

## Flir Systems: FLIR

Joshua Weiss

**Sector:** Information Technology

**Industry:** Electronic Equipment, Instruments and Components

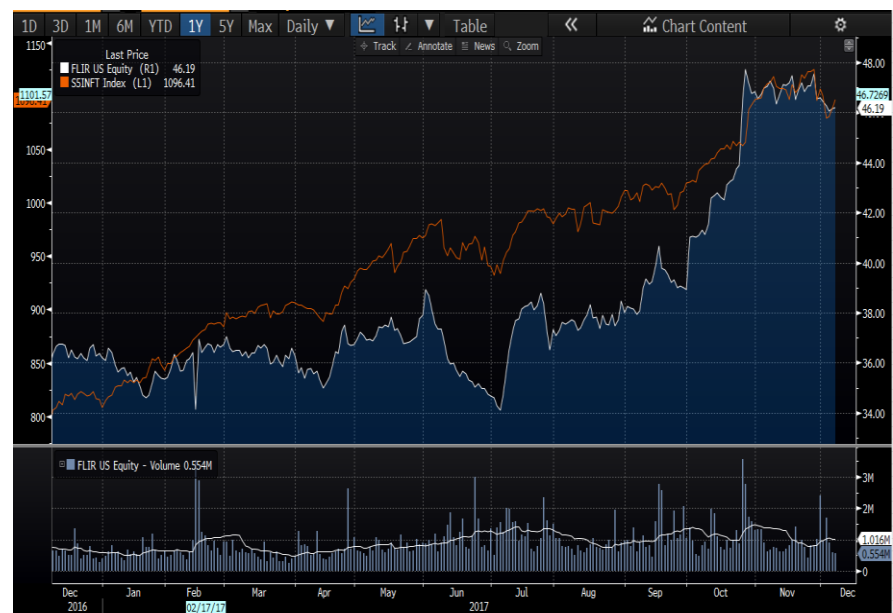
**Current Price:** \$46.19

**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 30<sup>th</sup>, 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.

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## 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 USD	Reclassified 12 months Dec-31-2012 USD	12 months Dec-31-2013 USD	12 months Dec-31-2014 USD	12 months Dec-31-2015 USD	12 months Dec-31-2016 USD	
<b>Currency</b>							
<b>Revenues</b>							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	-	-	-	-	-	
<b>Total Revenues</b>	<b>1,544.1</b>	<b>1,405.4</b>	<b>1,496.4</b>	<b>1,530.7</b>	<b>1,557.1</b>	<b>1,662.2</b>	
<b>Operating Profit Before Tax</b>							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 27<sup>th</sup> of November. Carol Lowe has experience as a CFO, serving as the CFO for Sealed Air Corp for about 4 1/2 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 7<sup>th</sup>, 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.

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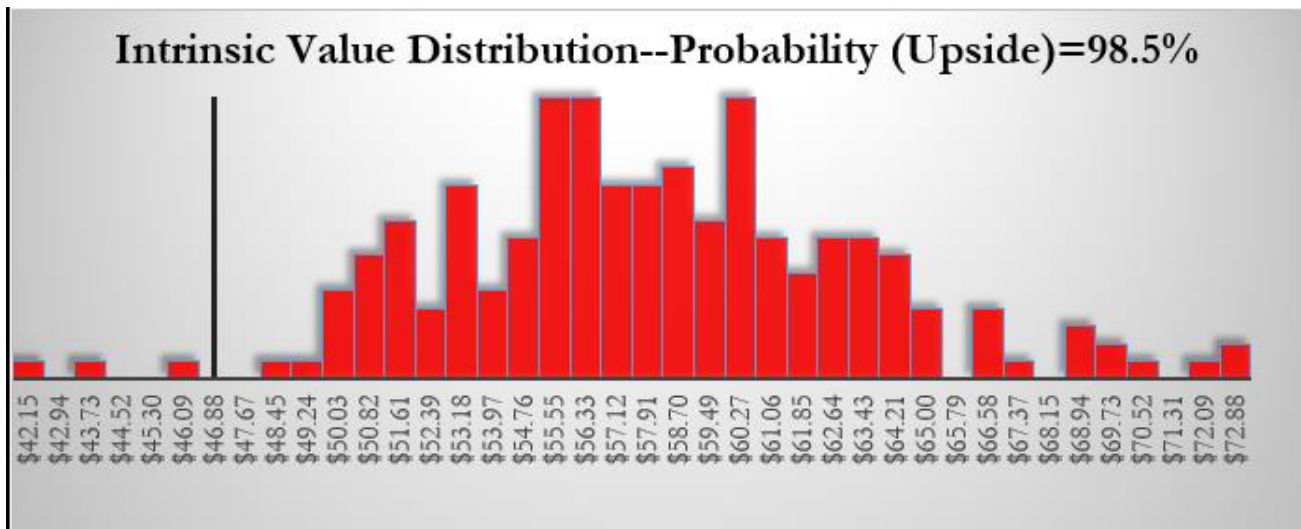
## Competitors/Industry

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.

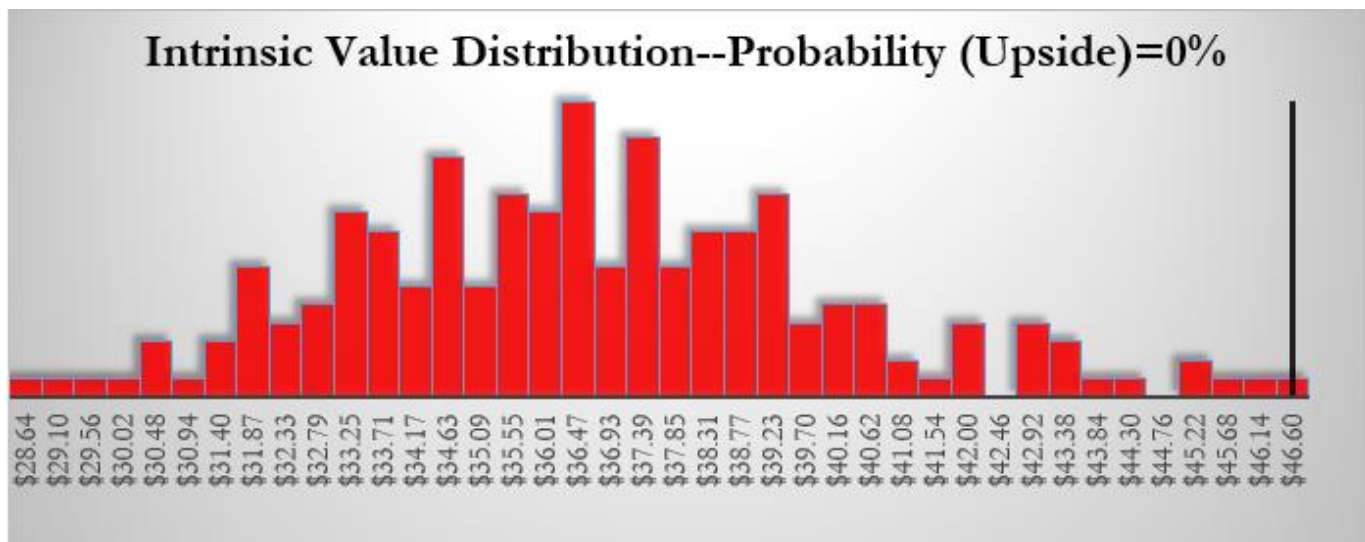
 **BAE SYSTEMS** **FORTIVE**

## 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.

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## 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.

# FLIR Systems, Inc. (FLIR)

## CENTER FOR GLOBAL FINANCIAL STUDIES

NEUTRAL

Analysis by Joshua Weiss  
12/8/2017

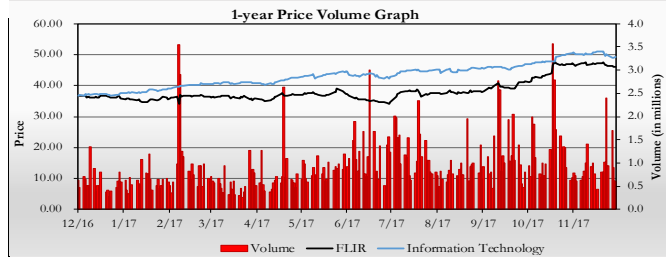
Current Price:  
Divident Yield:

\$46.54  
1.3%

Intrinsic Value  
Target Price:

\$49.09  
\$53.50

Target 1 year Return: 16.25%  
Probability of Price Increase: 95%



Description	
FLIR Systems, Inc. develops, designs, manufactures, and markets thermal imaging systems, visible-light imaging systems, locator systems, measurement and diagnostic systems, and threat-detection solutions worldwide.	
General Information	
Sector	Information Technology
Industry	Electronic Equipment, Instruments and Components
Last Guidance	November 3, 2015
Next earnings date	February 14, 2018
Estimated Country Risk Premium	4.18%
Effective Tax rate	19%
Effective Operating Tax rate	19%

Market Data	
Market Capitalization	\$6,400.74
Daily volume (mil)	0.16
Shares outstanding (mil)	138.57
Diluted shares outstanding (mil)	138.69
% shares held by institutions	116%
% shares held by investments Managers	79%
% shares held by hedge funds	8%
% shares held by insiders	0.98%
Short interest	1.49%
Days to cover short interest	1.80
52 week high	\$48.06
52-week low	\$33.75
Volatility	24.65%

Past Earning Surprises		
Quarter ending	Revenue	EBITDA
9/30/2016	-0.19%	-3.13%
12/31/2016	4.83%	-11.31%
3/31/2017	-0.78%	-7.17%
6/30/2017	-0.76%	-10.06%
9/30/2017	4.15%	0.25%
Mean	1.45%	-6.29%
Standard error	1.2%	2.2%

Management	
DuChene, Todd	Chief Ethics & Compliance Of
Frank, Jeffrey	Senior Vice President of Glo
Cannon, James	President, CEO, President of
Lowe, Carol	CFO & Executive VP
Harding, Brian	Principal Accounting Officer
Harrison, Shane	Senior Vice President of Cor

Peers	
Esterline Technologies Corporation	
Trimble Inc.	
Zebra Technologies Corporation	
Coherent, Inc.	
Rockwell Collins, Inc.	
OSI Systems, Inc.	
Harris Corporation	
L3 Technologies, Inc.	

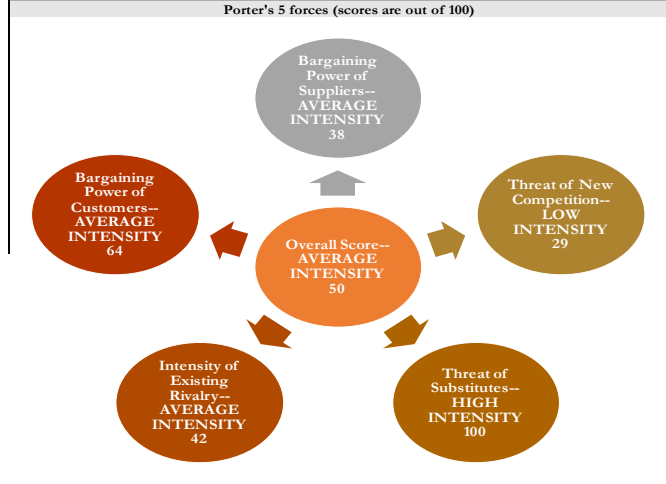
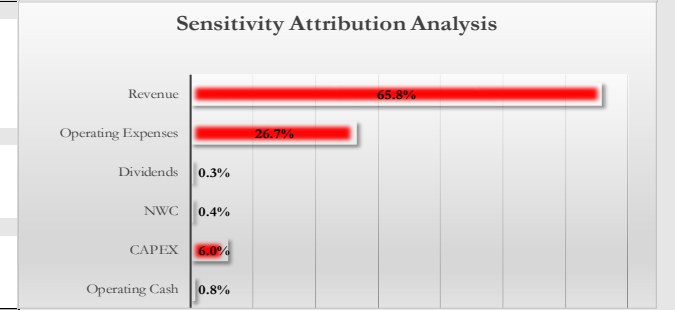
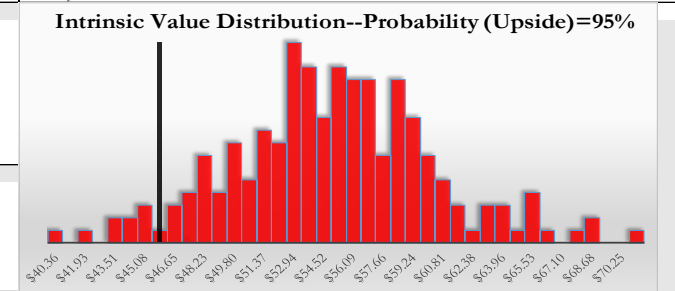
Profitability	
Return on Capital (GAAP)	10.7%
Operating Margin	12%
Revenue/Capital (GAAP)	0.89
ROE (GAAP)	10.7%
Net margin	12.5%
Revenue/Book Value (GAAP)	0.86

Invested Funds	
Cash/Capital	7.2%
NWC/Capital	19.3%
Operating Assets/Capital	38.0%
Goodwill/Capital	35.5%

Capital Structure	
Total Debt/Market Capitalization	0.18
Cost of Existing Debt	3.7%
CGFS Rating (F-score, Z-score, and default Probability)	BBB
WACC	7.4%

Total compensations growth	
23.13% per annum over 1y	-11.76% per annum over 1y
29.12% per annum over 1y	-11.76% per annum over 1y
N/M	N/M
N/M	N/M
N/M	N/M
N/M	N/M

Total return to shareholders	
-11.76% per annum over 1y	-11.76% per annum over 1y
N/M	N/M
N/M	N/M
N/M	N/M
N/M	N/M



Period	Revenue Growth Forecast
Base Year	10%
9/30/2018	8%
9/30/2019	8%
9/30/2020	8%
9/30/2021	7%
9/30/2022	6%
9/30/2023	6%
9/30/2024	5%
9/30/2025	5%
9/30/2026	4%
9/30/2027	3%
Continuing Period	2%

Period	Return on Capital Forecast
Base Year	12.3%
9/30/2018	5.6%
9/30/2019	6.9%
9/30/2020	7.0%
9/30/2021	7.2%
9/30/2022	13.7%
9/30/2023	12.9%
9/30/2024	12.2%
9/30/2025	11.7%
9/30/2026	11.0%
9/30/2027	10.4%
Continuing Period	9.8%

Valuation	
NOPAT Margin Forecast	
Base Year	18.2%
9/30/2018	8.6%
9/30/2019	10.5%
9/30/2020	10.4%
9/30/2021	10.6%
9/30/2022	20.1%
9/30/2023	20.1%
9/30/2024	20.1%
9/30/2025	20.2%
9/30/2026	20.2%
9/30/2027	20.1%
Continuing Period	20.1%

Revenue to Capital Forecast	
Base Year	0.68
9/30/2018	0.65
9/30/2019	0.66
9/30/2020	0.67
9/30/2021	0.68
9/30/2022	0.68
9/30/2023	0.64
9/30/2024	0.61
9/30/2025	0.58
9/30/2026	0.55
9/30/2027	0.52
Continuing Period	0.49

WACC Forecast	
Base Year	7.4%
9/30/2018	7.9%
9/30/2019	7.9%
9/30/2020	7.9%
9/30/2021	7.9%
9/30/2022	7.9%
9/30/2023	7.9%
9/30/2024	7.9%
9/30/2025	8.0%
9/30/2026	8.1%
9/30/2027	8.1%
Continuing Period	8.1%

Price per share Forecast	
Base Year	\$49.54
9/30/2018	\$54.57
9/30/2019	\$58.69
9/30/2020	\$62.84
9/30/2021	\$67.09
9/30/2022	\$71.42
9/30/2023	\$75.81
9/30/2024	\$80.23
9/30/2025	\$84.69
9/30/2026	\$89.23
9/30/2027	\$93.79
Continuing Period	\$93.79