

December 8, 2017

Nike: NKE

John Graziano

Sector: Consumer Discretionary

Industry: Textiles, Apparel,
and Luxury Goods

Current Price: \$61.30

Target Price: \$61.85

Company Description: NIKE, Inc. designs, develops, and markets athletic footwear, apparel, equipment, and accessory products for men, women, and children. The company sells its products worldwide to retail stores, through its own stores, subsidiaries, and distributors.

HOLD

Current Price: \$61.30

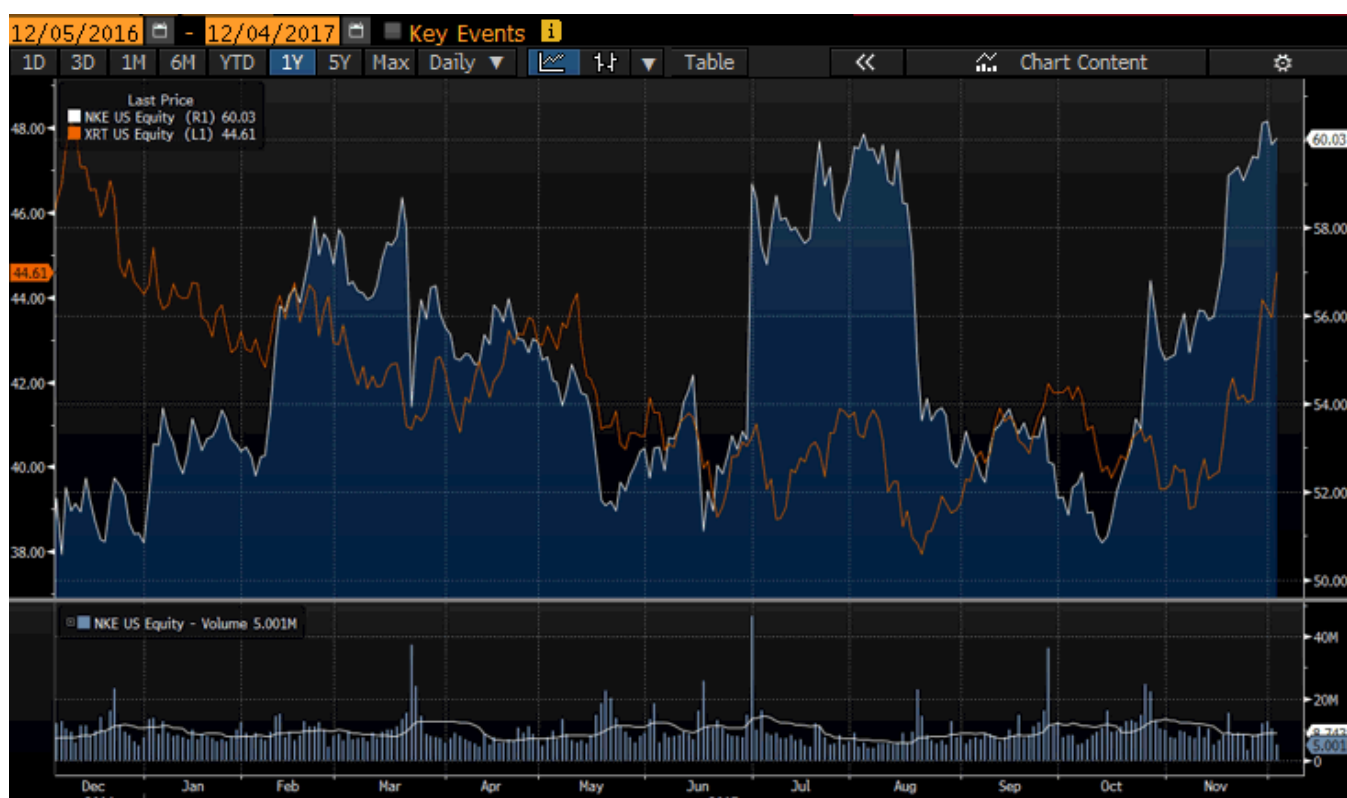
Target Price: \$61.85

Market Cap: 100B

Average Volume: 10.1M

ROIC: 25.45%

ROIC/WACC: 2.88



Thesis:

Nike has an equal mixture of both bear and bull signals which causes the stock to garner a hold rating. Black Friday sales are estimated at all time highs which give Nike a head start to begin one of the busiest times of the year. Nike still remains and extremely popular brand which will continue to drive growth for the athletic apparel behemoth. Nike has begun to implement the Consumer Direct Offense, its plan for future growth in the competitive retail industry. However all of these bull signals are offset by major industry headwinds which will impact the company for the next four to six quarters and possibly beyond.

Catalysts:

- **Short Term(within the year):** Record Black Friday Numbers
- **Mid Term(1-2 years):** Industry weakness
- **Long Term(3+):** Long Term Customer Direct Offense and Nike's history of success

Industry Performance and Outlook:

It is no secret that the retail industry has been facing massive headwinds in the last twelve to twenty-four months. This will most likely continue into the first half of 2018 as well with Andy Campion the Nike CFO stating that “We believe there will be short-term headwinds within the U.S. retail landscape that will dampen growth. NIKE’s primary measure of success in North America in the near-term will be driving growth in our NIKE Direct businesses and through new NIKE consumer experiences with our strategic partners.” This shift to DTC business and consumer experience is what is now necessary to succeed in the hyper competitive retail industry. Increasing DTC sales increases margin and with DTC comes a more personal and controllable customer interaction experience. This is an integral part of the developing landscape of retail in both North America and worldwide. The retail tracking ETF ^[SEP]XRT is down 4.2% YTD compared to the S&P 500 which is up 18%. Going forward, companies ^[SEP]will have to adapt and expand within a few key ^[SEP]categories. First, technology will be a major driver in ^[SEP]the industry both on the companies’ side with ^[SEP]increased operating efficiencies and on the customer ^[SEP]side in terms of how they purchase product. Second ^[SEP]will be the creation of a meaningful experience for the customer within the store as foot traffic numbers are down across the board. Third there needs to be an increased customization in both the online and in store channels a report by KPMG stated “The importance of personalization in retail, shows that businesses that are currently personalizing online user journeys, and who are also able to quantify the improvement, are seeing an increase in sales of 19 percent on average.”



Business Description:

Nike focuses on product offerings in nine key categories: Running, NIKE Basketball, the Jordan Brand, Football (Soccer), Men’s Training, Women’s Training, Action Sports, Sportswear (sports-inspired lifestyle products) and Golf. Men's Training includes our baseball and American football product offerings. The company also market products designed for kids, as well as for other athletic and recreational uses such as cricket, lacrosse, tennis, volleyball, wrestling, walking and outdoor activities. NIKE’s athletic footwear products are designed primarily for specific athletic use, although a large percentage of the products are worn for casual or leisure purposes. The company places considerable emphasis on innovation and high-quality construction in the development and manufacturing of their products. Sportswear, Running and the Jordan Brand are currently our top-selling footwear categories these categories are expected to continue to



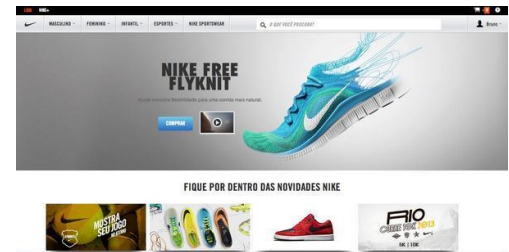
lead in footwear sales. Nike also sells sports apparel covering the previously mentioned categories, which feature the same trademarks and are sold predominantly through the same marketing and distribution channels as athletic footwear. The sports apparel, similar to the athletic footwear products, is designed primarily for athletic use and shows the company’s commitment to innovation and high-quality construction. Nike also has wholly-owned subsidiaries of Converse and Hurley.

Segments:

Nike segments its business in a two tiered system, first the company splits by geography into seven locations and two operating divisions, and second within those geographies sales are broken into footwear, apparel, and equipment as well as wholesale and DTC. The North American segment of Nike's business is the portion facing the greatest industry headwinds due to both the emergence of Amazon and the high amount of promotional activity needed. North American same store sales growth was 3% which was a solid number as many North American retailers have seen a flat or negative growth over the last year. The other six segments compose Nike's international exposure which makes up 55% of business and is growing. The Segment has reported same store sales growth of 9-17% which is consistent with the international retail industry outlook which is much stronger. This strength is due to less promotional activity and a strong demand for Nike product, especially in Asia and Western Europe.

Long Term Growth:

Nike has introduced the company's long term growth strategy called The Consumer Direct Offense in which they input their Triple Double Strategy. This Strategy is focused on doubling speed, innovation, and consumer direct which will result in growth over the long term and succeeding even in strong industry headwinds.



Nike provided an update on these long term plans during an investor day held on October 25th. The information provided at this information day were met well in the market with share prices jumping 7% on this news. There were several key parts of information at the meeting. First, is that 75% of growth for Nike is coming from the international portion of business. Second was the guidance given for the next 5-7 years stating that Nike's revenue would grow in the high single digits with mid-teens growth in EPS. Third was the investment Nike is making in production which will get midsole production down from 50 minutes to 2.5 minutes. Fourth, was overall company gross margin is expected to grow by 50 Bps per year for the next five years. This will be done by growth in DTC, enhancing the price to value relationship, cost initiatives, and increased efficiencies from 2x speed and 2x direct. Last, Nike is pursuing investment/partnerships in data-analytics, machine learning, AR, AI, and digital creation. These five factors give guidance to the future and show that Nike is committed to evolving and growing its industry leading position.

Competition:

Within the retail industry the subsection of athletic apparel and shoe companies is even more competitive than the broader industry. This competition boils down to three main companies, Nike, Adidas, and Under Armour. In the last 24 months Adidas has begun to make major strides into eating into Nike's market share however, they have relinquished some of these gains in the last 6 months. Three years ago, Under Armour was taking the athletic apparel sub industry by storm however in the last twelve months Under Armour has been getting hammered by product delays and shrinking demand. This is shown in the chart below where Adidas is closing the gap in terms of ROIC/WACC, P/E, and has a better one-year total return vs Nike.

Under Armour is headed in a different direction as shown in the chart and is desperately looking for a turnaround.

Name	Ticker	Mkt Cap	ROIC LF	ROIC/WACC Ratio	EV/BE EBITDA Curr Yr	1Y Tot Ret	P/E
Median		6.74B	16.80%	1.52	17.39	29.59%	26.71
100) NIKE INC -CL B	NKE US	97.97B	25.45%	2.88	17.80	20.74%	25.56
101) SKECHERS USA INC-CL A	SKX US	5.58B	15.70%	1.36	11.12	34.46%	21.95
102) ADIDAS AG	ADS GR	43.88B	17.91%	1.99	15.17	29.59%	26.71
103) PUMA SE	PUM GR	6.74B	--	1.52	17.39	62.07%	43.70
104) UNDER ARMOUR INC-CLASS A	UA US	5.59B	5.34%	-0.18	20.49	-55.34%	31.90

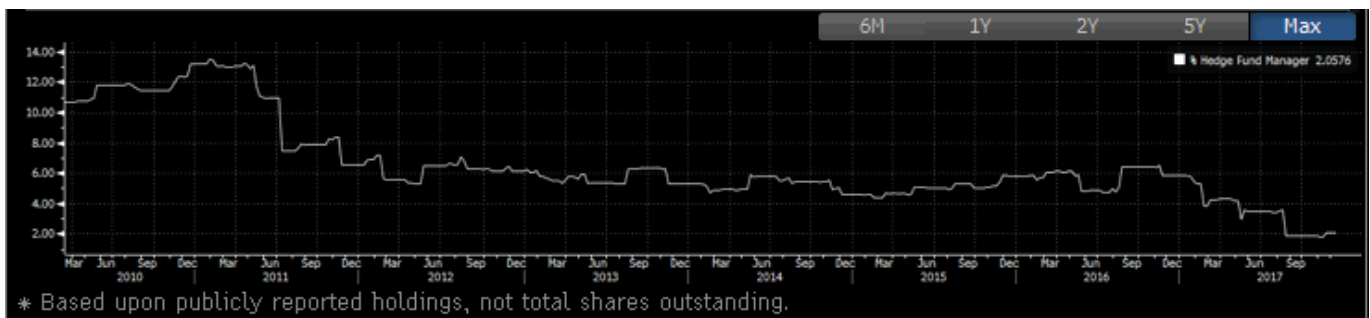
(Accounting Adjustments: Adjusted for Abnormal Items When Applicable)

10 Analyze List

Ownership:

Nike is owned 91% by institutional investors with 83% coming from investment advisors and only 2% from hedge funds. Hedge funds have been steadily reducing their positions within Nike and this is due to the headwinds the industry are facing short term. In 2011 Hedgefunds held 14% of the float compared to the two percent currently. This is all with a low short interest as investors aren't betting against Nike, rather there is just not enough possible return for the allotted risk.

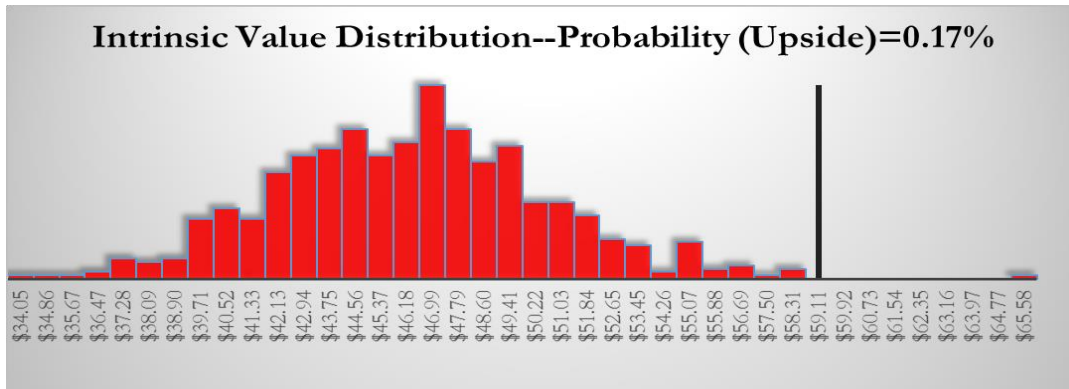
54) Ownership Type	12/03/17	Curr	Change
41) Investment Advisor	83.12	83.12	0.00
42) Pension Fund	5.17	5.17	0.00
43) Bank	2.64	2.64	0.00
44) Individual	2.11	2.11	0.00
45) Hedge Fund Manager	2.06	2.06	0.00
46) Government	1.65	1.65	0.00
47) Insurance Company	1.19	1.19	0.00
48) Sovereign Wealth Fund	0.84	0.84	0.00
49) Brokerage	0.80	0.80	0.00



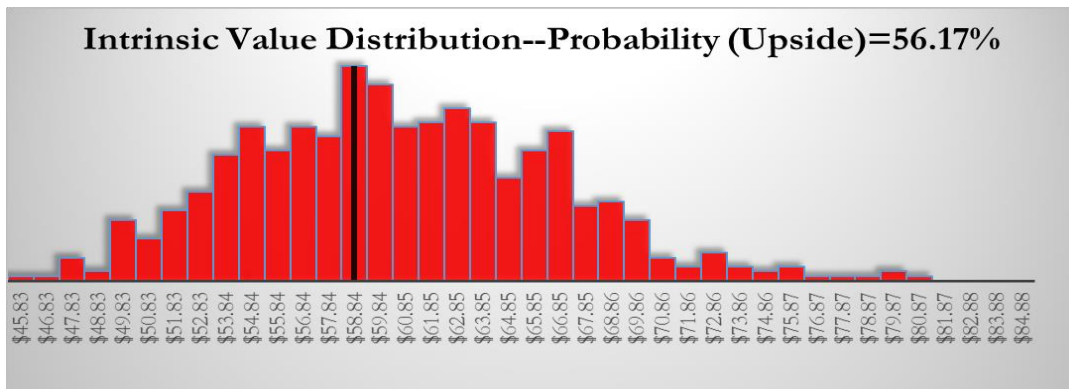
Conclusion:

In conclusion, Nike is an industry leader in an industry that has been and will continue to face headwinds in the coming months. These headwinds have caused hedge funds to withdraw their positions recently. However, Nike has a proven track record and a 5 year plus business plan in the Consumer Direct Offense that is aiming to hit specific financial goals. There is also the possibility that the industry is beginning to come out of its slump after Black Friday reported record sales. All of this taken into account will lead to three distinct possibilities.

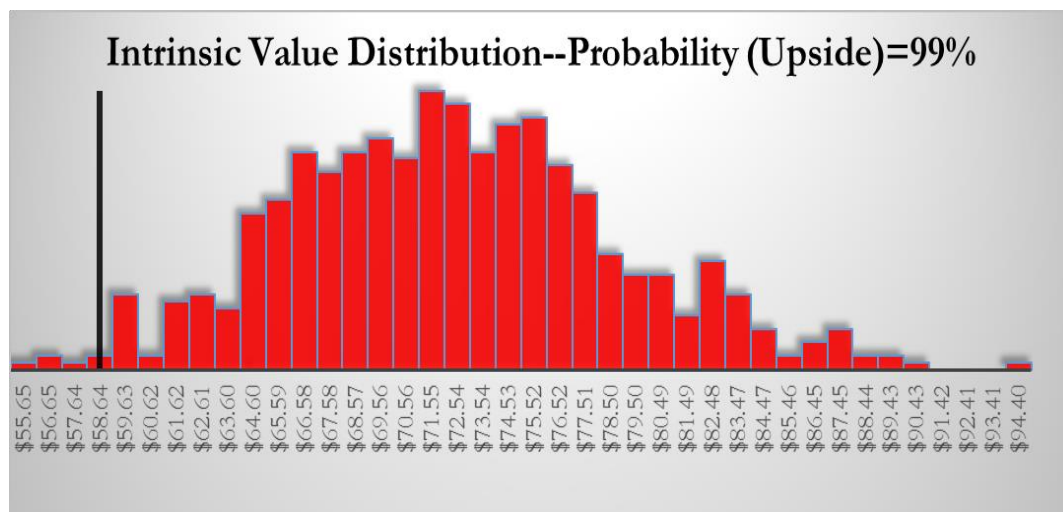
Bear Case: In the bear case, industry headwinds prove to be stronger than expected and the long-term strategy that Nike put in place doesn't work to the full extent. This causes slower growth and more promotional activity leading to slimmer margins and a one-year target price of 47.79 which results in a 22% loss



Realistic Case: In the realistic case, everything pans out as described in the report and the industry headwinds are as expected causing the one-year target price to be 61.85 which is just \$0.65 higher than the current price.



Bull Case: Last is the bull case where the DTC business picks up quicker than expected, industry headwinds are neutralized and the implementation of the Consumer Direct Offense lead to margin improvement quicker than expected this would lead to a one-year target price of 73.56 for a return of 20%.



NIKE, Inc. (NKE)

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NEUTRAL

Analysis by John
12/4/2017

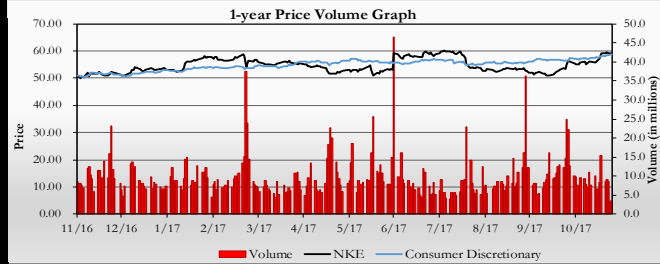
Current Price:
Divident Yield:

\$59.50
1.2%

Intrinsic Value
Target Price

\$52.73
\$59.39

Target 1 year Return: 1.06%
Probability of Price Increase: 56.17%

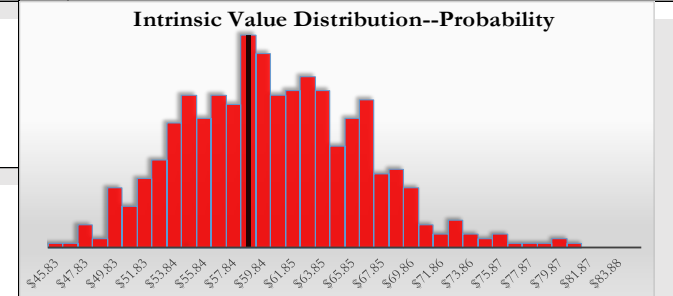


Description	
NIKE, Inc., together with its subsidiaries, designs, develops, markets, and sells athletic footwear, apparel, equipment, and accessories worldwide.	
General Information	
Sector	Consumer Discretionary
Industry	Textiles, Apparel and Luxury Goods
Last Guidance	November 3, 2015
Next earnings date	December 21, 2017
Estimated Country Risk Premium	6.80%
Effective Tax rate	22%
Effective Operating Tax rate	22%

Market Data	
Market Capitalization	\$97,287.45
Daily volume (mil)	6.99
Shares outstanding (mil)	1631.52
Diluted shares outstanding (mil)	1684.00
% shares held by institutions	116%
% shares held by investments Managers	53%
% shares held by hedge funds	2%
% shares held by insiders	21.16%
Short interest	2.23%
Days to cover short interest	3.62
52 week high	\$60.53
52-week low	\$50.06
Volatility	20.86%

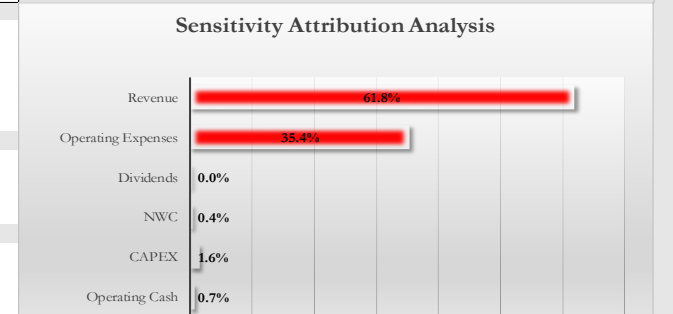
Past Earning Surprises	
Quarter ending	Revenue
8/31/2016	2.25%
11/30/2016	1.34%
2/28/2017	-0.35%
5/31/2017	0.58%
8/31/2017	-0.20%
Mean	0.72%
Standard error	0.5%

Peers	
Under Armour, Inc.	
V.F. Corporation	
The Gap, Inc.	
Nordstrom, Inc.	
Foot Locker, Inc.	
L Brands, Inc.	
Deckers Outdoor Corporation	
Wolverine World Wide, Inc.	



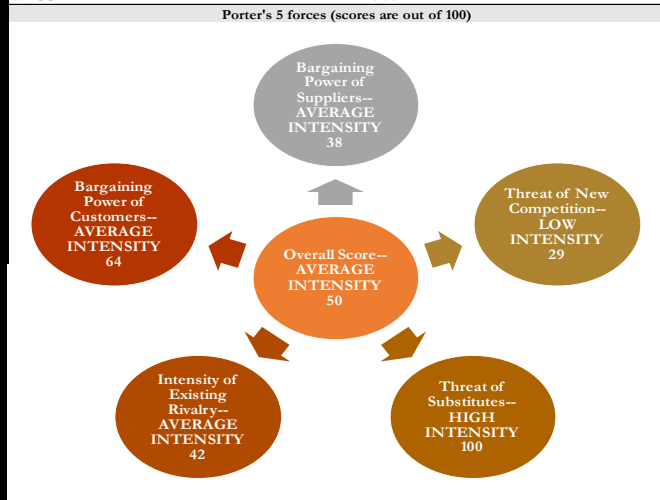
Management	
Position	
Parker, Mark	Chairman, CEO & President
Campion, Andrew	CFO & Executive VP
Sprunk, Eric	Chief Operating Officer
Edwards, Trevor	President of NIKE Brand
Spillane, Michael	President of Categories & Pr
Knight, Philip	Co-Founder and Chairman Emer

Total compensations growth	
3.87% per annum over 6y	
-18.56% per annum over 1y	
5.36% per annum over 6y	
7.44% per annum over 6y	
N/M	
N/M	



Profitability	
NKE (LTM)	
Return on Capital (GAAP)	25.1%
Operating Margin	9%
Revenue/Capital (GAAP)	2.82
ROE (GAAP)	29.7%
Net margin	10.6%
Revenue/Book Value (GAAP)	2.80

Total return to shareholders	
5.25% per annum over 6y	
-3.06% per annum over 1y	
5.25% per annum over 6y	
5.25% per annum over 6y	
N/M	
N/M	



Period	
Base Year	4%
8/31/2018	7%
8/31/2019	7%
8/31/2020	7%
8/31/2021	12%
8/31/2022	11%
8/31/2023	10%
8/31/2024	10%
8/31/2025	8%
8/31/2026	6%
8/31/2027	4%
Continuing Period	2%

Valuation	
NOPAT Margin Forecast	Revenue to Capital Forecast
12.5%	2.15
11.7%	2.09
12.3%	1.79
12.5%	1.57
12.5%	1.48
13.0%	1.40
13.5%	1.32
14.1%	1.24
14.6%	1.16
15.1%	1.07
15.6%	0.98
16.1%	0.88

OSI Systems, Inc. was founded by Deepak Chopra in 1987 and is headquartered in Hawthorne, CA. OSI Systems is an integrated designer and manufacturer of specialized electronic systems and components for critical applications. OSIS sells its products and provides services in diversified markets, which includes homeland security, healthcare, defense and aerospace. It operates through four different segments: Security, Healthcare, Optoelectronics and Manufacturing, and Corporate.

BUY

Current Price: \$84.16
 Target Price: \$92.56
 Market Cap: \$1.59B
 ROIC: 6.61%
 WACC: 9.0%
 EBITDA Margin: 20%



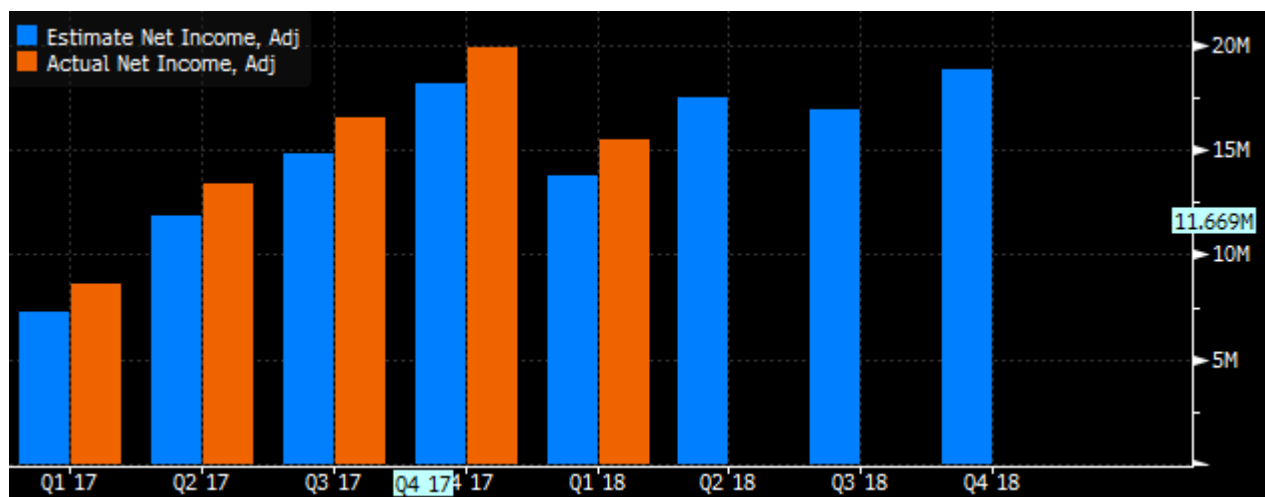
Thesis: OSI Systems, Inc. is looking to and has started to expand by leveraging its electronics and contract manufacturing capabilities into selective end product markets through organic growth and acquisitions. They have started to accomplish this through recent acquisitions and a purchase of a new facility in the middle of the 2017 fiscal year. For their security division they are looking to grow more in the international markets through government agencies. OSIS is also looking to see growth in their healthcare segment through helping developing countries and the increase in aging population. OSIS has many ways to see growth in different segments of their business towards the end of the year and from the last quarterly report, the CEO Deepak Chopra seems excited for 2018.

Catalysts:

- **Short Term(within the year):** Continue to innovate to stay ahead of their competitors.
- **Mid Term(1-2 years):** Finish off paying their purchase of the Billerica Facility.
- **Long Term(3+):** Continue with leveraging in acquiring new companies.

Earnings Performance:

OSI Systems, Inc. was excited about their 1Q fiscal 2018 financial report, with CEO Deepak Chopra saying, “We are pleased to report solid fiscal first quarter performance, including record revenues and earnings. Each of our divisions contributed to our outstanding start to fiscal 2018 with year-over-year profit growth. Based on this performance and our strong bookings, we have heightened optimism that fiscal 2018 will be a successful year for OSI.” The Company reported revenues of \$257.1 million for the first quarter of fiscal 2018, an increase of 16% from the \$220.9 million reported for the first quarter of fiscal 2017. Net income for the first quarter of fiscal 2018 was \$10.2 million, compared to net income of \$0.7 million for the first quarter of fiscal 2017. Non-GAAP net income for the first quarter of fiscal 2018 was \$15.5 million compared to non-GAAP net income for the first quarter of fiscal 2017 of \$8.7 million. With the security division making up to 56% of their sales Chopra was even more excited to announce and say in the quarterly report, “Our Security division achieved record first quarter revenues of \$162 million, of which approximately \$22 million was generated by our newly-acquired explosive trace detection business. This business complements well our Security division’s product portfolio, and together with the strong overall start in the rest of the division, leaves us well-positioned to achieve strong results in fiscal 2018.” Chopra also mentioned that their healthcare division saw a 10% increase for sales, which made it the third quarter with great year-over-year growth.



Sectors:

OSI Systems, Inc. is part of the industrial goods sector and OSIS breaks this down into three different operating divisions. A majority of their products are under patents, which keep third parties from making their products. Our current patents will expire at various times between 2017 and 2064. Their first division would be Security, which provides security and inspection systems, turnkey security screening solutions and related services. This division makes almost half of their annual revenues (56% of net sales) with Rapiscan Systems leading the way, which is a private company that focus in transportation. Their security products are used in airports and other transportation systems to inspect baggage, parcels, cargo, people, vehicles and other objects for weapons, explosives, drugs, radioactive and nuclear materials and other contraband. This has

been a major focus for the whole world with terrorist attacks increasing all over the world. Their second division would be healthcare, which provides patient monitoring, diagnostic cardiology, and Anesthesia delivery and ventilation systems. This division makes up 21% of net sales. Within this division, they make four different product lines that are patient monitoring and connectivity, diagnostic cardiology, Anesthesia delivery and ventilation, and medical devices and accessories. OSIS healthcare division designs, manufactures and markets products globally to end users primarily under the Spacelabs and Statcorp. OSIS third division is Optoelectronics and Manufacturing, which provides specialized electronic components and electronic manufacturing services for the Security and Healthcare divisions, as well as to external original equipment manufacturer customers and end users for applications in the defense, aerospace, medical and industrial markets. This division makes up 26% of net sales. In OSIS annual report they say, “We believe that continued advances in technology and reductions in the cost of key components of optoelectronic systems, including computer processing power and memory, have broadened the market by enabling the use of optoelectronic devices in a greater number of applications.” This company is very diverse in all the products that they produce from and X-ray machine to electronic devices that detect and control light (optoelectronics).

<u>PRODUCT LINE</u>	<u>PRODUCT NAME / PRODUCT FAMILY</u>	<u>MARKET SEGMENT</u>
Patient Monitoring and Connectivity	XPRESSON® Qube® Qube® Mini Ultraview® DM3 Dual Monitor Intesys® Clinical Suite (ICS) ICS Xprezz XprezzNet Flexport® Xhibit® Elance® AriaTele® Spacelabs® SafeNSound	Hospital care areas, outpatient surgery centers and physician offices
Diagnostic Cardiology	Ambulatory blood pressure monitors (various) OnTrak ABP Pathfinder® SL CardioCall® Lifecard® EVO™ CardioExpress® ECG machines CardioDirect® Stress Testing Systems Sentinel® Cardiology Data Management	Hospital cardiology care areas and physician offices
Anesthesia Delivery and Ventilation	ARKON® Blease 700 and 900 series ventilators BleaseSirius BleaseSirius EFM BleaseFocus	Ambulatory surgery centers and operating rooms
Medical Devices and Accessories	UltraCheck®, SoftCheck® and Curve Blood Pressure Cuffs Patient Cables and Accessories Fluid Delivery Unifusors	All hospital care areas, outpatient surgery centers and physician offices

Ownership:

OSIS is almost completely owned institutionally with 81.7% coming from investment advisors and another 3.74% coming from hedge fund managers. Many insurance companies have started to invest in this company due to that they know OSIS is becoming a huge contributor in the medical field. OSIS believes the demand for medical products is becoming a big contributor in developing countries where they are located in international land. They are helping a lot of developing nations where health care infrastructures are being built and or expanded.

Ownership Type	05/28/17	Curr ↓	Change	
11) Investment Advisor	86.00	81.70	-4.30	<input checked="" type="checkbox"/>
12) Individual	5.29	5.68	+0.39	<input type="checkbox"/>
13) Hedge Fund Manager	2.88	3.74	+0.86	<input type="checkbox"/>
14) Insurance Company	0.32	2.81	+2.49	<input type="checkbox"/>
15) Pension Fund	2.30	2.73	+0.43	<input type="checkbox"/>
16) Sovereign Wealth Fund	1.76	1.67	-0.09	<input type="checkbox"/>
17) Bank	1.02	1.31	+0.29	<input type="checkbox"/>
18) Government	0.20	0.20	0.00	<input type="checkbox"/>
19) Brokerage	0.12	0.08	-0.04	<input type="checkbox"/>
20) Endowment	0.06	0.05	-0.01	<input type="checkbox"/>
21) Holding Company	0.02	0.02	0.00	<input type="checkbox"/>

Debt:

OSI Systems, Inc. total debt is at \$71.5 million and great proportion of this is due to their recent purchase of Billerica Facility and a long seven-year loan they started in 2012, along with other borrowings. OSIS entered into a purchase agreement to acquire the facility in Billerica, MA currently leased by our AS&E subsidiary. The estimated purchase price is around \$20 million, and is expected to be financed with cash on hand, borrowings under our existing revolving bank line of credit and/or other third-party financing. OSIS expected the purchase to be mostly completed during the first quarter 2018. OSIS has shown in the past that they are very capable of paying off their debt with showing how they just recently completed an acquisition of Morpho USA, Inc. in April of 2017. OSIS was able to finance this acquisition of \$80.5 million with cash on hand and borrowings under existing revolving bank line of credit.



Competitors:

OSI Systems, Inc, is part of a smaller market but one that has many big time companies that have already established their spot in the market. This is not giving OSIS any fear for the future since they are currently a vertical integrated company at the moment. They currently leveraging to be able to take on more business and to expand their market share. For their EBITDA margin, the company is right around the median at 15.47% compared to the median of 16.62%. Their gross margin is also right around the median compared to their competitors. Two things they could look to improve in the future is their profit margin and operating margin, which are slightly below most of their competitors.

Name (BICS Best Fit)	Ticker	Mkt Cap	EBITDA to Net Sales:Q	PM LF	GM:Q	OPM LF↓
Median		11.45B	16.62%	12.04%	33.17%	12.66%
100) OSI SYSTEMS INC	OSIS US	1.59B	15.47%	3.95%	35.50%	7.54%
101) HONEYWELL INTERNATIO...	HON US	116.60B	20.61%	13.32%	34.00%	17.79%
102) INGERSOLL-RAND PLC	IR US	21.13B	16.18%	10.00%	32.35%	13.79%
103) JOHNSON CONTROLS INT...	JCI US	34.36B	17.06%	10.75%	30.89%	13.75%
104) ALARM.COM HOLDINGS INC	ALRM US	1.76B	17.47%	16.79%	64.62%	11.56%
105) NL INDUSTRIES	NL US	694.19M	6.64%	64.73%	30.37%	3.19%

Conclusion:

OSI Systems, Inc. is a great buy considering all of the growth that this company expects to see in the future. They are beating estimates for the past three quarters while taking on major debts at the same time. While the security division is leading the way, I can see their health care division take off considering all the new developing countries they entered and decided to help build. OSIS has a great growth strategy in place that involves leveraging with great expertise in charge that believe will increase their price, performance and agility over their competitors. They are a company that continues to innovate and put out an enormous amount of products, while also entering new fields from time to time to build up/diversify their company.

OSI Systems, Inc. (OSIS)

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NEUTRAL

Analysis by Daniel McAvoy

12/5/2017

Current Price:

\$84.16

Divident Yield:

0.0%

Intrinsic Value

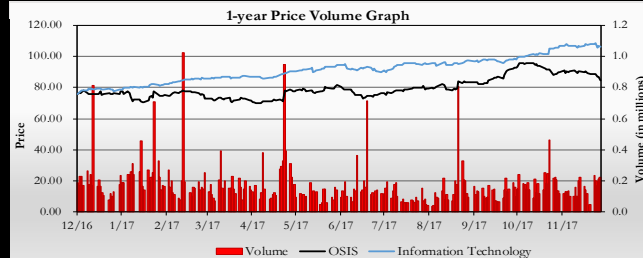
\$79.72

Target Price

\$92.56

Target 1 year Return: 9.98%

Probability of Price Increase: 85%

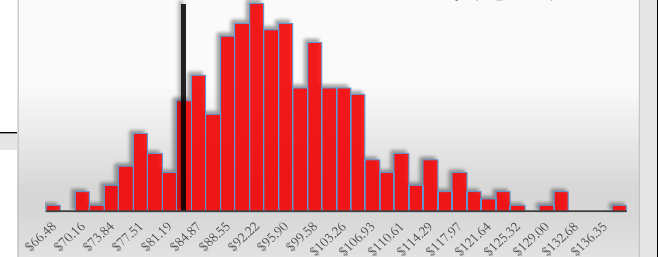


Description	
OSI Systems, Inc. designs, manufactures, and sells electronic systems and components worldwide.	
General Information	
Sector	Information Technology
Industry	Electronic Equipment, Instruments and Components
Last Guidance	November 3, 2015
Next earnings date	January 25, 2018
Estimated Country Risk Premium	6.97%
Effective Tax rate	24%
Effective Operating Tax rate	24%

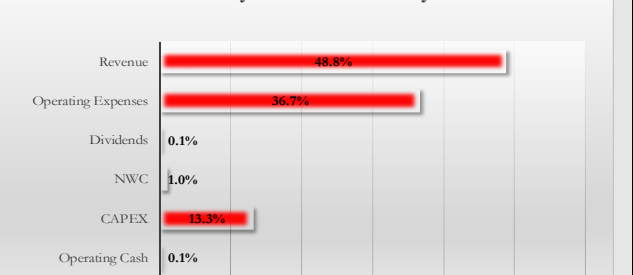
Market Data	
Market Capitalization	\$1,589.56
Daily volume (mil)	0.05
Shares outstanding (mil)	18.97
Diluted shares outstanding (mil)	19.69
% shares held by institutions	116%
% shares held by investments Managers	93%
% shares held by hedge funds	4%
% shares held by insiders	5.03%
Short interest	5.51%
Days to cover short interest	6.67
52 week high	\$96.64
52-week low	\$69.08
Volatility	35.83%

Past Earning Surprises		Peers	
Quarter ending	Revenue	EBITDA	
9/30/2016	17.45%	-6.25%	FLIR Systems, Inc.
12/31/2016	4.14%	-11.19%	Badger Meter, Inc.
3/31/2017	0.88%	-12.73%	Trimble Inc.
6/30/2017	-0.63%	-6.35%	Benchmark Electronics, Inc.
9/30/2017	3.61%	-10.20%	Plexus Corp.
Mean	5.09%	3.4%	Zebra Technologies Corporation
Standard error	3.2%	1.3%	Leidos Holdings, Inc.
Management		Total compensations growth	
Management	Position	Total compensations growth	Total return to shareholders
Chopra, Deepak	Chairman, CEO & President	6.73% per annum over 6y	6.82% per annum over 6y
Edrick, Alan	Executive VP & CFO	5.7% per annum over 6y	6.82% per annum over 6y
Sze, Victor	Executive VP, General Counsel	8.19% per annum over 6y	6.82% per annum over 6y
Mehra, Ajay	Executive VP & Director	6.48% per annum over 6y	6.82% per annum over 6y
Merriitt, Richard	Senior VP & CHRO	N/M	N/M
Alhabadi, Manoocher	President of OSI Optoelectro	-100% per annum over 3y	6.41% per annum over 3y
Profitability		Peers' Median (LTM)	
Profitability	OSIS (LTM)	OSIS (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	8.2%	6.03%	9.18%
Operating Margin	6%	5.30%	8.03%
Revenue/Capital (GAAP)	1.33	1.14	1.14
ROE (GAAP)	6.5%	5.1%	10.8%
Net margin	4.4%	3.8%	8.7%
Revenue/Book Value (GAAP)	1.47	1.33	1.24
Invested Funds		Peers' Median (LTM)	
Invested Funds	OSIS (LTM)	OSIS (5 years historical average)	Peers' Median (LTM)
Cash/Capital	17.8%	8.4%	16.2%
NWC/Capital	24.4%	18.7%	17.3%
Operating Assets/Capital	31.1%	60.5%	32.2%
Goodwill/Capital	26.7%	12.3%	34.3%
Capital Structure		Peers' Median (LTM)	
Capital Structure	OSIS (LTM)	OSIS (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.47	0.12	0.27
Cost of Existing Debt	3.1%	33.2%	4.3%
CGFS Rating (F-score, Z-score, and default Probability)	AA	BBB	BBB
WACC	9.2%	39.6%	10.1%

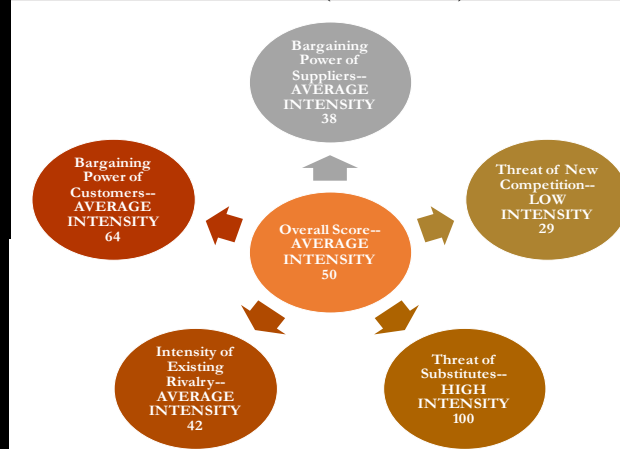
Intrinsic Value Distribution--Probability (Upside)=85%



Sensitivity Attribution Analysis



Porter's 5 forces (scores are out of 100)



Revenue Growth Forecast		Valuation	
Period	Revenue Growth Forecast	NO PAT Margin Forecast	Revenue to Capital Forecast
Base Year	17%	10.6%	1.10
9/30/2018	9%	5.0%	0.83
9/30/2019	5%	4.5%	0.80
9/30/2020	4%	3.8%	0.79
9/30/2021	4%	4.1%	0.78
9/30/2022	4%	10.9%	0.77
9/30/2023	4%	11.1%	0.73
9/30/2024	4%	11.3%	0.70
9/30/2025	4%	11.5%	0.67
9/30/2026	4%	11.7%	0.64
9/30/2027	4%	11.9%	0.62
Continuing Period	4%	12.1%	0.60
Return on Capital Forecast		Price per share Forecast	
Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	11.6%	9.2%	\$78.34
9/30/2018	4.2%	10.2%	\$90.69
9/30/2019	3.6%	10.1%	\$102.22
9/30/2020	3.0%	9.9%	\$113.68
9/30/2021	3.2%	9.9%	\$125.50
9/30/2022	8.5%	9.8%	\$137.55
9/30/2023	8.1%	9.7%	\$149.75
9/30/2024	7.9%	9.9%	\$162.32
9/30/2025	7.7%	9.8%	\$174.97
9/30/2026	7.5%	9.9%	\$187.89
9/30/2027	7.3%	10.0%	\$201.06
Continuing Period	7.2%	10.1%	

Company Description: A leading provider of data storage technology and solutions. Seagate offers hard disk drives along with a broad range of data storage products including solid state drives and their related controllers, solid state hybrid drives and storage subsystems.

BUY

Current Price:	\$40.49
Target Price:	\$45.07
Market Cap:	2B
P/E:	11.6x
EBITDA Margin:	19.12%
ROE:	74.93%
ROIC:	23.09%
ROIC/WACC:	1.9

Catalysts:

- Short Term(within the year): Operational efficiency driving margins past competitors
- Mid Term(1-2 years): Leading provider of a stabilizing hard-disk drive market
- Long Term(3+): Integration of Toshiba Memory Corp. opening up opportunities in the solid state drive market

Thesis: Seagate is a leading provider of a stabilizing hard-disk drive market. In the shift towards solid state drive, the company will be able to stay competitive through the agreement with Toshiba Memory Corp. Operational excellence with further drive margins past competitors who have little room to grow. Value will also be created through a decrease in capital expenditures which will lead to 30-50% of cash flows being returned to shareholders. At a P/E of 11.6x, this undervalued stock must be bought.



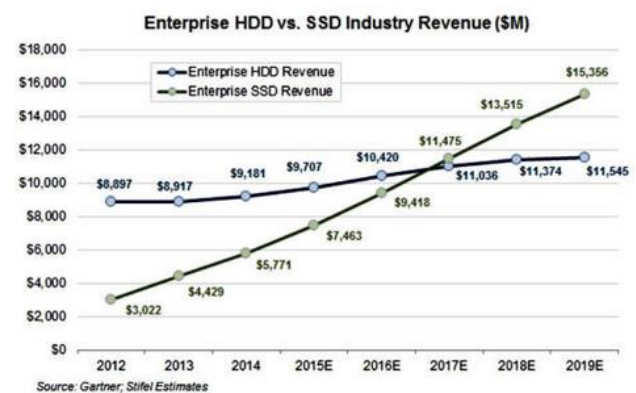
Q1

Earnings Surprise:

After missing revenue estimates in the last two quarters, Seagate beat its FY 2018 Q1 estimate by \$110M. The firm reported revenues of approximately \$2.6B. Within this, notebook compute revenue was up 37% year-over-year as the gaming business grew sequentially 13%. This was driven by gaming customers demanding more local mass storage for their rich gaming experiences. Non-HDD revenue was up 30% quarter-over-quarter. This was driven by the major transformative shift in the marketplace from client server to mobile cloud. The company experienced record HDD Exabyte shipments of 70.3 exabytes, up 5% year-over-year. The average capacity per drive across the HDD portfolio was also a record, 1.9 terabytes per drive with an average selling price of \$64 per unit being. This metric was up 0.2 terabyte per drive from the prior year quarter. The Enterprise HDD segment shipped 27.2 exabytes, with a record average capacity of 3.9 terabytes per drive. These records were driven by the growth in hyperscale and cloud storage deployment. On a GAAP basis, Seagate reported a gross margin of 28%, net income of \$181M and diluted earnings per share of \$0.62. Compared to the prior year quarter, GAAP gross margins were down 0.6%, net income was up \$14M, and diluted earnings per share were up \$0.07. On a non-GAAP basis, Seagate achieved gross margins of 29%, net income of \$279 million and diluted earnings per share of \$0.96. Compared to the prior year quarter, non-GAAP gross margins were down 0.5%, net income was down about \$20M, and diluted earnings per share was down \$0.03. Seagate's stock price jumped roughly 14% around late October's earnings call.

Industry Outlook:

As solid state drives (SSD) are on their way to becoming the mainstream, standard storage device, there is still a market for hard disk drives (HDD). HDDs can be found in desktop computers, mobile devices, consumer electronics and enterprise storage arrays in data centers. However, the adaption of flash based SSDs in laptops and PCs continue at pace and continue to eat into traditional HDDs. The SSD market is rapidly growing at a CAGR of 20% in the 2015-2019 period. While, the HDD market is stabilizing at a CAGR of 4% during the same timeframe. HDDs are slower, uses more battery, and are louder than SSDs. However, the cost advantages and storage capacity HDD presents creates a market for the drive. HDDs cost roughly \$0.03 per gigabyte and have a capacity of 2TB maximum for notebook size drives, along with a 10TB max for desktops. SSDs cost roughly \$0.20 per gigabyte and have a capacity of 1 TB for notebook size drives, along with a 4TB max for desktops. The increasing demand and adoption in cloud storage and other enterprise applications is the key driver for the HDD market going forward. Although the decline in PC sales has negatively affected HDDs, the stabilization of the laptop market has balanced the sales mix. The shift towards cloud service in



SSD Top Side



SSD Bottom Side

the data storage segment is also



HDD Top Side



HDD Bottom Side

positively affecting the HDD as well. The cost and storage advantages HDDs bring allows them to maintain relevancy to become a stabilizing market.

Segment Analysis:

Within Seagate's computer hardware and storage segment, the company offers an enterprise, cloud computing, and non-compute segment. The enterprise segment holds the largest weight of revenues as enterprises are likely to account for 60% of global data by 2025. Within this segment is various types of enterprise software such as database and relationship management. In Q3 of FY 2013, shipping capacity rose 20% to about 24 exabytes as revenue remained relatively flat at roughly \$960M. This was driven by substantial nearline growth which management expects to grow into next year. During the same quarter, the compute segment reported revenues at around \$670M, down 15% year-over-year. This segment offers products for storage, integrated systems, and client computing devices. The non-compute segment offers hard drives for consumer electronics and branded HDD products. During Q3 of FY 2017, this segment experienced an increase in shipments of almost 40% to over 24 exabytes, resulting in revenues increasing 25% to \$780M. This was driven by an increase in demand for consumer gaming hard drives. The global video gaming industry is expected to grow at a GAGR of 4.8%. Within this industry, PC gaming is expected to grow at a CAGR of 6.3%. This will be driven by more digital purchases on the consoles and OCs. The rapid growth in this segment will expand the overall value of Seagate as the non-compute segment holds the highest multiple of the three. The effect the non-compute segment's growth will have on this firm is shown below:

BEFORE GROWTH:

EV/Total Revenue		STX								
					Multiple				EV	
Segment	Method	Value			Low	High			Low	High
Enterprise	FY 2017 Q3 Revenue	960			1.51	1.72	*		1449.60	1651.20
Client Compute	FY 2017 Q3 Revenue	670			0.34	0.34	*		227.80	227.80
Non-Compute	FY 2017 Q3 Revenue	780			6.46	7.85	*		5038.80	6123.00
Total Firm Value									6,716.20	8,002.00
Less: Net Debt									(2,717.00)	(2,717.00)
Plus: Options Proceeds from In-the-Money Options									290.00	290.00
Total Equity Value									9,723.20	11,009.00
Fully Diluted Shares OS									290.00	290.00
Equity Value									33.53	37.96
Current Price									38.35	38.35
Premium/Discount to mkt									-14.38%	-1.02%

AFTER GROWTH:

Segment	Method	Value			Low	High		Low	High		
Enterprise	FY 2017 Q3 Revenue	960			1.51	1.72	*	1449.60	1651.20		*Western Digital
Client Compute	FY 2017 Q3 Revenue	670			0.34	0.34	*	227.80	227.80		*Dell
Non-Compute	FY 2017 Q3 Revenue	780			9.97	12.20	*	7776.60	9516.00		*Workday Inc
Total Firm Value								9,454.00	11,395.00		
Less: Net Debt								(2,717.00)	(2,717.00)		
Plus: Options Proceeds from In-the-Money Options								290.00	290.00		
Total Equity Value								12,461.00	14,402.00		
Fully Diluted Shares OS								290.00	290.00		
Equity Value								42.97	49.66		
Current Price								38.35	38.35		
Premium/Discount to mkt								10.75%	22.78%		

A favorable mix of high-margin enterprise hard drives and other high-end products will sustain healthy gross margins going forward.

Management Analysis:

Newly appointed CEO Dave Mosley is finding ways to create value in a time where the company's primary product is past its growing state. Cash from operations in Q1 of FY2018 was \$237M. These results include \$46M in restructuring charges and inventory staging related to strong October demand signals. Cash from operations in quarter 2 are expected to be at least two times more than Q2 due to working capital improvements in the company's business outlook. The company generated \$113M in free cash flow during the quarter. Free cash flow is also expected to increase as capital expenditures decrease sequentially to remain less than 5% of the company's total consolidated revenue for FY 2018. Capital expenditures were \$124M during Q1 for maintenance capital and manufacturing footprint redeployment, supporting the continued ramp of the company's new HDD products which utilize new tooling and equipment. The company plans to use the excess free cash flow to continue returning 30-50% of its cash flows back to shareholders.

⊕ Issuance of Common Stock	↓	259.0	107.0	98.0	79.0	86.0	80.0
⊕ Repurchase of Common Stock	↓	(1,654.0)	(1,912.0)	(1,087.0)	(1,090.0)	(460.0)	(525.0)
⊕ Common Dividends Paid	↓	(518.0)	(557.0)	(664.0)	(727.0)	(561.0)	(745.0)
Total Dividends Paid	↓	(518.0)	(557.0)	(664.0)	(727.0)	(561.0)	(745.0)

Seagate will be able to stay competitive during the shift to SSDs with the acquisition of Toshiba Memory Corp. The company will provide up to \$1.25B to Bain Capital Private Equity to participate in the consortium of the company. Seagate plans to fund the consortium with existing cash balances and short-term financing mechanisms. The company already announced an expected long-term NAND supply agreement with Toshiba Memory. This will provide continuity of raw NAND for the company's product portfolio. The agreement has the opportunity to provide meaningful revenue growth from Seagate's NAND storage portfolio while providing significant value for storage customers. Most importantly, the agreement will allow Seagate to continue innovating and providing customers with storage solutions that customers needs as SSDs become increasingly popular.

Value Creation:

Seagate plans to create value through expanding its margins. In Q1 of FY 2018, non-GAAP operating expenses were down 14% year-over-year. Management expects future operating expenses to decrease 2-3% as they focus on cost stringency. The company divested the majority of their high-performance computing assets, which they project to result in a cost savings of approximately 20 million a year. Seagate started this approach in July 2017 when they sold their ClustrerStor Line to supercomputer manufacturer Cray. Within this deal, Seagate got rid of over 100 employees. This helped the company achieved its goal of reducing its global workforce by 14%. The company also did so by shutting down its factory its factory in Suzhou, China in order to cut an additional 2,000 jobs. The company remains on track to exit the calendar year with non-GAAP operating expenses of approximately 400 million per quarter. The non-compute segment holds a gross

margin of roughly 34% and will further drive the company's margins as it is the highest growing segment. Below are forecasted margins:

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating Margin	14.56%	13.01%	10.71%	6.03%	12.11%	12.32%	12.17%	13.26%	13.55%	14.56%
EBITDA Margin	20.64%	19.42%	16.83%	13.33%	19.06%	19.02%	18.87%	19.96%	20.25%	21.25%

Seagate also aims to create value by returning to its shareholders. In the Q1 earnings call, CEO Dave Mosley said that the company will allocate 30-50% of their cash flows back to shareholders. Last quarter, the company spent \$166M to buy back 5 million shares. By doing so, Seagate has successfully created value by buying back these shares at low multiples, as the average P/E paid during the quarter was 12.87x. The company will also return to its shareholders through issuing a quarterly dividend. The board approved a quarterly dividend payment of \$0.63 for Q1 of FY2018. Seagate currently holds a dividend yield of 6.37%. With 2.3 billion in cash on the balance sheet, the company is financially able to do so.

Vs. Western Digital:

In a thinning HDD industry, innovation will serve as the key driver for companies who are reliant on the product. With the agreement with Toshiba Memory Corp., Seagate gains a competitive advantage on Western Digital. This competitive advantage will come increasingly significant as time goes on and SSDs become more popular. Although Western Digital currently holds higher margins, there is little room for growth as their EBITDA margin has already grown 151.98% year-over-year. The growth in Seagate's non-compute segment along with the recent operational efficiency should push the company's margins past Western Digital. Seagate is also more efficient in their capital allocation as they hold an ROIC of 23.09% vs. Western Digital's 7.86%.

Name (BI Peers)	Mkt Cap1 (USD)	Last Px	Chg Pct 1D	P/E	Rev - 1 Yr Gr:Y	EBITDA 1Yr Growth:Y	T12M EBITDA Mrgn:Y	GM:Y	OPM:Y	ROIC:Y
Median	13.63B	49.38	1.78%	12.35	2.84%	43.10%	18.01%	37.26%	12.49%	17.73%
100) SEAGATE TECHNOLOGY	11.71B	40.49	2.30%	11.60	-3.49%	43.10%	19.12%	29.47%	12.16%	23.09%
101) WESTERN DIGITAL CORP	24.10B	81.47	3.98%	12.35	46.94%	151.98%	24.03%	32.28%	12.88%	7.86%

Ownership:

The company holds a short interest of 13.7 days-to-cover. However, the 5.61% increase in hedge funds demonstrates that a short squeeze may be coming. The 21.05% increase in insider position is also promising for the stock. There is about an 8% more change in the number of buyers than the change in the number of new sellers as well.

54) Ownership Type	11/27/16	Curr	Change
41) Investment Advisor	82.99	79.08	-3.91
42) Hedge Fund Manager	6.15	11.76	+5.61
43) Bank	1.59	2.19	+0.60
44) Pension Fund	1.32	1.77	+0.45
45) Government	1.97	1.27	-0.70
46) Sovereign Wealth Fund		1.19	
47) Insurance Company	0.75	1.12	+0.37
48) Individual	0.90	0.95	+0.05
49) Brokerage	0.33	0.27	-0.06

Unlevered Free Cash Flow Valuation:

Tax		20.00%	20.00%	20.00%	20.00%	20.00%	
NOPAT		792.8	846.2	910.3	970.2	1,026.8	
Capital	6,385.0	6,244.0	5,995.82	5,809.04	5,674.63	5,584.99	
CAPEX/EBITDA		52.72%	52.72%	52.72%	52.72%	52.72%	
DPR/EBITDA		11.12%	11.12%	11.12%	11.12%	11.12%	
CAPEX		418.0	446.14	479.95	511.54	541.37	
DPR		710.0	694.32	666.72	645.95	631.01	
							<u>TV</u>
	UFCF		1,094.35	1,097.07	1,104.63	1,116.43	18668.109
		16,289.75	16,514.87	16,755.50	17,008.07	17,269.30	
	Total Debt	5,002.0	5,002.0				
	Other						
	Cash	2,285.0					
	EQ	13,572.7					
	Diluted SO	296.8					
	Equity Value ps	45.7					
	Prem/Disc	18.5%					

Conclusion:

At a P/E of 11.6x, this undervalued stock must be bought. The NAND product line will be enhanced with the agreement with Toshiba Memory Corp., allowing the company to benefit from the shift to SSDs. Management's vision to create value through future increased free cash flows will serve as a key driver of the stock price going forward. Other value will be created through a growing high multiple segment and expanding margins. The shift to SSDs looks promising for the leading HDD provider Seagate Technology.

Seagate Technology plc (STX)

CENTER FOR GLOBAL FINANCIAL STUDIES

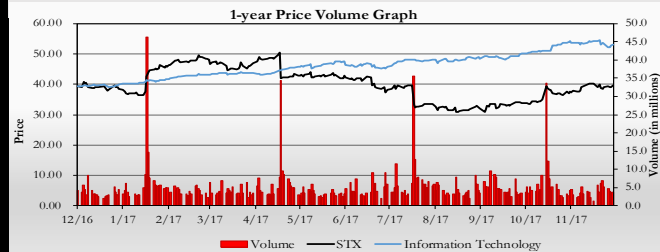
BULLISH

Analysis by RYAN
12/9/2017

Current Price: \$40.49
Dividend Yield: 6.0%

Intrinsic Value: \$72.02
Target Price: \$100.94

Target 1 year Return: 155.33%
Probability of Price Increase: 100%



Description
Seagate Technology plc provides data storage technology and solutions in Singapore, the United States, the Netherlands, and internationally.

General Information
Sector: Information Technology
Industry: Technology Hardware, Storage and Peripherals
Last Guidance: November 3, 2015
Next earnings date: January 25, 2018
Estimated Country Risk Premium: 7.53%
Effective Tax rate: 30%
Effective Operating Tax rate: #DIV/0!

Market Data
Market Capitalization: \$11,714.51
Daily volume (mil): 5.50
Shares outstanding (mil): 289.32
Diluted shares outstanding (mil): 296.75
% shares held by institutions: 116%
% shares held by investments Managers: 75%
% shares held by hedge funds: 12%
% shares held by insiders: 0.89%
Short interest: 14.57%
Days to cover short interest: 8.43
52 week high: \$50.96
52-week low: \$30.60
Volatility: 40.36%

Quarter ending	Revenue	EBITDA
9/30/2016	-0.11%	-6.68%
12/30/2016	2.54%	2.81%
3/31/2017	-1.33%	-12.82%
6/30/2017	-5.82%	-15.50%
9/29/2017	3.38%	-4.50%
Mean	-0.27%	-7.34%
Standard error	1.6%	3.2%

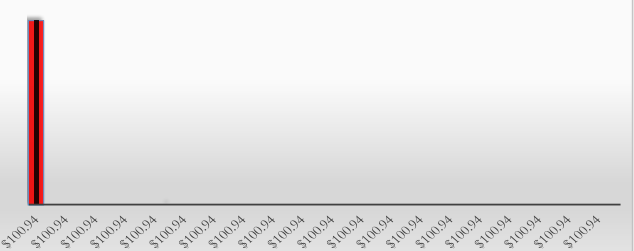
Management	Position	Total compensations growth	Total return to shareholders
Luczo, Stephen	Executive Chairman	-8.08% per annum over 6y	10.3% per annum over 6y
Mosley, William	CEO & Director	27.02% per annum over 6y	10.3% per annum over 6y
Morton, David	Executive VP of Finance, CFO	298.05% per annum over 1y	48.52% per annum over 1y
Murphy, James	Executive Vice President of	N/M	N/M
Re, Mark	Chief Technology Officer and	N/M	N/M
Naik, Ravi	Chief Information Officer	N/M	N/M

Profitability	STX (LTM)	STX (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	9.5%	13.18%	20.23%
Operating Margin	7%	7.79%	8.06%
Revenue/Capital (GAAP)	1.28	1.69	2.51
ROE (GAAP)	11.3%	13.8%	15.9%
Net margin	5.0%	7.2%	7.5%
Revenue/Book Value (GAAP)	2.27	1.91	2.10

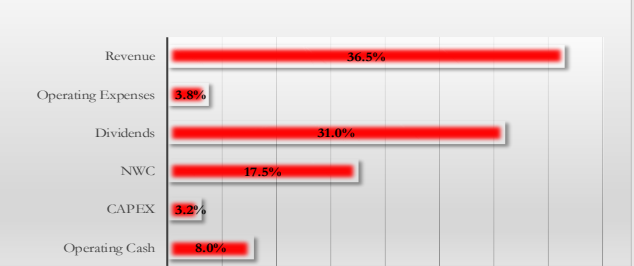
Invested Funds	STX (LTM)	STX (5 years historical average)	Peers' Median (LTM)
Cash/Capital	16.8%	19.3%	44.7%
NWC/Capital	1.4%	4.0%	0.1%
Operating Assets/Capital	68.7%	70.8%	45.1%
Goodwill/Capital	13.0%	5.9%	10.1%

Capital Structure	STX (LTM)	STX (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.55	0.35	0.25
Cost of Existing Debt	5.1%	6.6%	4.1%
CGFS Rating (F-score, Z-score, and default Probability)	A	D	BBB
WACC	9.4%	10.4%	8.9%

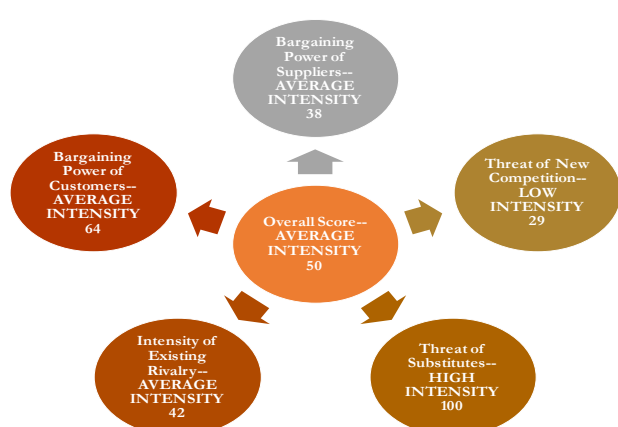
Intrinsic Value Distribution--Probability (Upside)=100%



Sensitivity Attribution Analysis



Porter's 5 forces (scores are out of 100)



Period	Revenue Growth Forecast
Base Year	-4%
9/29/2018	-5%
9/29/2019	-2%
9/29/2020	-1%
9/29/2021	3%
9/29/2022	2%
9/29/2023	1%
9/29/2024	0%
9/29/2025	0%
9/29/2026	3%
9/29/2027	-24%
Continuing Period	2%

Period	Return on Capital Forecast
Base Year	#DIV/0!
9/29/2018	#DIV/0!
9/29/2019	12.2%
9/29/2020	10.9%
9/29/2021	10.3%
9/29/2022	13.6%
9/29/2023	12.4%
9/29/2024	11.4%
9/29/2025	10.6%
9/29/2026	9.9%
9/29/2027	9.3%
Continuing Period	8.8%

Valuation

NOPAT Margin Forecast
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WACC Forecast

9.4%
10.8%
10.9%
10.9%
10.9%
11.0%
11.1%
11.1%
11.2%
11.2%
11.3%
11.3%

Revenue to Capital Forecast

#DIV/0!
#DIV/0!
1.85
1.70
1.56
1.45
1.31
1.19
1.10
1.02
0.95
0.89

Price per share Forecast

\$84.90
\$98.01
\$109.99
\$122.41
\$135.05
\$147.89
\$160.86
\$173.97
\$187.19
\$200.45
\$213.76

Below, insert a screenshot of your “OUTPUT” page from the Pro-Forma. Or, if you built your own model, insert screenshot of it here.

Tutor Perini Corporation provides diversified general contracting, construction management, and design-build services to private customers and public agencies worldwide. It operates through three segments: Civil, Building, and Specialty Contractors. The company was formerly known as Perini Corporation and changed its name to Tutor Perini Corporation in 2009. Tutor Perini Corporation was founded in 1894 and is headquartered in Sylmar, California.

BUY

Current Price: \$25.55
 Target Price: \$37.14
 Market Cap: \$1.38B
 WACC: 4.6%
 ROIC: 8.0%
 P/E Ratio: 13.94
 Average Volume: 370,180

Catalysts:

- Short Term(within the year): Vertical integration makes TPC a “one stop shop”
- Mid Term(1-2 years): Backlog up 20%, valued at \$7.5B
- Long Term(3+): \$305B FAST Act, %52B 10 year California Transportation Bill



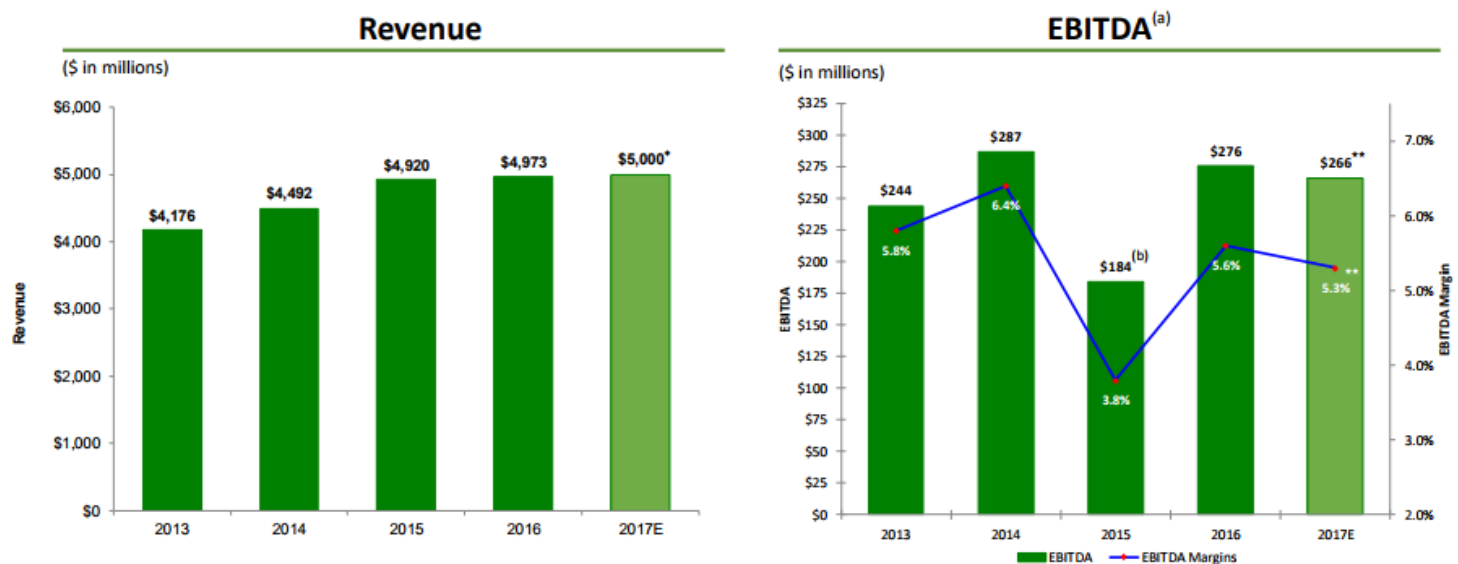
Thesis:

Tutor Perini Corporation is positioned well in the real estate construction industry. TPC has been an established leader in the civil, building and specialty construction market for over 120 years. They have built an impressive backlog that grew 20% in 2017, and is valued at \$7.5B. TPC has current projects consisting of

Hudson Yard NYC, Los Angeles MTA, NYC MTA and San Francisco MTA. They have established relationships with federal and state governments as well as specialty contractors over the years, so they have become very effective at winning projects over their competitors.

Earnings Performance:

The third quarter showed promise for Tutor Perini, although they missed on earnings and revenue. Their bookings, backlogs and cash flow all improved over the quarter. TPC's CEO Ronald Tutor said Q3 results were affected as various civil and building segment projects are nearing completion and newer projects, are earlier in their project life cycle, and are not yet generating expected higher levels of revenue, as well as certain delays in the timing of new awards and project execution activities for previously awarded projects. The upside for TPC is that their backlog at the end of Q3 totaled \$7.5B, up 12% year over year, and up 20% from year-end 2016, and civil segment backlog rose 54% year over year to \$4.3B, a new record for the company. Notably to-date, TPC has booked more than \$4.8 billion of new awards for the first nine months of the year. Their total backlog was up 20% compared to the end of last year, and more importantly, their Civil segment's backlog by far the largest component, was up 61% over the same period. Their backlog composition at the end of the third quarter was 58% Civil, 21% Building and 21% Specialty. Although, TPC had to decrease their 2017 revenue guidance to \$5B from \$5.5B, if they do get to \$5B that would be the highest revenue generated in one year for the company. Additionally, TPC generated \$36.5 million of operating cash in the third quarter of 2017 and expects operating cash to be even stronger in the fourth quarter of 2017.



Business Overview:

Tutor Perini Corp. is one of the largest general contractors in the United States. TPC has been conducting business for over 120 years. TPC was listed on the NYSE on April 1, 2004. Later that year it acquired Cherry Hill Construction, a contractor in Maryland, and in 2003 it acquired Florida-based James A. Cummings and in 2005, California-based Rudolph & Sletten, Inc.. In January 2009, the corporation acquired Philadelphia-based building contractor Keating. Engineering News-Record ranked TPC #1 Specialty contractor in NY, #3

Domestic Heavy Contractor, #4 Builder in Transportation, #5 Builder in electrical, #9 Builder in domestic building, #9 General contractor, #10 Specialty contractor, and #12 Builder in mechanical. Out of the top 400 contractors ranked by Engineering News-Record, TPC is ranked #9 overall. They provide three types of services that are broken into Civil, Specialty and Building operations. Their organic growth over the years and strategic acquisitions have allowed TPC to be able to vertically integrate their operations. TPC is well positioned in an industry that saw a 9.7% increase in domestic revenue growth over the last year. Below is a breakdown of their segments and the revenue generated through each one.



⁽¹⁾ Includes the income of concrete placed and reinforced concrete segments of \$54.8M. Includes other income of \$54.8M.

Projects and Backlog:

TPC has positioned themselves well in the construction contracting market due to their 20% increase in backlog projects. Their market position and scale allow TPC to win large, complex projects such as New York MTA East Side Access valued at \$2.7B, Alaskan Way Viaduct (SR-99) valued at \$1.4B, Los Angeles MTA Purple Line valued at \$1.4B, Hudson Yards Tower D and Platform valued at \$1.4B and California High Speed Rail valued at \$1.4B. Due to their broad capabilities in the contracting industry, TPC has the ability to get bids from a wide variety of clients. In August of 2017, Tutor Perini announced that its subsidiary, Tutor Perini Building Corp., was recently awarded a contract by Caruso to construct Palisades Village. Palisades

Village, a walkable gathering place, will serve as a centerpiece within the community with curated shopping, dining and lifestyle offerings located near the intersection of Sunset Boulevard and Swarthmore Avenue in Pacific Palisades, California. The contract value will be included in the Company's reported second quarter 2017 backlog. Furthermore, just a month ago TPC announced a low bid of \$189M for the Canton Viaduct Replacement Project. The project scope of work includes the removal and replacement of an approximately 3,200-foot-long bridge structure on the north side of the Baltimore Harbor Tunnel, as well as tunnel rehabilitation. Work on the project is expected to commence in March 2018 with substantial completion anticipated by June 2021. The ability to tackle such a diverse set of projects allows TPC to have a competitive advantage within the industry. Combine that with the ability to vertically integrate their operations, and TPC is primed for success in the near future.

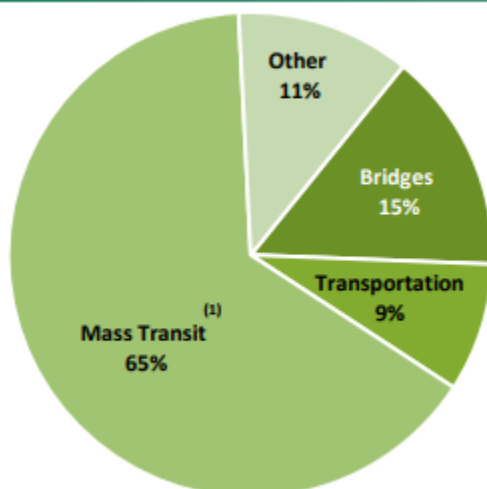
Significant Projects Driving Performance

(approximate award values)

- Various New York MTA East Side Access Projects – \$2.7B
- Alaskan Way Viaduct (SR-99) Replacement, WA (JV) – \$1.4B
- Los Angeles MTA Purple Line Section 2 (JV) – \$1.4B
- Hudson Yards Tower D and Platform, NY – \$1.4B
- California High-Speed Rail (JV) – \$1.4B
- Technology Office Facility, CA – \$950M
- San Francisco MTA Central Subway – \$840M
- I-74 Bridge Replacement Project, IA – \$320M
- Pechanga Resort and Casino Expansion, CA – \$320M

Segment Analysis:

Q3-17 Backlog by End Market: \$4.3B

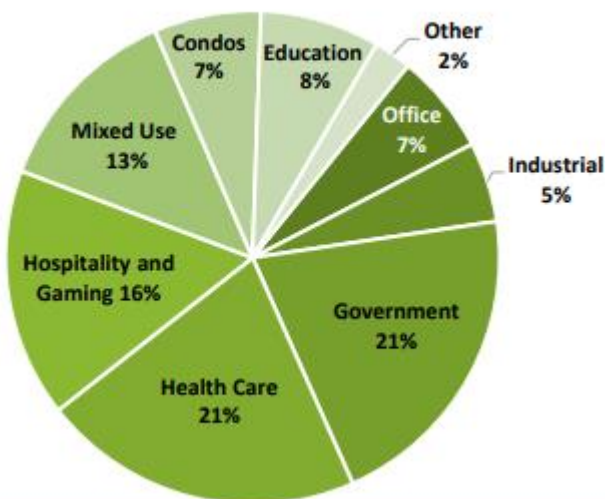


Tutor Perini Corp. operates under three segments Civil, Building, and Specialty. Their Civil segment constructs and rehabilitates highways, bridges, tunnels, mass-transit systems and wastewater treatment facilities. The Civil segment is TPC's highest margin segment, currently sustaining an operating margin of 10.9% in the last twelve months. This segment focuses on large-scale, complex projects ranging anywhere from \$100M-\$1B+. Additionally, TPC is positioned well to receive bids for the \$305B FAST Act, which was signed by President Obama in order to renovate highways across the nation, and the \$52B 10 year

California transportation bill, which was signed by state legislators earlier this year. The chart above is a breakdown of the segments backlog, which is heavily dependent upon Mass Transit providing a sense of security for TPC because it will be state funded.

TPC's Building segment has generated \$2.08B in revenue over the last twelve month, which is the greatest out of the three segments. The Building segments specializes in government, health care, education, hospitality and sports facilities projects. They are able to generate over \$2B even though their operating margins were only 1.9% for this segment. Thus, proving that TPC's management is more than capable of conducting business efficiently. Their featured projects are the \$6.4B City Center in Las Vegas and the \$2.3B Cosmopolitan Resort in Las Vegas. Below is the breakdown of the backlog in the Civil segment. Their backlog is very diversified which shows that TPC is a highly regarded contractor in a wide variety of markets.

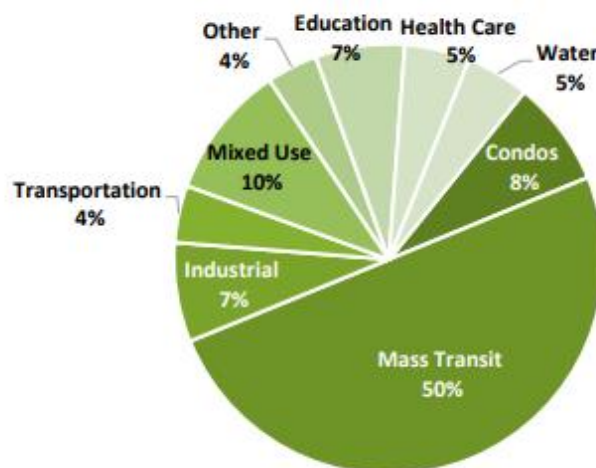
Q3-17 Backlog by End Market: \$1.6B



Their Specialty segment has generated \$1.2B in revenue over the past twelve months. Again, they were able to do so with tight operating margins at 2.3%. Currently, TPC is the largest electrical contractor in NYC. The Specialty segment allows TPC to vertically integrate their operations, meaning that they can limit their expenses and operate on thin margins, because they have the ability to conduct all business in house. Their current focus for the Specialty segment are in areas of high real estate and infrastructure growth. Areas such as NYC, Houston, Dallas Los Angeles, San Francisco and Miami. The chart below shows their backlog for Specialty segment, clearly it is dominated by the Mass Transit

development. This is a positive for TPC considering that Mass Transit is funded through both the state and federal government. Meaning that their contracts are more stable, structured and secured.

Q3-17 Backlog by End Market: \$1.6B



TPC vs. Competitors:

Although, TPC suffered a poor Q3 they still remain one of the leaders in the market. Their recent increase of 58% in higher margin backlog projects will improve their margins over the next few years. Their EBITDA and revenue are slightly below the market average. However, that is solely due to the fact that TPC is a smaller company with a market capitalization of only \$1.38B. Their price earnings ratio is one of the best amongst its competitors at 14.54. What truly sets TPC apart from their competitors is the ability to handle diverse and complex projects. Additionally, their ability to vertically integrate allows for greater control over schedule, increased operational efficiencies, and the ability to have greater visibility into pricing.

Name (BI Peers)	Ticker	Mkt Cap	EBITDA:Y	Revenue:Y	P/E:Y	OPM:Y	PM:Y	EPS:Y
Median		3.93B	448.30M	6.40B	18.08	4.41%	2.29%	1.28
100) TUTOR PERINI CORP	TPC US	1.38B	269.68M	4.97B	14.54	4.07%	1.93%	1.95
101) AECON GROUP INC	ARE CN	910.11M	122.12M	2.43B	17.40	3.04%	1.69%	0.62
102) SNC-LAVALIN GROUP I...	SNC CN	7.69B	416.17M	6.40B	27.20	4.81%	3.77%	1.28
103) STUART OLSON INC	SOX CN	142.27M	20.13M	687.08M	129.44	1.11%	0.13%	-0.14
104) FLUOR CORP	FLR US	7.05B	1.09B	19.04B	16.97	4.54%	2.29%	2.02
105) MASTEC INC	MTZ US	3.93B	448.30M	5.13B	21.85	5.52%	2.78%	1.63
106) KBR INC	KBR US	2.65B	139.00M	4.27B	--	2.20%	-0.42%	-0.43
107) CHICAGO BRIDGE & IR...	CBI US	1.81B	780.75M	10.68B	7.46	6.16%	4.10%	-3.05
108) JACOBS ENGINEERING ...	JEC US	8.26B	667.32M	10.02B	18.76	5.44%	3.72%	2.46

(Accounting Adjustments: Adjusted for Abnormal Items When Applicable)

10 Analyze List

Source: Bloomberg

Conclusion:

In conclusion, I am proposing a BUY for Tutor Perini Corporation (TPC). TPC is well positioned in their primary markets including NYC, Los Angeles, Seattle, Dallas, and San Francisco. TPC has consistently managed to secure large complex projects. They have grown their backlog 20% in the past year, with many quality large-scale projects that will generate revenues for a long period of time. TPC has focused on being able to handle diverse projects whether it be casinos to high-speed rail lines, and their ability to vertically integrate offers another competitive advantage. A one-year target price of \$37.14 can easily be achieved.

Tutor Perini Corporation (TPC)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by RICK

12/8/2017

Current Price:

\$25.55

Divident Yield:

0.0%

Intrinsic Value:

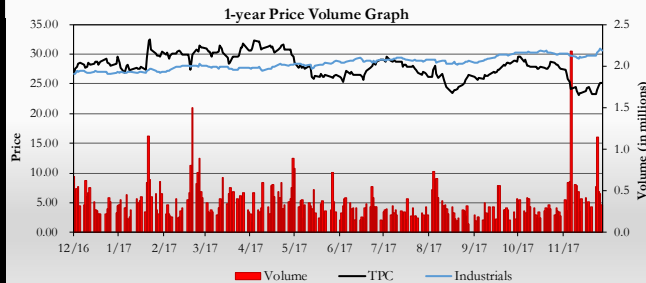
\$33.08

Target Price:

\$37.14

Target 1 year Return: 45.38%

Probability of Price Increase: 93%

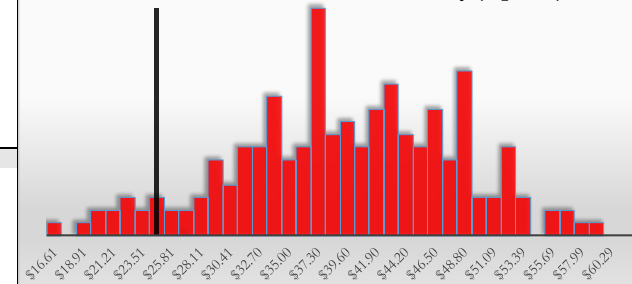


Description	
Tutor Perini Corporation provides diversified general contracting, construction management, and design-build services to private customers and public agencies worldwide.	
General Information	
Sector	Industrials
Industry	Construction and Engineering
Last Guidance	November 3, 2015
Next earnings date	February 24, 2018
Estimated Country Risk Premium	2.96%
Effective Tax rate	40%
Effective Operating Tax rate	40%

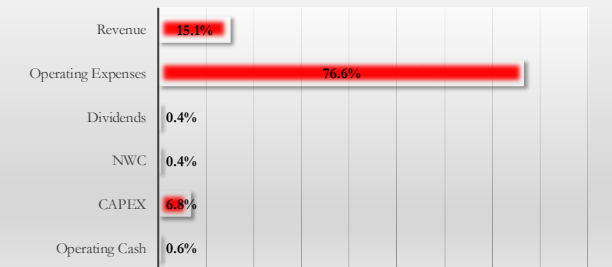
Market Data	
Market Capitalization	\$1,271.90
Daily volume (mil)	0.62
Shares outstanding (mil)	49.78
Diluted shares outstanding (mil)	50.70
% shares held by institutions	116%
% shares held by investments Managers	77%
% shares held by hedge funds	3%
% shares held by insiders	20.83%
Short interest	8.32%
Days to cover short interest	11.48
52 week high	\$33.00
52-week low	\$22.60
Volatility	43.49%

Past Earning Surprises			Peers	
Quarter ending	Revenue	EBITDA		
9/30/2016	0.22%	-2.54%	KBR, Inc.	
12/31/2016	-8.71%	-11.69%	Granite Construction Incorporated	
3/31/2017	-1.43%	9.42%	Fluor Corporation	
6/30/2017	-13.09%	-43.77%	Jacobs Engineering Group Inc.	
9/30/2017	-21.89%	-31.15%	AECOM	
Mean	-8.98%	-15.95%	Primoris Services Corporation	
Standard error	4.0%	9.6%	Quanta Services, Inc.	
Management		Position	Total compensations growth	Total return to shareholders
Tutor, Ronald		Chairman & CEO	5.13% per annum over 5y	-9.32% per annum over 5y
Frost, James		President, COO & Director	17.54% per annum over 5y	-9.32% per annum over 5y
Smalley, Gary		Executive VP, CFO & Principa	N/M	0% per annum over 0y
Shaw, Craig		Executive Vice President	-21.01% per annum over 4y	6.36% per annum over 4y
Casado, Jorge		Vice President of Investor R	N/M	N/M
Barrett, John		Executive VP, Treasurer & Co	N/M	N/M
Profitability		TPC (LTM)	TPC (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)		4.9%	4.44%	7.34%
Operating Margin		2%	1.98%	1.88%
Revenue/Capital (GAAP)		2.13	2.24	3.90
ROE (GAAP)		5.1%	6.1%	8.3%
Net margin		1.6%	1.9%	1.8%
Revenue/Book Value (GAAP)		3.28	3.30	4.66
Invested Funds		TPC (LTM)	TPC (5 years historical average)	Peers' Median (LTM)
Cash/Capital		3.3%	9.7%	31.3%
NWC/Capital		59.4%	33.4%	-4.4%
Operating Assets/Capital		13.9%	26.5%	44.7%
Goodwill/Capital		23.4%	30.5%	28.4%
Capital Structure		TPC (LTM)	TPC (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization		0.38	0.36	0.51
Cost of Existing Debt		8.2%	5.7%	4.4%
CGFS Rating (F-score, Z-score, and default Probability)		A	BB	BBB
WACC		8.0%	7.9%	8.6%

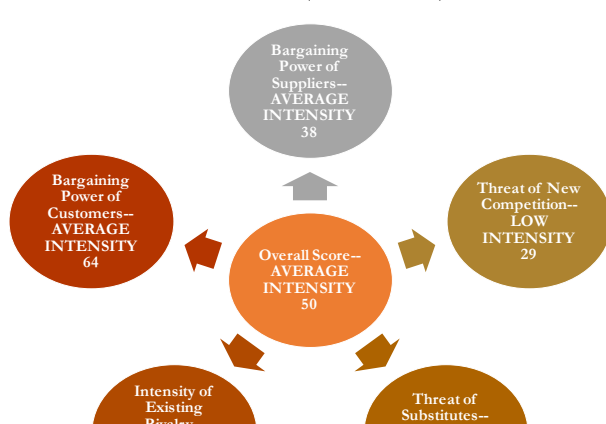
Intrinsic Value Distribution--Probability (Upside)=93%



Sensitivity Attribution Analysis



Porter's 5 forces (scores are out of 100)



Period	Revenue Growth Forecast	NOPAT Margin Forecast	Revenue to Capital Forecast
Base Year	-2%	2.6%	1.75
9/30/2018	9%	1.3%	1.74
9/30/2019	6%	1.8%	1.81
9/30/2020	1%	1.8%	1.79
9/30/2021	1%	1.6%	1.76
9/30/2022	1%	3.3%	1.75
9/30/2023	1%	3.1%	1.69
9/30/2024	1%	2.9%	1.64
9/30/2025	2%	2.8%	1.60
9/30/2026	2%	2.6%	1.57
9/30/2027	2%	2.4%	1.54
Continuing Period	2%	2.3%	1.52
Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	4.6%	8.0%	\$34.48
9/30/2018	2.2%	8.2%	\$38.90
9/30/2019	3.2%	8.3%	\$42.71
9/30/2020	3.2%	8.4%	\$46.47
9/30/2021	2.9%	8.5%	\$50.00
9/30/2022	5.7%	8.6%	\$53.28
9/30/2023	5.2%	8.7%	\$56.41

Albemarle Corporation: ALB

Nico Dumas

Sector: Materials

Industry: Chemicals

Current Price: \$127.48

Target Price: \$155.07

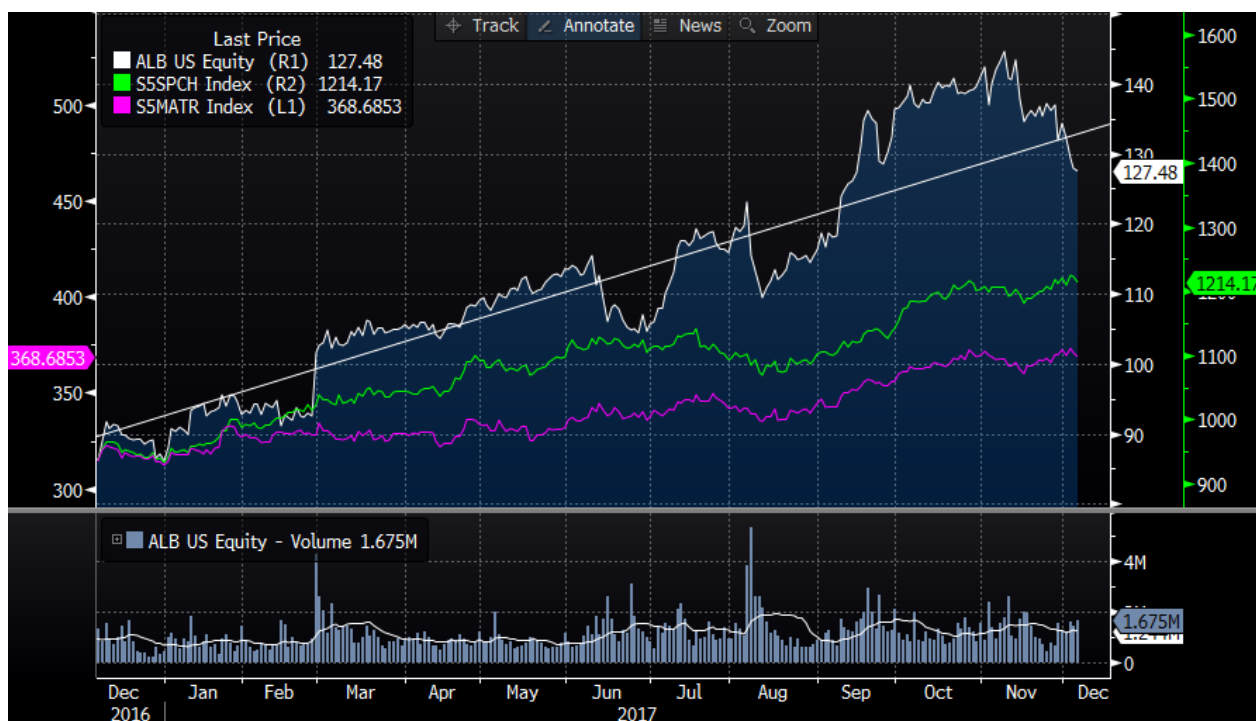
Albemarle Corporation is a large cap stock in the Chemicals Industry and Materials Sector. The company develops, manufactures, and markets engineered specialty chemicals worldwide. Albemarle generates revenues from three segments; “Lithium and Advanced Materials”, “Bromine Specialties”, and “Refining Solutions”. Geographically, 29.8% of their total revenue comes from the United States and 70.2% from the rest of the world. Albemarle sells their products to a range of markets, including automotive, construction, consumer electronics, crop protection, food safety, lubricants, pharmaceuticals, plastics, and refining.

BUY

Current Price:	\$127.48
Target Price:	\$155.07
Market Cap:	14.1B
Volume:	1.675M
52 Week Range:	\$85.60 - \$144.99
ROC:	10.63%
WACC:	10.4%
Cash EBITA Margin 6yr:	13.9%
Cash Net Margin 6yr:	14.2%
Short Interest:	4 days to cover

Catalysts:

- Short Term(within the year): Rockwood acquisition starting to provide synergies
- Mid Term(1-2 years): Widening margins and increased demand from Panasonic Corporation
- Long Term(3+): The emergence of electric vehicles across the globe

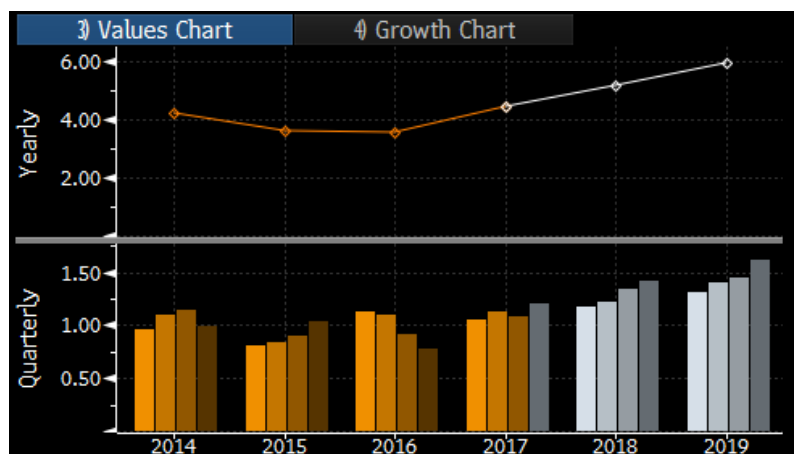


Thesis: Albemarle Corp, headquartered in Baton Rouge, Louisiana, is a premier specialty chemicals company with leading positions in attractive end markets around the world. The most valuable product that they sell is lithium and lithium compounds. With the emergence of Tesla and other auto manufacturers creating electric vehicles, the growth in demand for lithium is inevitable. Albemarle is the leading provider of lithium resources that are directly used in the batteries, which will keep these cars moving. Albemarle has also acquired a fellow lithium-based company “Rockwood Holdings, Inc.,” which is starting to increase margins in their lithium segment. The company operates through three segments, “Lithium and Advanced Materials”, “Bromine Specialties”, and “Refining Solutions”. The lithium segment recently became the main revenue driver along with increasing margins. Net profit margin nearing 30% for this particular segment. I highly recommend a buy for this company at its current price of \$127.48.



Earnings Performance:

Albemarle has consistently beat adjusted earnings projections for the last eleven quarters, revenue projections for eight. Bloomberg analysts are forecasting an adjusted earnings per share of 1.44 by quarter three of 2019. The growth rate between quarter three of 2016 and quarter three of 2017 was 18.7%. Using this CAGR, I forecasted the potential adjusted earnings per share the company could achieve by 2019, and received an eps of 1.52. This is based off of previous growth, not taking into account that we could very much see the demand for lithium increase. The stock’s price is reflective of these forecasts, and is undervalued in my opinion. Revenue projections for 2018 are at \$3.28 billion. Between the last two annual reports the company has produced an annual growth rate of 8.7%. Forecasted out to 2018 with this growth rate, we should expect revenue to reach



\$3.4 billion. This is a \$120 million undervaluation just based of their most recent growth rate. If lithium hits the market hard within the next few years with the emergence of more electronic/plug in vehicles, we should expect even larger returns from Albemarle.

Acquisition of Rockwood:

On January 12, 2015, Albemarle Corporation announced that it completed the acquisition of Rockwood Holdings, Inc. The deal was worth \$6.2 billion in a cash-and-shares deal. Rockwood's products directly deal with lithium-ion batteries and other advanced varieties of batteries. With this acquisition, Albemarle was projected to have "broader customer reach, increased diversity across end markets, technologies and geographies and more consistent and predictable earnings growth." The market reacted negatively at first to



this merger, but in 2016 the stock started to progress price-wise. In the beginning of 2016 ALB was trading around \$49 per share, by the end of 2016 the stock rose to nearly \$90 per share. I believe a large portion of this increase was due to the acquisition of Rockwood in 2015. The company's net profit margin for their lithium segment was 13.7% in quarter one of 2015, when the acquisition

occurred. Derived from Albemarle's most recent quarter, they now have a net profit margin of 30% in their lithium and advance materials segment. The acquisition of Rockwood has increased this profit margin significantly, due to all of the added synergies between the two companies. They are reaching a broader consumer base as well, with \$343.6 million in total revenue for the lithium segment in quarter three of 2017. This is a 72.8% increase since quarter one of 2015 (\$198.8 million). Albemarle is settling in and focusing on their most profitable segment, lithium. With the acquisition of Rockwood, they increased the inflows of revenues concerning lithium immensely. Albemarle currently has \$1 billion in cash on hand. The potential of more acquisitions such as this is highly likely, with expectations of booming lithium market in the near future.

Lithium Market:



Lithium is a key component in products and processes used in a variety of applications and industries. Lithium is the essential ingredient used in the production of lithium ion batteries for electronic devices, transportation vehicles and future energy storage technologies. On their website, Albemarle claims to be "the industry leader in lithium and lithium derivatives, one of the highest growth markets in the specialty chemicals industry." They obtain lithium through solar evaporation of their ponds at the Salar de Atacama, in Chile, and in Silver Peak, Nevada. They then process it into lithium carbonate and lithium chloride at nearby

plants. The migration from internal combustion vehicles to electronic vehicles is looking more and more likely. People are starting to realize the damage we are causing to the planet and are shifting to more eco-

friendly alternatives. The market for lithium will increase as far as the electric vehicle industry lets it. In an article I read, it said that “California has unveiled a particularly ambitious plan to switch completely over to electric-powered vehicles by 2030.” With more politicians around the world mandating a shift to eco-friendly vehicles, we will continue to see an increase in demand for lithium ions. One of Albemarle’s biggest customers is Panasonic Corporation. Panasonic recently entered into a partnership with Tesla, the largest electric vehicle producer in the world. Electronic vehicles have just begun to hit the market, we could see large gains for Albemarle when Tesla starts generating actual sales. The price chart to the right shows Albemarle compared to LIT,

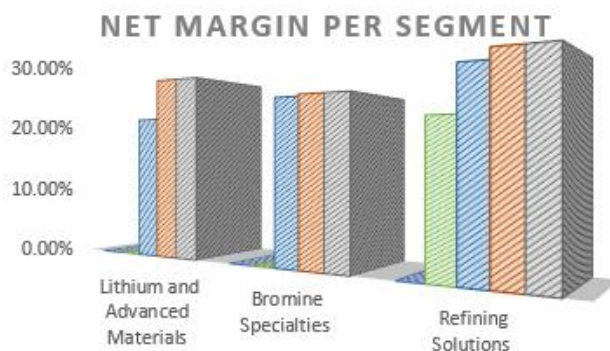
which contains companies that consume lithium in the production of batteries as well as lithium refining companies. It is pretty clear that the two have a correlation with each other. As the lithium market progressed, so did Albemarle at



similar percentages. In September, China released news that they have started to explore a ban on the production of cars fueled by petroleum, meaning gasoline or diesel. Lithium stocks soared 20%, along with Albemarle’s price increasing relative to the news. Albemarle currently has \$31.6 million in assets located in China. The country accounted for 13% of Albemarle’s net sales in 2016. If the ban actually occurs, we could see Albemarle’s stock soar. Recently the company’s stock has been below lithium’s on the price chart; historically they have been relatively the same, if not, ALB’s growth has been above LIT’s. This could show underpricing/undervaluation, forecasting that Albemarle will increase in price to return to the lithium market’s trend line.

Segments:

Albemarle operates through three different segments; lithium and advanced materials, bromine specialties, and refining solutions. Their lithium segment develops and manufactures a broad range of basic lithium compounds, including lithium carbonate, lithium hydroxide, lithium chloride, and value-added lithium specialties and reagents. In 2014, Albemarle created this lithium segment to their business along with bromine specialties; previously in one segment labelled “Performance Chemicals”. The bromine specialties segment of their company includes products used in fire safety solutions and other specialty chemicals applications, enhancing the flame resistant properties of materials. Albemarle’s refining solutions segment provides hydro-processing catalysts that upgrade oil fractions to clean fuels and other usable oil feedstock. In 2017, net



margin for the three segments were relatively close; ranging from 24% to 28%. Refining solutions actually had the largest margin at 28%. The stat that stood out to me the most was lithium’s net margin growth between 2015 and 2017. This margin grew 6%, from a 21%

margin to a 27% margin. This means that the company is becoming more profitable in their lithium segment, which I believe demand will increase in. Between the last two annual reports, lithium revenues grew 16%, while all other segments stayed relatively consistent. From 2014 to 2016, the lithium segment has increased from \$313 million in total revenue to \$968 million; growth of 209% over two years. The electric vehicle revolution hasn't even begun yet and the revenues from lithium have already started increasing.

Ownership and Management:

Albemarle has 110.5 million shares outstanding, with 99.6% of these shares available to the public. Vanguard currently holds the largest position in Albemarle, followed by Franklin Resources and Blackrock. Investment advisors account for 85.24% of the shares, hedge funds at 4.23%, and banks at 3.09%. Over the past week there hasn't been much movement in ownership. Insiders haven't been too active recently either, only selling off about 7,000 shares since June. They may be holding onto their stock in hopes of future gains due to lithium sales. Luke Kissam is the Chairman, President, and Chief Executive Officer of the company. Kissam joined Albemarle in September 2003 as Vice President and became CEO in 2011. Since he became CEO in 2011, the company's share price has more than doubled. Kissam has been with Albemarle for almost fifteen years; he knows the direction to lead this company. Compensation-wise these executives and officers earn a fair salary for managing a \$14 billion company. Luke is the highest earner at \$8.4 million per year, a large sum of this due to the stock's outstanding performance in 2016. Share price increased from about \$51 per share to \$90 per share over the course of 2016. This is a 76% increase in share price, resulting in an \$8.4 million salary for the CEO.

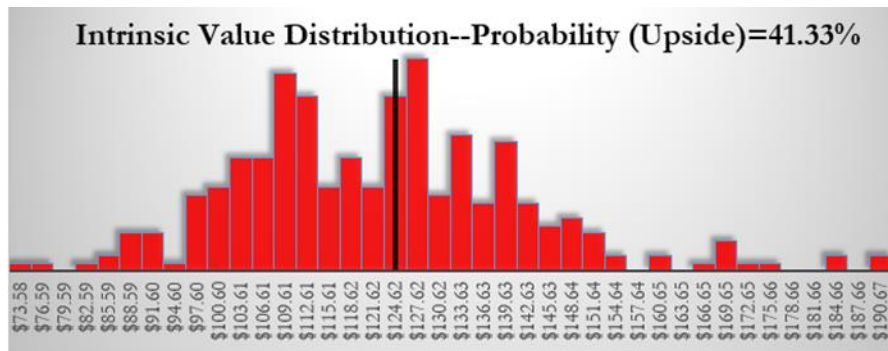
Name	Title	Total Compensation
1) Luther Kissam	Chairman/President/CEO	8,434,150 (USD)
2) Karen Narwold	Senior VP/Secretary/Ge...	3,719,925 (USD)
3) Scott Tozier	Exec VP/CFO	2,476,741 (USD)
4) Matthew Juneau	Exec VP:Corporate Stra...	2,025,637 (USD)
5) Susan Kelliher		1,834,320 (USD)
6) Donald Labauve	VP/Chief Acctg Officer	778,621 (USD)

Expected vs Worst Case:

Based on my research of Albemarle Corporation, I conducted two separate proformas with one year target prices. I evaluated the company using an expected scenario and a worst case scenario. For the expected case, I increased the revenue growth rate to 10% for 2018, and then decreased the rate of growth continuously by 1% until I reached the continuing period in 2028 (having a 1.96% convergence value). I also forecasted the operating cost to revenue to continue to decrease, yet at a slowed pace, to 70% even in 2028. Currently the



operating cost to revenue is 71.3%, decreasing 6.5% over the previous three years. I also projected continuing period operating costs to reflect last reported numbers. After running the Monte Carlo simulation, I received a one year target price for the company of \$155.07. With the current price at



\$127.48, this is a 21.6% return or \$27.59 profit per share. I also ran a worst case scenario with different assumptions for the company. Although these are highly unlikely, I ran a projection to show the possible downside for Albemarle. For this proforma, I used growth rates suggesting that the company

was reaching maturity. I decreased the revenue growth rate year over year from the base year to a convergence rate of 1.96%. I also increased operating costs to revenue 2%, now at 73% for the continuing period in 2028. For operating expenses, I used the historical averages for Albemarle, which were significantly higher than their most recent periods. Although these outcomes are highly unlikely, the downside was only a one year loss of \$2.86 per share (2.2% loss). As a result, the possible upside I forecasted from investing in ALB over the next year is a 21.6% return whereas the possible downside is only a loss of 2.2%. This is an overall weighted average of 9.7%, giving both possible outcomes equal weights.

Conclusion:

Albemarle Corporation is a company with a remarkable history of innovation, collaboration, and environmental stewardship. The previous two years have been prosperous for the company, share price reaching all time highs. With the acquisition of Rockwood in 2015 and a promising lithium market, we should expect continued growth from Albemarle. Electronic vehicles have just begun to make there entrance into the market, I can't wait to see how much they progress. I recommend a strong buy at the stock's current price and to hold for a couple of years as Tesla becomes larger with lithium companies right behind them.

Albemarle Corporation (ALB)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by Nico Dumas
12/6/2017

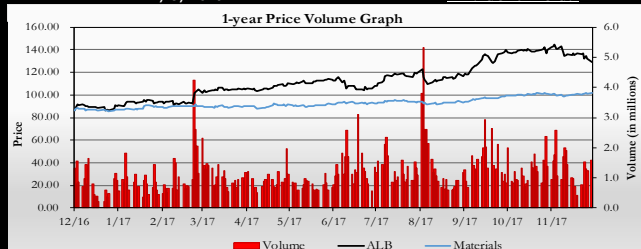
Current Price:
Divident Yield:

\$127.48
0.9%

Intrinsic Value
Target Price

\$143.84
\$155.07

Target 1 year Return: 22.59%
Probability of Price Increase: 94.67%

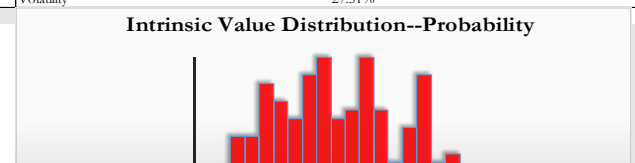


Description	
Albemarle Corporation develops, manufactures, and markets engineered specialty chemicals worldwide.	
General Information	
Sector	Materials
Industry	Chemicals
Last Guidance	November 3, 2015
Next earnings date	February 27, 2018
Estimated Country Risk Premium	1.48%
Effective Tax rate	7%
Effective Operating Tax rate	7%

Market Data	
Market Capitalization	\$14,085.99
Daily volume (mil)	1.68
Shares outstanding (mil)	110.50
Diluted shares outstanding (mil)	112.73
% shares held by institutions	116%
% shares held by investments Managers	83%
% shares held by hedge funds	3%
% shares held by insiders	0.35%
Short interest	5.64%
Days to cover short interest	4.63
52 week high	\$144.99
52-week low	\$85.60
Volatility	27.51%

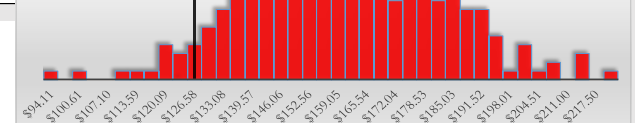
Past Earning Surprises	
Quarter ending	Revenue
9/30/2016	0.45%
12/31/2016	8.99%
3/31/2017	6.32%
6/30/2017	0.33%
9/30/2017	2.84%
Mean	3.79%
Standard error	1.7%

EBITDA	
9/30/2016	1.43%
12/31/2016	-11.93%
3/31/2017	5.46%
6/30/2017	-2.89%
9/30/2017	0.52%
Mean	-1.48%
Standard error	2.9%



Management	Position
Kissam, Luther	Chairman, Chief Executive Of
Tozier, Scott	Chief Financial Officer and
LaBauve, Donald	Chief Accounting Officer, Vi
Narwold, Karen	Chief Administrative Officer
Juneau, Matthew	Executive Vice President of
Mendoza, Ashley	Communications Director

Total compensations growth	Total return to shareholders
11.37% per annum over 5y	-0.33% per annum over 5y
-15.14% per annum over 4y	5.07% per annum over 4y
N/M	N/M
3.35% per annum over 4y	5.07% per annum over 4y
-11.2% per annum over 3y	-0.24% per annum over 3y
N/M	N/M



Profitability	ALB (LTM)
Return on Capital (GAAP)	2.9%
Operating Margin	9%
Revenue/Capital (GAAP)	0.32
ROE (GAAP)	43.0%
Net margin	40.6%
Revenue/Book Value (GAAP)	1.06

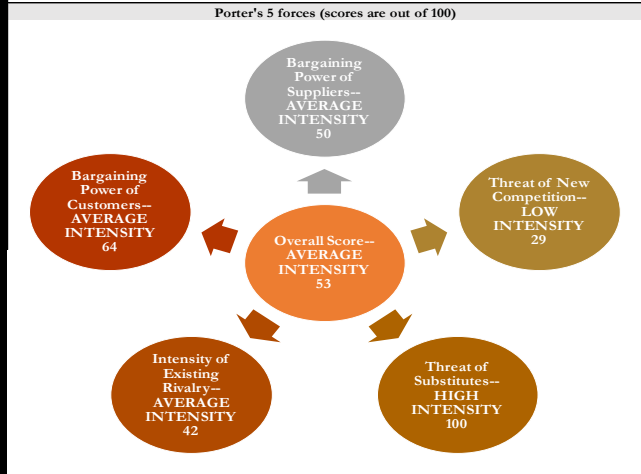
ALB (5 years historical average)	Peers' Median (LTM)
6.40%	6.60%
12.94%	7.06%
0.49	0.94
8.1%	10.9%
14.3%	4.8%
0.57	2.30

Invested Funds	ALB (LTM)
Cash/ Capital	-10.7%
NWC/ Capital	12.4%
Operating Assets/Capital	73.0%
Goodwill/ Capital	25.4%

ALB (5 years historical average)	Peers' Median (LTM)
11.5%	6.6%
10.2%	17.2%
71.3%	53.0%
6.9%	23.2%

Capital Structure	ALB (LTM)
Total Debt/Market Capitalization	0.31
Cost of Existing Debt	2.5%
CGFS Rating (F-score, Z-score, and default Probability)	AA
WACC	3.3%

ALB (5 years historical average)	Peers' Median (LTM)
0.27	0.62
3.7%	5.0%
BBB	BBB
5.0%	6.1%



Porter's 5 forces (scores are out of 100)	
Period	Revenue Growth Forecast
Base Year	8%
9/30/2018	10%
9/30/2019	9%
9/30/2020	8%
9/30/2021	7%
9/30/2022	6%
9/30/2023	5%
9/30/2024	4%
9/30/2025	3%
9/30/2026	2%
9/30/2027	1%
Continuing Period	2%
Period	Return on Capital Forecast
Base Year	6.7%
9/30/2018	9.3%
9/30/2019	9.8%
9/30/2020	9.8%
9/30/2021	9.8%
9/30/2022	8.7%
9/30/2023	8.4%
9/30/2024	8.1%
9/30/2025	7.7%
9/30/2026	7.3%
9/30/2027	6.9%
Continuing Period	6.6%

Valuation	
NOPAT Margin Forecast	Revenue to Capital Forecast
19.7%	0.34
20.7%	0.45
22.0%	0.45
22.5%	0.44
23.0%	0.42
21.2%	0.41
21.3%	0.39
21.4%	0.38
21.3%	0.36
21.3%	0.34
21.2%	0.33
21.2%	0.31
WACC Forecast	Price per share Forecast
3.3%	\$145.68
6.1%	\$157.17
5.9%	\$167.01
5.8%	\$176.98
5.9%	\$187.35
5.6%	\$197.46
5.5%	\$207.44
5.5%	\$217.62
5.5%	\$227.98
5.4%	\$238.21
5.4%	\$248.42

Brooks Automation: BRKS

Hunter Sanna

Sector: Technology

Industry: Semiconductor Equipment /Material

Current Price: \$23.01

Target Price: \$ 32.56

Company Description: Brooks Automation Inc. operates in the provision of automation and cryogenic solutions for multiple markets, including semiconductor capital equipment and life science biological sample management. They currently operate through two segments which are Brooks Semiconductor Solutions and Brooks Life Science System. The semiconductor segments includes atmospheric and vacuum robots, as well as tool automation systems. The Life Science Systems segments automates cold sample management system for biological sample storage, preparation, handling, consumables and parts and support services.

BUY

Current Price:	\$23.01
Target Price:	\$32.56
Market Cap:	\$1.58B
Volume:	1,226,197
Shares Sold Short:	3.04%
Days to Cover SI:	2.66
EBITDA Margin:	21.97%
ROIC:	9.04%
WACC:	6.4%
Dividend Yield:	1.6%

Catalysts:

- Short Term: Continue to drive sales in a niche market.
- Mid Term: Advance growth within the Life Science Systems segment.
- Long Term: Improvement on profitability with margin expansion as the Life Science segment grows.



Thesis:

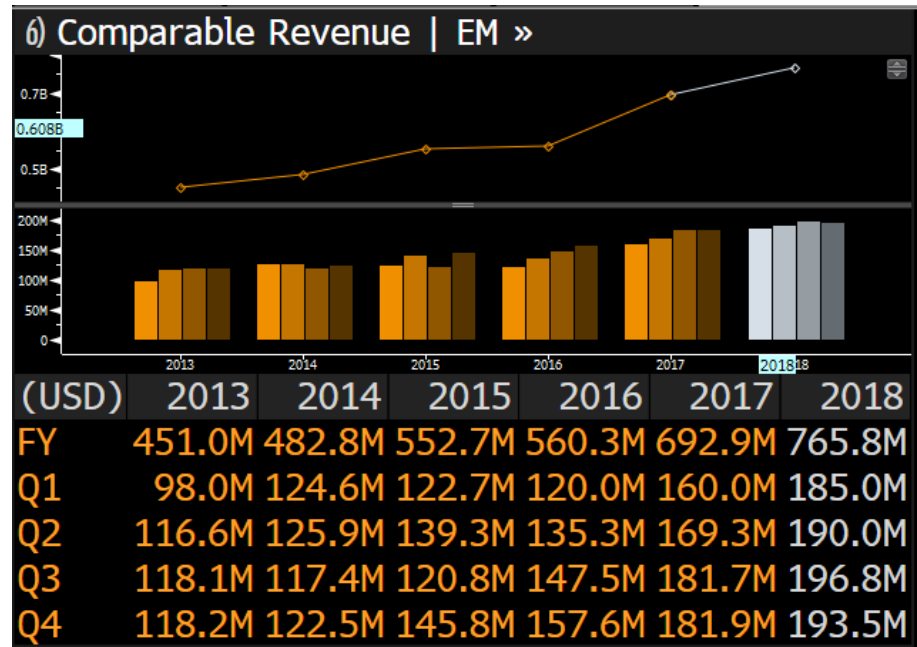
Brooks Automation is well positioned to expand and execute their long term strategy looking forward. With demand for semiconductors at an all time high, and the life science segment of the company growing fast and is well positioned to beat earnings for the current year.

Earnings Performance:

Brooks Automation experienced the eighth consecutive quarter beating estimates due to their portfolio of strong market leading technology. Total revenues totaled at \$182 million up 7% from March and 23% year over year. This growth was driven by an 8% increase in the semiconductor segment and a 6% increase within the Life Science segment. Growth was experienced in both segments due to strong momentum in the capital equipment space, as well as expanding market share in key growth segments. Management has proven to be able to continue to cut costs and improve efficiency while they advance product development and sales activity.

Within the Life Science segment revenue reached \$37 Million, an increase of 6% from Q2 and representing organic growth at 27% year over year. Gross margins this quarter came in relatively soft at 38% a two percent decrease from the previous quarter. This was a result of softness within the storage and infrastructure business. Management expects to return these margins back to 40% where they have been steady. Along with strong earnings within this segment, \$42 million of new contracts have been signed this quarter which added some additional backlog.

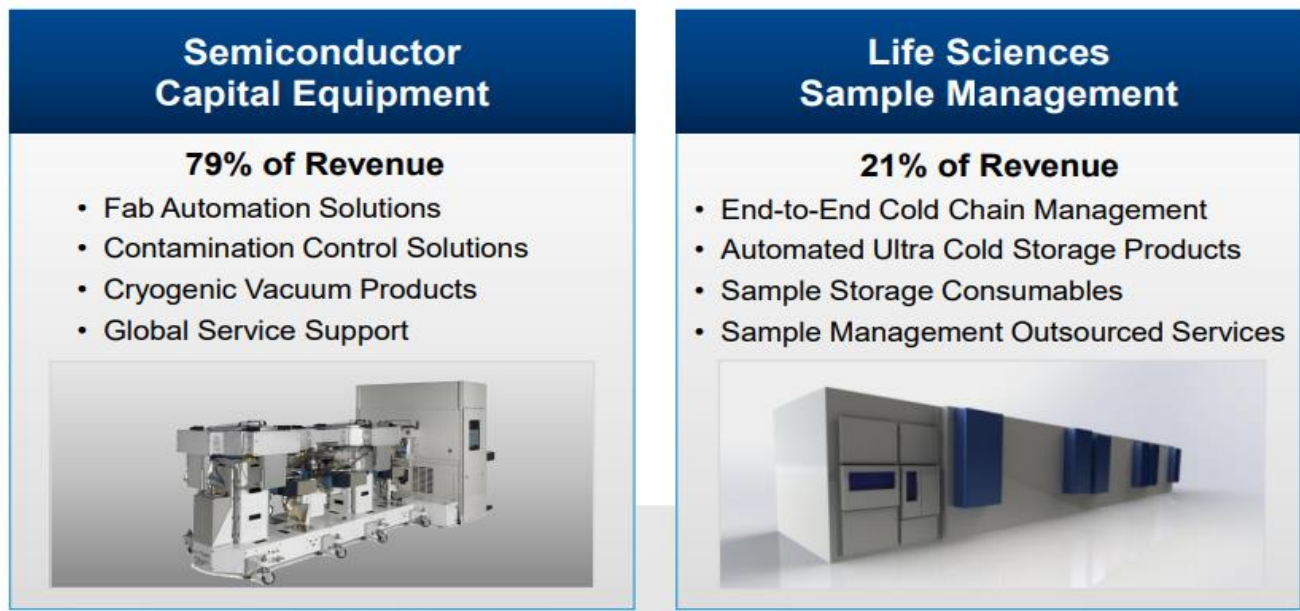
The semiconductor business produced revenue totaling \$145 million an increase of 8% from the previous quarter. This increase was primarily due to etch/dep vacuum, ccs, and ap products, which are key high growth areas within the business. This quarter BRKS also reached gross margins above 40%, which was caused by added value products and an emphasis on reducing fixed costs.



Market Segments:

Semiconductors:

Brooks semiconductor segment currently makes up most of their revenue at around 79% of total revenue and producing operating margins of 16%. Within this segment management has been successful in breaking down this segment into two major sub-segments; Stable leadership and Tech Drivers. The stable leadership segment mainly consists of ATM Robots, cryopumps, and services. The stable leadership sub-segment is approximately 55% of the total semi business and has been labeled as a “slow growth” category due to exiting the atmospheric robot business joint venture with Yasakawa in 2015. The “slow” segment has been projected to have a decline of 1% in sales but, will be offset by the Tech Drivers sub-segment. The Tech Drivers sub-segment consist of wafer-level packaging, contamination control, and dep & etch. The “fast growth” sub-segment has been refocused by management and has done exceptionally well this year producing an overall growth rate of 39%. This sub-segment currently is growing faster than the WFE market growth rate of 16%, with CAGR in deposition & etch at 21%, wafer-level packing at 26%, and contamination control respectively at 42%. This leaves BRKS to have strong organic growth of 20% this year. Brooks is a leading manufacturing within the semiconductor business and supplies to many major companies such as, Lam Research, Applied Materials, Samsung, and TSMC. Management projects a 2-8% CAGR until 2019 which will attribute to growth of the overall company.



Life Science Systems:

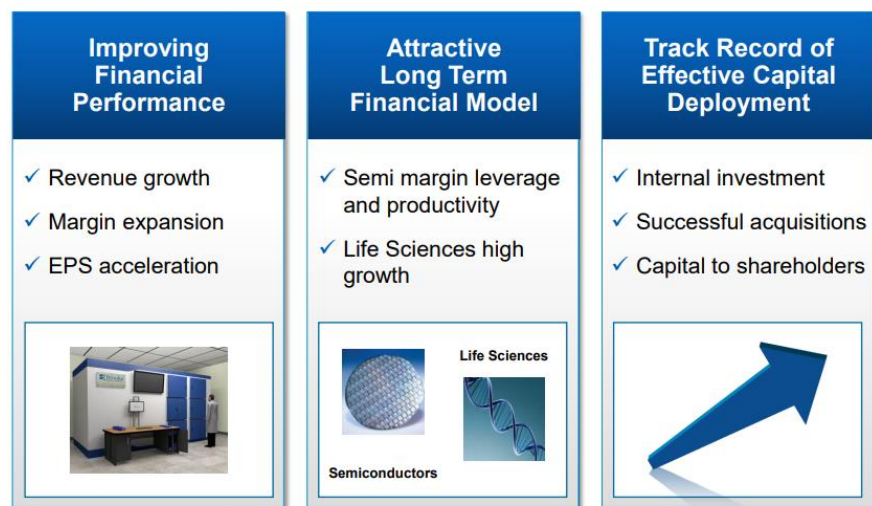
The Life Science segment is growing well as recurring sales increase. Currently, this segment is responsible for 21% of total revenue, but with management’s long term strategy we should see this segment create more revenue in the future. Currently, operating profits in this segment remain low at around 5%, but there is major room to grow and management projects these margins to reach 15%+ by 2019. The Life Science segment can be further broken down into end-to-end cold chain management (tools), automated ultra-cold storage products, sample storage products, sample storage consumables, and sample management outsourced services. A major part of the sales within this segment are recurring sales which recently reach \$42 million, up \$7 million after Q3. Storage solutions represents the majority of the life science segment at around 43% of their total sales, and has seen very strong momentum to have a projected growth rate year over year of 50% in 2018. Tools makes up 39% of their total sales within this segment and has strong expectations to start growing due to BRKS install base. Growth within the tool segment is expected to be the highest at 55%

year over year growth. The consumable sub-segment makes up 18% of sales and expected to see flat line growth of around 1%. Being innovative is a must and continually releasing new products such as B3 Cryo which produced \$5 million in revenue this year will help sales in the future. In the most recent quarter Brooks had international market penetration and gained 26 new customers. Their clients are diversified into pharmaceutical/biotech, healthcare/biobanks, and academic/government, selling too many significant players such as AstraZeneca, Johnson & Johnson, University of Cambridge and the National Cancer Institute. Recently an exciting new product was released. It is a new universal instrument which can cap and de-cap 96 sample tubes of various types and is the first in the market that can do that. Management plans to have a strong growth focus to increase this segment to be a greater percentage of their revenue.

Growth Strategy:

Moving forward Brooks has a motivated management team that has continue to grow their business especially within the life science segment. The strategy moving forward for BRKS is to extend their leadership in core markets, advance growth of the life science segment, drive margin expansion, and have a balanced and disciplined capital deployment. Currently, BRKS is a market leader within the semi business operating

as market leaders within three of the four businesses they partake in. The life science segment is still growing but they are leading within the automation infrastructure marketplace and will continue to do so moving forward. A large part of this strategy is to have the life science segment increase revenue to make up around 30% of their business. Management projects the long term growth rate in this segment to be around 20% which could really drive value creation for the business. Operating margins have been a point of emphasis for Brooks and management has been driving to cut fixed costs and continue to deliver better margins each quarter. The life science segment may have a low operating margins at this point but, with this being a relatively new segment the opportunity for growth is available. The currently capital deployment strategy is to grow the organically at 42%, inorganically at 40%, and give shareholders a return which makes up 18% of their capital deployment. Many businesses have been acquired to grow the life science division, and have been successful due to a high criteria to be acquired. The target focus for acquisitions is to expand the cold chain capabilities of BRKS as well as the storage services and informatics of the company. To help with acquisitions BRKS has a 7 year secured senior term loan of \$200 million with an interest rate of LIBOR +250bps, but have yet to use it and operate with no debt.



Competitors:

Create Template	FINAL F...	fund1	FUND UP...	Fund v2	FUND				
Name	Ticker	Mkt Cap	P/E	EBITDA to Net Sales:Q	Sls 3Yr Avg	Rev - 1 Yr Gr:Q	SI % Eqty Flt	ROIC/WACC Ratio	
Median		2.85B	20.09	26.79%	13.17%	27.74%	2.73%	1.45	
100) BROOKS AUTOMATION INC	BRKS US	1.68B	23.19	13.68%	13.17%	15.44%	3.11%	0.70	
101) ADVANCED ENERGY INDU...	AEIS US	2.85B	14.04	30.72%	-1.88%	39.53%	2.73%	3.97	
102) MKS INSTRUMENTS INC	MKSI US	5.20B	20.09	26.79%	26.69%	27.74%	2.73%	1.45	

Due to the nature of the business I split BRKS competitors based on the two segments they focus in. The main competitors that operate in the semiconductor space are AEIS and MKSI. On a P/E scale Brooks beats competitors and leads the market. The EBITDA margin for Brooks is lagging against competitors but has room to grow because of a current low operating profit within the life science segment. Also the competitors only operate within the semi space so there will be some skewed data against these competitors. The average three year sales is in line with the industry but in 2015 BRKS had a negative sales growth in the first half of the year which has caused some softness. Revenue growth is strong for Brooks at 15% but, against competitors is soft mainly due to the giant demand within the semi segment many of these companies have been booming due to the spike in sales.

Name	Ticker	Mkt Cap	P/E	EBITDA to Net Sales:Q	Sls 3Yr	Rev - 1 Yr Gr:Q	SI % Eqty Flt	ROIC/WACC Ratio	
Median		5.23B	30.83	14.53%	8.43%	12.26%	2.15%	0.86	
100) BROOKS AUTOMATION INC	BRKS US	1.68B	23.19	13.68%	13.17%	15.44%	3.11%	0.70	
101) BRUKER CORP	BRKR US	5.32B	39.38	15.38%	-4.22%	10.59%	2.57%	1.25	
102) CHARLES RIVER LABORAT...	CRL US	4.88B	23.04	23.15%	13.24%	9.05%	3.27%	1.16	
103) CATALENT INC	CTLT US	5.23B	36.65	13.04%	4.47%	23.00%	1.74%	0.61	
104) PAREXEL INTERNATIONAL...	PRXL US	--	--	11.72%	2.52%	3.15%	1.61%	1.02	
105) THERMO FISHER SCIENTI...	TMO US	74.44B	30.83	22.54%	12.40%	13.92%	1.05%	0.56	

Within the life science segment Brooks competes very well on many levels. On a price to earnings metric they are near the bottom of the list but, taking into account the semiconductor side of the business that makes up a majority of their revenue this is normal to be below healthcare companies. The EBITDA margin is below industry median and competitors due to the softness in margins within the life science segment, but positively speaking there is room to grow these margins just as competitors do. Sales growth relative to competitors have had an increase and is at the top of their class within sales.

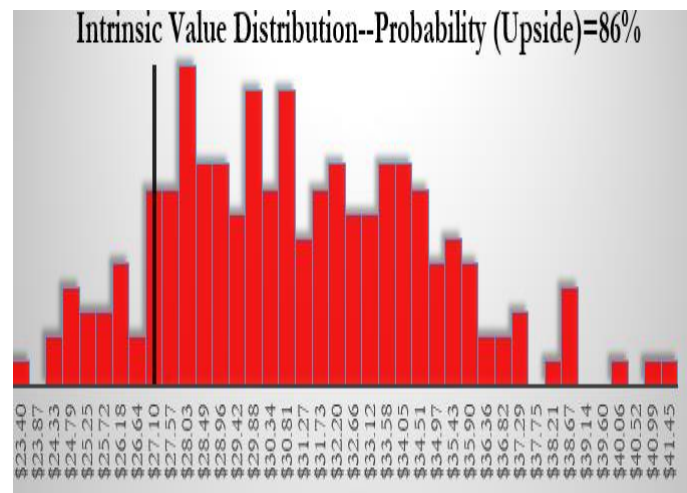
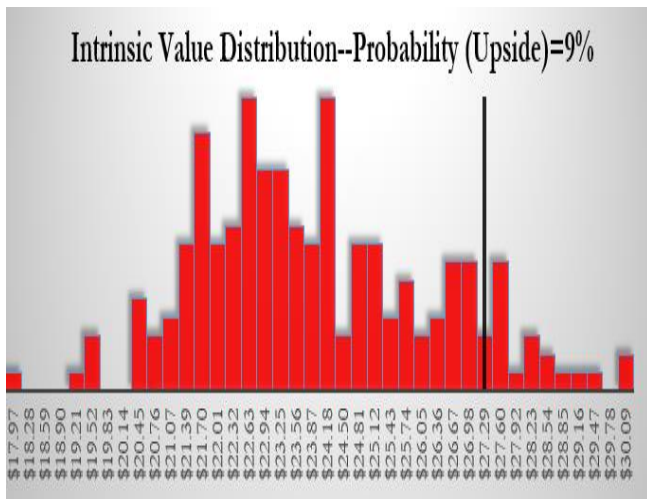
Ownership:

Throughout the past year BRKS has seen a large change in positions within hedge funds. These managers a year ago made up less than one percent of the total ownership but now accounts for around 8% of the stocks ownership. As hedge fund managers are buying into the stock investment advisor are selling their shares, with a change around 9% over the year. Hedge fund managers see as this company has growth potential that will bring for the price is worth the buy at this time. Although the heavy sell off within the advisors it has had little effect on the stock's price. Due to a low short interest and days to cover respectively at 3.04% and 2.66 days to cover this shows that many people do not feel the need to short this stock due to the growth capability.

Compare Current Stats Against	12/03/16				
Ownership Type	11/27/16	Curr ↓	Change		
11) Investment Advisor	92.06	83.29	-8.77	✓	
12) Hedge Fund Manager	0.97	7.74	+6.77	■	
13) Individual	3.22	2.89	-0.33	■	
14) Pension Fund	1.18	2.42	+1.24	■	
15) Insurance Company	1.04	1.18	+0.14	■	
16) Bank	0.18	0.83	+0.65	■	

What-If Analysis:

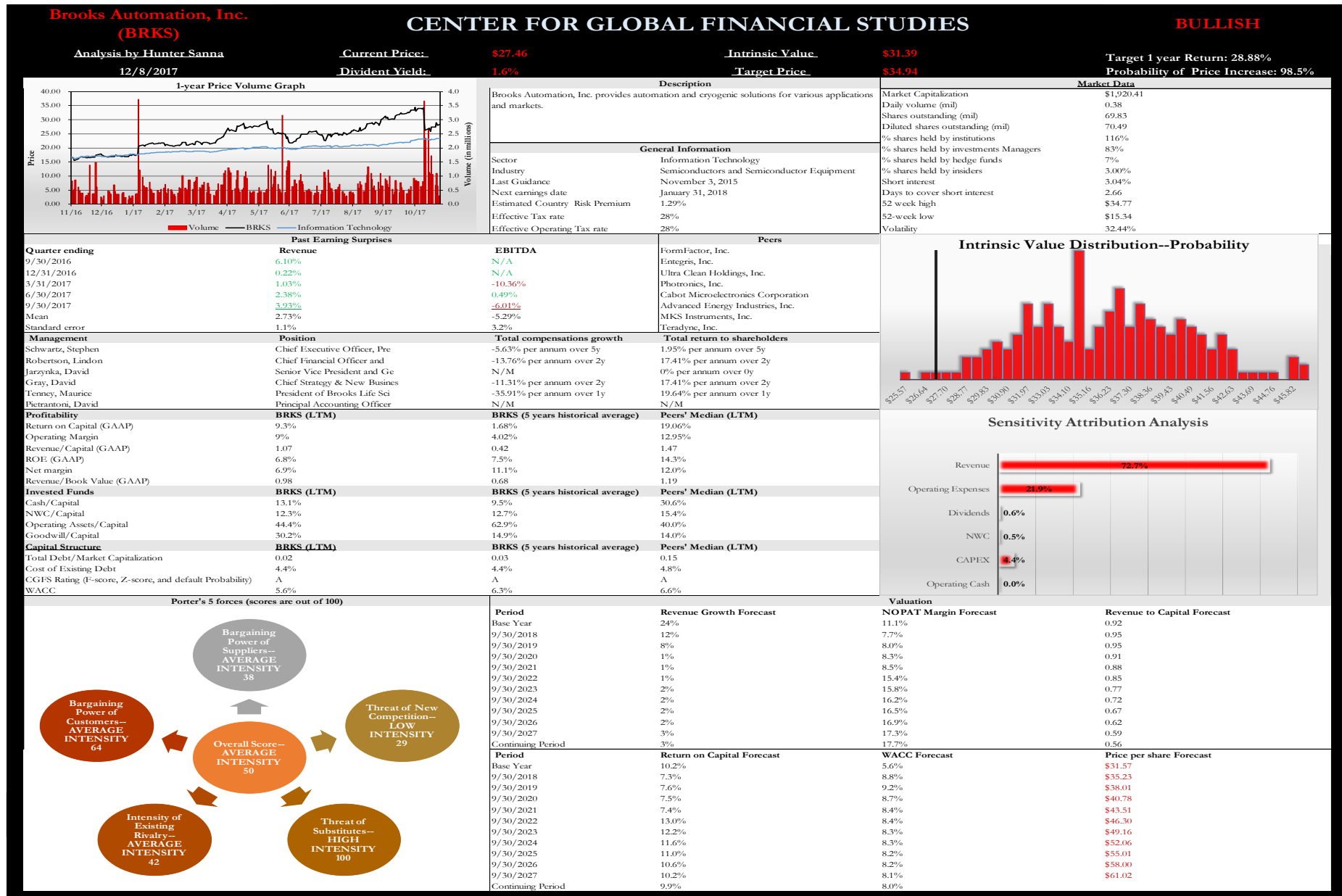
By running a what-if analysis one can have an idea of what return a stock can have given different scenarios. Though my scenario analysis I gave Brooks a conservative growth rate converging to 2% in ten years and increase operating margins by 3% to 78%. Given these conditions one would see a return of around 10% and a target price of 32.56. This would be a realistic case for BRKS given the expansion of the life science segment. A bear case would be growth converting to 1% and operating margins not changing staying at 82.5%. This would be the case if the semi demand sharply decreases as well as the life science system. This scenario would have a price decrease of -12.58% for a price of \$23.28. This scenario is unlikely to happen given the space the company operates in but it is possible.



Conclusion:

Brook's Automation is poised for growth in the future given the market the company operates in. Semiconductor demand has been high this year and looking forward should continue to grow. The life science segment is where value will be created due to a long-term strong growth rate and high operating margins that will drive revenues higher.

Below, insert a screenshot of your “OUTPUT” page from the Pro-Forma. Or, if you built your own model, insert screenshot of it here.



Central Garden & Pet Company (CENT)

Tommaso Centemero

Sector: Consumer Staples

Industry: Household Products

Current Price: \$42.02

Target Price: \$47.86

Central Garden & Pet is a leader in the pet and garden supplies industries in the United States. The company innovates, markets and produces quality branded products and also distributes third party merchandise. The pet segment is the most predominant in the company, including products for both dogs and cats such as edible bones, food, cages, toys, chews; and also products for fish, reptiles and aquarium-based pets. The lawn and garden supplies segments include products such as grass seed, wild bird feed, bird feeders, birdhouses, weed, grass, herbicides, pesticides and so forth.

BUY

Current Price:	\$42.02
Target Price:	\$47.86
Target Return:	13.9%
Market Cap:	2.1B
Rev. Growth YoY	12.33%
EBITDA Growth YoY:	17.41%
Cash EBITDA Margin:	6.99%
ROIC:	9.34%
WAAC:	8.3%
Total Debt/Equity:	62.1%



Thesis: Central Garden & Pet's stock has grown 25% since the beginning of the year, as the company recorded its second consecutive year in double-digit growth in revenues. The company will continue its

Catalysts:

- Short Term(within the year): Through investments in product innovation, demand creation and consumer insights, the

strong momentum as investments in product innovation will enable them to diversify its portfolio of products even more and attain a greater market share. In addition, the company will continue to increase its earnings as growth in EBITDA outpaces the revenue growth, as a consequence of the fastest growth of the pet segment and the focus on optimizing the supply chain footprint and achieve cost synergies integrating acquired companies. Lastly, the company will continue its aggressive M&A campaign, acquiring companies that will add value to the company and increase its sales.

company will increase its market share and lead to higher revenues.

- Mid Term(1-2 years): The company's profitability will continue to increase as the pet segment (most profitable) continues to outpace the garden segment and as EBITDA grows at a faster rate than revenue.
- Long Term(3+): An aggressive M&A strategy will enable the company to acquire potential firms that will contribute to an increase in market share and therefore add value to the company.

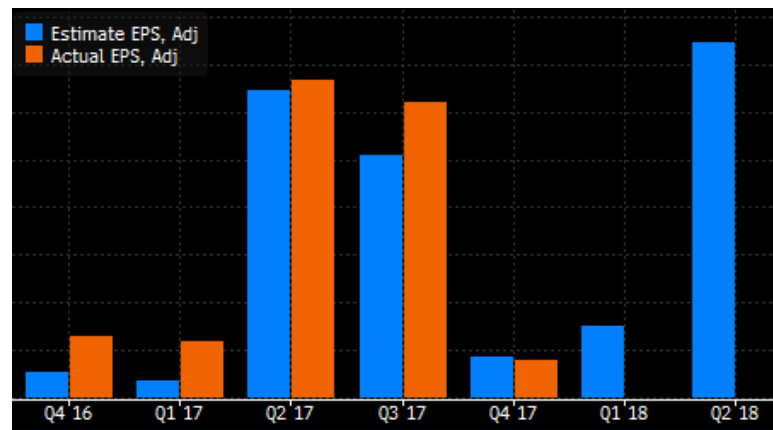
Business Overview:

Central Garden & Pet Company was founded in 1980, as a result of several acquisitions. Originally a distribution company, now Central has its own private label and is placed as a leader in the market with several brands in the lawn and garden supplies and the pet industry. Currently, only 21% of its revenue is generated through distribution, with the remaining achieved by the sale of products within the firm's private line. The firm has invested a substantial amount of capital in product development and such commitment has achieved recognition in the market, as Walmart and Lowe's currently place the company among its top suppliers. Since 1980, the company has executed over forty acquisitions, making inorganic growth a key factor of its success over the years. The company bases its operations under a five-pillar strategy, which includes accelerating the growth momentum of the portfolio, building strong customer relationships, increasing innovation output and success rates, driving cost savings and productivity improvements to fuel growth and attracting, developing and retaining exceptional employees. Such strategy has brought success to the company in the past and the forecast is that such growth will continue to thrive. CENT is currently traded at \$42.02 and grew by roughly 25% year-to-date. The pet segment makes up for 61% of the company's sales and is currently the most profitable, while the lawn and garden supplies segment accounts for the remaining 39% of the revenue. The pet segment includes products such as animal health consumer and professional products, wild bird feed, aquatics, dog & cat supplies and threats, equine products and other third party distributed products. The garden segment includes products such as fertilizers, grass seeds, decoration, wild bird feed, bird feeders, birdhouses, weed, grass, herbicides, pesticides.



Earnings Performance:

The fourth quarter of 2017 presented a positive end on the fiscal year, as the company achieved the 2 billion mark in revenues. The company beat the last five out of seven revenue estimates and beat the last seven out of eight earnings estimates. On Q4 2017, Central Garden & Pet continued to surprise analysts as it beat earnings estimates by 25% and revenue estimates by 3.4%. For the second consecutive year, the company grew its revenue at double-digits. Revenue grew at a



rate of 19% compared to Q4 2016, with 4% of it being organic and the remaining 15% generated through accretive acquisitions. Throughout FY 2017, Central Garden & Pet completed the acquisition of K&H Pet Products, the leading manufacturer of heated and cooled pet beds, and Segrest, the leading wholesaler of fresh water aquarium fish. Both acquisitions integrated quickly to Central's operations and led to significant returns as products offered by both companies contributed to attract customers to brick-and mortar locations. In regards to segment, the garden supplies segment revenue grew by 12% compared to a year ago, with 4% of it being organic and the rest generated through acquisitions. On the other hand, the pet segment outpaced it, growing at a rate of 22%. Out of the 22%, only 3% was organic, with a large contribution derived from recent acquisitions. Operating margin decreased by 20bps because of an increase in SG&A expenses but the gross margin increased substantially at a rate of 21% as a consequence of the continuous increase in profitability on both segments. As Q4 is seasonally small, the effect of the increased CAPEX was felt more heavily than usual, although not particularly affecting the company. Depreciation and amortization remained unchanged from a year ago, with cash on hands decreasing as a result of the acquisitions executed throughout the fiscal year. Looking ahead, Central Garden & Pet looks to increase its organic growth by reinvesting cost savings achieved throughout the year and by using the increased cash flow plus debt to finance an aggressive M&A campaign, which will continue the significant inorganic growth that the company has expressed in the past years.

Accretive Acquisitions:

Acquisitions have been a key factor for the success of Central Garden & Pet in the past years. The company is oriented towards inorganic growth and has made of M&A's its primary tool for market share expansion. Since its Foundation in 1980, the company has executed more than forty acquisitions, expanding in both pet and garden supplies segments. As of now, approximately 21% of the Central's revenue is derived from distribution of third products, a factor that was enabled by successful acquisitions. In the last quarter, the company experienced a 12% growth in revenue from last year, with 7% as inorganic growth. Such inorganic growth was generated with the acquisition of K&H Pet products, a company specialized in heated and cooled pet beds, Segrest Farms, a company that sells fishes, and a minority stake of Capital Pet, a firm focused on the merchandising of pet food and supplies. Most of the company's recent acquisitions were financed with cash on hands, but the premiums on each transaction are undisclosed. Central Garden & Pet constantly reiterates

its focus on businesses of manageable size and with a proven management that will add value and achieve cost synergies with the company. Historical returns express the fact that, on average, past acquisitions brought significant returns to the company within a year from the completion of the transaction. In addition, the company has been successful in recognizing in a timely fashion situations when acquisitions were not achieving the desired results. Consequently, the company recently exited the market of veterinary products in order to focus on areas with a better margin of growth. The primary focus of the company is to continue to diversify its portfolio and, looking forward, Central is optimistic in continuing its inorganic growth as it research for new opportunities to expand its market share. In the last four years, the company has had a substantial cash flow from operations, which allowed them to invest aggressively in cash acquisitions and it expects to continue to do so as the company rides along this positive momentum.



Segment Analysis:

In an industry of relatively low profit margin and a market presenting a slow CAGR, any profitability enhancement is extremely valuable. On both segments, EBITDA growth has been outpacing revenue growth by a substantial amount. On the pet segment, while revenue grows at a 3-year CAGR of 15.72%, EBITDA has been growing at a compounded annual growth rate of 24.23% on the last 3 years. Similarly, on the garden supplies side, EBITDA has grown at a 3-year CAGR of 41.71% while revenue grows at a 3-year CAGR of 2.49%. On both segments, such growth difference between this metrics has allowed the company to expand its EBITDA margin to 9.68%, up from a margin of 7.58% three years ago. In addition, the higher growth of the pet segment in relation to the garden supplies segment has contributed to the EBITDA margin increase, as the Pet segment is currently far more profitable in comparison to the other. By outpacing the garden segment, the pet segment now consist of 61% of the total revenue of Central Garden & Pet, in comparison to the 54% computed in 2015. Looking forward, as the company looks to increase its market share through a combination of accretive acquisitions and product innovation; I forecast that both segments will benefit from it, although slowly tapering off on the continuing period as the industry is currently presenting a sluggish growth. The pet segment will still slightly outpace the garden segment as demand for its products is higher. Additionally, the growth in EBITDA will still outpace revenue growth as the company works on optimizing its supply chain footprint, increasing operating efficiencies in the production process and achieving cost synergies through recent acquisitions fully integrating to the system and new acquisitions to come. In

conclusion, I forecast Central Garden & Pet to grow its revenue at a CAGR of 7.16% until 2020, tapering off to 2% in the continuing period and to grow its EBITDA at a CAGR of 10.98%, also until 2020.

Business Segments							6-year CAGR	3-year CAGR
For the Fiscal Period Ending	12 months Sep-29-2012 USD	12 months Sep-28-2013 USD	Reclassified 12 months Sep-27-2014 USD	12 months Sep-26-2015 USD	12 months Sep-24-2016 USD	12 months Sep-30-2017 USD		
Currency								
Revenues								
Pet	930.8	888.2	845.5	894.5	1,081.9	1,246.4	6.01%	15.72%
% of Rev.	55%	54%	53%	54%	59%	61%		
Rev. Growth		-4.57%	-4.81%	5.80%	20.94%	15.21%		
Garden	769.3	765.4	758.9	756.2	747.2	808.1	0.99%	2.49%
% of Rev.	45%	46%	47%	46%	41%	39%		
Rev. Growth		-0.50%	-0.86%	-0.35%	-1.19%	8.16%		
Total Revenues	1,700.0	1,653.6	1,604.4	1,650.7	1,829.0	2,054.5	3.86%	9.93%
Total Rev. Growth.		-2.73%	-2.98%	2.89%	10.80%	12.33%		
Operating Profit Before Tax								
Pet	87.7	95.5	88.1	98.8	119.9	131.6		
EBITDA	102.2	111.2	105.3	114.7	142.5	157.7	9.07%	24.23%
EBITDA Growth		8.86%	-5.28%	8.88%	24.24%	10.65%		
EBITDA Margin	10.98%	12.52%	12.46%	12.82%	13.17%	12.65%		
Garden	40.4	8.3	41.0	60.1	70.3	87.3	16.67%	47.04%
EBITDA	46.6	14.7	47.8	66.1	76.4	93.6	14.97%	41.71%
EBITDA Growth		-68.46%	225.35%	38.32%	15.55%	22.44%		
EBITDA Margin	6.06%	1.92%	6.30%	8.75%	10.23%	11.58%		
Total Operating Profit Before Tax	74.4	40.2	56.2	91.4	129.4	156.1	15.97%	
Total EBITDA	104.85	73.11	91.98	125.15	169.35	198.84	13.65%	37.71%
EBITDA Growth		-30.28%	25.82%	36.06%	35.32%	17.41%		
EBITDA Margin	6.17%	4.42%	5.73%	7.58%	9.26%	9.68%	9.43%	25.27%

Business Segments		Forecast			
For the Fiscal Period Ending					
Currency		2018	2019	2020	3-Year CAGR
Revenues					
Pet		1,495.62	1,675.10	1,775.61	8.96%
% of Rev.		63.15%	64.64%	65.29%	
Rev. Growth		20.00%	12.00%	6.00%	
Garden		872.77392	916.41262	943.90499	4.00%
% of Rev.		36.85%	35.36%	34.71%	
Rev. Growth		8.00%	5.00%	3.00%	
Total Revenues		2,368.40	2,591.5124	2,719.5108	7.16%
Total Rev. Growth.		15.28%	9.42%	4.94%	
Operating Profit Before Tax					
Pet					
EBITDA		192.35	217.36	230.40	9.44%
EBITDA Growth		22.00%	13.00%	6.00%	
EBITDA Margin		12.86%	12.98%	12.98%	
Garden					
EBITDA		112.28	129.12	140.74	11.96%
EBITDA Growth		20%	15%	9%	
EBITDA Margin		12.86%	14.09%	14.91%	
Total Operating Profit Before Tax					
Total EBITDA		236.65	272.90	291.50	10.98%
EBITDA Growth		19.02%	15.32%	6.81%	
EBITDA Margin		9.99%	10.53%	10.72%	

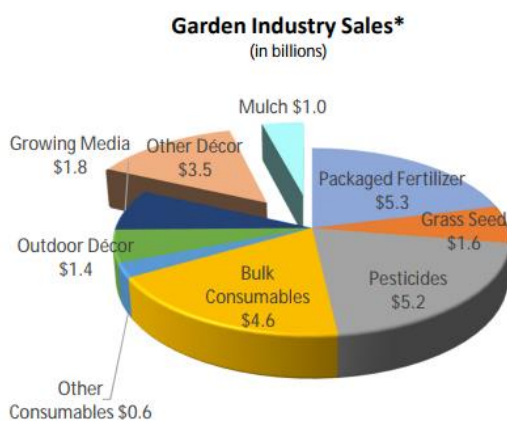
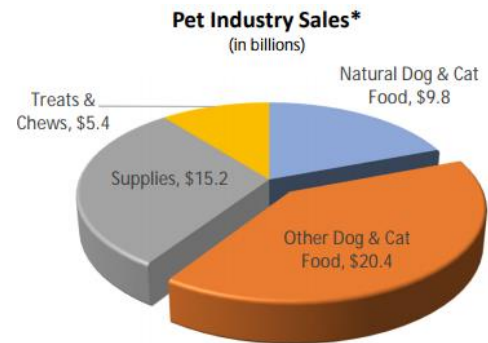
Innovation:

Among the five pillars sustaining the company's strategy is the increase in innovation output and success rates. Constantly looking to diversify its portfolio, Central Garden & Pet has invested significant capital towards innovation, consumer insights and demand creation in order to attract and retain customers to the business. On the garden supplies segment, a recent example of a successful and differentiated launched in the market is the Ultragreen Plant Fertilizer, a product that dramatically reduces the plants' need for water. On the pet segment, recent meaningful launches were the line of products Farnam Purishield Wound Products, which is a patented wound care technology, the Cadet (a line of dog treats with unique flavors, proteins and shapes), and Kaytee Clean & Cozy, which consists of bedding for small animals including unique colors, sizing and benefits. The strategy of the company in regards to innovation involves heavy investments in the research of consumer insights that will help create value-added new products and in demand creation, which will aid in the awareness of new products in the market. The company's capital expenditure has been growing at a 4-year CAGR of 37.5%, with a strong focus towards product development and such growth is forecast to continue as revenues are on a rise, allowing the company to allocate a greater amount of capital towards market research and innovation.



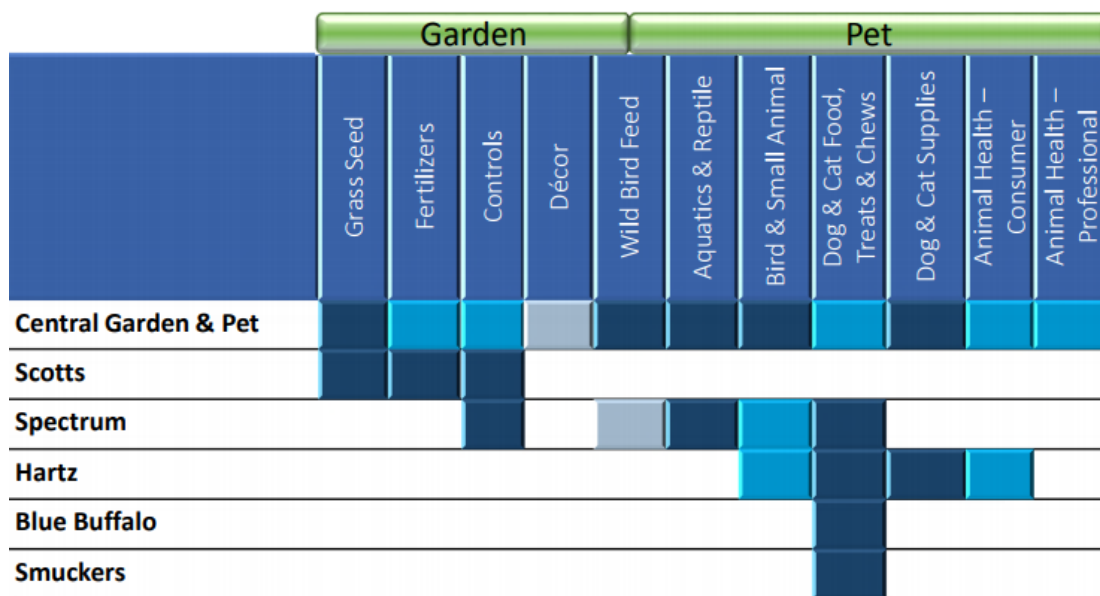
Industry Outlook:

Central Garden & Pet Company operates in two segments, garden and pet. The pet segment has been growing at an annual growth of 1%, with CENT doubling the growth of the market. The addressable market is of about \$25 billion and the company operates in about \$20 billion of it. It is a seasonal business and two thirds of total sales happen within Q2 and Q3 of the year. The rise of E-commerce has not had much effect on this industry as the majority of sales are still made through brick-and-mortar. On the other hand, the pet segment has increased its popularity in the market as demand for pets and, consequently, pet related products is on a rise. The industry has been growing at an annual rate around 5% and the addressable market is of about \$51 billion. Out of the total addressable market, Central operates in approximately \$30 billion of it. Roughly 20% of the industry sales are executed by major pet specialty retailers and there are about 8,300



independent retail stores. The supplier base is vast, with over 1,400 global manufacturers and the growth of E-commerce has had a substantial impact in this segment, as now more than 10% of total sales are executed online. Central Garden & Pet Company leads the industry in several areas and its metrics justify its favorable position in the market. CENT has outpaced all of its competitors in both revenue and EBITDA growth, also expressing capital expenditure and returns aligned with the industry median. The double-digit growth of the company, substantially higher than its peers, will enable Central to increase its market share in the future, solidifying its position in the market and achieving the status of market leader in more areas in both segments.

Name	Sales Growth	EBITDA Growth	EBITDA Margin	Operating Income Margin	Net Income Growth	Net Profit Margin	Opex/Sales (%)	Return on Invested Capital	Return on Assets	Return on Equity
Median	4.41%	8.59%	19.45%	16.38%	3.68%	8.75%	2.60%	9.62%	6.24%	20.01%
100) CENTRAL GARDEN & PET CO	12.33%	16.62%	9.58%	7.50%	20.98%	3.78%	2.17%	9.62%	6.24%	13.05%
101) SCOTTS MIRACLE-GRO CO	4.41%	8.59%	19.45%	16.69%	2.34%	8.75%	2.63%	16.43%	9.24%	37.26%
102) SPECTRUM BRANDS HOLD...	-0.64%	-7.27%	17.22%	13.25%	3.68%	7.27%	2.30%	8.43%	5.02%	20.01%
103) HARTZ MOUNTAIN CORP	--	--	--	--	--	--	--	--	--	--
104) BLUE BUFFALO PET PROD...	10.07%	17.24%	24.77%	23.52%	17.60%	14.36%	4.90%	32.09%	25.12%	100.31%
105) JM SMUCKER CO/THE	-2.34%	-4.60%	22.06%	16.38%	-6.76%	9.59%	2.60%	6.58%	4.43%	9.89%



Market Position	Major participant	Meaningful participant	Minor participant
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Ownership:

Central Garden & Pet's securities are mainly owned by Investment Advisors, currently accounting for 72.1% of the total shares traded. Individuals come next with 14.24 %, followed by Hedge Fund Managers with 6.68%. The remaining shares are split among pension funds, banks, insurance companies and so forth. The volume of trading has been slow within the past six months, therefore not expressing significant ownership changes. To be noticed, however, the 1.62% change in Hedge Fund ownership, representing a slight interest from Hedge Funds, optimistic about the future of the company.

Compare Current Stats Against		06/03/17	
Ownership Type	05/28/17	Curr ↓	Change
11) Investment Advisor	72.10	70.72	-1.38
12) Individual	14.24	14.56	+0.32
13) Hedge Fund Manager	6.68	8.30	+1.62
14) Pension Fund	3.28	3.81	+0.53
15) Bank	2.54	1.20	-1.34
16) Insurance Company	0.32	0.61	+0.29
17) Sovereign Wealth Fund	0.19	0.20	+0.01
18) Government	0.19	0.19	0.00
19) Unclassified	0.14	0.14	0.00
20) Brokerage	0.13	0.11	-0.02
21) Private Equity	0.06	0.06	0.00

Conclusion:

Central Garden & Pet will continue to grow inorganically with its successful M&A department focusing on accretive acquisition that will add value to the company and provide opportunities for cost synergies. In

addition, the focus on increasing profitability will allow the company to increase earning and therefore have more cash available to invest. The growth of the pet segment will fuel such profitability gains, as the segment is currently the most profitable and has constantly increased its revenue share within the company. Measures taken in order to achieve operational efficiencies in the production process and in the supply chain have brought positive results to the company as its EBITDA margin continue to outgrow the company's revenue and is forecast to continue to do so. The company will ride along this positive momentum, accelerating it through the launching of new products in the market that will attract more clients. CENT is forecast to have two more years of double-digit growth and its stock will benefit from it, as seen throughout the past year where the company's stock price increased at a rate of 25%.

Central Garden & Pet Company (CENT)

Analysis by TOMMASO

12/8/2017

CENTER FOR GLOBAL FINANCIAL STUDIES

NEUTRAL

Current Price:

\$42.02

Dividend Yield:

0.0%

Intrinsic Value

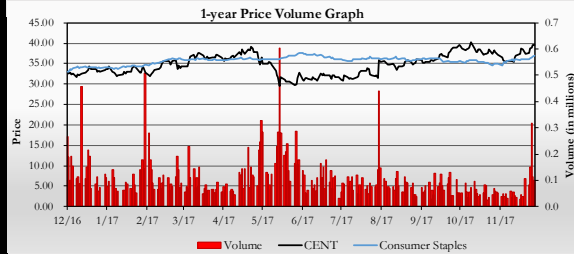
\$40.74

Target Price

\$46.97

Target 1 year Return: 11.77%

Probability of Price Increase: 84%



Description
Central Garden & Pet Company, together with its subsidiaries, produces and distributes products for the lawn and garden, and pet supplies markets in the United States.

General Information
Sector: Consumer Staples
Industry: Household Products
Last Guidance: November 3, 2015
Next earnings date: NM
Estimated Country Risk Premium: 5.50%
Effective Tax rate: 22%
Effective Operating Tax rate: 22%

Market Data	
Market Capitalization	\$2,129.58
Daily volume (mil)	0.13
Shares outstanding (mil)	51.85
Diluted shares outstanding (mil)	51.82
% shares held by institutions	116%
% shares held by investments Managers	74%
% shares held by hedge funds	8%
% shares held by insiders	12.21%
Short interest	0.56%
Days to cover short interest	4.21
52 week high	\$42.28
52-week low	\$29.08
Volatility	36.16%

Past Earning Surprises		EBITDA	Peers
Quarter ending	Revenue		
9/24/2016	-0.69%	29.64%	Church & Dwight Co., Inc.
12/24/2016	10.80%	78.26%	The Scotts Miracle-Gro Company
3/25/2017	0.25%	11.07%	Old-Dri Corporation of America
6/24/2017	5.91%	15.52%	Spectrum Brands Holdings, Inc.
9/30/2017	11.72%	11.66%	The Clorox Company
Mean	5.60%	29.23%	Energizer Holdings, Inc.
Standard error	2.6%	12.7%	Colgate-Palmolive Company

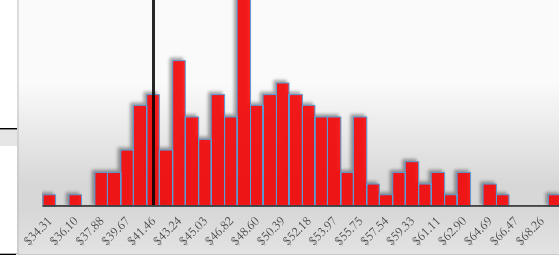
Management	Position	Total compensations growth	Total return to shareholders
Roeth, George	President, CEO & Director	1020.57% per annum over 1y	54.79% per annum over 1y
Yuhas, George	General Counsel & Corporate	9.47% per annum over 3y	25.72% per annum over 3y
Reed, Michael	Executive Vice President	4.82% per annum over 5y	10.54% per annum over 5y
Pennington, Brooks	Director of Special Projects	-4.45% per annum over 5y	10.54% per annum over 5y
Randell, John	Senior Advisor & Director	65.88% per annum over 5y	10.54% per annum over 5y
Lahanas, Nicholas	Chief Financial Officer	N/M	N/M

Profitability	CENT (LTM)	CENT (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	8.4%	4.52%	14.16%
Operating Margin	4%	2.65%	9.40%
Revenue/Capital (GAAP)	2.16	1.71	1.51
ROE (GAAP)	12.6%	4.5%	160.4%
Net margin	3.4%	1.3%	10.4%
Revenue/Book Value (GAAP)	3.71	3.53	15.44

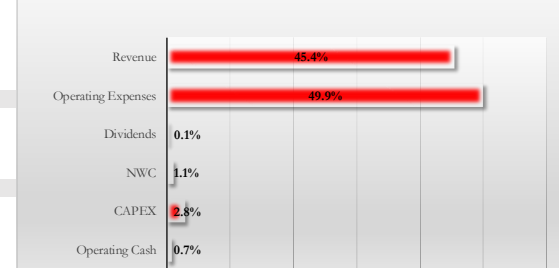
Invested Funds	CENT (LTM)	CENT (5 years historical average)	Peers' Median (LTM)
Cash/Capital	2.9%	4.8%	12.7%
NWC/Capital	35.6%	41.4%	5.9%
Operating Assets/Capital	38.8%	32.7%	61.8%
Goodwill/Capital	22.7%	21.1%	19.6%

Capital Structure	CENT (LTM)	CENT (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.45	0.51	0.57
Cost of Existing Debt	7.1%	9.5%	3.7%
CGFS Rating (F-score, Z-score, and default Probability)	A	A	A
WACC	10.6%	11.8%	8.5%

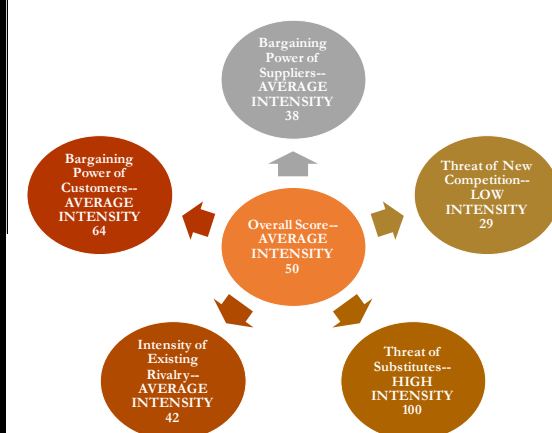
Intrinsic Value Distribution--Probability (Upside)=84%



Sensitivity Attribution Analysis



Porter's 5 forces (scores are out of 100)



Period	Revenue Growth Forecast	NOPAT Margin Forecast	Revenue to Capital Forecast
Base Year	12%	7.6%	1.85
9/30/2018	15%	6.2%	1.95
9/30/2019	10%	6.7%	1.85
9/30/2020	5%	6.9%	1.72
9/30/2021	5%	7.2%	1.60
9/30/2022	4%	7.4%	1.50
9/30/2023	4%	7.7%	1.42
9/30/2024	4%	7.9%	1.33
9/30/2025	3%	9.4%	1.25
9/30/2026	3%	9.6%	1.15
9/30/2027	2%	9.8%	1.07
Continuing Period	2%	10.0%	0.99

Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	14.1%	10.6%	\$40.75
9/30/2018	12.2%	10.5%	\$46.82
9/30/2019	12.4%	10.3%	\$52.32
9/30/2020	11.8%	10.3%	\$58.11
9/30/2021	11.5%	10.3%	\$64.10
9/30/2022	11.2%	10.3%	\$70.29
9/30/2023	10.9%	10.3%	\$76.68
9/30/2024	10.5%	10.3%	\$83.23
9/30/2025	11.7%	10.4%	\$89.96
9/30/2026	11.1%	10.4%	\$96.85
9/30/2027	10.5%	10.5%	\$103.87
Continuing Period	9.9%	10.5%	

December 09, 2017

Hasbro, Inc.: HAS

Ryan Rosmarin

Sector: Consumer Discretionary

Industry: Toys & Entertainment

Current Price: \$93.02

Target Price: \$111.19

Company Description: Hasbro, Inc. is a global play and entertainment company committed to creating the best entertainment experience around the world. Through deep consumer engagement and the application of consumer insights, Hasbro uses immersive storytelling to develop brands, innovate new products, and effectively reach customers around the world. Products include toys, games, television programming, motion pictures, and digital gaming, which continue to expand along with the brands of its strategic partners. Hasbro organizes these licensed intellectual properties within the brand architecture with a focus on their four core categories of Franchise Brands, Partner Brands, Hasbro Gaming, and Emerging Brands.

BUY

Current Price:	\$93.02
Target Price:	\$111.19
Target Return:	21.94%
Market Cap:	11.6B
52 Week Range:	\$77.20-\$116.20
Average Volume:	1.05M
D/E Ratio:	0.96
ROIC:	16.58%
WACC:	7.79%
12M Total Return:	8.12%

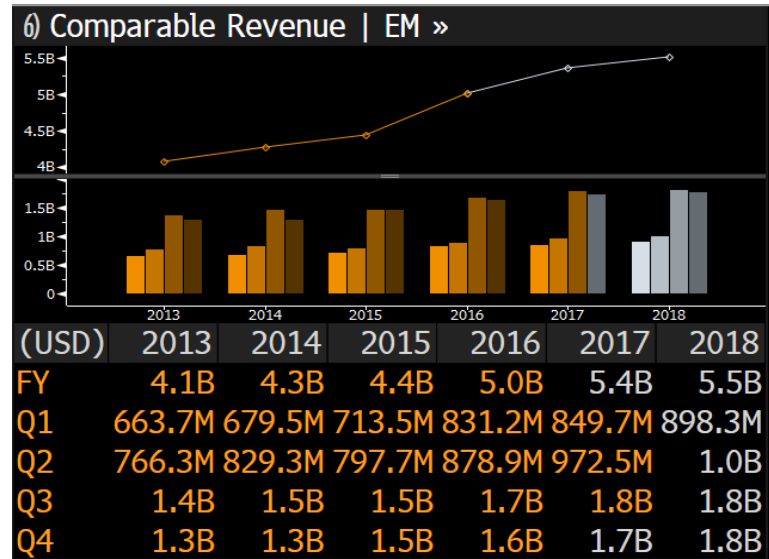
Catalysts:

- **Short-Term** (within the year): Release of fourth quarter earnings report and increased sales due to seasonality.
- **Mid-Term** (1-2 years): Potential acquisition of Mattel and forecasted growth associated with the strong correlation of the Consumer Discretionary sector to the market as a whole.
- **Long-Term** (3+years): Continual growth and development of world-renowned brands and products in the toys and entertainment industry.



Thesis:

Hasbro, Inc. is the leading force in the world's toy and entertainment industry and will continue to drive demand through seasonality effects and the release of new products as we move through the fourth quarter. Currently valued slightly below the middle of its 52-week price range, Hasbro is underpriced compared to the Consumer Discretionary sector and presents a great buying opportunity for stock appreciation. In addition to forecasted growth in the fourth quarter, Hasbro may strike a deal to acquire its competitor Mattel, largely expanding its product platform and driving its potential for greater long-term growth. With steady sales and margin growth, Hasbro can drive returns near 22% as it catches up to the market, making it an attractive investment with high growth potential for both short and long-term investment strategies.



Business Overview:

Hasbro, Inc. is the leading force in the global play and entertainment industry and are committed to creating the best play experiences around the world. Hasbro organizes its owned, controlled, and licensed intellectual properties with their brand architecture, focusing on their core business categories of Franchise Brands, Partner Brands, Hasbro Gaming, and Emerging Brands. Hasbro creates significant growth opportunity through their brand architecture, allowing them to leverage existing brand competencies outside the confines of their traditional product categories. Hasbro's franchised brands portfolio consists of Littlest Pet Shop, Magic:



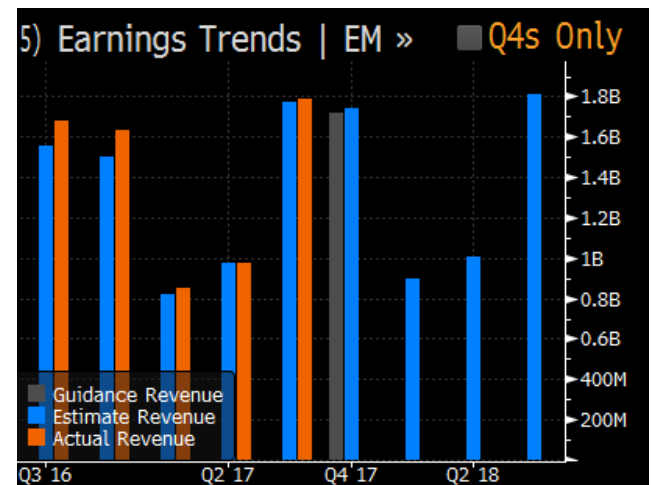
The Gathering, Monopoly, My Little Pony, Nerf, Play-Doh, and Transformers. In addition to their franchise brands, Hasbro also offers a large portfolio of popular partner brands including Marvel super-heroes, Star Wars, Disney, DreamWorks, and Sesame Street. Hasbro capitalizes on the theatrical releases of movies from these companies such as Star Wars: The Last Jedi, Jurassic World 2, Spider-man, and Guardians of the Galaxy by selling product lines directly related to the films and its series. Hasbro continues to revolutionize traditional game play as well through its strong portfolio of board games, digital integration, and introduction of new gaming brands and play experiences. Hasbro's gaming portfolio includes Connect 4, Jenga, The Game of Life, Operation, Scrabble, Trivial Pursuit, Twister, and many others. The Emerging Brands category consists of Hasbro brands, which have not achieved Franchise Brand status, but have the potential and ability to do so. Products include Baby Alive, Furby, Playskool, and many others. In order to build upon its brands and product lines, Hasbro focuses on reinforcing storylines associated with their brands through several outlets including television, motion pictures, and digital gaming. Hasbro's wholly owned production studio develops and delivers the distribution of television programming on a global scale through several platforms including Netflix and iTunes. Hasbro Studios primarily distributes programming to Discovery Family Channel, their joint venture with Discovery Communications, and also began distributing through other channels such as Cartoon Network

in 2015. In 2014, Hasbro formed their film label Allspark Picture, which produces both animated and live action theatrical releases based on their brands. Hasbro also recently purchased 100% stake in Backflip Studios, LLC, to leverage and increase their position in the digital gaming industry. Hasbro markets their products through their four categories Boys, Games, Girls, and Preschool Toys, which have a 3-year CAGR of 14.33%, 1.89%, 6.02%, and 3.49% respectively. 51.3% of Hasbro's revenues are collected in the United States while 48.7% are collected internationally.

Quarter 3 Earnings Performance:

In Q3 2017, Hasbro earned \$1.79bn in revenue, increasing 7% year-over-year and beating consensus of \$1.77bn. Quarter 3 EPS reached \$2.09 beating consensus of \$1.94 and was driven by better-than-expected revenue in Franchise, Gaming, and Emerging brands, offsetting a miss in partner brands. Q3 Operating Profit Margins were 20.1% totaling \$361mn, reflecting lower-than-expected royalty expense, product development, production cost amortization, and D&A. U.S. and Canada operating profit declined 5% yoy to \$217.3mn due to a shift in product mix and revenue impact of Toys R US. Although sales beat consensus for the quarter, they missed estimates due to headwinds from the bankruptcy filing of Toys

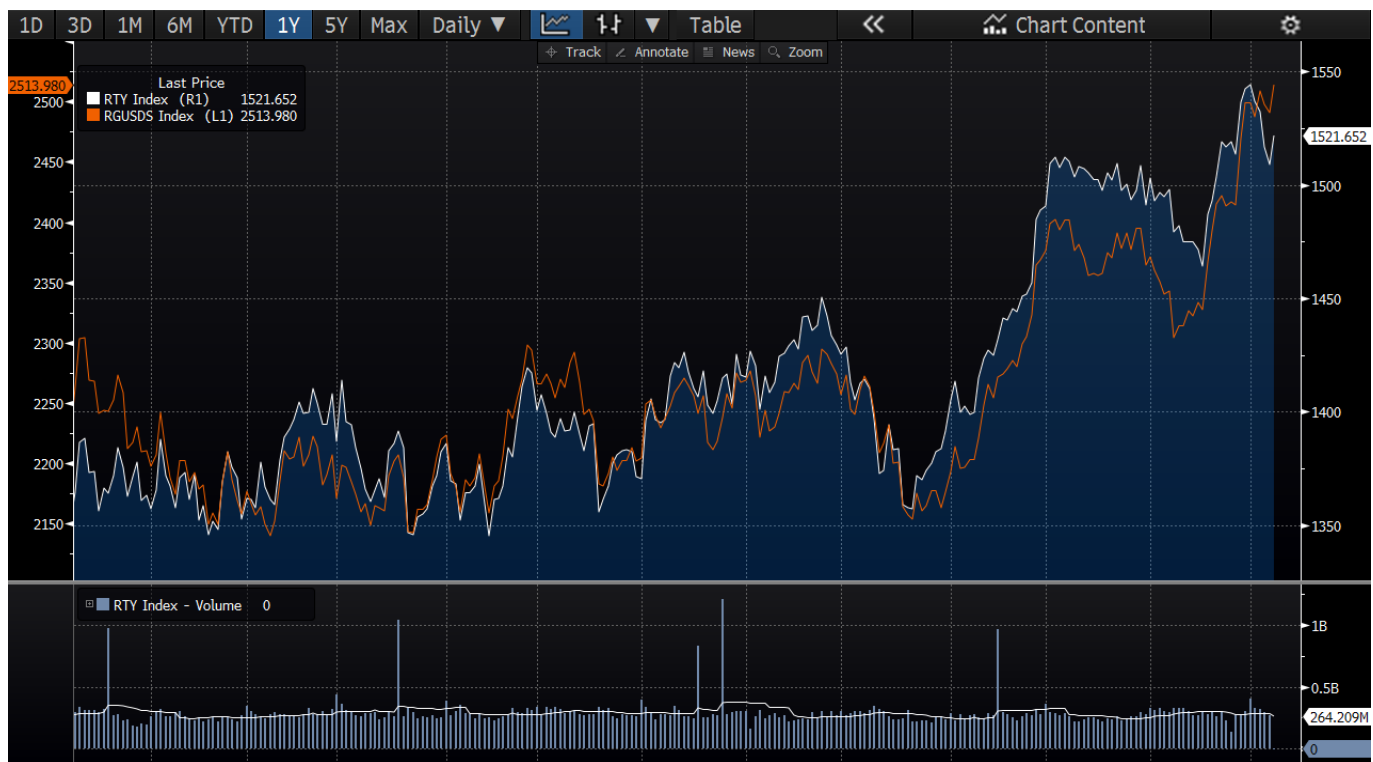
R US, which reduced gross profit and forced Hasbro to increase its advertising expenses. Despite headwinds, revenues still grew in each operating segment with double-digit consumer takeaway globally at retail. Revenue significantly increased due to growth led by Nerf, Transformers, My Little Pony, Monopoly, Baby Alive, Furreal Friends, Speak Out, and Twister. Revenue grew in developed economies such as the US, Canada, France, Germany, Mexico, and Australia, with emerging markets revenue growing 8% in China, Russia, and India, including a \$27.9mn favorable impact from foreign exchange. Franchise, Gaming, and Emerging brands increased 7%, 22%, and 9% respectively with Nerf as the leading brand driving double digit growth. Hasbro ended Q3 returning \$164mn to shareholders through their dividend and repurchase program. With \$71.4mn paid out in dividends and \$92.9mn repurchased in common shares, Hasbro continues to work towards their target of \$150mn in share repurchase by year-end. Q3 cash on hand of \$1.2bn leaves Hasbro well positioned to capitalize on the innovation and releases in the marketplace as the holiday season approaches. Entertainment and licensing segment revenues increased 4% with high consumer product demand with Hasbro's entertainment initiatives. Segment operating profit increased 20% to \$16.9mn and other income increased to \$14mn. In Q3, Hasbro refinanced \$350mn of 6.3% maturing debt by issuing \$500mn of new 10-year debt at a rate of 3.5%. Hasbro refinanced to take advantage of the low interest rate environment and believes that the new deal will significantly lower their cost of capital over the next 10 years. In addition, the tax rate environment looks beneficial for Hasbro, as their rate has fallen from 26% to 23.5%. Receivables increased 14% and days sales outstanding increased 5 days to 83 days.



FY17 Guidance & Growth Outlook:

Hasbro outlook for 2017E forecasts 4Q17 revenue growth between 4-7% to \$1.74bn and \$5.36bn for 2017. EBIT Margins are expected to be 15.7%, totaling \$302mn for the quarter and \$841mn for the year. 4Q17 EPS is projected to come in between \$0.11-\$0.13 and Hasbro is expected to save \$4mn in annual interest expense due to their third quarter debt refinancing. From a segmented standpoint, revenue is Franchise Partner, Gaming, and Emerging brands are forecasted at \$2.6bn, \$1.4bn, \$980mn, and \$482mn respectively for 2017. By 2019, revenues in Franchise, Partner, Gaming, and Emerging brands are expected to grow to \$2.81bn, \$1.4bn, \$1.1bn, and \$507mn respectively, totaling \$5.82bn driven by its robust portfolio of entertainment-backed products. This will allow Hasbro to successfully navigate through the toy retail environment. Hasbro's Boys category will likely benefit from a significant amount of movie support from Marvel's 2018 films, three consecutive Transformers films from 2017-2019, and the releases of new Star Wars films every year until 2019 at least. Growth is also forecasted in the Girls category through the release of various Disney products and films associated with Disney Princess, Frozen, and Beauty and the Beast.

Industry Analysis:



The overall forecast for the Consumer Discretionary sector continues to look promising, as it is highly correlated to the overall performance of our current bull market environment. The Russell Consumer Discretionary Index (RGUSDS) is returning 14.26% YTD compared to the 12.13% growth in the Russell Index (RTY), slightly beating it by 2.13%. Main drivers of the index continue to be changes in U.S. employment and interest rates. As the unemployment rate sits below average around 4.1% and interest rates continue to remain low, the Consumer Discretionary index is likely to grow higher driven by increased consumer demand and spending levels. With enthusiasm broad across income brackets, 37% of consumers plan to spend more this holiday than the 33% who plan to spend less. Spending is expected to accelerate at

higher levels as the holidays approach nearer. In a more narrowed aspect, toys and games are expected to make up 20% of market demand led by the millennial generation. Although headwinds have affected the sector from the Chapter 11 bankruptcy filing by Toys R Us, impacts are expected to be benign on Hasbro. Toys R Us stores are likely to remain open through the 2017 holiday season causing minimal disruption and allowing critical vendors to recover parts of their accounts receivables. Unsecured claims by Hasbro are lower than expected (\$59mn) compared to its competitors, showing that they likely actively managed their Toy exposure, as unpaid claims typically cannot be received under U.S. bankruptcy law. Toys R Us also filed a motion to pay certain pre-petition claims of critical vendors (Hasbro, Mattel, etc.) for \$115mn on an interim basis and \$325mn on a final basis. If only the top 5 critical vendors are deemed critical, Hasbro will recover their entire claim. Despite slight headwinds, this holiday season remains a positive growth environment for Hasbro who will continue to be the leading provider in the toy and entertainment industry. Another driver of the industry is the economic optimism under the Trump Administration.

Peer Analysis:

Hasbro, Inc. is the leading force in the toy and entertainment industry and has the largest market share compared to its competition that consists of significantly smaller companies. With the a steady sales growth of 8.0%, Hasbro leads its competitors in margins with an EBITDA margin, EBIT margin, and Net Income margin of 19.0%, 15.8% and 11.6% respectively. Hasbro has benefited from a decrease of around 3% in their tax rate and their debt refinancing of lower interest rates, allowing them increase profit margins and reduce the gap between Operating and Net Profit margins. In addition, Hasbro leads its competitors with an ROIC of 17.64%, over 13% higher than the median of its peers. This shows that Hasbro uses its capital more efficiently and invests more effectively into its operations. Major risks to Hasbro's operations include toy demand, disruptive innovation both in and outside the toy industry, disruptions in global trade, product recalls, and the loss of toy licenses.

Name (BICS Best Fit)	Sales Growth (%)	EBITDA Margin	Operating Income Margin	Net Profit Margin	Return on Invested Capital
Median	8.43%	12.40%	8.61%	6.46%	4.21%
100) HASBRO INC	8.00%	19.00%	15.78%	11.58%	17.64%
101) BANDAI NAMCO HOLDIN...	6.20%	13.08%	9.34%	6.85%	--
102) RASTAR GROUP -A	29.64%	--	8.57%	9.39%	4.21%
103) ALPHA GROUP-A	8.86%	--	8.66%	6.08%	1.05%
104) MATTEL INC	-9.19%	9.49%	4.38%	-11.38%	-15.19%
105) TOMY COMPANY LTD	10.50%	11.72%	6.55%	5.09%	7.79%

Mattel Acquisition:

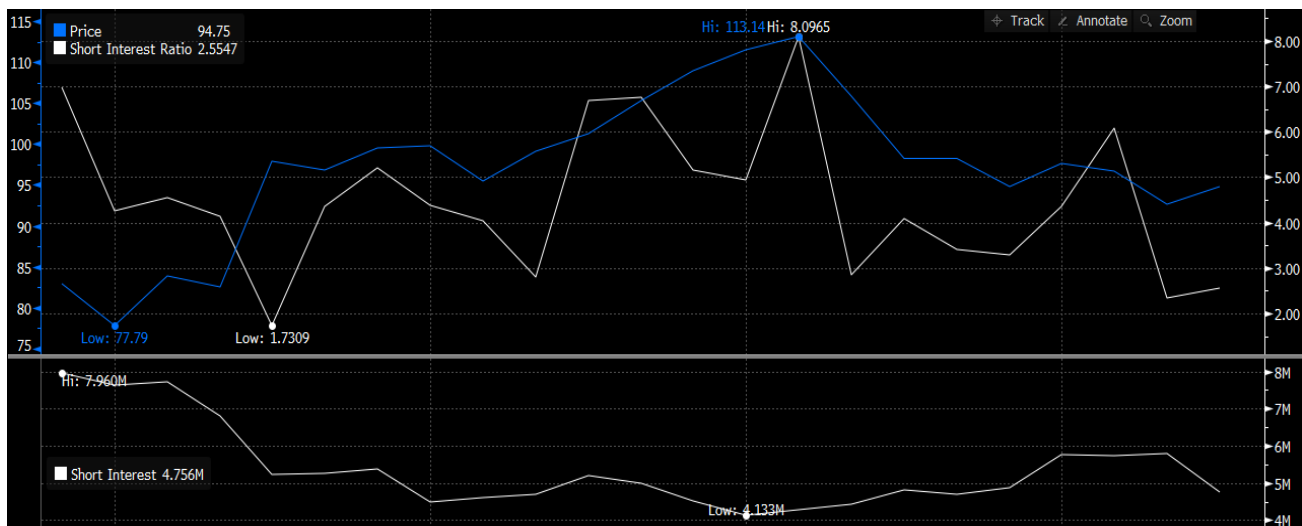
On November 10, Hasbro reportedly made a takeover offer to acquire Mattel, one of its top competitors in the toy and entertainment industry. This deal comes at a time when Hasbro is on track to surpass Mattel as the largest U.S. toy company for the first time ever. In recent years, Mattel has failed to grow its product portfolio, realizing significant declines in its key brands and cutting its dividend payment by more than 50% in June. Mattel produces well-known brands such as Barbie, Fisher-Price, and American Girl that could significantly expand its brand portfolio and market share in its Girls and Preschool segments. This

acquisition could potentially apply the much needed turn around for Mattel's brand and greatly improve margins as Mattel would be operated under Hasbro's management and strategy. Mattel's recent decline in margins to 42.6% have been caused largely by falling revenue and the expenses of actually owning their asset-heavy manufacturing facilities. This acquisition would benefit Hasbro from improved scale, which could help Hasbro in their negotiations with retail customers, content licensing partners, and third-party manufacturers.

Ownership Summary:

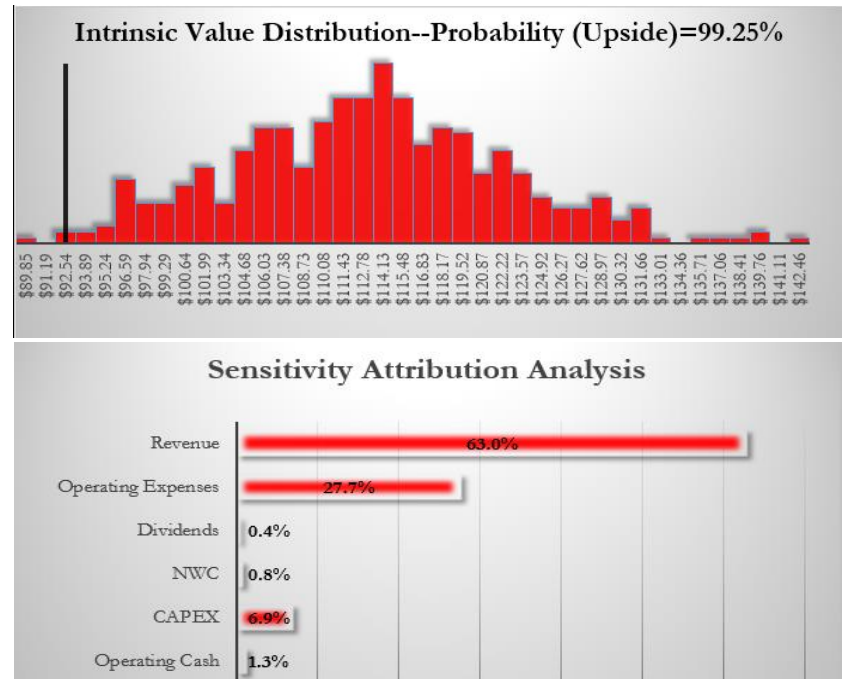
Hasbro is primarily held by investment advisory firms (79.48%) and individual investors (6.74%). Over the past year, there has been minimal changes to the proportion of ownership levels in Hasbro as investment advisors and hedge funds have only increased 4.32% and 0.19% respectively. Top investment advisory holders are Vanguard Group, Blackrock, and Capital Group Companies Inc. with positions of \$12.9mn, \$10.8mn, and \$6.2mn, respectively. Other large investment firms that have a significant stake in Hasbro are Wells Fargo, Goldman Sachs, Morgan Stanley, and Bank of New York Mellon. Shares are primarily held in the United States, followed by the United Kingdom and Japan with ownership levels of 79.99%, 5.84%, and 1.47% respectively. Hasbro has 92.30% of its shares outstanding as freely floated with 4.14% in short interest. Short interest has decreased significantly from a high of 8.09 days to cover in July to 2.55 days to cover in December showing that investors are confident and increasing their long positions on Hasbro. Percentage of shares held and percentage of float held have increased 16.67% and 16.59% respectively, while the number of institutions holding Hasbro have increased 13.25%. In addition, the number of investors and number of new investors in Hasbro have also increased 21.71% and 35.23% respectively.

Top Ownership Type (%)				52) Fund Objective			
54) Ownership Type	11/27/16	Curr	Change		11/27/16	Curr	Change
41) Investment Advisor	75.16	79.48	+4.32	21) Blend	33.10	33.97	+0.87
42) Individual	9.19	6.74	-2.45	22) ETF	17.36	22.07	+4.71
43) Bank	6.06	4.32	-1.74	23) Value	16.39	14.41	-1.98
44) Hedge Fund Manager	3.09	3.28	+0.19	24) Asset Allocation	14.76	11.55	-3.21
45) Pension Fund	2.16	2.14	-0.02	25) Growth	11.92	10.30	-1.62
46) Insurance Company	1.66	1.58	-0.08	26) Unclassified	1.26	2.61	+1.35
47) Government	2.24	1.05	-1.19	27) Country Fund	2.55	1.84	-0.71
48) Sovereign Wealth Fund	0.01	1.00	+0.99	28) Long Short	1.07	1.23	+0.16
49) Brokerage	0.18	0.22	+0.04	29) Market Neutral	0.39	0.84	+0.45



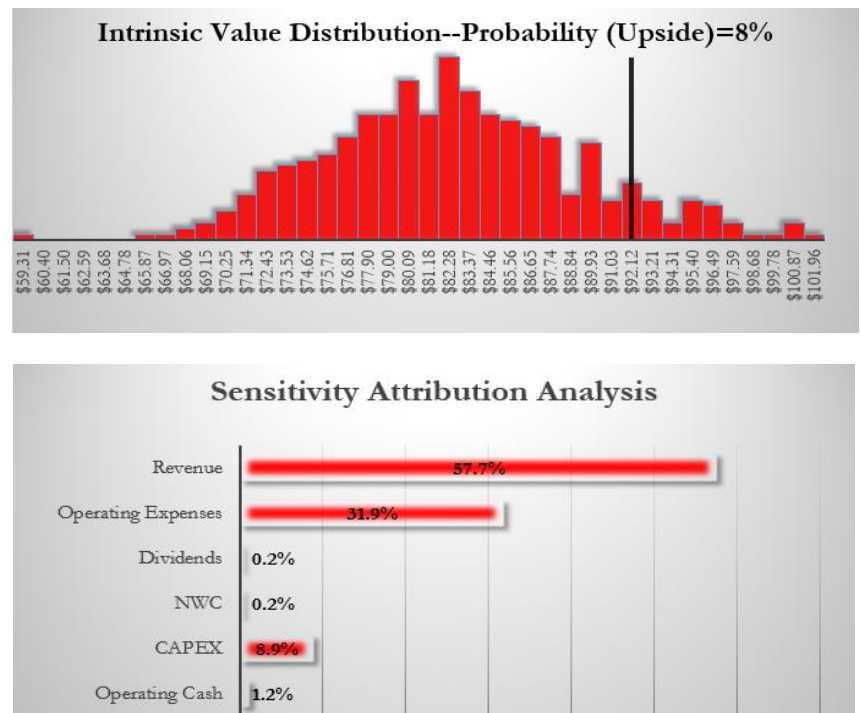
Forecast:

Hasbro's price is very sensitive to revenue as it heavily relies on its ability to innovate and drive demand within its various product lines. Operating costs are relatively low compared to the industry since Hasbro is light in assets and does not own their manufacturing facilities. In the current bull market environment, Hasbro has the potential to increase its stock price to \$111.19, appreciating 21.94% from its current price level. This assumes that Hasbro is able to maintain their steady sales growth with a constant growth rate of 3.86%. Operating costs will also continue to decrease towards 75% of sales as Hasbro increases their margins.



Downside Risk:

Hasbro's downside risk is a stock price depreciation of 10.72% to \$80.84 per share with a probably upside of only 8%. This forecast assumes that Hasbro achieves its low earnings estimates and is only able to grow at a constant growth rate of 3%. Operating expenses have a larger effect as they would remain around 80% of sales, causing a decline in margins. This scenario is unlikely, but possible if the toy and entertainment industry takes a downward turn. Consumer Discretionary could potentially decline if interest rates rise and the stock market loses stamina and begins to fall, due to its high correlations. Demand could also fall if consumers chose to purchase electronics and other forms of entertainment in lieu of toys and games for their children.



Conclusion:

Growth forecasts within the Consumer Discretionary sector and market as a whole provide a positive outlook for Hasbro, Inc., the leading provider in the toys and entertainment industry. With demand in toys and entertainment increasing as we approach the holidays, Hasbro holds a strong position to grow profits as consumers are healthy and spending more. Organic growth will also continue to accelerate as popular movies such as Star Wars, Marvel's Heroes, and Disney films are released through year-end and into 2018, creating strong demand among consumers for related product lines. Hasbro continues to add new brands and products to its portfolio, and has significant growth potential with the opportunity to acquire Mattel and its well-known products. Hasbro will appreciate 21.94% within the next year and provides a strong buying opportunity for both short and long-term investment strategies.

Hasbro, Inc. (HAS)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by RYAN ROSMARIN
12/5/2017

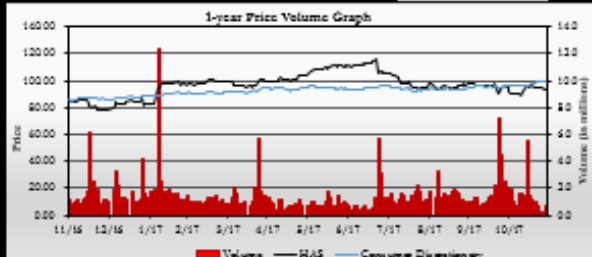
Current Price:
Dividend Yield:

\$93.02
2.4%

Intrinsic Value
Target Price:

\$99.96
\$111.13

Target 1 year Return: 21.94%
Probability of Price Increase: 93%



Description
Hasbro, Inc., together with its subsidiaries, operator of a play and entertainment company.

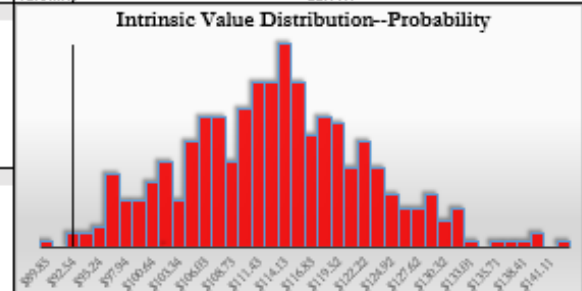
General Information
Sector: Consumer Discretionary
Industry: Leisure Products
Last Guidance: November 3, 2015
Next earnings date: February 5, 2018
Estimated Country Risk Premium: 6.57%
Effective Tax Rate: 21%
Effective Operating Tax Rate: 21%

Market Data
Market Capitalization: \$11,586.16
Daily volume (mil): 1.05
Shares outstanding (mil): 124.56
Diluted shares outstanding (mil): 127.11
% shares held by institutions: 116%
% shares held by investment managers: 71%
% shares held by hedge funds: 3%
% shares held by insiders: 7.53%
Short interest: 3.82%
Days to cover short interest: 3.12
52-week high: \$116.20
52-week low: \$77.20
Volatility: 22.68%

Quarter ending	Revenue	EBITDA
9/25/2016	7.87%	11.56%
12/25/2016	8.66%	25.03%
4/2/2017	3.89%	-8.31%
7/2/2017	-0.01%	3.00%
10/1/2017	1.00%	4.20%
Mean	4.28%	7.10%
Standard error	1.8%	5.5%

Management	Partitions	Total compensation qtr	Total return to shareholders
Galdner, Brian	Chairman and Chief Executive	-14.98% per annum over 5y	-5.55% per annum over 5y
Fraccetti, John	President	9.15% per annum over 5y	-5.55% per annum over 5y
Thamar, Deborah	Chief Financial Officer and	6.41% per annum over 5y	-5.55% per annum over 5y
Billing, Duncan	Chief Strategy Officer and E	2.84% per annum over 5y	-5.55% per annum over 5y
Tinga, Wiebe	Chief Commercial Officer and	-0.14% per annum over 5y	25.06% per annum over 5y
Courtney, Thamar	Executive Vice President of	NM	NM

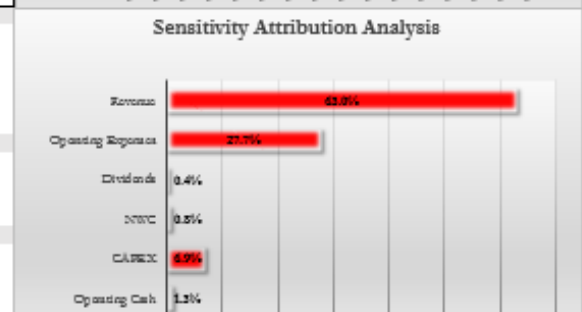
Peers
Mattel, Inc.
Brunswick Corporation
Harley-Davidson, Inc.
Polaris Industries, Inc.
JAKKS Pacific, Inc.
Activision Blizzard, Inc.



Profitability	HAS (LTM)	HAS (5 years historical a Peers' Median (LTM)
Return on Capital (GAAP)	19.0%	9.80%
Operating Margin	12%	8.43%
Revenue/Capital (GAAP)	1.61	1.16
ROE (GAAP)	24.2%	13.9%
Net margin	11.5%	7.5%
Revenue/Book Value (GAAP)	2.10	1.84

Capital Structure	HAS (LTM)	HAS (5 years historical a Peers' Median (LTM)
Total Debt/Market Capitalization	0.43	0.43
Cost of Existing Debt	5.5%	6.1%
CGFS Rating (F+score, Z+score, and default Prob)	AA	A
WACC	10.7%	11.2%

Invested Funds	HAS (LTM)	HAS (5 years historical a Peers' Median (LTM)
Cost/Capital	30.9%	19.7%
NWC/Capital	24.1%	15.3%
Operating Assets/Capital	33.1%	52.1%
Goodwill/Capital	12.0%	12.9%

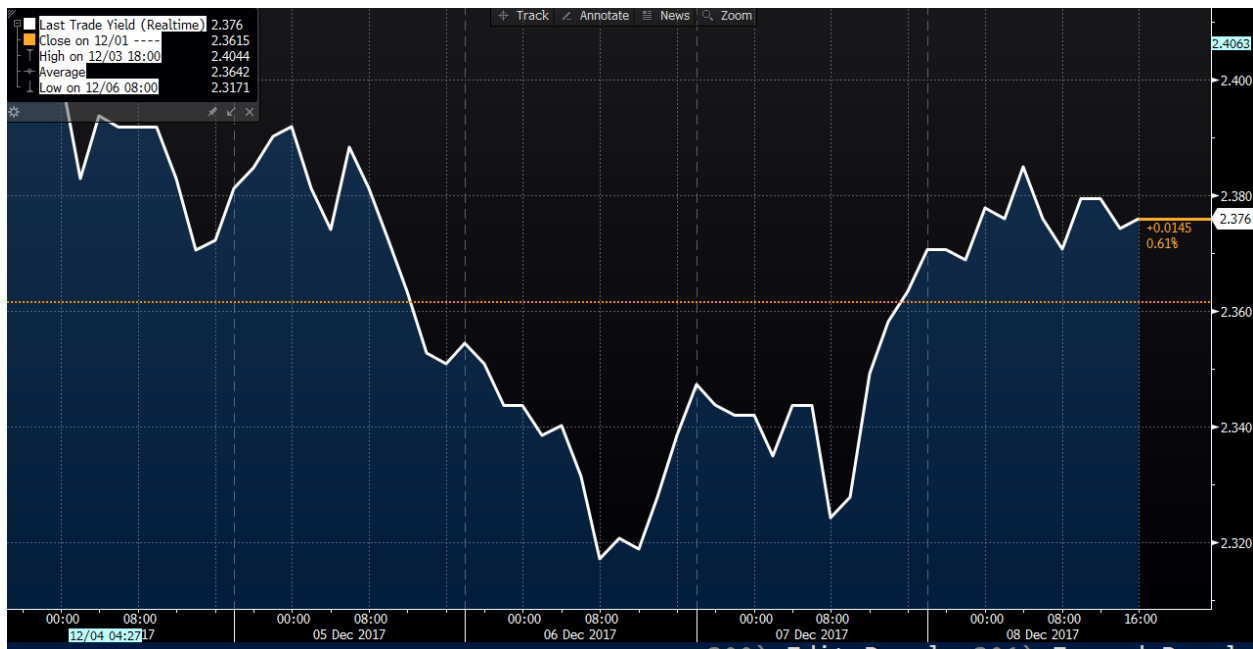


Period	Revenue Growth Forecast	Return on Capital Forecast
Base Year	8%	18.2%
10/1/2018	5%	14.9%
10/1/2019	6%	14.5%
10/1/2020	1%	13.4%
10/1/2021	2%	13.1%
10/1/2022	2%	15.1%
10/1/2023	2%	14.6%
10/1/2024	3%	14.2%
10/1/2025	3%	13.9%
10/1/2026	3%	13.7%
10/1/2027	4%	13.6%
Continuing Period	4%	13.5%

Valuation	WACC Forecast	Price per share Forecast
MOPAT Margin Forecast	15.1%	\$99.06
Revenue to Capital Forecast	13.7%	\$110.05
	14.0%	\$120.26
	13.9%	\$120.65
	14.3%	\$141.14
	17.4%	\$151.76
	17.9%	\$162.51
	18.4%	\$173.37
	18.8%	\$184.32
	19.3%	\$195.31
	19.8%	\$206.29
	20.3%	

Bond Report

The bond markets were pushed this week by the fact that the government took another step towards passing the tax bill. The tax bill is expected to further open up a larger deficit in government spending. The tax bill will also help equities which will further take money out of bonds. All of these reasons sent prices down and yields up higher. Last week also saw some sub-par economic data. This economic data was received better than expected by the FED, who is still expected to raise interest rates in December, but the markets accounted for this information. Traders did not seem to be fazed very much by the end of the week accounts that there was further encouraging employment data. The reason that traders were most likely not fazed was due to the fact that previously employment had signaled an uptick in inflation, this trend seems to have been broken recently. Yields ended with 2 year note at 1.798%, 10 year note at 2.383%, and 30 year bond at 2.773%.





What's next and key events?

One item to look for in the future is the FED Chair press release on Wednesday. This fed chair meeting will include economic forecasts which will undoubtedly move the market, whether they are negative or positive. The press release will also give further details about how the fed is feeling about the most recent economic data which is unfavorable; even though Janet Yellen seems to have taken this information in stride. Finally, this fed release should also give traders a beat on what Jerome Powell will be doing and his inclinations as to how to react to specific news coming from economic data.