JOHNSON OUTDOORS INC

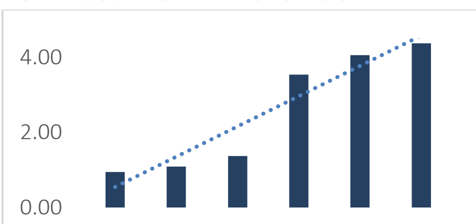
Cyclical Consumer Products/ Leisure Products/ Recreational Products

Reported On: 15 April 2019

Our valuation shows that Johnson Outdoors Inc. is currently undervalued in the market with an upside potential of 16.85%.

Key Highlights:

- **Debt-Free Balance sheet:** Gradually eliminating debt from $60 million in 2008 has improved the financial position of the company.
- **Strong Cash Positions:** Cash and STI grew from $40.2 million in FY 2018 enabling reinvestment in brands and paying cash dividends to the investors.
- **Rising EPS:** Increase in earnings for investors from 1.34 in 2016 to 4.05 in 2018 and reinvestment in brands.



Source: Company 10-K

- **Efficient Inventory Management:** Pre-ordering inventory to manage the seasonal demand and mitigate the impact of US-China trade war.
- **Continued growth in Fishing segment:** Double digit growth of 19% for 2017 and 2018 in Fishing.
- **Upcoming Product Launches:** New product line-up with a launch cycle of multiple years.

Recommendation:

BUY

Upside Potential:

16.85%

Target Price:

$ 84.58

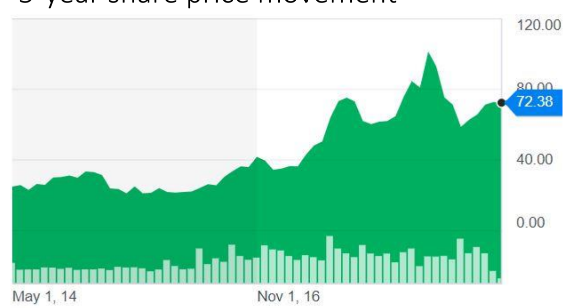
Company Snapshot

Share Price	$ 72.38
52 Week Range	$ 54.66 - $ 107.36
Market Value of Equity	639.12 M
Shares Outstanding	8.83 M
Price Target	$ 84.58
EPS (TTM)	4.37

*As of market close on 15/04/2019

Ticker: JOUT

5-year share price movement



Source: Yahoo Finance Website

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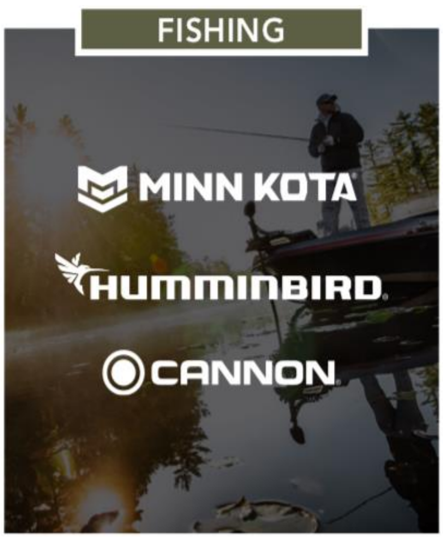
Company Overview

Johnson Outdoors Inc. is a manufacturer and retailer of seasonal and outdoor recreational products for fishing, boating, diving, paddling, hiking and camping. The company has a network of distributors for its various segments to sell equipment locally and internationally.

It has invested approximately $13 million in digital infrastructure to launch separate e-commerce websites focusing on clear segmentation of products for each brand with an aim to make it easier for consumers to differentiate as well as see all the products at the same time. The company sells its equipment through an **integrated single shared cart website** between its private brands that allows a user to have the same login credentials no matter which brand they are visiting. The company has the biggest selling market in the United States (83.9%) followed by Europe (6.8%), Canada (6.1%) and a few other countries.

The company operates **four segments** as discussed below:



Source: Johnson Outdoors Inc Official Website
https://www.johnsonoutdoors.com/

Fishing has been the primary source of profitable growth for Johnson Outdoors Inc. with sales up by 19% in the past two years due to high level of new product launches. The company is expecting this segment to continue growing due to the upcoming product launches lined up for the coming two-year cycle. The flagship brands for fishing include the following with their product portfolios:

Minn Kota: battery-powered fishing motors for primary propulsion, marine battery chargers and shallow water anchors;

Humminbird: sonar and GPS equipment for fish finding, navigation and marine cartography;

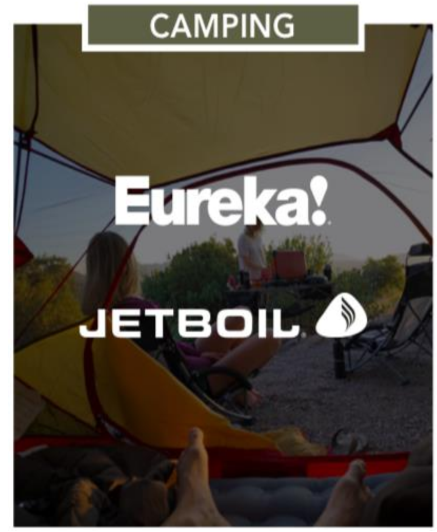
Cannon: downriggers for controlled-depth fishing.

Main manufacturing location: Eufaula, Alabama, Mankato, Minnesota and Mexicali, Mexico.

Source: Johnson Outdoors Inc Official Website
https://www.johnsonoutdoors.com/

Johnson Outdoors caters to the technical diving market through manufacturing and selling underwater diving and snorkeling equipment, dive computers and gauges, wetsuits, masks, fins, snorkels and accessories under the **SCUBAPRO** brand. The sales for this segment recently declined 11% due to the weakness in Asian diving markets and a 2% negative impact of foreign currency translation.

Main manufacturing location: Batam, Indonesia and Casarza Ligure, Italy.



Source: Johnson Outdoors Inc Official Website
https://www.johnsonoutdoors.com/

Johnson Outdoors Inc. provides mid-to-high price range camping products in U.S. and Canada. The company has been focused on building the segment through marketing of the following brands:

Eureka!: consumer, commercial, military tents and accessories, sleeping bags, camping furniture, stoves and other recreational camping products.

Jetboil: portable outdoors cooking systems.

Main manufacturing location: Binghamton, New York and Manchester, New Hampshire.

The Net sales for camping decreased $150 in 2018 from 2017 even though there was an increase in the sales of consumer camping products due to the sale of the company's Silva North America trademark rights to Silva Sweden AB at the beginning of fiscal 2018.

Source: Johnson Outdoors Inc Official Website
https://www.johnsonoutdoors.com/

The watercraft segment of Johnson Outdoors sells equipment under the following brands for recreation, touring, angling and tripping.

Old Town: paddlers, pedalers and anglers

Ocean Kayaks: sit-on-top kayaks and stand-up paddle boards

Main manufacturing location: Old Town, Maine

The company has received a positive response for the newly launched Old Town Topwater that offers large fishing kayak performance in a compact package. This segment hasn't been performing well due to comparatively less demand in the paddling market and bankruptcy in key accounts as reported by the management.

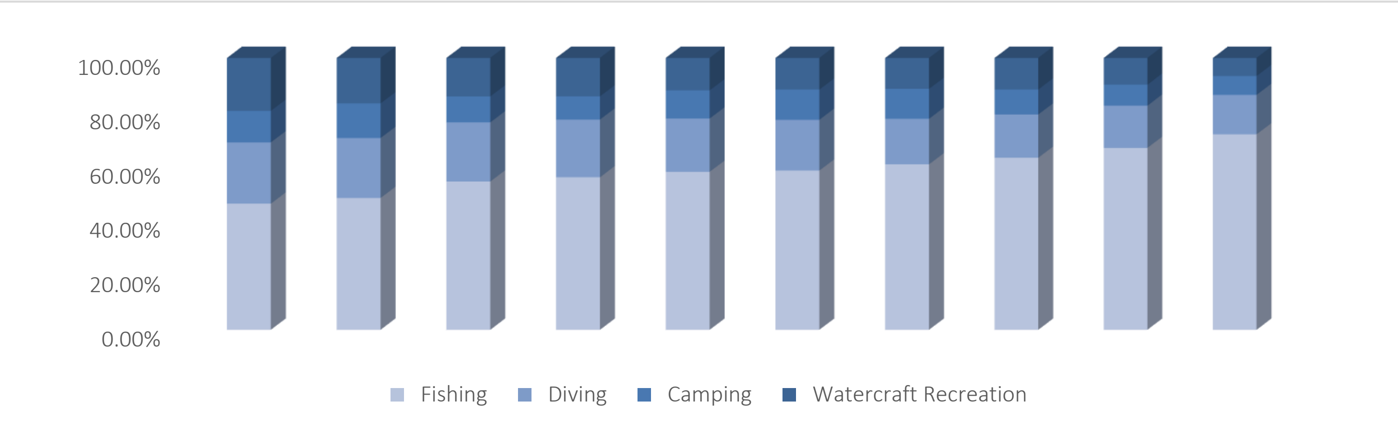
Industry Overview

- The industry experiences **seasonal variability** as most of the products are warm-weather and outdoor recreation-related that causes variability in sales and profitability for the company. The primary selling period is during the second and third quarters.
- The business is highly dependent on **product innovation** and **changing consumer preferences and trends**.
- The company operates in a **highly competitive industry** with several large domestic and foreign companies as well as for shelf-space in the retail market.

Revenue

The overall revenue increased by 10.9% from $4.9 million to $5.44 million in FY 2018, primarily driven by a strong performance in the fishing segment. The graph below shows the upward trend in the fishing segment as a percentage of over revenue for the historical period.

Figure 1: Revenue Segmentation (2008-2018)



Source: Company's 10K

To get a better understanding of this trend, we forecasted the overall revenue in four segments, considering various factors under each, as mentioned below:

Fishing

Fishing accounted for 71.9% of the total revenue in FY 2018 and has been the **primary source of profitable growth** for Johnson Outdoors Inc. with sales up by 19% in the past two years for Johnson Outdoors. There has been a significant growth across Minn Kota and Hummingbird brands in the past years largely due to an extraordinary high level of new products in the fishing portfolio. The management reported that in 2017 and 2018, 60% of the revenue came from newly launched fishing products but anticipates that fishing will grow at a moderate pace going forward due to fast pace of the sports retail industry and intensive competition.

Minn Kota and Humminbird are two key profitable brands for Johnson Outdoors Inc. and the company is currently focusing on two key strategic areas for Fishing that have previously proved to improve sales:

Better Consumer Insights

- The company introduced their side imaging sonar to small and mid-sized screens to cater to a newer segment of consumers.
- The demand for large fish finders led to the growth in Humminbird when the company came out with their patented side imaging sonar technology MEGA.

- Though the company is not necessarily spending in R&D, the management reports that there has been research and understating of segments and consumers to uncover the insights that will then drive the R&D to develop relevant products.

Enhanced Innovation

- The company launched the One-Boat Network, a product that is a combination of products from the two brands (MEGA, Humminbird and Talon and shallow water anchor from Minn Kota). They have received a positive response for One-Boat Network as it has enabled Minn Kota and Humminbird products to work in unison for the consumers.
- The company re-staged its electric steer motors by introducing pedal control anchors and upgrading wireless and GPS technology in 2017-18 that increased sales for the coming two years.
- The company is replacing the existing product with newer products that have better and enhanced features.
- Additional technology innovation i-Pilot and i-Pilot Link also added to Minn Kota's success for another year of double-digit growth, as reported by the management.

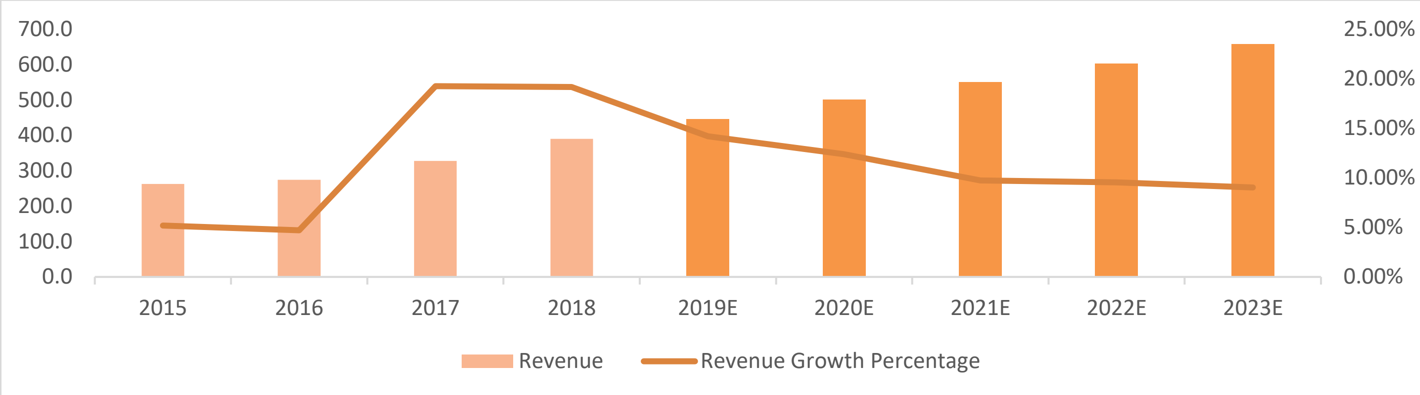
Keeping consumer demands and improved innovation in mind, the management has been focused on bringing new products in Humminbird and Minn Kota with a meaningful point of technological difference for the consumer to buy it.

While forecasting revenue for this segment, we realized that the company is affected by economic conditions and consumer confidence as it operates in an industry with ever changing consumer preferences and trends. Our revenue projections take into consideration the Consumer price Index for United States from 2008-2023. We observed a correlation of 68% between change in revenue and change in US CPI which is due to the dependency of this industry on US consumer spending as 88% of revenue comes from the United States.

We concluded that the CAGR for 2018-23 is 11.22%. This growth rate can be attributed to the following factors:

- The company has already received a positive response for the new One-Boat Network platform in that integrates Minn Kota and Humminbird products and plans to come up with similar products in the future.
- It is observed that the core consumer will buy a new product that has a meaningful point of difference in technology and innovation.
- The company is adding to their manufacturing unit in the Minn Kota brand to increase their production capacity.

Figure 2: Fishing Revenue Forecast



Source: Company's 10-K and Analyst's calculations

2015	2016	2017	2018	2019E		2020E	2021E	2022E	2023E
				Q1	Q2+Q3+Q4				
262.5	274.9	327.8	390.7	78.7	370.3	504.9	554.5	607.8	664.8

Diving

After Fishing, Diving is the **second largest segment** contributing approximately around 14.5% to the total revenue in fiscal year 2018. Johnson Outdoors Inc. witnessed a year-on-year sales growth in FY 2017 and FY 2018 by 10.04% and 3.72% respectively. The key drivers for the company in diving segment includes:

New product launches in fiscal year 2017

- Net sales increased to $7,595 in 2017 due to strength in new product offering in dive computers, buoyancy compensator and regulatory product segment.
- As per the earning calls and annual reports, this segment's performance was refueled by new products like Hydro's Pro buoyancy compensator. The demand for the Galileo G2 dive computer that strengthened SCUBAPRO share in 2017 exceeded expectations.
- Increase sales volume and favorable impact of foreign currency translation gave a 3 percent boost to SCUBAPRO brand sales in 2018 despite closure of the Company's subsidiary in Japan at the beginning on the fiscal year.
- Average customer rating of SCUBAPRO products on Amazon websites is between 4.5 to 5 further indicating better quality products compared to its competitors.

International Dependence

- The company sells its diving equipment to independent specialty dive stores worldwide and direct consumers via their online website. The management claims that their new distribution strategies reinforced the SCUBAPRO brand's position as the industry's quality and innovation leader.
- 2019 Q1 recorded a decline in diving sales by 11% due to weakness in Asian dive market and negative impact of foreign currency. This is a repeated trend since foreign currency had an 1% unfavorable impact on sales in fiscal year 2016.

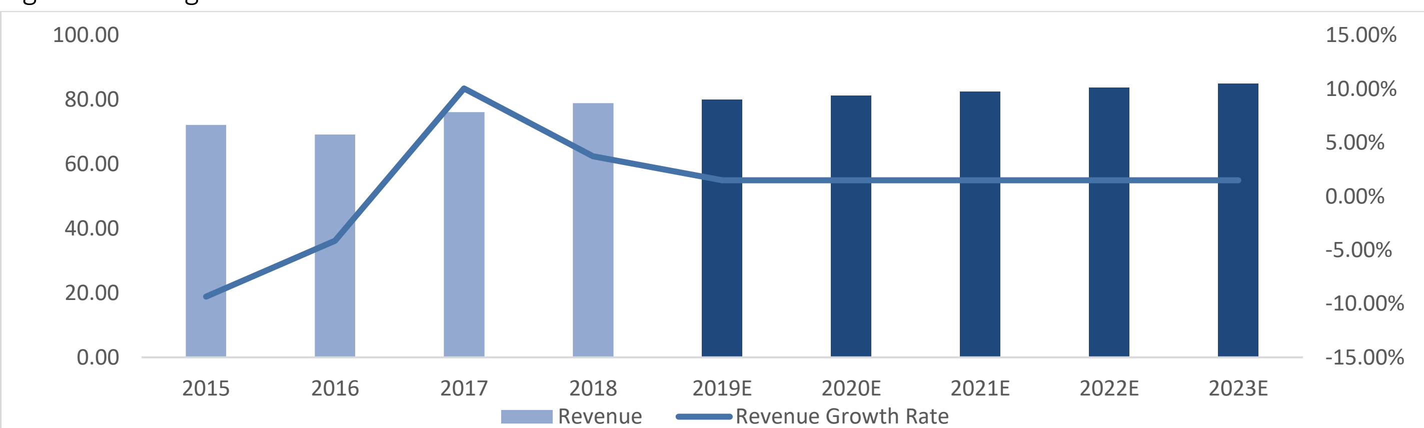
- Since the company has significant foreign operations, increase/decrease in Johnson Outdoors's revenue, expenses, profits and losses are highly influenced by fluctuations in currency of the foreign countries where the company has its operating units. As stated by the company in its 10-K, 16% of the company's revenue was dominated by currencies other than U.S dollar in fiscal year 2018 (7% in euros, approximately 6% in Canadian dollars and remaining 3 in various other foreign currencies). The table below shows the positive correlation between year-on-year change in revenue and changes in movements of three foreign currencies with respect to U.S Dollar: Euro, Indonesian Rupiah and Canadian Dollar over the past 10 years.

Correlation Table	Change in USD/EUR	Change in USD/IDR	Change in USD/CAD
Change in Revenue	5.44%	45.68%	42.09%

As of September 2018, Company holds no foreign currency forward contracts to mitigate its exposure to market risk from movements in foreign currency exchange rate. Hence, going forward, we anticipated that the revenue from the diving segment won't be as negatively affected by the currency fluctuations as it is positively affected by it.

Therefore, unanticipated outcomes related to outsourcing manufacturing process for diving, historical trend of unfavorable impact of foreign currency movements on sales combined with company's continued momentum for award-winning innovation in life-support categories led us to adopt a conservative approach for forecasting the revenue for diving segment. We forecasted the sales by taking a CAGR of 1.50% for the next 5 years. This is slightly more than previous 5 years CAGR of -1.133% but starting 2017 JOUT diving segment is looking stronger with a CAGR of 6.832% for the last 2 years.

Figure 3: Diving Revenue Forecast



Source: Company's 10-K and Analyst's calculations

2015	2016	2017	2018	2019E		2020E	2021E	2022E	2023E
				Q1	Q2+Q3+Q4				
72.13	69.14	76.08	78.91	15.53	64.56	81.29	82.51	83.75	85.01

Camping

Revenue generated from the camping segments contributed **6.94% to the total revenue** in FY 2018 with a declined growth rate of -0.4%. This is mainly due to poor performance of Eureka! and a significant drop in demand for non-core military tents over the past 3 years as reported by the management.

As quoted by the management in 2013 "Revenue increased 3.4 percent due to outstanding innovation and the acquisition of Jetboil®" which escalated the camping revenue by 25.17%.

Despite of strong sales of Jetboil products in 2016, camping segment revenue dropped significantly by -15.8% because of decrease in sales of tents. Ever since 2016, the JOUT has generated fewer sales in camping segment but the year-on-year growth percentage has been rising, from -15.8% in 2016 to -0.4% in 2018.

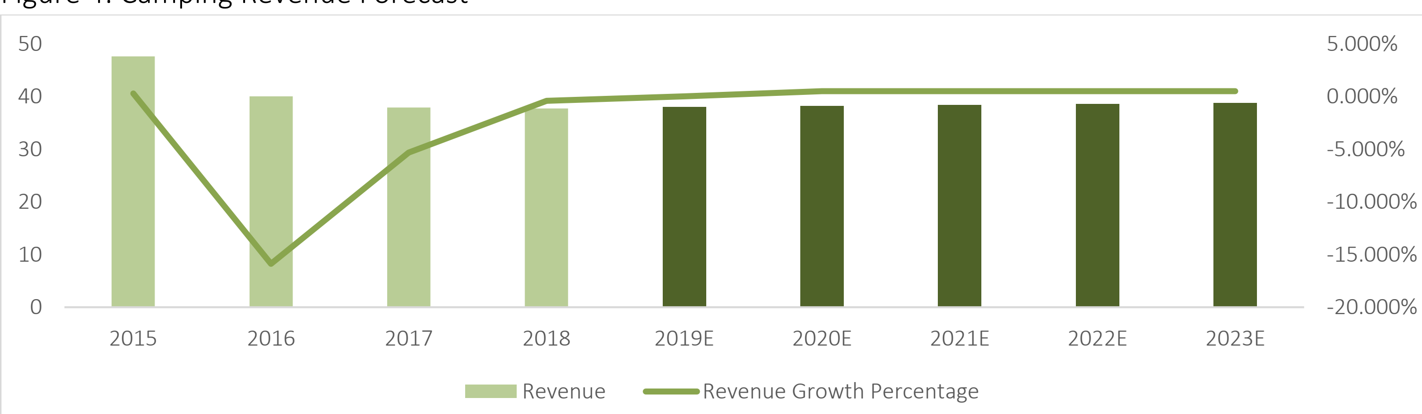
In 2017, Camping revenue was highly affected by retailer bankruptcies which weighed heavily on the camping tent market. Continued solid growth in Jetboil in the same fiscal year was not able to offset the decline in consumer tents and thus, the company experienced a decline in overall camping revenue by 5.32%.

Starting 2018, the company ceased all distribution of Silva brand magnetic compasses and sold its North America rights to the Silva brand to Silva of Sweden AB. This led to a decrease in net sales for fiscal year 2018 since the growth in sales of consumer camping products and Jetboil was counter weighed by the impact on sales of the divestiture of the Silva brand. However, 2018 Q4 bolstered by additional gains in military and commercial segments.

Therefore, it is safe to say that Johnson Outdoors Inc. is thriving to perform better and gaining traction with new products in Jetboil each year regardless of challenging market conditions. Average customer rating of Jetboil products on Amazon websites is between 4.5 to 5 signifying products demonstrate high quality and growing sales justify its increasing demand.

"Jetboil will expand its family of camping and backcountry cooking systems with the milliJoule, delivering excellent performance at high altitudes and in cold weather." Given management's guidance, the competitive landscape and leadership in product features and innovation, we forecasted that the revenue of this segment will remain flat for the next 5 years. This is in line with the historical trend where the positive momentum in Jetboil has been nullified most of the time by the uncertainties prevailing in the camping segment and its stagnant growth.

Figure 4: Camping Revenue Forecast



Source: Company 10-K and Analyst's calculations

2015	2016	2017	2018	2019E		2020E	2021E	2022E	2023E
				Q1	Q2+Q3+Q4				
47.57	40.02	37.89	37.73	5.80	31.93	37.73	37.73	37.73	37.73

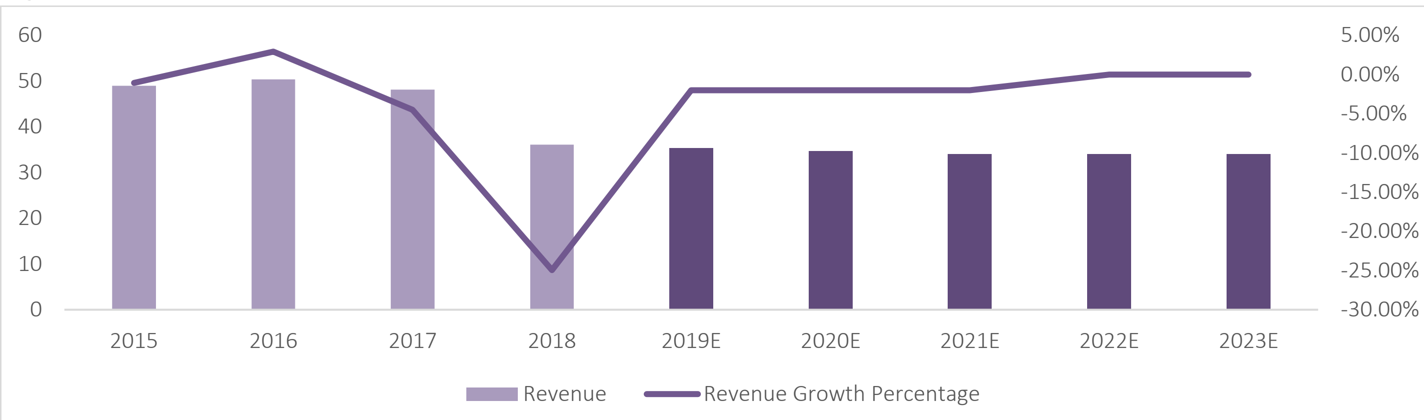
Watercraft

The watercraft segment saw a significant drop in sales, from contributing **20.9% to the total revenue in FY 2008** to as low as **6.6% in 2018**. The CAGR from 2013-2018 for watercraft is -6.57% because of very challenging market conditions and weakened paddling market. Management's guidance suggests that JOUT has been making comprehensive effort to transform its watercraft division in order "to reach and maintain acceptable profit levels."

In 2016, the Watercraft Recreation business increased 2.91%, primarily due to solid product offering. Growth was fueled by demand for the Old Town Predator series. For 2017, watercraft business retained sales despite constrained growth and a sluggish kayak market. As mentioned in company's 10-K, watercraft business lost nearly $12M of their sales as a result of lost distribution related to retail consolidations in 2018.

Historical trend suggests the company's watercraft business is failing to perform well in a highly competitive and challenging market. Keeping all these factors in mind, we forecasted the watercraft revenue by a negative growth percentage of 2% for the next three years and keeping it constant thereafter. Despite the long-term decline, we do not expect the watercraft segment to go out of business since both Old Town and Ocean Kayaks deliver specialized watercraft products that add to and enhance the fishing experience, therefore complementing to the sales of the most profitable segment in the company.

Figure 5: Watercraft Revenue Forecast



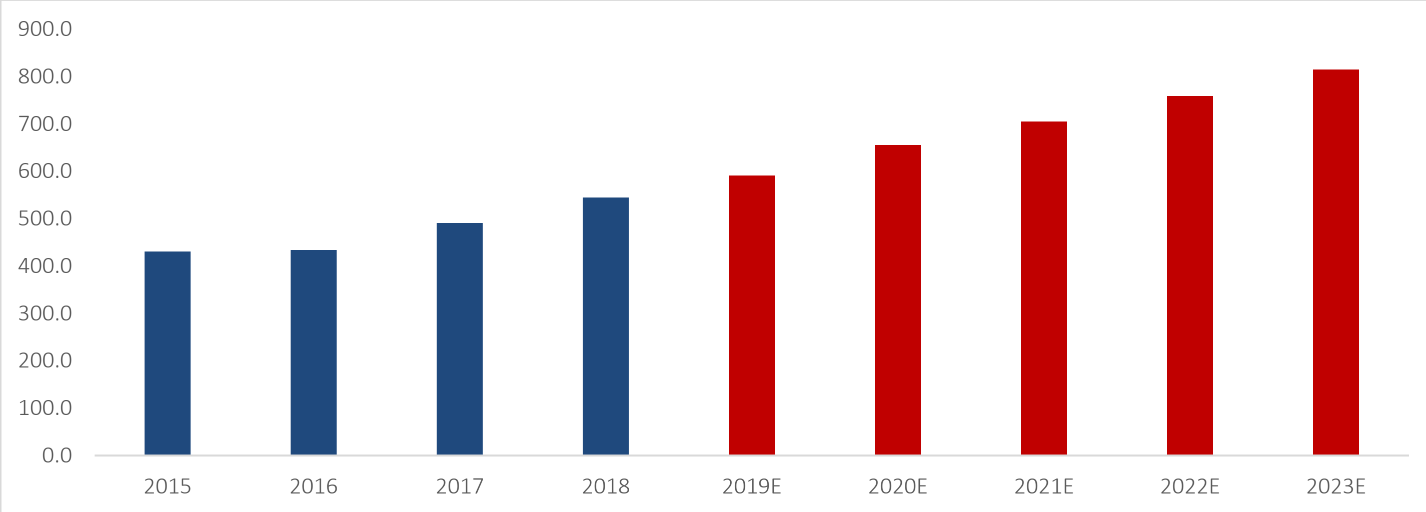
Source: Company's 10-K and Analyst's calculation

2015	2016	2017	2018	2019E		2020E	2021E	2022E	2023E
				Q1	Q2+Q3+Q4				
48.96	50.39	48.13	36.12	4.30	31.10	34.69	34.00	34.00	34.00

Total Revenue

Total Revenue of the company is calculated by simply adding up the revenues generated by the segments. We deducted $9 million from the total revenue generated in 2019 as the earning call for Q1 2019 suggested that tariffs will have a potential impact of $ 6-9 million on the FY 2019 profits.

Figure 6: Total Revenue Forecast



Source: Company 10-K and Analyst's calculations

	2015	2016	2017	2018	2019E		2020E	2021E	2022E	2023E
					Q1	Q2+Q3+Q4				
Total	430.4	433.7	490.5	544.2	104.3	486.2	655.6	705.1	759.1	815.0
Fishing	262.5	274.8	327.8	390.6	78.7	367.4	501.4	550.3	602.8	657.3
Diving	72.1	69.1	76.1	78.9	15.5	64.5	81.3	82.5	83.7	85.0
Camping	47.5	40.0	37.8	37.7	5.8	31.9	37.7	37.7	37.7	37.7
Watercraft	48.9	50.3	48.1	36.1	4.3	31.1	34.7	34.0	34.0	34.0

Gross Margin

Johnson Outdoors Inc. has seen a substantial growth in their gross margin over the past 4 years, rising from 39.64% in 2014 to 44.35% in 2018, justifying the company's strong financial health. The company's gross margin is highly dependent on the significant fluctuations in the market prices of the raw materials used for productions. The primary raw materials majorly include metals, resins and packaging materials. As per 10-K, company's principal manufacturing for three of its segments: fishing, camping and watercraft are in Alabama and Minnesota, New York and Maine respectively.

In March 2018, U.S. government announced new tariffs from 10 to 25 percent on all qualifying steel and aluminum imports which includes all finished steel products, such as pipes, and stainless steel and aluminum products, such as bars, rods, wires, and foil.

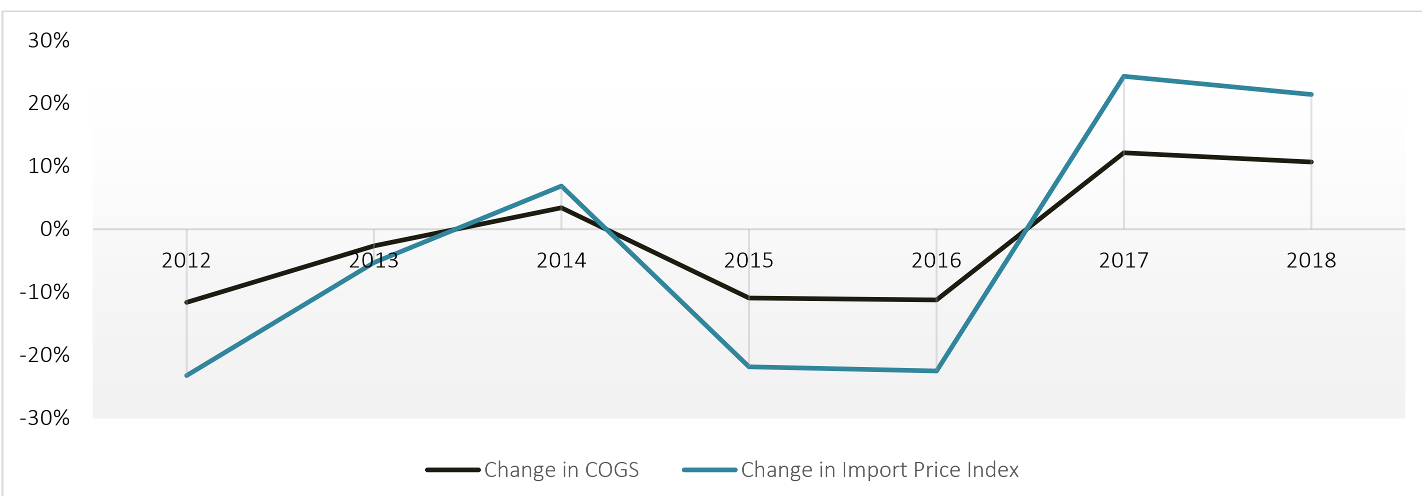
This would increase the price of raw materials used for the company since after Canada, China is the largest supplier of aluminum to the United States with 11 percent of aluminum imports. The graph below indicates the changing trend in aluminum import price index for U.S from 2008 to 2018.

Figure 7: Import Price Index - Bauxite, Aluminum, and products thereof

Source: https://fred.stlouisfed.org/series/IR14200#0

Aluminum being an important raw material used for the production process, it is positively correlated to the y-o-y change in COGS by 74.06%. The graph below visualizes the similar trend.

Figure 8: Movement in COGS



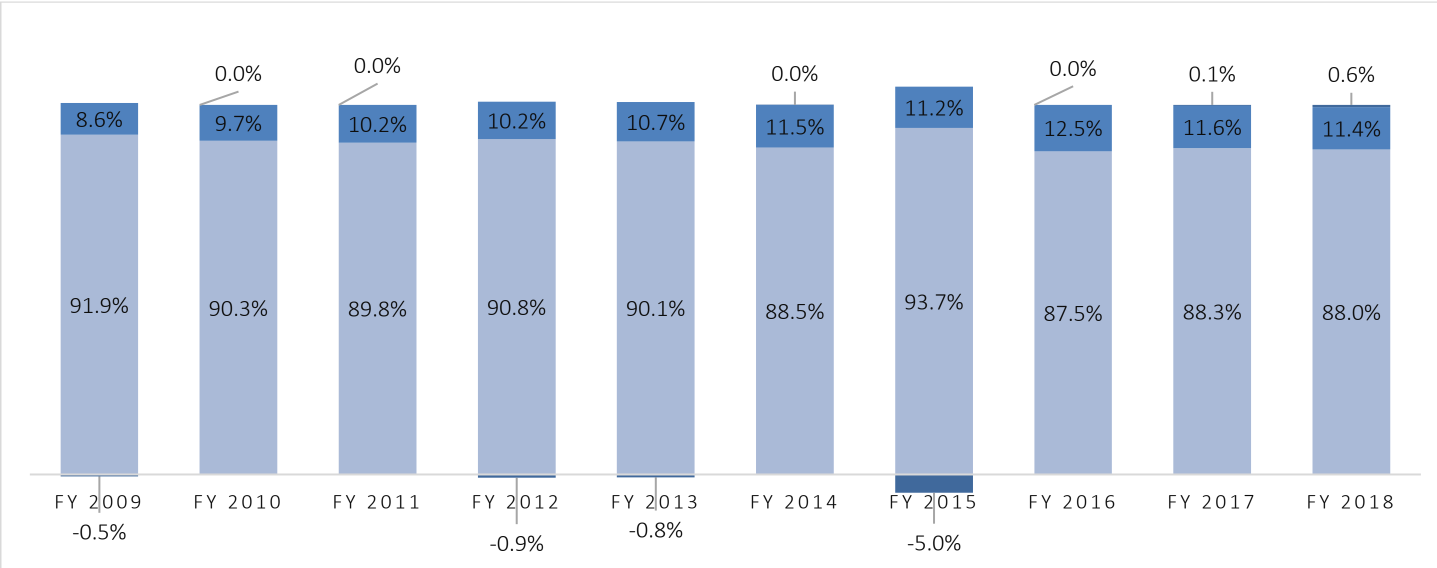
Source: Company 10-K

As a result, the rising cost of raw materials and other inputs will eat into margins for the coming year. 2019 Q1 earning calls state that *"In anticipation of impending tariffs, we purchased some inventory prior to them going into effect and we're building inventory for the seasonal demand."* This explains the increase in gross margin for FY 2018. After months of conflicts between US and China, both the countries decided to put a brake on new trade tariffs for 90 days. The company's 2019 Q1 earning calls also mentions "*They're all three layers of China tariffs, and they're all impacting us; but it's not going to materially change our range."* Therefore, to adjust for uncertainties stemming from changes in US trade policies and tariffs, we reduced the gross margin for 2019 by 5% to 42.14%. From 2020, the COGS of the company will jump back to its historical percentage of 44.35 as the US-China trade war will come to an end with an anticipated period of one year.

Operating Expenses

The operating expenses are mainly divided into two sections: Selling, General & Administration expense and Research & Development expense.

Figure 9: Segmentation of Operating Expense



Source: Company 10-K

Selling, General and Administration cost is further split into Selling & Marketing and General & Administration in company's consolidated financial statements to help management strategically and effectively run the operations. Overhead expense, management salaries and incentives add up to the company's General and Administrative expense.

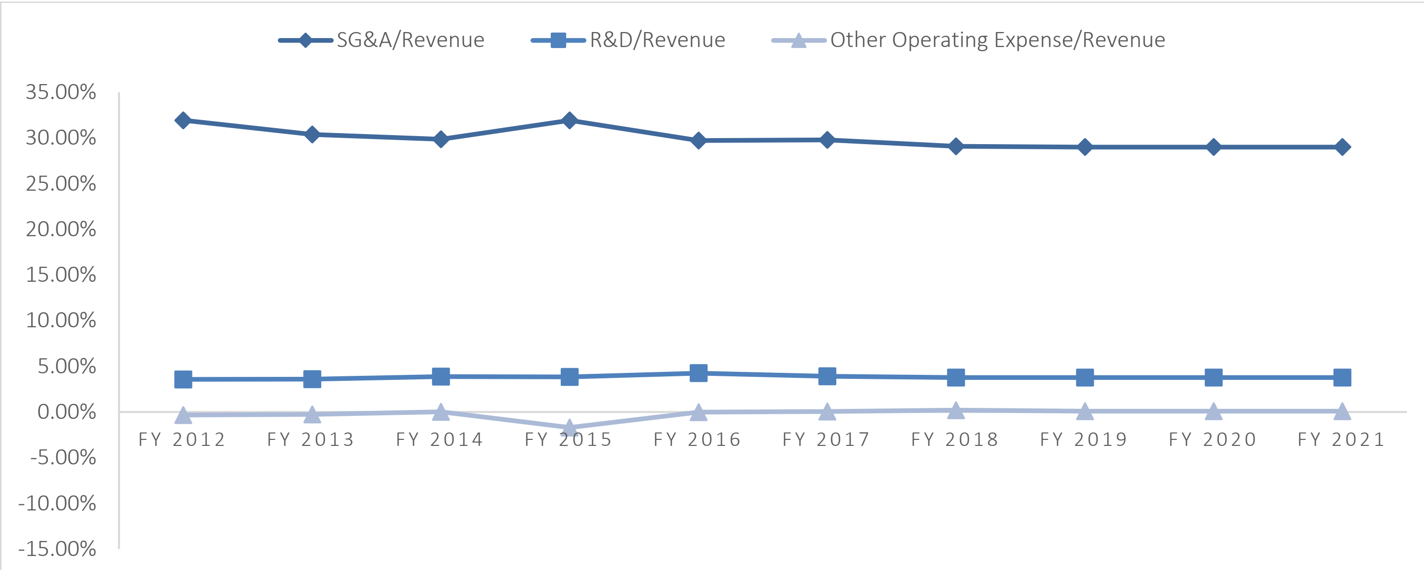
Johnson Outdoors is focused on achieving market share gains by investing on effective marketing via consumer marketing and promotional activities in all the four segments since advertising and promotions expense in 2018, 2017 and 2016 totaled $26,319, $24,349 and $23,611, respectively.

As per company's 10K, operating expenses for the Fishing segment increased by $9,481 from fiscal 2017 levels primarily due to higher sales volume related expenses. Camping operating expenses decreased by $215 from the prior year because of lower marketing spending in 2018. Watercraft Recreation segment witnessed a similar trend as Camping segment since the operating expenses decreased $1,020 from their levels in fiscal 2017 as a result of lower sales volume related costs in 2018. On the other hand, increased marketing and advertising and promotional spending led to an increase in operating expenses for the Diving business by $1,195.

Company's shipping and handling fees billed to customers are added in net sales, but shipping and handling costs are included in marketing and selling expenses which totaled to $11,846, $10,844 and $10,240 for 2018, 2017 and 2016, respectively.

As the graph above indicates, Johnson has also been concentrating on new product research and development in each of its business segments. In addition to promotional activities, higher research and development expenses further contributed to the increase in operating expense between years. The Company expenses R&D costs as incurred except for costs of software development for new electronic products which are capitalized once technological feasibility is established. Therefore, increase in operating expense is driven predominantly by higher sales volume related costs, higher spending on the company's digital initiatives and increased compensation costs spread across all businesses.

Figure 10: Operating Expense as a percentage of Revenue



Source: Analyst’s calculations

As the graph above shows, all three components: SG&A, R&D and Other operating expense are thus constant proportions of revenue in the historical period. Higher sales volumes between years were the prime driver of the increase in the operating expense, while modest increases in rates in labor market and employee turnover were more than offset by volume in each of the business segments.

Given management’s commitment in pacing of new product releases in FY 2019 and ongoing efforts to improve operational efficiency, we forecasted all the three to grow as a constant proportion of revenue. The proportional value was taken same as estimated it 2018, keeping it constant at 29.15% for Selling, General and Administration cost, 3.76% for Research and Development and taking a 5-year average of 0.08% for Other Operating Expenses.

Net PPE, Depreciation & Amortization and Capital Expenditure

We used ratio analysis for forecasting Depreciation and Amortization expense. Since depreciation and amortization is directly tied to the assets of the company, we forecasted it as a ratio of Net Property, Plant and Equipment.

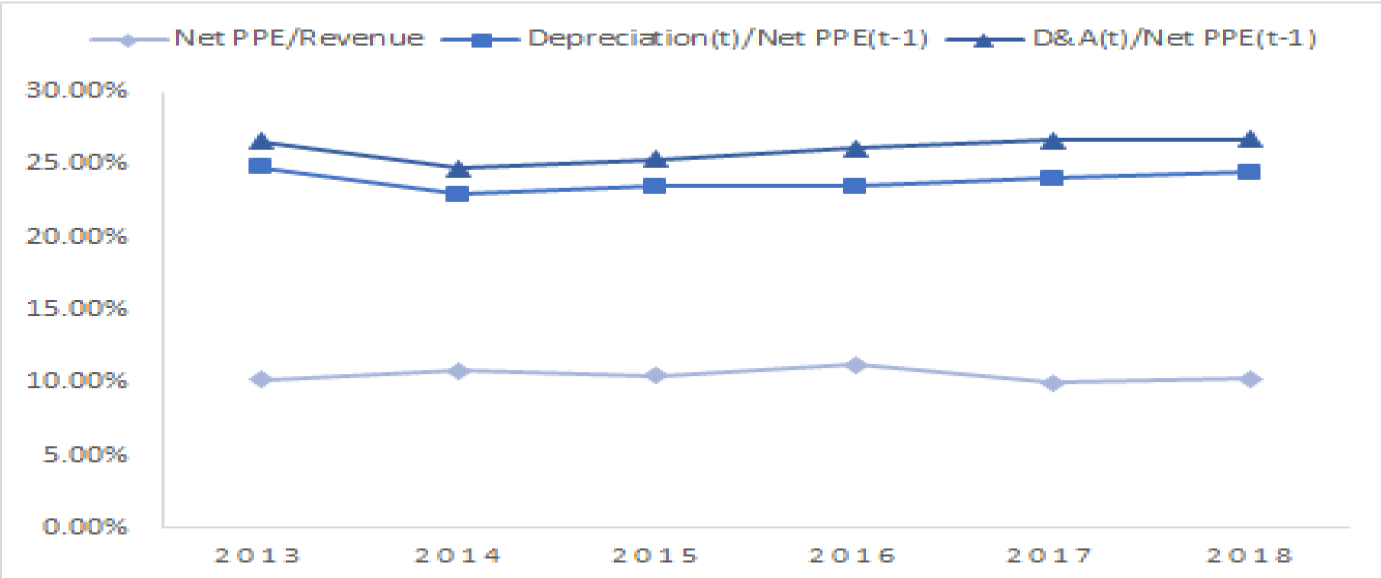
To get the forecasted values for Net PPE, we again used ratio analysis and forecasted it as a ratio of revenue.

Capital Expenditure was estimated using the formula: Current year Net PPE - Prior year Net PPE + Current year Depreciation, where depreciation was calculated the same way as Depreciation and Amortization, i.e., as a ratio of Net PPE.

It should be noted that we forecasted a capital expenditure of $16 million as provided by the guidance of the management in Q1 2019 Earning calls.

The graph below shows a consistent trend between the ratios over the historical period

Figure 11: Ratio Analysis



Source: Company's 10-K

Based on the performance of the historical data, we forecasted the following items taking a 5-year average of the ratios of 10.58%, 23.75% and 25.95% for Net PPE/Revenue, Depreciation/Net PPE and D&A/Net PPE respectively.

Working Capital

We considered the following items to forecast the Net Working Capital:

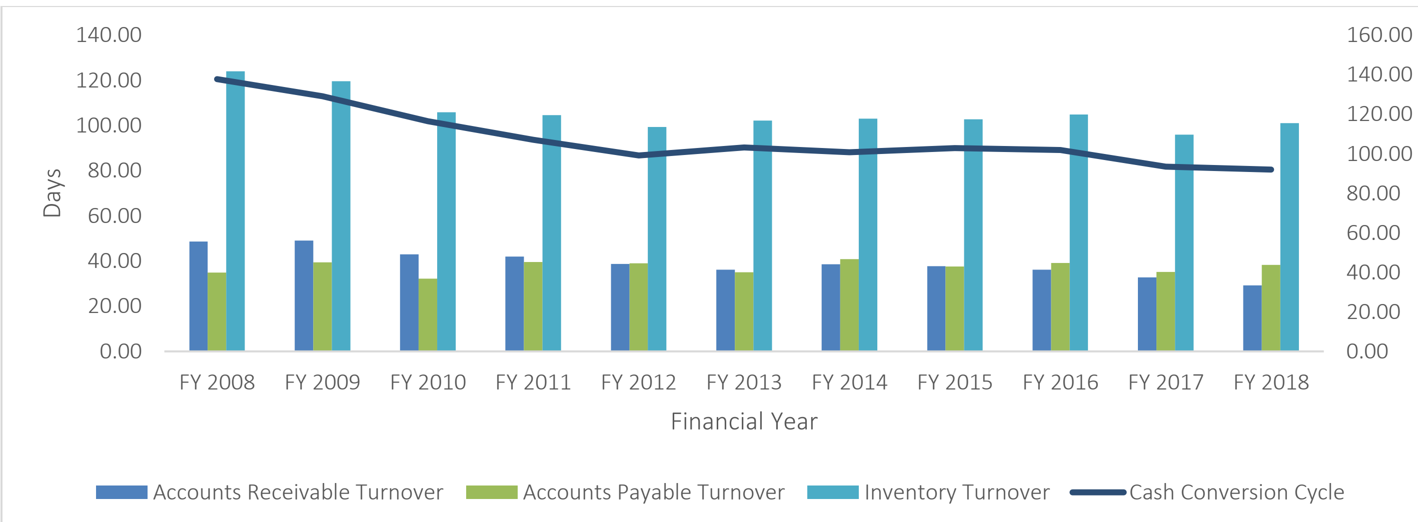
- Cash and Cash Equivalents, Short term Investment:
  Johnson Outdoors has a strong cash position. Cash and short-term investments grew from $110.4 million to $150.6 million in 2018. The growing cash position has enabled continued investment in new growth strategies in all brands of the company. We observed that the cash levels follow the revenue growth and hence forecasted it using the average Cash Conversion Cycle and Revenue.

- Inventory:
  Johnson Outdoors imports raw material and manufactured parts from "suppliers with limited capacity or availability" as per guidance summary. Hence, the company maintains inventory by placing orders months in advance of the required delivery through purchase of safety stock and forecast based supply contract. It aims to bring a balance between the need to maintain adequate inventory levels and the cost of holding this inventory by forecasting high volume products, build-to-order strategies and contract-manufactured

products delivered directly to customers from the supplier. Hence, we can conclude that the company is managing the inventory actively in line with the revenue.

- Accounts Receivable, Accounts Payable, Short Term Assets, Short Term Liabilities:
  We observed a consistent relationship of these line items with the revenue as per past trends. We believe that the company will follow the same trend in the coming years and hence forecasted these variables using the revenue.

Figure 12: Working Capital



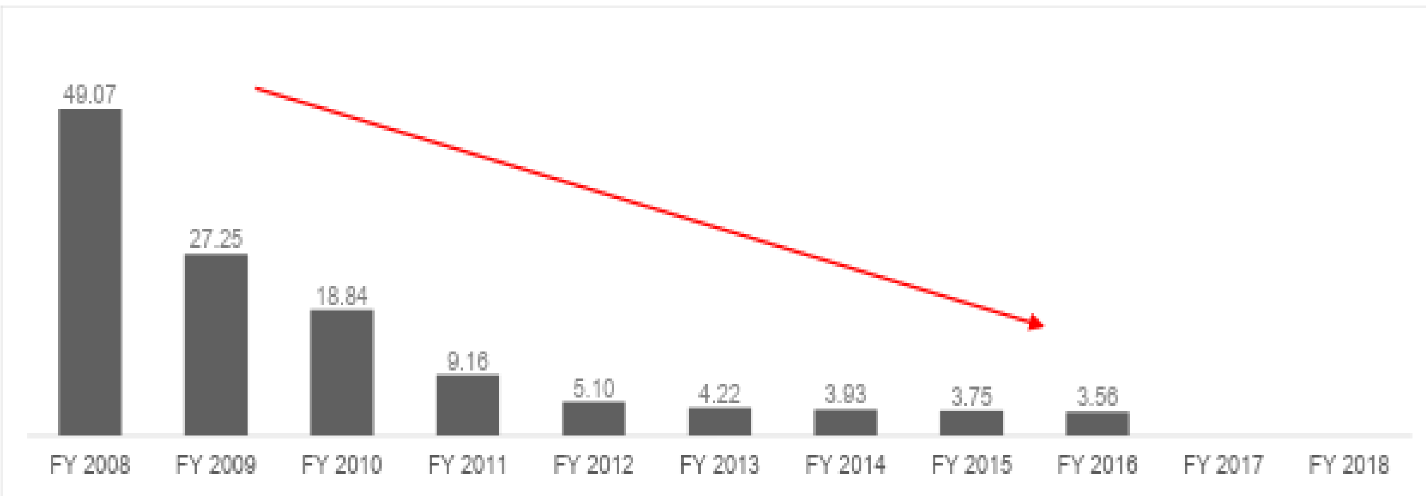
Source: Company's 10-K

Debt Structure

Johnson Outdoor has a debt free balance sheet that gives it a significant advantage from an investment purpose. The company has been significantly decreasing debt since the past 10 years from $60 million in 2008 to negligible in 2018. Cash and short-term investments are used to cover the operating expenses. We anticipate that the company will not undertake any significant debt following the past trends, barring any unforeseen events that may require borrowing.

In future, if the demand may exceed the current growing cash stockpile of the company, Johnson Outdoors Inc. has a revolving credit facility with PNC Bank, National Association and Associated Bank until November 15,2022. The company has a borrowing allowance of up to $ 75000 to mitigate the effects of such events.

Figure 13: JOUT's Debt/Equity Ratio



Source: Company's Financial Statements

Valuation

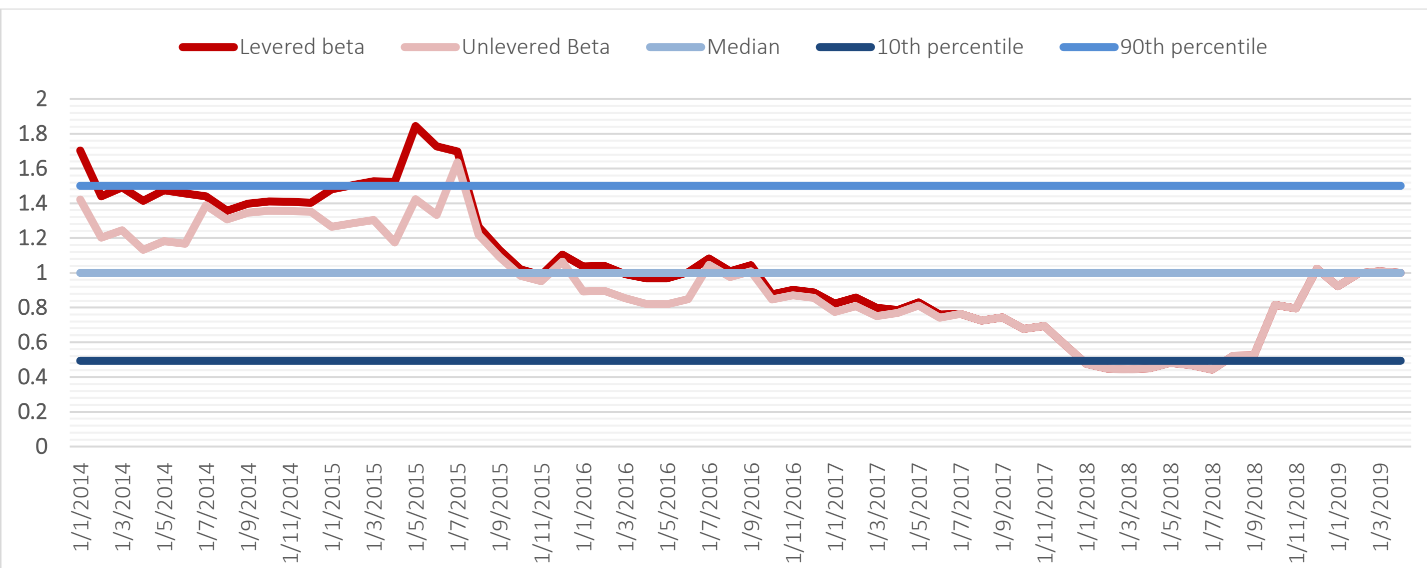
Effective Tax Rate:

The company's effective tax rate for 2018 was 40.29% and 18% for the 1st quarter of fiscal 2019. The previous year rates were affected by the impact of a provisional expense of $8456 from the enactment of U.S Tax Cut & Jobs Act. The management is anticipating an effective tax rate in the mid-20s range which is why we have considered 26% tax rate for the fiscal year 2019-23 reflecting the reduction in the U.S. Federal corporate income tax rate.

Beta:

Betas were calculated using the regression analysis of excess returns on the company's stock values against S&P500 excess returns obtained from Yahoo Finance. 5 year rolling window was taken for the examination, rolling the betas forward from January 2009 to the present day with the window starting 5 years prior to the monthly observation date.

Figure 14: Johnson Outdoor Inc. 5 year rolling beta

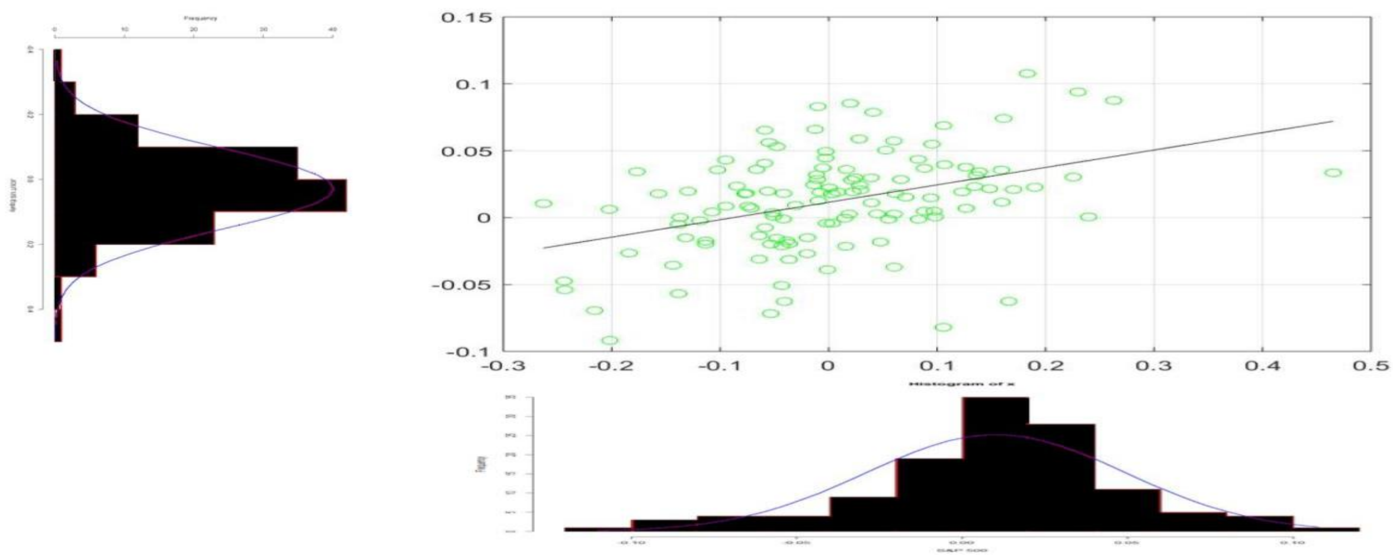


Source: Analyst's calculations

We also calculated the unlevered beta and graphed it as shown in figure 14. The most recent observation of the beta is 1.008 which is close to the overall average of 0.99. There has been a sudden uptrend in the beta values after a period of a significant low which was due to the firm's deleveraging since 2008, aiming for a debt-free balance sheet thereby optimizing its capital structure and finally eliminating its debt in 2017. This explains the convergence of levered and unlevered beta from May 2017 since all the firm's risk is borne by the stockholders and indicates that the beta is recovering to its historical average, therefore giving us enough reasons to choose beta close to 0.99 for a fair approximation. The graph between JOUT and S&P500 share price movement illustrate how Johnson Outdoors is moving in relation to the market and its current convergence to the volatility of the market index indicating that the stock tends to move up and down as the market does.

Figure 15: JOUT versus S&P500

Source: Yahoo Finance Website



Source: Analyst's calculations

Cost of Equity:

The cost of equity was estimated using the Capital Asset Pricing Model (CAPM) determined by the risk-free rate of return that is the 10-year US Treasury Rate of 2.51% as of 15 April 2019, the market-wide risk premium of 4.50% was used and we arrived at the cost of equity of 7.01%. As mentioned above, Johnson Outdoors Inc. has a debt free balance sheet and hence, the estimated cost of equity also functions as the weighted average cost of capital for the company.

Cost of Equity Calculation	(Using CAPM)
Unlevered beta	1.00
Risk-free rate	2.51%
Mkt Rate	7.01%
	7.01%

DCF:

We then estimated the Free cash flows using the forecasted values of the income statement items as shown in the spreadsheet. We forecasted a terminal value of 2.50% for the company, considering that it is functioning well in a highly competitive market driven by ever changing customer trends.

Our intrinsic equity value was estimated to be 746.82M which is 107.7M more than the current market value of equity. This suggests a 16.85% upside potential in the share price with the target price of $84.58. We, therefore, recommend an overweight rating for Johnson Outdoors Inc.

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019			2020	2021	2022	2023	Terminal Value
											Q1	Q2+Q3+Q4	Total					
Revenue	356.05	381.91	406.88	411.74	425.90	426.06	431.18	434.42	489.89	543.44	104.33	497.86	602.19	658.65	708.74	763.26	821.52	
Growth Rate		*7.26%*	*6.54%*	*1.19%*	*3.44%*	*0.04%*	*1.20%*	*0.75%*	*12.77%*	*10.93%*			*10.81%*	*9.38%*	*7.60%*	*7.69%*	*7.63%*	
Cost of Goods Sold	223.74	228.91	244.29	247.97	255.41	256.80	258.76	257.27	279.63	302.41	60.10	288.35	348.45	366.52	394.39	424.73	457.15	
COGS/Revenue	*62.76%*	*59.86%*	*59.96%*	*60.14%*	*59.89%*	*60.36%*	*60.11%*	*59.31%*	*57.00%*	*55.56%*			*57.86%*	*55.65%*	*55.65%*	*55.65%*	*55.65%*	
Operating Profit	132.31	153.00	162.59	163.77	170.49	169.26	172.42	177.15	210.26	241.03	44.23	209.50	253.73	292.13	314.35	338.53	364.37	
Operating Margin	*37.16%*	*40.06%*	*39.96%*	*39.78%*	*40.03%*	*39.73%*	*39.99%*	*40.78%*	*42.92%*	*44.35%*			*42.14%*	*44.35%*	*44.35%*	*44.35%*	*44.35%*	
Operating Expense	128.78	138.34	145.47	145.09	143.87	143.59	146.58	147.37	165.55	179.97	38.40	160.28	198.68	217.30	233.83	251.82	271.04	
Selling, General & Adminitration Cost	118.38	124.89	130.65	131.68	129.63	127.09	137.40	128.94	146.18	158.40	33.10	142.42	175.52	191.98	206.58	222.47	239.45	
SG&A/Revenue	*33.25%*	*32.70%*	*32.11%*	*31.98%*	*30.44%*	*29.83%*	*31.87%*	*29.68%*	*29.84%*	*29.15%*		*28.61%*	*29.15%*	*29.15%*	*29.15%*	*29.15%*	*29.15%*	
Research & Development	11.10	13.45	14.82	14.73	15.35	16.47	16.48	18.43	19.17	20.44	5.30	17.35	22.65	24.77	26.66	28.71	30.90	
R&D/Revenue	*3.12%*	*3.52%*	*3.64%*	*3.58%*	*3.60%*	*3.86%*	*3.82%*	*4.24%*	*3.91%*	*3.76%*	*5.08%*	*3.49%*	*3.76%*	*3.76%*	*3.76%*	*3.76%*	*3.76%*	
Other Operating Expense	-0.70	0.00	0.00	-1.32	-1.10	0.03	-7.30	0.00	0.21	1.13	0.00	0.50	0.50	0.55	0.59	0.64	0.69	
Other Operating Expense/Revenue	*-0.20%*	*0.00%*	*0.00%*	*-0.32%*	*-0.26%*	*0.01%*	*-1.69%*	*0.00%*	*0.04%*	*0.21%*	*0.00%*	*0.10%*	*0.08%*	*0.08%*	*0.08%*	*0.08%*	*0.08%*	
EBIT	3.53	14.66	17.13	18.68	26.62	25.67	25.84	29.78	44.71	61.06	6.80	49.23	55.06	74.83	80.52	86.71	93.33	
EBIT/Revenue	*0.99%*	*3.84%*	*4.21%*	*4.54%*	*6.25%*	*6.02%*	*5.99%*	*6.85%*	*9.13%*	*11.24%*			*9.14%*	*11.36%*	*11.36%*	*11.36%*	*11.36%*	
Depreciation & Amortisation	11.89	9.98	10.57	11.53	9.76	10.74	11.70	11.83	13.08	13.11			16.53	18.08	19.45	20.95	22.55	
EBITDA	15.42	24.64	27.70	30.21	36.37	36.41	37.54	41.61	57.79	74.16		65.76	71.58	92.90	99.97	107.66	115.88	
EBITDA/Revenue	*4.33%*	*6.45%*	*6.81%*	*7.34%*	*8.54%*	*8.55%*	*8.71%*	*9.58%*	*11.80%*	*13.65%*			*11.89%*	*14.11%*	*14.11%*	*14.11%*	*14.11%*	
Tax	-0.41	2.65	-20.39	9.79	5.33	8.30	5.14	10.15	13.05	27.44	0.80	13.51	14.31	19.45	20.93	22.54	24.27	
Tax Rate	*4.04%*	*28.86%*	*-166.48%*	*49.14%*	*21.63%*	*47.64%*	*32.61%*	*42.93%*	*27.08%*	*40.29%*	*40.29%*		*26.00%*	*26.00%*	*26.00%*	*26.00%*	*26.00%*	
Net Income	-9.67	6.54	32.64	10.13	19.33	9.12	10.62	13.50	35.16	40.67			40.74	55.37	59.58	64.17	69.06	
Free Cash Flow																		
EBIT(1-Tax Rate)	-9.67	6.54	32.64	10.13	19.33	9.12	10.62	13.50	35.16	40.67		36.43	40.74	55.37	59.58	64.17	69.06	
Plus: Depreciation & Amortisation	11.89	9.98	10.57	11.53	9.76	10.74	11.70	11.83	13.08	13.11			16.53	18.08	19.45	20.95	22.55	
Less: CapEx	8.32	9.97	9.37	12.03	16.33	13.26	10.41	11.70	11.61	19.15			16.00	21.09	21.83	23.55	25.32	
Less: Increase in WC	-52.80	11.60	18.33	12.54	1.22	12.12	-8.15	5.15	22.46	36.14			74.98	22.53	22.08	24.04	25.69	
FCF	46.69	-5.05	15.51	-2.91	11.54	-5.51	20.06	8.49	14.17	-1.51			-38.02	29.83	35.12	37.52	40.60	922.69
													-36.14	26.50	29.15	29.10	29.43	668.78

Time	0.75	1.75	2.75	3.75	4.75	4.75
	0.95	0.89	0.83	0.78	0.72	0.72

Cost of Equity	7.01%
Terminal Growth Rate	2.50%
PV FCF	78.04
PV of Terminal Value	668.78
Intrinsic Equity Value	**746.82**
Market Value of Equity	639.12
Shares Outstanding(M)	8.83
Share Price($)	**84.58**
Upside	**16.85%**

Current Share Price($)
72.38

We also performed sensitivity analysis to show how the share price value reacts to different beta and terminal growth rate assumption as shown in the table below.

Figure 16: Sensitivity Analysis Table

		Sensitivity Analysis				
		Equity Beta				
$	84.58	0.8	0.9	1	1.1	1.2
Terminal Growth Rate	2.00%	$ 95.28	$ 85.06	$ 76.69	$ 69.71	$ 63.79
	2.25%	$ 101.08	$ 89.67	$ 80.43	$ 72.79	$ 66.37
	2.50%	$ 107.68	$ 94.85	$ 84.59	$ 76.19	$ 69.20
	2.75%	$ 115.27	$ 100.71	$ 89.23	$ 79.95	$ 72.29
	3.00%	$ 124.08	$ 107.38	$ 94.45	$ 84.13	$ 75.70

Source: Analyst's calculations

Going ahead with our assumptions and valuation, we concluded that the market has mispriced Johnson Outdoors Inc and is overreacting to the US-China Trade war that has led to an increase in tariffs, negatively impacting the manufacturing and retail industry.

Scenario Analysis

The US China War does not end in the near future.

According to our valuation, the market is overreacting to the US China Trade War which will come to an end with an anticipated period of one year. But here we assume that the ongoing trade war lasts longer than 2020.

US China Trade war has led to a decline in the U.S. Manufacturing PMI (Purchasing Managers Index) that reached a 15-month low in December 2018. This has led to a decline in manufacturers' confidence in business and consumers to decrease their spending as the financial conditions tighten.

Johnson Outdoors will be directly affected by any these tariffs as it relies on Chinese imports for its various segments including fishing. The management previously quoted that, "*we're still projecting tariffs to have a potential $6 million to $9 million impact on the fiscal 2019 profits*." Until now, the company has largely absorbed these costs by mitigating it through ordering inventory beforehand, but this is not practically possible in the long run. An increase in tariffs will lead to an increase in the overall cost of goods sold as we observed in Figure 9. For Johnson Outdoors, we assume a 5% increase in their COGS to accommodate the effects of these tariffs. The company has been very efficient in managing its inventory levels to mitigate losses as well as manage seasonal demand in the past. We assume that the company will manage its inventory levels in future by eventually increasing the cost of their products which will lead to an overall decrease of approximately in revenue $9 million as observed in previous trends.

We then considered this potential downside risk by assuming the probability of this scenario to be approximately 25%. We came to this figure through intensive research from news articles and the ongoing delegation talks between the two countries. Incorporating this in our valuation, we consider two cases. Case 1 assumes that the

US China trade war ends till 2020 while Case 2 assumes that US China trade war does not ends anytime soon. We weight both these cases, taking 75% and 25% as our respective probabilities. The calculation is provided in the Appendix. Going ahead with these estimates, we came at a share price of $ 77.01878 as shown in the table below which means that the market has fairly valued Johnson Outdoors Inc.

	Case 1	**Case 2**	**Final Value**
Share Price Valued	$ 84.58	$ 54.34	
Probability of the event	75%	25%	**$ 77.02**

References

- Company Earning calls: Bloomberg
- Johnson Outdoors Financial Statements: http://investor.johnsonoutdoors.com/financial-information and Bloomberg
- Johnson Outdoors Annual Report: https://www.johnsonoutdoors.com/annual-report
- Market risk premium: http://www.market-risk-premia.com/us.html
- US CPI forecast: https://www.statista.com/
- US China trade war information: https://www.nytimes.com/2019/03/04/us/politics/trump-china-tariffs-trade-deal.html ; https://www.bloomberg.com/news/articles/2019-01-02/asia-s-factories-slump-as-trade-war-cooling-tech-boom-hits-home ; https://tradingeconomics.com/united-states/manufacturing-pmi ; https://www.engineering.com/AdvancedManufacturing/ArticleID/18214/15-Month-Low-for-US-Manufacturing-PMI-in-December.aspx

Appendix

1. Regression analysis for fishing forecast

FY	Revenue Change	CPI Change
2009	11.41%	-0.32%
2010	12.11%	1.64%
2011	19.78%	3.14%
2012	4.14%	2.07%
2013	7.13%	1.47%
2014	0.84%	1.62%
2015	5.19%	0.12%
2016	4.71%	1.27%
2017	19.25%	2.14%
2018	19.18%	2.44%
2019	14.92%	2.55%
2020	12.47%	2.14%
2021	11.82%	2.03%
2022	12.11%	2.08%
2023	12.38%	2.12%

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.6706
R Square	0.449704
Adjusted R	0.37109
Standard Er	0.059287
Observatior	9

ANOVA

	df	*SS*	*MS*	*F*
Regression	1	0.020107301	0.020107	5.720424
Residual	7	0.024605013	0.003515	
Total	8	0.044712315		

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.002719	0.048263065	-0.056334	0.95665
-0.003204	5.964163	2.493649231	2.391741	0.048046

2. Change in Working Capital

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Revenue	356.05	381.91	406.88	411.74	425.90	426.06	431.18	434.42	489.89	543.44	602.19	658.65	708.74	763.26	821.52
+ Cash, Cash Equivalents & STI	27.90	33.32	44.51	58.90	55.69	70.79	69.16	87.29	110.42	150.59	172.70	188.90	203.26	218.89	235.60
+ Accounts & Notes Receiv	43.46	46.93	47.21	40.67	44.10	44.45	44.80	41.52	46.81	40.87	63.32	69.26	74.52	80.26	86.38
+ Inventories	61.09	72.10	68.46	67.06	76.36	66.34	79.92	68.40	79.15	88.86	102.03	111.60	120.09	129.32	139.19
+ Other ST Assets	9.92	7.79	16.26	16.32	12.41	15.96	4.85	4.76	4.47	5.37	5.95	6.51	7.01	7.55	8.12
Total Current Assets	142.36	160.13	176.45	182.95	188.57	197.55	198.72	201.97	240.85	285.69	344.01	376.26	404.88	436.02	469.30
+ Payables & Accruals	32.35	45.29	49.42	45.26	50.68	47.59	57.40	55.01	70.48	80.22	62.19	68.02	73.20	78.83	84.84
+ ST Debt	15.47	8.87	3.49	0.53	0.54	0.36	0.37	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
+ Other ST Liabilities	13.01	12.86	12.09	13.18	12.15	12.29	11.79	12.27	13.60	12.57	13.92	17.82	19.18	20.65	22.23
Total Current Liabilities	60.84	67.02	65.00	58.97	63.37	60.23	69.55	67.65	84.08	92.78	76.12	85.84	92.37	99.48	107.07
Working Capital	81.51	93.11	111.45	123.99	125.20	137.32	129.17	134.31	156.77	192.91	267.89	290.42	312.50	336.54	362.23
Δ in Working Capital	-52.80	11.60	18.33	12.54	1.22	12.12	-8.15	5.15	22.46	36.14	74.98	22.53	22.08	24.04	25.69

3. Net PPE, Depreciation & Amortization and Capital Expenditure

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Revenue	356.05	381.91	406.88	411.74	425.90	426.06	431.18	434.42	489.89	543.44	602.19	658.65	708.74	763.26	821.52
Property, Plant & Equip, Net	33.49	33.77	35.16	36.67	43.39	46.10	45.29	49.00	48.94	55.93	63.69	69.67	74.96	80.73	86.89
Depreciation Expense	10.72	8.88	9.84	10.47	9.11	9.98	10.85	10.65	11.80	11.99	13.27	15.11	16.53	17.79	19.16
Depreciation & Amortization	11.89	9.98	10.57	11.53	9.76	10.74	11.70	11.83	13.08	13.11	16.53	18.08	19.45	20.95	22.55
Capital Expenditure	8.32	9.97	9.37	12.03	16.33	13.26	10.41	11.70	11.61	19.15	16.00	21.09	21.83	23.55	25.32

Ratio Analysis

Net PPE/Revenue	8.84%	8.64%	8.91%	10.19%	10.82%	10.50%	11.28%	9.99%	10.29%
Depreciation(t)/Net PPE(t-1)	26.50%	29.15%	29.79%	24.83%	22.99%	23.53%	23.53%	24.09%	24.51%
D&A(t)/Net PPE(t-1)	29.79%	31.31%	32.79%	26.60%	24.76%	25.38%	26.13%	26.69%	26.78%

4. DCF Model for Case 2

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Q1	2019 Q2+Q3+Q4	2019 Total	2020	2021	2022	2023	Terminal Value
Revenue	356.05	381.91	406.88	411.74	425.90	426.06	431.18	434.42	489.89	543.44	104.33	497.86	593.19	649.65	699.74	754.26	812.52	
Growth Rate		7.26%	6.54%	1.19%	3.44%	0.04%	1.20%	0.75%	12.77%	10.93%			9.15%	9.52%	7.71%	7.79%	7.72%	
Cost of Goods Sold	223.74	228.91	244.29	247.97	255.41	256.80	258.76	257.27	279.63	302.41	60.10	283.15	343.25	375.92	404.90	436.45	470.16	
COGS/Revenue	62.76%	59.86%	59.96%	60.14%	59.89%	60.36%	60.11%	59.31%	57.00%	55.56%			57.86%	57.86%	57.86%	57.86%	57.86%	
Operating Profit	132.31	153.00	162.59	163.77	170.49	169.26	172.42	177.15	210.26	241.03	44.23	214.71	249.94	273.73	294.84	317.81	342.36	
Operating Margin	37.16%	40.06%	39.96%	39.78%	40.03%	39.73%	39.99%	40.78%	42.92%	44.35%			42.14%	42.14%	42.14%	42.14%	42.14%	
Operating Expense	128.78	138.34	145.47	145.09	143.87	143.59	146.58	147.37	165.55	179.97	38.40	157.31	195.71	214.34	230.86	248.85	268.07	
Selling, General & Adminitration Cost	118.38	124.89	130.65	131.68	129.63	127.09	137.40	128.94	146.18	158.40	33.10	139.80	172.90	189.36	203.96	219.85	236.83	
SG&A/Revenue	33.25%	32.70%	32.11%	31.98%	30.44%	29.83%	31.87%	29.68%	29.84%	29.15%		28.08%	29.15%	29.15%	29.15%	29.15%	29.15%	
Research & Development	11.10	13.45	14.82	14.73	15.35	16.47	16.48	18.43	19.17	20.44	5.30	17.01	22.31	24.44	26.32	28.37	30.56	
R&D/Revenue	3.12%	3.52%	3.64%	3.58%	3.60%	3.86%	3.82%	4.24%	3.91%	3.76%	5.08%	3.42%	3.76%	3.76%	3.76%	3.76%	3.76%	
Other Operating Expense	-0.70	0.00	0.00	-1.32	-1.10	0.03	-7.30	0.00	0.21	1.13	0.00	0.50	0.50	0.54	0.58	0.63	0.68	
Other Operating Expense/Revenue	-0.20%	0.00%	0.00%	-0.32%	-0.26%	0.01%	-1.69%	0.00%	0.04%	0.21%	0.00%	0.10%	0.08%	0.08%	0.08%	0.08%	0.08%	
EBIT	3.53	14.66	17.13	18.68	26.62	25.67	25.84	29.78	44.71	61.06	6.80	57.41	54.23	59.40	63.98	68.96	74.29	
EBIT/Revenue	0.99%	3.84%	4.21%	4.54%	6.25%	6.02%	5.99%	6.85%	9.13%	11.24%			9.14%	9.14%	9.14%	9.14%	9.14%	
Depreciation & Amortisation	11.89	9.98	10.57	11.53	9.76	10.74	11.70	11.83	13.08	13.11			16.53	18.08	19.45	20.95	22.55	
EBITDA	15.42	24.64	27.70	30.21	36.37	36.41	37.54	41.61	57.79	74.16		73.93	70.76	77.47	83.43	89.91	96.83	
EBITDA/Revenue	4.33%	6.45%	6.81%	7.34%	8.54%	8.55%	8.71%	9.58%	11.80%	13.65%			11.93%	11.93%	11.92%	11.92%	11.92%	
Tax	-0.41	2.65	-20.39	9.79	5.33	8.30	5.14	10.15	13.05	27.44	0.80	13.30	14.10	15.44	16.63	17.93	19.31	
Tax Rate	4.04%	28.86%	-166.48%	49.14%	21.63%	47.64%	32.61%	42.93%	27.08%	40.29%	40.29%		26.00%	26.00%	26.00%	26.00%	26.00%	
Net Income	-9.67	6.54	32.64	10.13	19.33	9.12	10.62	13.50	35.16	40.67			40.13	43.95	47.34	51.03	54.97	
Free Cash Flow																		
EBIT(1-Tax Rate)	-9.67	6.54	32.64	10.13	19.33	9.12	10.62	13.50	35.16	40.67		42.48	40.13	43.95	47.34	51.03	54.97	
Plus: Depreciation & Amortisation	11.89	9.98	10.57	11.53	9.76	10.74	11.70	11.83	13.08	13.11			16.53	18.08	19.45	20.95	22.55	
Less: CapEx	8.32	9.97	9.37	12.03	16.33	13.26	10.41	11.70	11.61	19.15			16.00	21.09	21.83	23.55	25.32	
Less: Increase in WC	-52.80	11.60	18.33	12.54	1.22	12.12	-8.15	5.15	22.46	36.14			74.98	22.53	22.08	24.04	25.69	
FCF	46.69	-5.05	15.51	-2.91	11.54	-5.51	20.06	8.49	14.17	-1.51			-31.97	18.42	22.88	24.39	26.51	602.48
													-30.39	16.36	18.99	18.91	19.22	436.69

Time	0.75	1.75	2.75	3.75	4.75	4.75
	0.95	0.89	0.83	0.78	0.72	0.72

Cost of Equity	7.01%
Terminal Growth Rate	2.50%
PV FCF	43.09
PV of Terminal Value	436.69
Intrinsic Equity Value	**479.78**
Market Value of Equity	639.12
Shares Outstanding(M)	8.83
Share Price($)	**54.34**
Downside	**-24.93%**

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