

March 24, 2017

## Orbotech Ltd: ORBK

Maxime Lattanzio

**Sector:** Information Technology

**Industry:** Electronic Equipment

**Current Price:** \$32.10

**Target Price:** \$38.88

Orbotech Ltd. is a global technology corporation that was founded in 1981. Its headquarters are located in Yavne, Israel, but the company operates worldwide. Orbotech manufactures, markets, and services inspection systems, imaging solutions, and manufacturing solutions for companies producing printed circuit boards, flat panel displays, and semi-conductor devices. The majority of the company's operations is in China, Taiwan, and the United States, but Europe and Japan, among others, also generate significant revenue for Orbotech.

### BUY

Current Price:	\$32.10
Target Price:	\$38.88
Market Cap:	\$1.535B
52-week range:	\$19.74-\$36.86
Average Volume:	0.621 million
D/E Ratio:	0.06
EBITA Margin:	17.5%
ROIC:	13.43%
ROIC/WACC:	1.54



**Thesis:** Orbotech Ltd. is one of the worldwide leaders in its industry. As a matter of fact, as the company provides superior equipment and customer services to manufacturers of electronic devices, it managed to capture and retain revenue in spite of the fierce existing competition. China, which is already one of Orbotech's main sources of revenue, has significant potential for further market growth. The company will most likely get benefits from these opportunities to expand. These growing markets, coupled to acquisitions and increase in services revenue, will bring higher margins and returns in the future. As the company has almost no debt and can borrow at a low cost, it will have no trouble raising capital to finance the aforementioned expansions and developments that will create shareholder value in the coming years.

### Catalysts:

- **Short Term:** Q1 2017 Earnings Announcement will give a sense of what 2017 will look like for Orbotech;
- **Mid Term:** Ability to sustain double-digit revenue growth within the next 2 years through CapEx and Acquisitions of companies;
- **Long Term:** Successful penetration of Chinese market and other emerging markets.

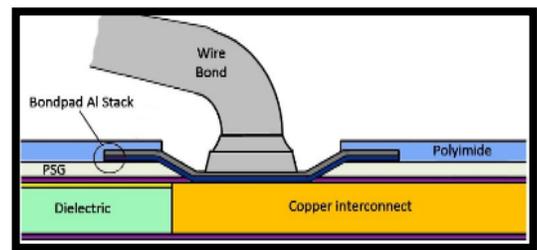
## Products Description:

Orbotech Ltd has three main segments. The first segment is named PCB (Printed Circuit Boards). The firm, through the solutions it provides, assists PCB manufacturers through the whole production process: from the initial shaping of the circuit boards to the actual printing of the circuit as well as the final quality inspection of the boards after they are finalized. In 2016, this area represented around 36% of the company’s total revenue. Accounting for 33% of the company overall sales is the Flat Panel Displays (FPD) segment. As the market for Flat Panel Displays has been significantly growing in the past decade, the company has been developing its services in this area. Orbotech now provides its customers in this segment with solutions such as testing, repair, and inspection systems for Flat Panel Displays.



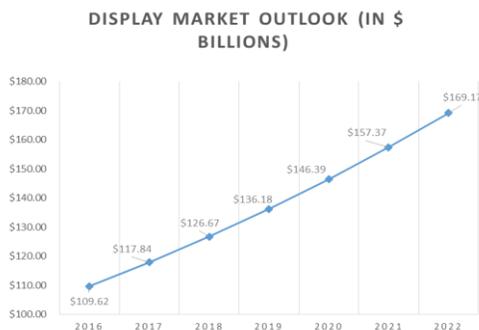
Finally, the Semiconductor

devices (SD) segment of the company accounts for 29% of its total revenues. In this area, Orbotech does not only provide with “classic” manufacturing solutions as it does for PCBs and FPDs, but also offers services related to the printing on the Semiconductor Devices and the packaging of the final product. For all of the three segments that have just been explained in details, the firm also offers post-purchase services such as maintenance on the manufacturing machines or regular updates on the different soft wares present in Orbotech’s machines and solutions.



## Industry Outlook:

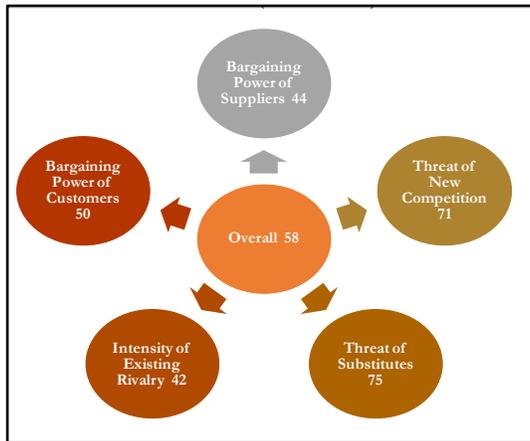
As Orbotech provides with solutions for manufacturers of electronic devices, it is heavily dependent on market growth for the end products made by its clients. Therefore, it is essential to study and understand the forecasted growth in the different markets that are relevant to Orbotech. To begin with, Printed Circuit Boards sales depend heavily on the worldwide smartphone production, as those use a lot of circuit boards. Within the next



4 years, the worldwide smartphone shipment volume is expected grow at a compounded rate of over 5%. Regarding the “Internet of Things” that includes most of the telecommunications sector and that relies heavily on PCBs, the growth is expected to be tremendous, as the expected CAGR is expected to be as high as 16% to 2022. Regarding the Flat Panel Displays segment, the trend is similar, as the overall display market is expected to grow at a 10% compounded annual growth rate to reach a size of almost \$170 billion by 2022. You can refer to the attached graph to see the expected trend. Finally, the outlook is more mixed for the

Semiconductor Devices market. Indeed, the Personal Computer market is expected to decline at a yearly rate of 4.5% over the next few years. However, the forecast is much more bullish for medical semiconductor and automotive devices (12.3% and 19% CAGR to years 2018 and 2021 respectively).

## Sensitivity to external factors (Porter’s Five Forces):



Analyzing Porter’s Five Forces, when it comes to Orbotech, allows to understand where external threats may arise from. To begin with, the lowest score for Orbotech is “Intensity of Existing Rivalry”. As stated by management during the latest earning call, fierce competition has developed in China, where new companies produce machines and solutions to assist manufacturers of electronic devices in their processes. The main threat is that they do so at a discount compared to Orbotech. This explains the score of 42. However, two other factors mitigate the “existing rivalry” risk. Orbotech may be providing solutions at a higher price than its competitors, but with higher price comes higher quality. Eventually, manufacturers are most of the time willing to pay more for machines and solutions if they are confident that these machines and solutions are going to last long, and are going to come with maintenance and regular software updates from Orbotech. This is one of the main reasons why Orbotech scores well when it comes to substitutes: even if those are cheaper, they will not be able to provide sufficient service to retain customers. Finally, as building machines and developing manufacturing solutions for big scales companies requires not only capital, but also technical knowledge and know-how, there are strong barriers to entry in this industry. Therefore, the threat of new competition is low, and Orbotech has a top-tier score in this category (71). The other two categories, where Orbotech scores average (44 and 50) are less relevant to the argument.

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## Revenue Generation:

During the latest earnings call, many analysts were asking about the ability of the company to sustain double digit revenue growth over the next years. As a matter of fact, as shown by the below table, when revenue grows for Orbotech, EBITDA grows even faster. It means that the more the company inflates its sales, the more it is able to generate strong profit margins.

In Millions of USD except Per Share	FY 2013	FY 2014	FY 2015	FY 2016
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016
<b>1 Year Growth</b>				
<b>Revenue</b>	13.69	32.44	29.13	7.16
<b>EBITDA</b>	173.40	43.61	74.89	15.50

Furthermore, initial sales tend to generate additional revenue after a few years (service revenue and upgrades on machines and soft wares). As of Q4 2016, 26% of the company’s overall revenue depends on these after-sale services. This is why the company has to focus on growing its sales. In 2016, the PCB segment grew its sales by 12% year-over-year. The trend was similar for the FPD segment, with a 10% annual increase in revenue from 2015. The SD segment, however, has been weaker. It may have grown 8% year-over-year, but the revenue generated in the last quarter of the year was 14% lower than it was a year before. To remediate it, the company has decided to take initiatives that are most likely to provide with significant payoff in the coming years. First, management has planned Capital Expenditure of 10% in 2017 for the Semiconductor Device business, twice as high as the company-wide average. Then, as management wants the company to benefit from the growth potential, especially in China (10% growth in Radio Frequency devices, 30% yearly increase in chips demand), it has decided to invest heavily in the SD segment, as explained just below.

## Acquisition of Applied Microstructures:

In addition to the CapEx mentioned in the previous paragraph, the company wants to invest in Microelectronic Systems (MEMS) to incorporate them in their SD segment. To do so, Orbotech has decided to start acquiring companies to benefit from their know-how, and potentially realize economies of scale as well. The first acquisition occurred in Q4 2016, when Orbotech bought Applied Microstructures, Inc. for \$6.4 million in cash. The price paid was estimated to be between 5 and 6 times the target's EBITDA, which is considered a cheap price. The reason is the earn-out payments clause in the acquisition contract. If Applied Microstructures does not meet expectations in the next 15 months, no additional amount will be paid by Orbotech. If significant results occur, however, Orbotech will have to make additional payments that could reach a total of \$10.5 million.



Orbotech management has estimated that the earn-out payments should total \$1.5 million by early 2018. This MEMS company with potential for encapsulation processes solutions will be integrated in the SD division of the company. It is expected to generate between \$6 and 8 million in revenues in 2017 (roughly 1% of current sales). As the SD division is the segment generating the highest margins company-wide, upper management wants to make sure it is the fastest-growing segment (CapEx, acquisitions).

## Profitability and Value Creation:

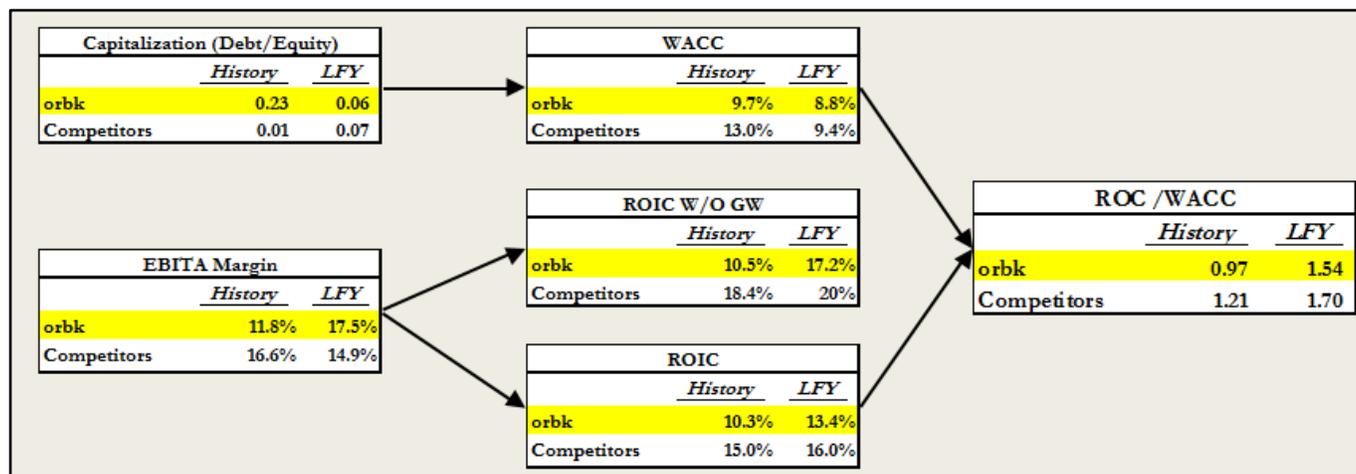
In Millions of USD except Per Share	FY 2013	FY 2014	FY 2015	FY 2016
12 Months Ending	12/31/2013	12/31/2014	12/31/2015	12/31/2016
<a href="#">Revenue</a>	440.0	582.7	752.5	806.4
<a href="#">Gross Profit</a>	43.5%	43.4%	45.2%	46.2%
<a href="#">Operating Income (Loss)</a>	9.5%	8.4%	12.7%	14.5%

If the firm absolutely wants to improve its profitability, it is because as of right now the company is not a top performer when it comes to profit margins. Compared to its peers, Orbotech has historically been generating above-average EBITDA margins. Yet, the company underperforms its industry when it comes to Operating and Net Margins. The main explanation comes from past management decisions. In the past years, the

	COMPANY (LTM)	Competitors' Median (LTM)
<b>WACC</b>	8.75%	9.38%
<b>ROIC</b>	13.43%	15.97%
<b>ROIC w/o Goodwill</b>	17.2%	20%
<b>ROIC/WACC</b>	1.54	1.70
<b>EBITA Margin</b>	17.5%	14.9%

company's directors have agreed to lower margins for a while to focus on and promote revenue growth through increased sales. These sacrifices have started paying off (see table above), and will pay even more in the coming

years, as post-sale services (i.e. maintenance) and product upgrades on both soft wares and hardware will bring improved margins. Indeed, there is a lower cost base on services and upgrades development than on development, building and delivery of machines. Furthermore, as substantial investment is being made in the Semiconductor Devices division, this segment will eventually yield higher return on sales, contributing to improvement in margins company-wide.



As margins keep on improving (EBITDA already better than the average), ROIC will keep on improving, and the company will manage to create as much value as its competitors do. The above picture shows the trend of Orbotech's value creation compared to its industry, and how it is catching up with its peers. After generating lower profit margins than its competitors for years, the company has managed to top them (EBITDA only), contributing to close the gap when it comes to Return On Invested Capital (from a 4.7 percentage points differential to only 2.6 percentage points). If management plans are successful, and they are most likely to be successful given the company's financial flexibility (see next section) and dominant position in the market, ROIC will grow even higher to match the industry average, and the company will generate as much value as it can (ROIC/WACC will at least match the industry average). Moreover, as Orbotech can afford to lower its dependence on debt (as detailed in the next section as well), its WACC has lowered, contributing to improve its value creation as well, and future cash flows will be discounted as a lower and lower rate, increasing their present value.

## Financial Health and Multiples:

In this write-up, lots of mentions have been made of acquisitions, expansions, and investments to be made in the future. If Orbotech is investing a lot in its business, it is not out of recklessness. It is because it can afford to do so. The company benefits from a high liquidity. As of early 2017, the company sits on \$217 million in

<i>Capital IQ NWC</i>	\$	303.17
<b>Non-cash Operating Current assets</b>	\$	<b>518.52</b>
<b>Operating Current Liabilities</b>	\$	<b>215.35</b>

cash, which represents over 25% of Orbotech's yearly revenue, and would be enough to cover the entirety of the company's current liabilities. This significant cash

reserve has allowed the company to prepay \$20 million of its long-term debt obligations (explaining the recent drop in D/E ratio) to benefit from cheaper Interest Rates. As of right now, as the company debt rating from Moody's is Ba3 (Investment Grade), the company can borrow on the long-term for a low as 5.000% (current coupon rate on long-term debt. This leads to an After-Tax Cost of Debt of 3.75% (Effective Tax Rate of 25%). All put together, liquidity, flexibility, and low borrowing costs show that Orbotech will have no trouble financing current and future expenditures and acquisitions.

MULTIPLES			
Company Name	EV/Revenue	EV/EBITDA	P/E
II-VI Incorporated (IIVI)	2.61x	14.04x	28.54x
MTS Systems Corporation (MTSC)	0.94x	6.06x	19.77x
FARO Technologies, Inc. (FARO)	1.36x	14.42x	41.72x
Camtek Ltd. (CAMT)	0.93x	11.28x	14.15x
MKS Instruments, Inc. (MKS)	2.37x	10.82x	16.59x
<b>MEDIAN MULTIPLE (Competitors)</b>	<b>1.36x</b>	<b>11.28x</b>	<b>19.77x</b>
<i>Standard Deviation</i>	<i>0.80x</i>	<i>3.35x</i>	<i>11.23x</i>
<i>Standard Error of Estimate</i>	<i>0.30x</i>	<i>1.27x</i>	<i>4.24x</i>
<b>Orbotech Ltd. (ORBK) Multiple</b>	<b>1.58x</b>	<b>7.36x</b>	<b>11.30x</b>

VALUATION			
	Revenue	EBITDA	EPS
<b>Orbotech Ltd. (ORBK)</b>	<b>854.30</b>	<b>183.37</b>	<b>2.74</b>
<i>Standard deviation</i>	<i>20.70</i>	<i>22.45</i>	<i>0.09</i>
<i>Number of estimates</i>	<i>27.00</i>	<i>22.00</i>	<i>31.00</i>
<i>Standard Error of Estimate</i>	<i>3.98</i>	<i>4.79</i>	<i>0.02</i>
<b>Orbotech Ltd. (ORBK) Implied EV</b>	<b>1,159.05</b>	<b>2,068.71</b>	
<b>Orbotech Ltd. (ORBK) Total Debt</b>	<b>88.37</b>	<b>88.37</b>	
<b>Orbotech Ltd. (ORBK) Preferred Equity</b>	<b>-</b>	<b>-</b>	
<b>Orbotech Ltd. (ORBK) Minority Interest</b>	<b>(1.18)</b>	<b>(1.18)</b>	
<b>Orbotech Ltd. (ORBK) Cash</b>	<b>217.08</b>	<b>217.08</b>	
<b>Orbotech Ltd. (ORBK) Implied Equity</b>	<b>1,288.94</b>	<b>2,198.61</b>	
<b>Orbotech Ltd. (ORBK) Shares Outstanding</b>	<b>47.80</b>	<b>47.80</b>	
<b>Orbotech Ltd. (ORBK) Implied Price per share</b>	<b>26.97</b>	<b>46.00</b>	<b>54.16</b>

<b>AVERAGE PRICE PER SHARE</b>	<b>\$ 42.37</b>
<b>CURRENT PRICE PER SHARE</b>	<b>\$ 30.95</b>

Finally, in addition to the pro-forma DCF valuation I usually used, I decided to do a multiples valuation based on firms of comparable size and industry. When comparing Orbotech to its peers on EV/Revenue, EV/EBITDA, and P/E, I found out that the fair value of Orbotech is well above its current market value: \$42.37 per share against \$32.10 as of today (and \$30.95 when I first made the valuation). This would represent a price appreciation for the stock of

around 30%. Even if the stock may be slightly overpriced when looking at EV/Revenue (fair value of \$26.97), EV/EBITDA and P/E valuations both suggest the stock price should be significantly higher than it is today: \$46.00 and \$54.16 per share respectively.

## Conclusion:

To summarize, Orbotech is a safe investment with a significant potential upside. As a matter of fact, the company benefits from a strong brand name among customers. Thanks to this, even new Chinese and Asian competitors that can offer low prices cannot actually compete with Orbotech and endanger its market share. Moreover, further growth may be easily reachable for the company, as the market for electronics is expected to keep on growing at a fast pace in the coming years, and Orbotech has the financial flexibility, cash reserve, and proven willingness to invest heavily today to benefit in the near future (within the next 2 years). Increased revenue (ORBK stock is highly sensitive to this parameter) will most likely lead to even higher margins that will allow the company to generate all-time high Return on Invested Capital. This improved returns, coupled to a decreasing WACC, will add value to the company, and eventually contribute to stock price appreciation.

**Orbotech Ltd. (orbk)**

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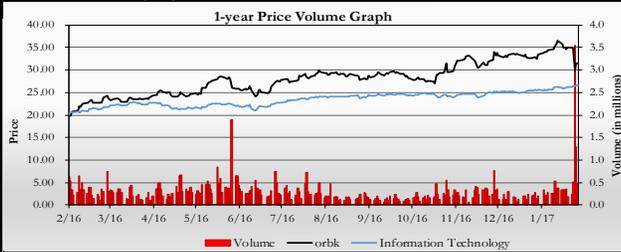
**BULLISH**

Analysis by Maxime Lattanzio  
3/24/2017

Current Price: **\$32.10**  
Divident Yield: **0.1%**

Intrinsic Value: **\$34.26**  
Target Price: **\$38.88**

Target 1 year Return: **21.26%**  
Probability of Price Increase: **98.2%**



Description	
Orbotech Ltd. provides yield-enhancing and process enabling solutions for printed circuit boards (PCBs), liquid crystal displays (LCDs), and semiconductor devices in China, Europe, North America, Korea, Japan, and internationally.	
General Information	
Sector	Information Technology
Industry	Electronic Equipment, Instruments and Components
Last Guidance	November 3, 2015
Next earnings date	NM
Estimated Country Risk Premium	6.25%
Effective Tax rate	26%
Effective Operating Tax rate	27%

Market Data	
Market Capitalization	\$1,440.69
Daily volume (mil)	0.52
Shares outstanding (mil)	47.80
Diluted shares outstanding (mil)	46.46
% shares held by institutions	78%
% shares held by investments Managers	62%
% shares held by hedge funds	13%
% shares held by insiders	9.07%
Short interest	0.42%
Days to cover short interest	0.59
52 week high	\$36.86
52-week low	\$19.74
Levered Beta	0.80
Volatility	27.71%

Quarter ending	Revenue	EBITDA
12/31/2015	-1.19%	-2.50%
3/31/2016	1.18%	-5.88%
6/30/2016	-0.47%	0.02%
9/30/2016	-0.41%	1.80%
12/31/2016	-2.74%	-15.11%
Mean	-0.72%	-4.34%
Standard error	0.6%	3.0%

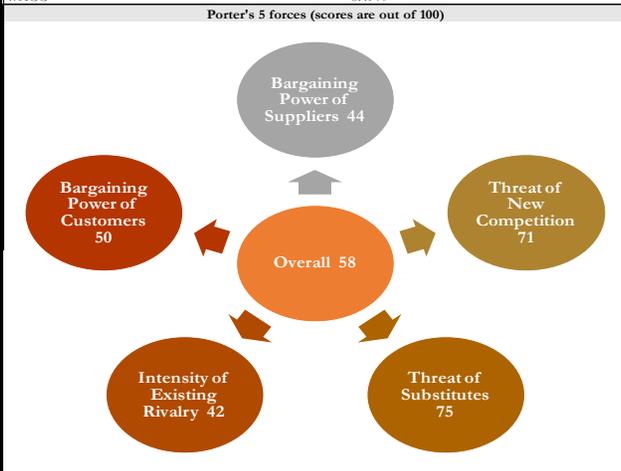
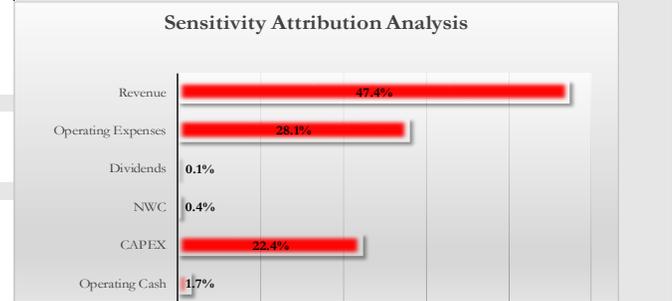
Peers	
II-VI Incorporated	
MTS Systems Corporation	
Nova Measuring Instruments Ltd.	
Cognex Corporation	
Gamtek Ltd.	
MKS Instruments, Inc.	
FARO Technologies, Inc.	



Management	Position
Richter, Jacob	Co-Founder and Director
Richter, Yochai	Co-Founder and Active Chairm
Levy, Asher	Chief Executive Officer
Steinberg, Amichai	President and Chief Operatin
Bareket, Ran	Chief Financial Officer and
Gross, Abraham	Chief Technology Officer and

Total compensations growth	Total return to shareholders
N/M	N/M
23.41% per annum over 1y	49.53% per annum over 1y
10.1% per annum over 1y	49.53% per annum over 1y
10.05% per annum over 1y	49.53% per annum over 1y
N/M	N/M
N/M	N/M

Profitability	orbk (LTM)	orbk (5 years historical average)	Industry (LTM)
ROIC	15.7%	14.06%	10.21%
NOPAT Margin	20%	19.89%	13.1%
Revenue/Invested Capital	0.79	0.71	0.78
ROE	18.8%	14.23%	11.32%
Adjusted net margin	18%	18.76%	12.1%
Revenue/Adjusted Book Value	1.06	0.76	0.93
Invested Funds	orbk (LTM)	orbk (5 years historical average)	Industry (LTM)
Total Cash/Total Capital	15.0%	18.2%	16%
Estimated Operating Cash/Total Capital	14.9%	14.2%	N/A
Non-cash working Capital/Total Capital	20.9%	23.3%	14%
Invested Capital/Total Capital	81.2%	78.1%	84%
Capital Structure	orbk (LTM)	orbk (5 years historical average)	Industry (LTM)
Total Debt/Common Equity (LTM)	0.08	0.31	0.14
Cost of Existing Debt	8.95%	5.73%	2.82%
Estimated Cost of new Borrowing	4.25%	3.49%	2.82%
CGFS Risk Rating	CC	CCC	CCC
Unlevered Beta (LTM)	0.65	0.84	0.88
WACC	8.49%	9.33%	9.19%



Period	Revenue growth
Base Year	7.2%
12/31/2017	4.1%
12/31/2018	5.1%
12/31/2019	5.0%
12/31/2020	4.9%
12/31/2021	4.7%
12/31/2022	4.6%
12/31/2023	4.5%
12/31/2024	4.4%
12/31/2025	4.3%
12/31/2026	4.2%
Continuing Period	4.0%

Valuation	NOPAT margin	ROIC/WACC
Base Year	19.8%	1.85
12/31/2017	20.8%	1.79
12/31/2018	19.9%	1.62
12/31/2019	18.9%	1.50
12/31/2020	18.0%	1.41
12/31/2021	17.2%	1.33
12/31/2022	17.1%	1.32
12/31/2023	17.0%	1.30
12/31/2024	16.9%	1.29
12/31/2025	17.1%	1.29
12/31/2026	17.3%	1.31
Continuing Period	17.7%	1.09

Period	Invested Capital	Net Claims	Price per share
Base Year	\$526.75	\$120.44	\$33.84
12/31/2017	\$573.51	\$111.11	\$38.30
12/31/2018	\$659.27	-\$134.96	\$42.97
12/31/2019	\$872.39	-\$275.22	\$47.52
12/31/2020	\$1,015.51	-\$405.50	\$51.96
12/31/2021	\$1,178.66	-\$531.66	\$56.26
12/31/2022	\$1,311.60	-\$657.27	\$60.58
12/31/2023	\$1,410.53	-\$781.69	\$64.89
12/31/2024	\$1,503.39	-\$905.53	\$69.16
12/31/2025	\$1,594.78	-\$1,030.66	\$73.42
12/31/2026	\$1,677.87	-\$1,158.96	\$77.67
Continuing Period			