

March, 21, 2017

Amedisys Inc.: AMED

Peter Galante



Sector: Healthcare

Industry: Home Health Care

Current Price: \$54.53 Target Price: \$66.59

Amedisys, Inc., together with its subsidiaries, provides healthcare services in the United States. It operates through three segments: Home Health, Hospice, and Personal Care. The Home Health segment offers a range of services in the homes of individuals for the recovery of patients from surgery, chronic disability, or terminal illness, as well as prevents avoidable hospital readmissions through its skilled nurses, physical and speech therapists, occupational therapists, and aides for its patients to complete their important personal tasks. The Hospice segment offers care that is designed to provide comfort and support for those who are dealing with a terminal illness, including heart disease, pulmonary disease, Alzheimer's, HIV/AIDS, and cancer. The Personal Care segment provides assistance for patients with the activities of daily living.

BUY

Current Price: \$54.53
Target Price: \$66.59
Market Cap: 1.81B
Beta: 1.31
Cash EBITDA Margin: 5.61%
TTM Revenue Growth: 12.25%
Average Volume: 384.55K



Thesis: Amedisys provides high quality home health, hospice, and personal care services to clients all around the country. With 88% of plans operating at 4.0+ CMS Star Rating, and continued improvements to operating cost controls, AMED is in a position to take advantage of the industry growth that is expected for health care services. Share price has been beaten down by concerns over CMS' Home Health Groupings Model, but the plan has been dropped, and AMED should be able to see considerable growth going forward.

Catalysts:

- Continued improvements to quality and efficiency):
- The ability to generate steady profitable growth following industry trends through 2025. Adding industry experts and leading employees to their business development team.
- Identifying synergies of Personal Care Segment and tradition Home Care/ Hospice Segments. Expansion of Personal Care Segment.

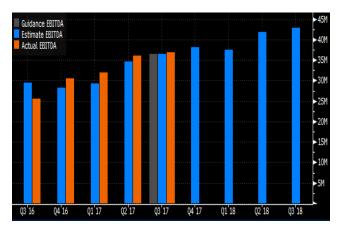




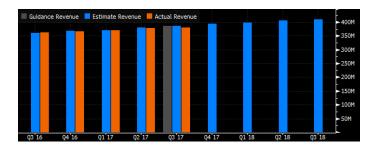
Earnings Performance:

Over the last four quarters, AMED has been able to beat expected EBITDA. This has come through improvements in operational efficiency and cost cutting. Management expects to see further improvements in these areas that will help increase margins. Despite their margin improvements, AMED has been unable to meet expectations for revenue in the past four quarters.

A main focus of the past two calls have been their efforts to build and maintain their business development team. They have had issues in the past maintaining these key



employees, but are now making an effort to attract top industry talent and retain them. This is important for their long term success. Amedisys has the clinical services to satisfy customer needs, so a stronger business development team will be able to help maximize the potential of these quality services.



Industry Outlook:

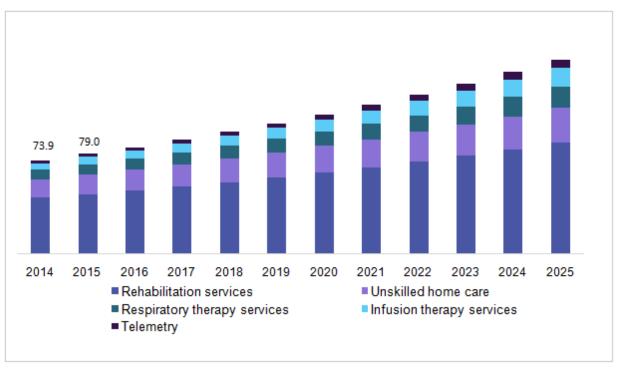
Both the home health and hospice care industries will see considerable growth moving forward. A major driver of this industry growth is the aging population. The average age of an Amedisys customer is 81 years old, the market for their services will be increasing by an estimated 7.8% each year through 2025. Since 2011, the baby boomers generation has seen about 10,000 individuals turn 65 years old each day. By the time that their generation will be past retirement age, it is estimated that 18% of the total population will be above 65. This is a significant increase from the roughly 14% of the population this age group represents today. The Centers for Medicare and Medicaid Services (CMS) estimate that there will be 81 million beneficiaries by 2030 (Source: The Fiscal Times). These industry trends signal that there will be plenty of growth opportunities for companies like AMED that provide quality service to their clients.





Rose enisode

U.S. home healthcare market, by services, 2014 - 2025 (USD Billion)



The aging population is promising for Amedisys because their services are cost efficient methods of providing care to members. Grand View Research indicates that "treatment cost for acute care hospital is around \$3250 per day" There are clear cost saving opportunities as the home care equivalent costs an average of \$50 per day. It is also estimated that the average charge per day for hospital inpatient care is over \$3000, and this is compared to nursing facilities at \$450 and home hospice care at an average of \$120 per day. The services that Amedisys provides will be utilized to responsibly manage the growing spend on health care in the coming years.

Another industry trend that is important for AMED, is that the average base episode payment has been increasing each year. An episode is a 60 day period of time where care is given, after the patient is reevaluated, another 60 day episode will begin and will be billed for. This is how AMED generates revenue from Medicare, as the rates they charge are adjusted prices from these base payments.

Period	payment
January 1, 2014 through December 31, 2014	\$2,869
January 1, 2015 through December 31, 2015	\$2,961
January 1, 2016 through December 31, 2016	\$2,965
January 1, 2017 through December 31, 2017	\$2,990

Another important industry factor that is important to discuss is that the Home Health Grouping Model plan has been pulled. This was a proposal from CMS to change the pricing model of Home Health services, and the potential passing of this weighed heavily on the share prices of AMED. As of November, this plan has been pulled, and AMED can continue with their current pricing model. With less uncertainty over the future cash flows of Home Health companies, the markets should be able to fairly price these companies.





Segment Analysis:

Amedisys Operates with 3 segments. Their home health segment accounts for about 76% of their total revenue in 2016. Their Hospice segment generates about 22% of their total revenue. Both of these segments generate their revenues from Medicare and Non-Medicare health plans. The EBITDA margin for the Home Health Segment is 12%. In the most recent quarter, Hospice EBITDA margin was 29.5%. Payment for the home health services is broken up into 60 day periods called episodes. Historically, 78 to 82% of the revenues for these segments come from Medicare. Amedisys has been able to grow their higher margin hospice segment faster than their larger home health segment. Hospice has grown at 13.53% over 2016, and Home Health has grown at 7.94% in the same time span.

HOME HEALTH					
\$ in Millions	3Q16	3Q17			
Medicare	203.9	197.9			
Non-Medicare	<u>65.0</u>	<u> 78.1</u>			
Home Health Revenue	\$268.9	\$276.0			
Gross Margin %	39.6%	39.1%			
Segment EBITDA (2)	31.9	33.2			
	11.9%	12.0%			

HOSPICE					
\$ in Millions	3Q16	3Q17			
Medicare	77.0	91.4			
Non-Medicare	<u>5.0</u>	<u>5.1</u>			
Hospice Revenue	\$82.0	\$96.5			
Gross Margin %	48.9%	50.5%			
Segment EBITDA (2)	21.3	28.5			
	26.0%	29.5%			

Both of these segments offer lower cost solutions than their inpatient counter parts. Home Health and Hospice services will be vital components of managing the growing health care spend.

The third segment that they operate is the new Personal Care segment. This was built around 2 acquisitions in 2016, and they currently operate 14 centers in Massachusetts. As they look for opportunities to grow this business through acquisitions, they see potential synergies with their other segments. This segment has clients that consist of health plans and insurers, it does not receive Medicare income. In the current state, this is a low margin segment. Operating Margin in 2016 was around 4%. Management has indicated that they would like to pursue growth opportunities in each of these categories through M&A activity if the deals make sense for the company.

Competitor Analysis:

The competitors below represent home health, post-acute care, and hospice care companies. Their operations are comparable to the operations of Amedisys. Amedisys has performed in line with their competition for revenue growth. They have also been able to increase their EBITDA margin at a rate faster than their competition. Despite EBITDA improvements, they still operate slightly below the median margin for their comparable firms. As management implements plans to increase their operation efficiency, they should be able to increase their margins even more to reach the industry standards. Amedisys has seen a year-over-year





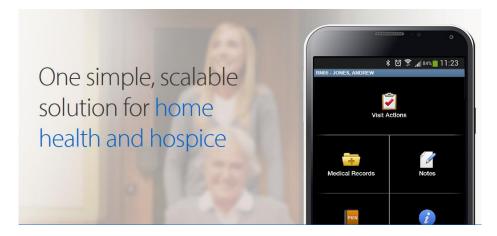
1% decrease in cost per visit for their Home Health segment. To compliment this, Cost per day of Hospice Service is down 1% over the same time period as well. Being able to achieve or exceed the industry average margins while providing the quality service that Amedisys does will allow AMED to maximize their profits on the projected industry growth.

Name	Mkt Cap	EBITDA to Net Sales:Q	Trailing 12M EBITDA - 1 Yr Growth	Rev - 1 Yr Gr:Q	Rev - 1 Yr Gr:Y
Median	1.47B	8.14%	8.76%	5.76%	12.16%
100) AMEDISYS INC	1.79 B	7.25%	10.12%	5.14%	12.25%
101) ALMOST FAMILY INC	802.29M	4.80%	16.53%	21.12%	17.16%
102) PROVIDENCE SERVICE CORP	782.63M	3.14%	-110.54%	-0 . 67%	6.83%
103) LHC GROUP INC	1.15B	9.04%	9.45%	18.23%	12.06%
104) CIVITAS SOLUTIONS INC	717.37M	10.59%	8.06%	5.19%	2.97%
105) CHEMED CORP	3.84B	15.06%	12.76%	6.33%	2.17%
106) MEDNAX INC	4.74B	17. 44 %	-9.54%	4.95%	14.50%
107) TELADOC INC	1.98B	-19.91%	5.55%	112.01%	59.15%

Quality Scores and Operational Improvements:

The Jan 2018 preview of CMS Stars Scores has 88% of AMED Plans at 4.0+ Stars. This means that they will be eligible for bonus revenue in the next year from Medicare in 88% of their plans. Being able to provide service at the 4.0+ level is key in driving revenue growth from Medicare customers. The large proportion of quality programs at Amedisys also indicates that they have the services developed that will allow them to take advantage of the industry growth rate that is expected.

Amedisys has developed and implemented a care platform called Homecare Homebase (HCHB). HCHB has now been implemented at all of AMED's care centers for hospice and home health. This is a leading platform that will help the company gain operating efficiencies as it is developed further.



What If Analysis:

Bull Case: In this scenario, the revenue assumptions were increased by .5% each year. In addition to these changes, operating costs decreased an additional percent to 89% over time. This indicates that they will have slightly higher growth prospects and will be able to exceed the comparable margins. In this scenario the price target is \$74.37 and a 1 year return of 36.38%





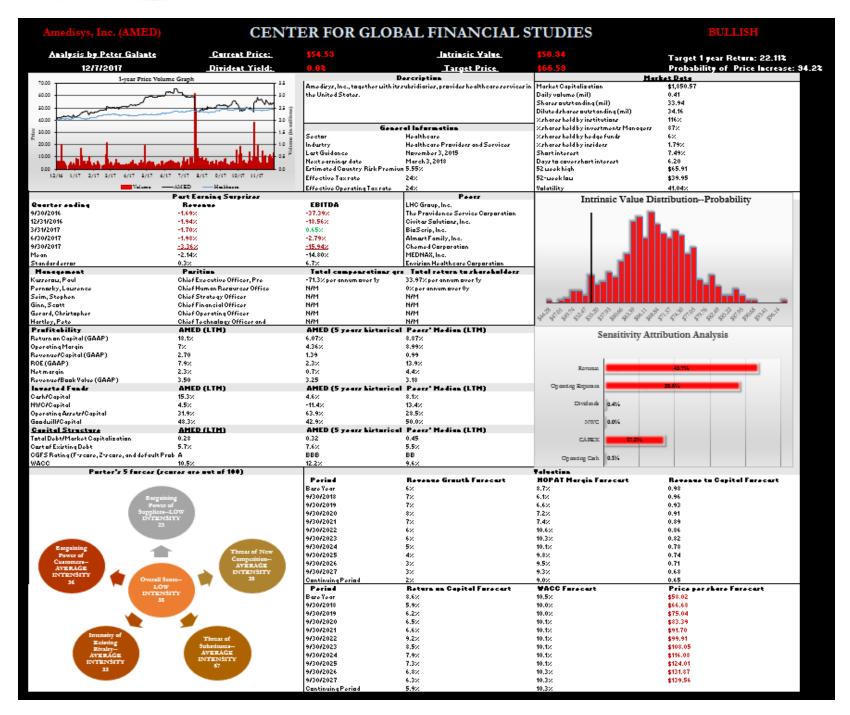
Bear Case: In this scenario the base revenue assumptions were decreased by 1% each year. In addition to this, the operating costs remained the same at 91% over the forecast period. In this scenario, the one year target is \$55.47 and the return is 1.72%.

Conclusion:

Amedisys is a company that provides top quality service for home care and hospice care clients. These are two industries that will see considerable growth in the future, and Amedisys has been able to position themselves to take advantage of the growth. By developing an efficient care model to match their high quality service, Amedisys will be able to see profitable growth going forward. They have an opportunity to develop a third segment that will be synergistic with their core developed segments. In addition to those opportunities, the hiring and retention of top class employees will supplement the growth to maximize the potential of their services. Amedisys is a buy opportunity.













March, 21, 2017

Cone Midstream Partners LP Ticker: CNNX

JT Jennings



Sector: Energy

Industry: Oil, Gas and Consumable Fuels

Current Price: \$17.34 Target Price: \$20.98

CONE Midstream Partners LP is a master limited partnership that was formed in May of 2014 by CONSOL Energy Inc. and Noble Energy Inc. CONE operates its business through three segments: Anchor Systems, Growth Systems and Additional Systems. CONE Midstream owns, operates and develops natural gas gathering and other midstream energy assets in the Marcellus Shale in Pennsylvania and West Virginia.

BUY

 Current Price:
 \$17.34

 Target Price:
 \$20.98

 Market Cap:
 1.1B

 WACC:
 7.78%

 ROIC:
 14.92%

 Avg. Volume
 148,287



Thesis: CONE Midstream Partners is primed to become a leader in the midstream energy service industry. CONE has a long term fixed fee agreement with two best in class sponsor companies CONSOL Energy Inc. and Noble Energy Inc. CONE is positioned well as the price for oil steadily rebounds. The acquisition of CONE Gathering DevCo. has increased efficiencies in the Anchor System segment. With the improvements to operations, quality and efficiencies, CONE is a definitive buy recommendation.

Catalysts:

- Short Term (within the year): 3,700 potential new drilling locations.
- Mid Term (1-2 years): Trump administration, tax cuts, infrastructure spending, and deregulation.
- Long Term (3+): Stable long term partnership agreement with established successful oil companies.



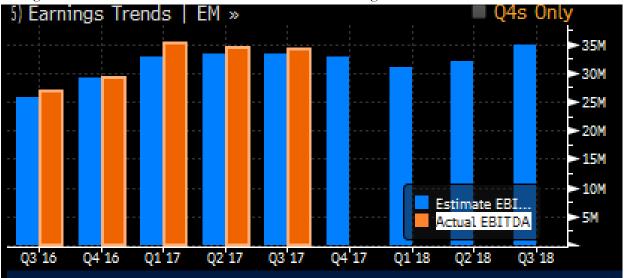




Earnings Performance:

CONE Midstream released their third quarter earnings report earlier this month on November 2nd. The third quarter showed promise of their 2016 acquisition in Anchor System. Due to this acquisition, the net income rose 22% to \$29M, adjusted EBITDA grew 28% to \$34M, and distributable cash flows improved 26% to \$29M. Additionally, CONE was able to decrease their operating costs by 31% compared to quarter 3 of 2016. They were able to limit costs by turning 17 wells in line during the quarter. CONE has also transitioned to using automation and technology to limit expenses, specifically in the gas control room, which needs to be monitored 24-7. This automation and growth in technology has allowed CONE Midstream to improve their margins in both the Additional Systems and Growth Systems segments.

The graph below shows that the EBITDA for CONE Midstream has beaten every quarterly estimation for the past 8 quarters. This is due to the steady increase in wet and dry oil extraction production from both Noble Energy Inc. and CONSOL Energy Inc. as well as the rebounding oil prices. CONE Midstream's CEO, John T. Lewis said that, "We are confident in our current strategy to reduce operating expenses, and continue to work alongside with Noble and CONSOL to maximize revenue growth."



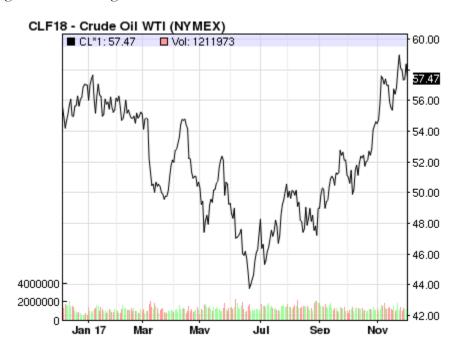
Industry Overview:

Currently, the oil, gas and consumable fuels industry is valued over \$3.2 Trillion. With the decrease in production in China's manufacturing sector, a rise in domestic production will likely occur. Because of the increase in domestic production, there will be a greater need for both wet and dry oil. This would position CONE Midstream Partners well, because it should increase the price in oil as well as the demand for CONE's services. The current price for oil remains around \$57 a barrel, however with the recent hurricane catastrophe and Trump's executive order to increase infrastructure spending by a trillion dollars, a sharp rise in crude oil prices seems fairly likely. The destruction to much of the U.S. gulf coast means that oil companies are more dependent upon drilling shales of mainland America. Furthermore, geographical regions in the Pennsylvania and West Virginia should see a sharp increase in demand.





The chart shown below depicts the price for oil slowly crawling its way back up north toward \$60 a barrel. Oil has posted the biggest quarterly gain in over a year. If this trend continues as expected, CONE should be primed to stage high returns coming into the end of 2017.



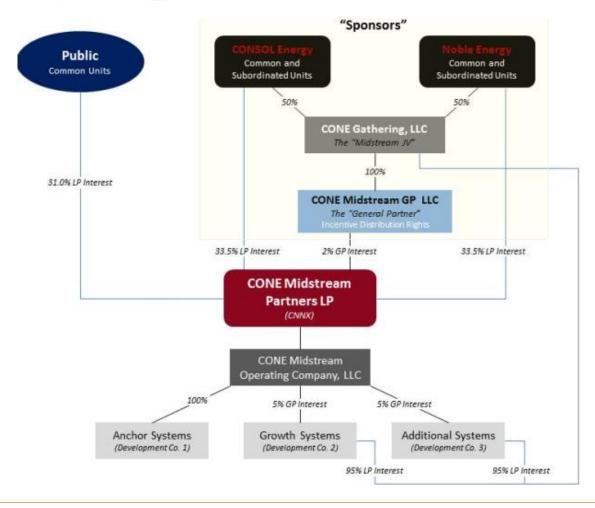
Business Overview:

CONE Midstream Partners LP was created through a master's limited partnership agreement between CONSOL Energy Inc. (NYSE: CNX) and Noble Energy Inc. (NYSE: NBL) in 2014. The agreement stated that CONE would generate revenue through a 20 year long-term fixed fee agreement between the partners. Both Consol and Noble are large, independent oil and natural gas exploration companies that operate in the premier North American drilling shale, known as the Marcellus Shale. The Marcellus Shale has the highest concentration of hydrocarbon in North America, and accounts for 18% of all dry gas consumption in the United States. CONE Midstream, currently operates on roughly 500,000 net acres of the shale. Their proximity to high demand metropolitan markets in the North East, allows for easy transportation and a fast turnover ratio. CONE operates their business in three segments: Anchor Systems, Growth Systems and Additional Systems. Their daily operations consist of refining, transporting, storing and marketing the production and assets used by both Noble and CONSOL during the process of extracting oil. CONE has a four-step approach to ensure their success: 1) Capitalize on organic growth opportunities 2) Complete accretive acquisitions from CONE gathering 3) pursuing fixed-fee cash flows and 4) attracting third party volumes.

Below is a diagram that shows the breakdown of the master limited partnership segments and interest.







Segment Analysis:

CONE Midstream operates in three segments Anchor Systems, Additional Systems, and Growth Systems. CONE uses the three segments to extract, deliver and store natural gas obtained through the 254 miles of pipeline across the Marcellus Shale.

For the Fiscal Period Ending	Reclassified 12 months Dec-31-2012	Reclassified 12 months Dec-31-2013	Reclassified 12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016
Currency	USD	USD	USD	USD	USD
Revenues					
Anchor Systems	41.2	63.8	112.9	156.3	197.9
Growth Systems	1.4	1.5	9.7	13.4	10.4
Additional Systems	-	-	6.2	33.7	31.0
Other	-	0.4	1.2	-	-
Total Revenues	42.6	65.6	130.1	203.4	239.2

The Anchor System has been completely acquired from CONE Gathering DevCo. at the end of 2016 when they purchased the remaining 25% controlling interest. The Anchor Systems include midstream systems that generate the substantial majority of their current cash flows, and they expect to drive CONE Midstream's growth over the near term. Throughout 2017, they have seen an increase average throughput on these systems from their sponsors' growing production.

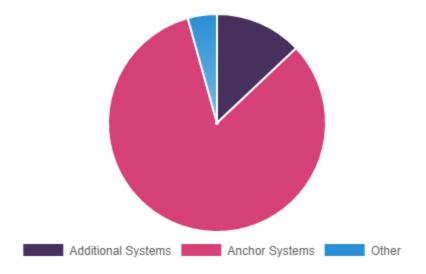




CONE's Growth Systems includes their, developing gathering systems that will require substantial expansion capital expenditures over the next several years, the vast majority of which will be funded by their Sponsors in proportion to their retained ownership interest.

Their Additional Systems include several gathering systems primarily located in the wet gas regions of their dedicated acreage. CONE expects that the Additional Systems will generate stable cash flows and require lower levels of expansion capital investment over the next several years.

Below is a visual representation of the three segments revenues for the year 2016.



Competitors:

CONE Midstream is currently well placed in the market, being that it's sponsor companies both Noble and CONSOL Energy have posted promising Q3 results. CONE is still a young midstream company, and yet they have solidified themselves as a credible and promising company in a short amount of time. They have a competitive advantage in their geographical location in the Marcellus Shale. There are currently 3,700 drilling locations shared between the partnership. CONE leads competitors of relative market capitalization, in return on equity of 30.29% proving that they are able to generate profit with shareholders equity. Their ROIC is far greater than their relative competitors, thus proving that CONE is more than capable of using invested capital to improve operations and generate revenue growth. Additionally, their WACC is consistent with their competitors which is not a concern when their return on invested capital is the best in class. The comparison of WACC to ROIC shows that when CONE grows, they are able to add value. Based on their current financial operations and their 20 year agreement with quality sponsors, CONE will remain a successful perennial competitor for the foreseeable future.



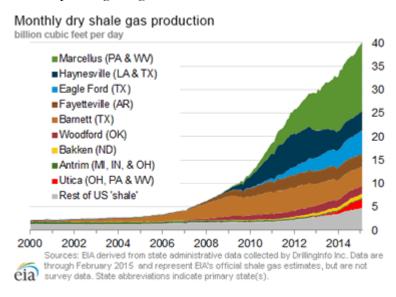


Name	Mkt Cap (USD)	ROE	ROIC:Y	WACC	Revenue:Y	EBITDA to Net Sales:Y
Median	3.24B	10.52%	6.02%	7.70%	1.31B	55.78%
100) CONE MIDSTREAM PARTN	1.07B	30.29%	14.92%	7.78%	239.21M	64.08%
101) TC PIPELINES LP	3.54B	20.16%	6.35%	7.98%	357.00M	78.71%
102) BOARDWALK PIPELINE P	3.31B	7.18%	6.02%	6.81%	1.31B	60.84%
103) DCP MIDSTREAM LP	4.96B	1.81%	4.94%	7.72%	1.50B	21.38%
104) ENBRIDGE ENERGY PART	5.94B	12.48%	4.87%	7.70%	4.48B	20.28%
105) SUMMIT MIDSTREAM PAR	1.42B	10.52%	1.53%	7.31%	402.36M	55.78%
106) TALLGRASS ENERGY PAR	3.24B	18.34%	9.62%	8.19%	605.12M	57.48%
107) NGL ENERGY PARTNERS LP	1.55B	-8.10%	0.65%	6.65%	13.02B	3.78%
108) NUSTAR ENERGY LP	2.77B	5.03%	7.33%	6.93%	1.76B	32.78%
· -					_	
(Accounting Adjustments: Adjus	sted for Abnormal I	tems Whe	n Applicable)			10) Analyze List

CONSOL and Noble Partnership:

CONSOL Energy Inc. and Noble Energy Inc. provide CONE Midstream with the security of knowing that they have a 20 year fixed fee agreement. For a young company such as CONE, it is important to have management with experience in the industry. CONE's CEO and president John T. Lewis was once a vice president at Noble, and their CFO David M. Khani was once the Vice President and CFO of CONSOL. Both men have adopted the culture and methods of success that Noble and CONSOL has taught them, and they have instilled it into the business structure at CONE Midstream. In addition to quality management, their master limited partnership has provided CONE with an optimal geographical location in the Marcellus Shale. Currently, the partnership has 537 operational wells ready for extraction. The partnership has recently announced that they have 3,700 prospective new drilling sites across the Marcellus Shale. According to management, the partnership plans to double the amount of drilling sites in the next five years. This would greatly benefit CONE in regard to revenue growth and operating margins.

The Marcellus Shale has been known to contain fair amounts of natural gas. However, in 2015 the shale was yielding nearly 14.4 billion cubic feet of natural gas per day, and accounted for over 36% of all shale gas produced in the United States, as well as 18% of the total dry gas produced in the United States.



Debt:

CONE Midstream has shown the ability properly manage their money due to their low debt to equity ratio of 18.72%. CNNX has the ability to finance acquisitions such as the Anchor Systems in 2016 without the use of





debt. The Acquisition consisted of \$140M in cash and an issuance of 5.2M common shares. CONE currently has \$157M in total long-term debt. CNNX also has the luxury of having a \$250M revolving credit facility through their sponsors, which allows for some flexibility of new potential acquisitions or future projects. Compared to their competitors CNNX is positioned very well. Although they are smaller than most of their competitors, their debt to equity, debt to EBITDA and their financial leverage are all at or well below their competitors average. CONE's ability to limit their debt, decreases their overall risk and frees up capital that could be invested in other operations.

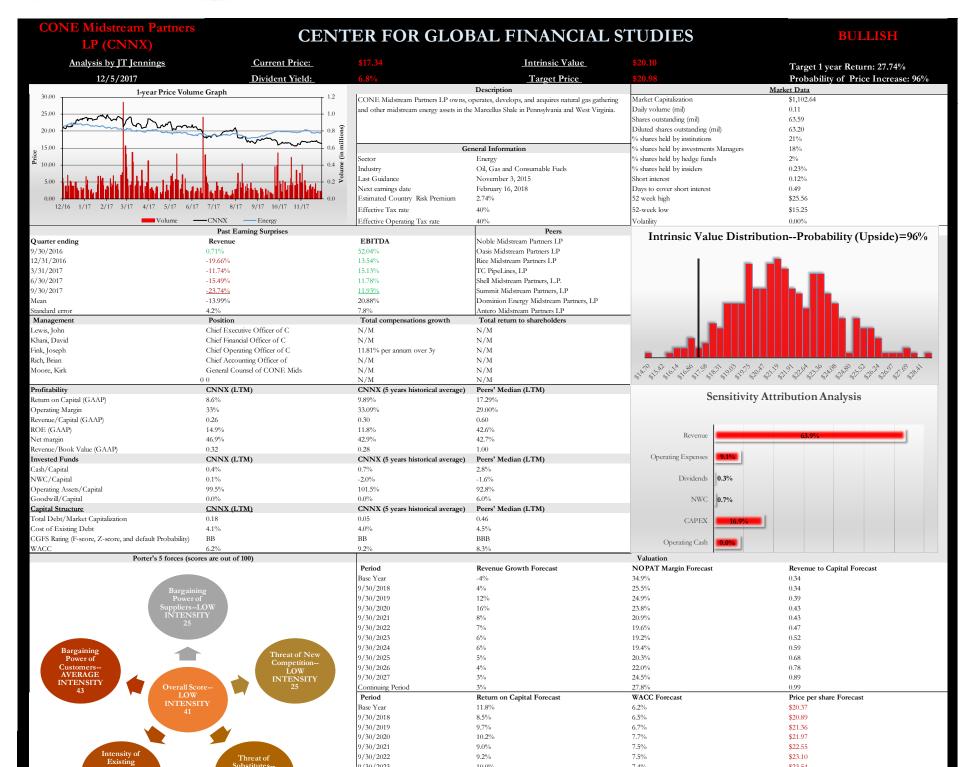
News	Ml+ C	D-b+/CV	D-L+/FRITDA-V	N-+ D-L+ +- EDITDA-V	Γ'-1 IV
Name	Mkt Cap	Debt/Cap:Y	Debt/EBITDA:Y	Net Debt to EBITDA:Y	Finl Lev:Y
Median	3.24B	50.20%	5.53	4.78	2.78
100) CONE MIDSTREAM PARTN	1.07B	18.72%	1.09	1.05	2.78
101) TC PIPELINES LP	3.54B	60.19%	6.61	6.43	2.64
102) BOARDWALK PIPELINE P	3.31B	43.99%	4.47	4.45	1.91
103) DCP MIDSTREAM LP	4.96B	46.08%	7.03	8.03	1.98
104) ENBRIDGE ENERGY PART	5.94B	50.20%	8.67	4.31	5.75
105) SUMMIT MIDSTREAM PAR	1.42B	51.47%	5.53	5.42	2.93
106) TALLGRASS ENERGY PAR	3.24B	48.89%	4.05	4.02	2.06
107) NGL ENERGY PARTNERS LP	1.55B	57.26%	6.07	10.44	3.13
108) NUSTAR ENERGY LP	2.77B	65.56%	5.33	4.78	3.39
(Accounting Adjustments: Adjusted	for Abnormal Items	When Applicable)			10) Analyze List
			0001 511		E 1 D 1

Conclusion:

Based upon catalysts and their current financial position, CONE Midstream Partners LP seems to have a reasonable growth ceiling for the next 10 years plus. They have steadily grown their revenue and improved their margins even during the tough times of oil prices. They were able to innovate their techniques as a midstream supplier without gaining any significant debt. Assuming that the oil prices rebound and the Trump administration can agree with congress to implement the tax cuts and the increase infrastructure spending, CONE will be positioned extremely well. They have successfully acquired the remaining 25% of the Anchor System, and limited their debt to equity ratio to 18.72%. CNNX and its partners share one of the greatest drilling shales in North America, that has continually shown annual growth in the amount of cubic feet of natural gas. CNNX is a definite buy recommendation.









December 8, 2017

Cohu, Inc.: COHU Nicholas Matzelevich



Sector: Technology

Industry: Semiconductor Equipment & Materials

Current Price: \$22.02 Target Price: \$24.36

Company Description: Cohu, Inc. is a supplier of semiconductor test and inspection handlers, micro-electro mechanical system test modules, test contactors, and thermal sub-systems to global semiconductor manufacturers. Their products are used to test semiconductor chips as a means of quality control for their customers. The company conducts their operations in Asia, Europe, and North America.

BUY

Current Price: \$22.02 Target Price: \$24.36 Market Cap:

\$616.11M

LTM ROIC: 26.4% LTM WACC: 18.6% EBITDA Margin 27.0% Volume: 0.257M



Thesis: Cohu, Inc. is poised for significant growth in the years ahead. This growth will be spurred by their recently released new products, expansion of the automotive IC market, and their improved financial model to achieve \$500M in sales in the next 3-5 years. Currently, the market has not reacted to these catalysts, providing a unique mispricing opportunity that must be capitalized on as soon as possible.

Catalysts: Forward looking projections that call for positive/negative outlook that will strengthen your thesis. Example:

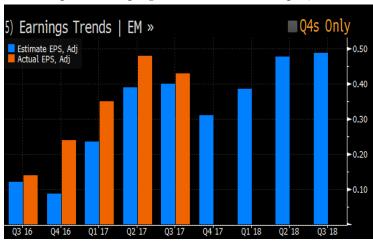
- Short Term (within the year): New product launches proving viable in the market.
- Mid Term (1-2 years): Expansion of Automotive IC market
- Long Term (3+): Improved financial model will lead to better margins and more profitability.





Earnings Performance:

As shown in the provided graph, Cohu has beaten 8 out of their past 8 quarterly earnings. Most recently, Cohu beat their 3Q17 estimated EPS by \$0.03, for a quarterly EPS of \$0.43. Cohu achieved \$93.7M in revenue for the quarter, keeping consistent with their projections. Cohu's success in this quarter is attributable to several



factors. First, the company had stronger reoccurring sales from their customers in the computing market, which increased demand for their test contactors and spring probes. Second, Cohu received repeat orders for their newest configuration of their Eclipse handler, one of their many semiconductor testing products, in addition to increasing shipments of gravity handlers for automotive and industrial applications. Finally, Cohu made significant progress their new PANTHER probing system, acquiring a new achieving customer and initial customer

acceptance from their existing customers.

Looking ahead to 4Q17, Cohu is expecting their revenue to be \$84M, \$0.6M higher than an estimated \$83.4M. The company sees the further adoption of their PANTHER system and the increase in demand for their test contactor products as significant revenue drivers for the upcoming quarter. The existing initial customer adoption of the PANTHER system and the reoccurring sales of the contact systems from the previous quarter coupled with the current boom in semiconductor market makes Cohu's estimates achievable and likely to happen.

Business Description:

Cohu, Inc. is an industry leader in the semiconductor equipment and materials sector, providing semiconductor test and inspection handlers, micro-electro mechanical systems test modules, test contactors, and thermal sub-systems to the global semiconductor market. The company operates in Asia, Europe, and North America, manufacturing and selling their products. In essence, Cohu provides testing equipment for each type of semiconductor chip that is manufactured by leading semiconductor manufacturers. These test equipment products are designed to measure quality and performance of a semiconductor chip prior to shipment to customers.

Recently, Cohu has made an effort to grow their revenue by implementing a new business model, the Cohu500, which has set a goal to reach \$500M in sales within 3-5 years. To help achieve this goal, Cohu acquired Kita Manufacturing Co. LTD in January 2017 to further expand into the spring probe contactor market. Kita is based in Japan, which is part of Cohu's Asia segment. Most of Cohu's revenue, 51.8% FYE2016, is from Asia. This is mostly due to the fact that most semiconductor manufacturing companies have their plants located in Asia. To help improve operating expenses, Cohu has recently moved most of their manufacturing to Malaysia. With the improvement and increasing need for technology, Cohu's most profitable segment is expected to grow over the next several years.





Industry Outlook:

Cohu, Inc. operates in the semiconductor equipment and materials industry, which is a subindustry of the overall semiconductor industry. The semiconductor equipment industry is highly competitive and characterized by rapid technological change. In addition to the traditional competitive factors of performance and price, this industry's competitive factors also include customer support and installed base of products.



The semiconductor equipment industry is also highly cyclical, tending to mimic the cyclicality of the semiconductor chip industry. The cyclicality of the semiconductor equipment market is attributable to the purchase timing and technology requirements of the semiconductor chip manufacturers. Periodically, chip production capacities will exceed the global demand for semiconductor chips, causing chip prices to fall. As a result,

it is hard to forecast chip demand. However, the semiconductor market is expanding and diversifying due to development of new technologies, such as internet capabilities in automotive products. As a result, the semiconductor equipment industry will grow to meet these needs.

While Cohu, Inc. sells many of its products to the Asian market, it also experiences heavy competition from the Japanese and Korean markets, which represent a majority of the market share for semiconductor equipment. Additionally, many of these Japanese and Korean companies are part of larger corporations that manufacture their own equipment and semiconductor chips.

Although the semiconductor industry has taken a hit over the past couple weeks, it is still in a boom. This decrease in overall stock share is due to investors taking their profits and reinvesting them in underperforming blue chip stocks. Since the middle of 2016, the semiconductor equipment market has been growing to meet the needs of semiconductor chip makers as the market is in an upswing. While some have speculated that the market is reaching its peak, the development of new technologies and new potential customers in the automotive IC market will keep the overall market growing beyond expectations.

Business Model - Cohu500:

Beginning in early 2016, Cohu has implemented a new business model, the Cohu500, to grow the company's revenue to \$500M in the next 3-5 years. Cohu has done an impressive job implementing this





strategy, as shown by their improving EBITDA margin and decreasing operating expense as a % of revenue. Since 2015, Cohu has grown its EBITDA margin from 9% to 10% in 2016, and is expecting an EBITDA margin of 16% at FYE2017. This is mostly attributable to the company shifting a large portion of their manufacturing capabilities to a lower cost facility in Malaysia. Currently, Cohu has approximately 90% of its handler products shipping out of the Malaysia



facility. Additionally, Cohu has improved their operating expenses as a % of revenue over the past several quarters, from 59.12% FYE2015 to 51.91% LTM, showing the company's commitment to the Cohu500. The sustained improvement of these margins are a marked indicator of the continued success of the Cohu500, and should continue to grow to 20% looking ahead to the achievement of the business model.

In addition to improving EBITDA margins, Cohu also looking to expand further into their automotive and mobility segment. Over the past three years, 40-55% of Cohu's system orders have been from the automotive and industrial markets, and the company is looking to grow a further 6 points from their handler products, spurred on by the release of their Aquilae Vision Inspection handler. Cohu also expects to grow a further 4-6 points from their test contactors, which has already expanded from their acquisition of Kita Manufacturing at the beginning of 2017. All of these products will be implemented in the automotive IC market. Currently, semiconductor chips are used in relatively simple capacities in the industry, such as power train and chassis monitoring. However, automotive manufacturers have started to incorporate further upgrades, such as entertainment, phone capabilities, and advanced driver assistance systems. These improvements can be seen in IC content per vehicle increasing from \$297 per vehicle in 2012 to \$344 per vehicle in 2016. Analyst estimates place the IC content per vehicle to reach \$382 per vehicle and the total addressable market for automotive IC to reach \$38B by the end of 2019. Given the high number of customer orders Cohu has in the automotive market, it can be expected for Cohu to follow these growth trends in the future.

Product Launches:

Recently, Cohu has released two new products, the PANTHER WLCSP Prober and Aquilae Vision Inspection. They are outlined below:

PANTHER WLSCP Prober:

Cohu released this product earlier this year, and has already shipped three of these systems to customers. Of note, one of these sales was to a new customer for back-end factory automation. While Cohu has not released the name of this customer, some analysts speculate that it is Samsung. If this is true, then Cohu could be developing an important customer relationship with one of the largest global semiconductor





Path to Cohusoo Sales <u>\$M</u> \$500 \$450 \$400 \$350 \$300 \$250 (Analysts) Handler Contactor WLCSP Inspection Share Gain Share Gain Probe Systems Approx. 6 pts handler share gain in growing automotive and mobility Grow to #1 or #2 in contactors: product performance, global support Expand in inspection market with automotive and advanced packages **№** Cohu

Company Confidential

manufacturers. In their business model, Cohu assumes \$15M in revenue for the next 3-5 years. However, if Samsung proves to be the new customer, then revenues for this product are expected to be beyond \$15M.

Aquilae Vision Inspection:

December 6, 2017 Page 14

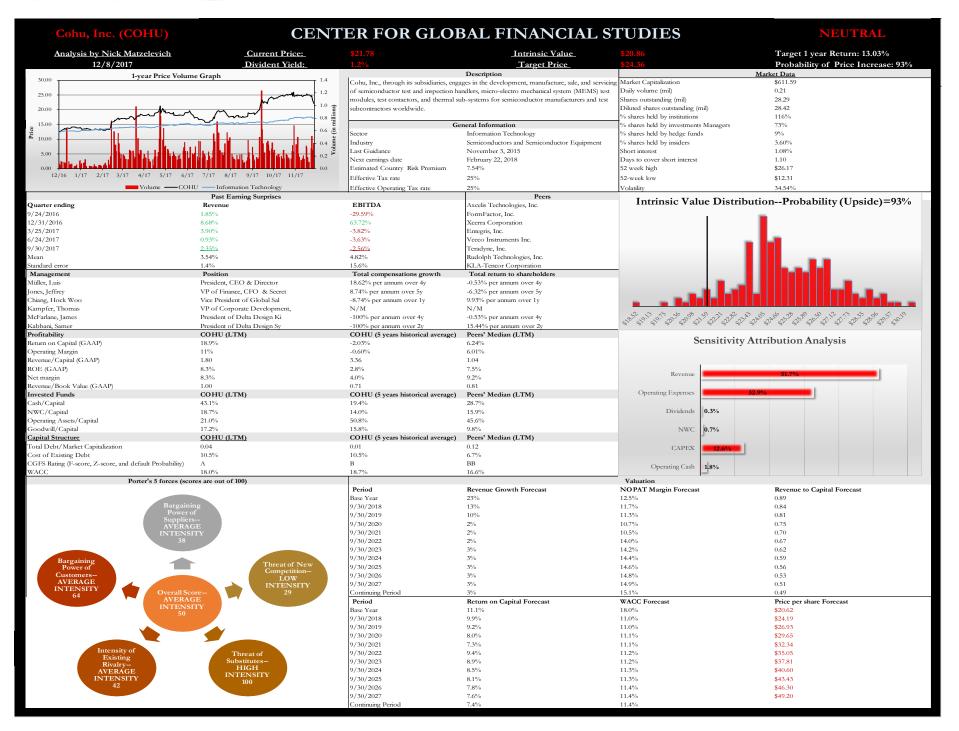
The relatively new release of this product in 2016 is a result of Cohu's acquisition of Ismeca in 2013, where Cohu acquired the market share leader of turret, inspection, and LED semiconductor test equipment. For 2016, analyst estimates place product revenue at \$15M, however Cohu has estimated that this product will generate \$45M over the next 3-5 years when implemented in the Cohu500. This would grab an additional 10% of their current market share in the \$450M inspection system market.

Conclusion:

Cohu, Inc. is a leading global semiconductor equipment manufacturer that is poised for significant growth in the near future. Cohu has implemented a new business plan that has increased margins and placed the company at a competitive advantage to their peers. Their new product launches, the PANTHER and Aquilae Vision Inspection systems, have been accepted by their leading customers, and even generated some new business. Cohu is also looking to further expand into the automotive IC market, an emerging market that has upside growth potential to expand 4-6% by 2019.













December, 8, 2017

Dana, Inc.: DAN

Michael Vitale

Sector: Consumer Discretionary

Industry: Automotive Current Price: 31.87 Target Price: 42.61

Company Description: Dana Incorporated, based in Maumee, Ohio, is a world leader in highly engineered solutions for improving the efficiency, performance, and sustainability of powered vehicles and machinery. Dana supports the passenger vehicle, commercial truck, and off-highway markets, as well as industrial and stationary equipment applications. Founded in 1904, Dana employs nearly 29,000 people in 34 countries on six continents who are committed to delivering long-term value to customers.



BUY

Current Price:	\$31.87	ROIC(TTM):	23.90%
Target Price:	\$42.61	WACC(Q3):	9.9%
Market Cap:	4.6B	EBITA Margin(TTM):	9.17%
Beta:	1.67	Gross Profit Margin(Q3):	14.49%

Thesis:

Dana Inc. has strong growth factors due to further market expansion in growing regions like China. They are an industry leader, launching new products, which follow the current industry trends towards electric vehicles. With further acquisition synergies on the 2018 horizon, Dana Inc. should see increased efficacies with multiple growing end markets.

Catalysts:

- Short Term(within the year): Achieving synergies and growth in Chinese market.
- Mid Term(1-2 years): Further diving industry leading innovation sparking organic growth.
- Long Term(3+): Increasing global trend of electric vehicle sales.





Company/Business Overview:

Dana, Inc. is a global manufacture of car parts. The majority of their products are driveline products including rear and front axles, driveshafts, and transmissions, and power technologies (sealing, thermal-management products) as well as service parts. The markets they supply to include light, medium and heavy (commercial) vehicle market, as well as off-highway markets. They divide their operations into three major business segments: Light vehicle (52% of sales), commercial (29%), and off-highway (19%). Power Technologies is a growing segment for them.



Light Vehicle Driveline (LVD): North American sales remain strong based off the Q3 earnings report. Demand for key light-truck platforms are driving organic growth. Vehicles inventories are remaining low with a high inventory turnover rate. 40% of customer sales in LVD are to Ford with Fiat Chrysler coming at second with 16%. Of their regional sales in this segment, they are heavily invested in North America as 67% of their sales are in this region. Asia Pacific is their second largest region at 16%, and they are expanding production further in this region through new facilities. Their EBITA Margin in this segment has increased by 0.9% to 11.5% year to date in 2017. Sales realized a 23.8% growth year to date from 2016-2017. The new Chongqing Light Vehicle Driveline facility in China is producing new products for the growing SUV market in China which is contributing to further penetration in the world's largest vehicle market.

Off-Highway Drive and Motion: Demand remains strong in construction markets. They are realizing a steady recovery in the mining markets in North America and Asia. Synergies from their recent consolidation of Brevini manufacturing sites in China into one facility. This facility is on track to for completion in 2018, which will increase efficiencies in this segment. Their largest presence is in Europe, which composes about 75% of their regional sales. Asia Pacific is their second largest region at 14%. EBITA Margin for this segment grew 0.2% to 14.2% YTD from 2016-2017. They realized a sales growth of 60% TYD.

Commercial Vehicle Driveline: There is a continued strong demand for light vehicle trucks in North America. Their class 8 market share has been improving into 2017, and is estimated to carry into 2018. According to their Q3 report, 58% of their regional sales were in North America with Asia Pacific being the smallest segment. They have realized a .3% EBITA Margin growth from 2016-2017 YTD to 8.6% in the Commercial Vehicle segment.





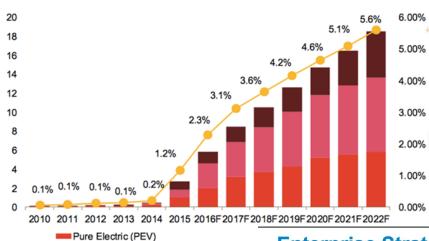


Power Technologies: Demand for light and medium trucks remains strong and driving higher sales volume in this segment. Two new facilities have broken ground in China to support new business growth in that region. The two new facilities bring the total to 15 facilities in China. The Yancheng Power Technologies facility utilizes the former Brevini facility and shows further investment for growth in that region. The further investment in China should help grow the regional sales of which only amounted to 5% of total regional sales as of Q3. North America had the largest share at 55%. Dana realized a

.7% EBITA Margin growth from 2016 – 2017 YTD to 15.7%. Power Technologies has the largest EBITA Margin across all segments for the company, and their further investment in this segment should drive an increase in overall company performance.

Growth Strategy:

Dana inc. year over year revenue growth for Q3 is 26.36% compared to an industry 2.23% for the industry. This is their third consecutive quarter with achieved double-digit year-over-year organic growth. Their strong sales backlog, combined with recent acquisitions and improved end market demand, continue to drive



profitable growth. They have realized progress in their electric vehicle program developments and their expansion in China where they are leveraging our core assets and technology. Chinas passenger vehicles sales have been growing at a CAGR rate of 10% from 2010-2016. The current industry trend in China is heavily leaning towards the advance of alternatively powered vehicles. Policies on carbon emission restriction and carbon emission trading accelerated this

Enterprise Strategy ExecutionGrowth in Electrification

market share growth of alternatives. Their Luxgen7 MPV electric vehicle is currently in production in China. This vehicle utilizes Spicer electrified drive unit. This electric SUV has been in the market for a couple years and is their first light vehicle EV platforms. Their new electric Royal Mail Truck that uses a Spicer

drive shaft in a central electric

process and contributed to the 2%

Hybrid (Mild + Full)





- Electric drive unit for shuttle vans
- Weight reduction and improved efficiency
- Manufactured in United States



- Electric city bus
- Fully-integrated motor and gear box
- Manufactured in China



- SUV and Car PHEV programs
- Battery and power electronics cooling
- Manufactured in China

>>>>>>

© Dana 2017



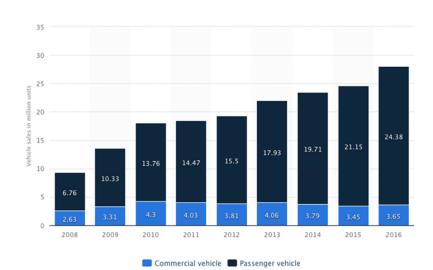


motor configuration and has a range of 100 miles, perfect for the mail delivery application. As for their off highway segment, Caterpillar contrition equipment, specifically the Compaq wheel loader, utilizes Dana transmission and axles. These products demonstrate the diversity of Dana's product reach and their leveraging of core technologies across multiple end markets. Another facet for their enterprise strategy is accelerating hybridization and electrification. Their product brand for electric driveline products is serviced by Spicer Electrified. This helps represent Dana's comprehensive strategy to leverage their controls, software and electric engineering expertise and product knowledge. An example for this is their electric drive unit for electric vans, which manages speed and torque from the electric motor to the wheels. This design allows for vehicle systems integration, and reduces weight while improving efficiency. Planned for launch in 2018 in China is a new E Axle for electric transit buses and city delivery vehicles. This axle features a fully integrated motor and gearbox. Lastly, their advanced battery and power electronics cooling technology will help them realize strong organic growth in the adjusting industry trends towards electric vehicles. Their Power Technologies team has made further progress to expand their smallest region (Asia Pacific) which shows the strongest industry growth moving into 2020. They have had significant new business wins in China with major OEM for both electric SUV and passenger car programs. These products will be manufactured in their new Wuxi, China facility and will be their first battery coolers domestically produced. This service will serve as a platform to accelerate and support growth of their EV market share in that important region.

Industry Outlook:

Dana focuses their business in four main regions, Europe, North America, South America, and Asia-Pacific. In North America, the U.S. economic growth continues to be a positive indicator for our end markets. Light truck production is expected to remain strong through the rest of the year while their key platforms continue to see stable demand. Class 8 truck production is now forecast to be higher in the range of 245,000 to 255,000 units this year in North America. And the steady improvements they have seen in construction and mining end markets continued during Q3, with the expectation to continue through 2018. In Europe, they expect economic growth will continue through the remainder of 2017, and their currency expectations have improved as the euro has strengthened against the U.S. dollar. The commercial vehicle market has shown a solid 2% growth, with the off-highway markets remaining strong. As for South America, in Brazil, they saw continued slow recovery during this quarter and expect this to carry on into next year. Off a low base, medium and heavy truck production has increased more than 20% year-to-date, while bus production

continues to stabilize. In Argentina, they expect the economy to remain stable. Lastly and most importantly, in Asia-Pacific, the Chinese economy is expected to maintain a growth rate of mid-single digits over the next few years. Economic growth in India also remains stable despite a strong but a short-term disruption of tax reform. Overall, in Asia, late demand remains stable within the region. The Chinese market reached 23 mio units sold in 2016 and accounted for around 30% of global passenger car sales, which makes China the largest global automotive market. China has remained the







world's largest automotive market and automotive manufacturing country since 2009. There was a compound annual growth rate (CAGR) of 18,1% from 2005 to 2012. In 2016, the official China Association of Automobile Manufacturers (CAAM) reported that China's auto industry enjoyed rapid growth, with its sales and production both achieving new records. The production and sales of automobiles (passenger & commercial vehicles) were 28,119.000 and 28,028,000 units respectively, up 14.5% and 13.7% year on year, 11,2% and 9.0% higher than in 2015. The automotive sales market is expected to climb 5% in 2017 to 29.4 million vehicles, still triggered by a tax cut policy starting in 2015. After strong growth for nearly a decade (CAGR of 18,1%), the Chinese automotive market is reaching a critical point in its development.

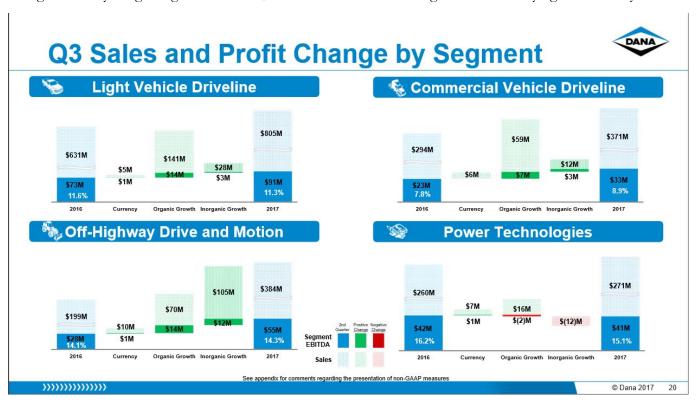
Third Quarter Performance:

Sales of \$1.8b grew \$447m since the same period last year showing a 32% growth. Sales are up by about \$1b compared to the first nine months of last year on a YTD basis. The majority of Dana's growth in Q32 was organic as they continue to convert their sales backlog and benefit from strong end market demand. They ended Q3 with organic growth of 21%. YTD adjusted EBITDA was \$638m, which is up \$144m over the last year. Net income was \$69m, which was \$12m better that the same period last year. For the first nine

Q3 Highlights

- Continued Strong Financial Results
 - Sales of \$1.8 billion
 - 32% YOY sales growth, 21% organic
 - Adjusted EBITDA of \$216 million
 - 11.8% margin
 - Diluted Adjusted EPS of \$0.59
 - 20% increase over prior year
 - Free Cash Flow of \$99 million
- Raised Full-Year Financial Guidance
- Advancing Enterprise Strategy Execution
 - Electric vehicles and expansion in China

months, net income was \$60m better than year as higher EBITDA was partially offset by higher depreciation expenses due to the increase in CAPEX, higher tax expenses from stronger earnings, and higher acquisition expenses. This growth can be attributed to three key factors: organic growth, business acquisitions, and foreign currency. Organic growth added \$286m in sales due to strong demand for key light and heavy vehicle







programs as well as a growing demand for off-highway products. This growth produced an incremental \$37m in profit. Business acquisitions of Brevini and the USM Warren plant added \$133m in sales and \$15m in adjusted EBITDA. Foreign currency was a decent tailwind for Q3 giving sales a boost of about \$28m and adjusted EBITDA by \$3m due to relative strength of foreign currencies against the USD. Broken down by segment, organic growth was the leading driver for sales and profit changes across all segments expect power technologies. Light Vehicle Driveline saw a YoY Q3 growth in sales of about \$174m and an adjusted EBITDA increase of \$18m. The largest contributor was organic growth, which supplied \$141m and \$14m of sales and adjusted EBITDA increases respectively. Commercial Vehicle Driveline realized a sales increase of about \$77m and adjusted EBITDA of \$10m. This YoY growth was again controlled by organic growth in sales of which was \$59m, contributing a larger percentage than the light vehicle segment. Off-Highway Drive and Motion pulled in the largest sales growth of \$185 YoY in Q3 and a \$27m increase in adjusted EBITDA. However, this growth, unlike the previous two segments came from a majority of Inorganic growth. Inorganic growth contributed \$105m in sales and \$12m in adjusted EBITDA. Lastly, Power Technologies realized a \$11m increase in sales but a \$1m decrease in adjusted EBITDA. The largest contributor to this loss was -\$12m from inorganic growth. This decrease in adjusted EBITDA can be attributed to their recent acquisitions and expansion in this sector in the Asia Pacific region. This subpar performance will recover and profits will be realized due to increase in efficiencies, synergies, and exposure moving into 2018.

Earnings & Estimates:

Improving end markets and new program acceleration should drive sustainable revenue and profit growth for Dana into 2018. Converting \$300m of backlog can continue to generate high organic growth. Operating profit conversion of 18% on the backlog this year highlights improving operations. New product launch costs





in the near term may put a slight downward pressure on margins. However, North America's (their largest market) heavy-truck production (their largest margin segment) is expected to rise 10% in 2017, expanding a key end market for them. Revenues have been increasing steadily over the past four quarters, consistently outpacing estimates since Q4 2016. Their revenues YoY growth is a healthy 22.5%. History has shown a strong





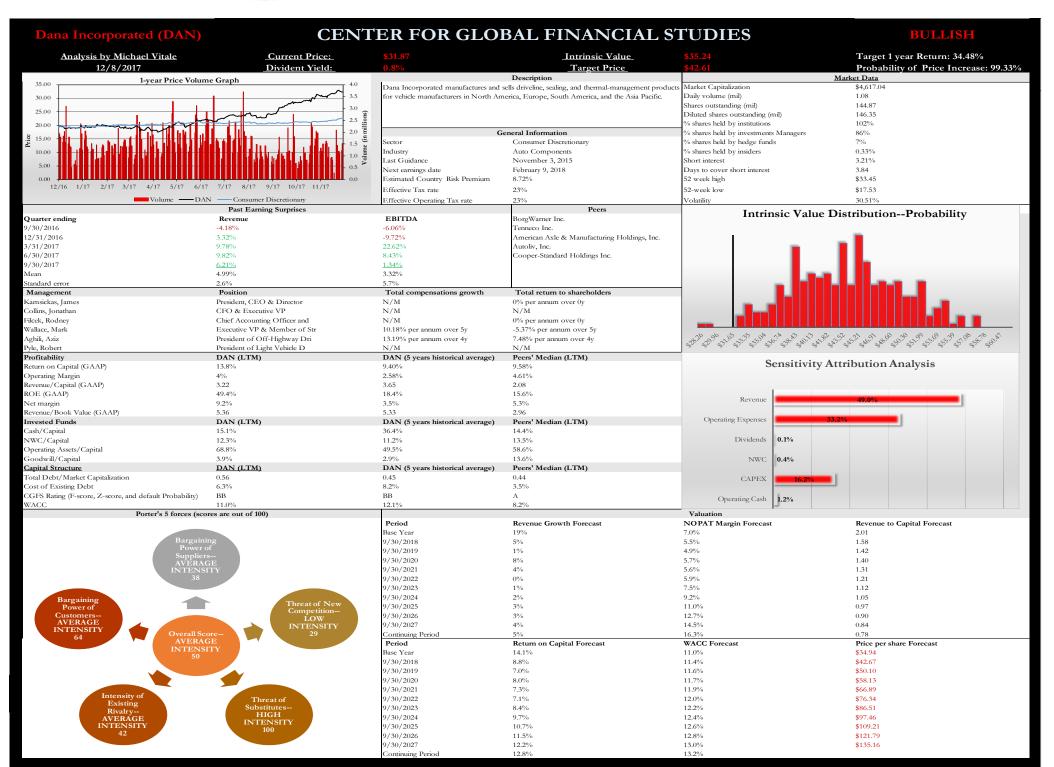
correlation with revenue increase and a positive reaction to the stock price. Estimates are set to increase to around \$2b into 2018 with past actuals consistently higher. Diluted adjusted EPS, which excludes the impact of nonrecurring items, was \$0.59 per share in the third quarter, an improvement of \$0.10 per share compared with last year, and on a year-to-date basis, was up \$0.54, driven primarily by higher earnings. Adjusted EPS has been consistently outpacing estimates each quarter for the past YTD. Estimates moving into 2018 are expected to reach upwards of \$0.75.

Conclusion:

Dana has taken steps to increase their presence in the Chinese market. Pacific Asia having the smallest percentage of regional sales in the past, further expansion in this market is key given the Chinese economic and industrial outlooks. Increased efficiencies and production in the Chinese market with help further bolster already positively trending organic growth across all segments. New contracts in place surrounding their Power Technology segment will help revitalizes their subpar Q3 performance in the segment. Increased industry trends and end market growth moving into 2018 will continue to spur sales growth while innovation in key markets such as electric vehicles will produce higher margin products in the near future.









December, 8, 2017

Energy Recovery, Inc.: ERII Daniel McAvoy

BJORKLUND FUND

Sector: Industrials Goods Industry: Industrial Machinery

Current Price: \$10.24 Target Price: \$11.99

Energy Recovery, Inc. engages in the provision of energy solutions to industrial fluid flow markets worldwide. It operates in two different segments, which are Water and Oil & Gas. The Water segment represents the solutions sold for use in reverse osmosis desalination. The Oil & Gas segments works with the solutions sold and licensed for use in hydraulic fracturing, gas processing, and chemical processing. ERII was founded in April 1992, and is headquartered in San Leandro, CA.

BUY

 Current Price:
 \$10.24

 Target Price:
 \$11.99

 Market Cap:
 \$552.03M

 ROIC:
 5.23%

 WACC:
 11.3%

 EBITDA Margin:
 18.01%



Thesis:

Energy Recovery, Inc. is a company that works in two different segments. Water and Oil & Gas is what ERII focuses on. For the water segment, they focus on desalination, which makes seawater potable. This is what they believe they can benefit from. ERII supports most of Spain's and other countries desalination plants. Going forward ERII plans to enter into the material science and manufacturing of ceramics, which is a key component of its PX devices. This will aim to boost device production, cut costs, and improve product quality. This company is part of an industry that will eventually save us when fresh water becomes a luxury product and this is why I can see a good future for ERII.

Catalysts:

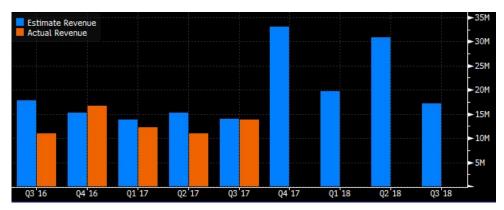
- Short Term(within the year): Come out with a new product since the 24 month cycle is coming up.
- Mid Term(1-2 years): Keep expanding internationally with their water segment.
- Long Term(3+): Look to sign more contracts or licensing agreements with big time oil companies like with Schlumberger.





Earnings Performance:

Energy Recovery, Inc. has been steadily growing from year to year. They actually saw their most growth in their last quarterly report showing that they have grown from total revenue of \$54.7 million in September of 2016 to \$83.15 million this December of 2017. This was a 51.98% increase, which all the stakeholders love to see. They saw a massive EBITDA growth from September of 2017 to December of 2017, going from 6.1% to 31.10%. This was also similar when looking at their net income margins. They saw a spike during the same time period. From 6.6% net profit margins in September 30, 2017 to 23.09% in December of 2017. When talking about their revenue in the latest quarterly report they break it into two different segments. The Water Segment consists of revenue associated with products sold for use in reverse osmosis water desalination. The Oil & Gas Segment consists of product revenue associated with products sold for use in gas processing, chemical processing, and hydraulic fracturing and license and development revenue associated with hydraulic fracturing. ERII has been starting to see growth, but one thing they are still lacking is that they have not been beating their estimates except from Q4 of 2016.



Sectors:

Energy Recovery, Inc. breaks down its company into two different segments, which are Water and Oil & Gas, and then they work with chemicals with the Oil & Gas segment. With both segments, they work on a 24-month development cycle, commencing every 12 months. In their water segment, their main product is the PX Pressure exchanger. There is about 18,000 PX devices installed worldwide. The PX Pressure exchanger has a 25-year life with no maintenance needed. This product dominants global market share with 60%+ gross margins. This product not only has a short-term market opportunity, but also a long-term





opportunity. The global water demand/ supply gap is increasing every year. Being a part of the Middle East is a huge opportunity for ERII, since these are developing countries do not get clean water in every area. For their Oil & Gas segment, they have high thought for their VorTeq Missile. They can actually even use their pressure exchanger in this product too, but the VorTeq reduces the need for maintenance. It also decreases pump redundancy, which results in a lower CAPEX. ERII recently had a licensing agreement with Schlumberger Limited, which commercializes the VorTeq technology with one of the industry's most respected oil field service companies. A highlight with this deal was that Schlumberger paid an upfront \$75M exclusivity fee, which is going to be a 15-year revenue recognition. Another highlight with this deal is that upon commercialization, ERII will get a royalty rate of \$1.5M per VorTeq per year.

VorTeq Missile



Ownership:

Energy Recovery, Inc. ownership is spread out evenly throughout Investment Advisor, Individual, Hedge Fund Manager, and Other. Since July of 2017, they have seen the most change in the Investment Advisor and Hedge Fund manager. Investment Advisor had a decrease from 39.41% to 31.04%. On the other side Hedge Fund Manager increased 10.2%. Going from 9.55% to 19.75%. This is good to know because if hedge fund managers are increasing their shares shows that their something that they see. They would not increase their holdings unless they saw a possible profit. Individual and Other have not changed much over time besides decreasing by .59% for Other and .9% for Individual.





Ownership Type	07/02/17	Curr 1	Change
11) Investment Advisor	39.41	31.04	-8.37
12) Individual	30.50	29.60	
13) Hedge Fund Manager	9.55	19.75	+10.20
14) Other	18.97	18.38	
15) Pension Fund	0.93	0.55	-0.38
16) Insurance Company	0.31	0.29	
17) Government	0.17	0.16	-0.01
18) Brokerage	0.09	0.16	+0.07
19) Bank	0.07	0.06	-0.01
20) Foundation	0.01	0.01	0.00

Debt:

Energy Recovery, Inc. actually does not have much debt. Their only debt is \$11 thousand, which is a long-term debt, and they will not mention any more on that topic. Then another long-term debt of \$19 thousand. Like the prior long-term debt they do not mention what exactly the long-term debt is. Stakeholders of ERII are pleased to know that this company only has \$30 thousand in debt. This can easily be paid off and I could see it being paid off soon, since at the end of every fiscal year they claim they have no debt at all.

Competitors:

When comparing ERII to its competitors it has three companies that beat them in market share, but around the same numbers when comparing EBITDA, profit margins, gross margins, and operating margins. ERII is basically the median with the market cap median being the same as ERII. For EBITDA they are at 17.52% with the median being 17%. ERII's profit margin is 12.33% and the median is 9.44%. ERII has the highest gross margin rate when comparing to all of its competitors at 69.25% Than for the operating margin they have the same number as the median being at 11.13% They do have big time competitors, but have established themselves in their industry with great products and can see their market cap increasing in the near future.

Name	Ticker	Mkt Cap	EBITDA to Net	PM LF	GM:Q	OPM LF
(BICS Best Fit)			Sales:Q			
Median		548.81M	17.00%	9.44%	47.97%	11.13%
100) ENERGY RECOVERY INC	ERII US	548.81M	17.52%	12.33%	69.25%	11.13%
101) AQUAVENTURE HOLDINGS	WAAS US	401.82M	16.46%	-25.31%	48.58%	-10.75%
102) UNIVERSAL DETECTION T	UNDT US	204.58M				
103) HUDSON TECHNOLOGIES I	HDSN US	235.84M	7.91%	8.52%	20.52%	5.97%
104) DONALDSON CO INC	DCI US	6.34B	17.00%	9.44%	34.79%	14.07%
105) CANTEL MEDICAL CORP	CMD US	4.16B	18.67%	10.78%	47.97%	14.87%
106) EVOQUA WATER TECHNOL	AQUA US	2.63B				22





Water Scarcity:

Water for people in the United States is something a person could find right around the corner, like at a drinking fountain or a vending machine that has water bottles. This is not the same case for everyone in the world though. On the website World Wild Life they talk about and predict what will be the future with water. The author writes, "However, freshwater—the stuff we drink, bathe in, irrigate our farm fields with—is incredibly rare. Only 3% of the world's water is fresh water, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use. As a result, some 1.1 billion people worldwide lack access to water, and a total of 2.7 billion find water scarce for at least one month of the year." He later states his prediction by using the consumption rate of the world, "At the current consumption rate, this situation will only get worse. By 2025, two-thirds of the world's population may face water shortages. And ecosystems around the world will suffer even more." This just goes to show that water is slowly becoming scarce and if two-thirds of the world will face water shortages, then this would make water a luxury product at some point in some parts of the world.

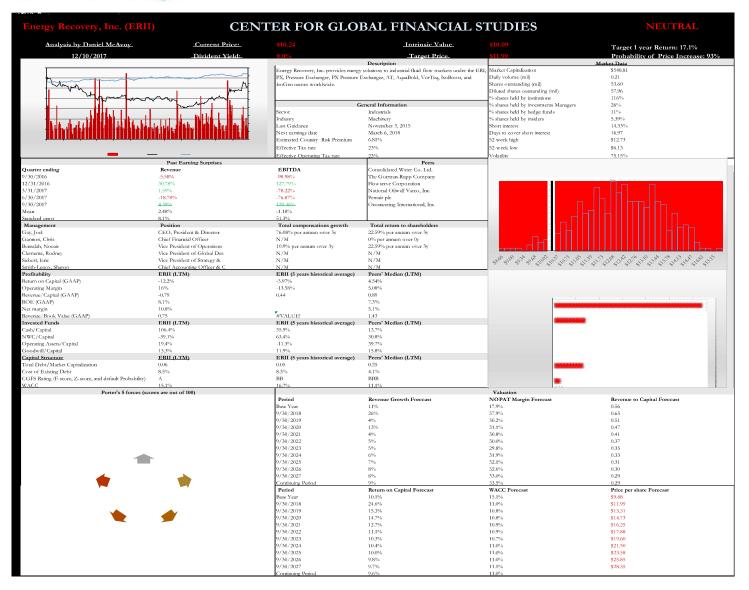
Source: https://www.worldwildlife.org/threats/water-scarcity

Conclusion:

This company is in an industry that is going to take off in the future when talking about their water segment of their business. Water does not make up much of their revenue with Oil & Gas leading the way, but with the demand for clean and healthy water raising it can only mean good things for ERII. They need to continue to innovate in this part of their business so they can stay on top for when fresh water starts becoming scarce. ERII has great products that are creating working in the Water field and Oil & Gas field easier and more safe. This company has no debt and does not look likely to take on an extreme amount of debt unless they decide to expand more. I believe this is a good long term buy that will give good results in the future to come.









December 7th, 2017

Flir Systems: FLIR

Joshua Weiss



Sector: Information Technology

Industry: Electronic Equipment, Instruments

and Components Current Price: \$46.19 Target Price: \$53.50

Company Description: Flir System creates and sells technological equipment used to enhance our senses. They produce thermal imaging systems, visible-light imaging systems, locator and measurement systems and advanced threat detection systems in order to enhance public safety and the well-being of the world.

BUY

Current Price: \$46.19 Target Price: \$53.50 Market Cap: \$6.4B AVG Volume: 208,650 EBIT margin: 17.79% ROIC: 10.07% WACC: 7.2% Short Interest: 2.48



Thesis: As the new year approaches, Flir Systems is doing a total revamp to their segments and condensing their six segments into three business units at the start of 2018. With new products coming out recently and strong operating income margins throughout all segments, Flir Systems looks like they are going to continue to grow through each segment. Lastly, with the new CFO looking to increase their margins at any possible chance and the constant growth of the industry, Flir Systems is under priced at \$46.19 and will see major growth over the next year.

Catalysts:

- Restructuring of segments into three business units at the start of Q1, 2018
- New products from each segment and continuously high demand for products
- Electronic Components projected to reach \$191.8 billion by 2022





Company Overview

Flir Systems is the world's largest commercial company that specializes in imaging sensors and the production of thermal imaging cameras. Flir was established in 1978 to manufacture high performance and low cost thermal imaging systems for airborne applications. The infrared imaging and cameras allow the operators to see in the



dark, through tough weather condition and any pollution in the air that could be blocking their vision. Towards the end of 1980s, they began to leverage the infrared technology into hand held products that can be used in a laboratory. Through a few acquisitions of other infrared companies in the 1990s and early 2000s, Flir is now the global leader in design, manufacture and marketing of thermal imaging infrared cameras. Since these acquisitions, they have invested in numerous markets that are adjacent to theirs, similar

technologies and similar products to expand their sensor solution set. These investments are the key reason for the significant growth in revenue and production volume, which has led to the ability to reduce the cost of production and thus the cost for the customers. Through this, they have gained a massive increase in customers as well as more awareness around the world of what the power of thermal technology can do.

Earnings Performance:

During the last earnings report for the third quarter, Flir Systems saw a 15% revenue growth year over year from the previous year's third quarter. Organic growth of revenue for the third quarter was 8%. They also saw a 17% operating cash flow growth versus the prior year and finished the quarter with the highest amount of backlog in their history with a total of \$709 million. Although this could be seen as a bad thing that they are not capable of producing to meet demands, I believe it is good because the demand is continuing to increase and does not look like it will be slowing down. They saw a larger increase in their commercial products vs their government products, which saw a 20% and 8% revenue growth year over year respectively. Through acquisitions and improving their manufacturing costs, they saw a 70 basis points increase in their adjusted gross margin to 49%. Their adjusted net income was only up 11% to a total of \$72.7 million due to a 370 basis point increase in their effective tax rate. Geographically, Europe saw a major increase in revenue growth compared to the United States. While the United States saw a 9% revenue growth year over year, Europe had a 27% increase in revenue for the third quarter year over year. Out of the total revenue this quarter, 25% of it came from the US government, which was an increase of 4% versus the prior year. I believe this is very good for the company because the demand for this equipment will always be there for the military and the air force.





According to CapitalIQ, as of September 30th, 2017, the LTM of Flir Systems Inc. saw an EBITDA margin of 21.1% and operating margin of 17.2%. EBITDA over the last twelve months has grown 6.3% and has a CAGR of the last two years of 3.6%. The constant growth of EBITDA is key for the success of Flir because it will allow them to keep expanding margins and to gain profitability. From Bloomberg, I found that they had a gross profit margin of 48% and an adjusted net income of 14.6%. All of these different margins tell us that Flir does a very good job of retaining money on every dollar of revenue they gain.

Segments/Restructuring

Flir Systems Inc. is currently split up into six different segments. These segments are Surveillance, Detection, Instruments, OEM & Emerging, Security and Maritime. Each segment since August of 2017 has come out with at least one new product. Of the products created by the surveillance segment, Flir saw grow with airborne, man portable and unmanned aerial systems. The surveillance segment saw a revenue increase of 7.6% from the prior year, as well as an 8.5% increase in operating income from the prior year. In September, they were awarded a large contract of \$75 million from the U.S. Army to support the EO/IR FP program. The CAGR for this segments revenue from the past 3 years as of the end of 2016 is 1.50% while the CAGR for EBIT is 4.43%. Since Flir has a higher EBIT CAGR than revenue, the surveillance segment is increasing profitability. The next segment is the detection segment, which in the past three years has been the most profitable for Flir. The detection segment has been growing at a CAGR of 13.10% for revenue, which has been leading all six segments. They also have reported a 45.63% EBIT CAGR, which is more than 3x the CAGR of the revenue. The detection segment is the most profitable segment for Flir, most likely caused by the higher DR-SKO shipments and the strength in their radiation and Chembio areas in recent years. The third segment is a one of the slower growing segments, which is the instruments segment. Although they have a negative CAGR for revenue and EBIT over the past three years, they have increased revenue by 11% versus the prior year and have increased their operating income for this segment by 7% versus the prior year. This segment although has not been profitable for the company, it has been growing constantly and with the new restructuring in the upcoming year can become very profitable for Flir. The OEM & Emerging segment also has been growing very rapidly with a year over year increase in revenue by 39%. This was mostly due from the growth in UAS, mobile accessories, lepton core sales and the addition of Integrated Imagine Solutions lines from the Point Grey acquisition. Although they have a lower EBIT CAGR than their revenue CAGR, the difference has been decreasing between them and I believe that over the next few years with the new products planning on coming out, this segment will become one of the more profitable one. The second to last segment is the security segment. With a year over year revenue growth of 16% and a three-year CAGR of revenue at 10%, the demand for Flir's products in this segment continues to be there and will be for the future. The security segment saw an operating income increase in the third quarter of 36% year over year as the segment's operating margin improved 140 basis points year over year. The final segment is the Maritime segment, which saw the lowest revenue increase in all the segments with just 4%. This segment, however, saw the largest increase in operating income for the third quarter with an increase of 42% versus the prior year. This was due to strong operating leverage, new products that drove the higher gross margins and their operating margin improving 280 basis points year over year. The segments sizes for revenue are in order from largest to smallest starting with surveillance, instruments, OEM & Emerging, security, maritime and finally detection. I believe that the detection business will be the main driver of this company as they are the smallest





in revenue but are the most profitable. If they continue to keep growing at a 19% year over year revenue growth and keep their EBIT CAGR of 45.63%, they will see a major profit from this segment.

Business Segments							
For the Fiscal Period Ending	Reclassified 12 months Dec-31-2011	Reclassified 12 months Dec-31-2012	12 months Dec-31-2013	12 months Dec-31-2014	12 months Dec-31-2015	12 months Dec-31-2016	
Currency	USD	USD	USD	USD	USD	USD	
Revenues							CAGR
Surveillance	609.8	576.6	560.5	527.2	513.8	551.3	1.50%
Instruments	-	350.8	344.8	355.9	357.4	340.5	-1.47%
Security	-	52.0	141.0	190.1	238.6	253.8	10.12%
OEM & Emerging Markets	-	226.4	209.0	221.0	219.8	277.1	7.84%
Maritime	-	178.3	189.1	195.6	180.1	189.2	-1.10%
Detection	83.3	85.1	91.9	85.8	115.3	124.2	13.10%
Eliminations	-	-	-	(44.9)	(67.9)	(73.9)	
Corporate	(60.9)	(63.8)	(40.0)	-	-	-	
Thermal Vision and Measurement	678.8	-	-	-	-	-	
Raymarine	171.5	-	-	-	-	-	
Integrated Systems	61.5	-	-	-	-	-	
Total Revenues	1,544.1	1,405.4	1,496.4	1,530.7	1,557.1	1,662.2	
Operating Profit Before Tax							Ebit CAGR
Surveillance	208.5	170.0	135.6	127.2	145.6	144.9	4.43%
Instruments	-	87.1	81.1	99.0	112.4	96.7	-0.77%
Security	-	15.1	17.3	24.9	28.1	10.2	-25.77%
OEM & Emerging Markets	-	62.0	39.3	50.2	41.1	59.7	5.90%
Maritime	-	18.5	22.3	24.5	13.6	15.4	-14.28%
Detection	(5.6)	0.6	8.9	11.0	26.9	33.8	45.63%

At the beginning of the first quarter for 2018, Flir Systems Inc. will be restructuring their six segments into three business units. The first unit will be Government & Defense, which will contain all the parts of the segments from surveillance and detection, except for their outdoor & tactical systems, which is going to the Commercial Unit. The second business unit is the Industrial unit, which is absorbing all the parts of the Instruments and OEM & Emerging, except for Intelligent Transportation Systems (ITS) which is also going to the Commercial unit. The last two segments, security and maritime will be under the Commercial business unit. Flir Systems Inc. goal with realigning their operating structure is to consistently exceed shareholder expectations and to innovate the world's sixth sense in order to save lives and livelihoods. Their strategy is to Fuel, Feed and Focus. The Government and Defense unit strategic priority will be to fuel businesses to take advantage of near-term opportunities to gain scale as the government budget and other threats grow. The Industrial unit will feed effort and investment to create comprehensive technology solutions to gain scale and leverage. Finally, the commercial unit main goal will be to focus on finding and serving the right customers and markets for their existing and next generation technologies.

Management/Ownership

One of the most important things for a company is to have a strong management team that is well experienced and is devoted to the company's growth and success. Within the past six months, Flir Systems Inc. has seen a change in their chief executive officer and their chief financial officer. In June of 2017, James J Cannon started serving as the CEO of Flir. Previously serving in a senior leadership position at Stanley Black & Decker and more recently as their President of Stanley Security North America & Emerging Markets, I believe he was very qualified and a good fit for the job. As also being a veteran, serving 10 years in the U.S. Army, he has had hands on experience with Flir System Inc's equipment and has said that he was excited to join the company to build on the previous success and to drive the growth of the shareholders. The new Chief Financial Officer, Carol P Lowe, started two weeks ago on the 27th of November. Carol Lowe has experience as a CFO, serving as the CFO for Sealed Air Corp for about 4 ½ years. Before working at Sealed Air Corp, Carol Lowe served as the CFO at Carlisle Companies Inc. as well. As we can see from the last 6 months of the company, the stock has gone up 18.50% and I think this has a large part to do with the new CEO.

The ownership type as of December 7th, 2017, is split up with the top four ownerships containing 94% of the publicly reported holdings. Of this 94%, 79.73% is owned by investment advisors, followed by hedge fund





managers at 7.75%, and then bank then pension fund both around 3.30% respectively. Over the past year, Flir has seen a large change up in ownership type. There was a 5.46% drop in ownership from investment advisor, which came because of a 3.15% increase in hedge fund managers. This is very good for the company as other hedge fund managers see Flir Systems as a good company to invest in and believe that they will be able to gain profit off the company. Combining the increase in hedge fund managers and also the short interest of 2.48, this tells us that hedge fund managers are buying their stock and holding onto it because they believe the stock price will increase.

Competitors/Industry

Although across each business segment Flir has multiple different competitors, they have a few that they consider to be main competitors. A lot of their other competitors are also government owned and for a comparison basis, I do not believe those would correctly show Flir's profitability and growth in the past few years. The first competitor that is in a few segments but mainly the surveillance segment is BAE systems, a stock traded on the London Stock Exchange. Compared the BAE's 11.23% EBITDA margin, Flir has a 21.25% EBITDA margin. Along with this, Flir also has an operating margin almost double of BAE Systems, which tells us that Flir is more profitable and retains more money per dollar of revenue. Within the instruments segment, their main competitors are Fortive Corp who have very similar margins to Flir. Fortive has a higher EBITDA margin at 23.6% but are projected to have hit maturity and do not appear to have much more growth in margins while Flir with their restructuring can greatly expand their margins. The security segment although is seen as to have competitors such as Sony and Samsung, I do not see this as being competitors. They create a few products that are very similar but Flir's has a competitive advantage over all of them with their broad line of thermal camera offerings that most other companies do not have. Finally the OEM & Emerging segment has most if not all of their competitors as privately owned companies and therefore are very hard to compare to Flir.

Electronic Equipment, Instruments and Components are one of the fastest growing industries within the past year. Since the beginning of this year to today, the industry has seen a growth in performance of 33.12%. This is outperforming the S&P 500, which in the same time-period has had a growth in performance of 19.61%. The industry also has seen a return on investment for the trailing twelve months of 9.09%. The electronic components segment as a whole is projected to reach \$191.8 billion by 2022. This will be driven by the indispensability of electrics in modern life, continuous development of industrial defense electrics and the shorter product lifestyles that leads people to purchase more products. The industry has been at a steady CAGR of 3% for the previous few years in the United States and will continue to see this if not better depending on the new technologies that are produced.

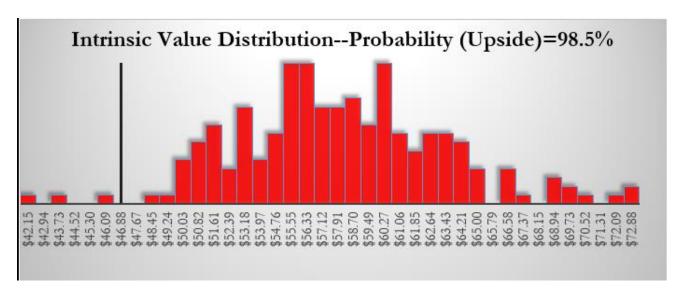
BAE SYSTEMS





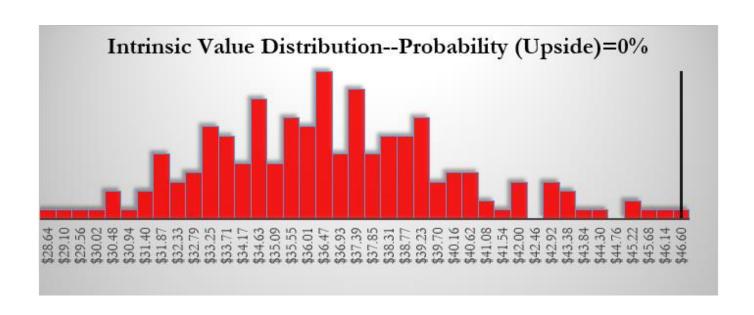


What-If Analysis



Best Case Scenario:

The best-case scenario with my assumptions has the one-year target price at \$57.24. This is a return over one year of roughly 24%. This assumption is with a 19% tax rate weighted throughout all their geographic segments. The forecasted revenue growth of the company is 8% for the year of 2017 and then stays constant at 7.5% over the next couple of years. In the long run, I believe they will steady out around 3 to 4% within 10 years. My operating cost assumptions are based on the new creation of products and the restructuring of segments. I believe that it will cut operating cost by almost 2% for the first year and then in the long run decrease their operating cost from 78% not to 70% of revenue. With all of these assumptions I believe that there it is very likely this happens with the demand of their products and the restructuring of their segments.







Worst Case Scenario:

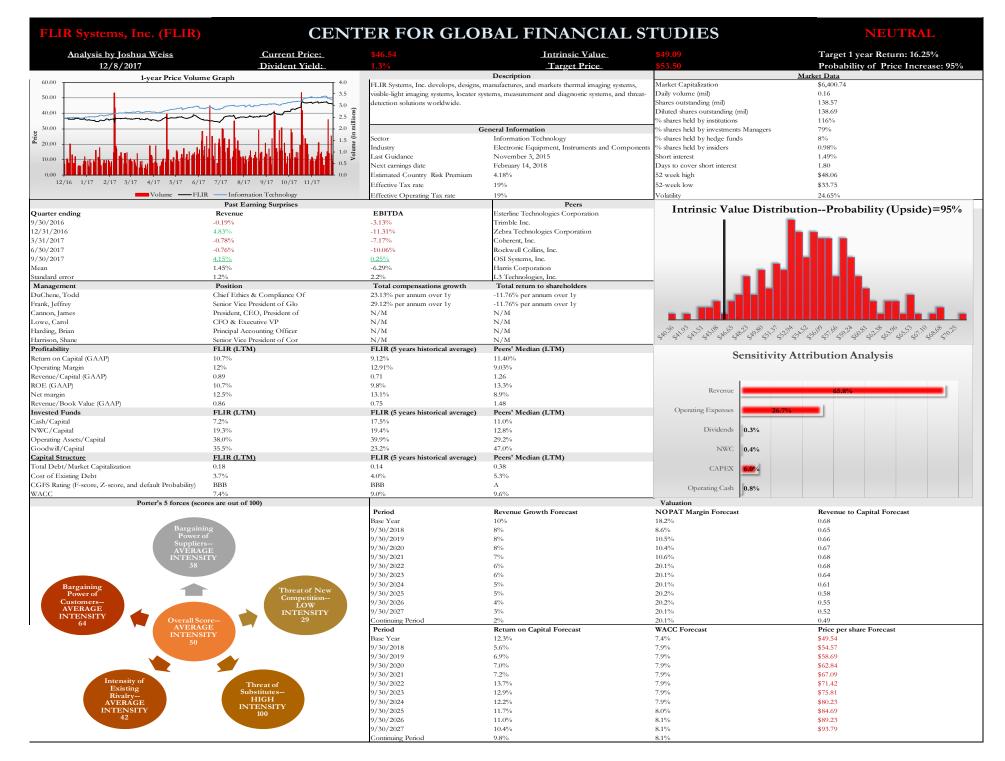
With very similar base assumptions as the best case scenario such as the same tax rate of 19%, the worst case scenario has a 1 year target price of \$36.17. This is a loss of (21.69%) in our investments. This is with the assumptions of operating cost maintaining its current percentage of revenue at 78% for the long term. This could happen if the restructuring of the segments does not decrease any of the costs to operate. The revenue growth for this scenario is for the next 5 years there was only a 5% revenue growth and then tapering off to 4% for a few years until it dropped to 2.6% for the long term. I don't believe these assumptions will happen as the restructuring of the segments will only benefit their revenues by cutting operating costs.

Conclusion:

Flir Systems goal is to be provide superpower vision in order to help people around the world save lives, protect the environment and also enhance productivity. With strong EBITDA and operating margin in their industry and rapid segment growth, Flir Systems has a lot of potential for growth. Along with the strong margins, the industry is rapidly growing and will not slow down for the next 10 years coming, which is why I believe Flir Systems is underpriced and is a buy.









December 8, 2017

Fortune Brands Home & Security, Inc: FBHS

Analyst: Joseph Nastasi



Sector: Industrials

Industry: Building Products

Company Description:

Fortune Brands Home & Security is a leading home and security products company. The company operates in the four business segments of cabinets, plumbing, doors, and security. The company manufactures and sells kitchen and bathroom cabinets, faucets, entry doors, trim, and padlocks. Fortune Brands industry leading brands include Moen faucets, MasterBrand Cabinets, Sentry Safe, and Therma-Tru entry. The company is highly dependent on the home improvement market of new construction and repair & remodel activities. This is a global manufacturing company with 31 US facilities and 13 international facilities with approximately 22,700 employees. FBHS was formed in 1988 as a Fortune Brands subsidiary and the company was spun off in 2011.

BUY

_	
Current Price:	\$68.24
Target Price:	\$83.35
Market Cap:	\$10.51
Avg Volume:	880,815
S&P Debt Rating:	BBB+
ROE:	18.04%
Ke:	11.3%
EBIT Margin:	12.73%
WACC:	8.2%
Total Asset Multiplier:	1.0
Equity Multiplier:	2.08
Cash/Total Assets:	4.9%

Catalysts:

- Short Term (within the year): Q4 earning results on February 2, 2018
- Mid Term (1-2 years): Favorable industry trends of increased consumer confidence, millennials increase in house ownership, the median age of homes increasing leading to increased demand for repair & remodel activities
- Long Term (3+): Increasing sales volume in the company's highest operating margin segment of Plumbing and increasing the operating margins in the segments of Doors and Security closer to competitors' average





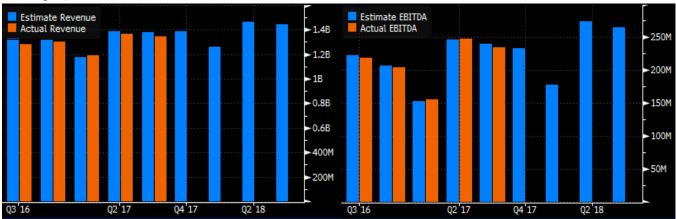


Thesis:

Fortune Brands Home and Security is the industry leader because of its well-known and high performing brands in the segments of cabinets, plumbing, doors, and security. The company's third quarter earnings resulted in operating margin gains in three of the four segments from the previous year while navigating the disruption in Florida and Texas due to hurricanes. FBHS will benefit from the promising housing improvement trends of greater consumer confidence, greater millennial homeowners, and an increase in the median age of homes in the U.S. to 40 years. FBHS has industry leading and increasing operating margins in the segments of cabinets and plumbing. The Global Plumbing Group strategy of increasing sales volume in the Plumbing segment with the largest operating margin. There is opportunity for margin growth in the segments of doors and security due to lagging behind competitors' margins in those segments. FBHS has an underleveraged balance sheet compared to its competitors that will allow them to continue growing with strategic acquisitions and international expansion. The Monte Carlo simulations shows that the company has a greater upside than downside due to the ability to continue decreasing operating costs as a percent of revenue. FBHS is well positioned for its stock price to continue increasing past its 52-week high.

3rd Quarter Earnings Performance:

Fortune Brands CEO, Christopher Klein, stated during the earnings call, "In the third quarter sales growth was solid despite the negative hurricane impact. Based on the current pace of market growth and our solid execution, we continue to expect to deliver strong full-year results." Below, the chart to the left shows the analyst estimates and actual revenue results for the past 5 quarters along with future projections for revenue. The chart to the right shows analyst estimates and actual EBITDA results for the past 5 quarters along with future projections for EBITDA.



Fortune Brands was below analyst estimates for revenue for four of the last five quarters. The company was also below analyst estimates for EBITDA for three of the last five estimates. This has lead to the share price generally decreasing after the past three earnings calls. Total sales increased 5% year-over-year to a Q3 result of \$1.35 billion. Operating income increased 7% year-over-year to a Q3 result of \$201.8 million. This is a Q3 operating margin of 14.95%. Plumbing sales increased 12%, cabinet sales increased 2%, door sales increased 7%, and security sales increased 5%. Plumbing sales were annually \$1.53 billion in 2016. In the Q3 earnings call, management set the goal plumbing sales reaching \$2.5 billion in sales by 2020 due to the Global Plumbing Group (GPG) staretgy. This strategy invloves accelerating product development, upgrading digital marketing efforts, and realizing potential from well-integrated acquisitions. This would be a revenue CAGR in the plumbing segement of 13.06% from 2017 to 2020. Fortune Brands sited the impact of storms for their

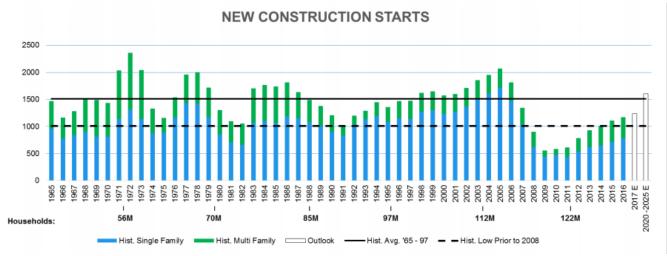




revenue and EBITDA results falling below expectations in Q3. Flooding results in consumers, in the immediate quarter, not undergoing home improvements, but will lead to home improvements in the future. Florida was severly impacted, which is the fifth largest construction market, leading to Fortune Brands being shut down there for essentially three weeks. Despite the disruption, Fortune Brands annual revenue guidnace was 5% to 6% and was updated to expectations of 6% to 7%. After earnings on volume of 2 million, the stock price increased from around \$67 to \$68.5 and then in the following days fell to around \$64 on lower volume. Recently, Fortune Brands' stock price increased from a low of \$64 to \$68 due to tax reform passing the Senate, the company conducts approximately 85.5% of its revenue in the U.S. The price chart above shows how throughout the past year, Fortune Bank has outperformed the home improvement industry index. The company is at its 52-week high and has had a 52-week return of 20.9%.

Industry Outlook:

The price chart above shows how Fortune Brands' stock performance is highly correlated to the S&P 500 Home Improvement Retail Sub Industry Index (S5HOMI). Fortune Brands CEO stated "New construction activity grew in the high single-digits, while repair and remodel activity grew around 5%, both were in line with our expectations." The U.S. home market impacts over 70% of Fortune Brand's sales, which management expects to grow at a 6% to 7% rate for the full year. The hurricane disrupted Fortune Brands because Florida and Texas account for about 12% of its total revenue. However, after the hurricane recovery, construction building and repair & remodel activities will increase in demand in Florida and Texas. The chart below shows historical new construction starts in the U.S. and the outlok for the future.



The U.S. new home construction market is improving and demand for new homes is still recovering after the 2007-2009 economic recession. The chart show from 2007 to 2009 that new construction starts were at an all time low around 500 thousand. Fortune Brand expects new housing starts to stabilize around 1.5 million from 2020 to 2025. This increase is due to favorable demographics with baby boomers retaining and even increasing home ownership. There is also a delay in marriage and child bearing, which is placing upward pressure on future (single family) household formations. Also, the median age of homes in the U.S. has increased to around 40 years, which creates a greater market for repair and remodeling demand. Consumers' willingness to invest in their homes should be high. The unemployment rate is at a low of 4.1%, access to credit is cheap with continued low interest rates, continued rising house prices, and greater stock market returns. Fortune Brand is well positioned to capture these industry trends with high correlation to the housing market and due to having leading market shares of the cabinet dealer channel and plumbing end market.





Business Model:

Fortune Brands Home & Security has broad channel and distribution strength. The geographic breakdown based on 2016 revenue is 85.43% in the U.S, 8.15% in Canada, and 6.42% in China and other international. Other international includes Europe, Southeast Asia, South America, and Mexico. The three-year CAGR for each geographic segment is 13.37% for the U.S, 0.07% for Canada, and 4.2% for China and other international. Fortune Brands distribution channel breakdown based on revenue is 27% home centers, 24% wholesale, 24% dealers, 15% international, 6% other retail, and 4% builder direct. The company's two largest customers are Home Depot and Lowe's Companies, which account for together about 30% of annual sales. Fortune's industry leading brands have consistently outperformed competitors in sales and performance. One portfolio is Master Brand Cabinets, which includes brand names such as Mid-Continent, Kitchen Classics, and Omega. This is the largest kitchen and bath residential cabinet manufacturer in North America. Fortune Brands' cabinets are in more than 70% of dealer and in-stock channels. The second portfolio is Fortune Brands Global Plumbing Group, which includes brands such as Moen, Riobel, and ROHL. The Moen faucet brand is number one in terms of sales in North America. These brands have obtained exclusive builder contracts. The third brand is Therma-Tru Doors, which is the number one entry door brand in U.S. buildings among building professionals. This brand has had a growing retail presence. The fourth brands are Master Lock and Sentry Safe, which are the number one padlock and personal safe brands in North America. The diversity of Fortune Brands can be shown with its customers. The main customer revenue breakdown is 14% Lowe's, 13% Home Depot, 3.08% Amazon, 2.93% Amazon, 1.04% Beacon Roofing, 0.46% Target, 0.45% Kroger, 0.32% Sears, and 0.28% CVS Health. These customers are varied across numerous industries. Fortune Brands strategic plan is to continue developing innovative products, expand in international markets, and leverage their global supply chains, and enhance returns of shareholders. There has been an increasing strategic focus on their Global Plumbing Group strategy. This plan was to grow its plumbing segments market growth from high single-digits to low double-digits for the next several years while maintaining the operating margin around 20% to 21%. This focus of putting resources where Fortune Brands' management sees areas of potential segment gains is why the continued operating margin gains in each segment have grown each year historically and will continue to grow in the future.

Segment Analysis:

Fortune Brands Home & Security operates in the segments of cabinets (48.1% of total revenue), plumbing (30.78% of total revenue), doors (9.49% of total revenue), and security (11.63% of total revenue). The CAGR based on revenue from 2011 to 2016 for each segment is 13.8% for cabinets, 9.77% for plumbing, -3.07% for doors, and 0.82% for security. The cabinets segment consists of manufacturing and selling custom, semicustom, and stock cabinetry. The plumbing segment consists of manufacturing and selling faucets, accessories, kitchen sinks and waste disposals. The doors segment consists of manufacturing and selling fiberglass and steel entry door systems under the Therma-Tru brand. The security segment consists of locks, safety and security devices, and electronic security products manufactured and distributed. The time-series annual operating margin for each segment is shown below.





	Annual EBIT Margin											
Segments	2011	2012	2013	2014	2015	2016						
Cabinets	0.45%	1.55%	5.91%	7.71%	8.85%	10.75%						
Plumbing	14.33%	15.37%	17.74%	19.45%	20.18%	21.27%						
Doors	-18.30%	-0.40%	4.12%	7.05%	10.02%	13.09%						
Security	11.25%	14.07%	13.75%	10.27%	10.12%	11.49%						
Total	-0.47%	4.57%	8.86%	10.39%	11.22%	12.73%						

Each segment's operating margin has increased over the past three-years. The efficiency gains in costs are shown in doors and security segment. Over the past five years, the revenue for the doors segment has decreased 3.07% annually, while the operating profit has reached its highest point of 13.09% in 2016. Also, the revenue for security has only increased 0.82% annually for the past five years, while the operating profit has reached its highest point of 11.49%. One area of margin concern is that the fastest growing and highest proportion of revenue segment of cabinets has the lowest 2016 margin of 10.75% of all the segments. However, compared to its competitors, Fortune Brands' cabinet's margin is an industry leader. The increase in this operating margin is largely due to the benefit of the Norcraft acquisition. Norcraft was acquired in May 2015 for \$648.6 million and they were a leading manufacturer of kitchen and bathroom cabinetry. Management is predicting in three-years an operating margin in the cabinets segment of around 14%. The increase in the plumbing segment's operating margin is due to higher sales volume and improving U.S. market conditions and new product innovations. This is also due to management's Global Plumbing Group strategy. Where recent acquisitions in this segment, like the Victoria + Albert brand, has led to the opportunity of premium pricing. Management is predicting in three-years an operating margin in the plumbing segment to stay at 20% to 21%, but sales volume to continue increasing. The focus that management us putting on increasing the volume for the highest margin segment shows the cash flow focus of management, which is crucial for shareholders. The increase in the segment of doors is due the Therma-Tru brand benefiting from the shift toward fiberglass doors and away from steel. Management is predicting in three-year an operating margin in the doors segment of 15%. The security segment's operating margin has increased due to the acqusition of Sentry Safe in July 2014 for \$116.7 million in cash, which is a leading manufacturer of home safes. Management is predicting in three-year an operating margin of 15% in the security segment. The timeseries quarterly operating margin for each segment is shown below.

Quarterly EBIT Margin									
Segments	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	
Cabinets	9.92%	6.49%	12.94%	12.42%	10.62%	8.19%	13.58%	11.35%	
Plumbing	19.75%	21.12%	23.02%	21.48%	19.63%	18.55%	23.76%	22.20%	
Doors	11.62%	4.45%	15.34%	17.26%	12.98%	8.02%	16.85%	18.12%	
Security	8.91%	4.53%	11.05%	14.62%	14.32%	7.62%	12.94%	17.58%	
Total	11.43%	8.71%	14.46%	14.39%	12.78%	9.68%	15.56%	14.87%	

The quarterly operating margins shows the impact of seasonality. The segments experience lower sales in the first quarter of the year when new home construction and repair & remodel activities are at their low. Revenue is typically higher during the second half of the year. Q3 2017 faced the disruption of the hurricanes in Texas and Florida, which account for 12% of total revenue. However, on the year-to-year basis, the segments of plumbing, doors, and security increased in their operating margin. Q4 has resulted in lower operating margins than Q3, which again may be the case because of feeling the full impact of the hurricane related disruptions of sales orders. Looking at comparable companies operating margins can add justification for the operating margins that Fortune Brand's managers projected in three years time. The comparative analysis with average operating margin, per segment, of Fortune Brands main competitors in each segment is shown below.





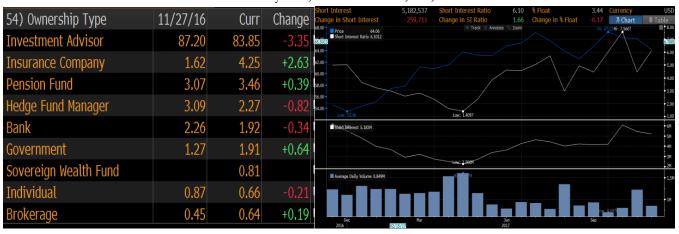
Annual EBIT Margin Competitors								
Segments	2016	N						
Cabinets	9.71%	2						
Plumbing	18.21%	2						
Doors	15.71%	3						
Security	22.84%	3						
Total	16.62%	10						

The competitors in the cabinet segment used were Masco and American Woodmark. The competitors used in the plumbing segment were Masco and Pfister. The competitors used in the doors segment were Spectrum Brands, Masonite, and JELD-WEN. The competitors used in the security segment were Kwikset, Schlage, and Assa Abloy. Fortune Brands cabinets and plumbing segments are best-in-industry at 10.75% and 21.27%. The greatest areas for potential improvement

are in the segments of doors and security, which is shown by being below competitors operating margin. The largest difference is in security where Fortune is at 11.49% and competitors are at 22.84%. Management's three-year projection of 15% in the security segment seems reasonable based on competitors' higher margins.

Management/Ownership:

The ownership chart for Fortune Brands with their one-year change is shown below to the left. The majority of the company's shares are held by investment advisors at 83.85%, insurance companies at 4.25%, and pension funds at 3.46%. The high ownership by insurance companies and pension funds, which has been increasing on a one-year period, show how this stock is considered a "safe" investment with it being closely correlated to the improving housing market. Fortune Brands are apart of the indices of T. Rowe Price Growth Stock (owns 2.93% total shares), Vanguard Mid Cap (owns 2.5% total shares), and JP Morgan Mid Cap Value (owns 1.85% total shares). Being placed in these popular indices are beneficial due to it results in greater share volume. Fortune Brands has 99.5% of its shares outstanding as freely floated. The short interest chart is shown below to the right. The short interest days to cover is at 6.1 days. It has recently come down from a high of 7.6 days in September, where the stock price fell the following month. There has been a decline in the volume of the short interest by 259,711 shares to 5,182,537.



Christopher Klein has served as CEO of Fortune Brands since January 2010. Klein joined the parent company in April 2003 and prepared Fortune Brands Home & Security to become a stand-alone company. Before becoming CEO, he managed all mergers and acquisitions activities for the parent company. This background in mergers and acquisition is important due to Fortune's strategy of acquisitions to drive segment growth. Before working at Fortune Brands, Klein worked at Bank One Corporation. His finance background is important, so the focus will be put on the company's cash flow. The key executive compensation table from 2012 to 2016 is shown below. Key executive compensation has increased from 2012 to 2016 at a CAGR of 13.68%. While, the CAGR from 2012 to 2016 in terms of stock return was 23.84%. This is a good sign that the stock return is growing at a faster CAGR than executive pay. Klein owns 24,783,152 shares in the company or 0.24% of total shares outstanding. His position has been increasing in the last year.





Name/Title 🖟	2012	2013	2014	2015	2016
Key Executive Compensation	12,353,587	13,742,909	13,897,792	20,098,062	20,630,222
Christopher J. Klein/Chief Executive Officer	7,372,250	7,889,415	7,747,028	7,624,739	8,897,621
E. Lee Wyatt/Senior Vice President and Chief Financial Officer	3,406,567	3,655,560	3,023,869	3,384,183	5,684,126
David M. Randich/President, MasterBrand Cabinets	1,574,770	2,197,934	1,580,498	4,446,687	2,230,327
Nicholas I. Fink/President, Global Plumbing Group	-	-	-	2,961,836	1,996,425

Capital Allocation Comparison:

Fortune Brands Home & Security capital structure is composed only of 14% debt. This is much lower than its competitors, which have on average 40% debt in their capital structure. This low amount of debt is rare for a manufacturing company of this scale. Fortune Brands has cash of \$277.1 million, which is 4.9% of total assets. Total debt has rapidly increased in the past three years from \$670 million in 2015 to \$1.46 billion currently. Even with an industry low of debt, Fortune Brands has a lower WACC at 8.2% than its competitors WACC at 9.2%. This is largely due to the lower cost of debt for the company at 3.2% compared to competitors' average cost of debt at 5%. The lower cost of debt is because of Fortune Brands high credit rating of BBB+. The company has a return on capital to WACC of 1.12, while its competitors have a return on capital to WACC of 0.98 for the LTM. This is due to Fortune Brands lower WACC and the company's greater net income compared to dividends paid out. Fortune Brands is financially well positions for future acquisitions that may require taking on additional debt.

In Millions of USD	FY 2013	FY 2014	FY 2015	FY 2016	Current/LTM
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016	09/30/2017
Market Capitalization	7,616.7	7,159.0	8,874.8	8,201.4	10,342.2
- Cash & Equivalents	241.4	191.9	238.5	251.5	277.1
+ Preferred & Other	3.7	3.6	2.9	1.5	1.6
+ Total Debt	356.0	670.0	1,169.5	1,431.1	1,462.2
Enterprise Value	7,735.0	7,640.7	9,808.7	9,382.5	11,528.9

Profitability Comparison:

Fortune Brands for the past 5 years has seen increasing revenue growth, gross profit, EBITDA, and net income. Recently, even with a slower revenue growth rate of 6%, the company has had its highest net income margin of 8.9%. This is due to the company's operational efficiency of cutting operational costs by becoming more productive and technologically advanced. Fortune Brands has a cost of revenue to revenue of 63.1% compared to its competitors at 68.6%. This shows the company is also efficient in its use of non-operational expenses. Fortune Brands is still in the growth stage of its life-cycle.

1	O	0 .	/		
In Millions of USD	FY 2013	FY 2014	FY 2015	FY 2016	Current/LTM
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016	09/30/2017
📶 Revenue, Adj	3,703.6	4,013.6	4,579.4	4,984.9	5,202.4
Growth %, YoY	18.1	8.4	14.1	8.9	6.0
Gross Profit, Adj	1,298.4	1,375.8	1,589.6	1,814.2	1,918.3
<u>I</u> Margin %	35.1	34.3	34.7	36.4	36.9
EBITDA, Adj	444.2	529.5	653.5	780.5	840.8
📶 Margin %	12.0	13.2	14.3	15.7	16.2
III Net Income, Adj	235.2	288.9	337.5	434.1	465.3
Margin %	6.3	7.2	7.4	8.7	8.9





Fortune Brands Home & Security comaparion to its competitors are shown in the relative equity chart below. The competitors are representatives of the home imporvement industry. The company's 1 year revenue growth rate of 8.85% and net income growth rate of 31.17%, which is much larger than the median of its competitors. Fortune Brands has the opportunity to grow its ROE of 18.04% to the median of its competitors at 20.72%. The comapny has a larger EBITA margin at 13.26% than the median of its competitors at 10.94%. Fortune Brands has the opportunity to decrease its cash conversion cycle of 58.40 days. Its main competitors of Masco has a lower cash conversion cycle of 38.72 days and Amercian Woorwork has a conversion cycle of 22.47. The higher cash conversion cycle is primary due to the low accounts payable turnover of 8.55 and low asset turnover of 1.0. Management should focus on extending its accounts payable turnover in order to have a lower cash conversion cycle. This will result in greater free cash flow for the company, thus a higher valutaion.

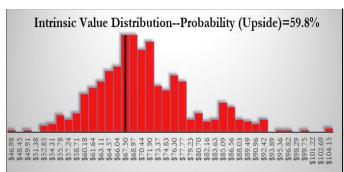
Name 1	Mkt Cap	Rev - 1	NI / Profit	ROE:Y	EBITA	Ast	Inv	A/P	Cash Conversion
(BICS Best Fit)	(USD)	Yr Gr:Y	- 1 Yr Gr:Y		Mrgn:Y	T0:Y	Turnover:Y	Turnover:Y	Cycle:Y
Median	5.82B	5 . 42%	13.78%	20.72%	10.94%	1.20	5.85	8.55	58.40
FORTUNE BRANDS HOME	10.34B	8.85%	31.17%	18.04%	13.26%	1.00	5.85	8.55	58.40
AMERICAN WOODMARK CO	1.87B	8.79%	21.25%	23.03%	10.94%	2.13	19.61	21.20	22.47
FLOOR & DECOR HOLDING	4. 20B	34 . 02%	60.55%	26.98%	8.00%	1.33	2.20	4.20	89.32
INTERFACE INC	1.48B	-4 . 32%		19.69%	8.92%	1.20	3.72	11.91	115.97
IROBOT CORP	1.86B	7.11%	-4.96%	11.07%	9.26%	1.28	6.08	5.12	37.72
MASCO CORP	13.39B	3.01%			14.45%	1.36	7.01	6. 36	38.72
MASONITE INTERNATION	2.04B	5 . 45%		15.15%	9.00%	1.33	7.20	16.42	71.44
SCOTTS MIRACLE-GRO CO	5.82B	5.42%			17.35%	0.96	4.16	11.83	
SNAP-ON INC	9.82B	3.30%		21.75%		0.82	3.51	11.51	174.17
STANLEY BLACK & DECKE	25.72B	2.10%	9.23%	16.49%	13.52%	0.74	4.75	4.47	36.19

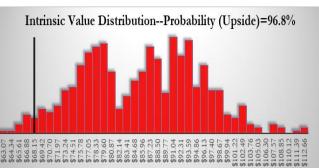
Sensitivity Forecast

Fortune Brands Home & Security's stock price value is very sensitive to revenue, operating expenses, and capital expenditure assumptions. The company currenly had a revenue growth rate of 6% and had 83.8% ratio of operating expenses to revenue. The bear case and bull case valuation are evaluted using a Monte Carlo simulation with different assumptions. Under the bear case, there is 59.8% intrinsic value probability upside. This leads to a target price of \$69.05 or a one-year expected return of 1.19%. This is due to assuming for the continuing period that operating costs to revenue will stay at 83.8%. Also, that revenue growth expectations will be lower in the short-term and decline to a long-term revenue growth rate of 1.96%. This could be due to millenials continuing to hold off on buying houses and consumer willingness droping. This downside still results in a return of 1.19%, so your money would be better off invested in another stock. However, based on industry trends and potential for margin growths, the bull case is far more likely. Under the bull case, there is a 96.8% intrinsic value probability upside. This leads to a target price of \$83.89 or one-year return of 23.99%. The assumptions here are the forecasted revenue predictions by Bloomberg remain the same and then trend downward towards the long-term growth rate of 1.96%. The big change is the operating expenses to revenue percent will contine to decline from 83.8% to a continuing period ratio of 81.5%. This is reasnable due to the historical drop in operating expenses to revenue. From 2011 to 2016, the operating cost to revenue have been 91.2%, 88.9%, 87.3%, 86.2%, 84.8%, and 83.8% in 2016. This is a CAGR decline in operating costs to revenue of 1.68%. There is potential for a lower operating costs to revenue, which will create an even greater per share value in one-year. This sensitivty analysis shows the upside is much greater than the downside for Fortune Brands Home & Security.







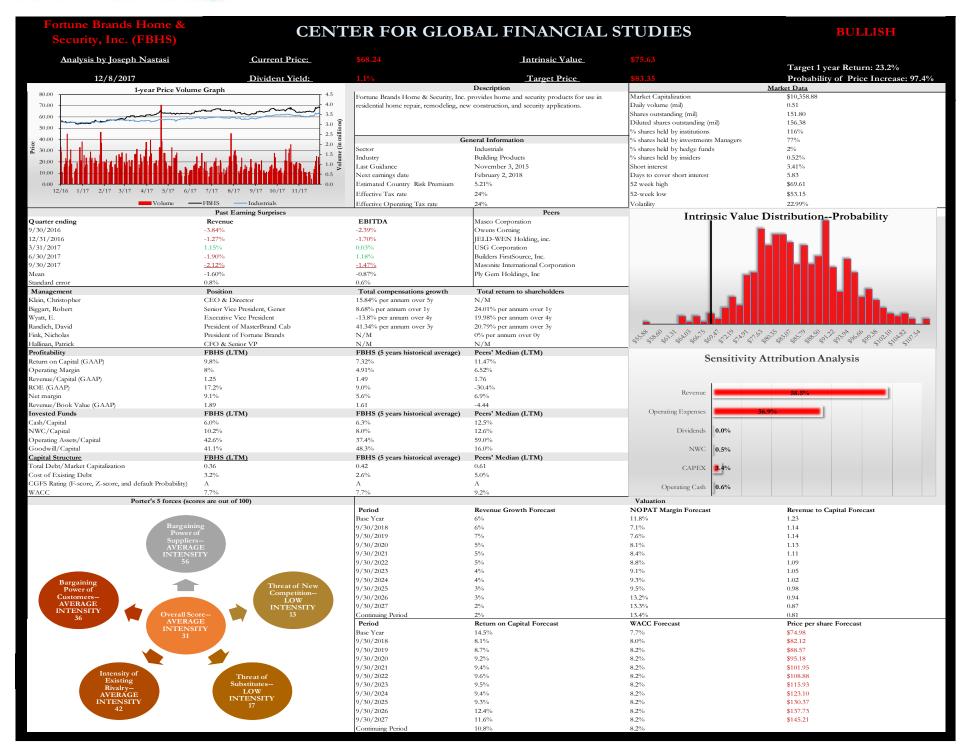


Summary:

In conclusion, Fortune Brands Home & Security is a buy at its current price This is due to the promising industry trends in the home improvement industry and opportunity to increase segment margins to managents' expectations in the segments of Doors and Seurity. Also, the Global Plumbing Group strategy has the potential to increase sales volume in the highest margin segment of Plumbing. The upside is greater than the downside as shown in the Monte Carlo sensitivity analysis. The company's one-year target price of \$83.35, a 23.2% return is reasonable based on the analysis. FBHS is well positioned to break the resistance of its 52-week high and continue to reward shareholders in 2018.









December 8, 2017

Fortune Brands Home & Security, Inc: FBHS

Analyst: Joseph Nastasi



Sector: Industrials

Industry: Building Products

Company Description:

Fortune Brands Home & Security is a leading home and security products company. The company operates in the four business segments of cabinets, plumbing, doors, and security. The company manufactures and sells kitchen and bathroom cabinets, faucets, entry doors, trim, and padlocks. Fortune Brands industry leading brands include Moen faucets, MasterBrand Cabinets, Sentry Safe, and Therma-Tru entry. The company is highly dependent on the home improvement market of new construction and repair & remodel activities. This is a global manufacturing company with 31 US facilities and 13 international facilities with approximately 22,700 employees. FBHS was formed in 1988 as a Fortune Brands subsidiary and the company was spun off in 2011.

BUY

C . D .	# < 0, 0. 4
Current Price:	\$68.24
Target Price:	\$83.35
Market Cap:	\$10.51
Avg Volume:	880,815
S&P Debt Rating:	BBB+
ROE:	18.04%
Ke:	11.3%
EBIT Margin:	12.73%
WACC:	8.2%
Total Asset Multiplier:	1.0
Equity Multiplier:	2.08
Cash/Total Assets:	4.9%

Catalysts:

- Short Term (within the year): Q4 earning results on February 2, 2018
- Mid Term (1-2 years): Favorable industry trends of increased consumer confidence, millennials increase in house ownership, the median age of homes increasing leading to increased demand for repair & remodel activities
- Long Term (3+): Increasing sales volume in the company's highest operating margin segment of Plumbing and increasing the operating margins in the segments of Doors and Security closer to competitors' average





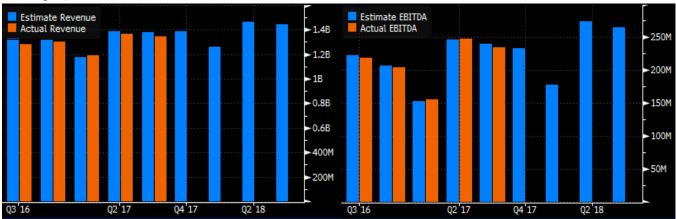


Thesis:

Fortune Brands Home and Security is the industry leader because of its well-known and high performing brands in the segments of cabinets, plumbing, doors, and security. The company's third quarter earnings resulted in operating margin gains in three of the four segments from the previous year while navigating the disruption in Florida and Texas due to hurricanes. FBHS will benefit from the promising housing improvement trends of greater consumer confidence, greater millennial homeowners, and an increase in the median age of homes in the U.S. to 40 years. FBHS has industry leading and increasing operating margins in the segments of cabinets and plumbing. The Global Plumbing Group strategy of increasing sales volume in the Plumbing segment with the largest operating margin. There is opportunity for margin growth in the segments of doors and security due to lagging behind competitors' margins in those segments. FBHS has an underleveraged balance sheet compared to its competitors that will allow them to continue growing with strategic acquisitions and international expansion. The Monte Carlo simulations shows that the company has a greater upside than downside due to the ability to continue decreasing operating costs as a percent of revenue. FBHS is well positioned for its stock price to continue increasing past its 52-week high.

3rd Quarter Earnings Performance:

Fortune Brands CEO, Christopher Klein, stated during the earnings call, "In the third quarter sales growth was solid despite the negative hurricane impact. Based on the current pace of market growth and our solid execution, we continue to expect to deliver strong full-year results." Below, the chart to the left shows the analyst estimates and actual revenue results for the past 5 quarters along with future projections for revenue. The chart to the right shows analyst estimates and actual EBITDA results for the past 5 quarters along with future projections for EBITDA.



Fortune Brands was below analyst estimates for revenue for four of the last five quarters. The company was also below analyst estimates for EBITDA for three of the last five estimates. This has lead to the share price generally decreasing after the past three earnings calls. Total sales increased 5% year-over-year to a Q3 result of \$1.35 billion. Operating income increased 7% year-over-year to a Q3 result of \$201.8 million. This is a Q3 operating margin of 14.95%. Plumbing sales increased 12%, cabinet sales increased 2%, door sales increased 7%, and security sales increased 5%. Plumbing sales were annually \$1.53 billion in 2016. In the Q3 earnings call, management set the goal plumbing sales reaching \$2.5 billion in sales by 2020 due to the Global Plumbing Group (GPG) staretgy. This strategy invloves accelerating product development, upgrading digital marketing efforts, and realizing potential from well-integrated acquisitions. This would be a revenue CAGR in the plumbing segement of 13.06% from 2017 to 2020. Fortune Brands sited the impact of storms for their

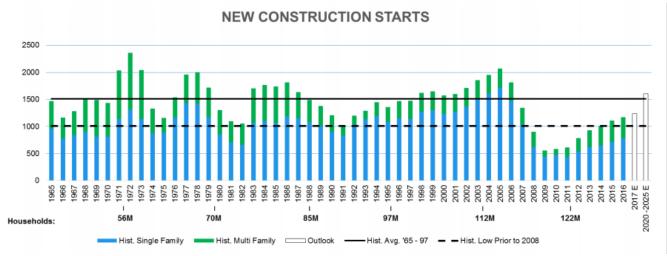




revenue and EBITDA results falling below expectations in Q3. Flooding results in consumers, in the immediate quarter, not undergoing home improvements, but will lead to home improvements in the future. Florida was severly impacted, which is the fifth largest construction market, leading to Fortune Brands being shut down there for essentially three weeks. Despite the disruption, Fortune Brands annual revenue guidnace was 5% to 6% and was updated to expectations of 6% to 7%. After earnings on volume of 2 million, the stock price increased from around \$67 to \$68.5 and then in the following days fell to around \$64 on lower volume. Recently, Fortune Brands' stock price increased from a low of \$64 to \$68 due to tax reform passing the Senate, the company conducts approximately 85.5% of its revenue in the U.S. The price chart above shows how throughout the past year, Fortune Bank has outperformed the home improvement industry index. The company is at its 52-week high and has had a 52-week return of 20.9%.

Industry Outlook:

The price chart above shows how Fortune Brands' stock performance is highly correlated to the S&P 500 Home Improvement Retail Sub Industry Index (S5HOMI). Fortune Brands CEO stated "New construction activity grew in the high single-digits, while repair and remodel activity grew around 5%, both were in line with our expectations." The U.S. home market impacts over 70% of Fortune Brand's sales, which management expects to grow at a 6% to 7% rate for the full year. The hurricane disrupted Fortune Brands because Florida and Texas account for about 12% of its total revenue. However, after the hurricane recovery, construction building and repair & remodel activities will increase in demand in Florida and Texas. The chart below shows historical new construction starts in the U.S. and the outlok for the future.



The U.S. new home construction market is improving and demand for new homes is still recovering after the 2007-2009 economic recession. The chart show from 2007 to 2009 that new construction starts were at an all time low around 500 thousand. Fortune Brand expects new housing starts to stabilize around 1.5 million from 2020 to 2025. This increase is due to favorable demographics with baby boomers retaining and even increasing home ownership. There is also a delay in marriage and child bearing, which is placing upward pressure on future (single family) household formations. Also, the median age of homes in the U.S. has increased to around 40 years, which creates a greater market for repair and remodeling demand. Consumers' willingness to invest in their homes should be high. The unemployment rate is at a low of 4.1%, access to credit is cheap with continued low interest rates, continued rising house prices, and greater stock market returns. Fortune Brand is well positioned to capture these industry trends with high correlation to the housing market and due to having leading market shares of the cabinet dealer channel and plumbing end market.





Business Model:

Fortune Brands Home & Security has broad channel and distribution strength. The geographic breakdown based on 2016 revenue is 85.43% in the U.S, 8.15% in Canada, and 6.42% in China and other international. Other international includes Europe, Southeast Asia, South America, and Mexico. The three-year CAGR for each geographic segment is 13.37% for the U.S, 0.07% for Canada, and 4.2% for China and other international. Fortune Brands distribution channel breakdown based on revenue is 27% home centers, 24% wholesale, 24% dealers, 15% international, 6% other retail, and 4% builder direct. The company's two largest customers are Home Depot and Lowe's Companies, which account for together about 30% of annual sales. Fortune's industry leading brands have consistently outperformed competitors in sales and performance. One portfolio is Master Brand Cabinets, which includes brand names such as Mid-Continent, Kitchen Classics, and Omega. This is the largest kitchen and bath residential cabinet manufacturer in North America. Fortune Brands' cabinets are in more than 70% of dealer and in-stock channels. The second portfolio is Fortune Brands Global Plumbing Group, which includes brands such as Moen, Riobel, and ROHL. The Moen faucet brand is number one in terms of sales in North America. These brands have obtained exclusive builder contracts. The third brand is Therma-Tru Doors, which is the number one entry door brand in U.S. buildings among building professionals. This brand has had a growing retail presence. The fourth brands are Master Lock and Sentry Safe, which are the number one padlock and personal safe brands in North America. The diversity of Fortune Brands can be shown with its customers. The main customer revenue breakdown is 14% Lowe's, 13% Home Depot, 3.08% Amazon, 2.93% Amazon, 1.04% Beacon Roofing, 0.46% Target, 0.45% Kroger, 0.32% Sears, and 0.28% CVS Health. These customers are varied across numerous industries. Fortune Brands strategic plan is to continue developing innovative products, expand in international markets, and leverage their global supply chains, and enhance returns of shareholders. There has been an increasing strategic focus on their Global Plumbing Group strategy. This plan was to grow its plumbing segments market growth from high single-digits to low double-digits for the next several years while maintaining the operating margin around 20% to 21%. This focus of putting resources where Fortune Brands' management sees areas of potential segment gains is why the continued operating margin gains in each segment have grown each year historically and will continue to grow in the future.

Segment Analysis:

Fortune Brands Home & Security operates in the segments of cabinets (48.1% of total revenue), plumbing (30.78% of total revenue), doors (9.49% of total revenue), and security (11.63% of total revenue). The CAGR based on revenue from 2011 to 2016 for each segment is 13.8% for cabinets, 9.77% for plumbing, -3.07% for doors, and 0.82% for security. The cabinets segment consists of manufacturing and selling custom, semicustom, and stock cabinetry. The plumbing segment consists of manufacturing and selling faucets, accessories, kitchen sinks and waste disposals. The doors segment consists of manufacturing and selling fiberglass and steel entry door systems under the Therma-Tru brand. The security segment consists of locks, safety and security devices, and electronic security products manufactured and distributed. The time-series annual operating margin for each segment is shown below.





	Annual EBIT Margin											
Segments	2011	2012	2013	2014	2015	2016						
Cabinets	0.45%	1.55%	5.91%	7.71%	8.85%	10.75%						
Plumbing	14.33%	15.37%	17.74%	19.45%	20.18%	21.27%						
Doors	-18.30%	-0.40%	4.12%	7.05%	10.02%	13.09%						
Security	11.25%	14.07%	13.75%	10.27%	10.12%	11.49%						
Total	-0.47%	4.57%	8.86%	10.39%	11.22%	12.73%						

Each segment's operating margin has increased over the past three-years. The efficiency gains in costs are shown in doors and security segment. Over the past five years, the revenue for the doors segment has decreased 3.07% annually, while the operating profit has reached its highest point of 13.09% in 2016. Also, the revenue for security has only increased 0.82% annually for the past five years, while the operating profit has reached its highest point of 11.49%. One area of margin concern is that the fastest growing and highest proportion of revenue segment of cabinets has the lowest 2016 margin of 10.75% of all the segments. However, compared to its competitors, Fortune Brands' cabinet's margin is an industry leader. The increase in this operating margin is largely due to the benefit of the Norcraft acquisition. Norcraft was acquired in May 2015 for \$648.6 million and they were a leading manufacturer of kitchen and bathroom cabinetry. Management is predicting in three-years an operating margin in the cabinets segment of around 14%. The increase in the plumbing segment's operating margin is due to higher sales volume and improving U.S. market conditions and new product innovations. This is also due to management's Global Plumbing Group strategy. Where recent acquisitions in this segment, like the Victoria + Albert brand, has led to the opportunity of premium pricing. Management is predicting in three-years an operating margin in the plumbing segment to stay at 20% to 21%, but sales volume to continue increasing. The focus that management us putting on increasing the volume for the highest margin segment shows the cash flow focus of management, which is crucial for shareholders. The increase in the segment of doors is due the Therma-Tru brand benefiting from the shift toward fiberglass doors and away from steel. Management is predicting in three-year an operating margin in the doors segment of 15%. The security segment's operating margin has increased due to the acqusition of Sentry Safe in July 2014 for \$116.7 million in cash, which is a leading manufacturer of home safes. Management is predicting in three-year an operating margin of 15% in the security segment. The timeseries quarterly operating margin for each segment is shown below.

Quarterly EBIT Margin									
Segments	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	
Cabinets	9.92%	6.49%	12.94%	12.42%	10.62%	8.19%	13.58%	11.35%	
Plumbing	19.75%	21.12%	23.02%	21.48%	19.63%	18.55%	23.76%	22.20%	
Doors	11.62%	4.45%	15.34%	17.26%	12.98%	8.02%	16.85%	18.12%	
Security	8.91%	4.53%	11.05%	14.62%	14.32%	7.62%	12.94%	17.58%	
Total	11.43%	8.71%	14.46%	14.39%	12.78%	9.68%	15.56%	14.87%	

The quarterly operating margins shows the impact of seasonality. The segments experience lower sales in the first quarter of the year when new home construction and repair & remodel activities are at their low. Revenue is typically higher during the second half of the year. Q3 2017 faced the disruption of the hurricanes in Texas and Florida, which account for 12% of total revenue. However, on the year-to-year basis, the segments of plumbing, doors, and security increased in their operating margin. Q4 has resulted in lower operating margins than Q3, which again may be the case because of feeling the full impact of the hurricane related disruptions of sales orders. Looking at comparable companies operating margins can add justification for the operating margins that Fortune Brand's managers projected in three years time. The comparative analysis with average operating margin, per segment, of Fortune Brands main competitors in each segment is shown below.





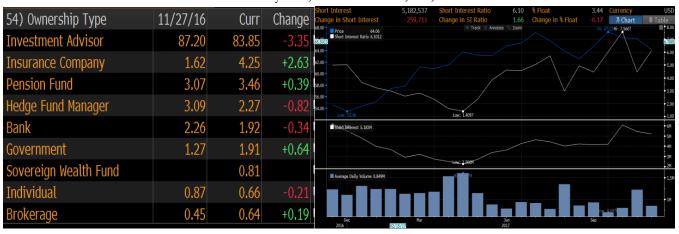
Annual EBIT Margin Competitors						
Segments	2016	N				
Cabinets	9.71%	2				
Plumbing	18.21%	2				
Doors	15.71%	3				
Security	22.84%	3				
Total	16.62%	10				

The competitors in the cabinet segment used were Masco and American Woodmark. The competitors used in the plumbing segment were Masco and Pfister. The competitors used in the doors segment were Spectrum Brands, Masonite, and JELD-WEN. The competitors used in the security segment were Kwikset, Schlage, and Assa Abloy. Fortune Brands cabinets and plumbing segments are best-in-industry at 10.75% and 21.27%. The greatest areas for potential improvement

are in the segments of doors and security, which is shown by being below competitors operating margin. The largest difference is in security where Fortune is at 11.49% and competitors are at 22.84%. Management's three-year projection of 15% in the security segment seems reasonable based on competitors' higher margins.

Management/Ownership:

The ownership chart for Fortune Brands with their one-year change is shown below to the left. The majority of the company's shares are held by investment advisors at 83.85%, insurance companies at 4.25%, and pension funds at 3.46%. The high ownership by insurance companies and pension funds, which has been increasing on a one-year period, show how this stock is considered a "safe" investment with it being closely correlated to the improving housing market. Fortune Brands are apart of the indices of T. Rowe Price Growth Stock (owns 2.93% total shares), Vanguard Mid Cap (owns 2.5% total shares), and JP Morgan Mid Cap Value (owns 1.85% total shares). Being placed in these popular indices are beneficial due to it results in greater share volume. Fortune Brands has 99.5% of its shares outstanding as freely floated. The short interest chart is shown below to the right. The short interest days to cover is at 6.1 days. It has recently come down from a high of 7.6 days in September, where the stock price fell the following month. There has been a decline in the volume of the short interest by 259,711 shares to 5,182,537.



Christopher Klein has served as CEO of Fortune Brands since January 2010. Klein joined the parent company in April 2003 and prepared Fortune Brands Home & Security to become a stand-alone company. Before becoming CEO, he managed all mergers and acquisitions activities for the parent company. This background in mergers and acquisition is important due to Fortune's strategy of acquisitions to drive segment growth. Before working at Fortune Brands, Klein worked at Bank One Corporation. His finance background is important, so the focus will be put on the company's cash flow. The key executive compensation table from 2012 to 2016 is shown below. Key executive compensation has increased from 2012 to 2016 at a CAGR of 13.68%. While, the CAGR from 2012 to 2016 in terms of stock return was 23.84%. This is a good sign that the stock return is growing at a faster CAGR than executive pay. Klein owns 24,783,152 shares in the company or 0.24% of total shares outstanding. His position has been increasing in the last year.





Name/Title 🖟	2012	2013	2014	2015	2016
Key Executive Compensation	12,353,587	13,742,909	13,897,792	20,098,062	20,630,222
Christopher J. Klein/Chief Executive Officer	7,372,250	7,889,415	7,747,028	7,624,739	8,897,621
E. Lee Wyatt/Senior Vice President and Chief Financial Officer	3,406,567	3,655,560	3,023,869	3,384,183	5,684,126
David M. Randich/President, MasterBrand Cabinets	1,574,770	2,197,934	1,580,498	4,446,687	2,230,327
Nicholas I. Fink/President, Global Plumbing Group	-	-	-	2,961,836	1,996,425

Capital Allocation Comparison:

Fortune Brands Home & Security capital structure is composed only of 14% debt. This is much lower than its competitors, which have on average 40% debt in their capital structure. This low amount of debt is rare for a manufacturing company of this scale. Fortune Brands has cash of \$277.1 million, which is 4.9% of total assets. Total debt has rapidly increased in the past three years from \$670 million in 2015 to \$1.46 billion currently. Even with an industry low of debt, Fortune Brands has a lower WACC at 8.2% than its competitors WACC at 9.2%. This is largely due to the lower cost of debt for the company at 3.2% compared to competitors' average cost of debt at 5%. The lower cost of debt is because of Fortune Brands high credit rating of BBB+. The company has a return on capital to WACC of 1.12, while its competitors have a return on capital to WACC of 0.98 for the LTM. This is due to Fortune Brands lower WACC and the company's greater net income compared to dividends paid out. Fortune Brands is financially well positions for future acquisitions that may require taking on additional debt.

In Millions of USD	FY 2013	FY 2014	FY 2015	FY 2016	Current/LTM
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016	09/30/2017
Market Capitalization	7,616.7	7,159.0	8,874.8	8,201.4	10,342.2
- Cash & Equivalents	241.4	191.9	238.5	251.5	277.1
+ Preferred & Other	3.7	3.6	2.9	1.5	1.6
+ Total Debt	356.0	670.0	1,169.5	1,431.1	1,462.2
Enterprise Value	7,735.0	7,640.7	9,808.7	9,382.5	11,528.9

Profitability Comparison:

Fortune Brands for the past 5 years has seen increasing revenue growth, gross profit, EBITDA, and net income. Recently, even with a slower revenue growth rate of 6%, the company has had its highest net income margin of 8.9%. This is due to the company's operational efficiency of cutting operational costs by becoming more productive and technologically advanced. Fortune Brands has a cost of revenue to revenue of 63.1% compared to its competitors at 68.6%. This shows the company is also efficient in its use of non-operational expenses. Fortune Brands is still in the growth stage of its life-cycle.

1	O	0 .	/		
In Millions of USD	FY 2013	FY 2014	FY 2015	FY 2016	Current/LTM
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016	09/30/2017
📶 Revenue, Adj	3,703.6	4,013.6	4,579.4	4,984.9	5,202.4
Growth %, YoY	18.1	8.4	14.1	8.9	6.0
Gross Profit, Adj	1,298.4	1,375.8	1,589.6	1,814.2	1,918.3
<u>I</u> Margin %	35.1	34.3	34.7	36.4	36.9
EBITDA, Adj	444.2	529.5	653.5	780.5	840.8
📶 Margin %	12.0	13.2	14.3	15.7	16.2
III Net Income, Adj	235.2	288.9	337.5	434.1	465.3
Margin %	6.3	7.2	7.4	8.7	8.9





Fortune Brands Home & Security comaparion to its competitors are shown in the relative equity chart below. The competitors are representatives of the home imporvement industry. The company's 1 year revenue growth rate of 8.85% and net income growth rate of 31.17%, which is much larger than the median of its competitors. Fortune Brands has the opportunity to grow its ROE of 18.04% to the median of its competitors at 20.72%. The comapny has a larger EBITA margin at 13.26% than the median of its competitors at 10.94%. Fortune Brands has the opportunity to decrease its cash conversion cycle of 58.40 days. Its main competitors of Masco has a lower cash conversion cycle of 38.72 days and Amercian Woorwork has a conversion cycle of 22.47. The higher cash conversion cycle is primary due to the low accounts payable turnover of 8.55 and low asset turnover of 1.0. Management should focus on extending its accounts payable turnover in order to have a lower cash conversion cycle. This will result in greater free cash flow for the company, thus a higher valutaion.

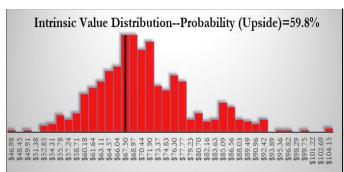
Name 1	Mkt Cap	Rev - 1	NI / Profit	ROE:Y	EBITA	Ast	Inv	A/P	Cash Conversion
(BICS Best Fit)	(USD)	Yr Gr:Y	- 1 Yr Gr:Y		Mrgn:Y	T0:Y	Turnover:Y	Turnover:Y	Cycle:Y
Median	5.82B	5 . 42%	13.78%	20.72%	10.94%	1.20	5.85	8.55	58.40
FORTUNE BRANDS HOME	10.34B	8.85%	31.17%	18.04%	13.26%	1.00	5.85	8.55	58.40
AMERICAN WOODMARK CO	1.87B	8.79%	21.25%	23.03%	10.94%	2.13	19.61	21.20	22.47
FLOOR & DECOR HOLDING	4. 20B	34 . 02%	60.55%	26.98%	8.00%	1.33	2.20	4.20	89.32
INTERFACE INC	1.48B	-4 . 32%		19.69%	8.92%	1.20	3.72	11.91	115.97
IROBOT CORP	1.86B	7.11%	-4.96%	11.07%	9.26%	1.28	6.08	5.12	37.72
MASCO CORP	13.39B	3.01%			14.45%	1.36	7.01	6. 36	38.72
MASONITE INTERNATION	2.04B	5 . 45%		15.15%	9.00%	1.33	7.20	16.42	71.44
SCOTTS MIRACLE-GRO CO	5.82B	5.42%			17.35%	0.96	4.16	11.83	
SNAP-ON INC	9.82B	3.30%		21.75%		0.82	3.51	11.51	174.17
STANLEY BLACK & DECKE	25.72B	2.10%	9.23%	16.49%	13.52%	0.74	4.75	4.47	36.19

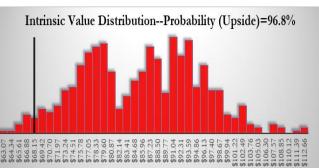
Sensitivity Forecast

Fortune Brands Home & Security's stock price value is very sensitive to revenue, operating expenses, and capital expenditure assumptions. The company currenly had a revenue growth rate of 6% and had 83.8% ratio of operating expenses to revenue. The bear case and bull case valuation are evaluted using a Monte Carlo simulation with different assumptions. Under the bear case, there is 59.8% intrinsic value probability upside. This leads to a target price of \$69.05 or a one-year expected return of 1.19%. This is due to assuming for the continuing period that operating costs to revenue will stay at 83.8%. Also, that revenue growth expectations will be lower in the short-term and decline to a long-term revenue growth rate of 1.96%. This could be due to millenials continuing to hold off on buying houses and consumer willingness droping. This downside still results in a return of 1.19%, so your money would be better off invested in another stock. However, based on industry trends and potential for margin growths, the bull case is far more likely. Under the bull case, there is a 96.8% intrinsic value probability upside. This leads to a target price of \$83.89 or one-year return of 23.99%. The assumptions here are the forecasted revenue predictions by Bloomberg remain the same and then trend downward towards the long-term growth rate of 1.96%. The big change is the operating expenses to revenue percent will contine to decline from 83.8% to a continuing period ratio of 81.5%. This is reasnable due to the historical drop in operating expenses to revenue. From 2011 to 2016, the operating cost to revenue have been 91.2%, 88.9%, 87.3%, 86.2%, 84.8%, and 83.8% in 2016. This is a CAGR decline in operating costs to revenue of 1.68%. There is potential for a lower operating costs to revenue, which will create an even greater per share value in one-year. This sensitivty analysis shows the upside is much greater than the downside for Fortune Brands Home & Security.







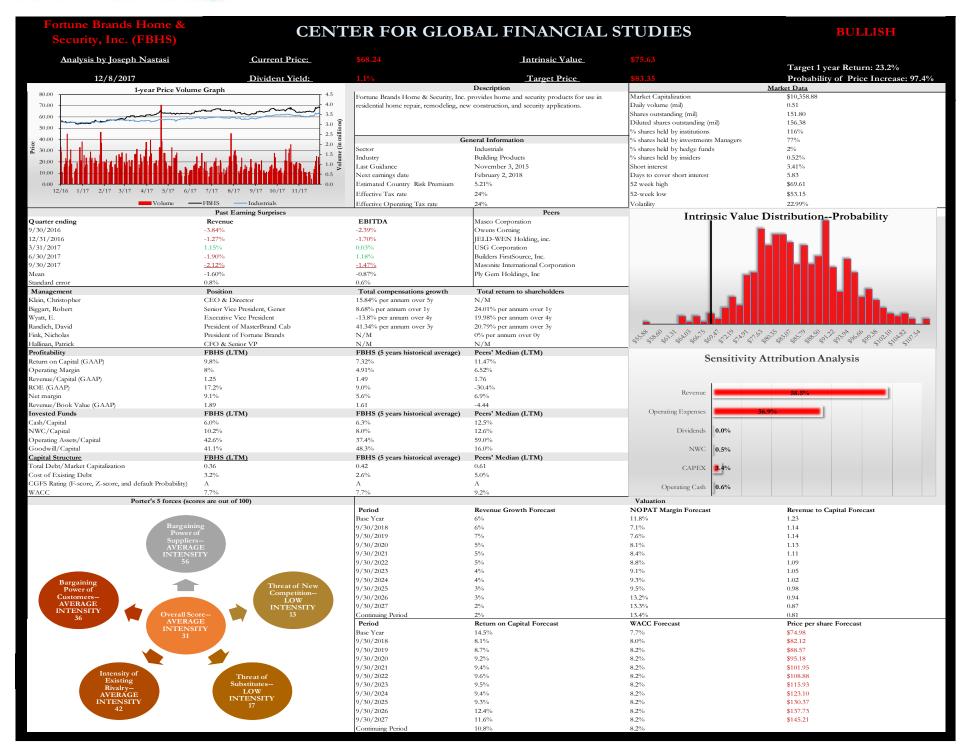


Summary:

In conclusion, Fortune Brands Home & Security is a buy at its current price This is due to the promising industry trends in the home improvement industry and opportunity to increase segment margins to managents' expectations in the segments of Doors and Seurity. Also, the Global Plumbing Group strategy has the potential to increase sales volume in the highest margin segment of Plumbing. The upside is greater than the downside as shown in the Monte Carlo sensitivity analysis. The company's one-year target price of \$83.35, a 23.2% return is reasonable based on the analysis. FBHS is well positioned to break the resistance of its 52-week high and continue to reward shareholders in 2018.









December 09, 2017

Johnson Outdoors Inc.

Analyst: TJ Curtin



Sector: Consumer Discretionary Industry: Leisure Products

Current Price: \$61.91 Target Price: \$75.55

Company Description:

Johnson Outdoors Inc. designs, manufactures and markets outdoor equipment, diving, watercraft and marine electronics products worldwide.

BUY:

Current Price:	\$61.91
Target Price:	\$75.55
Market Cap:	\$618.86M
Avg. Volume:	221.7K
Kd:	4.3%
ROA:	5.2%
ROE:	11.3%
Operating Margin	7.68%
Short Interest:	1.01%

Catalysts:

Short Term(within the year):

- Continued growth in flagship brands

Mid Term(1-2 years):

- Benefits from Consumer Center transformation
- Potential for M&A activity as the company is actively searching and growing cash balances

Long Term(3+):

- Benefits from increase in digital spending
- Global expansion







Thesis:

Johnson Outdoors, a public corporation since 1987, produces, markets and distributes outdoor recreation equipment that is sold in 80 different countries. They offer a family of core brands across 16 product categories and employ 1,200 employees in 20 facilities worldwide. The experienced management team has delivered industry leading results over the past year and the financial sector has recently reacted negatively to an earnings call on December 8th that I believe will help to drive value as the stock price stabilizes in the coming weeks. Johnson Outdoors expects the transformation of its Consumer Center, as well as investment in digital marketing efforts and the production of digital and technological products to continue to drive growth in the coming year. Executives are actively seeking opportunities in the sphere of M&A activities and are prepared to take advantage of the proper situation should they discover it, utilizing their high levels of cash balances and ability to source funds at a reasonable level. Geographic expansion efforts in 2018 will help to give the company a stronger competitive advantage over its peers.

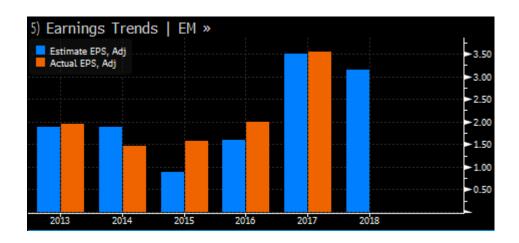
Why Johnson Outdoors?

- · Leading brands and market positions in attractive businesses
- · Culture of innovation ensures products remain at the forefront of trends and technology
- · Strong competitive advantages and barriers to entry
- · Seasoned management team to execute strategy
- · Strategic initiatives focused on driving accelerated profitable growth
- · Strong balance sheet, cash flow generation provides flexibility



Source: https://www.johnsonoutdoors.com/

Earnings Performance:







JOUT has managed to wither the trials of the suffering retail market and has continued to beat earnings each year for the last three years, as can be seen in the annual earnings chart in comparison to analyst expectations above. The impact of new product lines drove revenue growth and attention to cost controls and investment in CRM technology has allowed the company to bring these products to market efficiently and in alignment with customer wants and needs.

Measure	Actual	Estimate	Surprise Comps Scorecard (4 of 12)	Past Surprise
11) EPS, Adj+	3.544	3.490	1.55% Beat:4 Met:0 Missed:0	Beat 4 of 7
12) EPS, GAAP	3.510	3.490	0.57% Beat:4 Met:0 Missed:0	Beat 3 of 5
13) Revenue	490.565M	485.000M	1.15% Beat:3 Met:0 Missed:1	Beat 4 of 5
14) Net Income, Adj+	35.157M	34.600M	1.61% Beat:4 Met:0 Missed:0	

The table above shows earnings, revenue and net income figures for the company versus competitors as well as performance vs. expectation metrics. It can be noted that earnings, revenue and profit figures have all grown for the past quarter as well as the past year, and that JOUT beat all analyst expectations in earnings, revenue and net income figures and only missed one revenue expectation of the four total with regard to revenue.

Business Strategy:

Johnson Outdoors has experienced annual sales growth of 13%, an industry leading figure, as a result of the proper identification of customer wants and needs, the release of several new products in the fishing and boating segments, deleveraging, as well as through the benefit of investment in product development and production in previous years. Production facilities across 20 countries boast additional output capacity as executive teams continue to develop new products. Net sales rose by 22% for the last quarter, which is usually a lagging sales quarter due to the transition into the winter season. Net income expanded 160% to a level of \$3.51 per diluted share and the operating margin improved 6.5 points year over year. Although expectations are set lower in 2018 in terms of revenue and profit margins, a strong cash position, focus on customer resource management technologies and digital marketing and distribution as well as an indicated interest in a strategic acquisitions will help to ensure that Johnson Outdoors continues to achieve sustained growth and profit in the coming years.

Innovation in the ScubaPro brand is expected to drive consumer demand in 2018. Executives have worked to reduce infrastructure costs over the past year and plan to continue to do the same in order to continue the impressive and profitable growth of previous years. Management has expressed that the company's customer base and retailers have come to trust Johnson Outdoors in executing R&D strategy effectively to bring them the most advanced new products and technology at a fair price; the management does the extra work so that customers do not have to. Innovation and strategically-timed launches at trade shows in anticipation of the necessary lag time for preseason orders have helped to drive growth over the past year. Challenging retail market conditions such as retailer bankruptcies constrained growth in the watercraft and camping departments. The company plans to position the Eureka brand and Oldtown Predator series of fishing boats, boasting a new pedal-drive craft, for success to offset lags in the market for 2018. Efforts across 2017 successfully brought the watercraft department into profitability in the last quarter. Products and product releases are diversified by segment and season to ensure consistent sales levels as an organization throughout the year.





Award-Winning Innovation



Ownership:

Institutional - Based on Curren	t Filings	*	
51) Institutional	12/03/17	Curr	Change
11) % of Shares Held	72.93	72.98	+0.05 🗠
12) % of Float Held	90.62	90.68	+0.06
13) # of Institutions	193	195	+1.04% 🗠
14) # of Buyers	52	52	0.00% 🗠
15) # of Sellers	54	53	-1.85% 🗠
16) # of New Buyers	41	42	+2.44% 🗠
17) # of Selloffs	15	14	-6 . 67% 🗠
18) % Chg in Inst Positions	+3.88	+3.80	-0.08 🗠

Johnson Outdoors is currently owned primarily by three investment groups. Investment advisors currently hold 44.59% of the available shares, exhibiting an increase of .04% year over year, while individuals and banks hold 22.92% and 22.56% respectively. The table above shows that the percentage of shares held has increased, the number of new buyers has increased and the number of selloffs has decreased whilst institutions have increased their positions. I interpret these as positive signs with regard to investor expectations for the future of the company.





Growth in Flagship Brands:

The fishing segment was responsible for 60% of sales in 2017, as opposed to the historical average of approximately 33%. The reason for this was the release of the new products such as the Ultrex motor, which made big waves due to its accolade of being the most advanced cable steer model with foot pedal control that gives anglers a technical edge in the field. The Helix series of the Humminbird brand of fish-finders performed extremely well thanks to its new mega side and mega down imaging functionalities that produces one of the most detailed and clear fish-finder projections on the market. Contributing to the success of the fishing segment, aside from the success of newly released products, was the strong performance in sales of base brands, signifying brand-loyalty and repeat purchases from the existing customer base. Management expects continued growth in this segment as typically customers own these types of products for multiple years, therefore the increase in sales that can be attributed to new products hitting the market takes place for a period of longer than 1 year, typically around 2 years.









Consumer Center Transformation:

One important aspect of the company's focus and investment in 2018 with the goal of driving long term growth will surround the transformation of the Consumer Center that the organization utilizes to develop an intimate understanding of their customer wants, needs and expectations. This is especially important with regard to the notion that lagging segments, such as the camping segment, have seen a consumer shift of purchasing larger portions of products online rather than in person at store locations. Executives have expressed the desire to distribute from a diversified portfolio of successful business products and are taking action to expand geographic reach through global expansion of infrastructure.

Digital Investment & Global Expansion:

Management has expressed the intent to increase capital expenditures in 2018 across two major areas. The first will be in relation to the company's digital strategy, with a focus on revamping the company websites and improving digital marketing efforts to best reach the growing online targeted customer base. The second area of focus will in the sphere of customer resource management to better identify customer wants, needs, expectations and behavior. Although numerical estimates were not given for these expenditures, management has expressed that there will be a meaningful increase in the yearly spending amount of \$12 million that will not be as significant as a two-fold increase. Higher revenues realized in 2017 as a result of previous investments in these areas help to signify the potential for continued growth that this investment will generate.

The desire to consistently simplify business processes in an effort to maintain cost controls and to increase margins has management streamlining and consolidating the low-profitability diving aspect of its business as sales momentum brings about challenges in managing operating expenses. Restructuring in the ScubaPro and Eureka segments will help Johnson Outdoor to capture a larger portion of the relatively untapped military consumer base which is an important target area of growth moving forward. As channel disruption has brought about challenges in the camping industry, such as the vast store closings across the Gander Mountain chain, management has expressed its intention to strengthen the online shopping portion of the business as to develop stronger direct to consumer distribution methods and to decrease dependency on distributors. Geographic positioning is key to the success of many organizations today as globalization is occurring at an accelerating rate thanks to advances in technology. Executives at Johnson Outdoors have indicated on the December 8th earnings call that efforts will be focused on global expansion in 2018 to strengthen the production and distribution of the entity as a whole.

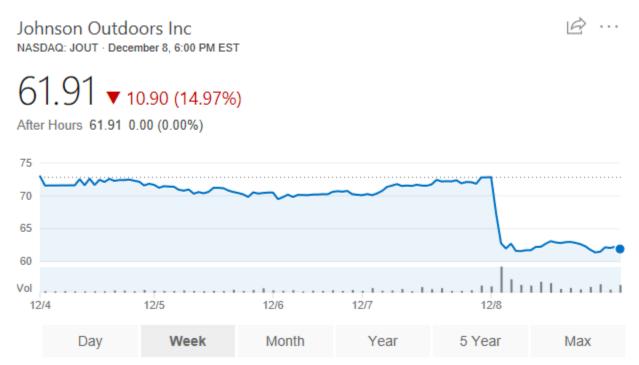






Conclusion:

In conclusion, I believe that Johnson Outdoors represents a good buy opportunity after its recent 14.97% drop in price as a result of analyst reactions to the December 8th earnings call. I value the company to be worth \$67.57 today and expect the company to grow over the next year, arriving at my target price of \$75.55 representing a 1-year expected return of over 22.5% The line chart below from www.google.com shows a visual representation of the trading price over the past week period.

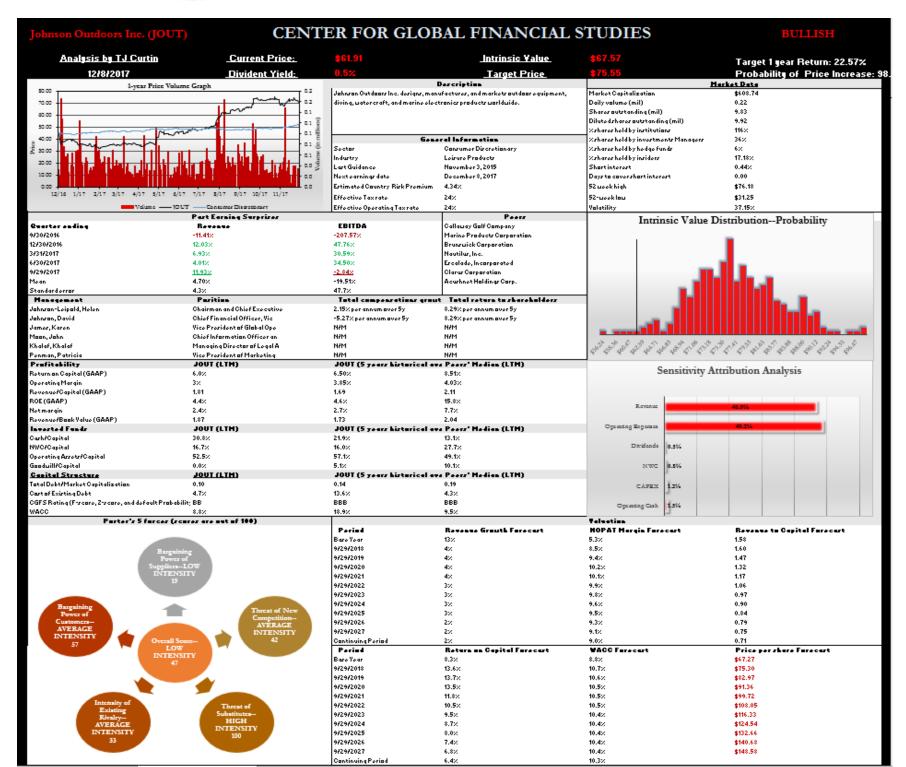


Continued revenue growth from new product lines will help to propel the company through the trying times that the retail sector is currently facing. Investment in customer resource management and digital technologies will help to align the company with new purchasing trends and to hedge against the risk of distribution dependencies. Record low debt levels and a strong cash position place the company in a strategic stance for acquisitions, of which executives have insured investors that only fair-value, strategically-aligned M&A activities will take place when the proper fit is discovered.

To give further credibility to my opinion that JOUT represents a good buy opportunity, I have taken measures to perform a "What-If" analysis in the case of lower than anticipated revenues. I adjusted revenue figures by a decrease of 2.2% for 2018, 2% for 2019, 1.8% for 2020, 1.6% for 2021 and 1.3% for 2022. Each revenue figure for the subsequent years through 2027 in the forecasted input of my model was decreased by a figure of .2%, totaling a 12.3% decrease over the 10 year period. In this hypothetical case, I calculated Johnson Outdoors to be worth an intrinsic value of \$63.53 and to achieve a target price of \$70.08 by 2019, generating a 12.72% return for the one year period in the pessimistic case of lower than expected revenues.









December 6th, 2017

Masimo Corporation: MASI

Paul Martinez

BJORKLUND FUND

Sector: Healthcare

Industry: Medical Equipment

Current Price: \$85.52 Target Price: \$114.96

LIMIT BUY

Current Price: \$85.52 Strike Price: \$80.88 Target Price: \$114.96 Market Cap: 4.501B Average Volume: .374M

52 Week Range \$62.17 - \$104.71

ROIC: 48.38% WACC: 10.3%

Company **Description:** Masimo Corporation designs, develops, and licenses medical signal for the processing and sensor technology noninvasive monitoring of physiological parameters. We provide our products directly and distributors and original equipment through manufacturers (OEM) partners to hospitals, emergency medical service (EMS) providers, longterm care facilities, physician offices, veterinarians and consumers.



Thesis: Masimo Corporation is a relatively new company that over the past couple of years has been growing at exponential levels. Masimo's major competitive advantage comes from their superior products, which sets them apart from their competitors. Masimo is at their 10-year post IPO and has continuously seen double digit revenue growth organically which is supplemented through royalty revenues. Between this and cost cutting initiatives, Masimo is increasing operating margins and creating value year-over-year. In addition, Masimo continues to fuel innovation and enhancements to their products from the consistent investment in R&D.

Catalysts:

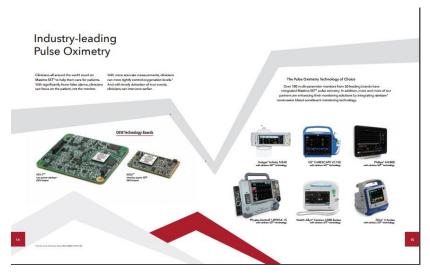
- Short Term (within the year): Masimo Corporation recent partnership with Phillips after a settlement of patent infringements. Increasing market exposure and international expansion.
- Mid Term (1-2 years): International exposure and expansion to geographic segments with a high demand in pulse oximetry monitors.
- Long Term (3+): Growth in the Pulse Oximetry Market and increase in technology.





Business Description:

Masimo Corporation is a global medical technology company that develops medical equipment. Masimo incorporated in California in May 1989 and then reincorporated in Delaware in May 1996. Currently, Masimo headquartered in Irvine, California. Masimo develops, manufactures, and markets variety of noninvasive monitoring technologies. Masimo provides their products through distributors, original equipment and partners (OEM)



hospitals, emergency medical service (EMS) providers, long-term care facilities, physician offices, veterinarians and consumers. In simpler terms, Masimo produces monitoring technology for clinicians to view and monitor critical analytics related to patients conditions. Masimo helps clinicians monitor in excess of 100 million patients in healthcare settings all around the world, and is the primary pulse oximetry technology at 17 of the top 20 hospitals in the world. Currently, there are certain inefficiencies in certain pulse oximetry monitoring technologies and these inefficiencies lead to false or missed alerts and therefore making clinicians job more difficult and in some cases leading to patients dying. Masimo's mission is to improve patient outcomes and reduce the cost of care by taking noninvasive monitoring to new sites and applications.

Product Description and Growth:

Masimo Corporation is known for their cutting edge technology and superior products compared to their competitors. Masimo continuously invests around 7-10% of sales into Research and Development and



continues to create new and innovative products. With this being said, Masimo holds a significant patent portfolio of close to 600 patents, in which have an expiration period from 2018-2033. Masimo produces a variety of products that are used in many different settings. These products consist of circuit boards, monitoring devices, sensors and cables, remote alarm systems, and consumer products. Rainbow circuit boards perform all signal processing and pulse oximetry functions. These circuit boards are then sold to OEM partners that are incorporated into their monitors. Masimo also produces the monitoring devices that are used for bedside monitoring, which is detachable and can be used for portable monitoring of certain levels that are programmed into the device. One of Masimo's biggest advancements are in their sensors that they produce. These single

use sensors include improved performance, cleanliness, increased comfort, and greater reliability. As reported in their annual report, "We have over 100 different types of sensors to meet virtually every clinical need".





Furthermore, Masimo's remote monitoring systems and clinician notification system instantly route alarms to clinician's handheld paging device in real time and allows for monitoring from mobile devices. Finally, Masimo offers products directly to the consumer; these products provide accurate oxygen saturation and pulse rate measurements. Masimo continuously is investing capital into research and development and inventing new technologies.

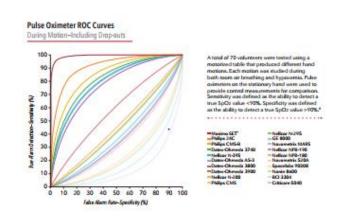
As mentioned, Masimo Corporation is a relatively new company, with their initial public offering being in August 2007. Masimo has been experiencing huge growth over their 10-year post IPO life. As of the last quarter product revenues were at the high on the year at 13%. Total revenues increased 15.6% and this signaled back-to-back quarters of double-digit growth in revenues. This growth came primarily from an increase in Rainbow product revenue and international product revenue growth. Rainbow product revenue grew 20% and international product revenue grew 35% on a constant currency basis. In addition to this, Masimo has continuously improved margins across the board. Gross margin has increased by 100 basis points from last quarter. Operating margins have been increasing over the past four years as well. Masimo has been able to cut SGA expenses by 70 basis points from prior year period and decreased overall operating expenses by 220 basis points from prior year period. As seen below, Masimo's current operating margin based on GAAP is approximately 23.68%. As per their last earnings call, management is expecting an operating margin closer to 26% on a GAAP basis. This will increase Masimo's already surplus of OCF and therefore create value for the company.

Name	Sales	EBITDA	EBITDA	0perating	Net	Net Profit	ex/Sales	Return on	Return	Return
(BICS Best Fit)	Growth	Growth	Margin	Income	Income	Margin	(%)	Invested	on Assets	on
	(%)	(%)		Margin	Growth			Capital		Equity
Median	15.60%	24.90%	19.04%	11.66%	29.08%	9.43%	5.23%	11.69%	6.81%	13.12%
100) MASIMO CORP	11.41%	36.56%	26.17%	23.68%	86.20%	22.67%	2 . 84%	28.63%	22.18%	32.64%

Extreme Revenue Growth:

As mentioned, Masimo is growing substantially over the past 10 years since their IPO, have continuously beaten projections, and outperformed their guidance. With this being said, valuing the company became very difficult. I decided to look into two different approaches that I believe are very likely in the near future for Masimo Corporation. First being the extreme growth case, which is an optimistic approach, however, is a realistic approach based on historic growth rates and recent cost cutting initiatives. The other approach was

looking into the probability of Masimo being acquired, which was based on a multiple valuation. I will talk further about Masimo being a possible acquisition target in the next section. To dive into the extreme revenue case I am going to talk about my assumptions and justification of why this valuation is a realistic approach. Based on this valuation approach, I am proposing a limit buy for Masimo Corporation with a large upside potential that I will discuss shortly. When originally valuing the company with a more realistic approach I came to a fair value of the company at around the strike price of \$80.88, as mentioned above. However, I







believe that Masimo has not experienced the extreme growth that they are going to see in the future yet. Masimo offers superior products and technologies compared to their competitors, as shown in the picture

	1 1
Revenue growth	Operating Cost/Revenue
	74.6%
16%	75.0%
16%	73.8%
10%	77.5%
11%	80.3%
12%	81.2%
8%	81.1%
7%	79.6%
10%	76.7%
13%	74.0%
25.0%	72.9%
20.0%	72.6%
15.0%	72.0%
20.0%	71.1%
12.0%	70.9%
10.0%	69.9%
5.0%	68.9%
5.0%	67.9%
5.0%	67.0%
5.0%	66.0%
2.50%	65.0%

above. This can be supported by the fact that Masimo products are used in 17 out of the top 20 hospitals in the world. Furthermore, the products that Masimo creates have an inelastic demand that are not easily replaced due to the sensitivity of the outcomes and monitoring that is being done. With this inelastic demand and overall increase in demand due to the aging population. These factors as well as others prove that extreme growth is not out of the question for a company like Masimo. The last two quarters of 2017, Masimo has produced doubledigit revenue growth in the mid-teens. Historically, over the past two years Masimo has been able to produce top line growth between 10-12%. All of this information led me to the following assumptions for my extreme revenue growth valuation. Depicted on the left were the historic assumptions, which were followed by my assumptions. The bottom lines refer to the growth and operating margins during the continuing period. These may seem very optimistic; however, based on Masimo's current situation and where they are heading, I believe that these assumptions are not out of the ordinary. Based off these values, I came to a one-year target price of \$92.40. Which based on my strike price would be a conservative return of around 14.5%. I believe that

this valuation provides an accurate depiction of where Masimo is heading and proposing a limit buy provides a larger upside potential relative to downside risk.

Acquisition Target:

The other approach I looked into when valuing Masimo Corporation was a multiple valuation. After going further into this valuation, I believe that Masimo has become an acquisition target. Masimo currently has no debt and minimal to no material capital leases, and has a surplus of cash on hand as of recent. Furthermore, Masimo has an extensive patent portfolio consisting of close to 600 patents. This intellectual property alone makes Masimo a pretty company to acquire. Masimo has proved their technology and products as a whole are far superior compared to their competitors. This recently has been proven because of the large settlement Masimo received from Phillips based on 4.5 years of patent infringements. This is not the end either, Masimo

strongly believes that other companies are infringing on Masimo patents (10-K). With this being said, Masimo creates a large premium to their valuation and the market is valuing Masimo in a similar fashion. When doing a multiple valuation there are a couple of key multiples to look into, however, I focused primarily on TEV/EBITDA, or Total Enterprise Value to EBITDA. This multiple is a strong multiple that shows profitability without having other financing cost skew the multiple. Currently Masimo's TEV/EBITDA is approximately 22.21x. On average during 2017, this multiple was slightly higher at 24.56x. The high during 2017 was 30.82x with a low of 20.99x, so currently Masimo is closer to their low on the year. With this being said, Masimo's expected EBITDA closing 2017 is predicted to be around 207 million. Based off this, forecasted EBITDA at close 2018 will be close to 226 million (CapitalIQ). Based off

EBITDA	226
15	3390
16	3616
17	3842
18	4068
19	4294
20	. 4520
21	4746
22	4972
23	5198
24	5424
25	5650



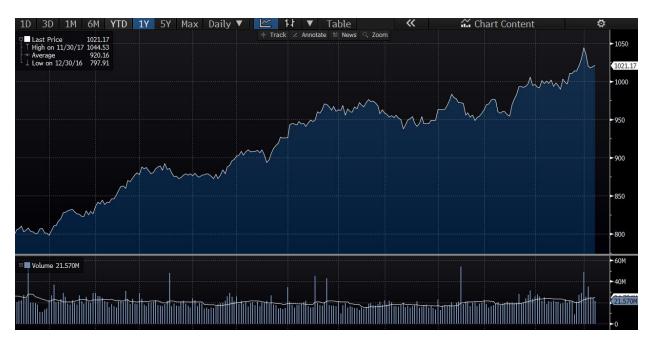


this, if the company was acquired for their current TEV/EBITDA multiple of 22.21, we could expect a fair value per share of approximately \$101.84. Which would supply a return of approximately 20% if bought at the current price. If limit bought at the strike price mentioned early, we could expect to see a return of 26.25%. With this being said, if Masimo was bought at their 2017 average multiple of 24.56x, we could see a much larger return. If Masimo was bought at this multiple, we could expect a return of approximately of 35%. Finally, what I believe is the best-case scenario that I looked into it, would be the return of buying Masimo at the strike price and having them being acquired at 24.56x. This would yield a return of 43.75%. Many investors may believe that acquisitions at this price are very expensive, however, based on Masimo's TEV/EBITDA multiples this price is more than reasonable. Overall, I believe that when looking at both valuation approaches there is a much larger upside potential compared to downside risk, especially with the limit buy, which increases returns and upside to this investment.

Value of the Company			\$5,650.00
+Cash			\$ 289.94
-Debt			\$ -
Intrinsic Value of the Equity			\$5,939.94
Shares Outstanding			51.6
IV/Share			\$ 114.96

Industry Outlook:

The healthcare industry is growing at a constant rate, an approximate CAGR of 10.5% through 2020 (Deloitte). As of last month, Charles Schwab gave the healthcare industry a rating of outperform for the rest of 2017 and looking forward into 2018. Furthermore, the medical care equipment subindustry will continue to grow with it. This can be depicted in the graph below that shows the S&P 500 medical-care equipment subindustry index. This can be accounted by many factors. Deloitte states the following, "rising demand and







associated spending are being fueled by an aging population; the growing prevalence of chronic diseases and comorbidities; development of costly clinical innovations; increasing patient awareness, knowledge, and expectations; and continued economic uncertainty despite regional pockets of recovery are just a few of the key issues and trends impacting the global health care sector". Masimo is in an opportune position to take advantage of this growing industry. As healthcare companies continue to look into new technologies and new products to improve their business and patients outcome, Masimo will be able to leverage their products to their advantage and reap the benefits of this growing industry.

Ownership Summary:

Primarily Investment Advisors own Masimo Corporation. This position over the past year has remained constant over the past year. Meanwhile, Hedge Funds have slightly decreased their position by approximately half of a percent. This slight decrease was because of Hedge Funds realizing their gains and exiting their position over the year. One positive sign in relation to their ownership is their relatively low short interest. As a percent of float, short interest is below 4%. This shows that not many individuals or institutions believe that Masimo stock will be decreasing in the future. One important aspect to look into in regards to Masimo's ownership is the significant amount of shares that CEO and Founder, Joe Kiani holds. Joe Kiani owns approximately 8% of the company. I believe that this is a good sign for Masimo. Since Masimo is a relatively new company, having the CEO owning a large amount of shares in the company, shows that he is vested in the company and has incentives to continue to grow the company even further. Furthermore, Masimo has continuously bought back shares and has even in the past, financed share repurchases using debt. This shows that management believes that the stock price is going to increase and are getting their shares back at an undervalued price.

			-
Ownership Type	11/27/16	Curr ↓	Change *
11) Investment Advisor	76.43	76.96	+0.53
12) Individual	9.58	8.10	-1.48 ■
13) Hedge Fund Manager	8.08	7. 52	-0 . 56 ■
14) Pension Fund	1.71	2.22	+0.51 ■
15) Bank	1.24	1.83	+0.59 ■
16) Insurance Company	1.34	1.38	+0.04 ■
17) Sovereign Wealth Fund	0.01	0.78	+0.77
18) Corporation	0.05	0.55	+0.50 ■
19) Government	1.26	0.32	-0.94 ■
20) Brokerage	0.12	0.17	+0.05 ■
21) Foundation	0.09	0.08	-0.01

Conclusion:

In conclusion, Masimo Corporation is an industry leader and has innovative technology and by far superior products. Masimo has seen large growth in their 10 years since IPO. With continuous double-digit revenue growth and increasing margins, Masimo is continuing to create value. On top of this, Masimo having no debt and essentially no long-term capital leases, they are a financially healthy company. Based on the valuations and direction of the company, I believe that Masimo is at fair value, however, has huge upside potential and if Masimo's price drops slightly, I would buy immediately.









