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November 3, 2018

Approach Resources: (AREX)

Sam Gerardi

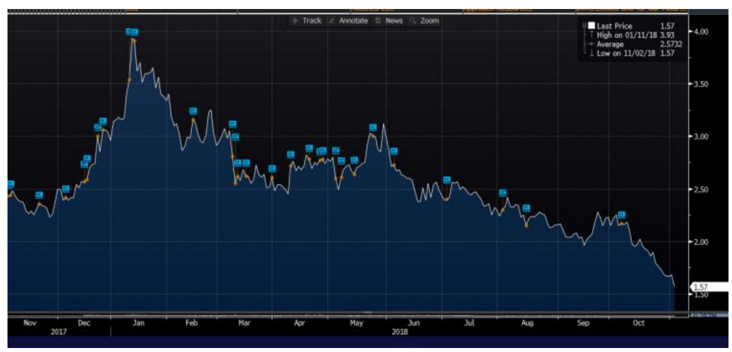
Sector: Energy
Industry: Exploration and Production
Current Price: 1.57
Target Price: 2.92

Approach Resources Inc. is an independent energy company. The Company explores, develops, produces and acquires natural gas, NGL and crude oil reserves. Approach Resources focuses on pad drilling, horizontal drilling, and hydraulic fracturing operations within the greater Permian Basin in West Texas.

Hold

Current Price:	$1.68
Target Price:	$2.92
Market Cap:	158.7M

Net income: -26.5M | Margin : -24.2%
Free cash flow: -0.9 M
Completed 3 wells in Q2 2018



Thesis:

The Permian basin is currently a huge area of interest for oil producers in the U.S and AREX is using an innovative approach of owning 100% of its infrastructure. This approach is beneficial for lowering production cost, but in order to purchase this infrastructure, AREX has incurred significant debts. This has placed them in a place of vulnerability due to the amount of leverage used. Anything from a change in commodity prices to their revolving credit facility limiting the amount they are willing to lend could make this business default very easily.

Catalysts:

- The completion of the two wells planned for Q3
- Fluctuation in commodities prices
- Paying back their 145.1 million dollar principle debt that will come due in 2020
- Construction of pipeline out of the Permian basin to help reduce current bottlenecks

Approach Resources Current Position

AREX is a great example of why it is so hard to operate a successful oil company in the Permian basin. This business requires enormous capital expenditure to get the business up and running. This unavoidable hurdle is further compounded by the fact that the energy business is Texas is no guarantee. Anything from the fluctuation in the commodities to bottlenecks in bringing your product to market, all have material impact on a business of this size. This company currently has no cash on hand, which is very concerning. Something that stood out in this company's history was in mid-2015, AREX shut down all drilling completion operations until June the following year due to commodes prices being below the cost of production. The market did not react kindly to this move. Although it kept the company alive, it made their stock price drop from $9.47 in March of 2015 to $2.25 when they started drilling again in June of 2016. Ever since then, this company has not been able to regain the ground they lost. This company has major cash flows issues that is constricting its ability to produce at a capacity that would allow them to start chipping away at their huge debts that will come due in 2020. Another business move that could potentially back fire is AREX has gone all in on reducing the cost of producing their products. In 2012 through 2014, they installed large-scale water recycling and disposal systems. This helped greatly reduce their well costs and eliminate a significant portion of their LOE (lease operating expense). The reason why this is a cause for concern is that because their production costs are so low, to lower it any further would cost millions of dollars that this business does not have for only a marginal return. This leaves AREX with only a few options; they can either produce more of their product which is difficult due to their capital restraints, borrow more and go all in on expanding their business, or start to deleverage now by selling some of their PP&E which is negatively impact every aspects of their business. Therefore, unless commodity prices increase to the point where they can operate their business with cash flows from operations, this company is in a dangerous position.

11) Adj Highlights | 12) GAAP Highlights | 13) Earnings | 14) Enterprise Value | 15) Multiples | 16) Per Share | 17) Stock Value

In Millions of USD	2014 Y	2015 Y	2016 Y	2017 Y	Current/LTM	2018 Y Est	2019 Y Est
12 Months Ending	12/31/2014	12/31/2015	12/31/2016	12/31/2017	06/30/2018	12/31/2018	12/31/2019
Market Capitalization	254.4	75.1	139.9	279.8	158.7		
- Cash & Equivalents	0.4	0.6	0.0	0.0	0.0		
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0		
+ Total Debt	391.3	496.6	498.3	373.5	380.5		
Enterprise Value	645.3	571.0	638.2	653.3	539.2		
Revenue, Adj	260.9	183.8	96.4	101.0	109.7	120.7	134.3
Growth %, YoY	44.7	-29.5	-47.5	4.7	7.7	19.5	11.3
Gross Profit, Adj	105.5	34.4	-10.1	3.9	15.3		
Margin %	40.4	18.7	-10.4	3.9	13.9		
EBITDA, Adj	176.3	113.2	40.3	46.6	56.0	61.2	82.9
Margin %	67.6	61.6	41.8	46.2	51.0	50.7	61.7
Net Income, Adj	29.2	-15.0	-44.3	-29.8	-26.5	-27.3	-26.2
Margin %	11.2	-8.1	-46.0	-29.5	-24.2	-22.6	-19.5
EPS, Adj	0.74	-0.37	-1.07	-0.36	-0.30	-0.30	-0.29
Growth %, YoY	77.5	–	-189.0	66.3	59.1	17.5	3.4
Cash from Operations	171.6	102.7	26.1	37.5	35.5		
Capital Expenditures	-393.5	-151.2	-19.8	-47.1	-36.4	-55.6	-74.0
Free Cash Flow	-221.9	-48.5	6.3	-9.6	-0.9		

Ownership:

Something every important to note with AREX ownership is as of January 12, 2018, Wilks Brothers, LLC and SDW Investments, LLC ("Wilks") owned 45,239,713 shares of our common stock, representing approximately 48% of AREX outstanding common stock. According to AREX's stockholders agreement with Wilks, Wilks is entitled to appoint three of the seven members of our board of directors. This allows Wilks to exert its will over AREX with little additional effort. Wilks may have interests that do not align with AREX's interests and with the interests of its stockholders, which could have an adverse impact on their operation as a whole. This amount of ownership of AREX by one party could also become a potential issue if AREX was to be acquired. Wilks is currently subject to a stockholders agreement that caps their share ownership at 48.61% of AREX's outstanding common stock. If Wiliks obtains more than 50% of the common shares outstanding, they could force AREX to make financial decisions that their lenders do not agree with, thus cutting off its much needed funding. This could leave AREX dead in the water.

1) Current | 2) Historical | 3) Matrix | 4) Ownership Summary | 5) Insider Transactions | 6) Options | 7) Debt

Compare Current Stats Against 10/28/18

Institutional - Based on Current Filings

51) Institutional	10/28/18	Curr	Change
11) % of Shares Held	26.94	26.94	0.00
12) % of Float Held	57.19	57.19	0.00
13) # of Institutions	117	118	+0.85%
14) # of Buyers	35	35	0.00%
15) # of Sellers	24	23	-4.17%
16) # of New Buyers	11	11	0.00%
17) # of Selloffs	15	15	0.00%
18) % Chg in Inst Positions	+18.36	+18.39	+0.03

Insider - Based on Last 6 Months

52) Insider	10/28/18	Curr	Change
21) % of Shares Held	5.02	5.02	0.00
22) % Chg Insider Positions	+0.63	+0.63	0.00
23) # of Insiders	9	9	0.00%
24) # of Buyers Opn Mkt	0	0	
25) # of Sellers Opn Mkt	0	0	
26) # of Shrs Bought Opn Mkt	0	0	
27) # of Shrs Sold Opn Mkt	0	0	
28) Avg Opn Mkt Buy Price	0	0	0.00
29) Avg Opn Mkt Sell Price	0	0	0.00

Top Geographic Ownership (%)

53) Geographic	10/28/18	Curr	Change
31) UNITED STATES	82.3	82.3	0.00
32) Unknown	16.15	16.15	0.00
33) LUXEMBOURG	0.61	0.61	0.00
34) UNITED KINGDOM	0.55	0.55	0.00
35) BELGIUM	0.18	0.18	0.00
36) GERMANY	0.1	0.1	0.00
37) CANADA	0.05	0.05	0.00
38) JAPAN	0.05	0.05	0.00
39) SWITZERLAND	0.03	0.03	0.00

Top Ownership Type (%)

54) Ownership Type	10/28/18	Curr	Change
41) Corporation	50.11	50.11	0.00
42) Investment Advisor	20.46	20.46	0.00
43) Other	9.86	9.86	0.00
44) Private Equity	7.15	7.15	0.00
45) Individual	6.29	6.29	0.00
46) Hedge Fund Manager	3.01	3.01	0.00
47) Pension Fund	2.08	2.08	0.00
48) Insurance Company	0.52	0.52	0.00
49) Unclassified	0.27	0.27	0.00

Search Name: All Holders, Sorted by Size | 21) Save Search | 22) Delete Search | 23) Refine Search

Text Search | Holder Group: All Holders | Investment Manager View

24) Color Legend | Shrs Out 94.5M | % Out 47.88 | Float/Shrs Out 47.10 | SI % Out 8.84

	Holder Name	Portfolio Name	Source	Opt	Position	% Out	Latest Chg	File Dt
			Mixed	All				
1.	Wilks Brothers LLC	Wilks Brothers ...	13F		45,239,713	47.88	7,440,300	06/30/18

Debt

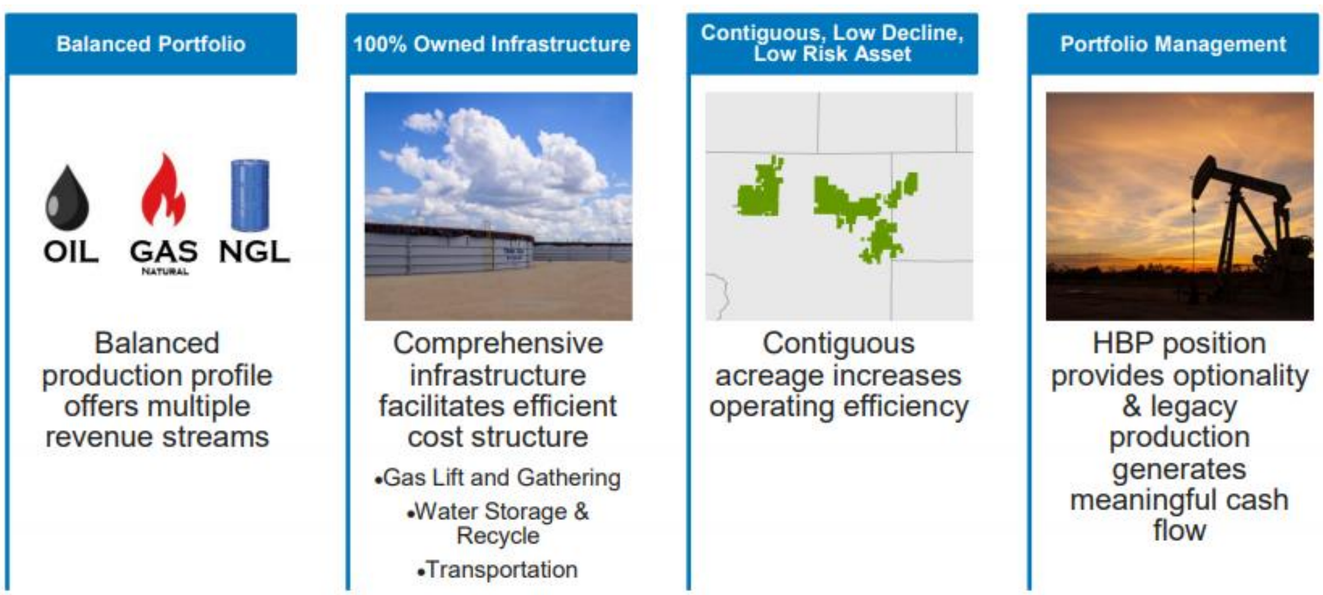
Debt is a major issue for AREX. As of right now, debt is a significant portion of it's' enterprise value. ~ 72% of this company's enterprise value is represented by debt. Although the dollar value is high, the main area of concern is how the total net amount of debt hasn't changed in over 4 years. This company has many constants that stop it from operating at full capacity. Its lack of access to cash is a major hurdle that must be overcome in order from this business to survive. This is all compounded by the fact that AREX hasn't had a positive net income in over 3 years. Besides the exception of 2016 where they had $6.3 million in free cash flow, from 2010 to the present this company hasn't generated positive free cash flows. This is a major red flag considering that this business is replying on positive cash flows from operations to fund its current production. AREX is barley covering there cost to operate while having a huge debt burden looming in the near future. This business is contracting due to the huge burden of its' debt and if unless there is a major change of current events, AREX will only further bleed value.

Cash from Operations	125.6	171.6	102.7	26.1	37.5	35.5	
Capital Expenditures	-296.8	-393.5	-151.2	-19.8	-47.1	-36.4	-55.6
Free Cash Flow	-171.3	-221.9	-48.5	6.3	-9.6	-0.9	

Cash flows from 2013 to 2018 estimate

Growth potential

Although there are major flaws in AREX, this company still has the ability to grow and prosper. AREX has four strategic pillars for long-term value creation. First, their product mix allows them to diversify their risk from only having one commodity to offer. They have a mix of 40% natural gas, 28% oil and 32% NGLs (natural gas liquids). This allows AREX to not have all their eggs in one basket and adjust to the commodity that provides the best return. The second pillar is their infrastructure. Since it is 100% owned, anything they produce is generating money for their business. Although they have a major debt obligation coming down the pike, this company has positioned its self to be able to react very quickly to changing market conditions. This is because AREX owns all the equipment that is covers the life cycle of production from drilling to transportation of its products. In addition, once it covers the cost of day-to-day operations, any additional revenue generated is profit. Third, AREX's position in the basin is advantageous due to their contiguous acreage that increases operational efficiency. Lastly, their HPB position allows them to collect on legacy production from previous projects. HPB is a provision in oil, gas and material lease that as long as the property generates the minimum paying quantity of gas or oil, they have the right to operate there.



Competition:

Approach Resources is suffering from economies of scale. Due to their market cap being less than 10% of its closest competitor, everything they do, whether it be negotiating power for land leases or a change in price of its differentials, has a material impact on this company. AREX is suffering because of its use of leverage. They do not want to borrow any more to further increase its' debt obligations, but if they do not obtain more capital to use for day-to-day operations, they cannot produce at a volume that is beneficial to them. Unlike their counterparts, AREX does not have much, if any cash on hand to help cushion the blow of unexpected event like oil price volatility or capitalize on a A&M opportunity. This places them at a significant disadvantage because something such as a merger or acquisition is exactly what this business needs to turn the company around.

Name (BI Peers)	Mkt Cap (USD)	Rev - 1 Yr Gr:Y	ROE	WACC Cost of Debt (After Tax)	Adj ROIC AR	ROIC/WACC Ratio	Debt/Com Eq LF	Tot Dbt/EBITDA aft CAPEX
Median	7.77B	39.69%	7.79%	3.75%	2.52	0.92	37.35%	-5.16
100) APPROACH RESOURCES INC	148.34M	4.72%	-4.65%	4.44%	-3.04	0.75	64.35%	19.44
101) DIAMONDBACK ENERGY INC	11.28B	129.39%	12.88%	4.62%	7.04	1.22	34.93%	-2.36
102) PARSLEY ENERGY INC-CL...	7.83B	83.27%	8.29%	3.86%	2.54	0.65	39.77%	-2.67
103) PIONEER NATURAL RESO...	25.03B	27.84%	7.29%	3.32%	1.31	0.48	19.90%	-4.89
104) LAREDO PETROLEUM INC	1.24B	7.04%	30.28%	4.03%	9.29	2.04	94.12%	-5.42
105) ENERGEN CORP	7.17B	60.87%	6.73%	3.64%	1.61	1.02	22.85%	-29.38
106) CIMAREX ENERGY CO	7.70B	51.54%	21.40%	3.38%	10.66	2.18	51.54%	-47.06
107) CONCHO RESOURCES INC	28.25B	17.91%	5.09%	3.37%	2.51	0.82	24.55%	-91.96

Metric	AREX	Low	Comp Range	High
Est P/E Current Yr	N.A.	4.81		29.70
EV/EBITDAX	31.78	27.92		40.26
Sales Growth Yoy ...	4.72	4.72		129.39
EBITDA Margin (%)	46.17	38.38		77.43
Oil & Gas Prod (M...	11.60k	11.60k		272.33k

AREX US Median

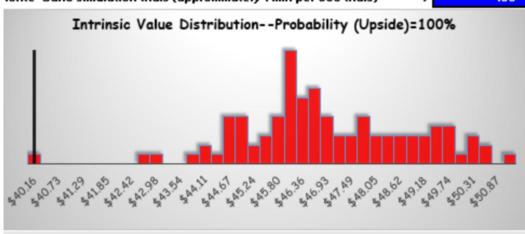
Base/Bear/Bull cases

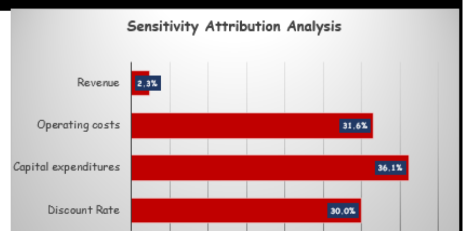
Base case:

	Intrinsic Value	1y-Target Price	1-year Div. Yield	1-y Target Return
Valuation with UFCF	$ 1.60	$ 2.92	0.0%	82.32%
Market and Analysts' Median Target	$ 1.67	$ 2.75	0.0%	64.52%

KVD--Random Variables	Deviation from estimate
Revenue	0.0%
Operating costs	0.0%
Capital expenditures	0.0%
Discount Rate	0.0%

Monte-Carlo simulation trials (approximately 1 min per 300 trials)-------> 100





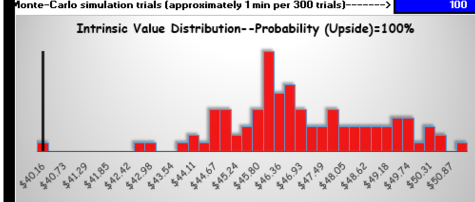
Statistics	Intrinsic Value	Target Value
Base Case	**$1.60**	**$2.92**
Mean	$46.80	$2.92
Median	$46.55	$2.92
Standard Deviation	$1.97	$1.97
Mean Std. Error	$0.20	$0.20

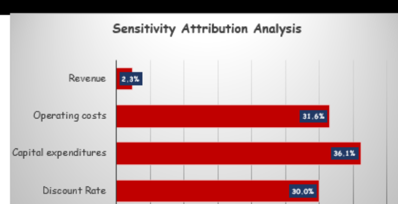
Bear case

	Intrinsic Value	1y-Target Price	1-year Div. Yield	1-y Target Return
Valuation with UFCF	$ 0.87	$ 2.13	0.0%	146.22%
Market and Analysts' Median Target	$ 1.67	$ 2.75	0.0%	64.52%

KVD--Random Variables	Deviation from estimate
Revenue	-2.0%
Operating costs	0.0%
Capital expenditures	2.0%
Discount Rate	0.0%

Monte-Carlo simulation trials (approximately 1 min per 300 trials)-------> 100





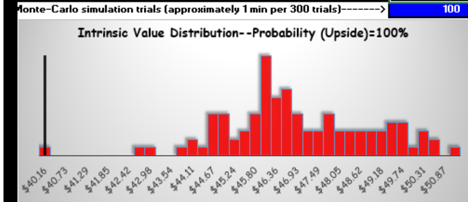
Statistics	Intrinsic Value	Target Value
Base Case	**$0.87**	**$2.13**
Mean	$46.80	$2.13
Median	$46.55	$2.13
Standard Deviation	$1.97	$1.97
Mean Std. Error	$0.20	$0.20

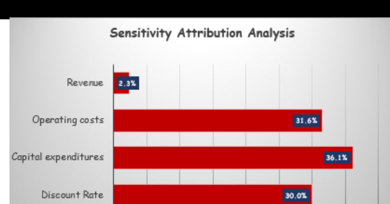
Bull case:

	Intrinsic Value	1y-Target Price	1-year Div. Yield	1-y Target Return
Valuation with UFCF	$ 2.35	$ 3.73	0.0%	58.35%
Market and Analysts' Median Target	$ 1.67	$ 2.75	0.0%	64.52%

KVD--Random Variables	Deviation from estimate
Revenue	2.0%
Operating costs	0.0%
Capital expenditures	-2.0%
Discount Rate	0.0%

Monte-Carlo simulation trials (approximately 1 min per 300 trials)-------> 100





Statistics	Intrinsic Value	Target Value
Base Case	**$2.35**	**$3.73**
Mean	$46.80	$3.73
Median	$46.55	$3.73
Standard Deviation	$1.97	$1.97
Mean Std. Error	$0.20	$0.20

Conclusion:

AREX as a whole is a company with great large-scale ideas, but lacks the cash flow to realize any major changes. Like was stated before, the thing that plays the largest role in their ability to grow is their huge debt burden. Since this company has not generated any meaningful cash flows to chip away at the looming debt maturity, this will force APEX to make major sacrifices to cover their debt obligation. Whether that be refinancing the debt to starch out the time horizon or selling off some of its PP&E, unless they can produce enough to cover their debt obligations, they will have to take a significant hit in their bottom line. Another major hurdle is their ownership. Since Wilks owns such a Signiant portion of this company and is allowed to elect 3 of the 7 board members, they can steer the company in a direction that is in the best interest of Wilks, not AREX. This could mean that Wilks would force AREX to sell its PP&E to cover its debts, which would deal a massive blow to this company as a whole. Not everything is negative. AREX owns its entire infrastructure. This means that if macro factors such an increase in commodity pricing, AREX would be able to capitalize on this and help elevate its debt burden. Oil commodity prices have been very low in October, which has had a macro effect on the whole industry. APEX is no exception. Although I believe that we should sell our position in this company due to all the negative attributes, waiting for oil prices to rise to above 70 would allow us to sell at a position to minimize the losses we have incurred.

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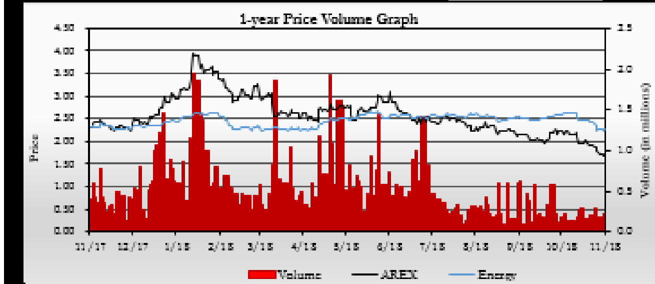
BULLISH

(AREX)

Analysis by Al Capone	Current Price:	$1.67	Intrinsic Value	$46.21	Target 1 year Return: 39.5%
11/3/2018	Divident Yield:	0.0%	Target Price	$2.33	Probability of Price Increase: 100%



Description

Approach Resources, Inc., an independent energy company, focuses on the acquisition, exploration, development, and production of unconventional oil and gas reserves in the United States.

General Information

Sector	Energy
Industry	Oil, Gas and Consumable Fuels
Last Guidance	May 8, 2018
Next earnings date	November 8, 2018

Market Assumptions

Estimated Equity Risk Premium	5.21%
Effective Tax rate	21%

Market Data

Market Capitalization	$154.32
Daily volume (mil)	0.09
Shares outstanding (mil)	91.31
Diluted shares outstanding (mil)	91.47
% shares held by institutions	35%
% shares held by investments Managers	15%
% shares held by hedge funds	3%
% shares held by insiders	5.40%
Short interest	9.15%
Days to cover short interest	35.76
52 week high	$4.21
52-week low	$1.61
Volatility	85.26%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
6/30/2017	-2.84%	-27.68%
9/30/2017	1.42%	-34.92%
12/31/2017	-0.01%	-12.20%
3/31/2018	-2.03%	-29.48%
6/30/2018	0.73%	-30.64%
Mean	-0.55%	-26.98%
Standard error	1.0%	21.6%

Market and Credit Scores

Recommendation (STARS) Value--0
Recommendation (STARS) Description--0
Quality Ranking Value--C
Quality Ranking Description--Lowest
Short Score--2
Market Signal Probability of Default % (Non-Ratings)--12.75%
CreditModel Score (Non-Ratings)--b+

Industry and Segment Information

LTM Revenues by Geographic Segments	LTM Revenues by Business Segments
United States--82%	Exploration and Production of Oil, NGLs and Natural
UNKNOWN--16%	--
LUXEMBOURG--1%	--
UNITED KINGDOM--1%	--
--	--

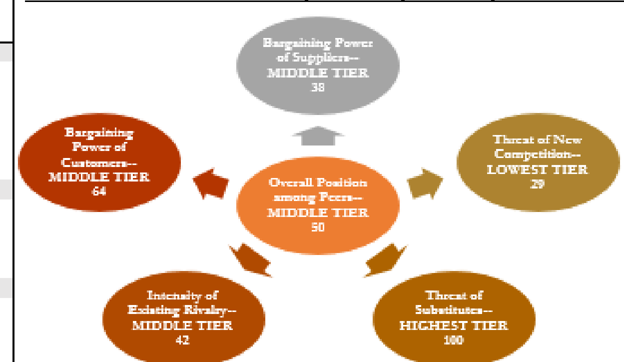
Peers

Cimarex Energy Co.	Pioneer Natural Resources Company
Laredo Petroleum, Inc.	Diamondback Energy, Inc.
Concho Resources Inc.	--
Energen Corporation	--
Parsley Energy, Inc.	--

Management	Position	Total Compensations Growth	Stock Price Growth During Tenure
Craft, J.	Founder, Chairman & CEO	-0.22% per annum over 5y	-11.65% per annum over 5y
Yang, Qingming	President & COO	-16.29% per annum over 5y	-11.65% per annum over 5y
Krylov, Sergei	Executive VP& CFO	-29.69% per annum over 3y	-28.52% per annum over 3y
Henderson, J.	Chief Administrative Officer & Corporate Secr	0.17% per annum over 5y	-11.65% per annum over 5y
Shaw, Ian	Principal Accounting Officer		
ogle, Suzanne	Vice President of Investor Relations and Corp		

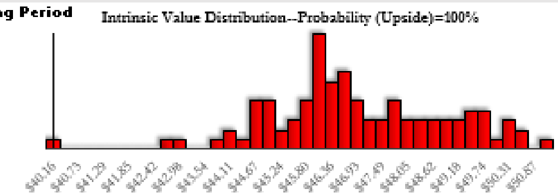
Profitability	AREX (LTM)	AREX Historical	Peers' Median (LTM)
Return on Capital (GAAP)	-2.3%	-0.87%	9.29%
Operating Margin	-27%	1.31%	67.93%
Revenue/Capital (GAAP)	0.09	-0.67	0.14
ROE (GAAP)	2.8%	7.6%	10.4%
Net margin	14.4%	24.3%	26.5%
Revenue/Book Value (GAAP)	0.191731925	0.31	0.39
Invested Funds	**AREX (LTM)**	**AREX Historical**	**Peers' Median (LTM)**
Cash/Capital	0.0%	0.0%	4.8%
NWC/Capital	-0.7%	-0.2%	-3.8%
Operating Assets/Capital	100.7%	100.1%	97.2%
Goodwill/Capital	0.0%	0.0%	0.0%
Capital Structure	**AREX (LTM)**	**AREX Historical**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.36	0.36	0.24
Cost of Debt	6.1%	6.0%	5.0%
CGFS Rating (F-score, Z-score, and default Probabili	B		
WACC	6.9%	7.2%	9.6%

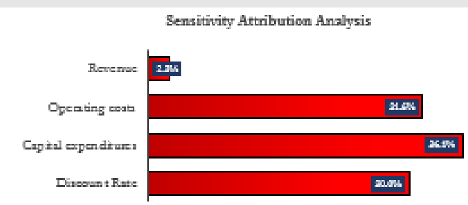
Porter's 5 forces (Scores are percentiles)



Valuation

Forecast Assumptions	Explicit Period (15 years)	Continuing Period
Revenue Growth CAGR	14%	2.5%
Average Operating Margin	60%	72%
Average Net Margin	32%	28%
Growth in Capital CAGR	8%	3%
Growth in Claims CAGR	0%	3%
Average Return on Capital	7%	8%
Average Return on Equity	10%	8%
Average Cost of Capital	9%	11%
Average Cost of Equity	13%	13%





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November 1, 2018

Ducommun Inc: (DCO)

Zachary Girvin

Sector: Industrials
Industry: Aerospace and Defense
Current Price: $36.93
Target Price:$42.12

Company Description:

Ducommun is a global provider of manufacturing and engineering services, developing innovative electronic, engineered and structural solutions for complex applications in aerospace, defense and industrial markets. Our full-service collaborative approach, broad capabilities and value-added services like new product introduction, supply chain strategies and program management deliver value for our customers and innovative solutions for their complex electronic and structural needs.

BUY

Current Price:	$36.93
Target Price:	$42.12
Market Cap:	0.4211 M

Key LTM Data

	DCO	Peers
NOPAT Margin	3.84%	5.40%
Adj. NI Margin	2.57%	1.25%
ROIC	3.82%	22.51%
ROE	3.82%	-28.15%
Total Debt/Capital	35.44%	8.88%
Kd	5.06%	5.00%
Default Rating	1.38%	0.17%
Ke	12.10%	12.46%
WACC	7.68%	11.67%

Thesis:

The aerospace and defense market is not looking to slow down. With current administration and a larger defense budget, improvement are always looking to be made. While Ducommun will not revolutionize the industry at less than a billion dollars of market cap, they hold a prime spot in this industry. Ducommun understands this and has leveraged their company in order to take full advantage of an expanding market. Moving forward, Ducommun will see a steadily growing revenue flow and increased efficiencies with newly acquired companies which will create value for DCO.

Catalysts:

- Short Term: 2018 Q3 Revenue announcement
- Midterm elections and political landscape until 2020
- Ducommun's customer's growth and their ability to reduce capex while maintaining steady growth

Earnings Performance:

In 2015, due to a shrinking outlook on defense, the aerospace industry took a hit and DCO went down with it. They are heavily reliant on Boeing and Airbus as their main source of revenue and in a receding industry, larger companies were not pushing growth and expansion which hurt DCO. However, they have been rebounding and fueling a new growth due to an expanding market. They have made several cuts to their business lines, focusing on a core model which helped them cut out underperforming segments. They recently acquired Certified Thermoplastics to expand on their end line market. They have specialized resin material that has a wide range of aerospace applications. CTP has expanded their market portfolio and has increased revenues with their proprietary capabilities. This was shown as the merger went through in late April of this year and the earnings for that quarter had already beat expectations. This should be expected to continue, especially as they have made such large Capital expenditures, investing in the business to allow for organic growth of the new segment. Also looking at their growth in Net Income, the company has positioned itself well to see a significant bottom line increase due to their financial leverage. To date, Ducommun has provided an astounding bounce back and looks to continue revenue growth and see positive changes to net income in years to come. As the table above shows, a 1.4%v increase in revenues was shown during a year with 12.7% growth in Market Cap. In the last twelve months a 6.1% growth in revenue led to a 30.6% increase in Market cap. DCO needs revenue to thrive in their industry. Lucky for them the political party in power favors a strong military which will benefit the company, and major consumers of DCO's products including Boeing and Airbus are showing similar growth which can only mean good things for Ducommun.

DCO US Equity 96) Actions 97) Export 98) Settings Financial Analysis
ADJ Ducommun Inc Periodicity Annuals Cur USD
1) Key Stats 2) I/S 3) B/S 4) C/F 5) Ratios 6) Segments 7) Addl 8) ESG 9) Custom
11) Adj Highlights 12) GAAP Highlights 13) Earnings 14) Enterprise Value 15) Multiples 16) Per Share 17) Stock Value

In Millions of USD	2014 Y	2015 Y	2016 Y	2017 Y	Current/LTM	2018 Y Est	2019 Y Est
12 Months Ending	12/31/2014	12/31/2015	12/31/2016	12/31/2017	06/30/2018	12/31/2018	12/31/2019
Market Capitalization	276.9	179.8	286.1	322.4	421.1		
- Cash & Equivalents	45.6	5.5	7.4	2.2	3.5		
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0		
+ Total Debt	290.1	245.0	166.9	216.1	231.2		
Enterprise Value	521.3	419.4	445.6	536.3	648.7		
Revenue, Adj	742.0	666.0	550.6	558.2	586.2	613.5	634.3
Growth %, YoY	0.7	-10.2	-17.3	1.4	6.1	9.9	3.4
Gross Profit, Adj	140.3	100.8	106.2	102.8	110.5	118.8	124.3
Margin %	18.9	15.1	19.3	18.4	18.8	19.4	19.6
EBITDA, Adj	80.8	43.8	52.8	55.1	54.8	65.8	73.7
Margin %	10.9	6.6	9.6	9.9	9.3	10.7	11.6
Net Income, Adj	18.2	8.1	14.7	14.4	18.9	16.4	26.8
Margin %	2.5	1.2	2.7	2.6	3.2	2.7	4.2
EPS, Adj	1.64	0.74	1.31	1.25	1.63	1.49	2.28
Growth %, YoY	11.8	-55.1	77.5	-4.4	20.9	19.2	53.3
Cash from Operations	53.4	23.7	43.3	35.4	45.4		
Capital Expenditures	-18.1	-15.9	-17.0	-87.4	-106.0	-15.5	-17.0
Free Cash Flow	35.3	7.8	26.3	-52.0	-60.6	35.4	39.4

Cost of Capital:

	Adj. Market Value	INT	Maturity (years)	Implied Cost	Tax Rate	Weights
DEBT	$475.00	5.06%	1.65	5.06%	21.31%	53.01%
PREF	$0.00	0.00%		0.00%		0.00%
MI	$0.00			11.42%		0.00%
Equity	$421.06			11.417%		46.99%
WACC				7.475%		

An important aspect to look at when accessing DCO is their capital structure which sits at 53% debt and 47% Equity. While this may seem troubling for a small company, you must first look at industry norms. This level of debt is concerning, but they have managed it well, and have kept a relatively low WACC.

The diagram below shows a sector comparison for DCO's debt. The orange mark is the industry median, which DCO fits into, with it's only outlier being Liabilities / EBITDA. This should come as a relief to some skeptical investors because aerospace is a specific industry that requires substantial financing to undergo capital projects. As a measure of interest coverage they are right about at the median, which shows that even though they have taken on debt, they haven't moved to junk ratings because this is an industry standard.

20) Sector Comparison | DRAM »

United States of America - Industrials: Aerospace & Defense

Credit Metric	DCO	10 Pctl	Range	90 Pctl
Debt/Equity (%)	91.7	0.0		156.8
22) Int Coverage	1.8	-15.3		18.7
ROA (%)	3.7	-116.1		10.1
24) Liab/EBITDA	218.6	-104.8		207.1
EBIT/Int Exp	1.8	-15.3		21.5

● DCO ◆ Median ◆ Wtd Avg

ROC and ROIC:

Ducommun has simply not been as effective in years past as it's primary competitors have been. With that being said, Ducommun has pushed past competition in the past 12 months. This was fueled by new management and several investor friendly projects that have lead to innovative, and value creating segments for DCO. If you look at the first diagram NOPAT / Invested Capital is at 7.3%. We have already looked at the amount of money DCO is dumping into their company, so this shows how their after tax profit has

ROIC/WACC Decomposition

ROIC (NOPAT/IC)

	History	*LTM*
DCO	4.6%	7.3%
Competitors	5.3%	6.8%
Target	6.7%	

soared to keep the measure so high. DCO however does not have to continue high priced investments and acquisitions to create value. They will do so by working with suppliers and consumers to provide a better supply chain process and a more stable one, Both which will benefit investors.

The next diagram shows ROC/WACC. This number is 0.8 which will not necessarily good for DCO, is better than it has been in years past. Over double. The last twelve months has shown a significant increase in the return on their capital and they haven't had a significant increase in their WACC that would take away from this. I know the hardest part to see about the potential in this company is their amount of debt, but every metric I have shown supports the fact that DCO has been responsible with their debt. And that they know how to handle the industry that demands risk in the form of financial leverage in order to be able to sustain themselves.

ROC / WACC		
	History	*LTM*
DCO	**0.39**	**0.80**
Competitors	**0.61**	**0.65**
Target	**0.73**	

Macro Outlook:

This section is one that holds substantial value in the valuation of Ducommun. They are influenced heavily by external factors that impact their customers, but also the industry as a whole. The good news is that war and defense budget increases do not seem likely to slow down soon, so Ducommun is ready to make the most of a favorable market. A key element though is that I believe with their growth potential and quality leadership Ducommun is severely undervalued currently. There is growth potential, especially if the past 12 months is any indicator of the new DCO. They have improved margins and their bottom line and look to make their operations efficient moving forward which will benefit the company.

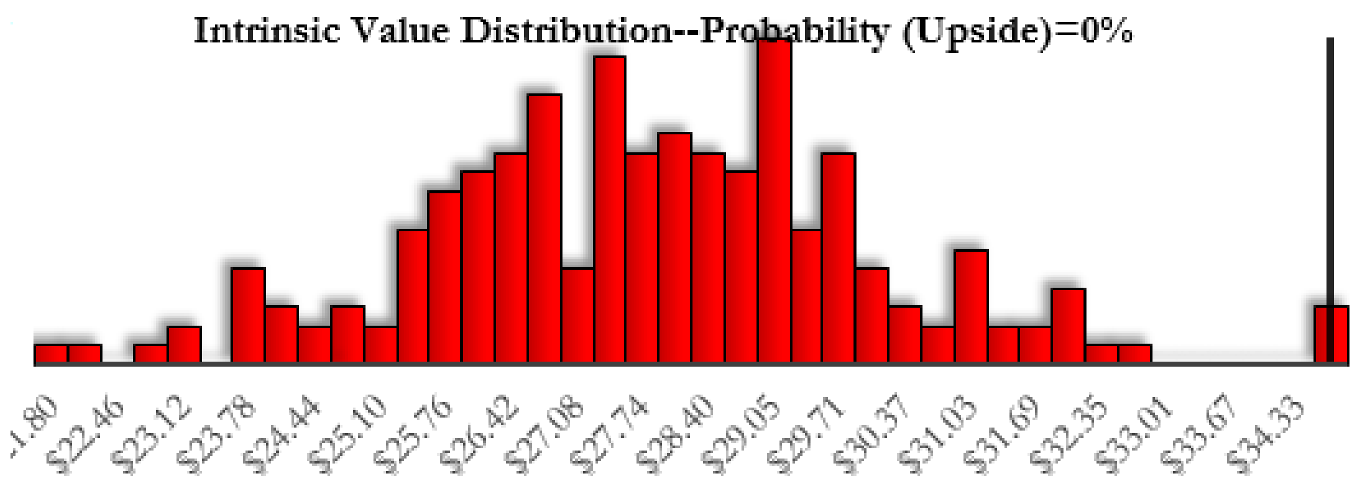
Revenue, Adj	742.0	666.0	550.6	558.2	586.2
Growth %, YoY	0.7	-10.2	-17.3	1.4	6.1
Gross Profit, Adj	140.3	100.8	106.2	102.8	110.5
Margin %	18.9	15.1	19.3	18.4	18.8
EBITDA, Adj	80.8	43.8	52.8	55.1	54.8
Margin %	10.9	6.6	9.6	9.9	9.3
Net Income, Adj	18.2	8.1	14.7	14.4	18.9
Margin %	2.5	1.2	2.7	2.6	3.2
EPS, Adj	1.64	0.74	1.31	1.25	1.63
Growth %, YoY	11.8	-55.1	77.5	-4.4	20.9
Cash from Operations	53.4	23.7	43.3	35.4	45.4
Capital Expenditures	-18.1	-15.9	-17.0	-87.4	-106.0
Free Cash Flow	35.3	7.8	26.3	-52.0	-60.6

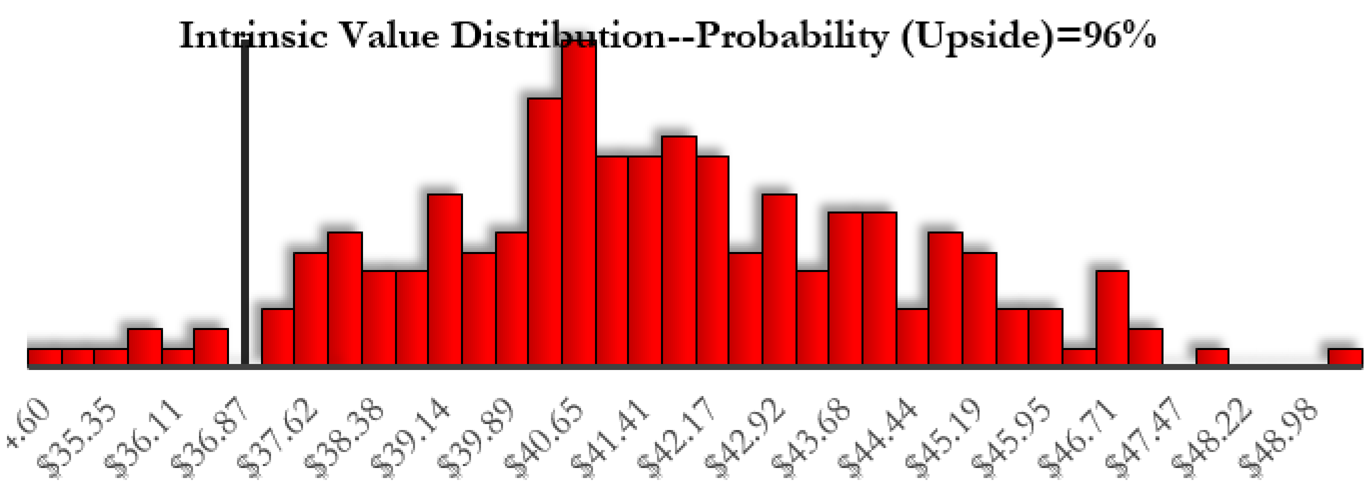
Conclusion:

I believe that for all of the reasons stated above there is substantial grounds for justification in the intrinsic value of the company. However, I ran two other scenarios, one in which revenues were ran at a continuing period assumption starting in 2019. This rate was a 2.5% growth in revenues year over year which led to an estimated target price in one year of $31.16. I also ran a bull case wear macro trends continued to favor the industry, possible if certain leaders are reelected in 2020, which would favor the continued expansion in aerospace and defense. This stated a similar 5 year revenue growth as my base case did, but growth was higher in later years to reflect the prolonging of a low, but higher than GDP revenue growth.

The discount rate and revenues play a big factor in the pricing of DCO. With that being said, they have taken on the appropriate amount of debt for the industry and they show promising prospects to increase revenues year over year.

Buy DCO.





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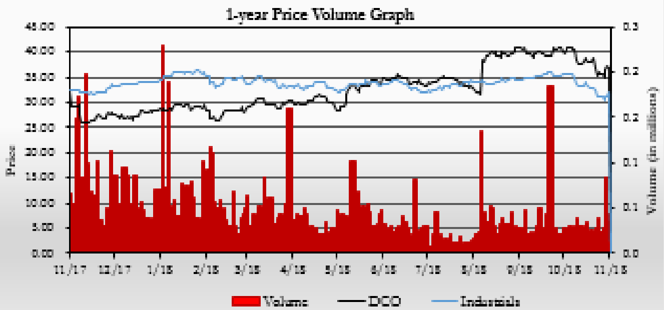
CENTER FOR GLOBAL FINANCIAL STUDIES

Ducommun Incorporated (DCO)

Analysis by Zachary Girvin

11/2/2018

Current Price:	$36.93	Intrinsic Value	$37.57	NEUTRAL	Target 1 year Return: 14.07%
Divident Yield:	0.0%	Target Price	$42.12		Probability of Price Increase: 72



Description

Ducommun Incorporated provides engineering and manufacturing products and services primarily to the aerospace, defense, industrial, natural resources, medical, and other industries in the United States.

General Information

Sector	Industrials
Industry	Aerospace and Defense
Last Guidance	May 8, 2018
Next earnings date	November 5, 2018

Market Assumptions

Estimated Equity Risk Premium	6.36%
Effective Tax rate	21%

Market Data

Market Capitalization	$421.06
Daily volume (mil)	0.02
Shares outstanding (mil)	11.40
Diluted shares outstanding (mil)	11.58
% shares held by institutions	57%
% shares held by investments Managers	67%
% shares held by hedge funds	12%
% shares held by insiders	8.53%
Short interest	0.67%
Days to cover short interest	2.27
52 week high	$41.40
52-week low	$25.06
Volatility	43.08%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
7/1/2017	1.73%	-7.67%
9/30/2017	-2.79%	-10.87%
12/31/2017	-2.11%	-41.33%
3/31/2018	5.21%	-0.82%
6/30/2018	4.26%	19.56%
Mean	**1.26%**	**-8.23%**
Standard error	1.0%	4.6%

Market and Credit Scores

Recommendation (STARS) Value--0
Recommendation (STARS) Description--0
Quality Ranking Value--C
Quality Ranking Description--Lowest
Short Score--0
Market Signal Probability of Default % (Non-Ratings)--1.38%
CreditModel Score (Non-Ratings)--b+

Industry and Segment Information

LTM Revenues by Geographic Segme	LTM Revenues by Business Segments
United States--90%	Structural Systems--43%
Foreign--10%	Electronic Systems--57%
--	--
--	--
--	--

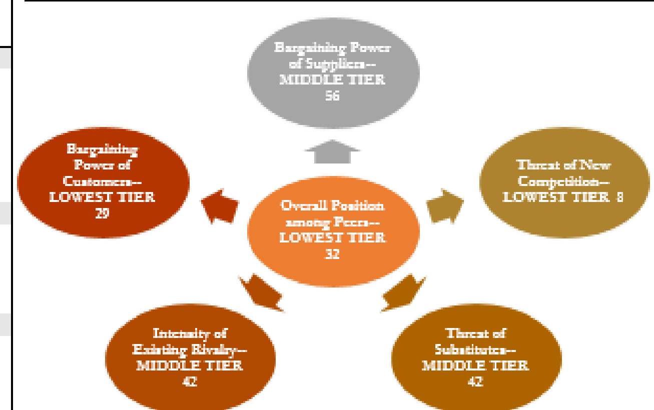
Peers

Magellan Aerospace Corporation	--
Cubic Corporation	--
--	--
--	--
--	--

Management	Position	Total Compensations Growt	Stock Price Growth During Tenure
Oswald, Stephen	Chairman, President & CEO		0% per annum over 0y
Groves, Douglas	VP, CFO & Treasurer	17.18% per annum over 4y	-5.33% per annum over 4y
Redondo, Jerry	Senior VP of Operations & Head of Ducommu	33.36% per annum over 3y	-5.28% per annum over 3y
Rogers, Rosalie	VP & Chief Human Resources Officer	4.92% per annum over 5y	11.78% per annum over 5y
Wampler, Christopher	VP, Controller & Chief Accounting Officer		
Wright, Kevin	Vice President of Strategy & Business Develc		

Profitability	DCO (LTM)	DCO Historical	Peers' Median (LTM)
Return on Capital (GAAP)	7.3%	4.56%	6.79%
Operating Margin	7%	4.43%	8.94%
Revenue/Capital (GAAP)	1.07	1.03	0.76
ROE (GAAP)	7.3%	8.2%	7.1%
Net margin	2.8%	2.9%	4.9%
Revenue/Book Value (GAAP)	2.606234812	2.86	1.46
Invested Funds	**DCO (LTM)**	**DCO Historical**	**Peers' Median (LTM)**
Cash/Capital	0.2%	4.7%	6.8%
NWC/Capital	28.2%	27.8%	26.7%
Operating Assets/Capital	45.2%	42.5%	51.0%
Goodwill/Capital	26.4%	25.6%	15.5%
Capital Structure	**DCO (LTM)**	**DCO Historical**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.49	0.57	0.16
Cost of Debt	5.5%	7.8%	5.0%
CGFS Rating (F-score, Z-score, and default Probabi	CCC		
WACC	7.2%	9.2%	10.1%

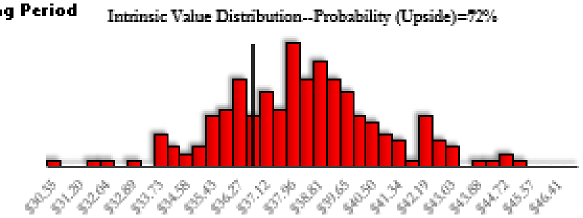
Porter's 5 forces (Scores are percentiles)



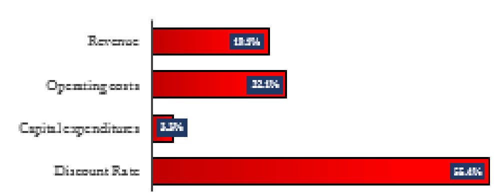
Valuation

Forecast Assumptions	Explicit Period (10 years)	Continuing Period
Revenue Growth CAGR	4%	2.5%
Average Operating Margin	12%	12%
Average Net Margin	6%	7%
Growth in Capital CAGR	6%	3%
Growth in Claims CAGR	0%	3%
Average Return on Capital	7%	6%
Average Return on Equity	9%	6%
Average Cost of Capital	7%	8%
Average Cost of Equity	10%	10%

Intrinsic Value Distribution--Probability (Upside)=72%



Sensitivity Attribution Analysis



November 2, 2018

KLAC

Kyle Agresta

Sector: Information Technology
Industry: Semiconductor and Semiconductor Equipment
Current Price: 94.92
Target Price: 119.52

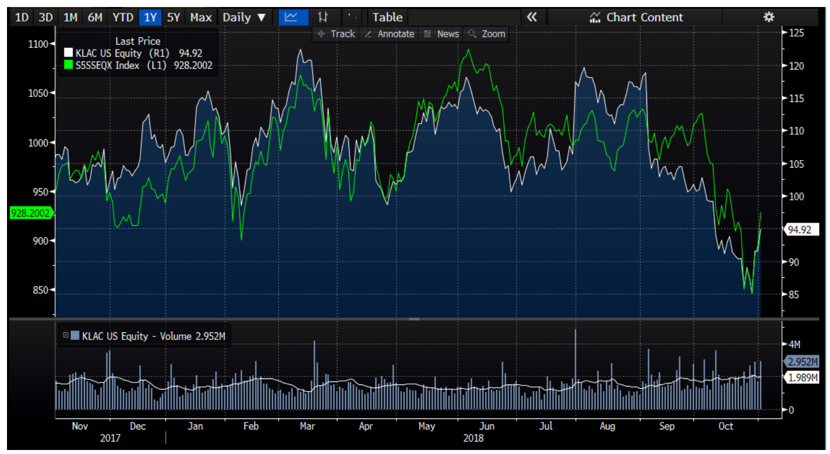
KLA-Tencor Corporation manufactures yield management and process monitoring systems for the semiconductor industry. The Company's systems are used to analyze product and process quality at critical steps in the manufacture of circuits and provide feedback so that fabrication problems can be identified. KLA-Tencor operates sales, service, and application centers worldwide.

BUY @ CURRENT PRICE

Current Price: $94.92
Target Price: $119.52
Market Cap: 8.73B
EBITA Margin: 40%
Average Daily Volume: 2.95

Key LTM Data

	KLAC	Peers
NOPAT Margin	20.6%	17.35%
Adj. NI Margin	18.4%	16.55%
ROIC	5.63%	11.27%
ROE	4.92%	10%
Total Debt/Capital	13.35%	11.22%
Kd	4.4	4.14%
Default Rating	0.90%	1.17%
Ke	12%	11.45%
WACC	11%	8.71%



Thesis: Compared to competitors like Applied Materials Inc. and Lam Research Corporation; KLA-Tencor (KLAC) is best in class in EBITDA margin and in ROE. They are showing strong signs of continued growth. They are not showing signs of slowing down and have acquired many companies over the years; KLA has acquired three companies since 2017 two of them in 2018. They acquired Zeta Instruments in 2017 and, acquired Nanomechanics, Inc. and are acquiring Orbotech in 2018. The acquisitions that they enacted are expected to expand their brand portfolio and keep them in a top position. They have continued over the years to grow as a best in class stock and have loyal customers that they continue to service and innovate for. I see KLAC continuing its growth and the price of the stock to go bullish.

Catalysts:

- Short Term(within the year): Acquired two companies and looking for more acquisitions for better products
- Mid Term(1-2 years): growth in demand for semiconductors
- Long Term(3+): continued investment in research and development

Earnings Performance:

Since 1987 KLA-Tencor has been growing as a company. Their EBITDA margin from 2012 to the last twelve months is 35% on average and is higher if you take into account from 1987 to 2012 being 40-45% on average. Their net income margin is 23% averaged over the last eight years and their total debt to market capitalization is around 15%. Their gross profit has been at 60% on average over the last eight years and revenue has grown 13% on average since 2016. ROE is at 89% LTM and total debt has decreased by 30% since 2015. They have a free cash flow of $1.16B. SG&A is at 12% average since 2012 and they have consistently had 16% average in R&D since 2012. You can see

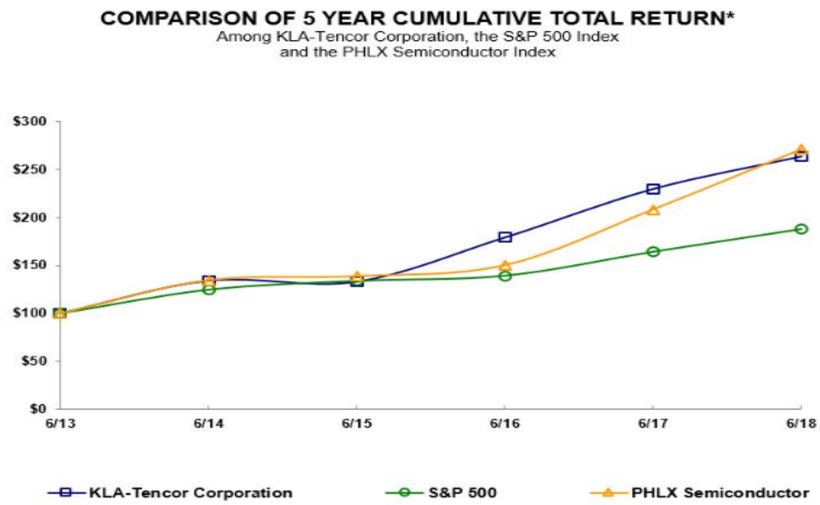
In Millions of USD	2015 Y	2016 Y	2017 Y	2018 Y	Current/LTM
12 Months Ending	06/30/2015	06/30/2016	06/30/2017	06/30/2018	09/30/2018
Market Capitalization	8,872.8	11,423.7	14,352.4	15,999.6	14,529.9
- Cash & Equivalents	2,387.1	2,491.3	3,016.7	2,880.3	2,780.3
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0
+ Total Debt	3,190.4	3,057.9	2,930.5	2,237.4	2,237.9
Enterprise Value	9,676.1	11,990.3	14,266.1	15,356.7	13,987.5
Revenue, Adj	2,814.0	2,984.5	3,480.0	4,036.7	4,160.4
Growth %, YoY	-3.9	6.1	16.6	16.0	12.5
Gross Profit, Adj	1,616.8	1,829.4	2,195.8	2,594.6	2,689.3
Margin %	57.5	61.3	63.1	64.3	64.6
EBITDA, Adj	792.7	1,063.4	1,351.7	1,618.5	1,701.4
Margin %	28.2	35.6	38.8	40.1	40.9
Net Income, Adj	485.3	727.1	934.3	1,259.7	1,359.1
Margin %	17.2	24.4	26.8	31.2	32.7
EPS, Adj	2.97	4.63	5.93	8.01	8.67
Growth %, YoY	-16.5	56.2	28.0	35.0	31.8
Cash from Operations	605.9	759.7	1,079.7	1,229.1	1,236.9
Capital Expenditures	-45.8	-31.7	-38.6	-67.0	-73.5
Free Cash Flow	560.1	728.0	1,041.1	1,162.2	1,163.4

In Millions of USD except Per Share	2015 Y		2016 Y		2017 Y		2018 Y	
12 Months Ending	06/30/2015		06/30/2016		06/30/2017		06/30/2018	
Revenue	2,814.0	100.0%	2,984.5	100.0%	3,480.0	100.0%	4,036.7	100.0%
Product	2,125.4	75.5%	2,250.3	75.4%	2,703.9	77.7%	3,160.7	78.3%
Service	688.7	24.5%	734.2	24.6%	776.1	22.3%	876.0	21.7%
Revenue - Supplementary Brea...	2,814.0	100.0%	2,984.5	100.0%	3,480.0	100.0%	4,036.7	100.0%
Defect Inspection	1,224.9	43.5%	1,293.9	43.4%	1,601.2	46.0%	1,731.8	42.9%
Metrology	737.0	26.2%	772.0	25.9%	917.2	26.4%	1,116.0	27.6%
Service	752.9	26.8%	852.2	28.6%	897.8	25.8%	1,090.7	27.0%
Other	99.4	3.5%	66.4	2.2%	63.9	1.8%	98.2	2.4%
Revenue Growth %	–		–		–		–	
Product	-7.00		6.00		20.00		17.00	
Service	7.00		7.00		6.00		13.00	
Goodwill	335.3	100.0%	335.2	100.0%	349.5	100.0%	354.7	100.0%
Wafer Inspection	332.8	99.3%	281.0	83.8%	281.1	80.4%	281.0	79.2%
Patterning	2.5	0.7%	53.3	15.9%	53.3	15.2%	53.3	15.0%
Other	0.0		0.9	0.3%	12.3	3.5%	12.4	3.5%
Service	–		0.0		2.9	0.8%	8.0	2.3%

from the picture above that defect inspection counts towards over 40% of revenue and then metrology, they have been working on neq investments and products for this segment going into 2019. KLAC plans on continuing their low single digit revenue growth to keep their low business volatility so it is consistent with the historical average. Gross margin is also aligned with the historical average and they expect it to be around 65% again in Q4. Net income continues to be a big factor along with EBITDA margin when it comes to the outlook of their stock price. They continue to keep their costs low having operating expenses in September totaling around 40%. Their capital expenditures have increased by 76% because of the acquisitions. When it comes to shipments, they totaled $1.007 billion above the $975 million midpoint for the quarter. Estimations for Q4 are around $985 million to 1.065 billion. With the Orbotech acquisition at the end of the quarter KLAC will push to further extend their diversification to their revenue base, market reach and in the electronics value chain to extend their core competencies for upcoming opportunities.

Industry Outlook

From the outlook on the demand in the industry it is heading towards long term growth. Factors that affect the industry include: market capacity planning, customer driven innovation, and advanced device architecture that KLAC sees delivering long term growth and value creation for the company, the industry, and for all stakeholders. The chart below represents KLAC outperforming the semiconductor index from 2015 to the end of 2017. The stock price dropped due



to concerns from political risk which caused investors to pull their money from the sector caused by China and potential tariff escalation. Another for the drop of KLAC was because of the earthquake in japan. The earthquake showed scares of pushing up prices of silicon wafers which is a key component that caused KLAC to lower their outlook.

Strategy

In the semiconductor industry's early years, chip defects rendered almost half of some product runs unusable. When KLA was founded their goal was to develop inspection equipment to improve semiconductor factory yields. Now KLAC has software products for factory-wide yield management and for test floor automation and control. They mainly focus on semiconductor customers but their products are also used in manufacturing for other related Nano electronics, LED's, data storage, solar cell applications, automotive, and general materials research. Their research and development activities are geared towards developing process control and yield management equipment aimed at addressing challenges professed by shrinking device sizes, transitions to new productions materials, new device and circuit architecture, more demanding lithography processes and new back-ending packaging techniques. Chip makers are laying more complex patterns down and adding steps to the production process that KLAC has done a respectable job keeping up with using new equipment to test for flaws more often and find them when they occur. Furthermore, moving forward they plan on continuing their focus on technology and market leadership.

Competition

Applied Materials Inc. (AMAT) and Lam Research Corporation (LRCX) are the two main competitors that KLA-Tencor are battling with in term of the industry. Based on the financials of each company LRCX has an average revenue growth since 2009 of 23%, a gross margin of 43%, EBITDA margin of 20% and net income margin of 13%. Applied materials since 2010 has had an average revenue growth of 20.6%, a gross profit margin of 47%, EBITDA margin of 27% and a net income margin of 18.5%. Comparing these two companies to KLAC it shows that KLAC has had smaller returns in percentage of revenue but have blown them out of the water when it comes to EBITDA margin and gross profit. They average a 35% EBITDA margin which has been around 40% for the last two years and is expected to stay around 40% and they have had an average of 60% gross profit which is approximately 12% to 17% higher than the competitors.

Name	Mkt Cap (USD)	Rev - 1 Yr Gr:Y	EBITDA to Net Sales:Q	Adj ROIC AR	ROIC/WACC Ratio	ROE	EPS - 1 Yr Gr:Y
Median	23.51B	34.29%	30.60%	34.01	2.44	59.60%	82.86%
100) KLA-TENCOR CORP	14.28B	16.00%	42.08%	34.01	2.57	89.67%	34.96%
101) APPLIED MATERIALS INC	34.67B	34.29%	30.60%	24.54	2.44	59.60%	104.33%
102) LAM RESEARCH CORP	23.51B	38.23%	28.81%	34.82	1.42	47.39%	82.86%

The chart above shows KLAC compared to the two companies stated. As shown they have a adjusted return on invested capital of 34.01 and their EBITDA margin is significantly higher then the other two companies. Their ROIC/WACC is 2.57 compared to 2.44 and 1.42 showing that they are creating value. And their return on equity is almost 90% compared to 60% and 47%. The industry average for ROE is 20.6% so KLAC is drastically outperforming all other companies along with the median for EBITDA margin at 28.42% and adjusted ROIC at 20.37.

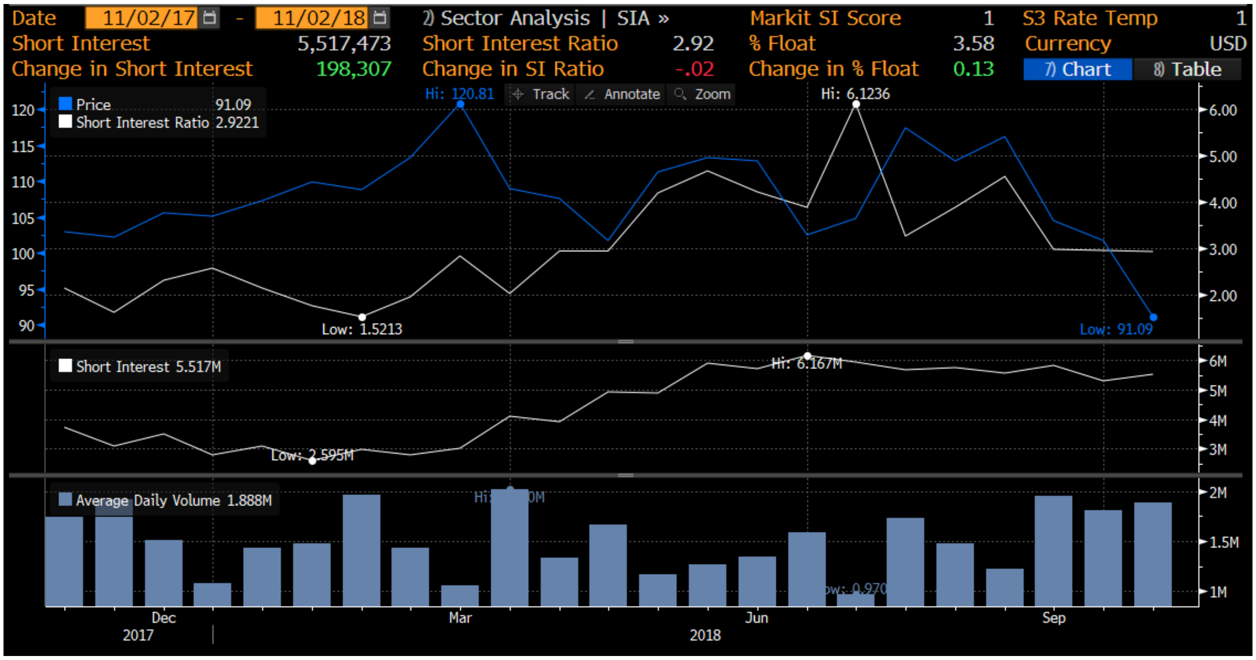
Growth Potential

KLA-Tencors service business continues to be a highlight, it produces low business volatility consistent with historical trends. They see an increase in foundry and logic investment for the first half of 2019 along with memory in a relatively balanced profile. KLAC's products are wafer inspection systems then come as Patterned and unpattern review systems that find, identify and classify particles and pattern defects on the front surface, back surface and edge of the wafer. The information allows engineers to detect, resolve and monitor critical yield excursions, resulting in faster yield ramp and higher production yield. These products have been extremely strong and continues to be as the wafer demand around the globe is pushed forward. Because of the flatness requirements KLAC has seen an uptick in their business for flatness measurement that has to do with products. A majority of KLAC's business is foundry. Many expect foundry to see delays and memory push-outs to drive downside in the stock. In the Q1 2019 earnings call Bren D. Higgin, Executive VP, and CFO at KLAC, sees the foundry and logic to be up in 2019 versus 2018 in terms of total shipments with an expectation of 65% gross margin. Robert A. Wallace, president and CEO, stated that they have a couple of early adopters for their new generations of inspection systems. Maybe a big one that could drive the activity between other services and products. So that the momentum starts to progress and the customers who have not adopted realize the advantage that the leaders are having and then those customers start to flow in. They are currently working with new supplier's and are buying early to qualify parts to support their multiple products that are coming out.

In Millions of USD except Per Share	2013 Y	2014 Y	2015 Y	2016 Y	2017 Y	2018 Y
12 Months Ending	06/30/2013	06/30/2014	06/30/2015	06/30/2016	06/30/2017	06/30/2018
Total Assets						
+ Cash, Cash Equivalents & STI	2,918.9	3,152.6	2,387.1	2,491.3	3,016.7	2,880.3
+ Cash & Cash Equivalents	985.4	630.9	838.0	1,108.5	1,153.1	1,404.4
+ ST Investments	1,933.5	2,521.8	1,549.1	1,382.8	1,863.7	1,475.9
+ Accounts & Notes Receiv	524.6	492.9	585.5	613.2	571.1	651.7
+ Accounts Receivable, Net	524.6	492.9	585.5	613.2	571.1	651.7
+ Notes Receivable, Net	0.0	0.0	0.0	0.0	0.0	0.0
+ Inventories	634.4	656.5	617.9	698.6	733.0	931.8
+ Raw Materials	229.2	221.6	194.2	208.7	240.4	331.1
+ Work In Process	176.7	171.2	156.8	187.7	193.0	280.2
+ Finished Goods	47.8	60.4	57.1	67.5	54.4	66.9
+ Other Inventory	180.7	203.2	209.7	234.7	245.2	253.6

As shown above their cash decreased by 4.5% which had to do with the acquisition of Orbotech that was paid out of pocket. There work in process and finished good both increased over the past year showing that they are creating more systems. Along with an increase in cost of goods sold by 2% to show that systems are going out to customers.

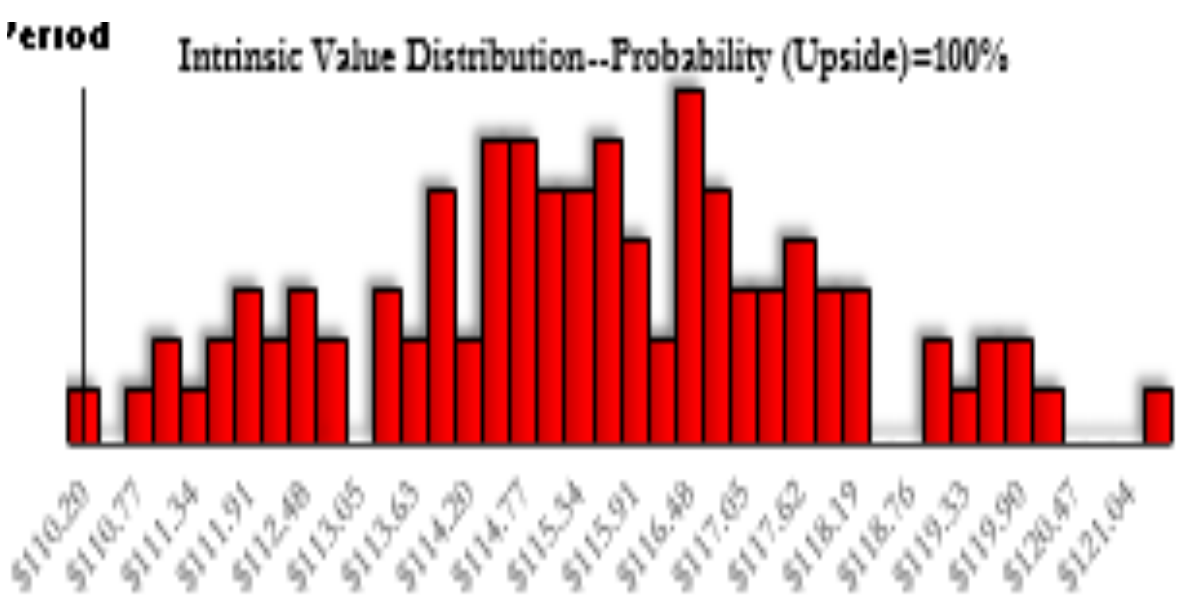
Short Interest



Short interest in the chart above is being compared to average daily volume of shares traded at around 1.89M when the short interest ratio peaked in March at around 2.9% where the price of KLAC also peaked at $120.81 for its price. Price continued up with short interest toward the end of 2018 and then when short interest peaked at 6.12% the price started to fall short after. Currently the price has fallen below the short interest ratio line. I believe that the price is being undervalued with the volume of short interest that is present. The conflict that appeared that affected shareholders and price was the earthquake in Japan; I believe that the earthquake was a big hit on the chips that were being developed and the market did not take well to it. With short interest starting to slow it is showing me that KLAC may be starting a positive process to forward the company in their industry I believe that the company will start to revive its production and give investors a more confident outlook on the share price and this demand will cause the price to increase back to its recent price.

Conclusion

KLAC talks in their earnings call from October 29th 2018 about Q1 in 2019, their foundry 5 nanometer and 7 nanometer. They are really going to be focusing on the 5 nanometer because it is becoming more bias towards production, what used to be a development tool a year ago is now a piolet tool for early production. They will also see the 7 nanometer that is currently out will drive up some activity. They are seeing higher activity already in the mass shop and will see it in the wafer fab as well. As far as the sustainability on their wafer aspect of the business based on the slowing of memory and logic. The company sees themselves sitting in a good position based on the amount of wafers that are currently at trailing edge and need to be converted to leading edge is significant. Also the fact that trailing edge represented about 40% of their revenue and they expect revenue to stay fairly stable they may be increasing their money coming in from upgrading current trailing edge wafers. This availability to upgrade to new capability allows KLAC so wiggle room if the customers In the market does not invest heavily in new capacity, they will be able to upgrade their existing so they can get more efficient. There has been a big demand for that over the last couple years so customers could extend the value of the tools that already in the installed base, which is advantages for KLAC. I believe that the new ability for this and the new products that KLAC has on the production line is a big proponent in their future price. With KLAC working towards keeping their new products from their acquisitions and the power that they have in pricing and barriers to entry I believe that their price has a good chance of recovering the loss from the japan earthquake. I wouldn't be surprised to see KLAC go to the target price of $119 to $120 or beyond.



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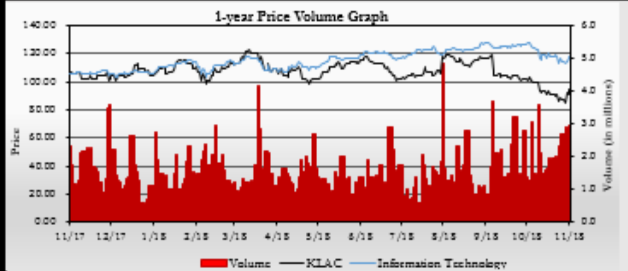
KLA-Tencor Corporation (KLAC)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by Kyle Agresta	Current Price:	$94.92	Intrinsic Value	$114.59
11/2/2018	Divident Yield:	3.2%	Target Price	$141.88

Target 1 year Return: 52.63%
Probability of Price Increase: 100



Description

KLA-Tencor Corporation designs, manufactures, and markets process control and yield management solutions for the semiconductor and related nanoelectronics industries worldwide.

General Information

Sector	Information Technology
Industry	Semiconductors and Semiconductor Equipment
Last Guidance	May 8, 2018
Next earnings date	NM

Market Assumptions

Estimated Equity Risk Premium	5.00%
Effective Tax rate	24%

Market Data

Market Capitalization	$14,529.91
Daily volume (mil)	2.35
Shares outstanding (mil)	153.08
Diluted shares outstanding (mil)	156.94
% shares held by institutions	97%
% shares held by investments Managers	86%
% shares held by hedge funds	5%
% shares held by insiders	0.16%
Short interest	3.60%
Days to cover short interest	3.19
52 week high	$123.96
52-week low	$84.59
Volatility	26.97%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
9/30/2017	2.91%	6.42%
12/31/2017	0.60%	-8.84%
3/31/2018	2.13%	0.06%
6/30/2018	1.91%	1.59%
9/30/2018	2.17%	4.84%
Mean	**1.94%**	**0.82%**
Standard error	1.0%	5.0%

Market and Credit Scores

Recommendation (STARS) Value--4
Recommendation (STARS) Description--Buy
Quality Ranking Value--B+
Quality Ranking Description--Average
Short Score--1
Market Signal Probability of Default % (Non-Ratings)--0.87%
CreditModel Score (Non-Ratings)--bbb

Industry and Segment Information

LTM Revenues by Geographic Segmen	LTM Revenues by Business Segments
China--16%	Semiconductor Equipment and Services--100%
Taiwan--16%	--
Korea--29%	--
Japan--16%	--
North America--12%	--

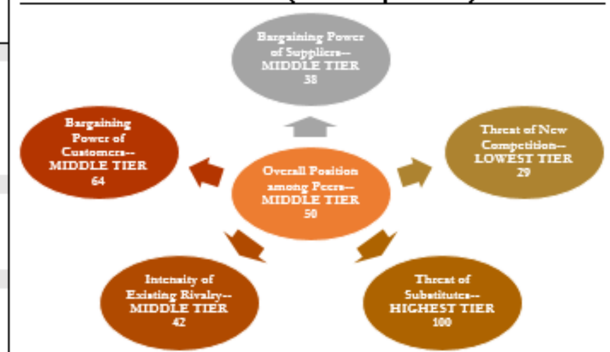
Peers

Lam Research Corporation	ASML Holding N.V.
Teradyne, Inc.	--
Applied Materials, Inc.	--
Amkor Technology, Inc.	--
--	--

Management	Position	Total Compensations Growth	Stock Price Growth During Tenure
Wallace, Richard	President, CEO & Executive Director	11.7% per annum over 6y	4.52% per annum over 6y
Higgins, Bren	Executive VP & CFO	16.76% per annum over 5y	-2.39% per annum over 5y
Little, Teri	Executive VP, Chief Legal Officer & Corporate		2.13% per annum over 1y
Trafas, Brian	Senior Vice President of Global Customer Org:	3.48% per annum over 2y	8.52% per annum over 2y
Khan, Ahmad	Executive Vice President of Global Products G	19.37% per annum over 4y	10.59% per annum over 4y
Kirloskar, Virendra	Senior VP & Chief Accounting Officer	-100% per annum over 1y	2.13% per annum over 1y

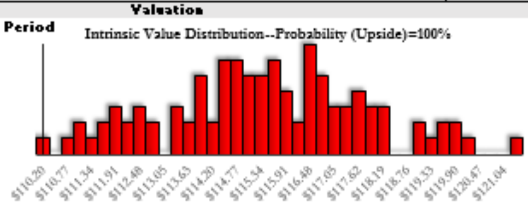
Profitability	KLAC (LTM)	KLAC Historical	Peers' Median (LTM)
Return on Capital (GAAP)	29.3%	9.85%	20.31%
Operating Margin	28%	17.96%	26.66%
Revenue/Capital (GAAP)	1.06	0.55	0.76
ROE (GAAP)	32.5%	11.4%	19.4%
Net margin	22.8%	14.6%	17.8%
Revenue/Book Value (GAAP)	1.427706512	0.78	1.09
Invested Funds	**KLAC (LTM)**	**KLAC Historical**	**Peers' Median (LTM)**
Cash/Capital	56.5%	42.4%	30.0%
NWC/Capital	9.5%	10.6%	14.0%
Operating Assets/Capital	27.3%	40.7%	35.6%
Goodwill/Capital	6.7%	5.8%	14.9%
Capital Structure	**KLAC (LTM)**	**KLAC Historical**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.43	0.46	0.25
Cost of Debt	4.4%	4.9%	5.0%
CGFS Rating (F-score, Z-score, and default Probabilit	BB		
WACC	9.4%	10.8%	10.8%

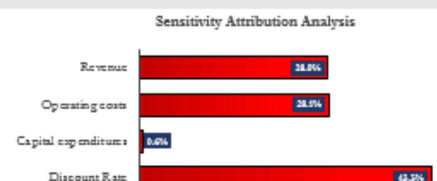
Porter's 5 forces (Scores are percentiles)



Valuation

Forecast Assumptions	Explicit Period (12 years)	Continuing Period
Revenue Growth CAGR	4%	3.0%
Average Operating Margin	30%	35%
Average Net Margin	25%	27%
Growth in Capital CAGR	6%	3%
Growth in Claims CAGR	0%	3%
Average Return on Capital	11%	10%
Average Return on Equity	13%	11%
Average Cost of Capital	9%	9%
Average Cost of Equity	9%	9%





November 3, 2018

Diageo: (DEO)

Louise Lapras

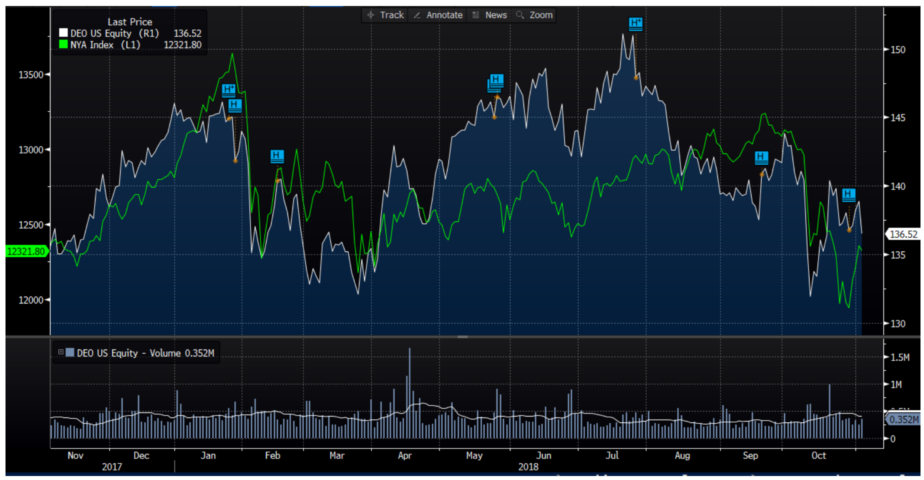
Sector: Consumer Defensive
Industry: Alcoholic Beverages
Current Price: $136.52
Target Price: $162.29

Company Description: Diageo plc is a London-based British multinational alcohol company. It was the world's largest liquor producer until recently being overtaken by China's Kweichow Moutai in 2017. It is the world's biggest whisky producer.

Diageo's brands include Smirnoff, Johnnie Walker, Baileys, and Guinness. It also owns 37% of the Moët Hennessy division of French luxury goods company LVMH. Diageo sells its products in over 180 countries and has offices in around 80 countries.

BUY

Current Price:	$136.52
Target Price:	$162.29
Market Cap:	$83.2B
Average volume:	335,338
ROIC:	14.3%
Adj. EBITDA:	35.5%
Mkt share (spirits):	25%



Thesis:

Diageo remains the powerhouse of international spirits industry, with a strong grip on a number of the most significant categories. The company has emerged strongly from the challenges posed by macroeconomics difficulties in emerging markets; in addition to the increasingly fragmented nature of mature markets filled with newly created liquor brands and craft start-ups. Diageo has been out-performing the market for 15 years that resulted in a significant growth on their net sales and net profit. The company is expected to keep growing steadily based on their recent quarter results.

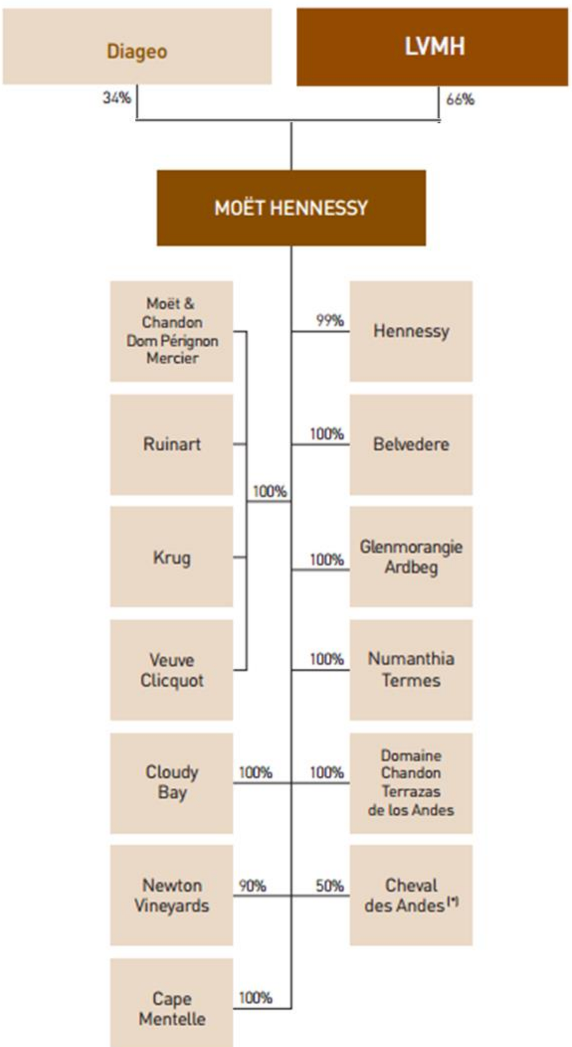
Catalysts:

- Mid Term(1-2 years): **Steady organic growth**
- Long Term(3+): **Expend geographically, focus on Asia Pacific, and China**

Business description:

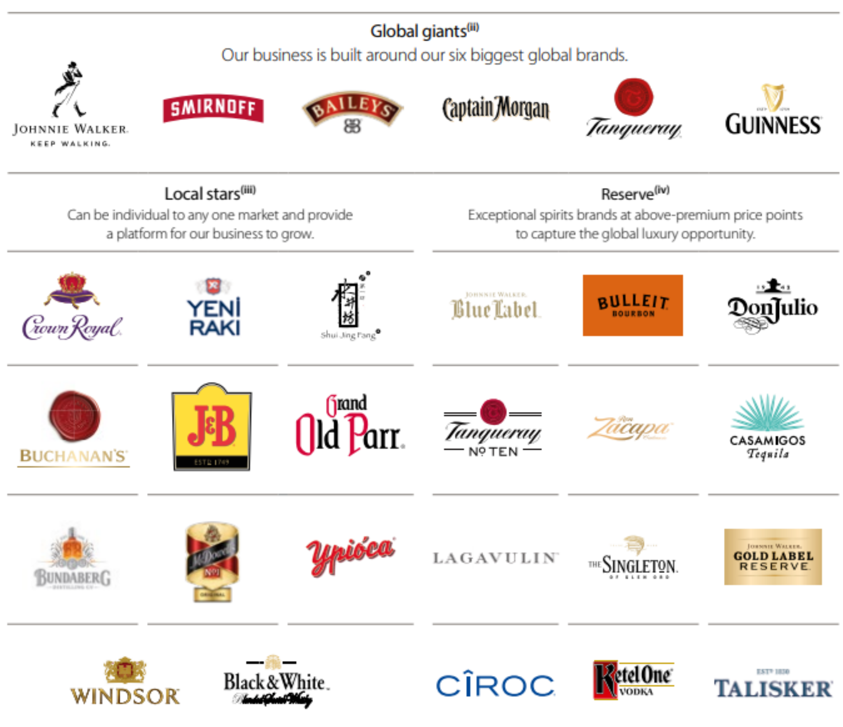
Diageo is a British alcoholic beverages company, headquartered in London, England. It was created in 1997 after the merger of Guinness and Grand Metropolitan, and went public on the London stock exchange the same year. Diageo is one of the largest alcoholic beverage makers in the world, with over 200 brands across spirits and beer, distributed in 180 countries. It owns and operate 150 production sites located all over the world.

Diageo owns two of the world's five largest premium spirits brands: Johnnie Walker and Smirnoff, and 22 of the world's top 100 premium spirits brands.



Diageo also owns 34% of the Moet Hennessy drinks division of LVMH, the French luxury goods company, and there have been rumors of willingness to reach 100% ownership on Diageo's part for years. However, LVMH never expressed any interest in selling its stake in Moet Hennessy. The brand would be a strategic addition to their portfolio, gathering the world's best-selling champagne and cognac.

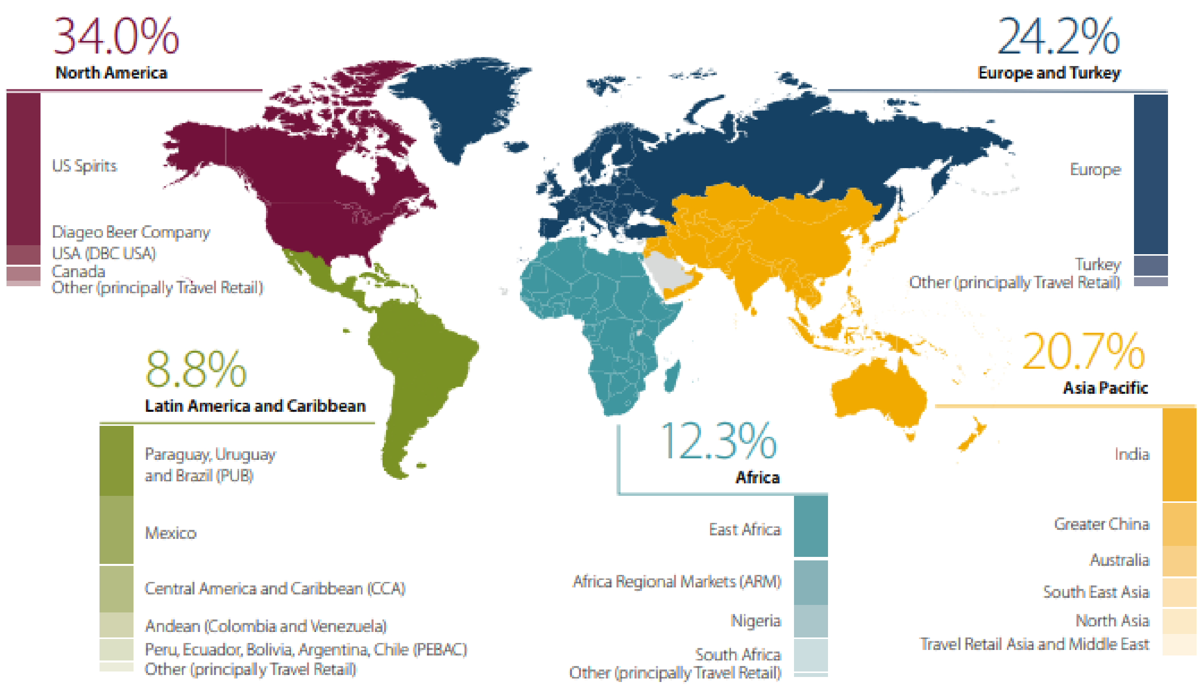
Here are some of the most recognized brands fully owned by Diageo:



2018 net sales by category (%)

Present in over 180 countries, Diageo operates as a market-based business, and uses local market insights to elect the most relevant brands to meet the consumers' demand. As of June 30, 2018, 34% of sales came from North America, 24% from Europe and 21% from Asia Pacific.

% share of net sales by region[i]

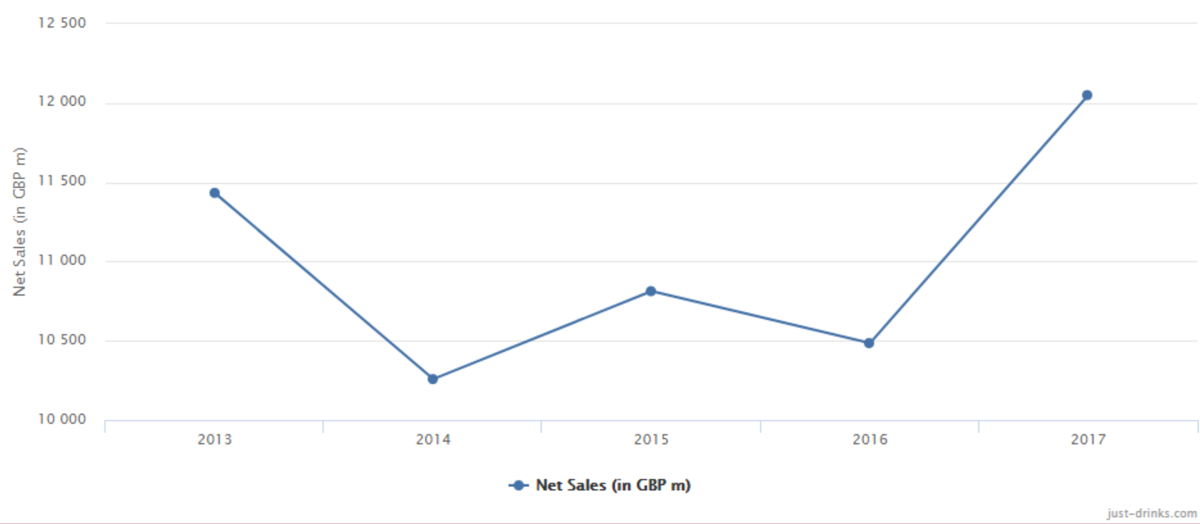


(i) Based on reported net sales for the year ended 30 June 2018. Does not include corporate net sales of £52 million.

Earnings Performance:

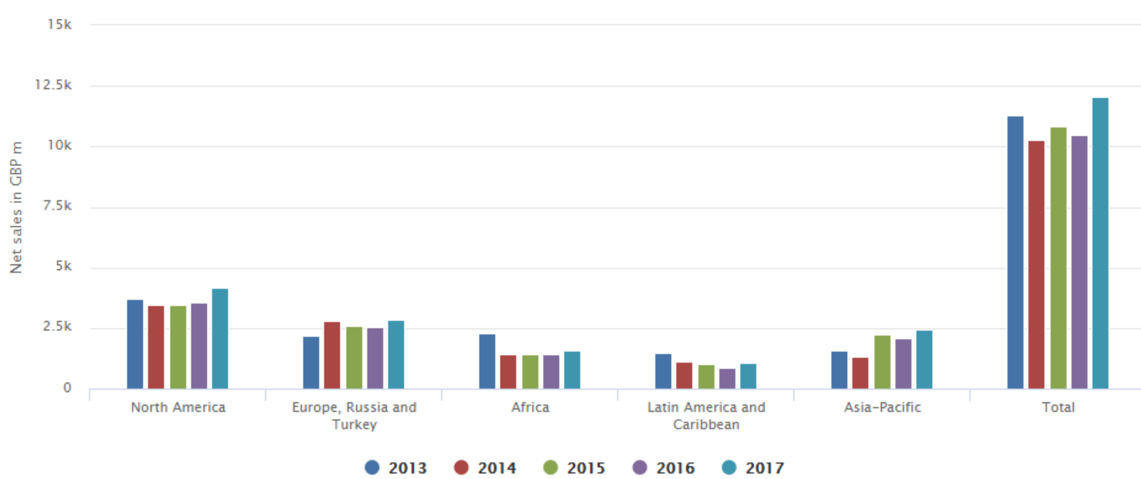
Looking at the company's recent quarter results. DEO has shown strong results, where organic net sales grew by 4.2% driven by the volume growth of 1.8% and strong price mix with broad-based growth across categories and regions. The organic operating margin have expanded by 81bps. The company has also delivered a strong free cash flow compared to the same time last year, the FCF was around £1B. EPS was up by 9.4% driven by the organic growth and lower financial charges. There was a return of £800M to shares holders in the first half through the share buy-back and increased in the interim dividend by 5%. Management announced another £2B to be used in 2019 for the same purpose. Looking regionally, there was a solid growth in the company's three focus areas. In scotch, both Lagavulin and Johnnie walker has continued to outperform. In the US spirits however, only vodka was shown a good sales growth in comparison to their other drink categories that have shown a slower growth, net sales of US Sprites yet were up by 2.9%. In India, net sales grew by 2% versus the second half of last year. There was a volume growth across all regions except for Asia Pacific, which continues to be impacted by the short term volatility as well as continuing weakness in popular category in India. Europe and turkey continue to show a good performance mainly due to volume increase; and price mix that was largely to the positive impact of price in turkey being offset by negative price mix from Gordon's and Baileys in EU. Moving on to Africa, the performance was mixed with double digit growth in Nigeria, partially offsetting weaknesses in Africa regional markets. In Latin America and the Caribbean, net sales were up by 7%, driven mainly by the strong performance in Mexico. The largest category is scotch, which was up by 3% with broad-based growth across all regions except in Africa. Johnnie Walked delivered a strong performance with net sales up to 7% as well as scotch brands where net sales have increased by 8%, mainly driven by Black & While in Latin America, Caribbean and Asia Pacific. "Diageo has delivered another year of strong, consistent performance. Organic volume and net sales growth is broad based across regions and categories. We have expanded organic operating margin while increasing investment behind our brands ahead of organic net sales growth". Said Ivan Menezes CEO of Diageo.

Diageo Full-Year Net Sales 2013-2017



	2013	2014	2015	2016	2017
Net Sales (in GBP m)	11433	10258	10813	10485	12050

Diageo Full-Year Net Sales by Region 2013-2017



Industry background:

The alcoholic beverage market includes beer, wine and spirits. Where beer and cider consumption have made up to 89% of the global alcoholic consumption. Beer is the widest consumed alcoholic beverages throughout the world and the global production has been increasing during the last decades. USA is the second largest country in worldwide beer production, with an amount of 224M hectoliters per year, followed by China and then Germany. Similarly, the global wine market was led by France, Italy and Spain in the total amount produces. Over the past years, the spirit industry sales made up over a third of total alcohol sales worldwide. Diageo-owned Smirnoff was the best-selling brand worldwide with a sales volume of 25.7M 9 liters sold between 2015-2017.

Competition:

There are many players in the alcoholic industry, and very few of them can be hugely influential and powerful within the sectors they directly operate in. The scale of performance is reflective to the world economy as a whole, and that is why not many alcoholic beverage businesses like to go viral. Diageo showed a turbulent financial and business performance over their last years. They have taken and made huge changes in the global drink industry, in particular on their on-going shift in power and significance of China and the Asian Market as a whole. The company's grip on the global drinks market is reflected in the top 100 International Alcohol Beverage Brands report where nearly 5th of the brands are Diageo drinks, making it by far the biggest owner selling 3M cases or more yearly. Looking at the competitors list, Diageo is significantly large in their market cap and net income compared to its main competitors. The company has also a high gross margin and it is projected to keep increasing it for the future years.

Competitors

Symbol	Name	Market Cap, $K	P/E ttm	EPS ttm	Net Income(a) $M	Beta	Dividend	Div Yield	Links
SAM	Boston Beer Company	3,487,752	46.70	6.58	99.05 M	0.55	0.00	0.00%	⋮
EAST	Eastside Distilling Inc	58,499	0.00	-1.32	-5.28 M	0.44	0.00	0.00%	⋮
THST	Truett Hurst Cl A Co	9,389	0.00	-0.13	-0.65 M	0.22	0.00	0.00%	⋮
BREW	Craft Brew Alliance	350,803	48.26	0.38	9.52 M	0.26	0.00	0.00%	⋮
DEO	Diageo Plc	86,423,632	0.00	0.00	4,070.63 M	0.62	4.18	3.06%	⋮
BF.A	Brown Forman Inc Cl A	22,876,780	29.42	1.58	717.00 M	0.82	0.63	1.33%	⋮
BF.B	Brown Forman Inc Cl B	22,684,336	29.40	1.58	717.00 M	0.84	0.63	1.34%	⋮
CCU	Compania Cervecerias Unidas S.A.	4,670,480	9.72	2.58	194.41 M	0.51	0.56	2.18%	⋮
STZ	Constellation Brands Inc	38,058,728	22.21	8.97	2,318.90 M	1.75	2.96	1.47%	⋮
STZ.B	Constellation Brd Cl B	37,702,540	22.19	8.97	2,318.90 M	0.12	2.68	1.35%	⋮
WVVI	Willamette Valley	36,754	15.74	0.47	2.99 M	0.47	0.00	0.00%	⋮

Industry Revenue	FY Rev	% Tot R...↓
11) DIAGEO PLC	12.16B	100.00%
12) ANHEUSER-BUSCH I	43.80B	100.00%
13) COCA-COLA CO/THE	27.34B	100.00%
14) HEINEKEN NV	19.15B	100.00%
15) NESTLE SA-REG	21.96B	31.03%

Debt:

Ratings agencies	S&P	Moody's	Fitch
LT rating	A-	A3	A-
Outlook	Stable	Stable	Stable
ST rating	A2	P2	F2
Date rating/outlook last changed	Sept 05	Oct 05	Aug 16

*Ratings correct as of 20th June 2017

Diageo is highly leveraged, with a net debt 2.15 times the reported EBITDA, amounting $13B at the end of fiscal year 2018. Long-term debt alone represents 27% of total assets, and total debt are 33.32% of total assets. However, they have had a stable credit rating over the years, so they are not buried in interests.

11) Profitability 12) Growth 13) Credit 14) Liquidity 15) Working Capital 16) Yield Analysis 17) DuPont Analysis

In Millions of USD except Per Share	2013 Y	2014 Y	2015 Y	2016 Y	2017 Y	2018 Y
12 Months Ending	06/30/2013	06/30/2014	06/30/2015	06/30/2016	06/30/2017	06/30/2018
Short and Long Term Debt	15,289.8	16,255.5	15,470.3	13,439.2	11,761.8	13,064.7
Short-Term Debt	2,812.3	2,750.0	3,020.8	2,730.6	3,198.7	2,411.9
Long Term Debt	12,477.5	13,505.4	12,449.5	10,708.6	8,563.2	10,652.8
Total Debt/T12M EBITDA	2.70	3.08	3.07	3.06	2.32	2.36
Net Debt/EBITDA	2.21	2.84	2.90	2.68	1.99	2.15
Total Debt/EBIT	2.98	3.50	3.50	3.56	2.55	2.68
Net Debt/EBIT	2.44	3.22	3.32	3.13	2.19	2.43
EBITDA to Interest Expense	7.42	6.79	6.08	7.22	8.66	10.61
EBITDA-CapEx/Interest Expense	6.16	5.38	4.87	6.12	7.51	9.13
EBIT to Interest Expense	6.73	5.98	5.32	6.19	7.86	9.36
EBITDA/Cash Interest Paid	6.69	5.37	5.36	6.92	7.92	10.02
EBITDA-CapEx/Cash Interest Paid	5.55	4.25	4.29	5.86	6.87	8.63
EBIT/Cash Interest Paid	6.07	4.73	4.69	5.93	7.19	8.84
Cash Interest Paid	873.8	935.2	943.7	710.6	625.4	563.0
Interest Expense	787.5	740.1	831.9	681.0	572.1	532.0

On October 16, 2018, the company issued additional €2 billion worth of fixed rate, euro denominated bonds under the European Debt Issuance Program, of which 45% mature in 3 years, with a coupon rate of 0.25%, 30% matures in 7 years with a 1% coupon, and the remaining 25% mature in 9 years, with a 1.5% coupon.

Ownership:

80% of the stock are held by investment advisors, with no significant change year over year. 88% are held in the United States, and the remaining are mostly held in Europe. There is no significant influence by owners, as the number one owner is Bank of America, with 1.08% of the float. We can see that short interest are relatively stable, and do not have a large impact on price, as the short interest ratio is 0.46.

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Compare Current Stats Against 10/29/17

Institutional - Based on Current Filings

51) Institutional	10/29/17	Curr	Change
11) % of Shares Held	12.65	12.36	-0.29
12) % of Float Held	-7,921,663,4	-7,531,408,5	+3902549(
13) # of Institutions	910	980	+7.69%
14) # of Buyers	256	280	+9.38%
15) # of Sellers	308	350	+13.64%
16) # of New Buyers	91	73	-19.78%
17) # of Selloffs	65	67	+3.08%
18) % Chg in Inst Positions	-1.18	-3.22	-2.04

Insider - Based on Last 6 Months

52) Insider	10/29/17	Curr	Change
21) % of Shares Held	0.05	0.06	+0.01
22) % Chg Insider Positions	-0.09	+13.12	+13.21
23) # of Insiders	9	10	+11.11%
24) # of Buyers Opn Mkt	0	0	
25) # of Sellers Opn Mkt	2	5	+150.00%
26) # of Shrs Bought Opn Mkt	0	0	
27) # of Shrs Sold Opn Mkt	24,129	76,663	+217.72%
28) Avg Opn Mkt Buy Price	0	0	0.00
29) Avg Opn Mkt Sell Price	130.71	143.61	+12.90

Top Geographic Ownership (%)

53) Geographic	10/29/17	Curr	Change
31) UNITED STATES	90.55	88.44	-2.11
32) SWITZERLAND	5.02	5.35	+0.33
33) CANADA	3.58	3.6	+0.02
34) GERMANY	0.01	1.06	+1.05
35) UNITED KINGDOM	0.03	0.69	+0.66
36) Unknown	0.48	0.45	-0.03
37) MEXICO	0.14	0.22	+0.08
38) BRAZIL	0	0.12	+0.12
39) JAPAN	0.03	0.02	-0.01

Top Ownership Type (%)

54) Ownership Type	10/29/17	Curr	Change
41) Investment Advisor	80.89	80.39	-0.50
42) Bank	9.74	9.87	+0.13
43) Hedge Fund Manager	4.31	3.48	-0.83
44) Brokerage	1.41	2.12	+0.71
45) Insurance Company	1.58	1.66	+0.08
46) Pension Fund	0.93	1.43	+0.50
47) Individual	0.43	0.45	+0.02
48) Holding Company	0.41	0.4	-0.01
49) Corporation	0.11	0.11	0.00

Date 11/03/17 - 11/03/18 | 2) Sector Analysis \| SIA » | Markit SI Score -- | S3 Rate Temp 1

Short Interest	186,191	Short Interest Ratio	.46	Currency	USD
Change in Short Interest	26,128	Change in SI Ratio	-.11	7) Chart	8) Table

Conclusion:

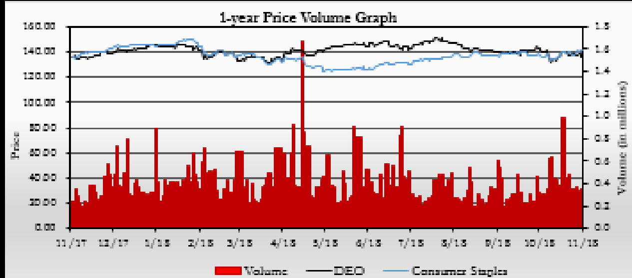
Diageo has shown an over-performance in its net sales, net profits and operating profits 10 years in a row. Diageo has outperformed the FTSE 100 over the last ten years in terms of overall growth rate pf -5.7% vs 2.4%, growth quality 79% vs 50%, profitability 12.3% vs 10% and dividend growth 7.5% vs 5.4%. Its leadership position in the spirits market enable Diageo to over-perform the market, alcoholic beverages being the second most returning industry, after tobacco. This is why I recommend Diageo as a strong long-term buy.

Diageo plc (DEO)

CENTER FOR GLOBAL FINANCIAL STUDIES

NEUTRAL

Analysis by Lapras	Current Price: $136.52	Intrinsic Value $154.63	Target 1 year Return: 18.88%
11/3/2018	Divident Yield: 0.0%	Target Price $162.29	Probability of Price Increase: 100%



Description

Diageo plc, together with its subsidiaries, produces, markets, and sells alcoholic beverages worldwide.

General Information

Sector	Consumer Staples
Industry	Beverages
Last Guidance	May 8, 2018
Next earnings date	January 24, 2019

Market Assumptions

Estimated Equity Risk Premium	2.50%
Effective Tax rate	16%

Market Data

Market Capitalization	$64,075.31
Daily volume (mil)	0.35
Shares outstanding (mil)	609.29
Diluted shares outstanding (mil)	2435.00
% shares held by institutions	0%
% shares held by investments Managers	0%
% shares held by hedge funds	0%
% shares held by insiders	0.00%
Short interest	0.00%
Days to cover short interest	0.00
52 week high	$151.31
52-week low	$131.22
Volatility	16.45%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
6/30/2017	N/A	-2423.64%
9/30/2017	N/A	N/A
12/31/2017	N/A	N/A
3/31/2018	N/A	N/A
6/30/2018	N/A	N/A
Mean	#DIV/0!	-2423.64%
Standard error	0.4%	#VALUE!

Market and Credit Scores

Recommendation (STARS) Value--0
Recommendation (STARS) Description--0
Quality Ranking Value--0
Quality Ranking Description--0
Short Score--0
Market Signal Probability of Default % (Non-Ratings)--0.06%
CreditModel Score (Non-Ratings)--a-

Industry and Segment Information

LTM Revenues by Geographic Segment	LTM Revenues by Business Segments
Great Britain--9%	North America--34%
United States--23%	Europe and Turkey--24%
Netherlands--0%	Africa--12%
India--17%	Latin America and Caribbean--9%
Rest of World--51%	Asia Pacific--21%

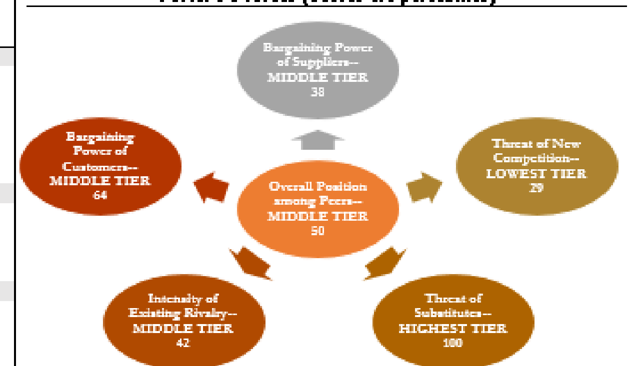
Peers

Nestlé S.A.	--
The Coca-Cola Company	Brown-Forman Corporation
Heineken N.V.	--
Anheuser-Busch InBev SA/NV	--
Constellation Brands, Inc.	--

Management	Position	Total Compensations Growth	Stock Price Growth During Tenure
Menezes, Ivan	CEO & Executive Director	1.87% per annum over 5y	1.75% per annum over 5y
Mikells, Kathryn	CFO & Executive Director	57.08% per annum over 2y	12.95% per annum over 2y
Harrison, Yvonne	Corporate Information Officer		
Moriarty, Siobhan	General Counsel & Company Secretary		
Saller, Syl	Chief Marketing Officer		
Day, Tom	Chief Sales Officer		

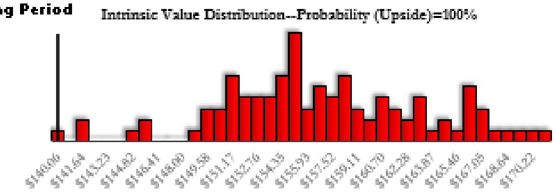
Profitability	DEO (LTM)	DEO Historical	Peers' Median (LTM)
Return on Capital (GAAP)	10.9%	8.46%	7.77%
Operating Margin	24%	21.91%	17.55%
Revenue/Capital (GAAP)	0.45	0.39	0.44
ROE (GAAP)	27.7%	24.0%	17.6%
Net margin	23.7%	20.1%	10.4%
Revenue/Book Value (GAAP)	1.170712457	1.19	1.69
Invested Funds	**DEO (LTM)**	**DEO Historical**	**Peers' Median (LTM)**
Cash/Capital	4.4%	5.3%	6.5%
NWC/Capital	15.1%	14.9%	1.2%
Operating Assets/Capital	68.8%	70.3%	54.8%
Goodwill/Capital	11.8%	9.2%	18.1%
Capital Structure	**DEO (LTM)**	**DEO Historical**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.47	0.49	0.57
Cost of Debt	4.7%	5.9%	4.2%
CGFS Rating (F-score, Z-score, and default Probabili	BB		
WACC	6.3%	12.1%	8.9%

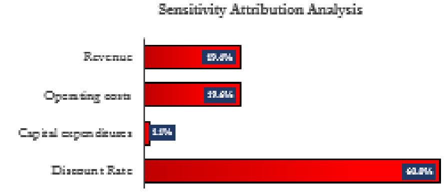
Porter's 5 forces (Scores are percentiles)



Valuation

Forecast Assumptions	Explicit Period (15 years)	Continuing Period
Revenue Growth CAGR	6%	2.5%
Average Operating Margin	26%	25%
Average Net Margin	23%	19%
Growth in Capital CAGR	6%	2%
Growth in Claims CAGR	2%	2%
Average Return on Capital	11%	11%
Average Return on Equity	19%	14%
Average Cost of Capital	6%	6%
Average Cost of Equity	6%	6%





SIENA college

BJORKLUND FUND

November, 03, 2018

Ross Stores Inc.: ROST

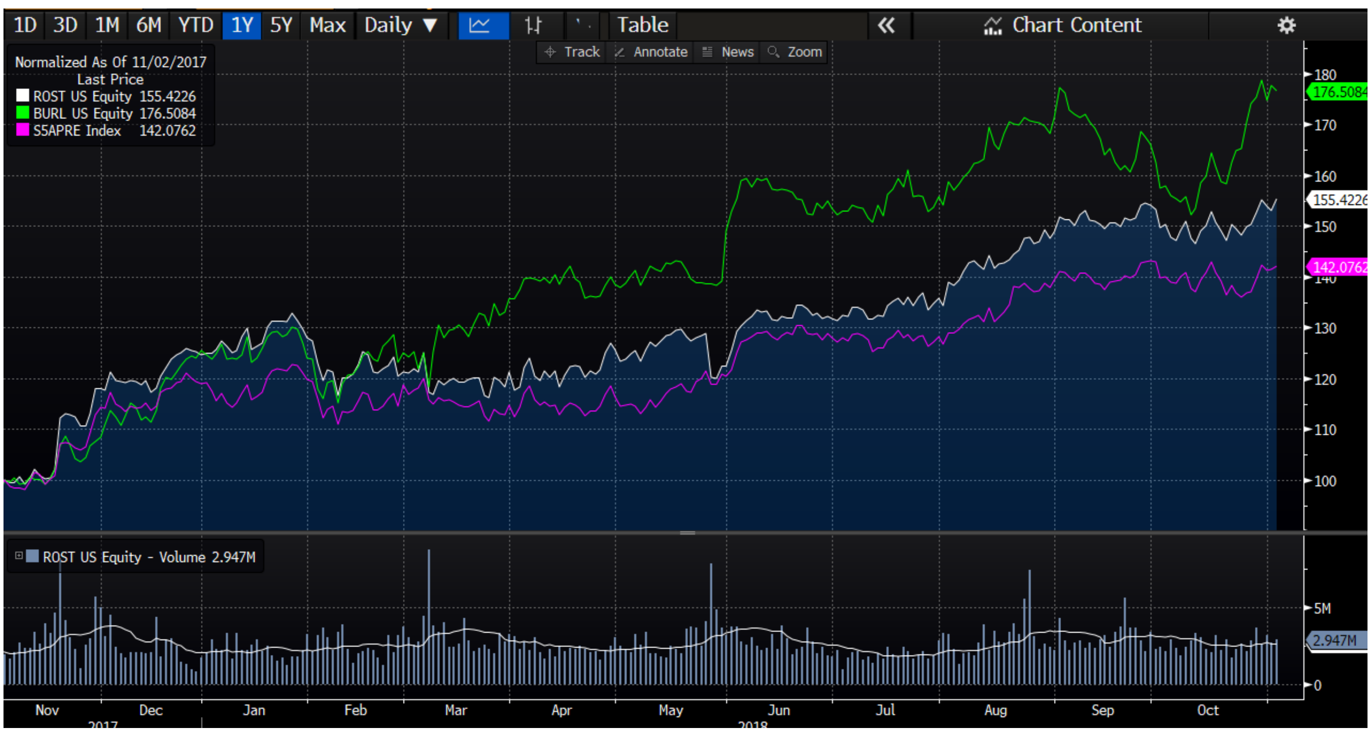
Ala Saidi

Sector: Consumer Discretionary
Industry: Specialty Retail
Current Price: $100.03
Target Price: $126.93

Company Description: Ross stores, Inc. operates two brands of off-price retail apparel and home accessories stores. Ross Stores offers name brand and designer apparel, accessories, footwear and home fashions at discount prices.

BUY

Current Price:	$100.03
Target Price:	$126.93
Market Cap:	37.35B
Average volume:	2.9M
P/E Ratio:	24.27



Thesis:

Ross stores are deemed as a retail treasure and a rarity for its strong sales and earnings growth. ROST showed very strong results during the last quarter and is expected to continue with their revenue and earnings progress mainly due to their long-term store growth potential that continues to add value to the company.

Catalysts:

- Short Term(within the year): off-price and off-mall nature
  - 100 stores per year (Slow and steady)
- Long Term (3+): Strong numbers that affirm the company's long term growth narrative.
  -Long-term store growth potential (2600 to 3000 stores)

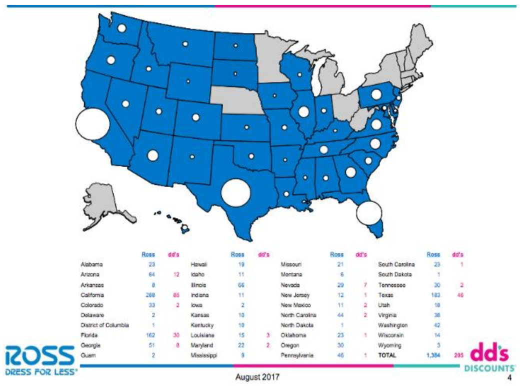
Company performance within the Industry:

The principal competitive factors in the off-price retail apparel and home fashion industry are offering significant discounts on brand name merchandise, offering a well-balanced assortment that appeals to target customers, and consistently providing store environments that are convenient and easy to shop. To execute this concept, ROST continue to make strategic investments in their merchandising organization. Also continue to make improvements to their core merchandising system to strengthen their ability to plan, buy, and allocate product based on more local versus regional trends. Nevertheless, the retail apparel market is highly fragmented and competitive. Ross Stores face a challenging macro-economic and retail environment that creates intense competition for business from department stores, specialty stores, discount stores, warehouse stores, other off-price retailers, and manufacturer-owned outlet stores, many of which are units of large national or regional chains that have substantially greater resources. The company also compete to some degree with retailers that sell apparel and home fashions through catalogs or online. The retail apparel and home-related businesses may become even more competitive in the future. However. Ross Stores Inc. is outperforming in the industry and versus its competitors where if we compare by Net Income we can see that during the 2nd Quarter 2018 Net Income grew year-to-year by 23.02% for ROST while most of the player have experienced a contraction in NI by -59.44%

Business Overview:

Ross Stores, Inc. is an S&P 500, Fortune 500, and NASDAQ 100 (ROST) Company headquartered in Dublin, California, with fiscal 2018 revenues of $14.7 billion. Ross Stores provide the globe best brands and latest styles where the firm work directly with manufacturers to negotiate their deals. The company's culture believes in "no frills" therefore no window displays, mannequins or fancy fixtures and decorations in their stores believing that this allow them to pass more savings to their customers. The Company operates Ross Dress for Less® ("Ross"), the largest off-price apparel and home fashion chain in the United States with 1,483 locations in 38 states, the District of Columbia, and Guam as of October 15, 2018. Ross offers first quality, in-season, name brand and designer apparel, accessories, footwear, and home fashions for the entire family at savings of 20% to 60% off department and specialty store regular prices every day. The Company also operates 237 dd's DISCOUNTS® in 18 states as of October 15, 2018 that feature a more moderately priced assortment of first quality, in-season, name brand apparel, accessories, footwear, and home fashions for the entire family at savings of 20% to 70% off moderate department and discount store regular prices every day.

Operations:



Ross Stores operates two brands of off-price retail apparel and home fashion stores: Ross Dress for less and dd's DISCOUNTS. Ross does a roaring trade in off-price apparel and home fashion chain, offering first quality, in-season, name-brand, and designer apparel, as well as accessories, footwear and home décor at between 20%-60% off department and specialty store regular prices.

Launched in 2004, dd's DISCOUNTS serves one of the fastest-growing demographic markets in the US. The ultra-low-price spinoff, which offers brand-name apparel at a 20%-70% discount, has grown to almost 237 locations in 18 states including California, Florida and Texas. Similarly, Ross Stores for less has 1,483 Ross Dress for Less stores in 38 states. The stores average 23,200 sf, and they are located in strip shopping centers in urban and suburban neighborhoods. The retailer operates six distribution-processing facilities: three in California, two in South Carolina and one in Pennsylvania. These distribution centers are the sole source of its stores merchandise. In addition, the discounter owns and leases three other warehouse facilities for pack-away storage. To distribute merchandise to stores on a regular basis. Ross Stores enlists the help of third party cross-docks.

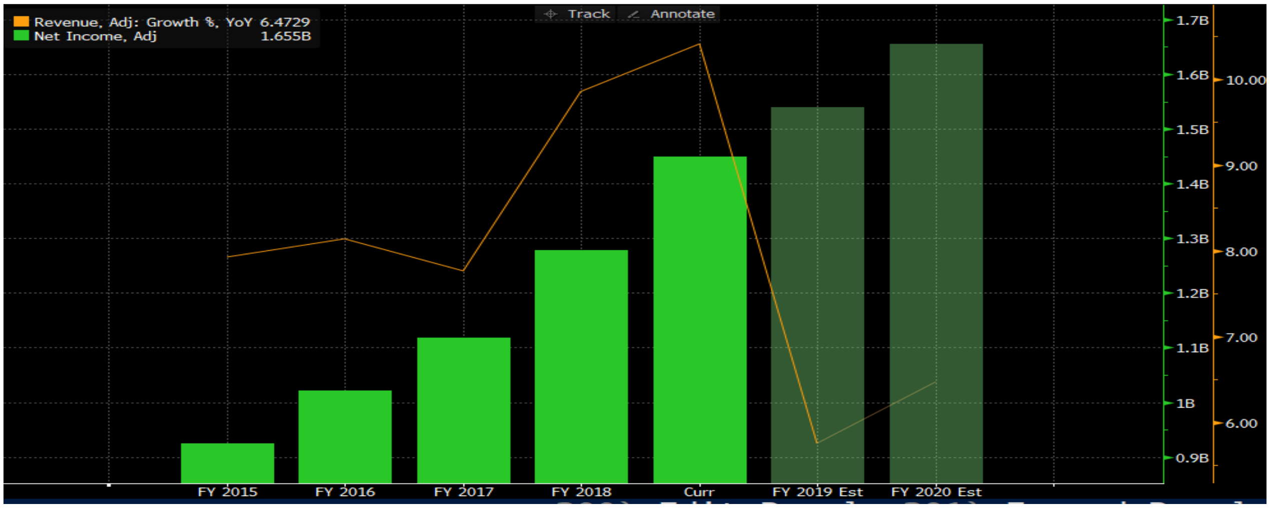
Long term plan:

Ross Stores announces the recent opening of 30 Ross Dress for Less Ross and ten dd's DISCOUNTS stores across 19 different states in September and October. These new locations complete the Company's store growth plans for fiscal 2018 with the addition of 99 new stores.
"This fall, we continued to expand our Ross and dd's footprints across our existing markets as well as expansion in our newer market – the Midwest," said Jim Fassio, President and Chief Development Officer. "We now operate nearly 1,500 Ross and over 230 dd's DISCOUNTS locations. Looking ahead, we continue to believe there is plenty of opportunity to further expand our store base for both chains given consumers' ongoing focus on value. As such, we recently updated our longer-term growth store potential to reflect our confidence that Ross can grow to 2,400 locations and dd's can become a chain of 600 stores."

Financial Performance:

Ross Stores annual sales have risen more than 40% since 2011 thanks to rapid store expansion and steady same-store sales growth between 3%-7% yearly. Its annual profits have kept pace with top line growth over the period as the chain has managed to slow its overhead cost growth. The fast-growth chain's sales jumped 8% to $12.9B a $1B gain, during the fiscal year 2017 again that was mainly due store growth. Comparable store sales have also increased by 4%. The net income was up to 8.7% to

$1.1B due to the lower cost of goods sold, mainly offset by higher selling, general and administrative expenses. Cash from operating activities also grew by 14% to $1.6B in reflect to higher net income. Followed by year 2018 where Ross Stores have continued to perform well the revenue grew to 10% resulting sales of $14.12B, net income similarly rose to 9% - $1.3B.



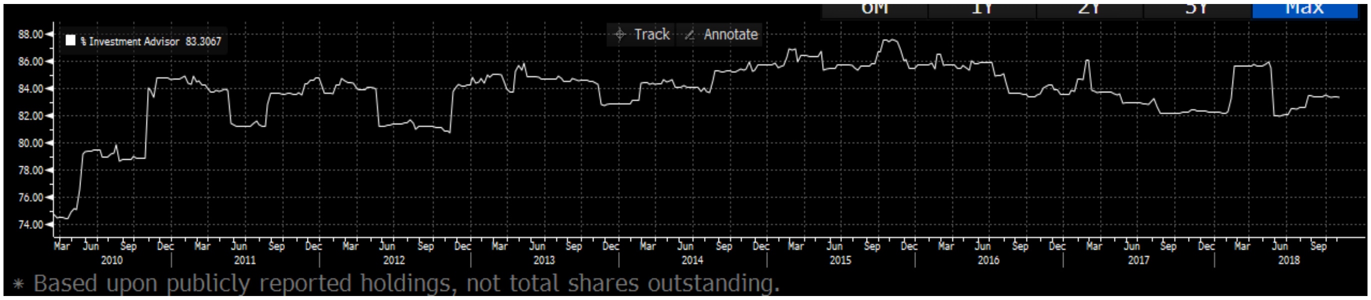
11) Adj Highlights | 12) GAAP Highlights | 13) Earnings | 14) Enterprise Value | 15) Multiples | 16) Per Share

In Millions of USD	2015 Y	2016 Y	2017 Y	2018 Y	Current/LTM
12 Months Ending	01/31/2015	01/30/2016	01/28/2017	02/03/2018	08/04/2018
Market Capitalization	19,027.1	22,635.6	25,602.4	30,020.2	37,347.8
- Cash & Equivalents	697.1	763.3	1,111.6	1,290.8	1,386.9
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0
+ Total Debt	398.4	396.0	396.5	397.0	397.2
Enterprise Value	18,728.3	22,268.3	24,887.3	29,126.4	36,358.0
Revenue, Adj	11,041.7	11,940.0	12,866.8	14,134.7	14,723.2
Growth %, YoY	7.9	8.1	7.8	9.9	10.4
Gross Profit, Adj	3,103.7	3,363.1	3,693.1	4,092.1	4,242.3
Margin %	28.1	28.2	28.7	29.0	28.8
EBITDA, Adj	1,721.3	1,899.2	2,105.2	2,355.2	2,411.0
Margin %	15.6	15.9	16.4	16.7	16.4
Net Income, Adj	924.7	1,020.7	1,117.7	1,277.9	1,448.7
Margin %	8.4	8.5	8.7	9.0	9.8

Ownerships:

54) Ownership Type	10/29/17	Curr	Change
41) Investment Advisor	82.28	83.31	+1.03
42) Pension Fund	4.18	4.51	+0.33
43) Hedge Fund Manager	5.03	3.88	-1.15
44) Individual	2.23	2.18	-0.05
45) Bank	1.84	1.8	-0.04
46) Government	1.89	1.38	-0.51
47) Insurance Company	0.95	1.38	+0.43
48) Sovereign Wealth Fund	0.96	1.05	+0.09
49) Corporation	0.27	0.25	-0.02

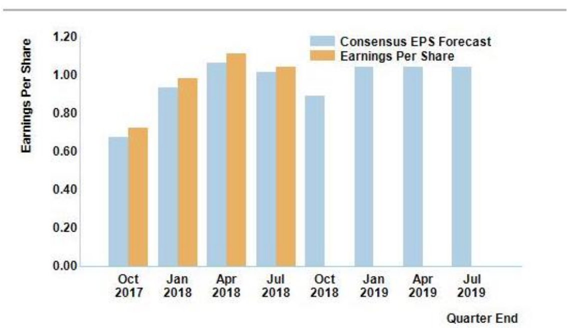
Institutions own 99.48% of Ross Stores Float. Investment advisors own 83.31% of the float with Vanguard Group Inc. being the top holder 9.70%. BlackRock Inc. come on the second place owning 7.01 % of the float. Followed by FMR LLC who also own a big portion of 6.28%. Pension Fund own 4.51% of the total float. While hedge fund have, approximately 3.88% compared to 5.03% last year.



Sales/Earnings outlook:

Looking at the company's performance, ROST has continued on showing progress. Last results of Q2 2018 were positive. Earnings per share for the first weeks of Q2 were at $1.04, up from $0.82 compared to the same time last year 2017. Net earnings have grew from $317M to $389M in 2018. Total sales for the second quarter have increased by 9% to $3.7 billion comparable to stores sales that grew 5% compared to Q2 2017. The growth was on top of the same-store sales gain of 4% for Q4 2017. Q2 2018, there was an obvious strength across merchandise categories and geographic markets. So better than expected operating margin of 13.8% was down from last year as higher merchandise gross margin and leverage on occupancy and buying costs were more than offset by a combination of unfavorable timing of pack away-related expenses, higher freight costs, and this year's wage investments. For both Q1 and Q2 of 2018, EPS were $2.15 up from $1.64 last year. Similarly, sales rose 9% to $7.3B just for the first two quarters of year 2018. Ending Q2, inventories were up by 6% prior to the year before. Average in-store inventories were similarly up by 4% while the Pickaway as a percentage of total inventories was 44% compared to 46% last year. In addition to that dd's DISCOUNTS had a very strong sales growth which led to a solid growth in the operating profit year-to-date. Resulting of the total year performance, revenue there is a revenue growth of 10.4% at $14.7B compared to $12.8B in 2017. The yea-to year revenue is expected to keep increasing for the up-coming years with a slower pace growth. Ross Stores will have a forecasted revenue growth of 5.8% in 2019 with a revenue of $14.9B followed by a 6.5% growth in 2020 with a revenue of $15.9B and a 6.6% revenue growth in 2021 with a revenue of $16.96B followed by a growth of 8% in year 2022 with a revenue reaching $18.3B. CEO - Ms. Rentler said, "While we are encouraged by our recent strong sales and earnings results, we again face our own challenging multi-year comparisons as well as a very competitive retail environment. As a result, although we hope to do better, we continue to take a prudent approach to forecasting our business in 2018." The results of 2018 have continued to exceed expectation similarly to the forecasted revenue growth for the next years that looks very positive. Ross Stores however remain in a very competitive environment. Yet, there is a big potential on strengthening of the off-price sector and to perform well within this sector. The company is focusing on long term growth with a target of opening 3,000 store

Earnings Per Share Summary



locations that can have a potential of 80% increase over ROST current base

Condensed Consolidated Statements of Earnings

($000, except stores and per share data, unaudited)	Three Months Ended August 4, 2018	Three Months Ended July 29, 2017	Six Months Ended August 4, 2018	Six Months Ended July 29, 2017
Sales	**$ 3,737,926**	$ 3,431,603	**$ 7,326,545**	$ 6,738,032
Costs and Expenses				
Cost of goods sold	**2,666,983**	2,420,942	**5,189,202**	4,750,908
Selling, general and administrative	**554,581**	498,276	**1,079,004**	973,095
Interest (income) expense, net	**(1,393)**	2,341	**(1,896)**	5,510
Total costs and expenses	**3,220,171**	2,921,559	**6,266,310**	5,729,513
Earnings before taxes	**517,755**	510,044	**1,060,235**	1,008,519
Provision for taxes on earnings	**128,351**	193,505	**252,579**	370,962
Net earnings	**$ 389,404**	$ 316,539	**$ 807,656**	$ 637,557
Earnings per share				
Basic	**$ 1.05**	$ 0.83	**$ 2.17**	$ 1.66
Diluted	**$ 1.04**	$ 0.82	**$ 2.15**	$ 1.64

11) Adj Highlights 12) GAAP Highlights 13) Earnings 14) Enterprise Value 15) Multiples 16) Per Share 17) Stock Value

In Millions of USD	2014 Y	2015 Y	2016 Y	2017 Y	2018 Y	Current/LTM	2019 Y Est
12 Months Ending	02/01/2014	01/31/2015	01/30/2016	01/28/2017	02/03/2018	08/04/2018	01/31/2019
Market Capitalization	14,493.4	19,027.1	22,635.6	25,602.4	30,020.2	37,347.8	
- Cash & Equivalents	435.2	697.1	763.3	1,111.6	1,290.8	1,386.9	
+ Preferred & Other	0.0	0.0	0.0	0.0	0.0	0.0	
+ Total Debt	150.0	398.4	396.0	396.5	397.0	397.2	
Enterprise Value	14,208.2	18,728.3	22,268.3	24,887.3	29,126.4	36,358.0	
Revenue, Adj	10,230.4	11,041.7	11,940.0	12,866.8	14,134.7	14,723.2	14,948.2
Growth %, YoY	5.2	7.9	8.1	7.8	9.9	10.4	5.8
Gross Profit, Adj	2,869.4	3,103.7	3,363.1	3,693.1	4,092.1	4,242.3	4,272.1
Margin %	28.0	28.1	28.2	28.7	29.0	28.8	28.6
EBITDA, Adj	1,549.2	1,721.3	1,899.2	2,105.2	2,355.2	2,411.0	2,387.9
Margin %	15.1	15.6	15.9	16.4	16.7	16.4	16.0
Net Income, Adj	837.3	924.7	1,020.7	1,117.7	1,277.9	1,448.7	1,540.1
Margin %	8.2	8.4	8.5	8.7	9.0	9.8	10.3

Competition:

The principal competitive factors in the off-price retail apparel and home fashion industry are offering significant discounts. As mentioned before, Ross Stores are preforming really well in comparison to their competitors and industry peers. Comparing ROST to other brands financially, we can see that the company has a positive 1-year revenue growth with an average of 9.85% and a 1 years EPS of 17.64%.

Segment	Revenue %
Specialty Apparel Stores	100%

Metric	ROST	Low	Comp Range	High
Est P/E Current Yr	24.27	8.81		39.58
Sales Growth Yoy ...	9.85	-2.20		25.35
EBITDA Margin (%)	16.66	6.29		22.75
Inv. to Sales Spre...	-3.33	-13.54		6.17

ROST US Median

Overview | Comp Sheets | Markets | EPS Preview | Ownership | Credit | Custom

Equity Valuation | CDS Spreads | Op Stats | Profitability | Balance Sheet | ESG

	Name (BICS Best Fit)	Sales Growth Yoy (%)	EBITDA Margin (%)	5Y CAGR Sales (Qtr %)	Sales Growth (Qtr %)	Same Store Sales	Sales Spread (Qtr %)	Inv. to Sales Spread	# of Locations (Qtr)	Advertising Expenses (Ann)	Rent Expense (Ann)
	Median	7.91%	11.99%	5.23%	9.92%	3.00%	4.52	-3.33	1.48k	87.15M	293.30M
100)	ROSS STORES INC	9.85%	16.66%	7.94%	8.93%	5.00%	3.93	-3.33	1.68k	76.40M	532.40M
101)	BURLINGTON STORES INC	9.28%	11.39%	9.15%	9.92%	2.90%	7.02	6.17	651.00	82.30M	314.29M
102)	TJX COMPANIES INC	8.08%	12.87%	7.69%	11.65%	6.00%	5.65	4.76	4.19k	412.40M	1.59B
103)	BIG LOTS INC	1.36%	7.88%	0.69%	0.21%	1.60%	-1.39	5.18	1.42k	92.00M	330.70M
104)	DULUTH HOLDINGS INC -...	25.35%	9.42%	--	28.33%	--	--	-7.52	39.00	--	5.50M
105)	TAILORED BRANDS INC	-2.20%	11.99%	4.93%	-3.21%	1.70%	-4.91	-13.54	1.48k	--	254.50M
106)	CANADIAN TIRE CORP-C...	5.95%	12.61%	2.87%	3.16%	--	--	-3.39	1.70k	--	--
107)	GUESS? INC	7.91%	6.29%	0.21%	13.65%	3.00%	10.65	-7.12	1.66k	36.30M	272.30M
108)	URBAN OUTFITTERS INC	1.98%	11.33%	5.52%	13.69%	13.00%	0.69	-10.82	618.00	134.63M	269.80M

Conclusion:

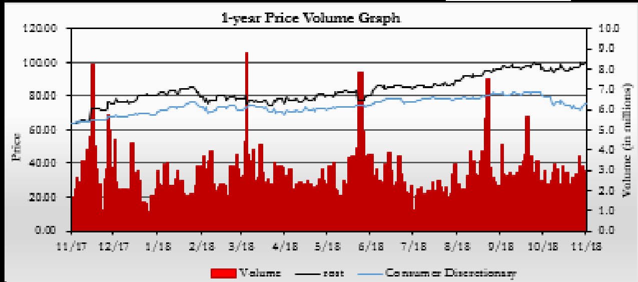
Ross stores are deemed as a retail treasure and a rarity for its strong sales and earnings growth. The discount chain that competes with stores like Marshalls and TJ Maxx continues to post very strong results. Due to their out performance over the last few years and outstanding performance on the company's most recent quarter with the overall sales growing to $14.7B and same-store sales rising by 5% on top of the 4% growth last year. And also due to their long term plan of opening more stores and growing their expansion in different locations. In addition to their bare-bones philosophy that allows them to pass savings up to 60% on their customers make them a winner in the Industry. The company has indeed a big potential in the market. Therefore, I recommend ROST stock a buy. The company has gained 1.64% in the last trading day, raising from $98.42 to $100.03. The price has risen in 6 of the last 10 days up by 5.64%. Over the last two weeks the volume has increased along with the price which is a positive technical sign and in total of 0.32M shares were traded over night. In total of 2.94M shares were bought and sold for $294M. The stock is a Golden Star Signal and I expect it to have further gains in both short-term and long-term.

Ross Stores, Inc. (rost)

CENTER FOR GLOBAL FINANCIAL STUDIES

BULLISH

Analysis by Ala Saidi	Current Price:	$100.03	Intrinsic Value	$115.82	Target 1 year Return: 27.07%
11/3/2018	Divident Yield:	0.9%	Target Price	$126.21	Probability of Price Increase: 100%



Description

Ross Stores, Inc., together with its subsidiaries, operates off-price retail apparel and home fashion stores under the Ross Dress for Less and dd's DISCOUNTS brands in the United States.

General Information

Sector	Consumer Discretionary
Industry	Specialty Retail
Last Guidance	May 8, 2018
Next earnings date	November 20, 2018

Market Assumptions

Estimated Equity Risk Premium	5.10%
Effective Tax rate	21%

Market Data

Market Capitalization	$37,347.77
Daily volume (mil)	2.95
Shares outstanding (mil)	373.37
Diluted shares outstanding (mil)	378.17
% shares held by institutions	90%
% shares held by investments Managers	80%
% shares held by hedge funds	3%
% shares held by insiders	2.17%
Short interest	1.50%
Days to cover short interest	1.93
52 week high	$101.20
52-week low	$62.85
Volatility	21.72%

Past Earning Surprises

Quarter ending	Revenue	EBITDA
7/29/2017	1.95%	7.88%
10/28/2017	2.23%	7.42%
2/3/2018	3.10%	5.24%
5/5/2018	1.47%	-0.70%
8/4/2018	2.20%	1.10%
Mean	2.19%	4.19%
Standard error	1.0%	5.1%

Market and Credit Scores

Recommendation (STARS) Value--3
Recommendation (STARS) Description--Ho
Quality Ranking Value--A+
Quality Ranking Description--Highest
Short Score--0
Market Signal Probability of Default % (Non-Ratings)--0%
CreditModel Score (Non-Ratings)--a-

Industry and Segment Information

LTN Revenues by Geographic Segm	LTM Revenues by Business Segments
United States--100%	Off-Price Retailing--100%
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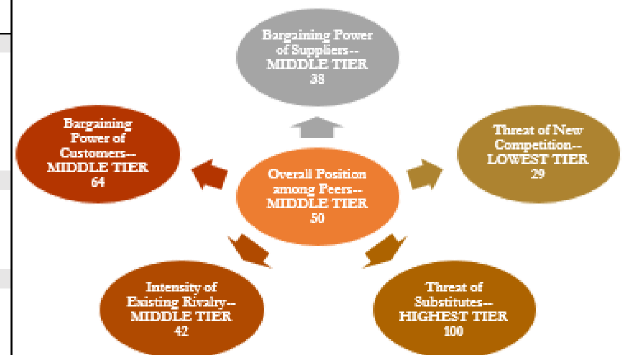
Peers

The TJX Companies, Inc.	Urban Outfitters, Inc.
L Brands, Inc.	American Eagle Outfitters, Inc.
The Gap, Inc.	Abercrombie & Fitch Co.
Burlington Stores, Inc.	Chico's FAS, Inc.
Foot Locker, Inc.	Stage Stores, Inc.

Management	Position	Total Compensations Grow	Stock Price Growth During Tenure
Balmuth, Michael	Executive Chairman	-100% per annum over 4y	11.61% per annum over 4y
Rentler, Barbara	CEO & Director	-100% per annum over 4y	11.61% per annum over 4y
O'Sullivan, Michael	President, COO & Director	-100% per annum over 4y	11.61% per annum over 4y
Hartshorn, Michael	Executive VP, CFO & Principal Accounting (	-100% per annum over 3y	13.93% per annum over 3y
Brautigan, Bernard	President of Merchandising- Ross Dress fo	-100% per annum over 1y	22.03% per annum over 1y
Fassio, James	President & Chief Development Officer	-100% per annum over 1y	22.03% per annum over 1y

Profitability	rost (LTM)	rost Historical	Peers' Median (LTM)
Return on Capital (GAAP)	32.3%	25.22%	11.79%
Operating Margin	12%	9.97%	11.16%
Revenue/Capital (GAAP)	2.79	2.53	1.06
ROE (GAAP)	57.3%	55.0%	15.8%
Net margin	11.3%	10.4%	6.0%
Revenue/Book Value (GAAP)	5.079092781	5.30	2.63
Invested Funds	**rost (LTM)**	**rost Historical**	**Peers' Median (LTM)**
Cash/Capital	25.2%	16.7%	15.6%
NWC/Capital	0.4%	0.7%	1.0%
Operating Assets/Capital	74.4%	82.2%	73.6%
Goodwill/Capital	0.0%	0.0%	0.6%
Capital Structure	**rost (LTM)**	**rost Historical**	**Peers' Median (LTM)**
Total Debt/Market Capitalization	0.44	0.47	0.62
Cost of Debt	4.5%	5.1%	5.0%
CGFS Rating (F-score, Z-score, and default Probal	AAA		
WACC	9.7%	11.0%	10.6%

Porter's 5 forces (Scores are percentiles)



Valuation

Forecast Assumptions	Explicit Period (15 years)	Continuing Period
Revenue Growth CAGR	8%	2.5%
Average Operating Margin	14%	12%
Average Net Margin	11%	8%
Growth in Capital CAGR	18%	3%
Growth in Claims CAGR	1%	3%
Average Return on Capital	19%	9%
Average Return on Equity	22%	9%
Average Cost of Capital	9%	9%
Average Cost of Equity	9%	9%