because of the inaccuracies with this method, it is not the best way to value a company. The best way to determine the value of a company is by using the Residual Income Model as well as the Abnormal Earnings Growth (AEG) model. Once used, it is seen that Wrigley's is an undervalued company. The Residual Income model shows that Wrigley's is valued at only $33.54, where as the market cost of the stock is $60.19. The long run method of Residual Income is similar to the Residual Income model. However, it uses a perpetuity. When using the Long Run Residual Income, Wrigley's was valued at only $25.18, which is significantly below what the stated value was. After using the valuation models it is evident that Wrigley's is severely overvalued.

Business and Industry Analysis

Company Overview

"The Wm. Wrigley Jr. Company chews up the competition as the world's #1 maker of chewing and bubble gum."(hoovers) Wm. Wrigley Jr. Company (WWY) was originally founded in Delaware as a partnership in 1891 by William Wrigley, Jr. It then became a corporation in 1903 based out of Illinois. The Wrigley's company has been family ran up until recently when William D. Perez became president, CEO, and director. As of today, William Wrigley Jr. Co. corporate headquarters is located in Chicago, Illinois.

Wrigley's original two brands were Juicy Fruit and Wrigley's Spearmint. It now owns a considerable more amount of brands. Doublemint, Big Red, Winterfresh, Extra, Freedent, Hubba Bubba, Orbit and Excel are all brand names owned by Wrigley's. Along with chewing gum, Wrigley's offers mints, breath strips, and candies. Altoids, Crème Savers, Life Savers and Velamints are all brand names under Wrigley's.

The Wm. Wrigley Jr. Company is a publically traded company in the New York Stock Exchange. It is traded under the symbol, WWY. As of 2006, Wrigley's distributes to over 180 countries and has 15,800 employees worldwide. The company manufactures gum and other confectionary products in four factories in the United States and fifteen factories globally. Wrigley's manufacturing and marketing of gum equates to 90% of its business. Furthermore, chewing gum accounts for 63% of its product unit sales in the United States. "The Company markets chewing gum and other confectionery products primarily through distributors, wholesalers, corporate chains and cooperative buying groups that distribute the product through retail outlets" (WWY 2006 10-K report)

Mars, Inc, Tootsie Roll (TR), and Hershey Co. (HSY) are Wrigley's top competitors. Mars, Inc is a privately owned company. Tootsie Roll (TR) has a market cap of 1.32 billion (YAHOO! Finance). Hershey Co. (HSY) has a market cap of 10.38 billion (YAHOO! Finance). Wrigley's market cap is 16.93 billion. (YAHOO! Finance)

Wrigley's competes with Mars, Incorporated with candy. Mars Incorporated makes popular brand candy bars such as Snickers, M&M, and the Mars Bar.

Price history - WWY (1/1/2001 - 11/26/2007)

Legend:
- WM Wrigley Jr Ord Shs
- Tootsie Roll Industries Ord Shs
- Hershey Ord Shs
- Cadbury Schweppes ADR

* http://moneycentral.msn.com
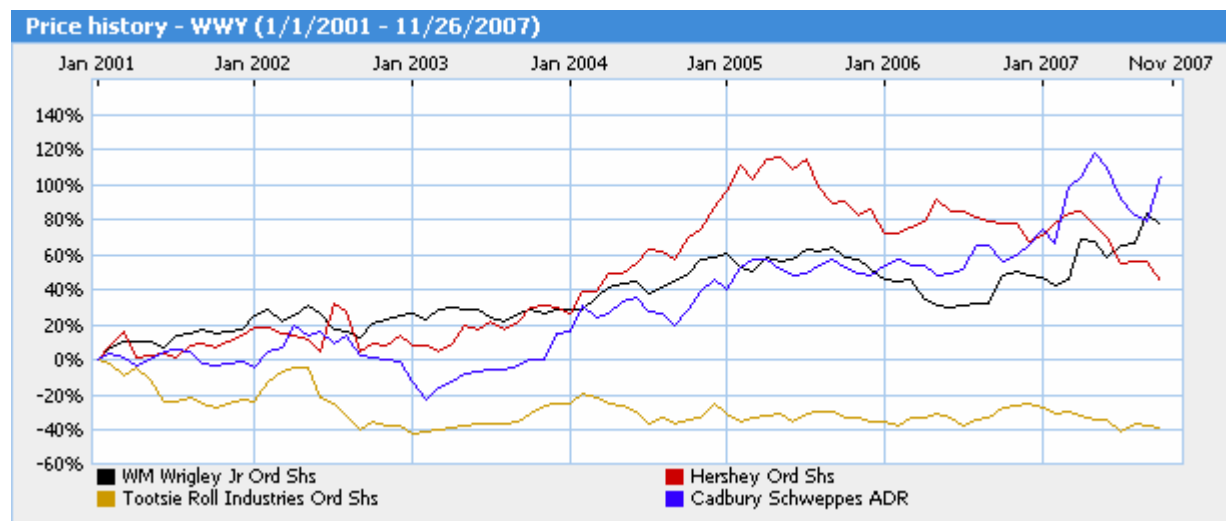
Industry Overview

The confectioners industry is comprised of 93 companies. In North America, the industry has a $29 Billion market capitalization. Wrigley's with $16.9 Billion market capitalization and Hershey's Co. with a $10.4 Billion market capitalization comprise 94% of the industry in North America. Globally, Mars, Inc and Cadbury Schweppes come into to the picture. However, in North America, Wrigley's and Hershey Co dominate the industry closely followed by Tootsie Roll.

There are many variables a company must consider if it wants to perform well in the confectioners industry. A company must look at growth of alternative store formats, technological advances, new industry techniques, and product and packing innovations.(WWY 2006 10-K report) Innovation is vitally important. Companies must also compete on well-recognized brands, varied product offerings, strong brand management, and a strong distribution network. (WWY 2006 10-K report)

There are 10 retail categories in the confectioners industry. They are misc. snacks, coffee, bakery snack, ice cream, cereal, milk, gum/candy, salty snacks, dry fruit

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snacks, and carbonated beverages. Wrigley's operates specifically in the gum/candy industry.

Confectionary Sales Volume

	1	2	3	4	5
Wrigley (WWY)	$2.75	$3.07	$3.65	$4.16	$4.69
Hershey (HSY)	$4.13	$4.16	$4.42	$5	$4.94
Cadbury				$2.49	$2.70
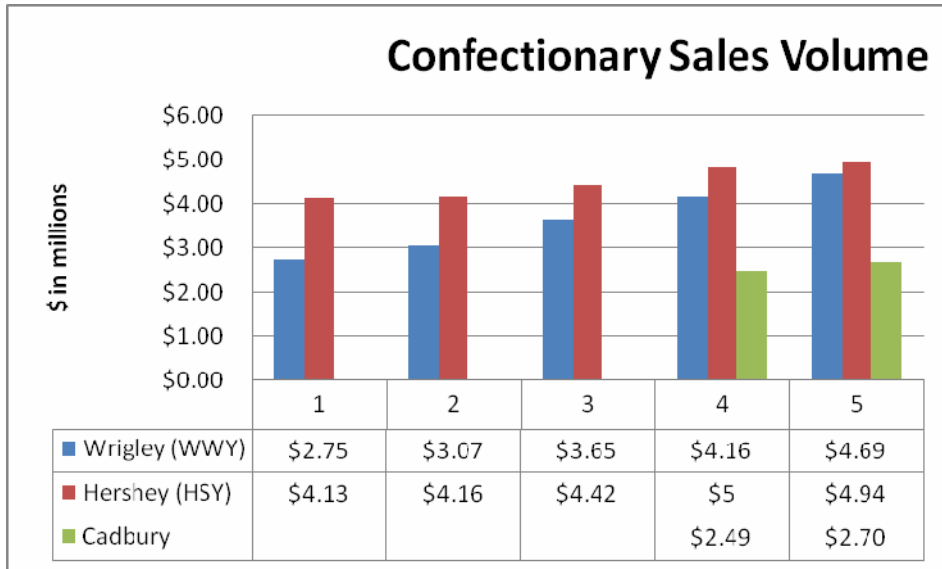
*Numbers for graph have come from 10-K reports on Wrigley's and Hershey Co. along with 2006 Annual Report on Cadbury Schweppes.

Over the past 5 years, Wrigley's sales volume has increased remarkably well. Hershey Co. still has a great overall sales volume, but Wrigley's is not as far behind as it once was.

Five Forces Model

The Five Forces Model was developed by Michael Porter in 1979 as a tool to analyze and classify an industry as well as identify profit potential areas in an industry. The model uses five forces of the industry to help identify three major aspects of an industry; competition, profitability, and attractiveness of the industry. Rivalry among existing firms, threats of new entrants, and threat of substitute products are three forces used in the model to analyze the competition of a firm. The last two forces are used to determine the bargaining power of the buyers and suppliers and how these forces are used to help a company make a profit. This model is an easy way for strategists to make a framework in a firm's strategic position.

Rivalry Among Existing Firms	High
Threat of New Entrants	Low
Threat of Substitute Products	High
Bargaining Power of Buyers	High
Bargaining Power of Suppliers	Low

Competitive Force One: Rivalry Among Existing Firms(High)

Rivalry among existing firms in the confectionery industry is very high. Existing companies are always trying to gain market share from their competitors. A few ways companies try to gain ground upon other companies is by creating new products, changing existing products, or marketing with special offers. Factors that a firm must consider in the industry are the concentration within the industry, how each firm differentiates its products, switching costs that may come in play, the scale of economies, fixed costs and variable costs, excess capacity each firm may have, and if there are any barriers to prevent leaving the industry.

Industry growth

Industry Growth is defined as the rate at which an industry is growing in relation to the total market. Industry growth is an important factor when determining the level of competition in an industry. Typically, when an industry is having rapid growth, there is no need for firms to try to take market share from their competitors. Although, when the industry is stagnant in growth, it is critical for firms to take market share from competitors to stay competitive within the industry. In the confectionary industry, the growth is consistently increasing, however, at a fairly slow pace. The gum and candy industry is dominated by a small handful of companies; Wrigley, Cadbury Schweppes, Hershey, Tootsie Roll and Mars. The companies within the industry put their focus building their reputation and image to gain as many customers possible.

Concentration

The number of firms in an industry is critical when looking at the concentration. However many firms are in the industry and the relative sizes of those firms in the industry determines the degree of concentration in that industry. Concentration is a key determinant to whether an industry is severely competitive on prices or not. An industry dominated by one firm can make and enforce the rules of competition. When an industry is dominated by a couple firms, they will usually cooperate with each other in this area to keep the price war at a minimum. When an industry has an equal balance among firms, prices are a large part of the competition.

As discussed in the previous section, the gum and candy industry is dominated by Wrigley, Cadbury Schweppes, Hershey, and Mars. While the industry is dominated by these four firms, they still do not have an equal share of the market; therefore, price competition is a large factor. The gum and candy industry only has 93 firms total which makes it highly concentrated. You can see in the following pie graph that Wrigley has 47% of the market share in the gum and candy industry alone.

Global Market Share

Perfetti 5%
Hershey 3%
Lotte 10%
Wrigley 47%
Cadbury 35%
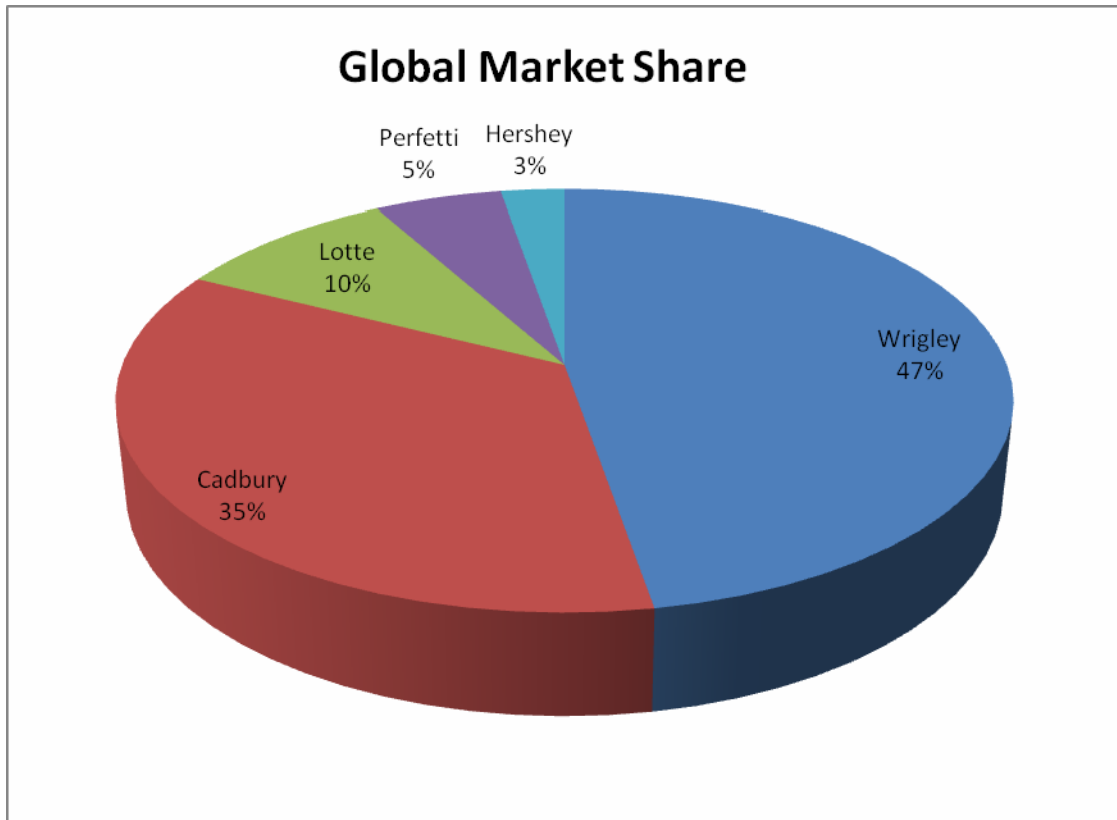
Differentiation and Switching Costs

Differentiation is defined as the degree to which a firm can differentiate its products and thus avoid possible competition. Switching costs are defined as the cost to switch to a different product or industry. The higher the switching cost, the harder it would be to make a switch. An industry that features firms providing similar products, the firms must take the initiative to differentiate their products to become more attractive to the customers. With this in mind, a switching cost is an expense of the customer for switching from one product of firm to another. The customers in the gum and candy industry can switch from one firm's product to another with little thought at all. Since this is the case, each firm must put a large emphasis on research and development to differentiate its products and to improve the reputation of their brand name. Also, the low switching costs cause a greater price competition since the customers will have a greater incentive to switch products purely based on price.

Size of a company is very important in determining how they will perform. The larger the company the larger the influence they have on the market. Larger companies in an industry often can offer lower prices because their size often is a determinant in how much suppliers will sell materials for. In North America, the Confectioners industry is dominated by Wrigley's and Hershey Co. This size advantage has helped them continue to be the leader in sales within the confectionary industry.
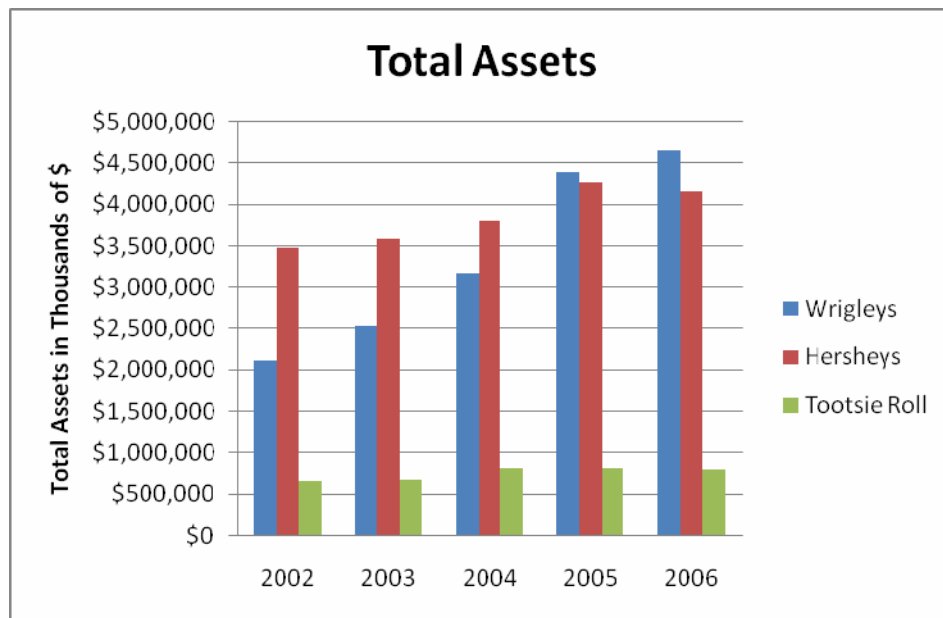
As you can see from the chart above, Wrigley's total assets have more than doubled in the past 5 years marking significant growth. Hershey Co. has also had growth in their total assets, but its growth rate has been much smaller. The growth in Hershey's and Wrigley's has given them the advantage over other companies in North America. Having this advantage gives little competition between other companies in the industry, however there is a very competitive price battle between them.

Fixed- Variable Costs

Fixed costs are defined as a cost that does not vary depending on production or sales levels. Variable costs are defined as a cost of labor, material or overhead that varies depending on the volume of production and sales levels. Each firm must examine the ratio of their fixed costs versus their variable costs. If the ratio between fixed costs and variable costs is high, the firm must reduce prices. The fixed to variable cost ratio is low in the gum and candy industry. The main two fixed costs that must be incurred are leases for the manufacturing plants and the salaries for the employees. Most of the manufacturing plants are owned in the industry. Firms do lease some buildings in other countries. For example, a company may lease a property in Mexico, this property will be considered a fixed cost because of the annual or monthly payment they must make in order to occupy the property, as opposed to a property that they may own in the United States which is already paid off. Of course, companies have to pay their employees as a fixed cost. Regardless of how the company does in revenue, the salaries of the employees do not change. Variable costs in the confectionary industry can consist of ingredients, power expenses for production, shipping costs, and packaging costs. These are all variable costs because the total a company pays for this depends on production.

Excess Capacity and Exit Barriers

Excess capacity is simply when supply is greater than demand. Excess capacity can be a problem because a firm will be forced to lower prices just to get enough sales to cover fixed costs they must incur. The larger companies in the industry are able to handle excess capacity better than firms that must keep their prices high to cover fixed costs. Excess capacity can be a problem that will be too difficult to solve for a smaller company in that situation that forces them to shut down their business.

Exit barriers are obstacles that keep a firm within an industry. Exit barriers can include legal obligations and having liabilities that cannot be disposed of, such as leases. The gum and candy industry does not have many exit barriers because if a

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company does not generate enough revenue, they can either merge with another existing company or just sell their operations all together since most of the companies own their own manufacturing plants.

Conclusion

In the confectionary industry, competition between existing firms is very high. Competition of these firms ranges from the large variety of products as well as size of the companies and ability to get their name out to the customers. Companies in this industry are constantly developing new products to release into the market which creates competition to become the leader in innovation as well as cost and sales.

Competitive Force Two: Threats of New Entrants (Low)

The confectionary industry is a fairly hard industry to start in. Existing companies already hold a large market share of the industry, which make it hard for smaller companies to become larger. Much of the industry sales come from brand recognition which make it hard for small companies because the consumer does not know their brand name.

Scale Economies

With the large capacities of the big firms in the industry, it makes smaller companies have a harder time because they cannot compete both with prices and output. When the smaller companies have a smaller output it costs the company more to develop their product. Firms in the confectionary industry are always competing on price and innovation which makes it hard for small companies to keep up. Because of this competition small companies struggle to both have the large amount of output and low price of supplies to make the new products.

First-Mover Advantage

First-mover advantage is defined as a possible advantage being gained as a result for being first into a new industry. This advantage can sometimes be insurmountable. Industry benchmarks and standards can be set. Also, possible arrangements could possibly be made with suppliers for materials. Being a first-mover in the confectionary industry is fairly important. The large companies that make up the majority of the market have been around for many years and have a strong hold on the resource needed to be a major competitor. The average startup year of the largest companies in the industry is around 1900, giving these companies a large advantage in the industry. This has helped the large companies build a strong consumer base as well as giving them an unbeatable reputation. As well as being able to have a long-standing reputation the market they have also had the advantage of having the resources to stay on top and continue to stay on top.

Distribution Access and Relationships

Distribution Access is defined as the ability for a firm to come into an industry and compete. If there are high costs in order to be able to make the relationships necessary in that firm to do business, then this can be a formidable barrier into the industry. Distribution access is a strong barrier to new entrants trying to make a name in the confectionary industry. Relationships with both suppliers and sellers are important to firms so they can have the best access to new products as well as the best access to buyers of the products. New entrants to this industry can often find this difficult due to the fact suppliers and sellers may be weary of having their name associated with an unknown company.

Conclusion

With the threat of new competitors being low, this gives companies in the industry a strong advantage. They do not have to worry about new up and coming companies coming into the picture. Even though this makes for little competitive force

outside of the industry, it makes for strong competition already existing in the industry. As seen in this section, new companies just do not have the resources or size to compete with the existing industry as well as the relationships with suppliers and distributers to be able to make a run at being a competitor in the industry.

Competitive Force Three: Threat of Substitute Products (High)

The threat of substitute products is a large concern for the confectionary industry. Companies are always thinking of new products to put on the market so they can out-do their competitors. Product substitutes such as, new flavors, new packaging, and new looks are all ways to make a substitute for existing products. Because of this the threat, innovation is key to staying on top of the competition as well as gaining excitement with consumers.

Relative Price and Performance

How a firm is performing and how a firm prices their products against its competitors is a key part of a firm's success. Consumers are always looking for the new best thing. Along with being the new thing, consumers are also shopping on price. Because of these two things companies must always be making the best tasting product at the lowest price. Performance in the confectionary industry can be measured in a couple of ways: flavor and innovation. Firms also compete on price with existing products. Keeping costs low on older products is important in the eyes of the consumer. Consumers are going to buy the product that is not only the best but the cheapest. This keeps competition high in this market.

Buyers Willingness to Switch

A buyer's willingness to switch is defined as a buyer's motivation to make a switch under a certain circumstance. With the amount of products being sold in the candy and gum industry, buyers are constantly switching to find the best tasting product. Because of this, competition is very strong to get the customer to try your product and to keep eating your product. One way to help capture the buyer is by advertisement.

Companies are constantly making new billboards, commercials, and print ads to capture the buyers' attention so that they may switch to using their company. Name branding also plays an important role in this because smaller companies have a harder time at selling their product because the buyers may not recognize the name or know anything about their quality of product.

Conclusion

The threat of new products is a very large threat in the confectionary industry. Companies are always coming out with new products and trying new things to improve old products. This keeps competition high in this industry. If a company fails to create new products they will experience a loss not only in sales but in any edge they had in the market on innovation.

Competitive Force Four: Bargaining Powers of Buyers (High)

A firm's profits are greatly influenced by its bargaining power over its suppliers and customers. The two key factors that determine the degree of power of the buyers are: Price Sensitivity and Relative Bargaining Power.

Price Sensitivity

The first is price sensitivity, which deals with how far the customers are willing to bargain on price. Customers in the confectionary industry include both merchants and actual consumers. Merchants want to purchase the products at the lowest price possible so that they can turn around and sell the product and make a maximum profit on the sale. Consumers will in turn look for the best bargain in the merchants which creates two levels of price competition. If products within an industry are undifferentiated then prices are more sensitive. Firms must have a goal of maintaining low costs. Given that many firms in the industry have the same products, gum and candy; they are forced to compete on price. Higher price sensitivity leads to higher bargaining power for the buyer.

Relative Bargaining Power

The second factor in determining buyer power is relative bargaining power. A buyer's bargaining power is determined by the number of customers. Also, the number of substitutes and the ease of availability to get those products determine relative bargaining power. If a buyer can easily switch to similar product without incurring much switching cost then the buyer has more power over price due to an increase in competition. In the gum/candy industry switching costs are low due to competition being only an arm reach away. This increase in completion gives more bargaining power to the customer.

Conclusion

Because the buyer of the products is looking for the lowest price, they hold the bargaining power of the industry. If they are not interested in paying a certain price for a product they will switch to a product of cheaper cost. This bargaining power is another reason for the competitive prices of the industry, giving the low cost provider of a product the edge of the competition.

Competitive Force Five: Bargaining Power of Suppliers (Low)

The Bargaining power of suppliers is defined as the capacity of the suppliers to influence or have power over the buyer. Bargaining power of suppliers determines how a firm will control cost and profits. Firms with a large number of suppliers and substitutes have more bargaining power than firms with a limited number of suppliers. Suppliers have more power when there are fewer companies and fewer substitutes. Commodities such as sugar, corn syrup, and flavoring oils blended to make chewing gum are readily available in the open market. This gives firms in this industry low switching costs due to the large number of suppliers offering similar products. Larger firms in the industry, like Wrigley and Cadbury Schweppes require extremely large quantities of raw materials and as a result will get discounted prices from suppliers. Ordering materials in bulk gives buyers more control over price. Suppliers for the industry have little power over price due to the amount of substitutes available in the open market.

Conclusion

The five forces model is important for a firm in any industry. By focusing on the highest threats of an industry they can possibly gain an edge on another firm in the industry. With the confectionary industry having high threats in threat of existing firms, threat of substitute products, and bargaining power of the buyer, firms will focus on being the leader in price and innovation over their immediate competitors. Though this competition is strong, it makes firms stronger and often times more profitable because of the amount of products on the market, and price of those products.

Value Chain Analysis

Competitive Strategies

The gum and candy industry need to display superior product quality and variety, invest in brand image, and invest in research and development to achieve the competitive strategy for differentiation. Overall, the gum and candy industry lean toward the differentiation strategy because most of their revenue and market share comes from the quality and reputation of each particular company's products. While the industry implements more of a differentiation strategy, the industry still needs to have some cost leadership tactics. The industry must focus on economies of scale, efficient production, and low-cost distribution.

Superior Product Quality and Variety

Firms in the gum and candy industry should establish themselves as having superior product quality and variety. If a company is able to produce products that are to the consumer's favor, the both the seller of the product as well as the customers of the retail stores will establish a loyalty with the company and keep purchasing their products. Each firm can improve the variety of their products by producing a new type of candy or gum that can appeal to their customer base. For example, one firm may be known for their good tasting gum, but they can develop a new type of mint too add to more of the company's arsenal. The gum and candy industry appeals to all ages and is reliant on keeping the same consumer base with its more popular products while developing a new wave of product to attract new consumers.

Investment in Brand Image

Customers, both retail outlets and their customers, have many choices among different brands when they choose which type of gum to buy. It is up to the firms in the industry to invest in advertising and marketing to build a good reputation and popularity with their brand name. It is very simple for consumers to pick one company over another, but they are most likely to pick the company they have heard of and that has

a reputation for having a good quality product. Also, supermarkets and grocery stores like to carry products that have a good name because those are the ones that sell to the consumer bringing in more revenue for the individual retail store. On the reverse side, if a company is not advertised or marketed to gain popularity, they will not be known to the consumer and will have to gain on advantage on having an extremely low price. This typically happens to the smaller firms in the industry and they cannot afford to reduce their selling prices.

Investment in Research and Development

Research and development is vital to firms to stay competitive in the industry. The products among all the companies within the industry are fairly similar, but they can gain a competitive advantage by finding new ways to differentiating their product. A well run research and development program will improve their products in ways such as machinery, operations, packaging, etc. Customer feedback and paying attention to the consumer's desires is also beneficial to companies attempting to increase the popularity and reputation of their product. Again, firms within the gum and candy industry are trying to market very similar products, but simply finding out what the consumer likes and does not like is valuable information to the future to any firm's production.

Economies of Scale

Economies of scale have direct relationship with cost leadership. In the confectionary industry, competition for cost leadership leads to a race of scale. Companies are always looking for new products to add to their already existing sales. Firms with more assets have more resources at their disposal. Larger firms get price discounts on purchasing and transportation costs which give larger firms a clear advantage over small firms, when it comes to price.

Low-cost distribution

Firms create cost leadership competitive advantages by lowering their cost distribution. This can be done by centralizing production to fewer plants and factories, which in turn centralizes distribution centers. Centralizing saves money on transportation costs which is big expense for any firm. Companies in the confectionary industry often own production properties in different countries so that their product will be closer to the market. These properties often service only the region they are in, by doing this distribution costs are cut down because the companies are not trying to distribute their products to areas in the world that are not economically worth the cost of distribution.

Efficient production

Firms must produce their product efficiently if they expect to compete in the market. The firms with more efficient production process have lower overall product costs. By producing a product in an efficient manner, firms can increase the output of their product while still using the same amount of production costs to produce smaller amounts of product. Firms in the confectionary industry have mastered this art of efficient production; the larger firms have the equipment as well as the supplies to produce the largest amount of product in the smallest amount of time. Lower product costs give competitive advantages over firms that do not have their production process mastered.

Firm Competitive Analysis

Superior Product Variety and Quality

Being the world's largest manufacturer and marketer of chewing gum, Wrigley excels in offering its customers a wide product variety. Starting with the creation of the company's first two products, Juicy Fruit and Wrigley's Spearmint, they have successfully created sixteen gum products alone today. Since teens chew one third of the gum sold in the United States and are constantly looking for something out of the ordinary to try, the company knows it is important to make new and appealing products. Not only is Wrigley committed to providing a wide variety of gum and candy, they also strive to meet expectations by delivering quality products. As the company grew, they stood by their basic underlying principle, "Even in a little thing like a stick of gum, quality is important." By supplying a wide variety of quality products, Wrigley is able to satisfy existing loyal consumers while acquiring new customers at the same time.

Investment in Brand Image

Another competitive strategy Wrigley uses is their investment in brand image. In 2006 and 2005, the advertising expenses incurred were $479 million and $457 million respectively. Wrigley uses creativity in their ad campaigns, such as commercials, paper ads, and free samples, in order to heighten consumer's view on the company. Most of what consumers know about Wrigley's is due to the fact that the company has been around for over a century and thus has built a strong and respectable name.

Investment in Research and Development

Wrigley has historically has sought to be unique in the confectionery industry by improving current products and providing a variety of superior manufactured goods through inventing new products. Wrigley's began in 1891 as a soap and baking powder company offering free gum with their product until they realized that people were only buying the product for the chewing gum. Since its beginning in 1891, the company has

continued to add new products and product lines to develop into the country they are today. In an industry that is as highly competitive as the confectionery industry is firms continually fight for shelf space. One of Wrigley's key factors of success has been focusing on creativity and innovation. For example, there new launch of the product "5," is designed to stimulate the five senses. With this product the company is able to meet consumer's expectations with a unique approach.

Economies of scale

As a leader of the Gum Industry, Wrigley's has a large economy of scale. Wrigley's produces 16 different brand names and its products are sold in 180 countries as well as production facilities in 14 different countries (www.wrigley.com). Because of this, the economy of scale is large. The company can create large amounts of output at a low price. As well as the already produced products, Wrigley is constantly using innovation to create a new product to release into the market. Because of the already large market share, supplies can be bought a discount price in order to create a larger profit after production and sales.

Low-Cost Distribution

The William Wrigley Company has developed a way to lower costs of distribution throughout the world. Wrigley has located many of its plants in multiple countries throughout the world. Wrigley now has production plants in 14 different countries all of which produce the same Wrigley's products for their region. By doing this, Wrigley has lowered costs of production as well as distribution by putting the product closer to the consumer.

Efficient Production

As a low cost gum manufacturer, Wrigley's is always looking for ways to cut down on the cost of production of its products in order to keep the price low. Wrigley's has revolutionized a new method of gum manufacturing that has significantly reduced costs of production on their gum. With new technology of production facilities and

machines, Wrigley's can combine multiple steps of production into one easy step. As well as combining tasks, production equipment can be used to produce multiple products of the large product line that is produced. Almost effortlessly they can switch products being produced so that they can maximize both amounts of products as well as quantity of a single product. Wrigley's has reduced the cost of labor and decreased the time of production, both of which lower the cost of production.

Accounting Analysis

Key Accounting Policies

In order for one to correctly analyze how efficient a firm's captures its business reality to its accounting, one must first look at the company's key accounting policies. As the world's number one making of chewing and bubble gum, Wm. Wrigley Jr. Company competes on product quality and innovation. Having been around for over 100 years, Wrigley's also has the luxury of brand recognition and image. Wrigley's not only invests in brand image, but it also invests in research and development to stay on the cutting edge with Mars Incorporated, Hershey Co., Tootsie Roll, and Cadbury Schweppes. The accounting for goodwill, advertising expenses, research and development costs, pensions and post-retirement benefits, reporting of leasing contracts, and foreign currency exchange are key accounting policies.

A firm cannot compete in the confectioners industry without competing on product quality and innovation. Being based out of London, England, Cadbury Schweppes abides to the UK GAAP and not the US GAAP. There is currently a move to have a global accounting standard, but that is a distant possibility at best. As it stands, there are some significant differences between the UK GAAP and the US GAAP. There are many significant differences with the relevant differences being the way goodwill, pensions, depreciation of properties, and post-employment benefits are handled. (http://www.investis.com/signet/html_report/html/page82.html) Mars Incorporated is a private company and as a result, they are not required to disclose significant financial statements to the public. This hinders being able thoroughly examine how effectively they are running their business.

A significant portion of Wrigley's manufacturing and sales are done outside the United States. Since Wrigley's competes in a global market, their main market risks are related to foreign currency exchange rates and interest rates. Changes in foreign currency and interest rates could adversely affect a company's net earnings and cash flows. Wrigley's uses hedging activities to offset these market risks. "The Company's

hedging activities include the use of derivative financial instruments. The Company uses derivatives only when the hedge is highly effective and does not use them for trading or speculative purposes. The counter-parties to the hedging activities are highly rated financial institutions." (Wrigley's 2006 10-K) Basically, Wrigley's hedges against foreign currency risks by using forward exchange contracts and by purchasing currency options. Gains or losses associated with foreign currency translation are then recorded as accumulated other comprehensive loss, a separate component within stockholders' equity. Through the use of hedging Wrigley can accept changes in market rates without reducing future earnings and fair values.

Goodwill is defined as an intangible asset valued based on the advantage or reputation a business has acquired. The assets have an indefinite life, but must be measured for impairment every year. A company can over-or-under value their firm if they do not have accurate methods for checking on impairment. Wrigley's uses a two step process to check for impairment. The first step requires a comparison of fair value to its carrying value. (Wrigley's 2006 10-K) If fair value exceeds carrying value, goodwill is not considered impaired and no further testing is needed. (Wrigley's 2006 10-K) However if fair value is less than carrying value, the second step must be implemented. The second step requires the company to determine the difference. This difference will be reported as impairment. Determining the fair value of the reporting units requires a great deal of estimates and assumptions.(Wrigley's 2006 10-K) "These estimates and assumptions include projected revenue growth rates, operating margins, capital expenditures and related depreciation to calculate estimated cash flows. In addition, certain judgments and assumptions are made in allocating shared assets and liabilities to determine the carrying values of reporting units."(Wrigley's 2006 10-K) With so many variables, a good amount of discretion is used by managers in determining fair value of goodwill and impairment. Thus, it is a significant aspect of accounting to analyze.

Advertising costs are essential to keep Wrigley's brand image in the upper-echelon. Being one of the world's top marketers of chewing gum also does not come

without a price. Each year they spend on an immense amount of money to invest in brand image. It is not just about pouring money into its advertising expense for Wrigley's. Ineffective advertising can often lead to poor results even with a large amount of money spent doing it. Wrigley's expenses its advertising costs in the year they occur. Advertising Costs are essential, but difficult to value in a firm.
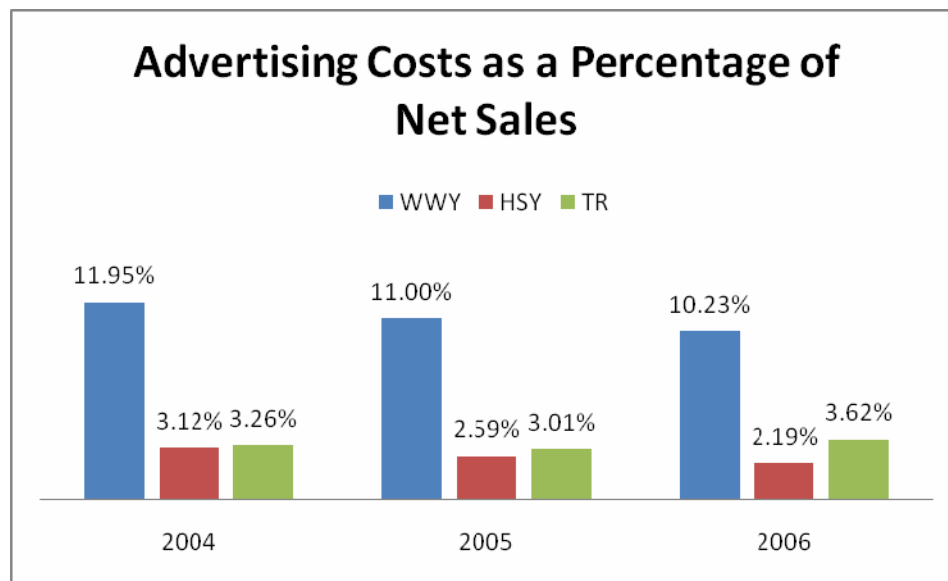
*Numbers from Wrigley's 2006 10-K report, Hershey's 2006 10-K report, Cadbury Schweppes 2006 Annual Report and Tootsie Rolls 2005/2006 Annual Reports

There has been little increase in advertising costs with Wrigley's. Their advertising costs were (in thousands) $935,230, $959,210, and $977,550 for the years 2004, 2005 and 2006 respectively. At first, it seems that the company is increasing their advertising activity along with the increase in net sales. According to the chart above however, they have cut back on advertising expenses for the past three years. A possible explanation for this is that Wrigley's is attempting to cut back costs in order to increase revenues. Hershey has seen a decrease in its advertising cost over the past 3 years. However, much like Wrigley, Hershey's profits have increased over the past five years. Here again there may be an instance where the company is cutting costs to make revenues appear better. Tootsie Roll is the only firm in that saw a substantial growth rate in advertising costs. That growth rate was 30.9%. This growth rate in

advertising coupled with their past five years of increasing net sales shows that this company appears to be running more efficiently that the industry.

Along with advertising costs, research and development costs are an integral part of Wrigley's success. As previously stated, innovation is critical and quality money spent on research and development can lead to future profits. Wrigley's records its research and development costs under the Selling, General and Administrative Expense account. According to Business Analysis and Valuation by Palepu and Healy, managers have very little accounting discretion in reporting this activity. Even with that said, research and development are difficult to value as an asset and thus can make valuing a particular firm that relies are them more skeptical.

R&D Costs

■ WWY ■ CSG ■ HSY

2004: WWY $34.62, CSG $81.81, HSY $23.20
2005: WWY $42.57, CSG $94.51, HSY $22.60
2006: WWY $53.66, CSG $108.62, HSY $27.60
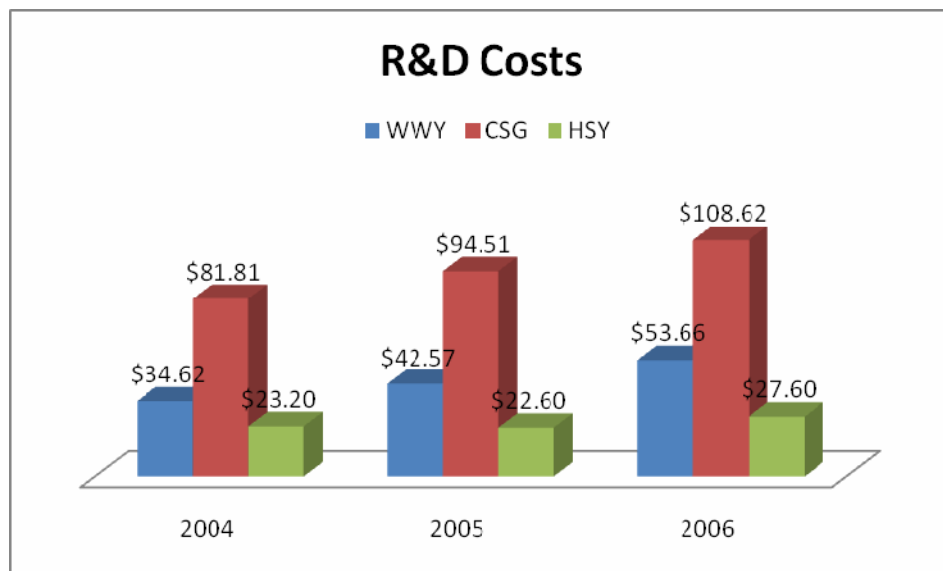
*Numbers in the millions. Sources are Wrigley's 2006 10-K, Hershey's 2006 10-K and Cadbury Schweppes 2006 Annual report.

As noticed on the graph, both Wrigley's and Cadbury Schweppes have seen a substantial increase in its R&D costs. Hershey's growth from 2004 to 2006 has been much smaller, but still large. Wrigley's has seen a 54.99% growth from 2004 to 2006. Cadbury Schweppes has seen a 32.77% growth rate over from 2004 to 2006.

Hershey's has seen an 18.97% growth rate. This is indicative of innovation becoming more and more important in the confectioners industry.

Wm. Wrigley Jr. Company is currently an employer to 15,800 people worldwide. However, most of its pensions and post-retirement benefits are geared towards U.S. employees with a few exceptions of those that meet the requirements outside of the U.S. (Wrigley 10-K) A pension is defined as a sum of money paid regularly as a retirement benefit. Along the lines of goodwill, many significant assumptions and statistical estimates must be made by managers to correctly determine an accurate long-term rate of return on these assets. The company states in its 2006 10-K report that it expects its 2007 pension costs to decrease slightly. Seeing as though this is a hard number to determine accurately, some skepticism is needed here.

A particular firm would have a strong incentive to report all their leases as operating leases in order to keep the leases off the books and defer expenses. However, the Financial Accounting Standards Board does not allow that and will force a company to report a lease as a capital lease, "if the lease life exceeds 75% of the life of the asset, there is a transfer of ownership to the lessee at the end of the lease term, there is an option to purchase the asset at a bargain price at the end of the lease term, or finally if the present value of the lease payments, discounted at an appropriate discount rate, exceeds 90% of the fair market value of the asset." (NYU Stern School of Business) Wrigley's currently has 4 leases in China each with a 50-year contract. (Wrigley's 10-K) It also just recently entered into a lease with The Industrial Development Board of the County of Hamilton, Tennessee in a lease that expires December 31, 2018. The company states in its 2006 10-K report that it leases some facilities and equipment that are classified as operating leases.

The following table is listed in the 2006 10-K Report for Wrigley's and shows the current future minimum payments due by year and in aggregate. This is for leases with original term greater than 1 year as of December 31, 2006. (Wrigley 10-K)

For The Years Ending	
2007	$ 35.92
2008	27.15
2009	20.32
2010	15.92
2011	13.92
Thereafter	27.77
Total	$ 141.0

As displayed above, Wrigley's currently owes $141.020 million in minimum payments. It is somewhat interesting at the amount of leases classified as operating, but Wrigley's, by law, must be in compliance with FASB. They may be an indication, however, of overvaluing.

Potential Accounting Flexibility

Firms are required to report the status of the company such as its earnings, expenses, assets, liabilities, equity, and cash flows on financial statements every year. On the financial statements, firms must report all their information under the Generally Accepted Accounting Principles. While every firm states their information under these guidelines, there are some areas that have a degree of flexibility. In other words, a manager has a choice of how to report information that can change the appearance of the status of the company. Some firms may have more flexibility than others. This flexibility is completely legal, but it must be examined to have a better understanding of the firm. The more flexibility a firm has in reporting information, the more informative they can be and if a firm does not have much flexibility, it will be harder to understand the economics of that particular firm.

The first area of potential flexibility within the industry is the reporting of goodwill and other intangible assets. The firms in the industry test the goodwill on an annual basis to see if there is any impairment that needs to be reported. The test consists of two steps. First, the fair value of each reporting unit is compared to the carrying value of each reporting unit, including goodwill. The second step is taken only if the fair valued is estimated to be less than the carrying value. If this is the case, the implied fair value is found by allocating all the fair values to the assets and liabilities

other than goodwill and then an impairment charge is recorded for the difference in the new implied fair value and carrying value. (Hershey 10-K) The flexibility can occur in the estimates and the final impairment charge which ultimately ties in with the assets stated on the balance sheet. As you will read in the following section (Actual Accounting Strategy), the reported goodwill for Wrigley is much more significant than its competitors. In fact, they account for more than twice the goodwill of Hershey and over fifteen times more than that of Tootsie Roll. A large part of the variation in Wrigley and Tootsie Roll is essentially difference in market cap size. However, Hershey has 89.19% of the total assets that Wrigley has, but only 43.74% of the goodwill. This is a very important number to look at in Wrigley's case because there is a lot of potential accounting flexibility in this area.

Due to a weakness in GAAP, firms have the choice of reporting their leases as operating or capital. Capital leases can actually account for depreciation and cash flows as the facilities are being used. An operating lease requires a firm to recognize the rent as an expense. Each type makes a noticeable difference in the financial statements. Wrigley has a mixture of leases, having some operating leases and other capital leases. The Company has the flexibility to report some leases as capital or operating according to their preference on the financial statements. This flaw allows a firm's financial information to be misleading.

Finally, pensions and post-retirement benefits have a large amount of flexibility. Firms are responsible for estimating the amount of time an employer will be with the company, how long they will be retired, and even how long they are going to be alive. All of these factors need to be considered by the company to assess how much of an expense they will have to incur. A discount rate is also has to be considered in order to know the value of the expenses at the current time period. The flexibility can occur in the setting of the discount rate because the lower the discount rate, the higher the assets. The assets will be reported higher because the expense will be valued at a lower rate.

Not all of the accounting policies are considered flexible in the candy and gum industry. Advertising expenses and research and development costs are vital accounting policies, but are never considered flexible for a firm. Managers must show these expenses in the financial statements, but they do not have a choice in the way they are displayed.

Actual Accounting Strategy

Wrigley has a sufficient amount of disclosure on their accounting policies. The Company does not hesitate to let analyst know that in some areas there is a significant amount of estimation. Wrigley's 10-K states, "Determining the fair value of a reporting unit and intangible asset involves the use of significant estimates and assumptions" (Wrigley's 10-K). They go on to list other accounts as well, with helpful insight as to how they calculated particular numbers. Although these are helpful statements, they are also common knowledge to the analyst. As compared to the industry, Wrigley uses an aggressive accounting strategy because of their average amount of information disclosure and their opportunities to capitalize on overstatements. Since there is no mention of business troughs, the Company may be supporting bad figures through their methods of accounting. Hershey is very thorough in explaining their estimates, by giving specific figures. They go above and beyond what is expected by GAAP through providing a great deal of information and presenting it in a way that is very easy to read. For example, when explaining futures contracts, Hershey goes in to detail as to why they discontinued a hedge. Since each firm's competitive strategies are virtually the same, there are few valid reasons as to why there are differences in the amount of the disclosure.

	Wrigley	Hershey	Tootsie Roll
In thousands			
Goodwill	$1,147,603	$501,995	$74,194
Total Assets (TA)	$4,661,598	$4,157,565	$791,639
Market Cap (MC)	$18,100,000	$10,500,000	$1,500,000
Ratio's			
Goodwill to TA	.25	.12	.09
Goodwill to MC	.06	.05	.05
Overstatement Potential	**High**	**Low**	**Low**

Wrigley also states a higher goodwill relative to total assets and market cap compared to Tootsie Roll and Hershey. As you can see by the table above, Wrigley's goodwill to total asset ratio doubles Hershey's but they only have 10.81% more total assets. One reason to explain this is that Wrigley does have more total assets than the other two companies. However, this could also be a result of adjustments in accounting numbers that overvalue their assets.

Since the firm has been owned mostly by family members who have historically been in the top positions of the firm, management has incentive in manipulating quarterly reports in order to increase stock holder returns. As stated in Wrigley's 10-K, most of the estimations in accounting areas such goodwill are approved by senior level management. In this company however, those who are approving these decisions are the ones who have the most ownership in the firm. In this aspect, the company is moderately aggressive because their intentions may be to increase their own earnings in the short run.

Quality of Disclosure

Managers have many different options in regards to the quality of disclosure they'd like to display. Some managers choose to disclose more information which makes financial statements more transparent and easier read. On the other hand, some managers will disclose only what is required by law and little else. In that case, financial statements are made more difficult to examine and as a result the company itself is more difficult to value.

Right off the bat, Wrigley's presents a letter to its shareholders with an extensive report on how the company is doing and clearly lays out what the firm is dealing with. It discloses substantial competitive position information mentioning that it is now the largest gum company in the world and 4th largest confectioner company in the world. (Wrigley 2006 Annual Report) The 2006 letter to shareholders also states, "out of the many consumer packaged goods companies, we rank in the top three of delivering operating income gains and operating margins." Wrigley's is one of two companies in its industry that has proven to deliver over time gross margins over 50 percent and double-digit sales growth rates. (2006 Wrigley Annual Report) The 2006 Annual Report goes on to talk about its industry conditions claiming, "Smart organizations the need for change...a change...before it becomes necessary." It clearly describes in the 2006 Report just how incredibly important innovation is to stay on top in the confectioner industry. Management's plans for the future are somewhat vague. Bill Wrigley Jr. states out a plan for the future which includes, "new products, creative marketing, continued investment, and an aggressive strategy to win in a competitive marketplace." The details are not given other than the aforementioned statement plus the announcement of A. Korkunov acquisition.

Wrigley's has 8 significant accounting policies listed to go along with listing foreign exchange risk and interest rate under market risk and another 9 topics listed under forward-looking statements. Each subject is clearly defined and has a logical explanation. The layout of these documents is clear and precise. The organization is

clear having 3 distinct sections with subsections to each. Each individual section is to the point and clear for an investor to understand. The company performance listed the Management Discussion and Analysis of the 2006 Annual Report gives an overview, results of operations, liquidity and capital resources, significant accounting policies and estimates, and finally other matters. Both the Management Discussion and Analysis section of the 2006 10-K report and the Management Discussion and Analysis sections of the 2006 Annual Report give satisfactory disclosure of company performance. According to Business Analysis and Evaluation by Palepu and Healy, "the SEC released a circular in 2003 indicating that companies should provide more discussion in the MD&A about their significant accounting policies." Along with that, companies were challenged to provide the most in-depth disclosure to estimates and accounting policies that were a challenge for the firm itself to establish accurately. (Palepu and Healy) Wrigley's has not quite met that challenge as they have listed ways to account for goodwill and pension/post-retirement benefits, however, they have not gone into explicit detail to show exactly how they have accounted for each.

One of Wrigley's keys to success directly relates with research and development costs. Per accounting rules mandated by law, managers do not have any discretion to displaying these costs. However, another key success factor for Wrigley's is superior product quality. When looking at the MD&A on the 2006 10-K report for Wrigley's, it is difficult to discover where Wrigley's has disclosed the possible benefits. By law, managers are not allowed to capitalize these benefits. (Palepu and Healy) This can be said even if the managers are very confident in these benefits occurring in the future. (Palepu and Healy) Wrigley's does a dissatisfactory job of disclosing this information with great clarity.

Wrigley's operates under the Confectioners industry. To go even further, while it is taking steps to start competing in areas other than gum, breath mints, and candies with its acquisition of a Russian private chocolate company, A. Korkunov, it still does an overwhelming majority of its business worldwide with gum, breath mint, and candies

sales. Wrigley's provides detailed information on company performance in regards to this.

The company does not disclose much of any poor performance. This could be because of two reasons with the first being that the company simply isn't doing poorly. One other reason could be that the company isn't fully disclosing any poor performances that might have occurred. The company's investor relation program is adequate. The 10-K reports and Annual Reports are detailed with information. However, there is no way for an analyst to contact management and no fact books are available.

Sales Manipulation Diagnostics

Sales manipulation diagnostics is used to compare sales of one company against its competitors with the use of ratios. The ratios that were used to determine the profitability and liquidity are net sales to cash, net sales to receivables, and net sales to inventory. By comparing the different sales ratios of Wrigley's against its competitors, we can identify any inconsistencies of the firm as compared to the industry. Not only will the ratios pinpoint differences in operating activities, they will show if the change was industry wide not.

Net Sales/Cash from Sales
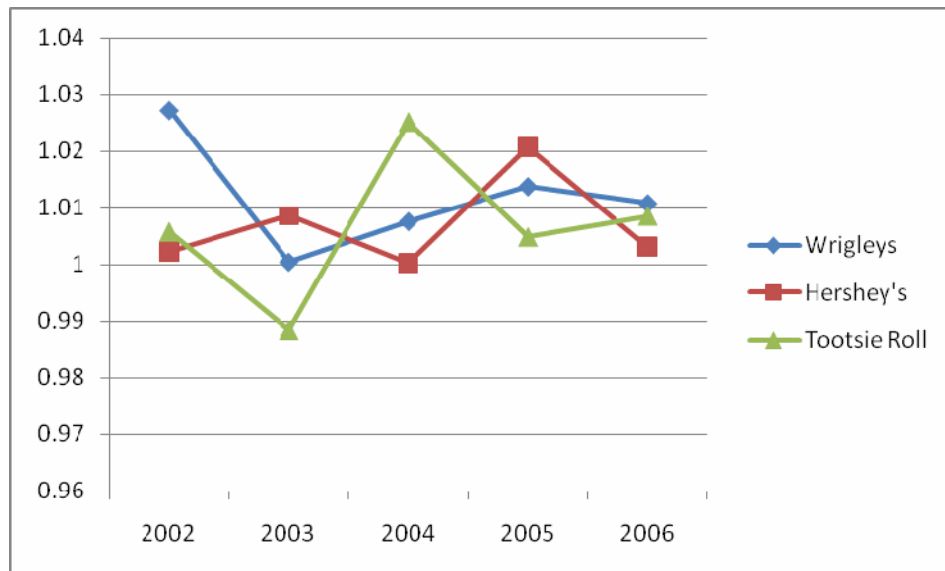
       The ratio of net sales to cash from sales is important because it tells us how well sales are supported by cash received from sales. Ratios should be close to one, if the ratio is one this would tell us that the company collects all cash from sales. As shown above Wrigley's net sales to cash ratio is very close to one, just like that of its competitors. This tells us that over the past five years Wrigley has maintained a steady and consistent collection of cash which supports their reported sales.

Net Sales/Accounts Receivable
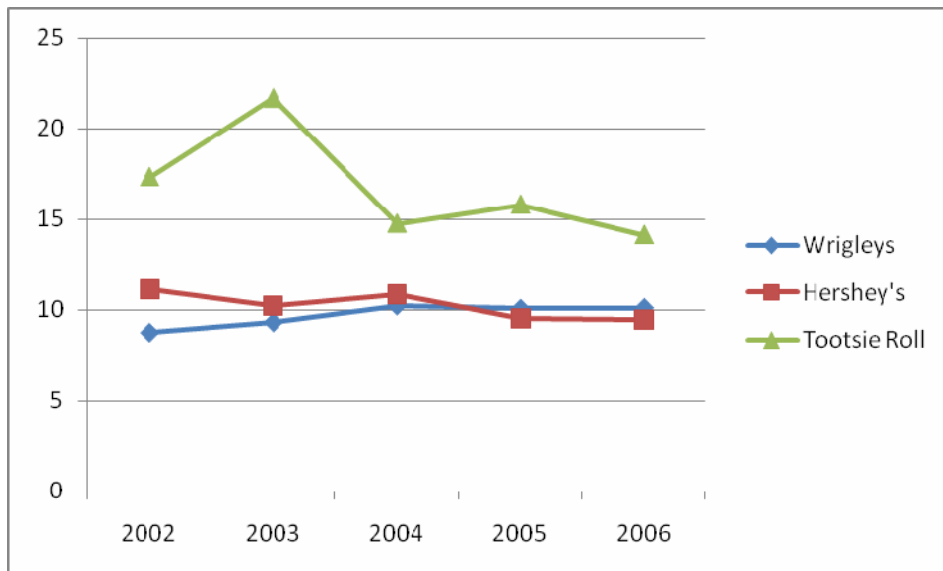
       The accounts receivable turnover ratio measures the portion of sales paid for on accounts. In other words, this shows how much of the sales where paid for on account. A high ratio would tell us that receivables make up a smaller portion of sales than cash sales. A lower ratio tells us that the firm has large portion receivables. A higher ratio is obviously better for a firm because a lower portion of receivables means the firm is operating efficiently. Thus, the company would account for a lower allowance for doubtful accounts. As you can see, Wrigley's accounts receivable turnover ratio has steadily increased over the past five years. Tootsie Roll on the other hand is the industry leader in collecting on accounts receivable. This can be explained by the fact that the company has a lower accounts receivable than its competitors relative to total sales. Tootsie Rolls sudden spike in 2003 was due to customer bankruptcies, increases in activity in the competitive environment, as well as lower Mexican sales (on account).

Net Sales/Inventory
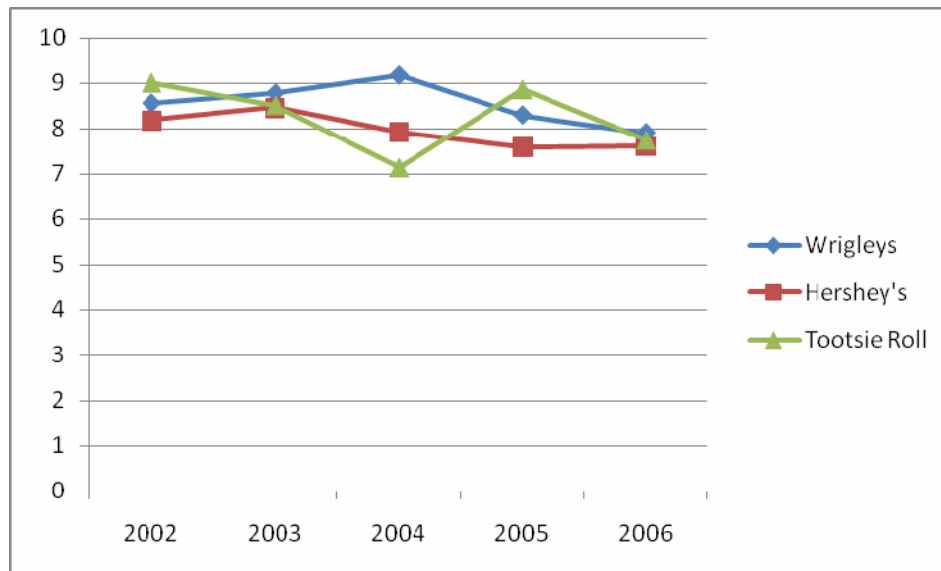
The inventory turnover ratio is computed by taking a firm's net sales and dividing it by inventory. Inventory turnover shows how many times a firm's inventory turns over or is replaced. A higher ratio means a firm has a faster inventory turnover, which means that it has a more efficient operating cycle. From the graph we see that from 2004 to 2006 Wrigley has a downward sloping line. This indicates Wrigley's inventory has become less liquid in the years after 2004. However, according to the graph, a decreasing inventory turnover ratio could be the start of an industry trend. If this were to occur, we can infer that the confection industry is expecting more sales than that which are actually occurring. This would be due to an overall decrease in the sales of confectionary items.

Net Sales/Unearned Revenue and Net Sales/Warranty Liabilities

The Financial Statements used to retrieve the data from these companies did not include unearned revenue. The cause of this could be because products in this industry are typically not sold until produced. Similarly the confectionary industry does not use warranties to cover their products so these numbers could not be found on the annual reports for these companies.

Sales Manipulation
Diagnosis

Wrigleys	2002	2003	2004	2005	2006
Net Sales/Cash From Sales	1.0273	1.00042	1.0076	1.0138	1.0108
Net Sales/Accounts Receivable	8.7765	9.3324	10.2377	10.0726	10.1159
Net Sales/Inventory	8.5503	8.7696	9.1649	8.2900	7.9024
Net Sales/Unearned Revenue	n/a	n/a	n/a	n/a	n/a
Net Sales/Warranty Liabilities	n/a	n/a	n/a	n/a	n/a

Hershey's	2002	2003	2004	2005	2006
Net Sales/Cash From Sales	1.0023	1.0087	1.0003	1.0208	1.0032
Net Sales/Accounts Receivable	11.1067	10.2366	10.7999	9.5043	9.4595
Net Sales/Inventory	8.1867	8.466	7.9263	7.5914	7.6203
Net Sales/Unearned Revenue	n/a	n/a	n/a	n/a	n/a
Net Sales/Warranty Liabilities	n/a	n/a	n/a	n/a	n/a

Tootsie Roll	2002	2003	2004	2005	2006
Net Sales/Cash From Sales	1.0058	0.9885	1.0252	1.0049	1.0086
Net Sales/Accounts Receivable	17.3316	21.6566	14.7635	15.8069	14.1408
Net Sales/Inventory	9.0087	8.5201	7.1475	8.8628	7.7551
Net Sales/Unearned Revenue	n/a	n/a	n/a	n/a	n/a
Net Sales/Warranty Liabilities	n/a	n/a	n/a	n/a	n/a

Expense Manipulation Diagnostics

Expense Manipulation Diagnostics takes numbers from a firm's financial statements to determine if the companies are understating their expenses. If this is the case these ratios can point out "red flags" that show that they are often times that companies are overvaluing their assets.

Asset Turnover
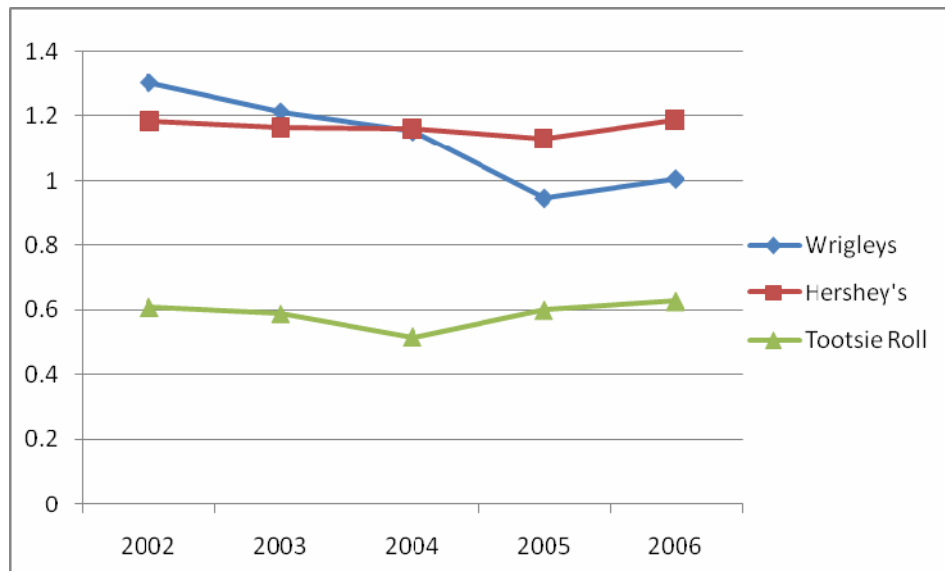
The asset turnover ratio explains the amount of sales from a company relative to the amount of assets stated on the balance sheet. Wrigley has had a decrease in the ratio in all five years analyzed except for 2006. Since the Company has had increasing profits, this is a bad sign because that means that their assets are possibly being written off, especially in 2005.

As for the Industry, Wrigley and Hershey have very similar values as well as a comparable trend. Tootsie Roll has very low asset turnover measured up to the industry. Their dip in the ratio in 2004 can be explained by an 18% increase in total

assets but only a 6.5% increase in net sales from 2003 to 2004. Wrigley's trough in 2005 can be explained by their 28% increase in total assets together with an unsupportive 12% increase in total revenue. Although it is possible that these companies could be writing off assets, the most probable cause to the results is a larger than average acquisition of assets.

Cash Flows from Operating Activities/Operating Income
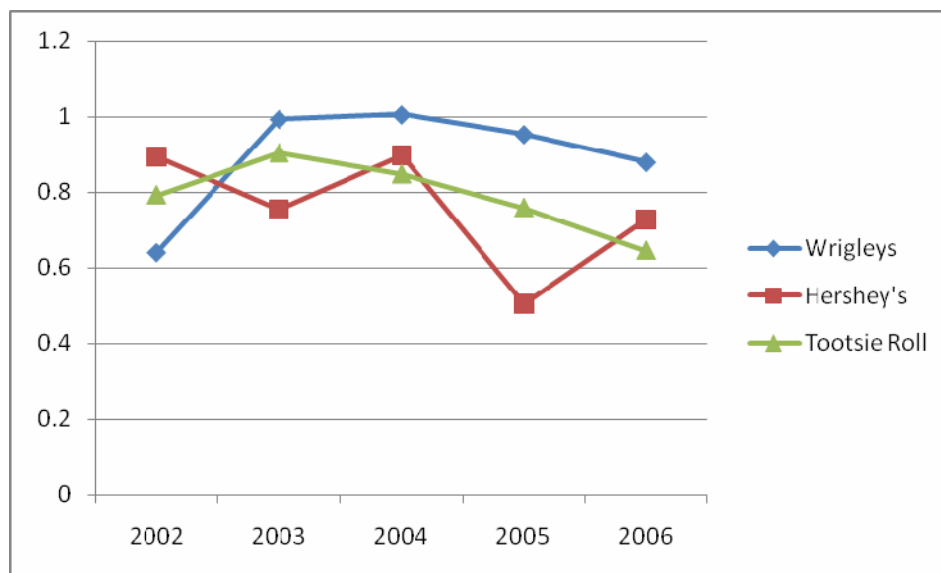
The cash flows from operating activities to operating income ratio are important in determining how much cash is coming through the business relative to operating activities.   A firm always wants to see a lower number in this ratio because that means the operating income is being supported by cash flows from operating activities. The graph shows that both Wrigley's and Hershey's have had a decrease in the past three to four years in cash flows. Although Wrigley's had a huge peak in 2003, they have been relating more of their cash flows from operating activities to operating income every year since 2004. The industry trend appears to be downward sloping according to the graph. However, Hershey has had unpredictable increases and decreases year by year. This indicates an instability in operating activities that proves unfavorable for the company.

Cash Flows from Operating Activities/Net Operating Assets
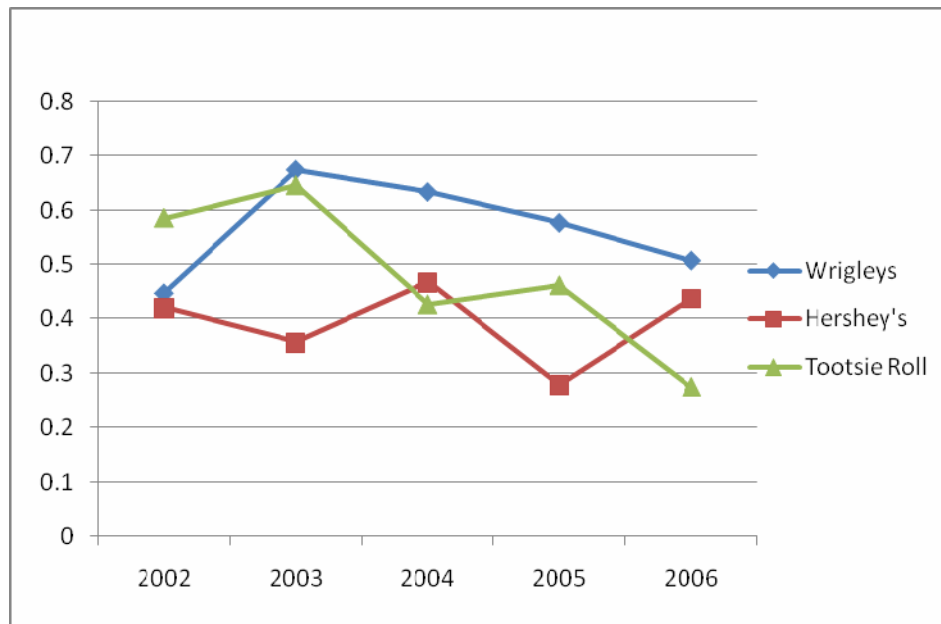
   The cash flows from operating assets to net operating assets ratio determines how much cash a firm is receiving through assets that provide operating activities. Net operating assets are long term assets such as property, plant, and equipment. This is a ratio that a firm would prefer to see a larger number in because it means they are able to generate more cash through these assets. The industry as a whole has a very unstable trend in this area. This is most likely caused from the changes in expensing and capitalizing assets.

Total Accruals/Change in Sales
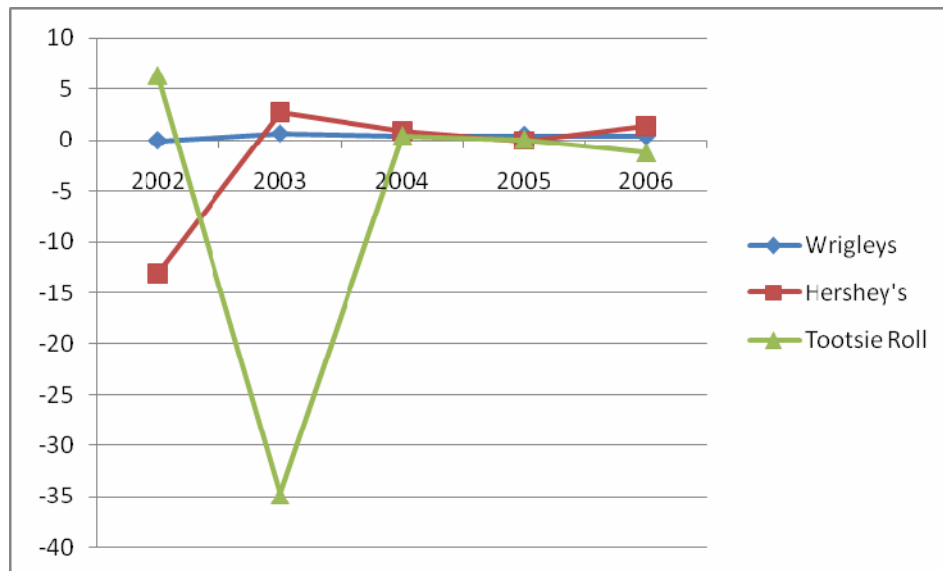
The total accruals to change in sales ratio shows how much a firm decides to take on in accounts receivables from their sales. Each firm wants to see a smaller number coming from this ratio because it gives them more cash on hand. Also, it leaves out the responsibility of collecting all the accounts receivable. The graph above shows there really has not been much recent improvement for any of the firms in the industry.

Pension Expenses/SG&A
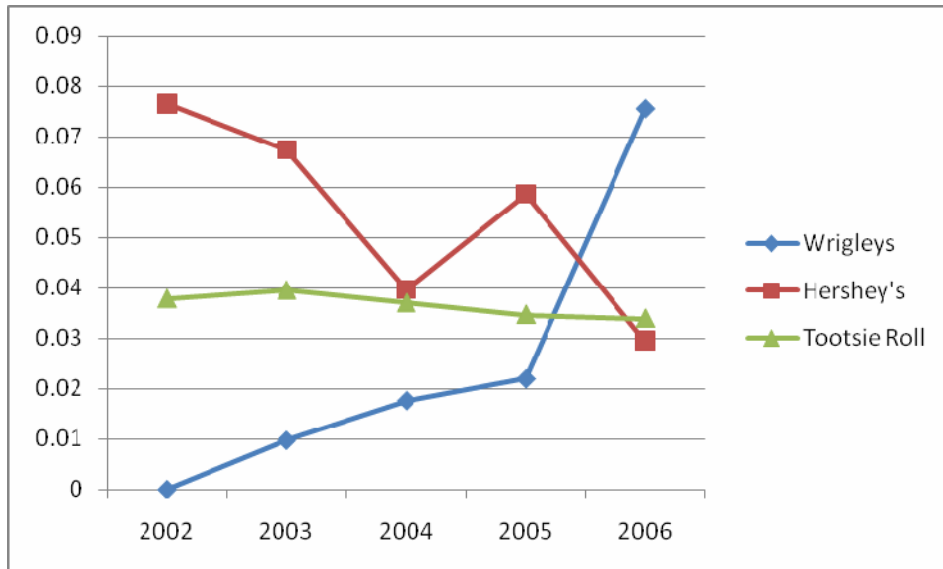
The pension expense to selling, general, and administrative expenses ratio differs from the previous core expense manipulation diagnostics ratios. This is a ratio that a firm would like to see lower because if the number is too high, that means they may be putting too much money into pensions instead of other expenses. The money that goes into pensions could very well be put into other uses in the company.

The industries policies on pension expenses vary a great deal. Tootsie Roll has steadily decreased the significance of pensions every year since 2003. Wrigley on the other hand has gone from 0% to almost .08%. The 75% increase in this ratio from 2005 to 2006 shows to be very unfavorable to the Company. Wrigley is the only company in the industry that is not making an apparent effort to reduce these expenses.

Other employment Expenses/SG&A
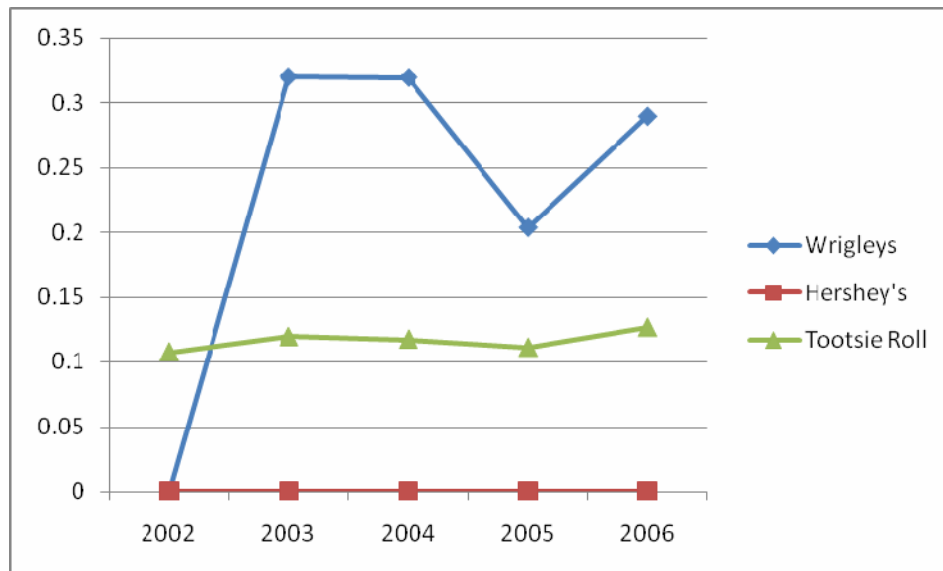
The other employment expenses to selling, general, and administrative expenses ratio is similar to the previous ratio. The ratio shows how much money a firm puts into employee benefits relative to operating expenses. A firm wants to see the ratio as a smaller number because the money they are putting into these employee benefits could be put in better use to improve the company. It must be noted that Hershey's is at line "0" on the graph because there was no information found regarding other employee expenses.

Expense Manipulation Diagnostics

Wrigleys	2002	2003	2004	2005	2006
Asset Turnover	1.3026	1.2143	1.1522	0.9465	1.0052
CFFO/OI	0.63998	0.994	1.00595	0.9536	0.8794
CFFO/NOA	0.4478	0.6751	0.6341	0.5773	0.5079
Total Accruals/Change In Sales	-0.0785	0.6184	0.3996	0.4367	0.3665
Pension Expense/SG&A	n/a	0.0097	0.0176	0.0219	0.0755
Other Employment Expenses/SG&A	n/a	0.3201	0.3195	0.2036	0.2896

Hershey's	2002	2003	2004	2005	2006
Asset Turnover	1.1838	1.1647	1.16296	1.1307	1.1892
CFFO/OI	0.8955	0.7556	0.8987	0.5049	0.7286
CFFO/NOA	0.4208	0.3568	0.4681	0.2783	0.43795
Total Accruals/Change In Sales	-13.1222	2.7285	0.874	-0.0664	1.3194
Pension Expense/SG&A	0.0765	0.0673	0.0396	0.0586	0.0294
Other Employment Expenses/SG&A	n/a	n/a	n/a	n/a	n/a

Tootsie Roll	2002	2003	2004	2005	2006
Asset Turnover	0.6086	0.5902	0.5175	0.5994	0.6265
CFFO/OI	0.7925	0.9038	0.8479	0.7589	0.6453
CFFO/NOA	0.5857	0.6462	0.4265	0.4616	0.2743
Total Accruals/Change In Sales	6.3531	-34.8809	0.4391	0.0783	-1.2438
Pension Expense/SG&A	0.0378	0.0395	0.0370	0.0347	0.0339
Other Employment Expenses/SG&A	0.1076	0.1196	0.1176	0.1112	0.1268

<u>Conclusion</u>

   Several of the ratios examined for the confectionary industry raised some potential red flags due to their possibility for misleading accounting policies. Although some inconsistencies can be explained like asset turnover ratio, many sudden spikes in the ratios could only be explained by managers. All except for ratio's relating to selling, general, and administrative expenses, Wrigley is the most consistent in the information presented and their reporting practices. Not only has the information derived from the sales and expense manipulation diagnostics raised red flags and given insight to the accounting practices of the confectionary industry, it will prove to be important in valuing the company.

Potential Red Flags

   One of the most important steps when doing accounting analysis is the ability to identify red flags. It is a difficult task to sift through some of the noise and find possible faults in the financial statements provided by Wrigley's. After a thorough accounting analysis, we have identified a couple of red flags. The first red flag is seen when looking at the asset turnover ratio. You would never guess that Wrigley's had any problems reading there letter to the shareholders and the management discussion and analysis sections of the Annual Report and 10-K. However, Wrigley's asset turnover has steadily dropped the past 5 years. A decrease like this can be seen as normal if an industry as a whole is not doing well. This is not the case for the Confectionery industry. It is doing fairly well so the fact that Wrigley's is below industry standards is a potential red flag that they might not be doing as well as they claim.

Another red flag is noticed when looking at goodwill. Wrigley has just recently started making significant acquisitions. As stated previously, goodwill and calculating impairment loss requires a good deal of discretion by the managers. When looking at the ratio of goodwill to total assets, Wrigley's has the largest goodwill to total assets ratio relative to its North American competitors, Tootsie Roll and Hershey Co. If Hershey were to report as much goodwill as Wrigley, they would actually have more total assets. However, Wrigley has made many acquisitions that have helped broaden their market. A prime example of this is a Russian Chocolate Company, A Korkunov that they recently acquired. This acquisition has helped them expand into another sector of the globe. We feel that with the value they are getting out of their recent acquisitions, an overhaul of goodwill is not warranted.

One final red flag is the disclosure of capital and operating leases. Their disclosure if vague, at best, which makes it difficult to get a true hold on the situation. A company would have incentive to report more operating leases over capital leases because the terms of an operating lease are much more flexible and there is no liability put on the books with operating leases as opposed to capital leases. The lack of disclosure and difficulty to get a true read on their leases is a red flag.

Undo Accounting Distortions

Our analysis thus far suggests that Wrigley's numbers are in fact misleading. In order to restate the reported numbers to minimize the accounting distortion, we would need more information on their current methods of calculating leases. Goodwill aside, the value of the total assets of Hershey and Wrigley are close. Even with that said, you still cannot discount the value and competitive advantage Wrigley has gained over Hershey through these acquisitions. These acquisitions have helped Wrigley broaden their market and the acquisitions have performed well early on with A. Korkunov being a prime example. The lack of information on operating and capital leases makes undoing the accounting distortions improbable.

Financial Analysis, Forecasting Financials, and Cost of Capital Estimation

In order to evaluate a company, financial analysts have used ratios in order to accurately breakdown important parts of a company's financial statements. By using these ratios one can analyze the liquidity, profitability, and capital structure of both a specific company as well as companies within the industry. By breaking down the industry it makes it easier for one to compare competitors and be able to evaluate the performance of a firm in the industry. These ratios also help with forecasting. Forecasting helps show the expected performance of a company over a multitude of years. This is accomplished by seeing the possible change in the income statement, balance sheet, and statement of cash flows.

Liquidity Ratio Analysis

Liquidity refers to the firm's ability to convert assets into cash to pay long term and short term debts. By using liquidity ratios from financial data from the last five years we can evaluate the firm's past performance. Comparing a firm's ratios against that of its competitors in the industry gives investors insight to performance of a firm. Liquidity Ratios used in this analysis include: current ratio, quick asset ratio, inventory turnover, receivables turnover and working capital turnover.

Current Ratio
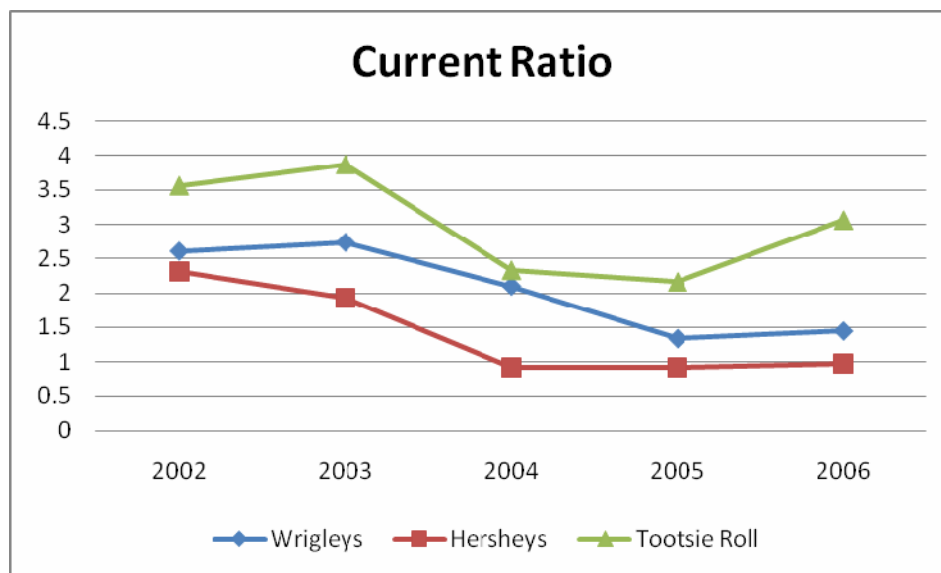
The current ratio shows investors how fast a company can pay off its short term debts. The current ratio is found by calculating the current assets by the current liabilities. Firms with higher current ratios have more current assets and therefore have greater liquidity. Having a ratio of less than one is bad, this means that the firm does not have the means to pay for their debts currently. Firms that operate with ratios of 1.5 – 2.0 are using assets efficiently. Wrigley's current ratio over the past five years has been around 2.0; this means they have twice the current assets in relation to current debt.

The industry trend, according to the graph, seems to have been steadily declining from 2003 to 2005. However, from 2005 to 2006 each company has had an

increase in the abilities to pay off current liabilities. The biggest percentage change in 2006 was found in Tootsie Roll, who increased their current ratio by 13%.

Quick Asset Ratio
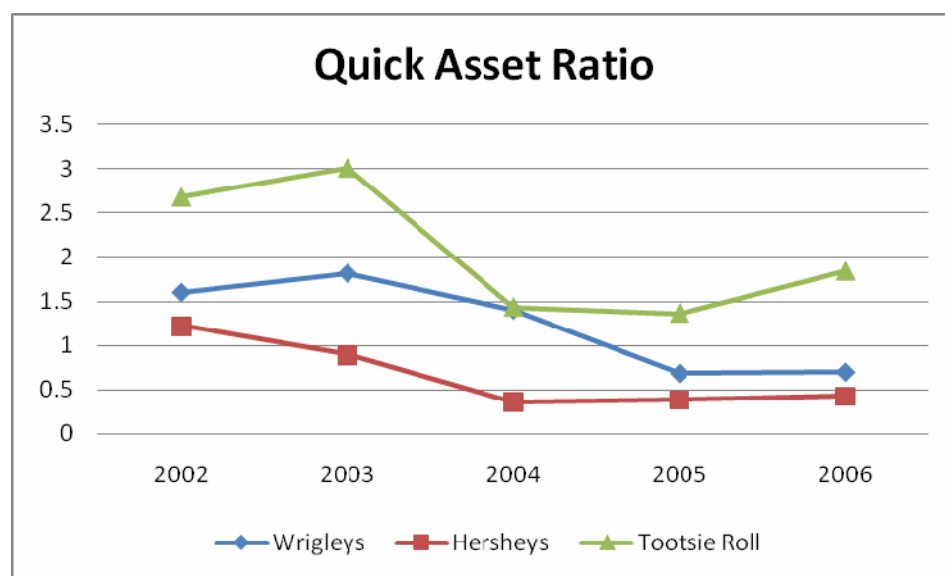
The quick asset ratio measures a firm's ability to pay off short term debts (current liabilities) with its most liquid assets. To find the quick asset ratio, divide quick assets by current liabilities. To find quick assets, add cash, securities, and accounts receivable. Like the current ratio, a higher ratio means greater liquidity and greater ability to pay off short term debt. Wrigley has a quick asset ratio average of 1.2 which when compared to the industry is about average.

There is a declining trend in the quick asset ratio among the industry since 2003. On average, the confectionary industry is becoming less liquid. This trend means that the companies are experiencing diminishing returns on their ability to pay off short term debts year by year.

Inventory Turnover
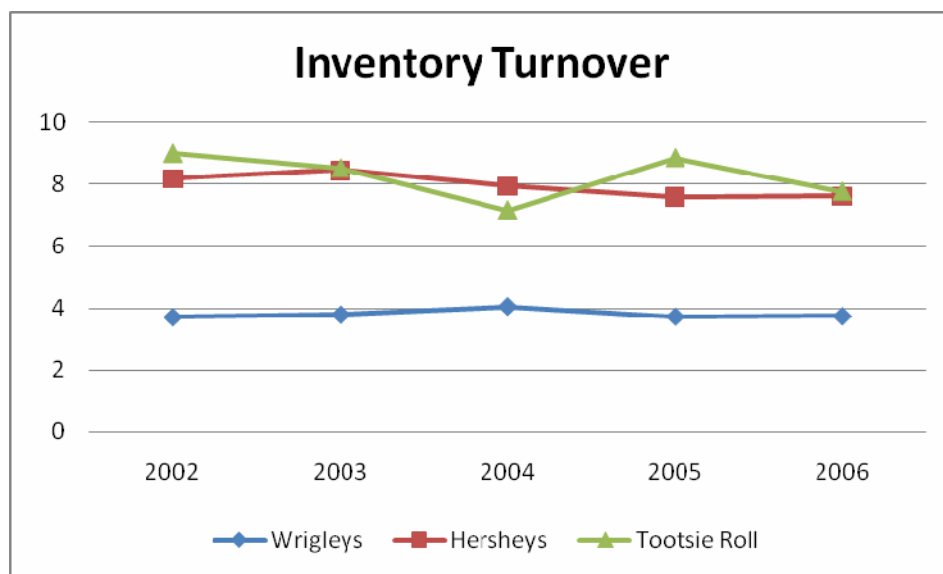
Inventory turnover is the measure of how many times a firm restocks its inventory. To get inventory turnover, divide cost of goods sold by total inventory. Inventory turnover shows the proportion of inventory sold and how fast and efficient a firm is at moving inventory. Basically, the higher the ratio the more liquid a firm is. This means that the firm is moving its inventory quickly and efficiently.

Wrigley has a low turnover compared to the Industry. With a turnover of around 3.7 and an Industry average around 8.1 this tells us that Wrigley is not moving its inventory as quick as its competitors. The inventory turnover in the graph above indicates a stable trend over the past five years.

Days Supply of Inventory
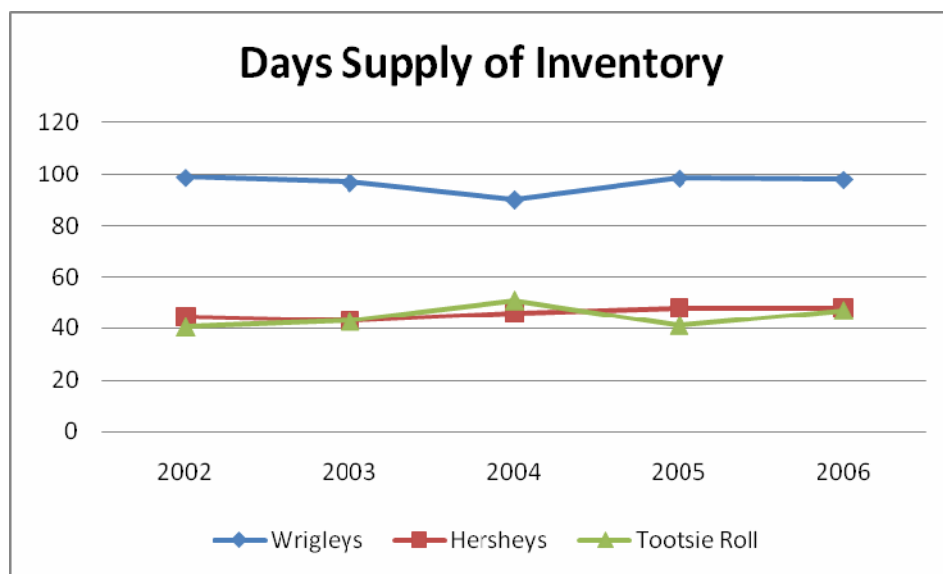
Days supply of Inventory shows how fast a company sells their inventories. We get this number by taking number of days in a year and dividing it by the inventory turnover. A lower number of days means that the firm is more efficient in controlling their inventory.

Over the past five years the days supply of inventory trend for the confection industry has been constant, much like the inventory turnover. Wrigley has about 98 days supply of inventory which is not surprising because they have a low inventory turnover. When compared to the industry at 45 days, Wrigley has not been efficient in controlling inventory.

Receivables Turnover
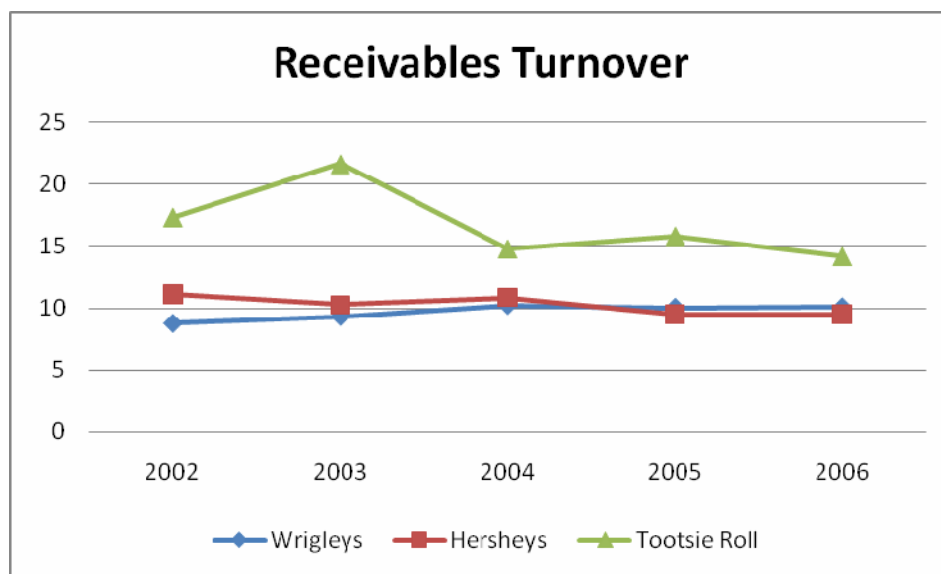
The receivables turnover is a measure how much of a firms sales is sold on account and how much a firm still has to collect. The higher the ratio the less the firm has to worry about collection of receivables. When a firm has a higher ratio they collect more of a percentage of sales, which translates to a faster cash to cash cycle. A faster cash to cash cycle means the firm is operating more efficiently.

Wrigley has a turnover average of 9.7 over the past five years, which when compared to the industry average of 13.5, is a little low. There has been a steady trend in receivables turnover with the exception of Tootsie Roll's sudden increase in the year 2003. This is explained by a 20% decrease in their accounts receivable in the year, thus producing a higher ratio.

Days Sales Outstanding
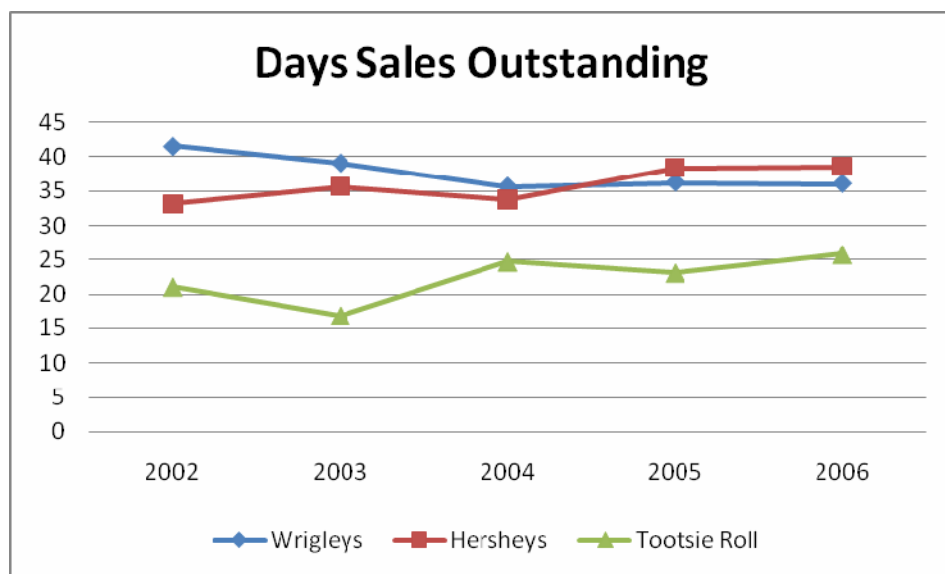
Days sales outstanding are found by taking number of days in a year (365) and dividing it by the firm's receivables turnover. This number tells us how many days it takes a firm to collect its receivables. A lower number means that it takes fewer days for a firm to collect cash, which gives them a faster cash to cash cycle. This shows how efficient a firm is on collecting debt on accounts receivable.

It takes Wrigley an average of 37 days to collect receivables which is more than their competitors. This slows Wrigley's cash to cash cycle and shows that they are not very efficient at collection. Tootsie Roll is the industry leader in days sales outstanding by collecting receivables in 26 days. Although there is no significant trend to be

recognized in the graph above, it appears that there in a tendency of firms to collect on receivables in an increasing number of days year by year.

Working Capital Turnover
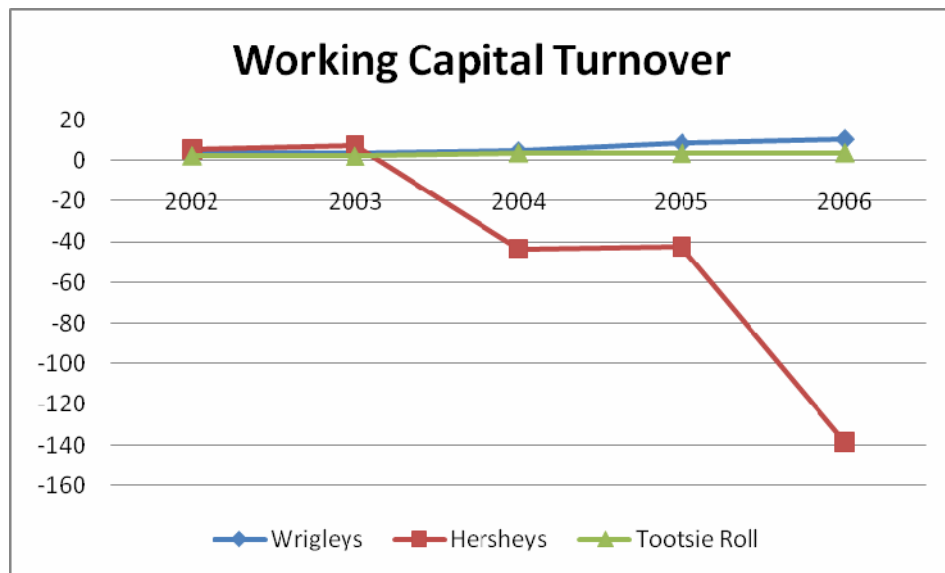
Working capital turnover measures how well a firm uses working capital to produce revenue. To find working capital divide the company's sales by its working capital. Working capital is the difference in current assets from current liabilities. A higher working capital turnover is better because it means the firm is using getting more revenue out of the funds used to generate sales.

Over the past five years Wrigley has had a turnover of about 6.2 with the last two years being 8.2 and 10.2. This means that for every dollar Wrigley spent on generating sales they received $6.20 of sales. When compared to the industry Wrigley has had the best working capital turnover. The drop of working capital turnover into the

negatives for Hershey's could be a bad sign for the company. This could be caused by a multitude of reasons. The biggest reason could be that the company is holding on to their debt. This is a sign that the company does not have the cash to pay off its debts.

Cash to Cash Cycle

The cash to cash cycle is an easy method to give firms an idea on how long it will take supplies to turn into cash. The method is figured by adding the day's supply of inventory with the days sales outstanding. A simple explanation of this formula is to figure out how many days it takes a firm's supplies to turn into cash. This includes production of a product. Firms can use this formula to figure out if they are efficiently producing product. For firms that have lower numbers, this explains that it takes very few days for the cash they spend to turn into cash revenue.

5 year average Cash to Cash Cycle			
WWY	134 days		
HSY	82 days		
TR	67 days		

As you can see from the table above, Wrigley's has the largest five year average cash to cash cycle. This translates into Wrigley's being the least efficient operator as its competitors.

Conclusion

Analysis of liquidity ratios across the confectionary Industry shows that Wrigley is average when it comes to the current ratio, quick asset ratio. But Wrigley underperforms is competitors in the areas of inventory management and collection of

receivables. However Wrigley does outperform its competitors in working capital turnover.

Profitability Analysis

A profitability analysis determines how efficient a firm is in making profit. Profitability analysis uses ratios that measure different profits margins as well as how well the company uses its assets and equity. The ratios that make up profitability analysis are Gross Profit Margin, Operating Profit Margin, Net Profit Margin, Asset Turnover Ratio, Return on Assets (ROA), and Return on Equity (ROE).

Gross Profit Margin
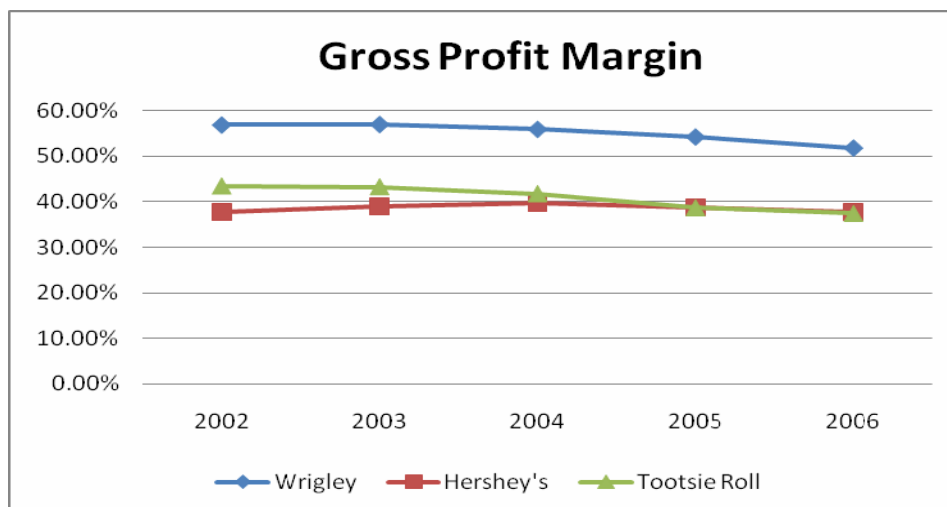
Gross Profit Margin is calculated by dividing a company's gross profit by its sales. Gross profit is figured by subtracting cost of goods sold from total sales. The gross

profit margin examines a firm's profit with expenses being considered. A positive growth of a company's gross profit margin is a good way of showing that the company is either increasing sales or decreasing their cost of goods sold. A sharp decline in this margin is also a good way of showing if a company is in trouble.

As seen in the graph, Wrigley has kept a fairly consistent gross profit margin however it has a small decline around 2004 through 2006. This decline does not seem to be too dramatic to think there could be problems with the company. A small decline such as that of Wrigley and Tootsie Roll can be explained by an increase in sales as well as in gross profit.

Operating Profit Margin
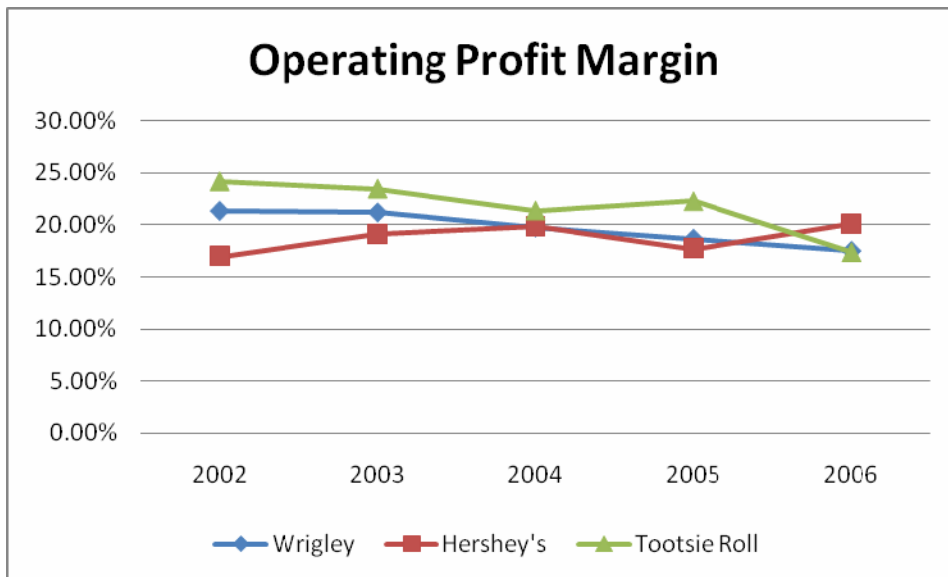
Operating profit margin is a good way of determining how well a company is using its operating efficiency. The ratio is calculated by dividing a company's operating income by its sales. Operating profit margin will indicate if a company is minimizing its operating expenses and costs of goods sold or if the expenses are relatively higher than preferred. This ratio is easily comparable to competitors to find an industry average. If a company's operating margin is higher than that of the industry average; the company would have lower fixed costs and higher gross profit margin.

Over the past 5 years it is seen that Wrigley, Hershey's, and Tootsie Roll all have fairly consistent operating profit margin with change that can be explained by the changing amounts of sales and operating income over the years.

Net Profit Margin
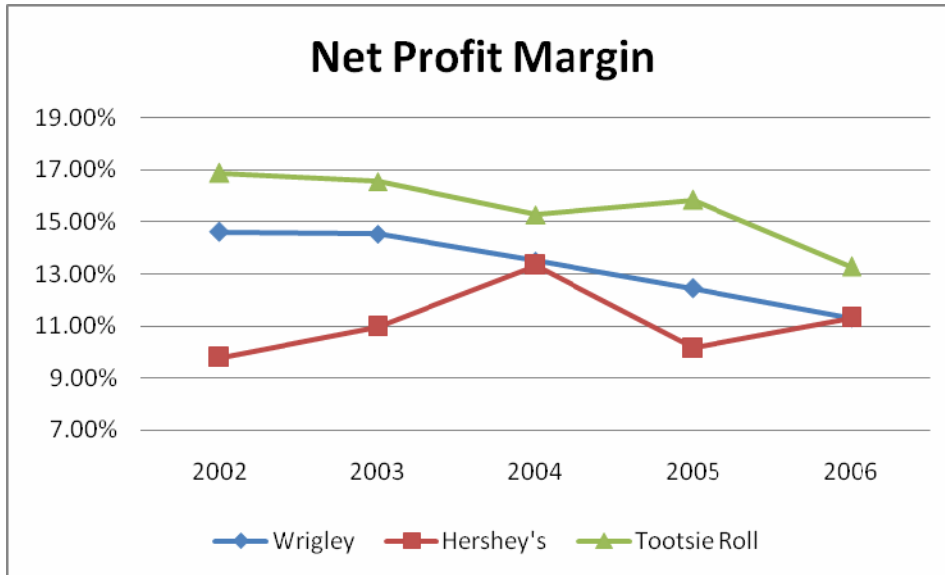
Net profit margin shows how much profit a company makes for every dollar of sales it has. It is calculated by dividing net income by sales. This is not a good way of determining how good a company is performing, however it is a good way to compare one company to another or to an industry. In an industry a company with a higher net profit margin has better cost control and is typically more profitable.

As seen in the graph Tootsie Roll has held a higher net profit margin showing that in this industry it has been the most profitable for the past 5 years however had a sharp drop between 2005 and 2006 yet still remains as the leader in net profit margin.

Asset Turnover Ratio
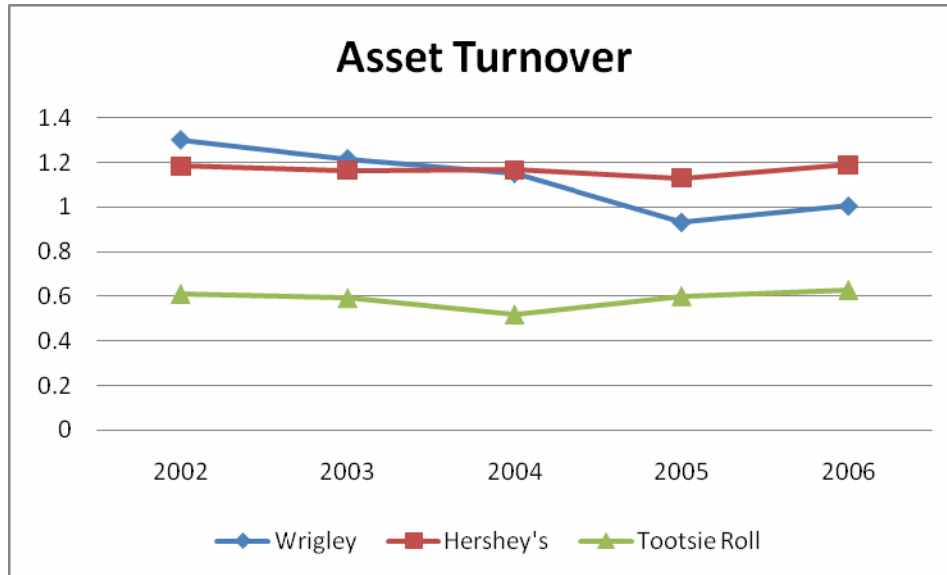
Asset turnover ratio is calculated by dividing sales by total assets. This ratio shows how well a company is using its total assets to generate sales. A higher asset turnover ratio would state that a company efficiently utilizing their assets in order to turn them into sales.

As seen in the graph, both Wrigley and Hershey are having the highest asset turnover of the industry. The drop in Wrigley's asset turnover does not seem to be a problem because with the changes in sales and assets ratios are expected to change slightly.

Return on Assets

ROA
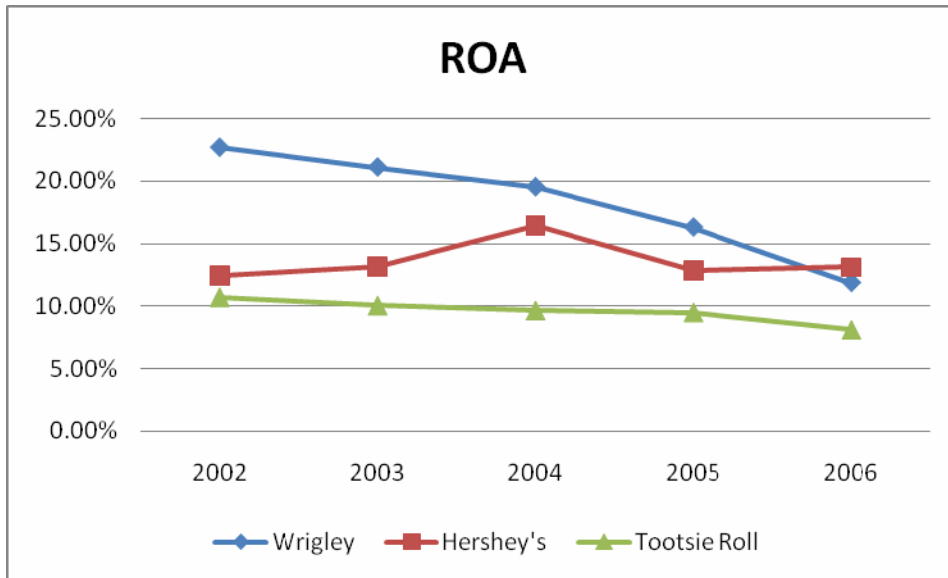
Return on assets (ROA) shows how profitable a company is compared to its total assets. ROA is calculated by dividing a company's net income by its total assets of the previous year. The higher the ROA percentage of a company is the more favorable it is.

The declining of ROA for Wrigley could be a cause for concern for the company. The rest of the industry has had a steady return on assets, but Wrigley seems to be the only firm with a steady decline. This shows that Wrigley is having more trouble converting their assets into cash or they are purchasing more assets than they should and are not seeing the advantage in more net income.

<u>Return on Equity</u>
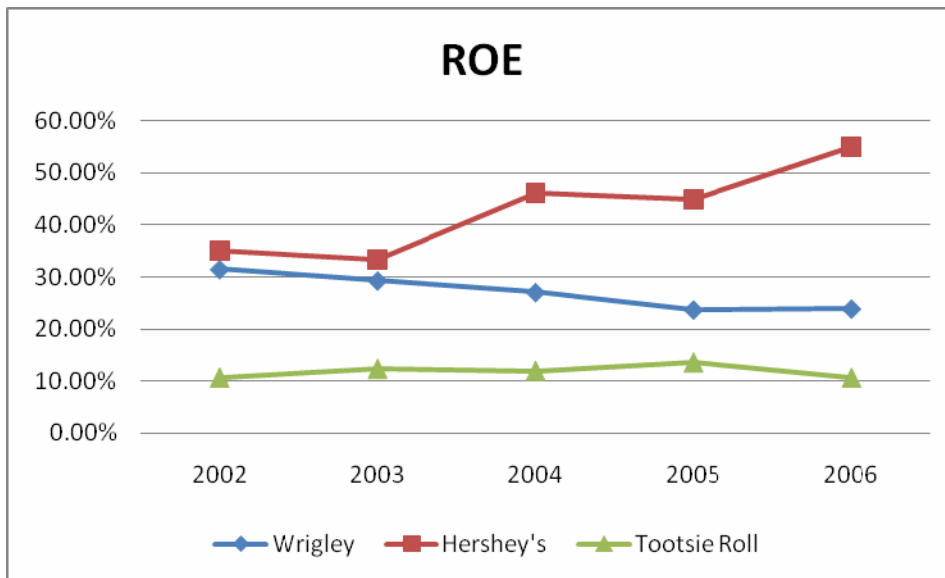
Return on equity (ROE) is similar to ROA however it compares net income to total owner's equity. This shows how well a company uses its investment dollars to create earning growth. To get ROE, divide net income by the company's previous year's total equity.

Over the five year period shown both Tootsie Roll and Wrigley have fairly consistent data; however Hershey's has a large jump in ROE from its lowest point at 33.36% in 2003 to its highest point at 55.01% in 2006. These results are due to the decrease in total equity and increase in net income over the four year period.

Conclusion

Wrigley's Key Financial Ratios

	2002	2003	2004	2005	2006	Trend
Current Ratio	2.6064	2.7357	2.0975	1.333	1.4421	Not Favorable
Quick Asset Ratio	1.6002	1.8157	1.4035	0.6856	0.699	Not Favorable
Receivables Turnover	8.7765	9.3324	10.2377	10.0726	10.1159	Stable Trend
Inventory Turnover	3.6951	3.7787	4.0572	3.7135	3.7288	Stable Trend
Working Capital Turnover	4.4281	3.7165	4.6305	8.2948	10.3194	Favorable
Gross Profit Margin	56.79%	56.91%	55.87%	54.24%	51.85%	Not Favorable
Operating Profit Margin	21.30%	21.16%	19.74%	18.67%	17.53%	Not Favorable
Net Profit Margin	14.62%	14.53%	13.51%	12.44%	11.30%	Not Favorable
Asset Turnover	1.3026	1.2177	1.1522	0.9325	1.0052	No Trend
Return on Assets	22.74%	21.15%	19.56%	16.33%	11.87%	Not Favorable
Return on Equity	31.46%	29.29%	27.07%	23.74%	23.91%	Not Favorable

After comparing the ratios of all three companies over the five years to see the trends of all the companies it is clear that all three companies follow a pretty consistent industry pattern, with noticeable differences of separation only apparent in asset turnover and return on equity. Because of these trends it is hard to find a clear leader of the industry. As you can see from the table above, the majority of Wrigley's Key Financial Ratios are not favorable. This is alarming and should be noted as such.

Capital Structure Analysis

The capital structure analysis is analyzing the assets of a firm compared to liabilities that need to be paid off. Each firm will be tested to see if they have the ability to pay off their liabilities internally through their assets. The three ratios we use in this process are debt to equity ratio, times interest earned, and debt service margin.

Debt to Equity Ratio
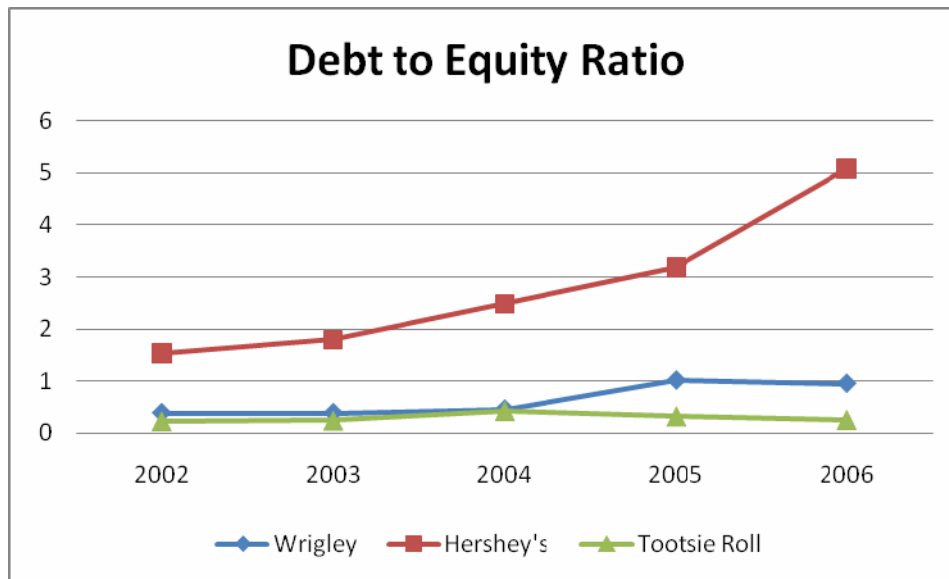
The debt to equity ratio shows how much debt a company has in relation to their equity. Any company would rather see a lower number in this ratio because that means they are doing their financing activity without accumulating too much debt in the process.

Tootsie Roll has been the most efficient in debt to equity as they have kept their ratio to an average of .29. Wrigley's has had a respectable .64 average debt to equity ratio over the past five years. Hershey's is the only competitor that has a dismal ratio that seems to be steadily climbing without any sign of stopping. Hershey's is adding more debt each year without it being compensated by equity within the firm.

Times Interest Earned
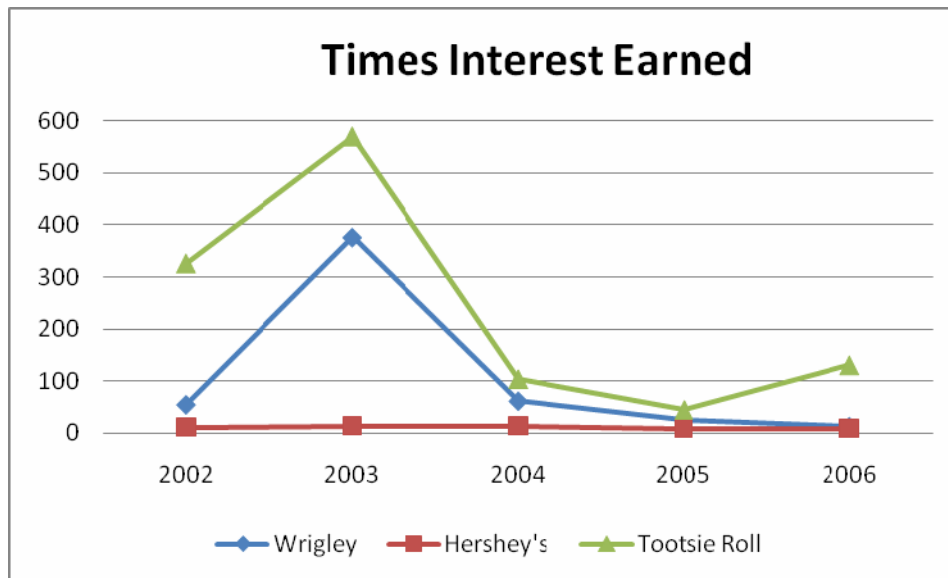
Times interest earned is calculated by taking the operating income and dividing it by the interest expense. The number calculated shows if a company can cover their interest charges with the amount of income earned through operating activities. So, the bigger the number, the better it is for the company because they are more easily able to cover those expenses.

All the firms appear to have the ability to cover interest expense through operating income. Tootsie Roll leads in this ratio as well. The overall industry average is 117.48 and Wrigley's is slightly below this number over the past five years. Wrigley's still is in good shape compared to competitors in the industry. Hershey's is subpar compared to the competition with this ratio with a five year average times interest earned of 11.17.

<u>Debt Service Margin</u>
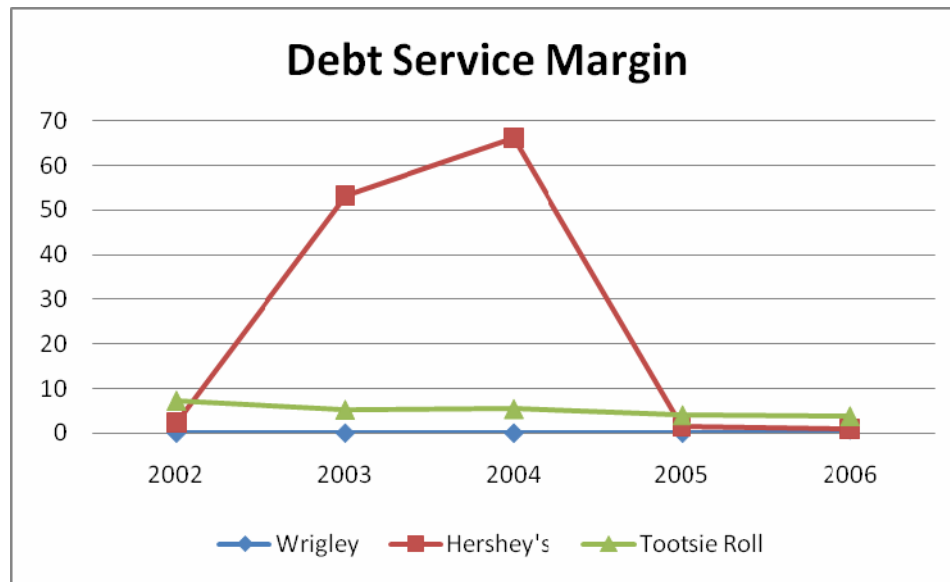
The debt service margin is comparing the operating cash flows to the current notes payable. If the number increases, this means that a company is gaining the ability to pay off their long term liabilities.

Wrigley's had not displayed their current notes payable on their 10-k reports in the years prior to 2006. So, we were not able to determine their progress in a five year sample. Hershey's had a 2 year period with a great debt to service margin in 2003 and 2004. This is because they have a small amount notes payable to pay back in those years. However, they have leveled back to the rest of the competition in the following years.

<u>Altman Z-Score Analysis</u>

The Altman Z-Score is a way for banks to evaluate a firm's credit risk. The Z-Score is calculated by taking five financial ratios and weighting them by importance of credit risk. The following is the Altman Z-Score formula:

1.2(Working Capital/Total Assets) + 1.4(Retained Earnings/Total Assets) + 3.3(EBIT/Total Assets) + .6(Market Value of Equity/Book Value of Liabilities) + 1.0(Sales/Total Assets)

The final number computed in this formula will show the credit risk of the firm. If the number is greater than 3, then the firm is in a strong financial position and can overcome bankruptcy. Therefore, it would have good credit. If the Z-Score falls between 1-3, then the firm does not have good credit and is in financial uncertainty.

<u>Wrigley's Z-Scores</u>

<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
16.52	14.52	15.08	7.48	6.35

Wrigley has had a strong Z-Score over the past five years. While it has declined from what it was, it is still over 3 by a solid margin to keep them at good credit. Wrigley has a favorable Z-Score in large part because they have had relatively low debt. Banks will consider Wrigley as a company with great financial standing.

Conclusion

       Overall compared to the rest of the industry, Wrigley's had an average capital structure. Tootsie Roll had a better debt to equity ratio and Hershey's was inefficient in handling debt because their debt service margin is much higher compared to the rest of the industry. It is not fair to assess Wrigley's position in times interest earned because the first four years were unavailable. However, they seem to have an average times interest earned in 2006 compared to the rest of the industry. There is room for improvement, but Wrigley's has the ability to easily pay back their liabilities through internal financing.

IGR and SGR Analysis

      The internal growth rate and sustainable growth rate analysis is critical in determining if a firm is going to be profitable in the future. This analysis considers the debt that a firm takes on to invest in future projects. An efficient firm should maintain growth and remain profitable when they do accumulate debt. The following sections will discuss how Wrigley's and its competitors have done.

Internal Growth Rate (IGR)
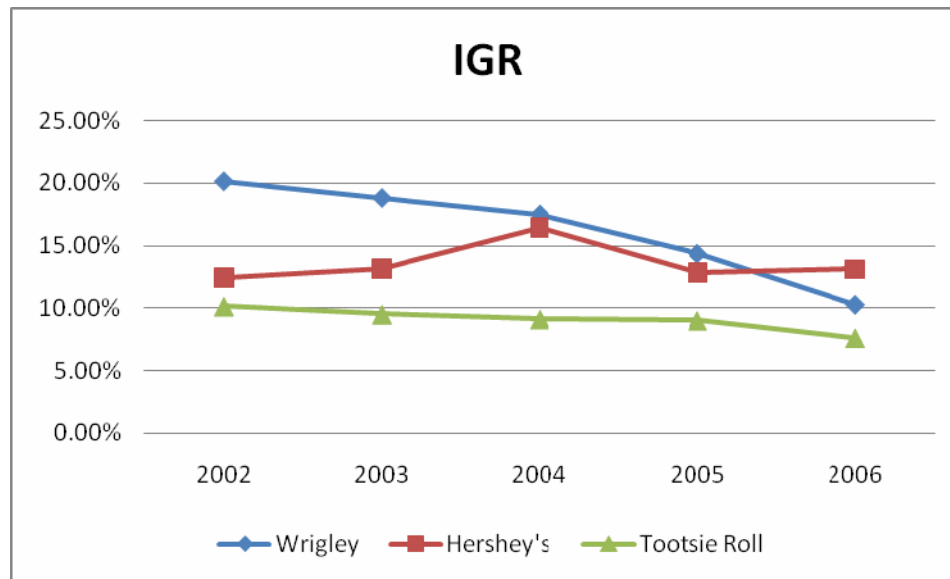
      The internal growth rate is the rate that a company can grow through internal financing. The internal growth rate is calculated by the following formula: IGR=ROA (1-Div%). As seen in the formula, dividends paid to stockholders must be taken into consideration for this growth rate. A firm can see a preferable increase in their IGR if they are not adding debt to achieve growth. We see that Wrigley's has had a steady decline in internal growth rate and they are now below the industry five year average of 12.96%. Wrigley's is still around the same level as the competition, but the company's internal growth rate has declined considerably over the past five years.

Sustainable Growth Rate (SGR)
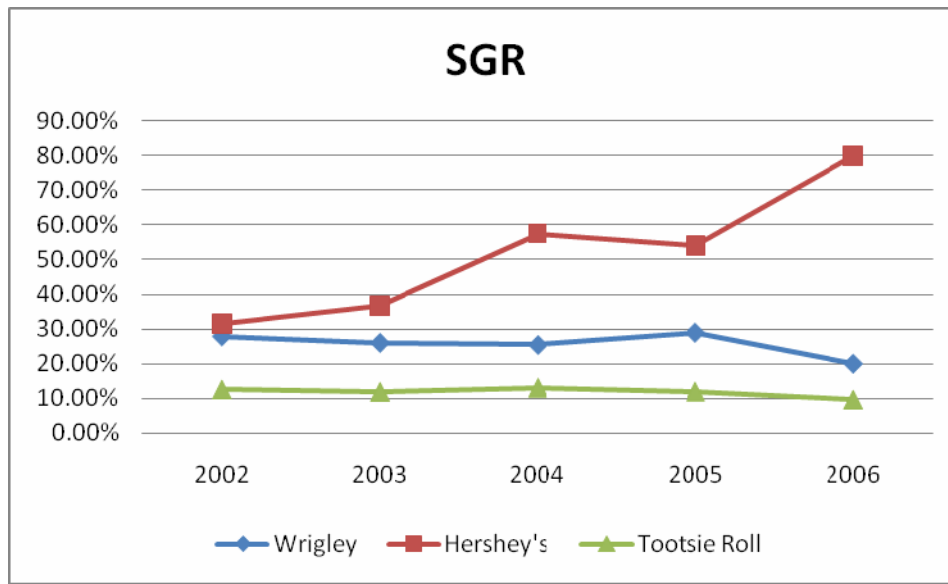
Times Interest Earned	2002	2003	2004	2005	2006
Wrigley	55.3471	376.6601	62.12	24.5303	13.2881
Hershey's	11.4997	12.5353	13.5598	9.7019	8.5524
Tootsie Roll	325.8511	569.4593	103.8246	44.7978	130.4614

The sustainable growth rate is a measure of the potential growth rate a firm can accomplish without having to add debt to do so. The formula for SGR is SGR=IGR(1+D/E). In some cases, a company will have to add debt to have an increase in growth, but the whole point in this rate is to see the potential growth a company will have without the addition of debt. SGR is directly linked to IGR. Mathematically, a higher the IGR a company has, the higher their SGR will be. Wrigley and Tootsie Roll have maintained a steady SGR. As seen in the graph, Hershey is the only firm in the industry that has had a considerable increase since 2002.

Financial Statement Forecasting

Financial statement forecasting is a tedious process that requires many assumptions. There is no perfect forecast. However, a solid forecast can be made using logical data to back it up. These forecasts will become the framework for valuation models that will be performed later.

Many ratios can be used to give a best guess at the how a particular company will perform in the future. Although it is not 100%, it can still give an investor a good idea of how the company should perform in the future. Managers also use forecasts to make sure budgets are kept within reason. This also gives managers guidance on how to run the company to its upmost potential. We will forecast three financial statements. The three financial statements are the income statement, balance sheet, and statement of cash flows. The income statement is by far the easiest to forecast. Along the same lines, the statement of cash flows is by far the hardest. The balance sheet is moderate in difficultness to forecast.

Income Statement Analysis

Income statement analysis is the first requirement in creating a comprehensive forecast for the firm's financials. The first step is getting a sales growth rate. We looked at Wrigley's 1st and 2nd quarterly reports in order to start getting a good estimate. Wrigley's reported first quarter sales of $1,256,396. This was up 17% from the reported first quarter sales in 2006. The 2nd quarter reported yielded similar results. It showed Wrigley's sales at $1,377,780 which was up 14% from the 2006. One interesting note is that the foreign currency reigning supreme on a current weak dollar accounted for 5% in each quarter. The 5 year average growth for Wrigley's is 14%. The 2005 and 2006 average was 13.33%. We wanted to air on the side of caution and didn't factor in the dramatic growth rates posted in '07 too much. In the end, we decided on a 13.33% sales growth rate. For Cost of Goods Sold, we looked at the 5 year average as a percentage of Net Sales. This was held pretty steady at 43% until 2007 when it jumped up to 47.19%. We decided to be aggressive hear as Wrigley's

performance has steadily dropped. As a result, we decided on 48%. For selling, general, and administrative expenses, we looked at the 5 year average percent against the net sales. The 5 year average was 35% and this was a steady trend so we used it. For Interest Expense, we used the 2005/2006 average percent against the net sales. We went with the '05-'06 average because there has been a recent jump in this expense percentage against sales. However, we still wanted to be conservative here and went with 1 percent. For income taxes, we used the 2005/2006 average percent against net sales. The average was 5.41%. We decided to go with 5% as to recognize the declining trend. For our forecasting purposes,

Net Sales – COGS – S G&A Expenses – Interest Expense – Income Tax Expense = Net Earnings

To put numerically:

100% - 48% - 35% - 1% - 5% = Net Earnings as 11% of Net Sales.

The 11% was satisfactory when looking at the 5 year trend of Net Earnings as % of Net Sales. The % had held steady at just over 14% until 2004 when it started a declining trend. This culminated last year with it dropping to 11.3%. Looking at Wrigley's financial ratios, we see no reason why this number would jump back up so we felt comfortable forecasting Net Earnings as 11% of our forecasted net sales.

Wm. Wrigley Jr. Co

Forecasted Income Statement

Income Statement(assume $ in thousands)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Sales Growth Percent															
Net sales	2,746,318	3,069,088	3,648,592	4,159,306	4,686,011	5,310,656	6,018,567	6,820,842	7,730,060	8,760,477	9,928,248	11,251,684	12,751,533	14,451,313	16,377,673
Cost of sales	1,186,685	1,322,416	1,609,978	1,863,179	2,211,115	2,249,285	2,549,115	2,888,912	3,274,004	3,710,429	4,205,029	4,765,559	5,400,808	6,120,736	6,936,630
Restructuring charges				40,223	45,074										
Gross profit	1,559,633	1,746,672	2,038,614	2,255,904	2,429,822	2,761,541	3,129,655	3,546,838	4,019,631	4,555,448	5,162,689	5,850,876	6,630,797	7,514,683	8,516,390
Selling, general and administrative expense	974,559	1,097,310	1,318,395	1,479,568	1,608,349	1,858,730	2,106,498	2,387,295	2,705,521	3,066,167	3,474,887	3,938,089	4,463,037	5,057,959	5,732,185
Operating income	585,074	649,362	720,219	776,336	821,473	796,622	902,812	1,023,156	1,159,543	1,314,110	1,489,281	1,687,802	1,912,786	2,167,761	2,456,723
Interest expense	10,571	1,724	11,594	31,648	61,820	53,107	60,186	68,208	77,301	87,605	99,282	112,517	127,515	144,513	163,777
Other income	8,918	3,903	11,871	9,972	9,394										
Earnings before income taxes	583,421	651,541	720,496	754,660	769,047	849,705	962,971	1,091,335	1,236,810	1,401,676	1,588,520	1,800,269	2,040,245	2,312,210	2,620,428
Income taxes	181,896	205,647	227,542	237,408	239,670	265,533	300,928	341,042	386,503	438,024	496,412	562,584	637,577	722,566	818,884
Net earnings	401,525	445,894	492,954	517,252	529,377	584,172	662,042	750,293	850,307	963,652	1,092,107	1,237,685	1,402,669	1,589,644	1,801,544

Common Size Income Statement

	2002	2003	2004	2005	2006										
Sales Growth Percent	13.00%	11.75%	18.88%	14.00%	12.66%	13.33%									
Net sales	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	43.21%	43.09%	44.13%	44.80%	47.19%	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%
Restructuring charges				0.97%	0.96%										
Gross profit	56.79%	56.91%	55.87%	54.24%	51.85%	52.00%	52.00%	52.00%	52.00%	52.00%	52.00%	52.00%	52.00%	52.00%	52.00%
Selling, general and administrative expense	35.49%	35.75%	36.13%	35.57%	34.32%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Operating income	21.30%	21.16%	19.74%	18.67%	17.53%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
Interest expense	0.38%	0.06%	0.32%	0.76%	1.32%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Other income	0.32%	0.13%	0.33%	0.24%	0.20%										
Earnings before income taxes	21.24%	21.23%	19.75%	18.14%	16.41%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%
Income taxes	6.62%	6.70%	6.24%	5.71%	5.11%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Net earnings	14.62%	14.53%	13.51%	12.44%	11.30%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%

					5 year Average	05/06 Average	Assume					
05/06 Average				Sales Growth Percent	14%	13.33%	13.33%					

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Balance Sheet Analysis

Forecasting the firm's balance sheet financials is the second step in achieving a comprehensive forecasting analysis. One problem with the balance sheet is that it is not as accurate. The reason for this is because you are using forecasted sales from the income statement.

The first step we used to do balance sheet analysis was to get the total assets. In order to do this, we used a financial ratio. In particular, we used a profitability analysis ratio which was asset turnover. Asset turnover equals sales divided by total assets. We used our forecasted sales for 2007 and an asset turnover of 1.03. Wrigley's asset turnover has been severely beat by its competitors and we see no signs of that changing. In the end, we gave the asset turnover a slight bump mainly due to the industry doing well overall in this area.

Using the asset turnover, we were able to calculate total assets of $5,151,337(number in thousands). The next item on the balance sheet we wanted to forecast was the inventory. We used the inventory turnover ratio in order to get this. The inventory turnover ratio equals cost of goods sold divided by inventory. We went with an inventory turnover number of 3.79. This is slightly optimistic, but the industry in this area is once again outperforming Wrigley's thus the reason for the slight bump of their average. We split up the inventories into two groups, finished goods and raw materials/work in progress. The process of forecasting each was done by taking their average percentage of total inventory.

Current assets have had a recent downtrend and we took that into affect when deciding on what percent of total assets they should be. We decided because of their recent dramatic downtrend that we'd forecast them to be 30% of total assets. This means that long-term assets would be 70% of total assets. Total assets equals liabilities plus owner's equity.

After forecasting Total Assets, it was time to forecast to Total Stockholder's equity. We knew that once we got this number, we could back into the Total Stockholder's equity using the equation, Assets=Liabilities + Stockholder's equity. In order to get the total stockholder's equity forecasted for each year, we first had to forecast out retained earnings for each year.

We used a simple equation to forecast retained earnings out each year. This equation was:

Beginning Retained Earnings + Net Earnings – Dividends Paid = Ending Retained Earnings.

We already had our Net Earnings forecasted out as 11% of net sales forecasted. Now, it was time to forecast the dividends paid. We did so by looking at what percent of dividends had been paid out of net earnings in the past. The 5 year average of Dividends Paid as a percent of Net Earnings was 45.96%. We decided to slightly increase this due to the recent upward trend in this percent. In the end, we went with Dividends Paid as 46.2% of Net Earnings. Dividends paid are difficult to forecast, but this number is reasonable based on previous data.

Now that we had the Retained Earnings forecasted, we could forecast our total stockholder's equity. This was done with a simple equation. To keep our numbers consisted in order to have solid valuations, we let Change in Retained Earnings = Change in Stockholder's equity for each year. We simply took Retained Earnings from the current forecasted year and subtracted the Retained Earnings from the previous year. We then took that amount and added it to the previous year's Total stockholder's equity to get the current Total stockholder's equity.

After forecasting out total stockholder's equity, it was now time to forecast Total Liabilities. This forecast was accomplished by using the equation, Assets=Liabilities +Total Stockholder's Equity. This equation can be rearranged to have Liabilities = Assets – Total Stockholder's Equity. Having both forecasted total assets and total

stockholder's equity, we could now forecast our Total Liabilities by subtracting Total Stockholder's equity from Total Assets. After getting Total Liabilities, we decided to forecast our Current Liabilities. To do this, we looked at the 5 year trend on % of current liabilities when compared to total liabilities. Wrigley's has seen this % sharply decline from 66% in 2002 to 45% in 2006. We decided to stabilize this downward trend some and went with current liabilities as 43% of total liabilities.

Balance Sheet(assume in thousands of $)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ASSETS																
Current Assets																
Cash and Cash Equivalents	307,785	279,276	505,217	628,553	257,704	253,666										
Short-term investments, at amortized cost	25,450	25,621	22,509	22,764	1,100	1,100										
Accounts receivable	239,885	312,919	328,862	356,389	412,931	463,231										
Inventories:	278,981	321,196	349,968	398,107	501,725	592,985	593,479	672,590	762,246	863,853	979,005	1,109,506	1,257,404	1,425,015	1,614,970	1,830,245
Finished Goods	75,693	88,583	127,839	135,527	213,915	241,897	249,261	282,488	320,143	362,818	411,182	465,993	528,109	598,506	678,287	768,703
Raw Materials, work in process and supplies	203,288	232,613	222,129	262,580	287,810	351,088	344,218	390,102	442,103	501,035	567,823	643,514	729,294	826,509	936,683	1,061,542
Other current assets	46,896	47,720	60,209	65,336	93,903	170,245										
Deferred income taxes - current	14,846	19,560	23,826	34,761	38,731	-										
Total current assets	913,843	1,006,292	1,290,591	1,505,910	1,306,094	1,481,227	1,081,781	1,225,982	1,389,405	1,574,613	1,784,509	2,022,384	2,291,968	2,597,487	2,943,732	3,336,132
Marketable equity securities, at fair value	25,300	19,411	16,239	16,970	-	-										
Deferred charges and other assets	115,745	213,483	224,252	250,158	285,392	194,382										
Goodwill and other Intagibles	-	-	37,482	210,806	1,505,324	1,563,473										
Deferred income taxes - noncurrent	26,381	33,000	33,148	40,239	80,979	-										
Property, plant and equipment, at cost:																
Land	39,933	48,968	50,499	53,209	55,882	78,625										
Buildings and building equipment	359,109	393,780	422,468	555,375	647,479	717,374										
Machinery and equipment	857,054	1,049,001	1,272,226	1,464,903	1,629,231	1,886,018										
Less accumulated depreciation	571,717	655,639	789,013	930,867	1,050,180	1,259,501										
Net property, plant and equipment	684,379	836,110	956,180	1,142,620	1,282,412	1,422,516										
Long-term Assets	851,805	1,102,004	1,229,819	1,660,793	3,154,107	3,180,371	3,605,936	4,086,607	4,631,352	5,248,711	5,948,364	6,741,281	7,639,893	8,658,291	9,812,441	11,120,440
Total Assets	1,765,648	2,108,296	2,520,410	3,166,703	4,460,201	4,661,598	5,151,337	5,838,010	6,616,216	7,498,158	8,497,663	9,630,401	10,914,133	12,368,987	14,017,773	15,886,343

Balance Sheet(assume in thousands of $)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
LIABILITIES AND STOCKHOLDERS' EQUITY																
Current liabilities:																
Line of Credit	-	-	-	90,000												
Current portion of long-term debt and commercial paper	-	-	-	-	100,000	65,000										
Accounts payable	91,225	97,705	134,888	216,764	312,954	327,671										
Accrued expenses	128,436	172,137	206,360	270,898	412,164	413,942										
Interest payable	-	-	-	338	20,510	-										
Dividends payable	42,741	46,137	49,469	52,281	62,459	71,106										
Income and other taxes payable	68,467	66,893	68,650	76,554	62,596	149,410										
Deferred income taxes–current	1,455	3,215	5,427	10,595	10,128	-										
Total current liabilities	332,324	386,087	464,794	717,970	980,811	1,027,129	1,053,053	1,195,165	1,356,221	1,538,746	1,745,602	1,980,031	2,245,710	2,546,803	2,888,033	3,274,749
Deferred income taxes–noncurrent	43,206	70,589	82,919	88,112	110,687	-										
Other noncurrent liabilities	113,921	129,044	151,876	181,937	154,281	246,377										
Long-term Debt	-	-	-	-	1,000,000	1,000,000										
Total Liabilites	489,451	585,720	699,589	988,019	2,245,779	2,273,506	2,448,960	2,779,454	3,154,002	3,578,479	4,059,539	4,604,723	5,222,580	5,922,798	6,716,356	7,615,695
Stockholders' equity:																
Preferred Stock–no par value																
Common Stock–no par value	12,646	12,719	12,790	13,254	13,724	14,018										
Class B Common Stock–convertible	2,850	2,777	2,706	2,242	2,222	1,478										
Additional paid–in capital	1,153	4,209	8,342	17,764	37,760	93,602										
Retained earnings	1,684,337	1,902,990	2,152,566	2,435,838	2,702,947	2,949,705	3,263,990	3,620,169	4,023,827	4,481,292	4,999,737	5,587,291	6,253,166	7,007,802	7,863,030	8,832,261
Common Stock in treasury, at cost	(289,799)	(297,156)	(320,450)	346,087	(513,763)	(606,045)										
Accumulated other comprehensive income			.													
Foreign currency translation adjustment	(149,310)	(112,303)	(42,692)	44,936	(27,633)	49,963										
Gain on derivative contracts	46	(853)	(1,902)	758	(385)	(4,144)										
Unrealized holding gains on marketable equity securities	14,274	10,193	9,461	9,979	-	(110,485)										
Total stockholders' equity	1,276,197	1,522,576	1,820,821	2,178,684	2,214,422	2,388,092	2,702,377	3,058,556	3,462,214	3,919,679	4,438,124	5,025,678	5,691,553	6,446,189	7,301,417	8,270,648
TOTAL LIABILITIES AND STOCKHOLDERS'EQUITY	1,765,648	2,108,296	2,520,410	3,166,703	4,460,201	4,661,598	5,151,337	5,838,010	6,616,216	7,498,158	8,497,663	9,630,401	10,914,133	12,368,987	14,017,773	15,886,343

Wm. Wrigley Jr. Co

Common Size Balance Sheet

	2002	2003	2004	2005	2006
ASSETS					
Current Assets					
Cash and Cash Equivalents	13.25%	20.05%	19.85%	5.78%	5.44%
Short-term investments, at amortized cost	1.22%	0.89%	0.72%	0.02%	0.02%
Accounts receivable	14.84%	13.05%	11.25%	9.26%	9.94%
Inventories:					
Finished Goods	4.20%	5.07%	4.28%	4.80%	5.19%
Raw Materials, work in process and supplies	11.03%	8.81%	8.29%	6.45%	7.53%
Other current assets	2.26%	2.39%	2.06%	2.11%	3.65%
Deferred income taxes - current	0.93%	0.95%	1.10%	0.87%	0.00%
Total current assets	47.73%	51.21%	47.55%	29.28%	31.78%
Marketable equity securities, at fair value	0.92%	0.64%	0.54%	0.00%	0.00%
Deferred charges and other assets	8.90%	7.90%	6.40%	4.17%	4.17%
Goodwill and other Intagibles	0.00%	1.49%	6.66%	33.75%	33.54%
Deferred income taxes - noncurrent	1.57%	1.32%	1.27%	1.82%	0.00%
Property, plant and equipment, at cost:					
Land	2.32%	2.00%	1.68%	1.25%	1.69%
Buildings and building equipment	18.68%	16.76%	17.54%	14.52%	15.39%
Machinery and equipment	49.76%	50.48%	46.26%	36.53%	40.46%
Less accumulated depreciation	31.10%	31.30%	29.40%	23.55%	27.02%
Net property, plant and equipment	39.66%	37.94%	36.08%	28.75%	30.52%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%
LIABILITIES AND STOCKHOLDERS' EQUITY					
Current liabilities:					
Line of Credit	0.00%	0.00%	9.11%	0.00%	0.00%
Current portion of long-term debt and commercial paper	0.00%	0.00%	0.00%	4.45%	2.86%
Accounts payable	16.68%	19.28%	21.94%	13.94%	14.41%
Accrued expenses	29.39%	29.50%	27.42%	18.35%	18.21%
Interest payable	0.00%	0.00%	0.03%	0.91%	0.00%
Dividends payable	7.88%	7.07%	5.29%	2.78%	3.13%
Income and other taxes payable	11.42%	9.81%	7.75%	2.79%	6.57%
Deferred income taxes–current	0.55%	0.78%	1.07%	0.45%	0.00%
Total current liabilities	65.92%	66.44%	72.67%	43.67%	45.18%
Deferred income taxes–noncurrent	12.05%	11.85%	8.92%	4.93%	0.00%
Other noncurrent liabilities	22.03%	21.71%	18.41%	6.87%	10.84%
Long-term Debt	0.00%	0.00%	0.00%	44.53%	43.98%
Total Liabilites	100.00%	100.00%	100.00%	100.00%	100.00%
Stockholders' equity:					
Preferred Stock–no par value					
Common Stock–no par value	0.99%	0.84%	0.70%	0.61%	0.62%
Class B Common Stock–convertible	0.16%	0.13%	0.11%	0.07%	0.05%
Additional paid–in capital	0.09%	0.28%	0.46%	0.82%	1.71%
Retained earnings	95.39%	90.26%	85.41%	76.92%	60.60%
Common Stock in treasury, at cost	-19.52%	-17.60%	15.89%	-23.20%	-25.38%
Accumulated other comprehensive income					
Foreign currency translation adjustment	-7.38%	-2.34%	2.06%	-1.25%	2.09%
Gain on derivative contracts	-0.06%	-0.10%	0.03%	-0.02%	-0.17%
Unrealized holding gains on marketable equity securities	0.67%	0.52%	0.46%	0.00%	-4.63%
Total stockholders' equity	100.00%	100.00%	100.00%	100.00%	100.00%

Retained Earnings Forecast

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BEG Retained Earnings	$ 2,949,705	$ 3,263,990	$ 3,620,169	$ 4,023,827	$ 4,481,292	$ 4,999,737	$ 5,587,291	$ 6,253,166	$ 7,007,802	$ 7,863,030
Net Income	$ 584,172	$ 662,042	$ 750,293	$ 850,307	$ 963,652	$ 1,092,107	$ 1,237,685	$ 1,402,669	$ 1,589,644	$ 1,801,544
Dividends Paid	$ 269,887	$ 305,863	$ 346,635	$ 392,842	$ 445,207	$ 504,553	$ 571,810	$ 648,033	$ 734,416	$ 832,313
END Retained Earnings	$ 3,263,990	$ 3,620,169	$ 4,023,827	$ 4,481,292	$ 4,999,737	$ 5,587,291	$ 6,253,166	$ 7,007,802	$ 7,863,030	$ 8,832,261

Statement of Cash Flows Analysis

This is the final and most difficult step in forecasting a firm. There are many parts that are simply improbable to accurately forecast. We decided to target three sections that we felt we could forecast with certain satisfaction. The three sections we felt needed to be forecast were Net Earnings and Net Cash provided by operating activities, and Net Cash from investing activities.

We already had the net earnings forecasted from the income statement. We took those numbers decided a way to derive the net cash provided by operating activities out of these. Based on the past 5 years of data as to net earnings percent of net cash provided by operating activities, we decided on 69.75%. Thus, to get net cash provided by operating activities, we took net earnings and divided it by .6975.

For Net cash from investing activities, we decided to look at change in long-term assets. We felt investing would be needed to acquire long-term assets and thus we felt comfortable using the change in long term assets each year as our investment spent each year. Net Cash from investing activities, as a result, is a cash outflow.

Wm. Wrigley Jr Co.

Forecasted Statement of Cash Flows

Statement of Cash Flows(assume in thousands of $)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
OPERATING ACTIVITIES															
Net earnings	401,525	445,894	492,954	517,252	529,377	584,172	662,042	750,293	850,307	963,652	1,092,107	1,237,685	1,402,669	1,589,644	1,801,544
Adjustments to reconcile net earnings															
to net cash provided by operating activities:															
Depreciation and amortization	85,568	120,040	141,851	175,285	200,113										
Net loss on retirements of property, plant	1,014	15,510	12,417	11,714	6,182										
and equipment															
Non-cash share-based compensation			21,278	26,685	49,269										
(Increase) decrease in:															
Accounts receivable	(55,288)	9,718	25,706	(80,686)	(22,984)										
Inventories	(31,858)	(11,426)	(3,213)	(67,676)	(75,579)										
Other current assets	1,304	(16,195)	8,937	(30,791)	(31,757)										
Deferred charges and other assets	(78,585)	(2,244)	(48,911)	10,514	111,656										
Increase (decrease) in:															
Accounts payable	756	27,442	43,013	106,044	1,684										
Accrued expenses	33,416	23,972	27,285	85,584	10,897										
Income and other taxes payable	(3,715)	9,011	(6,070)	3,363	78,490										
Other noncurrent liabilities	19,082	15,826	16,274	(23,328)	(11,497)										
Deferred income taxes	1,216	7,947	(7,014)	6,344	(74,062)										
Net cash provided by operating activities	374,435	645,495	724,507	740,304	722,436	837,523	949,164	1,075,689	1,219,078	1,381,580	1,565,745	1,774,459	2,010,995	2,279,059	2,582,859
INVESTING ACTIVITIES															
Additions to property, plant and equipment	(216,872)	(220,259)	(220,322)	(281,769)	(327,758)										
Proceeds from retirements of property,	5,017	8,581	2,468	10,127	13,990										
plant and equipment															
Acquisitions, net of cash acquired			(264,477)	(1,437,428)											
Purchases of short-term investments	(41,177)	(43,369)	(40,464)	(7,484)											
Maturities of short-term investments	44,858	48,077	40,453	29,148											
Net cash used in investing activities	(208,174)	(206,970)	(482,342)	(1,687,406)	(313,768)										
FINANCING ACTIVITIES															
Dividends paid	(181,232)	(194,633)	(207,803)	(241,669)	(276,021)										
Common stock purchased, net	(16,402)	(22,532)	(28,409)	(148,554)	(117,073)										
Debt issuance costs				(16,375)											
Borrowings (repayments) under the line			90,000	(90,000)											
of credit															
Issuances (redemptions) of commercial				100,000	(35,000)										
paper, net															
Borrowings of long-term debt				1,000,000											
Net cash provided by (used in) financing	(197,634)	(217,165)	(146,212)	603,402	(428,094)										
activities															
Effect of exchange rate changes on cash	2,864	4,581	27,383	(27,149)	15,388										
and cash equivalents															
Net increase (decrease) in cash and cash	(28,509)	225,941	123,336	(370,849)	(4,038)										
equivalents															
Cash and cash equivalents at beginning	307,785	279,276	505,217	628,553	257,704										
of year															
Cash and cash equivalents at end of year	279,276	505,217	628,553	257,704	253,666										
SUPPLEMENTAL CASH FLOW INFORMATION															
Income taxes paid	173,010	192,646	234,800	249,824	219,873										
Interest paid	1,636	1,724	3,541	8,752	57,621										
Interest and dividends received	8,974	9,621	11,871	15,711	8,031										

Common Size Cash Flow Statement		2002	2003	2004	2005	2006	Average	2005-2006 average
Net earnings		107.23%	69.08%	68.04%	69.87%	73.28%	77.50%	71.57%
Depreciation and amortization		22.85%	18.60%	19.58%	23.68%	27.70%	22.48%	25.69%
Net loss on retirements of property, plant		0.27%	2.40%	1.71%	1.58%	0.86%	1.37%	1.22%
and equipment								
Non-cash share-based compensation		0.00%	0.00%	2.94%	3.60%	6.82%	2.67%	5.21%
Accounts receivable		-14.77%	1.51%	3.55%	-10.90%	-3.18%	-4.76%	-7.04%
Inventories		-8.51%	-1.77%	-0.44%	-9.14%	-10.46%	-6.07%	-9.80%
Other current assets		0.35%	-2.51%	1.23%	-4.16%	-4.40%	-1.90%	-4.28%
Deferred charges and other assets		-20.99%	-0.35%	-6.75%	1.42%	15.46%	-2.24%	8.44%
Accounts payable		0.20%	4.25%	5.94%	14.32%	0.23%	4.99%	7.28%
Accrued expenses		8.92%	3.71%	3.77%	11.56%	1.51%	5.89%	6.53%
Income and other taxes payable		-0.99%	1.40%	-0.84%	0.45%	10.86%	2.18%	5.66%
Other noncurrent liabilities		5.10%	2.45%	2.25%	-3.15%	-1.59%	1.01%	-2.37%
Deferred income taxes		0.32%	1.23%	-0.97%	0.86%	-10.25%	-1.76%	-4.70%
Net cash provided by operating activities		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Cost of Equity

Cost of equity (K_e) is defined as the minimum rate of return a firm must offer shareholders to compensate for waiting for their returns, and for bearing some risk. The cost of equity or CAPM, is used in our valuation of Wrigley to calculate the expect return on securities for the given year. In order to calculate the cost of equity, we first have to perform an analysis on the returns from Wrigley as well as the market risk premium by using regression. From the output data generated from the regression analysis, we are able to determine the beta's for each point on the yield curve (three month, one year, five year, seven year, and ten year). More specifically, we used five different observations for each point, including 72 months, 60 months, 48 months, 36 months, and 24 months. The betas chosen for each point were selected by identifying the highest adjusted r squared, and using the associated beta. Risk free percentages, which are given in the table below, were taken from the Treasury bill rates listed on the Economic Research site for Federal Reserve Bank of St. Louis (http://research.stlouisfed.org). These rates were used as a helpful insight in estimating the market return rates. Market risk premium was then calculated for each point on the yield curve by subtracting the risk free rate from the market return. In order to calculate CAPM, we took the three numbers generated and added the risk free rate to the multiple of beta and market risk premium.

Adjusted r squared is percent of return that is explained by market risk premium (MRP). For example, an r squared of zero says that no returns are explained by the market risk premium. Due to the fact Wrigley's Adjusted R-squared had little to no explaining power we had to use a different approach on figuring out our cost of equity. For this approach we used the "backdoor approach." The equation for this approach is as follows:

P/B=1+(ROE-Ke)/(Ke-g)

When using this approach we found our new Ke was 8.52%.

Regression Analysis

3 Month Rate	72 Months	60 Months	48 Months	36 Months	24 Months
RF	4.00%	4.00%	4.00%	4.00%	4.00%
Adj. R Squared	-0.0002	-0.0166	-0.0192	-0.0271	-0.0439
Beta	0.1916	0.0570	0.1517	0.1614	0.1624
MRP	13.79%	13.79%	13.79%	13.79%	13.79%
K_e	0.0664	0.0479	0.0609	0.0623	0.0624

1 Year Rate	72 Months	60 Months	48 Months	36 Months	24 Months
RF	4.10%	4.10%	4.10%	4.10%	4.10%
Adj. R Squared	0.0001	-0.0172	-0.0189	-0.0268	-0.0437
Beta	0.1933	0.4166	0.1585	0.1698	0.1742
MRP	13.69%	13.69%	13.69%	13.69%	13.69%
K_e	0.0675	0.0980	0.0627	0.0642	0.0648

5 Year Rate	72 Months	60 Months	48 Months	36 Months	24 Months
RF	4.20%	4.20%	4.20%	4.20%	4.20%
Adj. R Squared	**0.0002**	-0.0165	-0.0189	-0.0267	-0.0436
Beta	**0.1937**	0.0620	0.1595	0.1725	0.1779
MRP	13.59%	13.59%	13.59%	13.59%	13.59%
K_e	**0.0683**	0.0504	0.0637	0.0654	0.0662

7 Year Rate	72 Months	60 Months	48 Months	36 Months	24 Months
RF	4.33%	4.33%	4.33%	4.33%	4.33%
Adj. R Squared	0.0002	-0.0165	-0.0189	-0.0269	-0.0438
Beta	0.1936	0.0618	0.1585	0.1675	0.1715
MRP	13.46%	13.46%	13.46%	13.46%	13.46%
K_e	0.0694	0.0516	0.0646	0.0658	0.0664

10 Year Rate	72 Months	60 Months	48 Months	36 Months	24 Months
RF	4.53%	4.53%	4.53%	4.53%	4.53%
Adj. R Squared	0.0000	-0.0165	-0.0191	-0.0269	-0.0438
Beta	0.1922	0.0599	0.1534	0.1662	0.1694
MRP	13.26%	13.26%	13.26%	13.26%	13.26%
K_e	0.0708	0.0532	0.0656	0.0673	0.0678

Cost of Debt

Cost of debt is equal to the interest rate on current and long term debt. Wrigley's before tax cost of debt was 6.89 percent. To calculate cost of debt we used liability amounts as listed on the 10-k and set them as percentages of total liabilities. We then multiplied each weighted line by the appropriate interest rates. We used the commercial paper rate of 5.26 percent as stated on Wrigley's 10-k. We then applied that percentage to accounts payable, accrued expenses, and dividends payable. Next we used the risk free rate of 4.30 percent for income and other taxes payable, found on the St. Louis Federal Reserve website. For other non-current liabilities we used 5.92 percent, the pension rate, as stated on the 10-k. We chose to use the pension rate because the majority of non-current liabilities were made up of pension expenses. We calculated Wrigley's long term debt interest rate as 8.95 percent. Wrigley's long term debt of $1 billon was composed of two senior unsecured notes, each totaling $500 million. The first note is five-year note that bears an interest rate of 8.60 percent. The second note is a ten-year note bearing an interest rate of 9.3 percent. Since both notes are equally weighted, we added both rates and divided by two to get a long term interest rate of 8.95 percent. We used a corporate tax rate of 35 percent, provided on the company's 10-k. To get after tax cost of debt we took the before tax cost of debt and multiplied it by one minus the corporate tax rate of 35 percent, to get an after tax cost of debt of 4.48 percent.

Current Liabilities:				
Commercial paper	$65,000	2.86%	5.26%	0.1504%
Accounts payable	$327,671	14.41%	5.26%	0.7581%
Accrued expenses	$413,942	18.21%	5.26%	0.9577%
Dividends payable	$71,106	3.13%	5.26%	0.1645%
Income and other taxes payable	$149,410	6.57%	4.30%	0.2826%
Total current Liabilities	$1,027,129	45.18%		2.3133%
Other noncurrent liabilities	$246,377	10.84%	5.92%	0.6415%
Long-term debt	$1,000,000	43.98%	8.95%	3.9367%

Total Liabilities	$2,273,506	100.00%		6.8915%

Weighted Average Cost of Capital

The weighted average cost of capital (WACC) is computed by the following formula: $((Vd/(Ve+Vd))(Kd)(1-t)+((Ve/(Ve+Vd))(Ke)$. This formula is a measurement of the weighted sum of the cost of equity and the cost of debt. The variables stand for: Vd=Value of Debt, Ve=Value of Equity, Kd=Cost of Debt, Ke=Cost of Equity, and t=tax rate. The (1-t) part of the formula is only used if you are computing the after tax WACC. Otherwise, the before tax WACC is the solution without computing the solution with the tax rate.

The tax rate was found in the Wrigley's 10-K report to be 35%. The previous paragraphs above show our values computed for cost of debt and cost of equity. The value of debt is simply the total liabilities found on the balance sheet and the value of equity is the total stockholder's equity. After using all the values, we found that WACC before tax is 7.72% and WACC after tax is 6.55%.

WACCbt=((2,273,506/4,661,598))(.0689)+((2,388,092/4,661,598))(.0852)=7.72%

WACCat=((2,273,506/4,661,598))(.0689)(1-.35)+((2,388,092/4,661,598))(.0683)=6.55%

Conclusion

For this portion of the research, we had to dig deep into Wrigley and it's competitor's financials. We did this by doing liquidity, profitability, and capital structure analysis. Wrigley's is performing poorly in asset turnover and inventory turnover compared to the industry average. However, they are performing well gross profit margin, operating profit margin and net profit margin. All others are right around industry average. After forecasting their financials, it appears that Wrigley's is heading in the wrong direction. No forecast is 100%, but we can say this with some certainty due to our forecast of their debt to equity ratio going below 1. Any debt to equity ratio below 1 is alarming. In each of the observations of the points on the yield curve the adjusted r squared was either negative or very close to zero. Basically, this means that no returns are explained by market risk premium for Wrigley. After doing our WACC before tax and WACC after tax, we found a .76% difference between the two calculations. Overall, we uncovered some mysteries which has not only given us a better feel for evaluating Wrigley, but also gave us a different look on the industry overall.

Valuation Analysis

The fourth and final stage in the prospective analysis of a firm is the valuation analysis. We have already accomplished industry, accounting and financial analysis. With a good grasp of each, we can now implement that into our valuation analysis. The forecasts we made in our financial analysis will now be used as an integral part of our valuation methods.

Valuation is defined as an estimation or appreciation of worth. For our purposes, we will use our forecasts from the financial analysis section in order to determine the firm's worth or value. We will then compare that number to the stock price on November 1st, 2007 in order to determine if the firm is overvalued, undervalued or fair valued. There are two forms of valuation. One is a valuation through the method of comparables. The other is known as intrinsic valuation. The method of comparables valuation is not nearly as accurate and is more sufficient in getting a ballpark idea of what the company might be worth. On the other hand, intrinsic valuation methods are used to get a true value of what the company is worth. They are much more reliable when looking at the value of the firm.

Method of Comparables

Ratio	Price
Trailing P/E	$48.42
Forward P/E	$38.56
P/B	$79.67
D/P	$46.33
P.E.G.	N/A
P/EBITDA	$71.09
P/FCF	N/A
EV/EBITDA	$28.53

The method of comparables is taking the industry average of financial ratios and comparing it to the ratios of a particular firm. The value of the shares for that company can then be found by using the industry averages. After this process is done, it gives an overall value of the firm. In this case, we were able to value the share prices for Wrigley by taking the average values of the industry including Tootsie Roll and Hershey. The following sections explain these calculations.

Trailing Price to Earnings

	Trailing P/E
Tootsie Roll	21.54
Hershey	28.89
Wrigley	31.35

Industry Average	25.22
Wrigley's Valued Stock Price	48.42

To calculate the trailing price to earnings ratio, we took the price per share and divided it by the earnings per share from the previous period. Then, to get the share value for Wrigley, we multiplied the industry average by the earning per share. The trailing price to earnings ratio shows Wrigley is overvalued. The November 1, 2007

observed share price for Wrigley is $60.19 which is higher than the $48.42 share value we found for Wrigley using this method. Wrigley is overvalued according to this comparable.

Forward Price to Earnings

	Forward P/E
Tootsie Roll	19.49
Hershey	17.83
Wrigley	28.39

Industry Average	18.66
Wrigley's Valued Stock Price	39.56

The forward price to earnings is similar to the previous ratio except the price per share for the next period is used. We divided the price per share by the price per share for the next period for the first step. Then, we once again multiply the industry average with Wrigley's earning per share to come up with $39.56. This is another ratio that defines Wrigley's observed share price to be overvalued. The gap between the values is even larger for this ratio making the observed price significantly overvalued.

Price to Book Value

	P/B
Tootsie Roll	2.06
Hershey	16.36
Wrigley	6.96

Industry Average	9.21
Wrigley's Valued Stock Price	79.67

The price to book value gives a different outlook on Wrigley's stock value. We calculated Wrigley's valued stock price to be $79.67 using this method, which makes the observed price significantly undervalued. To get this solution, the market price per share was divided by the book value per share. Then, to get Wrigley's price, the industry average times the book value equals the $79.67 share value. Wrigley is undervalued according to this comparable.

Dividend Yield

	D/P
Tootsie Roll	0.013
Hershey	0.0306
Wrigley	0.0168

Industry Average	0.0218
Wrigley's Valued Stock Price	46.33

Wrigley's observed share price is shown to be overvalued again using the dividend yield ratio. The dividend yield gave Wrigley's value stock price a $46.33 value

per share. There is still a noticeable difference between this price and the $60.19 observed price. This ratio required taking Tootsie Roll and Hershey's dividends divided by the price per share. Next, Wrigley's dividends on a per share basis divided by the industry average gives the $46.33 price. Wrigley's is overvalued according to this comparable

P.E.G.

	P.E.G.
Tootsie Roll	N/A
Hershey	1.97
Wrigley	2.35

Industry Average	N/A
Wrigley's Valued Stock Price	N/A

The P.E.G. ratio could not be used to value Wrigley's stock. The P.E.G. ratio is calculated by taking the industry average P.E.G. and multiplying it by (1-earnings per share growth of Wrigley's EPS). However, Tootsie Roll did not have a P.E.G. ratio and an industry average could not be computed to value Wrigley's stock price. The P.E.G. ratio is not applicable.

Price/EBITDA

	P/EBITDA
Tootsie Roll	28.37
Hershey	32.13
Wrigley	83.60

Industry Average	30.25
Wrigley's Valued Stock Price	71.09

The Price/EBITDA ratio is the only other method used to value Wrigley's observed stock price to be undervalued. The calculation method is simply dividing the price per share by EBITDA and getting the industry average. Then, Wrigley's EBITDA per share is multiplied by that average which equals $71.09. This ratio does not give as big of an undervalued price gap as the P/B ratio, but it gives an interesting solution that differs from most of the other methods.

Price/Free Cash Flows

	P/FCF
Tootsie Roll	N/A
Hershey	N/A
Wrigley	40.65

Industry Average	N/A
Wrigley's Valued Stock Price	N/A

The Price/Free Cash Flows ratio was another method that was not applicable to valuing Wrigley's stock. We had to look up Tootsie Roll and Hershey's free cash flows in order to get the industry average, but both companies had negative free cash flows. If this is the case, you cannot use those negative values to calculate the ratio. This is another method that had to be overlooked to value Wrigley.

Enterprise Value/EBITDA

	EV/EBITDA
Tootsie Roll	14.86
Hershey	9.42
Wrigley	5.45

Industry Average	12.14
Wrigley's Valued Stock Price	28.53

The first step to this method is calculating the enterprise value for each firm. The way to do this is to find the market cap and add back the liabilities, but subtract out all cash and cash equivalents. Then, we had to put the value in a per share basis, so we took the enterprise value and divided it by the number of shares outstanding. Finally, Wrigley's EBITDA per share times the industry average gives us a $28.53 Wrigley's valued stock price. Wrigley's observed share price is significantly overvalued using this method.

Conclusion

Through the method of comparables, Wrigley is considered to be overvalued. Four of the ratios say that Wrigley is overvalued as opposed to two saying it is undervalued. The method of comparables cannot be completely relied upon. First of all, there is that contradiction between some of the ratios. Also, it does not seem like a fair evaluation of a firm's value by simply deriving the value from the industry average. We have decided to further evaluate the value of Wrigley through a series of intrinsic valuation models.

Intrinsic Valuation

Intrinsic Valuation is defined as inherent worth of a firm, independent of its value to anyone or anything else. In order to perform the intrinsic models, we must have the cost of equity and cost of debt calculated. This helps us to calculate the weight averaged cost of capital before tax. We have calculated all three of these numbers for the firm in previous sections. There are four intrinsic models. The four models are the Discounted Dividends Model, Free Cash Flow Model, Residual Income Model, and the Abnormal Earnings Growth Model. From the Residual Income model, we can perform the Long-Run Residual Income Model. Each model looks at a different portion of the firm and values it. The two most reliable of the five models are the Residual Income and the Abnormal Earnings Growth Models. On the other hand, the two least reliable models are the Discounted Dividends Model and the Free Cash Flow Model.

Discounted Dividends Model

The discounted dividends model is the first model we will look at. This model is used to value the firm according to the value it gives to its shareholders. Any shareholder for the firm Wm. Wrigley Jr. Company expects dividends to be paid to them as part of their investment into the company. This model takes the future value of all expected future dividends in order to the equity value of the firm.

The equation for this model is as follows:

Equity Value = (DIV(1))/(1+Ke) + (DIV(2))/(1+Ke)^2 +...(DIV(10))/(1+Ke)^10

The notations for the formula are as follows:

Ke=Cost of Equity

DIV(1)(2)...(10)=Dividends in year (1), (2),...(10).

As you can see from above, we need both the Cost of Equity and the forecast for future dividends paid. We have already calculated each of these numbers and can get them from the Financial Analysis section. We calculated our cost of equity to be 8.52% and we forecasted our future dividends paid as 42.5% of net earnings in future years. We took our future dividends per share and multiplied by a present value factor.

The present value factor was set as 1/(1+Ke)^t, where Ke equals our equity of 8.25% and t=times power according to year. Next, we multiplied each year's dividends per share by its each respective present value factor. Once we had done that, we simply added up the sum of all present value of dividends year by year. Now that we had years 1 through 10 taken care of, we had to now create a perpetuity for years 11 and beyond. Considering the fact that we were aggressive with our growth of

dividends for the first 10 years, we wanted to come up with a number that would stabilize the perpetuity. We chose to go with 3 which were just below what we had forecasted in year 10.

In order to get the Continuing Terminal Value Perpetuity, we took 3 and divided it by (Cost of Equity – perpetuity growth rate). For our model, we came up with 35.21. Now we had to take that number back to present value terms. In order to do that, we took 35.21 and divided it by (1+Ke) to the 11th power. After doing that we came up with 15.54 as our Present Value of Terminal Value Perpetuity.   We added the PV of Dividends Year by Year and PV of Terminal Value Perpetuity to get value for Wrigley's as of December 31, 2006. This gave us a value of 26.58. Our valuation date is November 1st, 2007, so in order to get this price consistent with the observed price of $60.19, we had to take 26.58 and times that by (1+Ke)^(10/12). After doing so, we came up with a final value of 28.46. This is clearly overvalued with looking at the observed price.

		Sensitivity Analysis				
		Perpetuity Growth Rates				
		0	0.01	0.015	0.02	0.025
	0.07	31.7	35.03	37.16	39.70	42.82
	0.075	30.48	33.36	35.17	37.3	39.86
Ke	0.08	29.42	31.94	33.49	35.3	37.44
	0.0852	28.46	30.67	32.01	33.56	35.37
	0.09	27.67	29.65	30.83	32.19	33.75
	0.095	26.94	28.71	29.76	30.95	32.31

Fair Valued +/- 2%	58.8-61.39
Under Valued 20% or less	61.39-72.23
Significant Under Valued over 20%	>72.23
Over Valued 20% or less	48.15-58.8
Significant Over Valued over 20%	<48.15

<u>Sensitivity Analysis</u>

As you can see from the sensitivity analysis we conducted, the Discounted Dividends Model is a very sensitive model. Small changes in perpetuity growth rates and cost of capital led to over a dollar change in value. This may not seem like much, but when you are talking about 276 million shares outstanding, this is an enormous amount of value.

This model is arguably the least reliable model of the four intrinsic models. One main reason for this is that dividend payments are hard to forecast in the future due to inconsistencies in how dividends are paid. Within the range of variables that we established, Wrigley's was significantly overvalued. In order for Wrigley's to be fairly valued, it would've taken a perpetuity growth rate of 5.56%. It is hard to foresee a dividend growth rate for Wrigley to be so large 11 years out from now due to the uncertainty and inconsistency with dividend payments. That also does not seem reasonable with our Cost of Equity at 8.52%. In regards to Cost of Equity, we have already calculated Wrigley to have a low Cost of Equity and the thought of them being able to cut that even further does not seem plausible. All signs from this model point towards this company being significantly overvalued.

Free Cash Flow Model

The free cash model is the second intrinsic model that we will use to value Wrigley's. This model, much like the Discounted Dividends Model, is not very reliable. For this model, the term free cash flow is defined as the cash from operations – cash from investing. We subtract the investing cash flow as it is seen as a cash outflow. Cash from operations is positive because it's a cash outflow. Weight average cost of capital (before tax), is another number we will need for this model. We previously calculated our WACC (BT) to be 7.72%.

The first step in getting the free cash model is to get the annual free cash flows. To do this, we had to take operating cash flows and subtract the investing cash flows. We then had to get a present value factor. In order to get the present value factor, we

took $1/(1+WACC(BT)^t$ power. After multiplying each annual free cash flow by its present value factor, we were able to get the present value of all free cash flows. To get the sum of these we simply added all of the cash flows up. This gave us the total present value of all free cash flows which was 4,872,854.

After taking care of years 1 through 10, we had to get a perpetuity for years 11 and beyond. In order to do this, we first had to estimate a cash flow. Our Free Cash Flows were forecasted to grow at a steady rate right at 13.3%. We decided to grow cash flow for the perpetuity slightly less than 13.3% to 11.74% to be conservative. That gave us a cash flow of 1,424,511. To get the continuing value perpetuity, we took that cash flow and divided it by (WACC(BT) – the perpetuity growth rate). This gave us a value of 18,452,215. We then calculated the present value of that number so we divided it by $(1+.0772)^{10}$. This put that number in present value terms which was 8,771,726.

The value of the firm equals the Total PV of Annual Free Cash Flows + PV of Terminal Value Perpetuity. To get the estimated market value of equity, we subtracted the book value of liabilities. We then took the market value of equity and divided it by the number of shares we had outstanding.

4,872,854 + 8,771,726 – 2,273,506 = 11,371,074 (Market Value of Equity)

11,371,074 / 276,000 =41.20

This price of $41.20 is the implied price as of December 31,2006. To get this number time consistent with our observed share price, we took $41.20*(1 + .0772)^{(10/12)}$. This gave us a time consistent implied price of $43.83. When compared with Wrigley's observed price of $60.19, this is clearly overvalued.

			Sensitivity Analysis			
			Perpetuity Growth Rates			
		0.000	**0.010**	**0.015**	**0.020**	**0.025**
	0.0650	54.51	62.61	67.88	74.32	82.37
	0.0700	49.62	56.23	60.44	65.48	71.65
WACC BT	**0.0772**	43.83	48.87	51.99	55.66	60.03
	0.0800	41.9	46.46	49.26	52.53	56.39
	0.0850	38.83	42.66	44.99	47.67	50.8
	0.0900	36.15	39.4	41.35	43.58	46.16

Fair Valued +/-2%	58.8-61.39
Under Valued - 20% or less	61.39-72.23
Significant Under Valued - over 20%	>72.23
Over Valued - 20% or less	48.15-58.8
Significant Over Value - over 20%	<48.15

Sensitivity Analysis

As displayed, the Free Cash Flow model is a sensitive model. Small increases in perpetuity growth rates created large discrepancies in price. The majority of this model states that as of November 1, 2007, this firm is overvalued. It took large growth rates combined with small WACC(BT) to get undervalued or significantly undervalued readings. While this model is not as conclusive as the discounted dividends model, it still points to Wrigley being overvalued at November 1, 2007.

Residual Income

Out of the four intrinsic valuation models, this is considered arguably the most accurate and reliable models for valuing a company. The explanatory power is this model is one of the best. The whole goal off this model is to see if the company is destroying or adding value in the future. It is also important to note that a firm with a positive or negative residual income will converge back to equilibrium overtime.

For this model, we used our calculated cost of equity (Ke), which was 8.52%. We then looked at getting the ending book value of equity for each year. This was found in our forecasts and was calculated by taking Beginning Book Value of Equity + Net Earnings – Dividends Paid. The next step was to found our Normal Earnings. Normal Earnings are used a benchmark. If earnings are below the benchmark, then the firm is destroying value and vice versa. Normal Earnings were calculated by multiplying our cost of equity by the previous year's net earnings.

The next step was to get our residual income. The residual income equals the given year's earnings – normal earnings. After getting our residual income, it was time to get a discount factor. This was accomplished by calculating $(1+Ke)^t$. We could now multiply each year's residual income by its respective discount factor to get the PV of each year's residual income. We now needed to calculate our Total PV of Residual Income for the end of 2006. This was calculated by taking the sum of all PV residual incomes we calculated.

Next, we had to calculate the firm's return on equity. This number was calculated by taking the current year's net earnings / previous year's stockholder's equity. The forecasted growth of our ROE on equity was very small and we used an average of .10%. To get our terminal perpetuity, we took our estimate of 672,922 and divided that by (Ke – perpetuity growth). We then brought that term back to present value number.

2,388,092 (Book Value of Equity End of 2006) + 4,309,616 (Total PV of RI for End of 2006) + 1,948,780 (PV of Terminal Value) = 8,646,488 (Estimated Value for 2006). We then needed to get a time consistent value so we took this number and multiplied it by $(1+ke)^{(10/12)}$. This gave us a value of 9,256,168. To get a time consistent value per share, we divided that number by 276,000 shares. This gave us a time consistent price of $33.54, which was well-below the observed November 1st, 2007 price of $60.19.

Sensitivity Analysis

		0	-0.1	-0.2	-0.3	-0.4	-0.5	Perpetuity Growth Rates
	0.075	34.29	29.43	28.10	27.48	27.12	26.89	
	0.08	33.89	29.44	28.17	27.56	27.21	26.98	
Ke	0.0852	33.54	29.46	28.24	27.65	27.31	27.08	
	0.09	33.26	29.48	28.3	27.73	27.39	27.17	
	0.095	33	29.5	28.37	27.82	27.48	27.26	

Significantly Overvalued
<48.15

As you can see from the sensitivity analysis done above, this model is not very sensitive. Large changes in growth rates signified minimal changes in price. The entire range of the model was from $34.29 to $26.89. Our growth rates are negative because over the long run, Wrigley should converge back to equilibrium. This model tells us that Wrigley is significantly overvalued with a November 1, 2007 observed share price of $60.19.

It is important to note that we forecasted our sales growth of 13.33%. This is a substantial sales growth rate and thinking that a company could sustain a higher growth rate in the confectionery industry does not seem likely. Also, it would take a ridiculous growth rate or cost of capital not feasible for Wrigley to even come close to its observed price of $60.19. The overwhelming conclusion from this model is that Wrigley is overvalued. With this model being one of the most reliable and accurate, it weighs heavy on our overall valuation on the company.

Long Run Residual Income

The Long Run Residual Income Model can be derived from the Residual Income. This model has three factors. The Cost of Equity, long run return on equity and long run growth rate on return on equity are all necessary. It is important to note that this model uses three factors instead of just two. The model is also defined by an equation.

MV(E) = BV(E) time 0 (1 +(ROE-Ke) / (Ke-g)

From the residual income model, we established:

BV(E)= 2,388,092

Ke = 8.52%

ROE = .246

G = .001

Since we have three different factors that go into this model, we will do three separate sensitivity analysis keeping Ke constant in one, ROE constant in another, and growth on ROE constant in the other.

Sensitivity Analysis

Long Run Growth Rate Return on Equity

	0.001	0.002	0.003	0.004	0.005
0.206	21.07	21.22	21.37	21.52	21.69
0.216	22.09	22.26	22.42	22.59	22.76
0.236	24.15	24.34	24.53	24.72	24.92
0.246	25.18	25.38	25.58	25.79	26.00
0.256	26.20	26.42	26.63	26.85	27.08
0.266	27.23	27.46	27.68	27.92	28.16

Long Run Return on Equity (row labels)

Significantly Overvalued   <48.15

This first sensitivity analysis shows the relation between long run return on equity and long run growth of equity keeping cost of equity constant at 8.52%. This valuation shows that Wrigley is without a doubt overvalued according to its observed share price of $60.19 on November 1st, 2007. It would take a significant increase in ROE, that Wrigley has not shown it is able to do, to get this model to show readings near the observed share price.

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Long run Growth on Return on Equity

	0.001	0.002	0.003	0.004	0.005
0.075	28.65	28.92	29.20	29.49	29.79
0.08	26.83	27.07	27.31	27.55	27.80
0.0852	25.18	25.38	25.58	25.79	26.00
0.09	23.82	22.99	24.17	24.35	24.53
0.095	22.55	22.70	22.85	23.85	23.01
0.1	21.41	21.54	21.68	21.81	21.95

Cost of Capital (row label on left)

Significantly Overvalued   <48.15

The second sensitivity analysis model shows the relation of long run growth on return on equity and cost of capital, with return on equity held constant at .246. Once again, this analysis points to an overvalued firm. Wrigley would have to significantly decrease its cost of capital, which is not possible. Or, the long run growth on return on equity would have to jump up significantly. Either one of these scenarios would have to occur just to have the an observed price near the November 1st, 2007 observed price of $60.19.

	Cost of Capital				
	0.075	0.08	0.0852	0.09	0.095
0.206	$23.97	$22.45	21.07	19.93	18.87
0.216	$25.14	$23.55	22.09	20.9	19.79
0.236	$27.48	$25.74	24.15	22.85	21.63
0.246	$28.65	$26.83	25.18	23.82	22.55
0.256	$29.82	$27.93	26.2	24.79	23.47
0.266	$30.99	$29.02	27.23	25.76	24.39

Long run Return on Equity

Significantly Overvalued   < 48.15

The final sensitivity model we will perform relates Cost of Capital to long run return on equity, with long run growth of return on equity held constant. Once again, we have overwhelming evidence to an overvalued firm. Wrigley's long run return on equity would have to significantly increase for the observed price to start coming close the November 1st, 2007 observed price of $60.19.

Looking at the sensitivity analysis run, all three point to Wrigley being overvalued. It would take drastic and in some cases, severely improbable scenarios for the observed price to even come close to the $60.19. With that said, we can conclude from this model that Wrigley is overvalued.

Annual Earnings Growth Model (AEG)

The Abnormal earning growth model uses the forecasted annual earnings and the forecasted annual dividends paid. This model is different than the residual income model in that it discounts earnings back to year one instead of year zero. However the AEG model and residual income model are related in that the difference in the residual income from year to year is equal to the AEG of that year. The main difference between the two models is in the perpetuity and that is why there is a difference in share price. To find the annual AEG first we need to find the dividends reinvested (DRIP) for each year. DRIP is found by taking the previous year's paid dividends and multiplying by the calculated cost of equity. Once we calculated each year's DRIP we then added it to each year's forecasted earnings to get the cumulative dividend earnings. Next we found normal (benchmark) earnings by multiplying the previous year's earnings by one plus the cost of equity. Finding normal earnings is important because it tells us what AEG should be. To compute AEG we then took each year's cumulative dividend earnings and subtracted each corresponding year's normal earnings. Once the AEG of 2008 to 2016 was found we then had to discount it back to year 2007. This was done by multiplying each year's AEG by a present value factor of one divided by one plus the cost of equity to the previous time period. We then added all of the AEG's that had been discounted back to year zero to come up with the total present value of the abnormal earnings growth of $897,762.

Next we averaged the AEG's found from 2008 to 2016 to get an average AEG of $105,238.   And plugged it into the perpetuity equation, which is the average AEG divided it by the cost of equity minus the growth rate. The continuing terminal value then needed to be discounted back to year zero using the PV factor previously calculated. Next we took the sum of the discounted AEG's and added it to our discounted terminal value to get a total present value of $2,079,542.

		0		-0.1		-0.2		-0.3		-0.4		-0.5
	0.075	$	104.15	$	84.92	$	79.67	$	77.22	$	75.81	$	74.88
	0.08	$	92.72	$	77.36	$	72.97	$	70.89	$	69.68	$	68.88
Ke	0.0852	$	82.82	$	70.55	$	66.89	$	65.13	$	64.09	$	63.41
	0.09	$	75.09	$	65.06	$	61.95	$	60.43	$	59.53	$	58.94
	0.095	$	68.18	$	60.00	$	57.37	$	56.07	$	55.29	$	54.78

Fair Valued +/- 2%	58.8-61.39
Under Valued 20% or less	61.39-72.23
Significant Under Valued over 20%	>72.23
Over Valued 20% or less	48.15-58.8
Significant Over Valued over 20%	<48.15

Sensitivity Analysis

According to the abnormal earnings model Wrigley's estimated stock value was $82.82, with an actual stock price of $60.19. This model tells us that Wrigley is undervalued. We used a cost of equity of 8.52 percent and assumed a zero percent growth rate to get our undervalued stock price. But if Wrigley's cost of equity were to increases this would cause the stock price to drop closer to a fair valued price. Also, if we were to assume a negative growth rate it would lower the estimated stock value, and show that Wrigley is overvalued.

The Abnormal Earnings Growth Model is linked to the Residual Income Model. One check to make sure the models are linked is to look at the change in residual income and the abnormal earnings growth for each respective model. The change in residual income must equal the abnormal earnings growth for each year in order to insure that the numbers are consisted. We have confirmed that our change in residual income for a given year on the Residual Income model equals the abnormal earnings growth for the same given.

Analyst Recommendation

After doing a thorough industry, accounting, financial, and valuation analysis of Wrigley, we commend a sell as we see the firm severely overvalued.

Wrigley's has two main competitors, Hershey and Tootsie Roll. The confectioners industry, as a whole, is very competitive industry with existing firms. The industry is hard to enter, however, mainly due to brand image. We used the financials for not only Wrigley's, but also for what we identified as their top two competitors. This helped get a grasp on the industry as a whole.

The accounting methods for Wrigley had some questions, but their disclosure was acceptable when compared to its competitors. One problem they had with disclosure was in leases. Goodwill posed a potential red flag, but not enough to warrant an overhaul of the financials. Also, Wrigley's has acquired many companies abroad recently, including a Russian chocolate company, A. Korkunov, that have helped Wrigley broaden their market.

We used Wrigley's 5 year trends in the forecasting. This helped us to get a feel of where the company is going. We feel like we used a fair sales growth rate and also feel comfortable with the assumptions we made. Wrigley's poor performance in financial ratios drew a few red flags. Wrigley had a favorable trend in only a few of the financial ratios performed. These red flags were backed up when looking at the valuations.

After dissecting the company in many different angles, we feel that Wrigley is a sell and is overvalued. Wrigley performed well in only one model. The firm's performance in the method of comparables was also poor with the exception of just one. Wrigley's performance in the most reliable model, The Residual Income Model, was seen as severely overvalued. This, backed with the Wrigley performance in the Discounted Dividends Model, Free Cash Flow Model, and Long Run Residual Income Model, gives us confidence in recommending a sell.

Appendix

Liquidity Analysis

Current Ratio	2002	2003	2004	2005	2006
Wrigley	2.6064	2.7357	2.0975	1.333	1.4421
Hershey's	2.3107	1.9316	0.9199	0.9235	0.9754
Tootsie Roll	3.5652	3.8753	2.3409	2.1697	3.0689

Quick Asset Ratio	2002	2003	2004	2005	2006
Wrigley	1.6002	1.8157	1.4035	0.6856	0.699
Hershey's	1.2229	0.8918	0.3608	0.3853	0.4264
Tootsie Roll	2.6773	3.0082	1.4312	1.3616	1.8379

Receivables Turnover	2002	2003	2004	2005	2006
Wrigley	8.7765	9.3324	10.2377	10.0726	10.1159
Hershey's	11.1067	10.2366	10.8313	9.5043	9.4595
Tootsie Roll	17.3316	21.6566	14.7635	15.8069	14.1408

Days Supply of Receivables	2002	2003	2004	2005	2006
Wrigley	41.5718	39.1211	35.6445	36.2463	36.0672
Hershey's	33.1315	35.6564	33.6986	38.4037	38.5855
Tootsie Roll	21.0598	16.854	24.7231	23.0911	25.8118

Inventory Turnover	2002	2003	2004	2005	2006
Wrigley	3.6951	3.7787	4.0572	3.7135	3.7288
Hershey's	8.1867	8.466	7.9494	7.5914	7.6203
Tootsie Roll	9.0087	8.5201	7.1475	8.8628	7.7551

Days Supply of Inventory	2002	2003	2004	2005	2006
Wrigley	98.6486	96.5608	89.9015	98.3827	97.8552
Hershey's	44.5845	43.1136	45.9154	48.0801	47.8984
Tootsie Roll	40.5164	42.84	51.0666	41.1833	47.0661

Working Capital Turnover	2002	2003	2004	2005	2006
Wrigley	4.4281	3.7165	4.6305	8.2948	10.3194
Hershey's	5.7484	7.6454	-43.0271	-42.287	-138.393
Tootsie Roll	2.4293	2.1716	3.8062	3.6689	3.8537

Profitability Analysis

Gross Profit Margin	2002	2003	2004	2005	2006
Wrigley	56.79%	56.91%	55.87%	54.24%	51.85%
Hershey's	37.84%	39.01%	39.66%	38.66%	37.77%
Tootsie Roll	43.49%	43.32%	41.80%	38.66%	37.40%

Operating Profit Margin	2002	2003	2004	2005	2006
Wrigley	21.30%	21.16%	19.74%	18.67%	17.53%
Hershey's	16.95%	19.09%	19.79%	17.71%	20.08%
Tootsie Roll	24.22%	23.52%	21.40%	22.30%	17.39%

Net Profit Margin	2002	2003	2004	2005	2006
Wrigley	14.62%	14.53%	13.51%	12.44%	11.30%
Hershey's	9.79%	10.97%	13.34%	10.14%	11.31%
Tootsie Roll	16.88%	16.56%	15.28%	15.83%	13.29%

Asset Turnover	2002	2003	2004	2005	2006
Wrigley	1.3026	1.2177	1.1522	0.9325	1.0052
Hershey's	1.1838	1.1647	1.1663	1.1307	1.1892
Tootsie Roll	0.6086	0.5902	0.5175	0.5994	0.6265

ROA	2002	2003	2004	2005	2006
Wrigley	22.74%	21.15%	19.56%	16.33%	11.87%
Hershey's	12.43%	13.15%	16.49%	12.86%	13.12%
Tootsie Roll	10.73%	10.06%	9.65%	9.51%	8.10%

ROE	2002	2003	2004	2005	2006
Wrigley	31.46%	29.29%	27.07%	23.74%	23.91%
Hershey's	35.18%	33.36%	46.17%	44.85%	55.01%
Tootsie Roll	10.73%	12.34%	11.96%	13.54%	10.68%

Capital Structure
Analysis

Debt to Equity Ratio	2002	2003	2004	2005	2006
Wrigley	0.3847	0.3842	0.4535	1.014	0.952
Hershey's	1.5374	1.7992	2.4862	3.194	5.0834
Tootsie Roll	0.2266	0.2399	0.4237	0.3179	0.2552

Times Interest Earned	2002	2003	2004	2005	2006
Wrigley	55.3471	376.6601	62.12	24.5303	13.2881
Hershey's	11.4997	12.5353	13.5598	9.7019	8.5524
Tootsie Roll	325.8511	569.4593	103.8246	44.7978	130.4614

Debt Service Margin	2002	2003	2004	2005	2006
Wrigley	n/a	n/a	n/a	n/a	0.7224
Hershey's	2.4276	53.2504	66.2774	1.3452	0.883
Tootsie Roll	7.1981	5.199	5.3716	3.9983	3.7707

IGR	2002	2003	2004	2005	2006
Wrigley	20.13%	18.80%	17.49%	14.36%	10.28%
Hershey's	12.43%	13.15%	16.49%	12.86%	13.12%
Tootsie Roll	10.15%	9.50%	9.10%	8.99%	7.57%

SGR	2002	2003	2004	2005	2006
Wrigley	27.87%	26.02%	25.42%	28.92%	20.07%
Hershey's	31.54%	36.81%	57.49%	53.93%	79.81%
Tootsie Roll	12.45%	11.78%	12.96%	11.85%	9.50%

Regression Analysis

3Month

3mo72								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.117968724							
R Square	0.01391662							
Adjusted R Square	-0.000170286							
Standard Error	0.056513877							
Observations	72							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.003155211	0.003155	0.987912	0.323676746			
Residual	70	0.223567284	0.003194					
Total	71	0.226722495						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.008946058	0.006696689	1.335893	0.185911	-0.004410067	0.022302183	-0.00441007	0.022302183
X Variable 1	0.191614557	0.192783303	0.993938	0.323677	-0.192879613	0.576108727	-0.19287961	0.576108727

3mo60								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.025435083							
R Square	0.000646943							
Adjusted R Square	-0.016583282							
Standard Error	0.059304441							
Observations	60							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.000132053	0.000132	0.037547	0.847032618			
Residual	58	0.203986967	0.003517					
Total	59	0.204119021						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.009880327	0.007948701	1.243012	0.218865	-0.006030726	0.025791381	-0.00603073	0.025791381
X Variable 1	0.057043661	0.294387739	0.193771	0.847033	-0.532237418	0.646324741	-0.53223742	0.646324741

3mo48

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.050329521
R Square	0.002533061
Adjusted R Square	-0.019151003
Standard Error	0.06512401
Observations	48

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000495436	0.000495	0.116817	0.734069577
Residual	46	0.195092286	0.004241		
Total	47	0.195587721			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010293658	0.00971432	1.059638	0.294842	-0.009260253	0.02984757	-0.00926025	0.02984757
X Variable 1	0.151665925	0.443747135	0.341785	0.73407	-0.741550716	1.044882565	-0.74155072	1.044882565

3mo36

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.04776249
R Square	0.002281255
Adjusted R Square	-0.027063413
Standard Error	0.074216627
Observations	36

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.0004282	0.000428	0.07774	0.782072641
Residual	34	0.187275665	0.005508		
Total	35	0.187703865			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009352027	0.012786348	0.731407	0.469542	-0.016632958	0.035337012	-0.01663296	0.035337012
X Variable 1	0.161386329	0.578821145	0.278819	0.782073	-1.014919758	1.337692415	-1.01491976	1.337692415

3mo24

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.038112282
R Square	0.001452546
Adjusted R Square	-0.043935975
Standard Error	0.089308809
Observations	24

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000255254	0.000255	0.032002	0.859659422
Residual	22	0.175473393	0.007976		
Total	23	0.175728647			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010993251	0.019224597	0.571833	0.573232	-0.028876122	0.050862624	-0.02887612	0.050862624
X Variable 1	0.162412984	0.907880756	0.178892	0.859659	-1.720416456	2.045242424	-1.72041646	2.045242424

6-Month

6mo72								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.118190515							
R Square	0.013968998							
Adjusted R Square	-0.000117159							
Standard Error	0.056512377							
Observations	72							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.003167086	0.003167	0.991683	0.322761467			
Residual	70	0.223555409	0.003194					
Total	71	0.226722495						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.008968253	0.006694093	1.339726	0.184668	-0.004382695	0.0223192	-0.004382695	0.0223192
X Variable 1	0.191945646	0.192748899	0.995833	0.322761	-0.192479907	0.576371198	-0.192479907	0.576371198

6mo60								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.02582229							
R Square	0.000666791							
Adjusted R Square	-0.016563092							
Standard Error	0.059303852							
Observations	60							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.000136105	0.000136	0.0387	0.844732576			
Residual	58	0.203982916	0.003517					
Total	59	0.204119021						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.009881927	0.007937918	1.244902	0.218175	-0.006007542	0.025771397	-0.006007542	0.025771397
X Variable 1	0.057879894	0.294221317	0.196722	0.844733	-0.531068057	0.646827844	-0.531068057	0.646827844

6mo48								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.050953884							
R Square	0.002596298							
Adjusted R Square	-0.019086391							
Standard Error	0.065121945							
Observations	48							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.000507804	0.000508	0.119741	0.73089372			
Residual	46	0.195079917	0.004241					
Total	47	0.195587721						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.010307865	0.009696312	1.063071	0.293299	-0.009209799	0.02982553	-0.009209799	0.02982553
X Variable 1	0.153463477	0.443490494	0.346036	0.730894	-0.739236573	1.046163528	-0.739236573	1.046163528

6mo36

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.048403726
R Square	0.002342921
Adjusted R Square	-0.026999935
Standard Error	0.074214334
Observations	36

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000439775	0.00044	0.079846	0.779218863
Residual	34	0.18726409	0.005508		
Total	35	0.187703865			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009365922	0.012762943	0.733837	0.468079	-0.016571499	0.035303343	-0.016571499	0.035303343
X Variable 1	0.163481911	0.578551598	0.282571	0.779219	-1.012276391	1.339240213	-1.012276391	1.339240213

6mo24

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.03880681
R Square	0.001505968
Adjusted R Square	-0.043880124
Standard Error	0.08930642
Observations	24

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000264642	0.000265	0.033181	0.857127332
Residual	22	0.175464005	0.007976		
Total	23	0.175728647			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.01099348	0.019189294	0.572897	0.572524	-0.028802679	0.050789639	-0.028802679	0.050789639
X Variable 1	0.165385838	0.907928759	0.182157	0.857127	-1.717543154	2.048314829	-1.717543154	2.048314829

1-Year

1yr72								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.119012716							
R Square	0.014164027							
Adjusted R Square	8.06556E-05							
Standard Error	0.056555558							
Observations	72							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.003216849	0.003217	1.005727	0.319382857			
Residual	70	0.223897178	0.003199					
Total	71	0.227114027						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.009152791	0.006697119	1.366676	0.176101	-0.00420419	0.022509773	-0.00420419	0.022509773
X Variable 1	0.19333111	0.192779871	1.002859	0.319383	-0.191156215	0.577818435	-0.191156215	0.577818435

1yr60								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.009151114							
R Square	8.37429E-05							
Adjusted R Square	-0.017156193							
Standard Error	0.059375648							
Observations	60							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	1.71249E-05	1.71E-05	0.004857	0.944675587			
Residual	58	0.204477119	0.003525					
Total	59	0.204494244						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.00939383	0.017583274	0.534248	0.595212	-0.025802916	0.044590576	-0.025802916	0.044590576
X Variable 1	0.416580794	5.977135325	0.069696	0.944676	-11.5479554	12.38111698	-11.5479554	12.38111698

1yr48
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.052598969
R Square	0.002766652
Adjusted R Square	-0.018912334
Standard Error	0.065175331
Observations	48

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000542103	0.000542	0.127619	0.722547356
Residual	46	0.195399891	0.004248		
Total	47	0.195941994			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010544258	0.00969691	1.087383	0.282532	-0.008974608	0.030063124	-0.008974608	0.030063124
X Variable 1	0.15848415	0.443637335	0.357238	0.722547	-0.734511474	1.051479775	-0.734511474	1.051479775

1yr36
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.050254545
R Square	0.002525519
Adjusted R Square	-0.026811965
Standard Error	0.074281541
Observations	36

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000474996	0.000475	0.086085	0.770997961
Residual	34	0.18760341	0.005518		
Total	35	0.188078406			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009669622	0.012773421	0.757011	0.454258	-0.016289092	0.035628337	-0.016289092	0.035628337
X Variable 1	0.169810279	0.578762078	0.293403	0.770998	-1.006375771	1.345996328	-1.006375771	1.345996328

1yr24
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.040853628
R Square	0.001669019
Adjusted R Square	-0.043709662
Standard Error	0.089382439
Observations	24

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000293842	0.000294	0.03678	0.849673143
Residual	22	0.175762848	0.007989		
Total	23	0.17605669			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.0114323	0.01921956	0.594826	0.558029	-0.028426628	0.051291228	-0.028426628	0.051291228
X Variable 1	0.174179726	0.908223862	0.191781	0.849673	-1.709361272	2.057720724	-1.709361272	2.057720724

5-Year

5yr72

SUMMARY OUTPUT

Regression Statistics								
Multiple R	0.119473009							
R Square	0.0142738							
Adjusted R Square	0.000191997							
Standard Error	0.056552409							
Observations	72							

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.00324178	0.003242	1.013634403	0.317501336			
Residual	70	0.223872247	0.003198					
Total	71	0.227114027						

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009300046	0.006683863	1.391418	0.16850511	-0.004030499	0.022630591	-0.004030499	0.022630591
X Variable 1	0.193699166	0.192392031	1.006794	0.317501336	-0.190014636	0.577412968	-0.190014636	0.577412968

5yr60

SUMMARY OUTPUT

Regression Statistics								
Multiple R	0.027587435							
R Square	0.000761067							
Adjusted R Square	-0.016467191							
Standard Error	0.059355535							
Observations	60							

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000155634	0.000156	0.044175482	0.834264076			
Residual	58	0.20433861	0.003523					
Total	59	0.204494244						

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010097565	0.007894604	1.279046	0.205974486	-0.005705202	0.025900332	-0.005705202	0.025900332
X Variable 1	0.061964432	0.294816523	0.21018	0.834264076	-0.528174953	0.652103816	-0.528174953	0.652103816

5yr48

SUMMARY OUTPUT

Regression Statistics								
Multiple R	0.052992873							
R Square	0.002808245							
Adjusted R Square	-0.018869837							
Standard Error	0.065173971							
Observations	48							

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000550253	0.00055	0.12954304	0.720553562			
Residual	46	0.195391741	0.004248					
Total	47	0.195941994						

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010604532	0.009653508	1.098516	0.277695852	-0.00882697	0.030036035	-0.00882697	0.030036035
X Variable 1	0.159515856	0.443197003	0.359921	0.720553562	-0.732593427	1.051625138	-0.732593427	1.051625138

5yr36

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.051117093
R Square	0.002612957
Adjusted R Square	-0.026721956
Standard Error	0.074278285
Observations	36

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000491441	0.000491	0.089073289	0.767175044
Residual	34	0.187586965	0.005517		
Total	35	0.188078406			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009667925	0.01276128	0.757598	0.453910461	-0.016266117	0.035601967	-0.016266117	0.035601967
X Variable 1	0.172533564	0.578095844	0.298451	0.767175044	-1.002298535	1.347365662	-1.002298535	1.347365662

5yr24

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.041789232
R Square	0.00174634
Adjusted R Square	-0.043628826
Standard Error	0.089378977
Observations	24

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000307455	0.000307	0.038486689	0.846269938
Residual	22	0.175749235	0.007989		
Total	23	0.17605669			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.011384765	0.019252731	0.591332	0.56032514	-0.028542955	0.051312486	-0.028542955	0.051312486
X Variable 1	0.177935131	0.9069982	0.19618	0.846269938	-1.703064	2.058934262	-1.703064	2.058934262

7-year

7yr72								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.119449829							
R Square	0.014268262							
Adjusted R Square	0.00018638							
Standard Error	0.056552568							
Observations	72							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.003240522	0.003240522	1.013235421	0.317595918			
Residual	70	0.223873504	0.003198193					
Total	71	0.227114027						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.00934638	0.006680569	1.399039491	0.166216625	-0.003977595	0.022670355	-0.003977595	0.022670355
X Variable 1	0.193635681	0.192366837	1.006595957	0.317595918	-0.190027874	0.577299235	-0.190027874	0.577299235

7yr60								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.027514675							
R Square	0.000757057							
Adjusted R Square	-0.016471269							
Standard Error	0.059355654							
Observations	60							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.000154814	0.000154814	0.043942594	0.83469504			
Residual	58	0.20433943	0.003523094					
Total	59	0.204494244						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.01011127	0.007880318	1.283104303	0.204559039	-0.0056629	0.02588544	-0.0056629	0.02588544
X Variable 1	0.061836737	0.294987573	0.209624888	0.83469504	-0.528645042	0.652318516	-0.528645042	0.652318516

7yr48								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.0526512							
R Square	0.002772149							
Adjusted R Square	-0.018906717							
Standard Error	0.065175151							
Observations	48							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.00054318	0.00054318	0.127873333	0.722282874			
Residual	46	0.195398814	0.0042478					
Total	47	0.195941994						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.01063207	0.009639746	1.10294091	0.275789738	-0.008771731	0.030035871	-0.008771731	0.030035871
X Variable 1	0.158498876	0.443237191	0.35759381	0.722282874	-0.733691301	1.050689052	-0.733691301	1.050689052

7yr36

Regression Statistics	
Multiple R	0.049668348
R Square	0.002466945
Adjusted R Square	-0.026872263
Standard Error	0.074209721
Observations	36

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000463055	0.000463055	0.084083551	0.773599102			
Residual	34	0.18724081	0.005507083					
Total	35	0.187703865						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009367342	0.012741462	0.735185764	0.467267606	-0.016526425	0.035261108	-0.016526425	0.035261108
X Variable 1	0.167535262	0.577764305	0.289971638	0.773599102	-1.006623068	1.341693592	-1.006623068	1.341693592

7yr24

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.040307765
R Square	0.001624716
Adjusted R Square	-0.043755979
Standard Error	0.089301109
Observations	24

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000285509	0.000285509	0.035801918	0.851659895			
Residual	22	0.175443138	0.007974688					
Total	23	0.175728647						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010926348	0.019229675	0.568202431	0.575651767	-0.028953557	0.050806252	-0.028953557	0.050806252
X Variable 1	0.171505857	0.90641234	0.189213947	0.851659895	-1.708278274	2.051289988	-1.708278274	2.051289988

10-Year

10yr72

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.118674694
R Square	0.014083683
Adjusted R Square	-8.35746E-07
Standard Error	0.05650909
Observations	72

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.003193088	0.003193088	0.999940662	0.320769114
Residual	70	0.223529407	0.003193277		
Total	71	0.226722495			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009220831	0.006672822	1.38184879	0.171412351	-0.004087693	0.022529354	-0.004087693	0.022529354
X Variable 1	0.192238982	0.192244686	0.999970331	0.320769114	-0.191180949	0.575658912	-0.191180949	0.575658912

10yr60

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.026647433
R Square	0.000710086
Adjusted R Square	-0.016519051
Standard Error	0.059302567
Observations	60

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000144942	0.000144942	0.041214234	0.839835485
Residual	58	0.203974079	0.003516794		
Total	59	0.204119021			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.00993322	0.007859848	1.26379289	0.211360311	-0.005799975	0.025666415	-0.005799975	0.025666415
X Variable 1	0.059871734	0.294915925	0.203012891	0.839835485	-0.530466623	0.650210092	-0.530466623	0.650210092

10yr48

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.050987715
R Square	0.002599747
Adjusted R Square	-0.019082867
Standard Error	0.065121833
Observations	48

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000508479	0.000508479	0.119900076	0.73072176
Residual	46	0.195079243	0.004240853		
Total	47	0.195587721			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010426854	0.009617365	1.084169512	0.283939497	-0.008931898	0.029785607	-0.008931898	0.029785607
X Variable 1	0.153370378	0.442926595	0.346265904	0.73072176	-0.738194602	1.044935357	-0.738194602	1.044935357

10yr36

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.049264635
R Square	0.002427004
Adjusted R Square	-0.026913378
Standard Error	0.074211206
Observations	36

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000455558	0.000455558	0.082718903	0.775391916			
Residual	34	0.187248307	0.005507303					
Total	35	0.187703865						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.009387893	0.012730657	0.737424076	0.465923493	-0.016483914	0.0352597	-0.016483914	0.0352597
X Variable 1	0.166249452	0.578039931	0.287608941	0.775391916	-1.008469016	1.340967921	-1.008469016	1.340967921

10yr24

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.039796256
R Square	0.001583742
Adjusted R Square	-0.043798815
Standard Error	0.089302941
Observations	24

ANOVA

	df	SS	MS	F	Significance F			
Regression	1	0.000278309	0.000278309	0.034897592	0.853522406			
Residual	22	0.175450338	0.007975015					
Total	23	0.175728647						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.010948958	0.019216635	0.569764563	0.574610014	-0.028903904	0.050801819	-0.028903904	0.050801819
X Variable 1	0.169395568	0.906784967	0.186808973	0.853522406	-1.711161346	2.049952482	-1.711161346	2.049952482

Method of Comparables

	Tootsie Roll	Hershey	Wigley	Industry Average		Wigley's Valued Stock Price
PPS	24.56	38.88	60.19		31.72	
Trailing EPS	1.14	1.35	1.92		1.25	
Trailing P/E	21.54	28.89	31.35		25.22	48.42 Overvalued
Forward EPS	1.26	2.18	2.12		1.72	
Forward P/E	19.49	17.83	28.39		18.66	39.56 Significantly Overvalued
BPS	11.92	2.38	8.65		7.15	
P/B	2.06	16.36	6.96		9.21	79.67 Significantly Undervalued
DPS	0.32	1.19	1.01		0.76	
D/P	0.0130	0.0306	0.0168		0.0218	46.33 Overvalued
P.E.G.	N/A	1.97	2.35	13.33	N/A	N/A
EV	1.29	11.4	10.64		6.35	
EBITDA (Billions)	0.0866	1.21	0.72		0.6483	
EV/EBITDA	14.86	9.42	5.45		12.14	28.53 Significantly Overvalued
P/FCF	N/A	N/A	40.65		N/A	N/A
P/EBITDA	28.37	32.13	83.60		30.25	71.09 Undervalued

Discount Dividends Model

											Ke	**0.0852**	

	Time	0	1	2	3	4	5	6	7	8	9	10	11
		2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
EPS (Earnings Per Share)			2.12	2.40	2.72	3.08	3.49	3.96	4.48	5.08	5.76	6.53	
DPS (Dividends Per Share)			0.98	1.11	1.26	1.42	1.61	1.83	2.07	2.35	2.66	3.02	3
PV Factor			0.9215	0.8491	0.7825	0.7210	0.6644	0.6123	0.5642	0.5199	0.4791	0.4415	
PV Dividends Year by Year			0.9011	0.9410	0.9827	1.0263	1.0718	1.1193	1.1689	1.2207	1.2748	1.3313	
Total PV of Annual Free Cash Flows		**11.04**											
Continuing (Terminal) Value Perpetuity												**35.21**	
PV of Terminal Value Perpetuity		**15.54**											
Estimated Price per Share (end of Dec. 2006)		**26.58**											
Estimated Price per Share (end of Nov. 2007)		**28.46**											

Sensitivity Analysis

Perpetuity Growth Rates

	0	0.01	0.015	0.02	0.025
0.07	31.7	35.03	37.16	39.70	42.82
0.075	30.48	33.36	35.17	37.3	39.86
Ke 0.08	29.42	31.94	33.49	35.3	37.44
0.0852	28.46	30.67	32.01	33.56	35.37
0.09	27.67	29.65	30.83	32.19	33.75
0.095	26.94	28.71	29.76	30.95	32.31

Observed Share Price - Nov 1, 2007	**$60.19**
Cost of Equity	0.0852
Perpetuity Growth Rate (g)	0.000

Assume Cost of Equity = 0.0852

Fair Valued +/- 2%	58.8-61.39
Under Valued 20% or less	61.39-72.23
Significant Under Valued over 20%	>72.23
Over Valued 20% or less	48.15-58.8
Significant Over Valued over 20%	<48.15

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Free Cash Flows

Model

Free Cash Flow	WACC(BT)	0.0772		Kd	0.0689		Ke	0.0852			
Assume numbers in $ thousands											
Time	0	1	2	3	4	5	6	7	8	9	10	11
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Cash From Operations		837,523	949,164	1,075,689	1,219,078	1,381,580	1,565,745	1,774,459	2,010,995	2,279,059	2,582,859	
Cash Investments		(425,565)	(480,671)	(544,746)	(617,359)	(699,653)	(792,917)	(898,612)	(1,018,398)	(1,153,850)	(1,307,999)	
Annual Free Cash Flow		411,958	468,493	530,943	601,719	681,927	772,828	875,847	992,597	1,125,209	1,274,860	1,424,511
PV Factor		0.93	0.86	0.80	0.74	0.69	0.64	0.59	0.55	0.51	0.48	
PV of Free Cash Flows		382,434	403,748	424,775	446,898	470,171	494,658	520,420	547,523	576,191	606,037	

Total PV of Annual Free Cash Flows	4,872,854
Continuing (Terminal) Value Perpetuity	18,452,215
PV of Terminal Value Perpetuity	8,771,726
Value of Firm	13,644,580
Book Value of Liabilities	2,273,506
Estimated Market Value of Equity	11,371,074
Number of Shares	276,000
Estimated Price per Share (End of December 2006)	41.20
Estimed Price per Share(November 1, 2007)	43.83
Observed Share Price	$60.19
Initial WACC	0.0772
Perpetuity Growth Rate (g)	0

Assumptions: WACC(BT)=.0772

276 million shares outstanding

Free Cash Flow of $1,424,511 in 2017

Sensitivity Analysis

Perpetuity Growth Rates

		0.000	0.010	0.015	0.020	0.025
	0.0650	54.51	62.61	67.88	74.32	82.37
	0.0700	49.62	56.23	60.44	65.48	71.65
WACC BT	0.0772	43.83	48.87	51.99	55.66	60.03
	0.0800	41.9	46.46	49.26	52.53	56.39
	0.0850	38.83	42.66	44.99	47.67	50.8
	0.0900	36.15	39.4	41.35	43.58	46.16

Fair Valued +/-2%	58.8-61.39
Under Valued - 20% or less	61.39-72.23
Significant Under Valued - over 20%	>72.23
Over Valued - 20% or less	48.15-58.8
Significant Over Value - over 20%	<48.15

Residual Income Model

change in RI			$ 51,093	$ 57,905	$ 65,622	$ 74,369	$ 84,283	$ 95,518	$ 108,251	$ 122,680	$ 139,035	
			1	2	3	4	5	6	7	8	9	10 Perp
Dollar in thousands						Forecast Years						
	2006		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning BE		$	2,388,092 $	2,702,377 $	3,058,556 $	3,462,214 $	3,919,679 $	4,438,124 $	5,025,678 $	5,691,553 $	6,446,189 $	7,301,417 $	8,270,648
Earnings		$	584,172 $	662,042 $	750,293 $	850,307 $	963,652 $	1,092,107 $	1,237,685 $	1,402,669 $	1,589,644 $	1,801,544	
Dividends		$	269,887 $	305,863 $	346,635 $	392,842 $	445,207 $	504,553 $	571,810 $	648,033 $	734,416 $	832,313	
Ending BE	$ 2,388,092	$	2,702,377 $	3,058,556 $	3,462,214 $	3,919,679 $	4,438,124 $	5,025,678 $	5,691,553 $	6,446,189 $	7,301,417 $	8,270,648	
Ke	0.0852		0.0852	0.0852	0.0852	0.0852	0.0852	0.0852	0.0852	0.0852	0.0852	0.0852	
"Normal" Income		$	203,465 $	230,243 $	260,589 $	294,981 $	333,957 $	378,128 $	428,188 $	484,920 $	549,215 $	622,081	
Residual Income (RI)		$	380,707 $	431,799 $	489,704 $	555,326 $	629,695 $	713,979 $	809,497 $	917,749 $	1,040,429 $	1,179,463	
Discount Factor			0.921	0.849	0.782	0.721	0.664	0.612	0.564	0.520	0.479	0.441	
Present Value of RI		$	350,817 $	366,659 $	383,181 $	400,414 $	418,390 $	437,146 $	456,717 $	477,140 $	498,453 $	520,699 $	672,922
ROE			0.245	0.245	0.245	0.246	0.246	0.246	0.246	0.246	0.247	0.247	

BV Equity (per share) 2006	$ 2,388,092	Growth		0.15%	0.13%	0.12%	0.10%	0.09%	0.08%	0.07%	0.06%	0.06%
Total PV of RI 2006	$ 4,309,616											
Continuation (Terminal) Value	$ 7,898,146											
PV of Terminal Value 2006	$ 1,948,780											
Estimated Value 2006	$ 8,646,488											
time consistent implied price	$ 9,256,168											
time consistent per share price	$ 33.54											
(assume 276,000,000 shares)												
Actual Price per share	60.19											
Growth	0											
Ke	0.0852											

Avg. ROE	0.246
Average Growth	0.10%

Sensitivity Analysis

	0	-0.1	-0.2	-0.3	-0.4	-0.5
0.075	34.29	29.43	28.10	27.48	27.12	26.89
0.08	33.89	29.44	28.17	27.56	27.21	26.98
0.0852	33.54	29.46	28.24	27.65	27.31	27.08
0.09	33.26	29.48	28.3	27.73	27.39	27.17
0.095	33	29.5	28.37	27.82	27.48	27.26

Significantly Overvalued

Long Run RI Model

Growth Rate

ROE	0.001	0.002	0.003	0.004	0.005
0.206	21.07	21.22	21.37	21.52	21.69
0.216	22.09	22.26	22.42	22.59	22.76
0.236	24.15	24.34	24.53	24.72	24.92
0.246	25.18	25.38	25.58	25.79	26.00
0.256	26.20	26.42	26.63	26.85	27.08
0.266	27.23	27.46	27.68	27.92	28.16

Significantly overvalued   <48.15

Growth

Ke	0.001	0.002	0.003	0.004	0.005
0.075	28.65	28.92	29.20	29.49	29.79
0.08	26.83	27.07	27.31	27.55	27.80
0.0852	25.18	25.38	25.58	25.79	26.00
0.09	23.82	22.99	24.17	24.35	24.53
0.095	22.55	22.70	22.85	23.85	23.01
0.1	21.41	21.54	21.68	21.81	21.95

Significantly overvalued   <48.15

Ke

ROE	0.075	0.08	0.0852	0.09	0.095
0.206	$ 23.97	$ 22.45	21.07	19.93	18.87
0.216	$ 25.14	$ 23.55	22.09	20.9	19.79
0.236	$ 27.48	$ 25.74	24.15	22.85	21.63
0.246	$ 28.65	$ 26.83	25.18	23.82	22.55
0.256	$ 29.82	$ 27.93	26.2	24.79	23.47
0.266	$ 30.99	$ 29.02	27.23	25.76	24.39

Significantly Overvalued   <48.15

BookEquity 2388092
Ke 0.0852
ROE 0.246
g 0.001

Total Value $ 6,948,724

PPS **$ 25.18**

Abnormal Earnings Growth ke 0.0852 growth 0

Assume in thousands dollars	0 2007	1 2008	2 2009	3 2010	4 2011	5 2012	6 2013	7 2014	8 2015	9 2016	
Earnings	584,172	662,042	750,293	850,307	963,652	1,092,107	1,237,685	1,402,669	1,589,644	1,801,544	
Dividends	269,887	305,863	346,635	392,842	445,207	504,553	571,810	648,033	734,416	832,313	
Dividends invested at 6.83% (drip income)		22,994	26,060	29,533	33,470	37,932	42,988	48,718	55,212	62,572	
Cum-Dividend Earnings		685,036	776,353	879,840	997,122	1,130,039	1,280,673	1,451,387	1,644,856	1,864,116	
Normal (benchmark) Earnings		633,943	718,448	814,218	922,753	1,045,755	1,185,155	1,343,136	1,522,176	1,725,082	
AEG		51,093	57,905	65,622	74,369	84,284	95,518	108,251	122,680	139,035	88,751
Pv factor		0.92	0.85	0.78	0.72	0.66	0.61	0.56	0.52	0.48	
Pv of AEG		47,082	53,358	60,470	68,530	77,666	88,019	99,753	113,048	128,119	

Core Earnings	584,172	
Total PV of AEG	736,046	
Continuing (Terminal) Value		1,041,676
PV of Terminal Value	499,050	
Total PV of AEG	1,235,096	
Total Earnings Perp (t+1)	1,819,268	Total
Capitalization Rate	0.0852	growth

			0	-0.1	-0.2	-0.3	-0.4	-0.5
Intrinsic Value	21,352,913	0.075	$ 28,744,642	$ 23,436,567	$ 21,988,910	$ 21,313,337	$ 20,922,216	$ 20,667,136
Time consistent implied price	22,858,547	0.08	$ 25,591,495	$ 21,350,840	$ 20,139,225	$ 19,565,302	$ 19,230,513	$ 19,011,169
Nov 1, 2007 observed price	$ 60.19	Ke 0.0852	$ 22,858,547	$ 19,472,793	$ 18,461,341	$ 17,975,046	$ 17,689,202	$ 17,501,049
		0.09	$ 20,724,720	$ 17,956,072	$ 17,096,836	$ 16,678,234	$ 16,430,490	$ 16,266,727
		0.095	$ 18,818,710	$ 16,560,283	$ 15,832,994	$ 15,473,952	$ 15,259,977	$ 15,117,927

Number of Shares	276,000	
Estimated Price per Share (End of Decmber 2006)	$ 77.37	Per share
Estimated Price per Share (November 1, 2007)	$ 82.82	growth

			0	-0.1	-0.2	-0.3	-0.4	-0.5
Fair Valued +/- 2%	58.8-61.39	0.075	$ 104.15	$ 84.92	$ 79.67	$ 77.22	$ 75.81	$ 74.88
Under Valued 20% or less	61.39-72.23	0.08	$ 92.72	$ 77.36	$ 72.97	$ 70.89	$ 69.68	$ 68.88
Significant Under Valued over 20%	>72.23	Ke 0.0852	$ 82.82	$ 70.55	$ 66.89	$ 65.13	$ 64.09	$ 63.41
Over Valued 20% or less	48.15-58.8	0.09	$ 75.09	$ 65.06	$ 61.95	$ 60.43	$ 59.53	$ 58.94
Significant Over Valued over 20%	<48.15	0.095	$ 68.18	$ 60.00	$ 57.37	$ 56.07	$ 55.29	$ 54.78

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