Fall 2018

Research Project in Finance: JNJ Johnson and Johnson Corporation

Tsend Togtokhsuren

JNJ

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Introduction

Johnson and Johnson ($JNJ) is a Multinational Corporation that was founded in 1886. It currently operates in the medical devices, pharmaceuticals, and consumer packaged goods industries. The company is a part of the DOW jones industrial average. The corporation has over 250 subsidiaries and brands that serve to improve everyday life through their products. JNJ's credo is " We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services" as well as stating " We are responsible for our employees, the men and women who work with us throughout the world", "Responsible to our communities in which we live and work", and " Our final responsibility is to our stockholders. Businesses must make a sound profit. We must experiment with new ideas. Research must be carried on, innovative programs developed, and mistakes paid for".

[Source: Credo]

This research paper will aim to analyze the effects of a volatile administration's decisions as well as current economic conditions on a well diversified mature company such as Johnson and Johnson. Factors such as the historical bull economy, rising interest rates, trade war scares are key intrinsic factors to look at when analyzing a company in 2018.

Company Description

Robert Wood Johnson, James Wood Johnson, and Edward Mead Johnson started the company in New Jersey, USA in 1886. One of the first products that the company offered were ready to use surgical dressings and the first commercial first aid kits. They were initially designed to help the rail road workers laying the foundation of the expansion to the west. However, soon the ready to use surgical dressings and the first aids kits became the standard practice in treatment of injuries throughout the USA. About a decade later, Johnson and Johnson launched its widely known maternity products such as the Johnson's Baby Powder. The company radically expanded its line of products in the upcoming years revolutionizing women's health with the mass production of sanitary protection products. JNJ's subsidiaries had extremely high growth in the mid-20th century. Ethicon, a manufacturer of surgical sutures and wound closure devices dominated the market as a result of World War 2, while newly acquired McNeil Laboratories and Cilag Chemie expanded JNJ's presence in the pharmaceutical business. McNeil Laboratories created the first prescription aspirin pain reliever, Tylenol.

Soon afterwards, Johnson and Johnson acquired Janssen Pharmaceutica of Belgium in 1961. Janssen's founder Dr. Paul Janssen was widely recognized as the most prolific figure in the pharmaceutical industry in the 20th century. Johnson and Johnson's acquire of Janssen Pharmaceutica has been its gold rush since the 20th century that will be analyzed in a later section.

Johnson and Johnson continued its rapid growth in the late 20th century by pioneering into numerous business areas listed below.

- Vision Care
- Mechanical Wound Closure
- Diabetes Management
- Minimally invasive surgery
- Cardiology/ Coronary Stent/ Drug Stent
- Beginning of operations in China and Egypt

[Source: History of Johnson and Johnson]

The company's growth in the 21st century can be described in two words: Acquisition and Innovation. Johnson and Johnson have been growing its business through large notable acquisitions. Acquisitions such as Tibotec-Virco to increase its pharmaceutical reach into the areas of HIV/AIDS, Vogue International to boost business in vision area, and Pfizer Consumer Healthcare to increase foothold in the consumer area have all been very successful for Johnson and Johnson. As of today, Johnson and Johnson have a market cap of $341.3 Billion, while reporting worldwide sales of $78.7Billion in 2017. It currently has 134,000 employees with operation in 57 countries and products sold in 197 countries.

[Source: Forbes]

Leadership Team

JNJ's leadership team is comprised of experienced and diversified individuals who have been with the company for long periods of time. They are headed by Alex Gorsky, who was appointed CEO and Chairman of the Board of Directors in 2012.

Key Leadership Figures	Background
Alex Gorsky Chairman of the Board of Directors & CEO	Alex Gorsky is a U.S Army Captain who acquired a BS degree from U.S Military Academy at Westport. Alex started his journey at Johnson and Johnson in 1988 when he became a sales representative with Janssen Pharmaceutica, one of Johnson and Johnson's subsidiaries. He rose throughout the ranks to become the 7th person to serve as CEO and Chairman of Johnson and Johnson in 2012.
Joaquin Duato Vice Chairman of the Executive Committee, Consumer	Joaquin holds an MBA degree from ESADE Business School in Spain as well as a Master of International Management degree from Thunderbird in Arizona, USA. Joaquin has been working at JNJ for 28 years while being responsible for areas such as Supply Chain, IT, Global Services and his latest responsibility being responsible for the Pharmaceuticals and Consumer Sectors of JNJ.
Joseph J. Wolk Executive VP, CFO	Joseph J. Wolk is a certified CPA with a BS degree in Finance from St. Joseph's University. Like many other leadership figures, Joseph has been with the company for over 20 years serving in key business areas. Joseph J. Wolk is currently responsible for financial and investor relations activities.
Ashley McEvoy Executive VP, Medical Devices	Ashley has been with JNJ for more than 20 years while being responsible for areas such as Consumer & Medical Devices. Currently, Ashley leads the surgery, orthopedics, interventional

	solutions and eye health businesses which generate $27Billion in revenue. Credited with leading the successful acquisition of Pfizer Consumer healthcare.
Jennifer Taubert Executive VP, Pharmaceuticals	Jennifer Taubert received a Bachelors Degree in Pharmacology from the UC Santa Barbara as well as a MBA from UC Los Angeles. Jennifer joined JNJ in 2005 to lead the global strategy for Internal Medicine. She has quickly risen through the ranks to become the leader of Pharmaceutical division of JNJ. Under Jennifer's leadership, the Pharmaceutical division has become the driving force behind JNJ's growth.
Paul Stoffels, M.D Chief Scientific Officer	Since joining JNJ in 2002, Stoffels has been responsible for R&D leadership roles as well as spearheading the research and product aspects of all companies that JNJ operate. Paul Stoffels was a CEO of Virco and Chairman of Tibotec which were breakthrough companies in the treatment of HIV.

Strengths	Weakness
• Operates in Industries that will last as long as humans walk the earth • Strong Leadership Team • Well Diversified Businesses • Globally known Brand Name • Large Customer Base	• Legal Troubles • Changing Cultural Views towards pharmaceuticals
Opportunities	Threats
• Consolidation of Industries • Rapid technological advancement Rates to help medical devices industry • Unending opportunities in pharmaceutical industry	• Cultural shift away from Brand companies • Cultural shift in views towards large Corporations

	• Cultural shift in views towards production ingredients/methods.

[Source: Leaderhsip Team]

Industry Analysis

Top business Segments	% of Total Revenue
Pharmaceuticals	44.67%
Medical Device & Diagnostics	35.75%
Nutritionals	5.48%
Skin Care	5.03%
Other	9.08%

Johnson and Johnson's well diversified business approach means that multiple industries must be analyzed. It currently possesses large market shares in Consumer healthcare products, pharmaceuticals, and medical devices & diagnostics. The graph above shows JNJ's business segments as percentage of Revenue

Pharmaceuticals

The infrastructure of American medicine allows pharmaceutical companies very distinct advantages if they are willing to go through the massive capital-intensive risk of developing new drugs. However, the high risk comes with high reward as the patent protection allows for years of large profits due to absence of competition. This is reflected in the graph as the pharmaceutical segment makes up almost half of total revenues. Johnson and Johnson has numerous pharmaceutical products specializing in profitable areas such as Immunology, Cardiovascular &

Metabolic Disease, and Pulmonary Hypertension due to the high cost of these drugs. Johnson and Johnson's pharmaceutical business is driven by Janssen Pharmaceutica, who has been the driving force behind its growth. Johnson and Johnson is expected to announce 10 new product fillings with the FDA for approval over the next four years which could have large positive implications on future profits. This coupled with the expectation of global pharma market to grow by 4.5% annually is a very positive sign for Johnson and Johnsons leading industry sector.

[Source: Pharmaphorum]

Medical Device & Diagnostics

The medical device and diagnostics segment is made up from devices used all around the world in hospitals, laboratories, and other healthcare related locations. As with Pharmaceuticals, the Research and development phase of these products are the most capital and resource intensive parts of the product life cycle. However, it too can benefit from prolonged product usefulness as it takes extremely long time to be replaced by newer/ improved devices. Johnson and Johnson's second largest business have been experiencing global growth of 6.0%. It's driving forces were 16.4% growth in electrophysiology devices, 11.2% growth in vision sales, and 5.5% growth in surgical equipment.

[Source: Medical Devices]

Consumer

The consumer segment is perhaps the segment that Johnson and Johnson is most known for. From its child care products to the band-aids that everyone uses, the company's over the counter healthcare and pharmaceutical supplies have become a stable in any westernized country in the world. However, this segment is the most competitive segment that Johnson and Johnson operates in. As a result, consumer goods such as nutritionals, skin care, and other consumer products only make up about 1/5th of the total revenue. The Consumer Products industry does not have high requirements for new entries. Johnson and Johnson and other large corporations are experiencing strong competition from private labels leading to deteriorating revenues. Thus, Author Trefis Team of Forbes estimates growth in the consumer products industry to be in the low single digits.

[Source:Forbes]

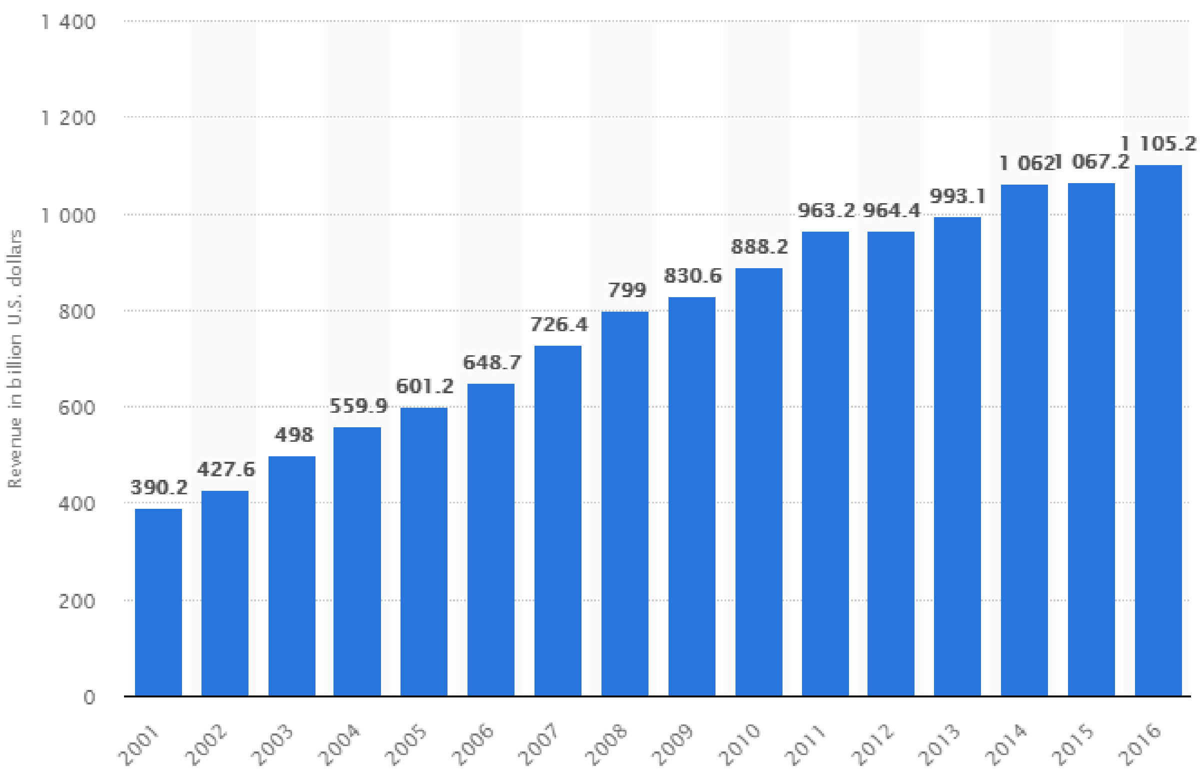
Top Competitors

Pfizer Inc, Merck &Co, Inc, and Procter and Gamble Co are the three largest competitors of Johnson and Johnson. Basic financial overview is shown below in millions of dollars for the past year.

	Market Cap	Revenue	Net Income
Johnson and Johnson	$379,594	$80,684	$1,372
Pfizer Inc	$255,698	$53,348	$23,290
Procter and Gamble	$225,808	$65,059	$15,411
Merck & Co	$189,612	41,260	$1,368

Growth Rate

Industry growth is the second biggest thing to look at when analyzing a company. If a company is in a dying industry, it does not matter how good the company is doing. If the end horizon is set, then the investment horizon is set. As a result, an efficient market should reflect that in the company's stock price. The growth rate of the pharmaceuticals industry is absurd. The below graph shows the Revenue of the Worldwide Pharmaceutical Market in the last 15 years in billions of dollars. (Statista) Putting these figures into excel gives us a compounded annual growth rate of around 7% over the last 15 years.



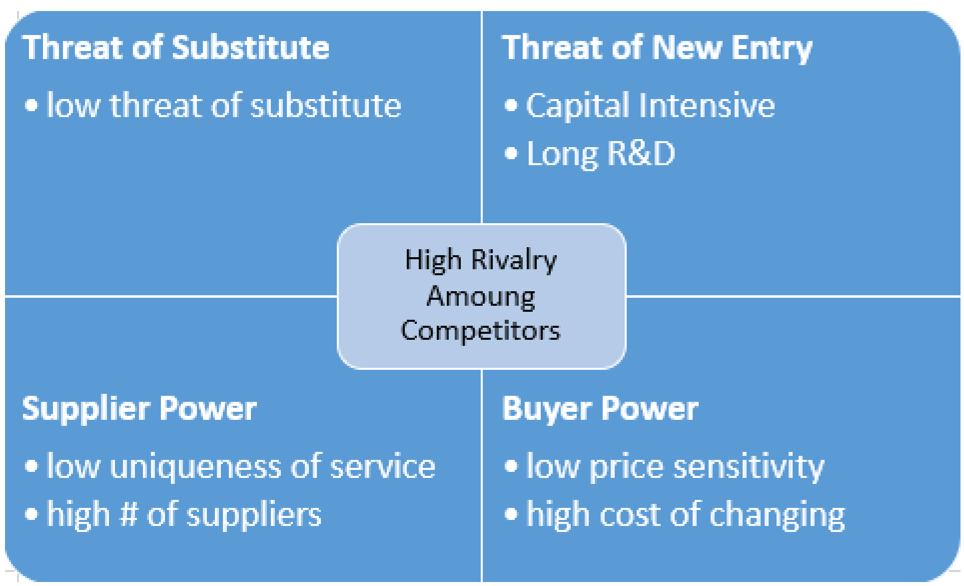
Johnson & Johnson's year over year ending with the second quarter of this year was 11.24%. Whereas the pharmaceutical industry growth was 5.88% while the healthcare sector was at a 4.3% growth.

Porter Analysis

Pharmaceuticals & Medical Devices

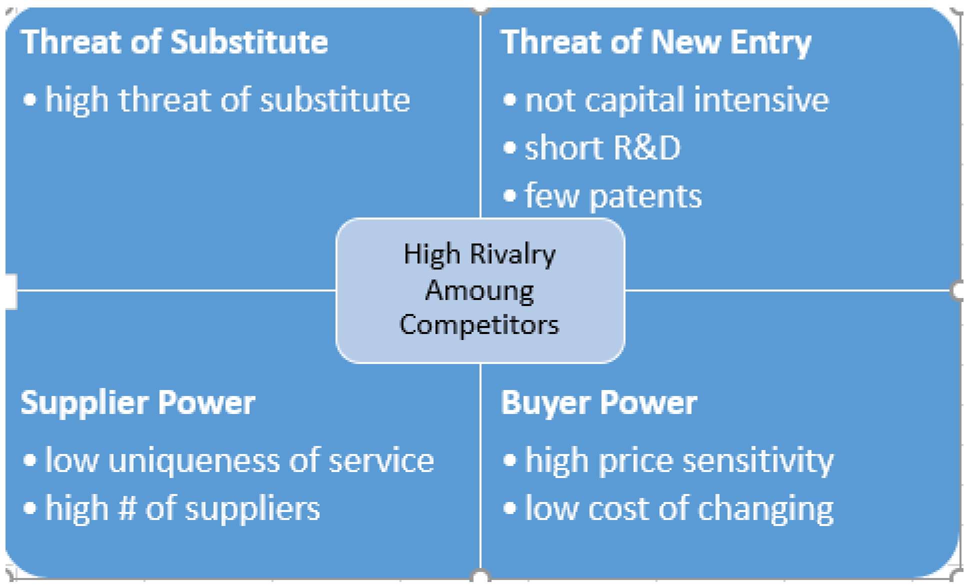
The porter analysis of the pharmaceutical and medical devices industry is very similar. The threat of substation is very low because of the patents that are rewarded. The threat of new entry is also very low as it requires immense amount of capital and large amounts of resources to research and develop new drugs and devices.

The supplier power is very low as a company that is Johnson and Johnson's size has large bargaining power due to their size and high number of suppliers available. The buyer also does not have large amount of bargaining power as there tends to be few substitutes for a necessary drug/device as well as the cost of changing drugs could be a life-threatening choice. The immense reward for researching and developing these drugs/devices tend to lead to high competition among companies with billions of dollars being pumped into R&D.



Consumer

Over the counter medicines, basic healthcare supplies, nutritionals, and skin care are all products that are heavily competitive. As a result, the porter analysis for this industry is the opposite of the previous analysis. The only similar factor is the supplier power. The supplier still does not hold a lot of power against these large companies due to competition and scale. However, the threat of substitution is very high as the threat of new entry looms. Getting into healthcare consumer goods is not as capital intensive as other markets. The buyer holds immense power as the cost of changing between products is almost non-existent and price sensitivity is extreme.

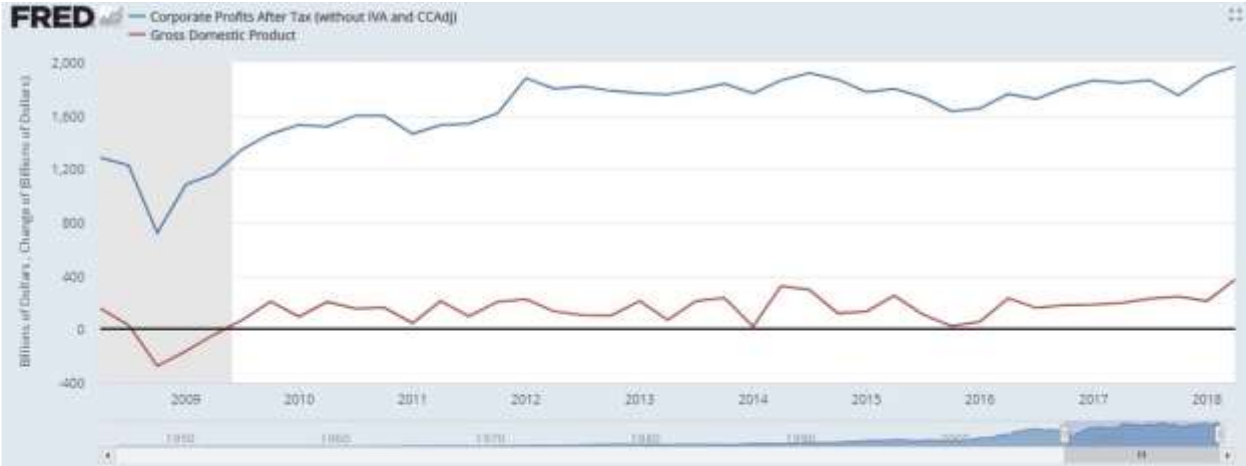


Macro-Economic Analysis

Various economic indicators were used to analyze the current state and future of the macroeconomy. Each indicator has their strengths and weaknesses. For example, Growth in Gross Domestic Product is a very good indicator of how the health of the economy has been, whereas stock prices are a good leading indicator.

Lagging Indicators

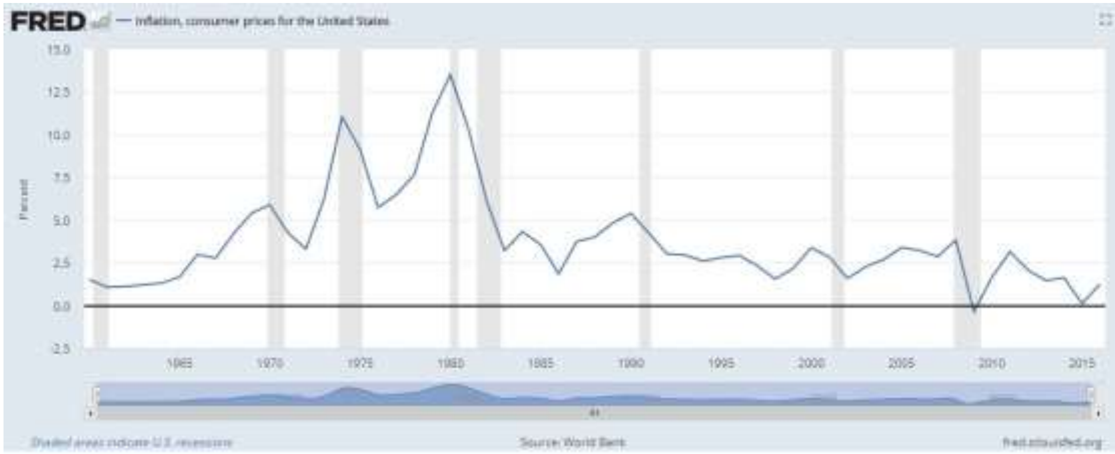
One of the bread and butter indicators of economic analysis is the GDP Growth. Professor Mishkin from Columbia University states that "Gross Domestic Product is such a broad measure of aggregate economic activity that it is sometimes viewed as a proxy for the business cycle itself" (Mishkin 211). As a result, I have extracted quarterly GDP growth over the past 10 years and compared it with Quarterly Corporate growth data from the statistics created by the Federal Reserve Bank of Saint Louis.



(*Corporate Profits After Tax vs GDP)*

As we can see from the above example, Quarterly Corporate Growth has been hand in hand with the Quarterly GDP Growth of the past ten years leading us into the longest bull market of modern history. The next indicator that is used in our analysis is percent change in consumer prices provided by FRED. Inflation tends to rise during expansions of the economy and fall during contractions. As a result, inflation is a very procyclical indicator of the economy. However, Inflation tends to linger on after a change in the macro-economy. Thus, it is categorized as a lagging indicator.

Currently, the consumer price index for United States is sitting at 2.88% as of July 2018. It is currently at its highest point since 2012. This fact can be used to indicate that the economic cycle could be reaching its peak soon.

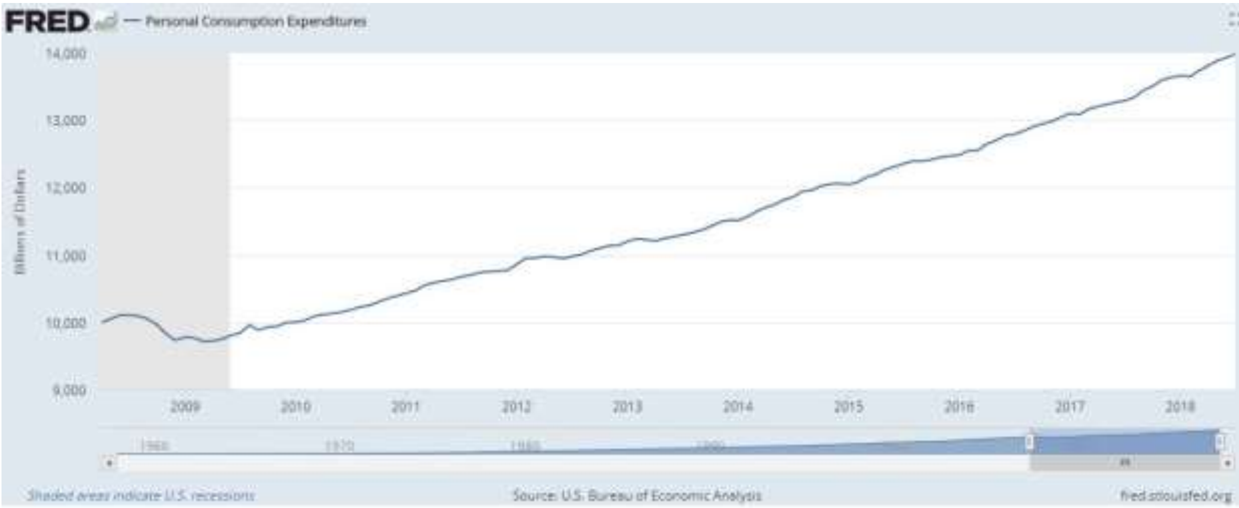


(Inflation, U.S.A)

Coincidental Indicators

The Coincidental indicators that are used in this macroeconomic analysis are Personal Consumption Expenditure and Gross Domestic Investment. When the economy is at a good health, the aggregate economy tends to spend and save more. Both actions go down during contractions of the economy. Based on the graph below, it is proven again that we are in one of the longest lasting bull market/ expanding economy of the past century.

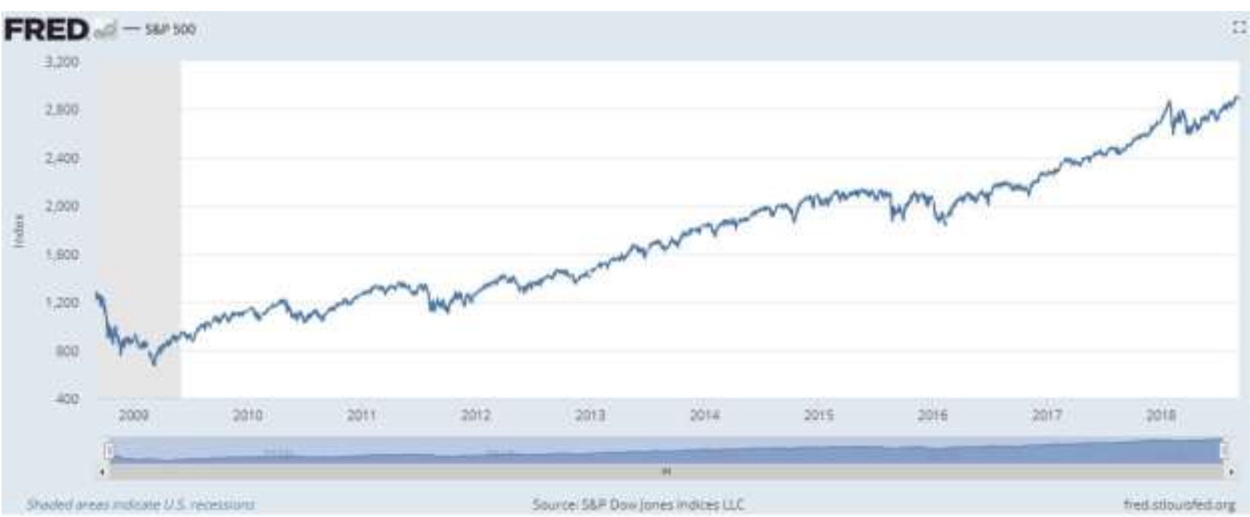
(Gross Private Domestic Investment, USA)



(*Personal Consumption Expenditures, USA)*

Leading Indicators

The leading indicator used in this macro-economic analysis is the S&P 500 Index. Professor Mishkin states that financial assets tend to move with the business cycle and that stock markets tend to top out before the business cycle's peak and begin to rise before the economy emerges from a recession.



(*Growth of S&P 500)*

Forecast of the Economy

The short-term forecast (<1 year) of the economy looks bright based on these indicators. Our leading indicator S&P500 makes it hard for us to judge when the stock market will top off signaling an incoming recession.

The medium-term (1-5 years) forecast of the economy is that a recession is undoubtedly coming. It is hard to judge if it will happen within a medium term or a long term. However, it is safe to assume that it is on the horizon based off the fact that we have been experiencing all-time highs in stock prices, personal consumption expenditures, and gross private domestic investment. Also, the current political factors such as the ongoing trade wars will only hasten the next recession. Based on history, there are no winners in a trade war.

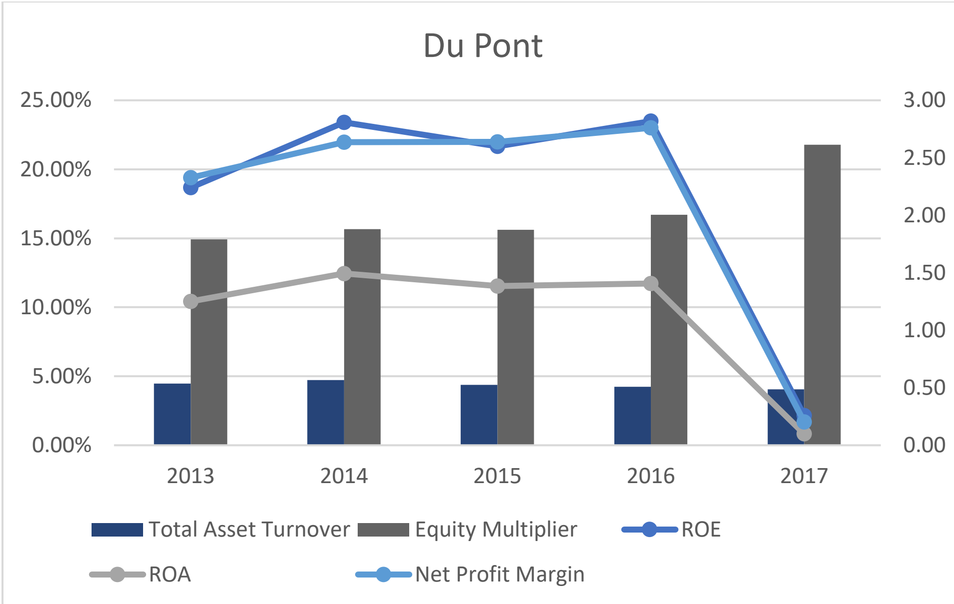
The long-term forecast (5 years <) of the economy is that the economy will face a recession soon, but it will recover from it within a short period of time. The Fed has been doing a remarkable job of conducting its monetary policies so that it balances the fiscal policies of our government. That will only be challenged as the volatile decisions of the current administration continues.

Financial Ratio Analysis (See Appendix for Spreadsheet)

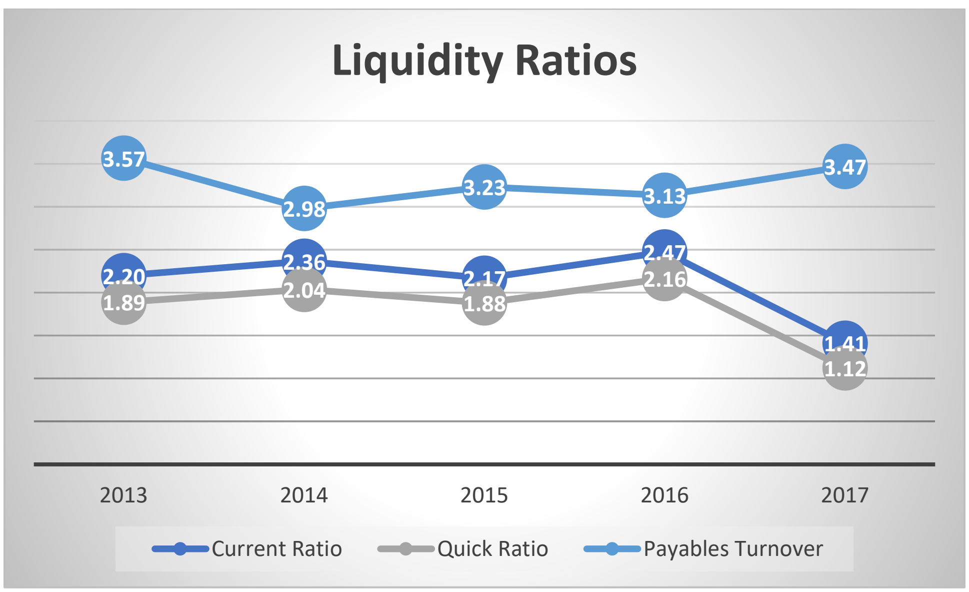
Johnson and Johnson's annual reports have been very strong up until 2017. This was mainly due to the new tax law that was passed in the early 2017. JNJ reported a $13.6 billion charge to bring back cash that was accumulated on foreign soil. (Erman) This was done so that they could bring back those earnings to fund U.S operations by increasing R&D, dividends, and decreasing debt. This makes the financial statements look odd but is a very strong financial move by the company.

Financial Ratio Analysis					
	2013	**2014**	**2015**	**2016**	**2017**
ROE	18.68%	23.40%	21.66%	23.49%	2.16%
ROA	10.42%	12.45%	11.55%	11.71%	0.83%
Net Profit Margin	19.40%	21.96%	21.99%	23.01%	1.70%
Total Asset Turnover	0.54	0.57	0.53	0.51	0.49
Equity Multiplier	1.79	1.88	1.88	2.01	2.61
Current Ratio	2.20	2.36	2.17	2.47	1.41
Quick Ratio	1.89	2.04	1.88	2.16	1.12
Payables Turnover	3.57	2.98	3.23	3.13	3.47
Fixed Asset Turnover	0.83	1.01	0.97	1.04	0.08
Debt Ratio	44.2%	46.8%	46.7%	50.1%	61.8%
Long Term Debt/ Total Asset	10.0%	11.5%	9.6%	15.9%	19.5%
Interest Coverage	41.61	46.89	42.56	33.45	25.96

The key ratios that was first focused on were the Return on Equity and the Return on Asset. Return on Equity measures the company's profitability given the amount of money invested whereas ROA measures how well the company is using its assets to fuel earnings. The ROE has been hovering around 18%-24% mark indicating very good returns on investment. The ROA ranging from 10.42% to 12.45% is showing that the company is doing decently on managing its assets to generate earnings. However, both the ratios took a nose dive in 2017. This is mainly due to the huge 13.6$ billion income tax reducing net income to $1.3 billion. As a result, the difference between the financial ratios for 2016 to 2017 should not be given a heavy weight.



The liquidity ratios of JNJ have been stable and solid until 2017. However, the decreased amount of current assets available in 2017 dropped the liquidity of JNJ. This is a result of the amount of cash that the company had to use to pay for the cost of bringing the oversea money back into the U.S.



The newly passed tax law and the decision to bring in the oversea money is coming at a good time. JNJ's debt has been rising through the last few years. The debt ratio is at a comparatively high figure of 61.8% compared to 44.2% from just 5 years ago. The company has become more leveraged on debt. This can also be seen in the LT Debt to total asset ratio. It has almost doubled from 10% in 2013 to 19.5% in 2017. As a result of increased debt, the interest coverage ratio has also decreased substantially from 41.61% to 25.96%.

When comparing JNJ to its industry, few things jump out. Most of its ratios indicates what we already know. JNJ is an established company well into its maturity stage in its business cycle.

Industry Comparison Q2 2018		
	JNJ	**Industry Avg**
Y/Y Revenue Growth	10.27%	23.26%
TAT	0.52	0.4
Profitability		
Gross Margin	66.75	67.8
Net Profit Margin	18.98%	11.95%
Liquidity		
Quick Ratio	0.97	0.93
Interest Coverage	27.44	13.71

Year over year growth is half of the industry average. This is almost certainly due to JNJ's competitors being in the development/growth stage. A growth percent of 10.27% is also a respectable number that can be attributed to the numerous mergers and acquisitions the company has been carrying out. This is a commonly seen tactic for gigantic, mature companies to supplement their growth.

Total Asset Turnover and Net Profit Margin also reveals that JNJ is more efficient at generating revenue with its asset than its competitors. This efficiency can be attributed to its economy of scale and matured business processes whereas the large net profit margin could be attributed to the patented business of pharmaceutical manufacturing. In Conclusion, the financial ratios of JNJ reveal a mature and stable company that has carried out a large financial decision in 2017 for long term profits.

External Financing Needed (See Appendix for Spread Sheet)

Johnson and Johnson had a unique 2017 that could skew forecast as a result of their tax payment for bringing in oversea money to the U.S. As a result, 2017 was not included when calculating averages.

Averages and CAGR from 2013-2016 were used to forecast pro-forma financial statements for 2018-2019. (2017xCAGR=2018 etc.)

Johnson and Johnson had a retention rate of about 87% from 2013-2016. The average net margin from years 2013-2016 were 22%. Assuming that these two metrics do not change, External Financing Needed for a 1.4% growth was -$12635 meaning that JNJ does not need external financing to increase sales by its average growth rate of 1.4%. This is largely due to their large net margin of 22%.

Retention Ratio	87%
Net Margin	22%
Growth rate	1.40%
Current Sales 17'	76450
Change in Sales	1070
Next Year's Expected Sales	77520
Asset/Sales	206%
Increase in Assets	2202
Increase in Internal Equity	14837
EFN	-12635

Stock Valuation

The two stock valuation methods that were used to value JNJ stock were the Dividend Discount Model and the Discounted Cash Flow Model. Johnson and Johnson is one of the best dividend paying stocks on the market. This can be seen by its recent history of dividend payout below. As a result, the Dividend Discount Model Calculations were very straight forward.

	2012	2013	2014	2015	2016	2017	2018	2019 Estimated
Dividends Per share	$ 0.61	$ 0.66	$ 0.70	$ 0.75	$ 0.80	$ 0.84	$ 0.90	
Dividend Growth Rate		8.20%	6.06%	7.14%	6.67%	5.00%	7.14%	$ 0.96
AVG Dividend Growth Rate	6.70%							

CAPM MODEL	
1 year T-Bill % (10/5/2018)	2.644%
JNJ Beta (3 year)	0.53
S&P 500 Index 10 year avg	12.52%
Expected Return	7.878%

First step was to find the expected return using the CAPM Model. A one-year T-bill was used as the risk-free rate while the 10-year average return for S&P 500 Index was used as the expected market return. The dividend for 2019 was estimated using the average dividend growth rate for the past 6 years. As a result, the price per share using the Dividend Discount Model came out to $81.61 which is severely less than the current stock price of $139.10.

Price Per Share Using DDM	Current Stock Price
$ 81.61	$ 139.10

The second method of stock valuation was the Discounted Cash Flow Method. The first step was to find the WACC for JNJ. The coupon rate for a long-term bond issued by JNJ was used as the cost of debt. The CAPM model used in the DDM model provided the cost of equity. The market value of equity was calculated using statistics as of 10/05/2018.

MV of Equity (10/05/2018)	
Shares outstanding	2682756000
Share Price	139.1
MV of Equity	$373,171,359,600

The market value of debt was calculated using total debt as one big coupon bond with the coupon payment being equal to the interest expenses. JNJ had a total of $ 345,810 Million of total debt with an interest expense of $934 million. All outstanding bonds were used to calculate the weighted average maturity of all outstanding debt. The average effective tax rate for years 2014-2017 were used as the corporate tax rate.

MV of Debt		
Total Debt	$	345,810,000,000
Interest Expense	$	934,000,000
Weighted average maturity		12.02
Cost of Debt		5.50%
MV of Debt	$	189,759,233,112

WACC Calculation	
Cost of Equity	0.0787828
Cost of debt	0.055
Weight of Equity	66.3%
Weight of Debt	33.7%
Corporate Tax Rate	16.9%
WACC	**6.76%**

The second step in the DCF method was estimating the FCF for the next three years. The average growth rate from 2013-2017 were used as the basis for 2018-2020.

	2013	2014	2015	2016	2017		2018	2019	2020
Free Cash Flow	$ 13,553	$ 14,458	$ 15,713	$ 15,418	$ 17,543	Estimate			
Growth		6.26%	7.99%	-1.91%	12.11%		$ 18,615	$ 19,753	$ 20,960
Average +/- in Cash Flow			6.11%						

The cash flows and the terminal value discounted at the rate of WACC equaled a PV of $2,852,915 million dollars. Afterwards the PV was divided by shares outstanding to reveal a price per share of $106.34 using the DCF method.

In Conclusion, both valuation methods revealed that the current stock price was overvalued compared to its price estimated by fundamental analysis.

Notable Events

The biggest recent news regarding Johnson and Johnson was when a St. Louis Jury awarded $4.69 billion in settlement to 22 women who claimed that Johnson and Johnson baby powders caused ovarian cancer. (Bever) Also, The Department of Justice has announced that it will support investigations and lawsuits against Johnson and Johnson and other companies in relations to the opioids epidemic in the U.S.A. However, these news had minimal impact on stock as it currently trades around $139.

[Source:DOJ Lawsuit]

Investment Recommendation

The conclusions derived from the different segments of this research would be the following:

0	2.5	5	7.5	10
Strong Sell	Weak Sell	Hold	Weak Buy	Strong Buy

Criteria	**Recommendation**	**Score out of 10**
Company Leadership	**Strong Buy**	**10/10**
Industry Analysis	**Weak Buy**	**7.5/10**

Macroeconomic Analysis	**Hold**	**5/10**
Financial Ratios	**Hold**	**5/10**
Stock Valuation	**Weak Sell**	**2.5/10**
Overall **(*calculated by avg score)***	**Weak Buy**	**6/10**

- Strong leadership team with vast experience and large diversification
- Very promising pharmaceutical/medical devices industry balanced by declining consumer products division.
- Macroeconomic Analysis is a "hold" due to the combination of the scary bull market/ current administration.
- The hold recommendation the financial ratio segment is due to the unknown effect the large transaction of 2017 will have on the future years.
- The weak sell recommendation of the stock valuation is due the stock being overvalued when analyzed in traditional methods. However, intrinsic values and the bull market contribute to the over valuation of the stock.

In Conclusion, I believe that Johnson and Johnson is an above optimal buy for a semi conservative investor with heavy emphasis on dividend payout.

Appendix

Excel sheets submitted separately with respective sections divided by the sheets in the workbook.

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