# Tyson Foods Inc.

Fisher College of Business: Student Investment Management

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# **I. Summary of Action**

After examining Tyson Food Inc.'s cash flows, it was determined that the stock was undervalued. Overall, I believe the short-term negative news releases have dampened the value of the stock and disregards long term cash flows. Even though projections of revenues and earnings are mainly below analysts' estimates, Tyson still yields an upside of 13.3%. Revenues were adjusted downward because of a recent slump in restaurant sales<sup>4</sup>, the possibility of increased competition <sup>[6][7]</sup>, and falling retail prices<sup>[3][6]</sup>. Margins were adjusted based on increasing labor costs<sup>[1][5][10]</sup>, raw material volatility<sup>[2]</sup>, and shifts in product strategy<sup>[1][2][5][8]</sup>. Despite these effects, I believe news releases have caused the market price of \$61.93 to fall far below the TSN's intrinsic value of \$70.15.

Analyst Recommendat	ion: BUY
	2011

## **Company Overview and Description:**

Tyson Foods Inc. has four main business segments that it identifies on its 10K filing. It should be noted however that it breaks out international and internal sales separately on its financial reports. The four primary segments include chicken, beef, pork, and prepared foods. Tyson sells both meat products that vary in degree of processing to both public and private institutions. They also have forward integrated into the prepared foods segment and sell their products to major retail clients<sup>[8]</sup>. **Risks:** 

Risks include but are not limited to volatility in raw material costs, labor disputes, the loss of Agri Stats reporting or marketing reports, government fines and subpoenas, decreased restaurant sales, changes in



Company:	Tyson Foods Inc.
Ticker:	TSN
Current Stock Price:	\$61.93
Target Price:	\$70.15
Total Upside:	13.3%
52 Week Price Range:	\$55.72 - \$77.05
Market Cap:	22.522B
Diluted Shares Outstanding:	390MM
Dividend Vield:	1.56%

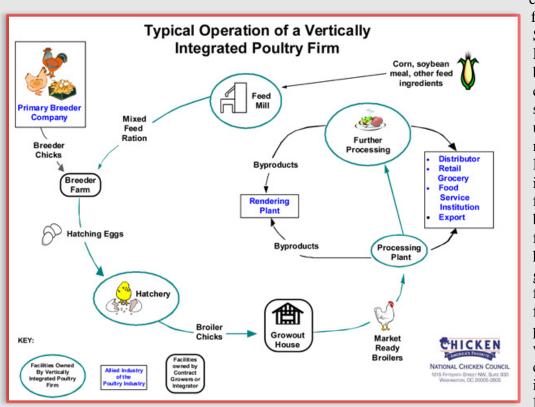
consumer preferences, increased competition from both domestic and international producers, industry price deflation, headline risk, product recalls, and poor performing segments such as beef. All of these issues that will be discussed in more detail and pose a risk to Tyson's overall sales and profitability.

# **II.** Company Overview and Description

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## **Business Segments:**

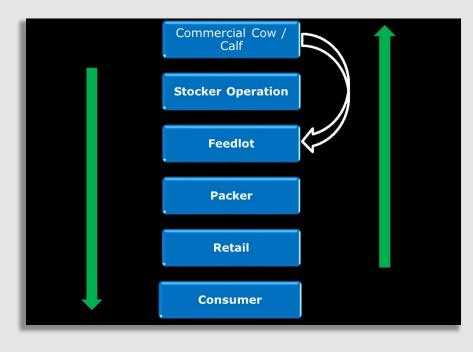
Chicken: The chicken industry evolved from local farmers occasionally selling whole birds to supplement their income. The processor business began to develop when Mrs. Wilmer Steele, an



entrepreneur from the State of Delaware began raising chickens solely to be used for their meat. In the early industry, feed mills, breeder farms, hatcheries, grower farms, and food processors were not a consolidated industry.<sup>[3]</sup> In today's

environment, most of these businesses are fully integrated for the industry's leading producers. Tyson owns its own feed mills where it manufactures its own feed formula for its chickens. Tyson also owns the breeder farms, the hatcheries, food processing plants, and further processing plants for prepared foods. However, Tyson hires contractors for the "growout house" <sup>[3]</sup> phase. Chicklets are sent to the growing farms and are collected once the birds reach the appropriate age and weight. Contracts vary in length and each farm is responsible for labor, maintenance, and general upkeep. The processor typically sells the farms the feed and owns the chickens. <sup>[3]</sup> A typical flock can be processed in about 48 days. <sup>[3]</sup> After processing, the chicken products are

sold to "food retailers, foodservice distributers, restaurant operators, hotel chains, and noncommercial foodservice establishments such as schools, healthcare facilities, the military and other food processors, as well as to international export markets." <sup>[1-14]</sup>



Beef: The beef industry has historically been made up of a large number of cattle farms and ranches located throughout the United States. Tyson is one of the largest processors of beef in the industry but is not as vertically integrated as the chicken segment.<sup>[3]</sup> Raising cattle takes long term planning as it can take 18 months to two years for a calf to be ready for processing. Availability to land and water are

also crucial ingredients. Tyson does not own cattle farms of its own but primarily purchases cattle on the open market via trained personnel. This business segment for the company is specializes in "fabricating dressed beef carcasses into primal and sub-primal meat cuts and case-ready products"<sup>[2]</sup>. Like the chicken segment, beef products are marketed to "food retailers, foodservice distributers, restaurant operators, hotel chains, and noncommercial foodservice establishments such as schools, healthcare facilities, the military and other food processors, as well as to international export markets." <sup>[1]</sup>. Both segments utilize similar distribution systems and sell to similar clients. <sup>[3]</sup>

Pork: Tyson processes pork into "into primal and sub-primal meat cuts and case-ready products" <sup>[1]</sup>. These products are then sold to "food retailers, foodservice distributers, restaurant operators, hotel chains, and noncommercial foodservice establishments such as schools, healthcare facilities, the military and other food processors, as well as to international export markets." <sup>[2]</sup>. In regards to this segment's business model, Tyson purchases most of its live hogs on the open market for processing. Hogs are purchased on a daily basis to fulfill the company's processing requirements. In addition, Tyson also raises a small number of hogs on its own farms. <sup>[2]</sup>

Prepared Food: This segment includes further processed foods that also utilizes meat produced from Tyson's three other business segments. These products can be fresh or frozen and brand names include Jimmy Dean®, Hillshire Farm®, Ball Park®, Wright®, State Fair®, Van's®, Sara Lee®, and Chef Pierre®, Aidells®, Gallo Salame®, and Golden Island®. "Products primarily include pepperoni, bacon, breakfast sausage, turkey, lunchmeat, hot dogs, pizza crusts and toppings, flour and corn tortilla products, desserts, appetizers, snacks, prepared meals, ethnic foods, soups, sauces, side dishes, meat dishes, breadsticks, and processed meats." <sup>[2]</sup> All of the

listed products and brands are distributed through the same marketing channels as for the chicken, beef, and pork segments.<sup>[2]</sup>

## **III.** Competitive Advantages and Analysis (Moat):

Tyson's competitive analysis will be examined through Michael Porter's Five Forces Model.

#### New Entrants (Market overview of all segments):

Most recently, the Trump administration negotiated a trade deal with China to begin allowing imports/exports of chicken and beef between China and the United States. This allows Chinese producers to sell meat products that were previously banned from the United States. Today, the majority of chicken, beef, and pork is produced within the United States with some supply originating from Canada. This was still the case before the ban went into effect and the threat of new market entrants from domestic or foreign corporations is unlikely. This is primarily because a number of factors: <sup>[3,7]</sup>

Technology and Operations: Tyson's chicken business is based on years of experience and research. For its chicken segment, Tyson has substantial cost efficiencies that are a direct result of its supply chain and vertical integration (See financial statements for margins). Tyson owns feed mills and has developed its own feed formulas that enhances the meat per bird ratio. The U.S. industry as a whole has reduced mortality rates, reduced grow times, and increased the average pounds of meat per bird <sup>[3]</sup>. Because Tyson almost owns all factors of production from feed mills to end products, it would require a large capital investments in multiple businesses to produce the same efficiencies as Tyson. There is also significant experience and research needed in processes and feed formulas that would need to be overcome in order to compete with the major chicken producers in today's market. However, Tyson does not seem to have the same cost and operational efficiencies in the beef and pork segments of the business (See financials). The threat of new entrants into the beef, pork and prepared food segments is still minimal however, due to the large amount of capital investment needed for factories, equipment, process research, and *distribution systems*. These industries are dominated by large producers that can obtain cost efficiencies simply based on the fact of the sheer volume they produce (lower cost per unit). Brand recognition and shelf space are also key barriers for the industry. <sup>[1,3]</sup>

#### **Brand and Product Offering:**

As alluded to in the previous section, a company would need widespread brand recognition and sales to even obtain shelf space in large retailers such as Wal-Mart and other major retailers. Government agencies, the military, hospitals, and other businesses are looking for protein supplies at low cost. Because of the industry's operational structure and lower cost per unit based on volume (of which, Tyson has the largest volumes), it would be difficult for new entrants to obtain the recognition and production efficiencies needed to compete for both retail clients, independent markets, and government entities.

Further adding to its business resiliency, Tyson is not at the mercy of the seasonality of its products as it offers a variety of different meat and proteins <sup>[2]</sup>. Other producers may be subject to this seasonality as they only offer one protein and cannot afford the same cost efficiencies and margins as Tyson. Tyson Foods can offer a diversified final product and has the scalability to offer it at a lower cost than new entrants. Because Tyson offers large volumes in multiple segments including prepared foods, chicken, beef, and pork, they have more negotiating power with retailers and clients and major retailers such as Walmart are incentivized to keep Tyson

brands on their shelves. This does not mean that major retailers can still expert pricing power however, but shelf space is still reserved for major clients such as Tyson. <sup>[2]</sup>

### U.S. Regulatory Requirements and Animal Rights Activists.

The U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) enforces the regulations for food preparation and sale in the United States. In general, The United States requires a level of inspections, approvals, and food quality standards to be in place before any company can begin selling any type of food product in the U.S. It should also be noted that the United States is general stricter in regards to regulations and requirements than other countries such as China. This in itself is a barrier to entry or an additional cost facing new entrants. <sup>[6]</sup> In addition, Tyson recently announced that it was investing in more humane technology to slaughter animals in response to complaints from animal rights activists. The additional PR and investment into technology is yet another cost of getting into the business. Although the prepared foods segment does not share this particular risk directly, this segment could still face PR risks through its sourcing methods.

## **Bargaining Power of Suppliers:**

For Tyson's chicken segment, suppliers have limited power as there are few purchasers and a large number of suppliers. Again, Tyson owns its own feed mills and has plenty of leverage due to the sheer volume it purchases from a large number of corn and soybean suppliers. The only other supplier for this segment is through the growhouses that Tyson contracts for its chickens. Again, most of these are through small family farms and Tyson own the chickens and sells the feed to the farmers. In a way, Tyson own both the demand and the supply of these contractors and has substantial power over these farms. <sup>[2]</sup>

The beef segment on the other hand is more difficult as Tyson is not vertically integrated in this business. Nevertheless, Tyson still has significant power given the sheer volume it purchases from suppliers. There is still risk for an imbalance of supply and demand, which may drive prices up in the short term <sup>[2]</sup>.

As for the pork segment, it is somewhat of a hybrid between the chicken and beef segments. Tyson buys pork daily, and should exert substantial purchasing power over a large number of suppliers. This is also given that Tyson also raises a small number of swine on its own. Again, there may be additional risks to pricing pressure because of rising commodity prices such as feed for pork. This is given Tyson buys the majority of its pork needs on the open market.<sup>[2]</sup>

The prepared foods segment requires a number of inputs including vegetables, grains, and meats. Tyson has substantial control over its own meat supply (no surprise), and most of the other ingredients have a large number of suppliers. Furthermore, Tyson has substantial purchasing pour for grains as it buys grains both for feed and for prepared foods. This could help them more bargaining power over suppliers compared to other firms. Tyson most likely has more purchasing power over competitors in this regard because of feed and grains required for all of its combined segments. Other competitors only offer one type of protein, or are not as forward integrated as Tyson. <sup>[8]</sup>

#### Substitutes:

Substitutes for meat products are very few. As Tyson operates in multiple meat segments, the threat of customers switching from one type of meat to another is minimal. The threat of customers preferring restaurants over prepared foods is also minimal, as Tyson is in both of these segments. Other competitors are not as diversified and are exposed to greater risk to changes in demand and seasonality. <sup>[10]</sup>

#### **Industry Rivalry:**

There are large dominate players in each of Tyson's business segments <sup>[1]</sup>. Each could in theory wield significant power on pricing. Tyson has a clear advantage in the chicken industry however because of its margins. Tyson has also guaranteed some demand for its protein businesses through its prepared food segments. In addition, because of the large purchasing power of grains and that Tyson supplies its own meat to the prepared foods divisions, it could reasonably be assumed that Tyson is less susceptible to negative rivalry forces as it controls most of its inputs for the chicken and prepared food divisions. Beef and pork however are more susceptible as the margins are lower and they have less control over costs (lack of vertical integration). It should be noted that rivals have learned to limit production of chicken to ensure that prices remain at a profitable level (more on this later in the news section and accusations of possible collusion).<sup>[1]</sup> Overall, Tyson wields a lot of power as it is a dominant player in the food industry. However, any one of the major producers present a risk regarding rivalry.

#### **Buyer Power:**

Tyson sells to a large number of customers from various industries in both public and private sectors. However, Walmart accounts for near 17% percent of its total revenues <sup>[2]</sup> and wields significant buying power. According to Tyson's most recent annual report, no other entity holds more than 10% of its revenues. Buyer power over all is substantial for all business segments. Chicken, beef, and pork products can be difficult to differentiate from competitors <sup>[10]</sup>. However, Tyson has limited this so some extent by investing in differentiation strategies with its prepared food segments. This also could lower buyer power for its protein segments given it generates a level of guaranteed demand (forward integration). Still, large retailers and grocery stores have bargaining power and with limited shelf space.

**Summary of Competitive Advantages:** Tyson wields significant purchasing power for raw materials given its large volumes and enjoys significant cost advantages because of vertical integration in its chicken business. It is more diversified in forward products and meats and is less susceptible to changes in consumer tastes or seasonal demands. The prepared foods segment offers better margins and provides a guaranteed market for some of its protein businesses.

**Market Share:** The market share will be different depending on which business you are examining. Tyson is a large player in the meat processing segment of the market, but has yet to match the revenues of Kraft or Pepsi Co. in regards to its prepared foods business. Although both business segments are related as the meat processing segment is frequent input for Tyson's products, they are not inherently homogenous. Looking at Tyson's market share of the meat processing business, we can see that TSN is a dominant producer.

	Meat Processing Market Share (USD in MM)						
	Description	2016	2015				
However, this leaves out	Tyson Foods Inc	\$30,349.00	\$33,888.00				
major competitors in the	Pilgrim's Pride Corp	\$ 7,931.12	\$ 8,180.10				
prepared food segment of the business. When	Hormel Foods Corp	\$ 6,899.30	\$ 6,542.82				
comparing Tyson's	Industrias Bachoco, S.A.	\$ 2,791.14	\$ 2,918.99				
prepared food revenue to	Maple Leaf Foods	\$ 2,505.10	\$ 2,566.04				
that of other major	Sanderson Farms	\$ 2,816.06	\$ 2,803.48				

competitors in this segment, Tyson's prepared foods revenue pales in comparison. However, when looking at total food sales, Tyson is again the dominant force in the industry.

Total Company Food Sales in MM		
Description	2016	2015
Total	\$271,095.40	\$302,661.80
Tyson Foods Inc	\$ 36,881.00	\$ 41,373.00
PepsiCo Inc	\$ 32,655.48	\$ 33,419.68
Kraft Heinz Co/The	\$ 26,487.00	\$ 27,447.00
Mondelez International Inc	\$ 24,478.00	\$ 26,376.00
General Mills	\$ 15,619.00	\$ 16,563.10

## **IV. Issues Impacting Stock Price/News:**

**Trade Agreements:** The Trump administration recently reached a trade deal with China that included the resumption of imports and exports of beef and poultry between the two countries. China originally banned the sale of U.S. poultry within their country out of concerns of bird flu.<sup>[1,3]</sup>. Beef will also be sold in China which has been banned since 2003 because of mad cow disease (cite beef source NPR). According to one industry expert, they do not expect Chinese chicken to flood supermarkets as a result of this agreement. This is because the production and shipping costs are "still in the favor of U.S. producers". <sup>[1,3,6,7]</sup>

**Collusion Allegations:** Historically, the chicken industry would suffer swings in profitability as producers would flood the market when prices were high. This would lower the price and impact overall profitability<sup>[1]</sup>. However, most poultry producers are now using industry reports compiled by Agri Stats to determine competitive analysis on other firms in the industry. Agri Stats shares a significant amount of detail about production and profitability of producers in the industry. It also sometimes updates information in real-time, making it highly detailed for an industry sharing report. This has led some to accuse the major poultry producers of collusion. On February 6th, Tyson announced that it was under investigation by the Securities Exchange Commision for possible collusion that some believe is a direct result of Agri Stats. However, actual charges being brought against the major chicken producers is highly unlikely as the information is "historical in nature" despite the fact that some reports are distributed on a weekly basis. An unfavorable ruling however could have a temporary negative effect on Tyson's stock price. <sup>[1]</sup>

**Worker Disputes:** Tyson recently announced that it has appointed its first ever chief sustainability officer and pledged to improve working conditions in plants and also to increase wages for factory employees. The company has also pledged to undergo third party audits in a bid to improve working conditions. Tyson has historically been accused by regulators and other third parties for less than satisfactory working environments. <sup>[1]</sup>

**Bird Flu:** A recent outbreak of bird flu impacted two growhouse farms that were contracted with Tyson. On March 16<sup>th</sup>, TSN fell 1.7% as fears that the disease would spread too even more farms in the Southeast. Close to 55,000 chickens were exterminated in an effort to suppress the disease. There have not been any additional outbreaks since March however. <sup>[1]</sup>

Animal Activists: Tyson has undergone scrutiny for animal welfare practices and has come under fire from a number of different activist groups. Tyson has launched initiatives to install cameras in its facilities to appease the groups and to monitor employee treatment of the birds. They are also hiring trained personnel to visit its growers after undercover videos had uncovered animals being "roughly handled" before being slaughtered. Recently, the group "Mercy for Animals" announced that it was pleased that Tyson was making efforts to improve conditions but that the company's initiative do not go far enough. This creates bad press for Tyson die to the headline risk. <sup>[3,5]</sup>

**Tyson Industry Shifts:** Tyson recently announced that it intends to sell its Sara Lee Frozen Bakery, Kettle, and Van product lines so it can concentrate more of its resources on its protein business <sup>[1]</sup>. The sale would also help cover the cost of the \$7.7 billion-dollar acquisition of Hillshire Farm<sup>[11]</sup>. Most of the product lines that are for sale are desserts and breakfast related foods such as waffles. Selling these divisions should help the company focus on its "protein strategy" in the long run. In addition, Tyson also has stated that it owns a 5% stake in a vegetable based protein business and sees further expansion in meat replacements. This could open up additional international markets in the future <sup>[5]</sup>.

**Product Recall:** Tyson recalled over 2.5 million pounds of chicken that was distributed to food retail customers over improper labeling of allergens. The recall was triggered because Tyson mistakenly forgot to include "contains milk" on product packages. This issue should only impact the stock temporarily. <sup>[1,4]</sup>

**The 2008 Farm Bill:** The 2008 Farm Bill introduced new reporting requirements and added additional restrictions to contracts and treatment of contractors in the poultry industry. Additional reporting requirements, new contract rules, and changes to the definition of "unfair business practices" have led some industry experts to believe that the proposed rules to be implemented by GIPSA would cost the industry over \$1 billion over the first five years. However, lobbyist for the industry have essentially delayed the implementation of the rule until next year. Groups are still in the process of trying to have the final rule scrapped. If the rule goes into effect, Tyson will have less power in negotiating with its contract growers and margins could decrease.<sup>[3]</sup>

**Shooting:** Congressmen Steve Scalise was shot multiple times in June by a lone gunman during practice for the annual Congressional Baseball Game. In addition to Scalise, Matt Mika, a lobbyist for Tyson, was also critically wounded in the incident. Thankfully, he was released from the hospital on Friday, June 23<sup>rd</sup> and is on his way to making a full recovery. The stock was up upon hearing the news. <sup>[12]</sup>

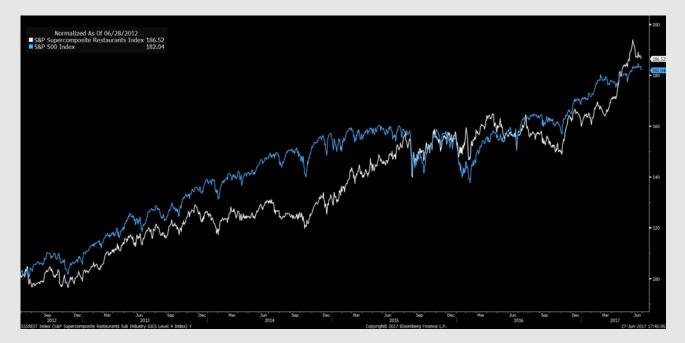
## V. Investment Thesis:

## **Fundamental Drivers:**

Some of the key drivers for growth will need to come from the prepared food segment, cost reductions in current processes, international market expansion, current market expansion, the sale of businesses outside of Tyson's strategic focus, market growth, raw material costs, growth of the economy, restaurant sales, and new product innovations. <sup>[8]</sup>

#### **Restaurant Sales:**

TSN is defined as a consumer staple as demand for its products are not typically affected by economic downturns. However, they do have some exposure to the consumer discretionary market as some of their largest customers are in the restaurant industry. Tyson CEO Tom Hayes attributed declines in revenue to weak restaurant sales. According to the USDA, almost 45% of all broiler products are sold to the food service industry, with 56% of the 45% being sold to fast food chains. Restaurant sales have declined and this will adversely impact TSN if the trend continues. As you can see in the graph below, the S&P Supercomposite Restaurants Index (white line) has experienced a downtrend. <sup>[2,4]</sup>



## **Current Market Growth:**

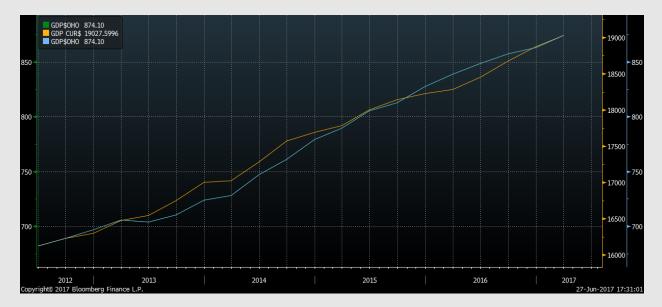
Current market growth and expansion into international markets are key for this stock as TSN is largely a mature company and a defensive stock. Retail chicken prices are projected to decrease

while per capita consumption is expected to increase <sup>[3]</sup>. Beef retail prices are expected to decline along with pork. Per capita consumption however, will have steady growth for all three categories <sup>[3]</sup>. Although these business segments are not robust with growth, they are in line with what we would typically see in a consumer staples stock.

GDP has grown steadily since 2008 which means that other more cyclical sectors will typically outperform consumer staples such as Tyson. However, Tyson will still experience steady growth as demand for food products and food services are steadily rising with GDP.



Above shows that food and beverage for off-site consumption is rising. The below graph shows demand increasing for food service and accommodations as a whole.



## International Sale/Imports/Exports:

As previously stated, a trade deal was recently negotiated with China for beef and chicken products. Although it will take time for each country to receive proper approvals to begin

exporting products, in the long run we should see an uptick in trade. When U.S. chicken was banned by China in 2015, chicken exports dropped by 3%. The Chinese market should lift exports back up again given the recent agreement with the U.S. <sup>[3]</sup>

### **Cost of Raw Materials and Labor:**

Referencing information from the USDA and The National Chicken Council we can see that beef retail prices are poised to decline. However, Beef is Tyson's worst performing business segment and is at the mercy of buying at current market prices. Prices have increased for beef for two out of the three beef categories in 2015. Beef production per head has also been in decline since 2012. <sup>[15]</sup>

Tyson will also need to monitor pork prices as it purchases swine on a daily basis to fulfill its obligations.

Furthermore, the cost of feed is extremely vital to Tyson's meat production. The USDA predicts that the price of corn will rise from \$3.52 to \$4.05 per bushel during 2017-2018 season. The USDA also projects that the price of soybeans will decrease from \$9.50 to \$9.33. Overall, Tyson is subject to additional risk because of fluctuating commodity prices. <sup>[6]</sup>

The U.S. department of labor projects that the labor force is projected to grow at 0.5% per year from 2014 to 2024. This is below the growth rate of jobs in the market place and should put upward pressure on wages. Tyson recently came under criticism regarding worker pay and has stated that it will look to raise wages and improve working conditions. Overall, this will impact Tyson's margins.

**Industry Overview:** The consumer staples industry seems to be overvalued compared to historical norms (see below). Relative to the S&P, consumer staples are trading close to historical highs. It is possible we could see money shift toward other sectors as the economy continues to expand.

RELATIVE	HIGH	LOW	MEDIAN	CURRENT
<b>TO SP500</b>				
P/E	0.931438981	0.87347705	0.913821994	0.963417087
P/B	0.553632791	0.554105389	0.550714592	0.572212367
P/S	1.363995851	1.262211046	1.328040337	1.418195356
P/EBITDA	0.881866399	0.794025472	0.831052103	0.899304078

Other sectors are outpacing the industry in returns as is expected with an expansionary economy. Financials and Technology appear to be leading the market.

SECTOR	LAST 12	LAST 3	LAST 1
	MONTHS	MONTHS	MONTH
S&P500 (SPX)	20.93%	3.32%	0.15%
ENERGY (S5ENRS)	-2.51%	-5.59%	-3.00%

MATERIAL (S5MATR)	20.63%	3.53%	1.62%
INDUSTRIALS (S5INDU)	25.14%	4.61%	0.42%
CONS DISCR (S5COND)	19.43%	3.06%	-1.65%
CONS STAP (S5CONS)	4.93%	1.40%	-1.75%
HEALTHCARE (S5HLTH)	16.48%	6.92%	5.29%
FINANCIALS (S5FINL)	38.41%	2.92%	2.42%
INFO TECH (S5INFT)	39.13%	5.44%	-2.11%
TELECOM (S5TELS)	-13.06%	-7.95%	-0.99%
UTILITIES (S5UTIL)	3.63%	2.48%	-0.26%

# **VI. Financial Analysis:**

Our financial projections for Tyson are more bearish for 2018 and 2019 in regards to both revenue and earnings per share. 2017 revenues are close to consensus but earnings are still below estimates. Overall, we believe restaurant sales will take time to recover and changing demographics and consumer tastes may have an impact on revenues <sup>[2,10]</sup>. In addition, there are uncertainties regarding Agri Stats, product recalls <sup>[1,4]</sup>, additional competition from international competitors, and increasing labor and feed costs that will impact the bottom line. The beef segment has been somewhat of a problem point for Tyson as the margins are the poorest out of any of the company's lines of business. Given cattle production is down and the price of cattle is increasing, we will assume that margins will not substantially increase for these products. We believe this is because of the lack of vertical integration and low control over costs and fluctuating market prices. We will assume however, that as Tyson shifts to prepared foods and higher margin products, that they will be able to sustain and slightly improve margins after 2019. (Please see financials)

#### **Ratio Comparison:**

NAME	P/E	P/S	P/B	P/CF	EV/EBITDA T12M	MKT CAP
AVERAGE	18.09	1.53	3.85	13.33	11.08	37.70B
TYSON FOODS INC-CL A	12.71	0.62	2.26	8.9	7.61	24.07B
MAPLE LEAF FOODS INC	21.32	1.3	2.06	11.9	9.38	3.21B
PILGRIM'S PRIDE CORP	13.53	0.7	5.93	8.74	8.36	5.50B
SANDERSON FARMS INC	12.09	0.88	2.09	8.75	5.55	2.68B
HORMEL FOODS CORP	21.21	1.92	3.85	21.38	12.63	18.05B
LEUCADIA NATIONAL COR	19.49	0.88	0.89	7.15	13.25	9.27B
PEPSICO INC	23.71	2.65	14.38	16.59	13.95	165.62B
<b>KRAFT HEINZ CO/THE</b>	25.94	4.05	1.85	22.11	17.24	106.56B

SMITHFIELD FOODS INC						
SEABOARD CORP	12.77	7 0.8	1.35	14.41	11.79	4.38B

Tyson's P/E ratio is highly competitive to industry peers. This should be expected due to its vertical integration in the chicken segment as well as its shift to higher margin products such as prepared foods. In addition, Tyson's price to sales ratio is also highly attractive as it is the lowest out of any of its competitors. Tyson's P/CF cash flow is incredibly cheap compared to competitors and the EV/EBITDA is also the second lowest.

ABSOLUTE VALUATION	CURRENT	TARGET MULTIPLE	TARGET/CURRENT	TARGET PRICE
	Multiple		Current (% of Current)	
P/E	13.8269	14.3	1.034215912	64.04899146
P/B	2.3228	2.42	1.041846048	64.52152574
P/S	0.6456	0.73	1.130731103	70.0261772
P/EBITDA	6.7293	7.07	1.050629337	65.06547486

#### Valuation:

Given Tyson is far below the average compared to its competitors, I believe the that the ratios should naturally pull upward toward the median. I believe that recent short term news and negative releases have dampened the stocks value, but have little impact on its future cash flows. Compared to competitors, Tyson is cheap for both sales, earnings, and cash flows.

**DCF Valuation:** Despite the bearish forecast for revenues and earnings for reasons we have outlined throughout, I believe that TSN is undervalued by 13.3%. This is even including a 9.25% discount rate and a modest 3% growth rate. Increasing the discount rate to 10%, which I believe is not appropriate for a consumer staple, would yield a market price of about \$62.63. This is still below the current price, but would change the recommendation from "Buy" to "Hold" given the small cushion. In contrast, an 8.5% discount rate would yield an intrinsic stock price of \$79.74 (28.8% upside). Due to the additional risks discussed above and the conservative estimates of future revenues and earnings, I believe a 9.3% discount rate is appropriate for this stock. The growth rate of 3% is also appropriate given the defensive industry it resides in and because of the opportunities for international expansion. Overall, I believe the stock has an intrinsic value of \$70.15 (13.3% upside). Please see the attached DCF analysis.

#### **Risks:**

Risks include but are not limited to volatility in raw material costs, labor disputes, the loss of Agri Stats reporting or marketing reports, government fines and subpoenas, decreased restaurant sales, changes in consumer preferences, increased competition from both domestic and international producers, industry price deflation, headline risk, product recalls, and poor

performing segments such as beef. All of these issues pose a risk to Tyson's overall sales and profitability.

#### **Conclusion:**

After examining Tyson Food Inc.'s cash flows, it was determined that the stock was undervalued. Overall, I believe the short-term negative news releases have dampened the value of the stock and disregards long term cash flows. Even though projections of revenues and earnings are mainly below analysts' estimates, Tyson still yields an upside of 13.3%. Revenues were adjusted downward because of a recent slump in restaurant sales, the possibility of increased competition, and falling retail prices. Margins were adjusted based on increasing labor costs, raw material volatility, and shifts in product strategy. Despite these effects, I believe news releases have caused the market price of \$61.93 to fall far below the TSN's intrinsic value of \$70.15.

Analyst Recommendation:	BUY

Domestic Market	Segn	nents													
Market Segment <sup>1/</sup>	1970	1980	1990	1995	1997	1999	2001	2003	2005	2006	2007	2008	2009	2010	Estimated 2011
indiriter e e ginerit															
retail grocery	75	71	59	58	56	60	58	56	55	55	54	56	54	56	55
foodservice	25	29	41	42	44	40	42	44	45	45	46	44	46	44	45
(fastfood share of foodservice)	(60)	(66)	(50)	(40)	(40)	(45)	(55)	(55)	(55)	(55)	(56)	(56)	(58)	(57)	(56)
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
									billion\$						
wholesale value of broiler products															
shipments from plants <sup>2/</sup>	2.5	6.0	15.0	22.5	25.0	28.0	31.5	34.5	40.0	37.5	44.5	46.5	45.0	47.5	49.5
Percentage of wholesale	-	-	-	-	-	-	46.0%	48.0%	49.0%	49.0%	50.0%	48.0%	49.0%	45.0%	47.5%
value of broiler products															
shipment to foodservice (%)															
1/ excludes wholesome produ	ict sent to	pet food/	rendering	and expor	ts.										
2/ includes wholesome produc	ct sent to	pet food/r	endering a	nd export	s.										

\*Provided by the USDA and The National Chicken Council

Income Statement Part 1								
TSN								
	FY	FY	FY	FY	FY	FY	FY	FY
Millions	2019E	2018E	2017E	2016	2015	2014	2013	2012
Sales & Revenues:								
Sales:	39,074	37,832	37,090	36,881	41,373	37,580	34,374	33,055
Total sales & Revenues	39,074	37,832	37,090	36,881	41,373	37,580	34,374	33,055
Operating Costs								
COGS	36,102	35,031	34,266	32,184	37,456	34,895	32,016	30,865
	92%	93%	92%	87%	91%	93%	93%	93%
SG&A	1,954	1,892	1,854	1,864	1,748	1,255	983	904
	5.0%	5.0%	5.0%	5%	4%	3%	3%	3%
Total Operating Costs	38,057	36,924	36,122	34,049	39,205	36,151	33,000	31,770
Operating Profit	2,972	2,800	2,824	2,832	2,168	1,429	1,374	
Interest income (expense)	<u>(8)</u>	(8)	(8)	<u>(6)</u>	<u>(9)</u>	(7)	<u>(7</u> )	(12)
Interest expense	188	189	223	249	293	132	145	356
Other Net				(8)	(36)	53	(20)	(23)
Income before Income Taxes	2,777	2,603	2,593	2,597	1,920	1,251	1,256	965
Income Tax Expense	883	828	825	826	697	396	409	351
Income from continued operations	1,894	1,775	1,769	1,771	1,223	855	847	614
Loss from Discontinued Operation							(70)	(38)
Net Income (Profit of consolidated companies)	1,894	1,775	1,769	1,771	1,223	855	777	576
Less: Net Income Attributable to Noncontrolling Interests				4	4	(8)	-	(7)
Profit (Net Income Attributable to Tyson)	1,894	1,775	1,769	1,767	1,219	863	777	583

Income Statement Part 1

## Income Statement Part 2

TSN								
	FY	FY	FY	FY	FY	FY	FY	FY
Millions	2019E	2018E	2017E	2016	2015	2014	2013	2012
Wtd avg shs (mill)								
Class A Basic	315.0	315.0	315.0	315.0	335.0	284.0	282.0	293.0
Class B Basic	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Diluted								
Diluted	390.0	390.0	390.0	390.0	413.0	364.0	370.0	367.0
Profit/share Class A	6.01	5.64	5.61	4.67	3.06	2.48	2.26	1.64
Profit/share Class B				4.24	2.79	2.26	2.04	1.48
Profit/share-diluted	4.86	4.55	4.53	4.53	2.95	2.37	2.12	1.58
Consensus Diluted EPS	5.15	4.97	4.62					
Sales Growth								
Total sales & Revenues	3.28%	2.00%	0.57%	-10.86%	10.09%	9.33%	3.99%	
Operating Profit	7.30%	7.40%	7.61%	7.68%	5.24%	3.80%	4.00%	
Interest expense	0.48%	0.50%	0.60%	0.68%	0.71%	0.35%	0.42%	
Tax Rate	31.80%	31.80%	31.80%	31.80%	36.30%	31.65%	32.56%	

TSN								
	FY							
Millions	2019E	2018E	2017E	2016	2015	2014	2013	2012
Balance Sheet Information:								
Assets:								
Accounts receivable, net	1,633	1,581	1,550	1,542	1,620	1,684	1,497	1,378
% of sales	4.18%	4.18%	4.18%	4.18%	3.92%	4.48%	4.36%	4.17%
Inventories	2,931	2,837	2,782	2,732	2,878	3,274	2,817	2,809
% of sales	7.50%	7.50%	7.50%	7.41%	6.96%	8.71%	8.20%	8.50%
Liabilities:								
Accounts payable	1,602	1,551	1,521	1,511	1,662	1,806	1,359	1,372
% of sales	4.10%	4.10%	4.10%	4.10%	4.02%	4.81%	3.95%	4.15%
Deferred Income Taxes	2,735	2,648	2,596	2,545	2,449	2,450	479	558
% of sales	7.00%	7.00%	7.00%	6.90%	5.92%	6.52%	1.39%	1.69%
Change in NWC	(7)	(4)	3					
Cash Flow Information:								
Depreciation	653	632	619	617	609	494	474	443
% of sales	1.67%	1.67%	1.67%	1.67%	1.47%	1.31%	1.38%	1.34%
Amortization	94	91	89	88	102	36	45	56
% of sales	0.24%	0.24%	0.24%	0.24%	0.25%	0.10%	0.13%	0.17%
Additions to property, plant and equipment (Cap	(735)	(711)	(697)	(695)	(854)	(632)	(558)	(690)
% of sales	1.88%	1.88%	1.88%	1.88%	2.06%	1.68%	1.62%	2.09%

TSN								
Segment	FY	FY	FY	FY	FY	FY	FY	FY
Millions	2019E	2018E	20017E	2016	2015	2014	2013	2012
Sales								
Chicken	11,426	11,202	11,036	10,927	11,390	11,116	10,988	10,270
Beef	14,947	14,512	14,368	14,513	17,236	16,177	14,400	13,755
Pork	5,007	4,909	4,860	4,909	5,262	6,304	5,408	5,510
Prepared Foods	8,503	8,022	7,640	7,346	7,822	3,927	3,322	3,237
Other	386	382	380	380	879	1,381	1,370	1,271
Intersegment Sales	<u>(1,194</u> )	<u>(1,194</u> )	(1,194)	<u>(1,194</u> )	<u>(1,216</u> )	(1,325)	<u>(1,114</u> )	<u>(988</u> )
Total	39,074	37,832	37,090	36,881	41,373	37,580	34,374	33,055
Consensus	39.68B	38.20B	37.06B					
Operating Margin								
Chicken	1,371	1,344	1,324	1,305	1,366	883	683	554
Beef	262	218	287	347	(66)	347	296	218
Pork	476	442	486	528	380	455	332	417
Prepared Foods	914	842	764	734	588	(60)	101	181
Other	(50)	(46)	(38)	(81)	(99)	(195)	(37)	(70)
Intersegment Sales	-	-	-	-	-	-	-	(14)
Total	2,972	2,800	2,824	2,833	2,169	1,430	1,375	1,286

Revenue by Segment

TSN							
Segment	FY	FY	FY	FY	FY	FY	FY
Millions	2019E	2018E	20017E	2016	2015	2014	2013
Sales							
Sales Growth YoY							
Chicken	2.00%	1.50%	1.00%	-4.06%	2.46%	1.16%	6.99%
Beef	3.00%	1.00%	-1.00%	-15.80%	6.55%	12.34%	4.69%
Pork	2.00%	1.00%	-1.00%	-6.71%	-16.53%	16.57%	-1.85%
Prepared Foods	6.00%	5.00%	4.00%	-6.09%	99.19%	18.21%	2.63%
Other	1.00%	0.50%	0.00%	-56.77%	-36.35%	0.80%	7.79%
Intersegment Sales	0.00%	0.00%	0.00%	-1.81%	-8.23%	18.94%	12.75%
Total	3.28%	2.00%	0.57%	-10.86%	10.09%	9.33%	3.99%
Operating Margin							
Chicken	12.00%	12.00%	12.00%	11.94%	11.99%	7.94%	6.22%
Chg YoY	0.00%	0.00%	0.06%	-0.05%	4.05%	1.73%	6.22%
Beef	1.75%	1.50%	2.00%	2.39%	-0.38%	2.15%	2.06%
Chg YoY	0.25%	-0.50%	-0.39%	2.77%	-2.53%	0.09%	2.06%
Pork	9.50%	9.00%	10.00%	10.76%	7.22%	7.22%	6.14%
Chg YoY	0.50%	-1.00%	-0.76%	3.53%	0.00%	1.08%	6.14%
Prepared Foods	10.75%	10.50%	10.00%	9.99%	7.52%	-1.53%	3.04%
Chg YoY	0.25%	0.50%	0.01%	2.47%	9.05%	-4.57%	3.04%
Other	-13.00%	-12.00%	-10.00%	-21.32%	-11.26%	-14.12%	-2.70%
Chg YoY	-1.00%	-2.00%	11.32%	-10.05%	2.86%	-11.42%	-2.70%
Intersegment Sales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Chg YoY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	7.61%	7.40%	7.61%	7.68%	5.24%	3.81%	4.00%
Chg YoY	0.21%	-0.21%	-0.07%	2.44%	1.44%	-0.19%	4.00%

Tyson (TSN)											
Analyst: Jarred Blumensheid			Termin	al Discou	nt Rate =	9.3%					
			Term	inal FCF (	Growth =	3.0%					
Year	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Revenue	37,090	37,832	39,074	40,364	41,696	43,030	44,407	45,784	47,203	48,619	50,078
% Grow th		2.0%	3.3%	3.3%	3.3%	3.2%	3.2%	3.1%	3.1%	3.0%	3.0%
Operating Income	2,824	2,800	2,972	3,108	3,211	3,313	3,464	3,571	3,682	3,792	3,906
Operating Margin	7.6%	7.4%	7.6%	7.7%	7.7%	7.7%	7.8%	7.8%	7.8%	7.8%	7.8%
Interest and Other	(231)	(197)	(196)	(202)	(208)	(215)	(222)	(229)	(236)	(243)	(250)
Interest % of Sales	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
Taxes	825	828	883	924	955	985	1,031	1,063	1,096	1,129	1,162
Tax Rate	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%	31.8%
Net Income	1,769	1,775	1,894	1,982	2,047	2,113	2,211	2,279	2,350	2,421	2,493
% Grow th		0.4%	6.7%	4.7%	3.3%	3.2%	4.6%	3.1%	3.1%	3.0%	3.0%
Add Depreciation/Amort	708	723	746	771	751	775	799	778	802	827	851
% of Sales	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.7%	1.7%	1.7%	1.7%
Plus/(minus) Changes WC	3	(4)	(7)	(202)	(208)	(215)	(222)	(229)	(236)	(243)	(250)
% of Sales	0.0%	0.0%	0.0%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
Subtract Cap Ex	697	711	735	767	792	818	844	870	897	924	851
Capex % of sales	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.7%
Free Cash Flow	1,783	1,782	1,898	1,784	1,797	1,855	1,944	1,959	2,020	2,080	2,243
% Grow th		0.0%	6.5%	-6.0%	0.7%	3.2%	4.8%	0.7%	3.1%	3.0%	7.8%
NPV of Cash Flows	12,101	44%									
NPV of terminal value	15,259	56%							Termin	al Value	36,961
Projected Equity Value	27,360	100%									
Free Cash Flow Yield	7.38%								Free Ca	sh Yield	6.07%
Current P/E	13.7	13.6	12.8						Term	ninal P/E	14.8
Projected P/E	15.5	15.4	14.4								
Current EV/EBITDA	10.3	10.4	9.8					Те	erminal EV	/EBITDA	10.4
Projected EV/EBITDA	11.3	11.3	10.7								

Free Cash Flow	1,783	1,782	1,898	1,784	1,797	1,855	1,944	1,959	2,020	2,080	2,243
% Grow th		0.0%	6.5%	-6.0%	0.7%	3.2%	4.8%	0.7%	3.1%	3.0%	7.8%
NPV of Cash Flows	12,101	44%									
NPV of terminal value	15,259	56%							Termir	nal Value	36,961
Projected Equity Value	27,360	100%									
Free Cash Flow Yield	7.38%								Free C	ash Yield	6.07%
Current P/E	13.7	13.6	12.8						Terr	ninal P/E	14.8
Projected P/E	15.5	15.4	14.4								
Current EV/EBITDA	10.3	10.4	9.8					Те	rminal E	//EBITDA	10.4
Projected EV/EBITDA	11.3	11.3	10.7								
Shares Outstanding	390										
Current Price	\$ 61.93										
Implied equity value/share	\$ 70.15										
Upside/(Downside) to DCF	13.3%										
Debt	12,749										
Cash	349										
Cash/share	0.89										

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