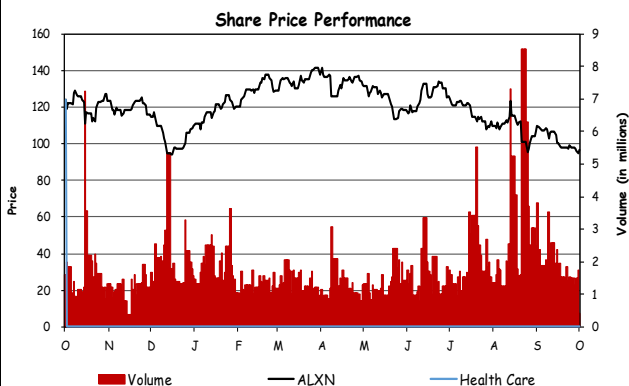


Alexion Pharmaceuticals, Inc.	Symbol: ALXN
Analyst	Tyler Keegan
Buy below	\$96.44
Sell above	\$140.19
Probability of Price Increase	100%
Last Price	\$96.76
Intrinsic Value	\$112.15
Target Dividends	\$0.00
Target Price	\$120.55



Description
 Alexion Pharmaceuticals, Inc., a biopharmaceutical company, develops and commercializes various therapeutic products.

Sector Health Care
Industry Biotechnology
Last Guidance December 11, 2018
Next earnings date October 23, 2019

People

Hantson, Ludwig, CEO & Director
 Clancy, Paul, Executive VP & CFO
 Orloff, John, Executive VP and Head of Research & Development
 Law, Anne-Marie, Executive VP and Chief Patient & Employee Exper
 Goff, Brian, Executive VP & Chief Commercial Officer
 Bazarko, Daniel, Chief Accounting Officer & Senior VP

Top Competitors

Vertex Pharmaceuticals Incorporated	Gilead Sciences, Inc.
Regeneron Pharmaceuticals, Inc.	Amgen Inc.
Biogen Inc.	Celgene Corporation
BioMarin Pharmaceutical Inc.	United Therapeutics Corporation
Incyte Corporation	Sarepta Therapeutics, Inc.

Market Statistics

Market Capitalization (mil)	\$21,265.68
Last Price per share	\$96.76
52 week high	\$141.86
52-week low	\$92.56
Volatility	38.05%
Daily volume (mil)	0.41
Short interest	1.41%
Days to cover short interest	1.32
Beta	2.50

Financials

	ALXN (LTM)	ALXN Historical	Peers' Median (LTM)
Profitability			
Return on Capital	9.9%	7.73%	22.15%
Adjusted EBITDA Margin	41.5%	41.16%	31.17%
Return on Equity	12.9%	4.1%	25.2%
Adjusted Net margin	42.5%	13.5%	33.8%
Invested Funds			
Cash/Capital	15.3%	8.5%	34.9%
NWC/Capital	7.4%	2.1%	0.9%
Operating Assets/Capital	45.8%	54.5%	60.2%
Goodwill/Capital	31.5%	34.3%	3.4%
Capital Structure			
Total Debt/(Market Cap.+ Other Claims on Capital)	0.09	0.09	0.09
Minority Interest/(Market Cap.+ Other Claims on Capital)	0.0%	0.0%	0.0%
Preferred Equity/(Market Cap.+ Other Claims on Capital)	0.0%	0.0%	0.0%
CGFS Credit Rating	CCC		BBB
Credit Rating Model	bbb to bbb+		bbb to bbb+
Probability of Default Model	b+ to bb-		bbb to bbb+
Likely Current Cost of Debt	3.34%		3.75%
Likely Current Cost of Equity (Cost of Debt + MRP)	10.17%		10.58%
Likely Current WACC	9.53%		9.9%

Investment Thesis

STRONG EARNINGS GROWTH, MARGIN EXPANSION, AND ROIC MAKE ALEXION A SOLID BUY

I am initiating coverage of Alexion Pharmaceuticals with a BUY at \$97, and a \$121 price target. ALXN is a biopharmaceutical company focused on serving patients with rare disorders through the development of various therapeutic products including Ultomiris, Soliris, Strensiq, and Kanuma. Alexion has strong underlying fundamentals that indicate solid strategy execution, and set the company up for high future growth potential. They have a steady operating margin, EBITDA is growing steadily faster than revenue, and ROIC has increased YoY for the previous three fiscal years. Additionally, strong performance data in the patient conversion from Solaris to Ultomaris has lead management to raise expectations for the second half of the 2019 fiscal year. With that being said, I believe that management uncertainty, and fear of biosimilars have depressed the stock price, and that these fears are overblown significantly. I see strong upside potential, and a conservative price target of \$136, presenting at least 40% upside potential in share price appreciation.

For the long:

1. Increased FY19 Guidance from Ultomiris conversion results and outlook:

ALXN is about 8 months into the Ultomiris launch and, according to CEO Ludwig Hanston, the results are encouraging. As far as the US launch goes, they have converted about 50 percent of patients from Soliris to Ultomiris. In Germany, they have converted about 30 percent of patients in the three months since the German launch. Ludwig finds this encouraging because, as he notes "it shows patient preference of Ultomiris" and it will likely be "a key ingredient of the sustainability of this franchise." With this in mind, via the Q2 earnings call, ALXN has increased their FY192H outlook for both Soliris and Ultomiris, which I believe will positively impact their bottom line, especially with the Ultomiris launch in Japan expected within the coming months.

2. Increased Profitability and Return on Investment:

As far as the fundamentals go, ALXN is strong in several key, encouraging areas. EBITDA has been growing at a faster pace than revenue for the previous three fiscal years, which indicates strong margins that I expect to hold up and support earnings and stock price growth into the future. Their gross margin has held steady around 90% for the previous five fiscal years, and their EBITDA margin has increased steadily from 32.2% in FY2015 to 48.4% in FY2018. Additionally, their return on invested capital has been steadily increasing from 4.2% in FY2016, to 8.3% in FY2018, which suggests strong value creation in recent years, which I expect to continue into the near future, given the above product developments, and strong underlying fundamentals.

For the short:

1. Management Uncertainty:

ALXN recently announced the departure of CFO Paul Clancy, who joined the company in 2016, and served during the years of strong fundamental performance mentioned above. As with any CFO departure, there will obviously be a great deal of uncertainty in terms of future share price performance, and the price of ALXN sold off considerably on the news. I believe that this is likely an overreaction by the market, and that it could provide an opportunity to invest during a time of uncertainty, where the share price is oversold in the market.

2. Fear of Biosimilars Entering the Market:

In late August, the US Patent and Trademark Office announced it will undergo a review of the three patents currently protecting Soliris. Rival Amgen claims that the three patents covering the matter, method of use, and formulation of Soliris should not have been issued, and the PTO will be conducting a review of the validity of the patents. This is obviously a big threat to the bottom line of Alexion, with Soliris revenue making up over half of Alexion's total sales revenue. I believe that these fears are overstated, and that even if the patent was determined to be not valid, the strong results of the Ultomiris conversion would help offset the lost Soliris revenue.

Key Catalysts for price change

- Encouraging results in Ultomiris/Soliris conversion data.
- Strong fundamental results.
- High barriers to entry, given the nature of their business, and the types of patients they treat.

Valuation

My \$121 price target is derived from Discounted Levered Free Cash Flow, and forward Price/Earnings estimates.

Ownership

	Change in Ownership (over the past 12 months)
Shares outstanding (mil)	224.23
Weighted Diluted shares outstanding (mil)	226.20
Options and Warrants (Shares equivalent)	1.15
% shares held by institutions	97% 2.89%
% shares held by investments Managers	82% 3.66%
% shares held by hedge funds	6.90% -1.48%
% shares held by VC/PE firms	1.485% -0.57%
% shares held by insiders	0.20% -0.23%
Poison Pill and Type	Yes: Preferred Stock Plan

Quarterly Earning Surprises (Actual/Median Estimates)

Revenue	Last 5 quarters
6/30/2018	\$4180 (7%)
9/30/2018	\$4106 (1%)
12/31/2018	\$4515.2 (7%)
3/31/2019	\$4561.6 (1.2%)
6/30/2019	\$4813.2 (3%)
History:	Last 10 years
Mean Surprise	2.16%
99th percentile "surprise" range	-5% to 9%
EBITDA	Last 5 quarters
6/30/2018	\$2105.6 (-11.5%)
9/30/2018	\$2140.8 (-16.6%)
12/31/2018	\$2008.4 (-25.5%)
3/31/2019	\$2377.6 (-16.6%)
6/30/2019	\$2534.4 (-16.7%)
History:	Last 10 years
Mean Surprise	-18.34%
99th percentile "surprise" range	-44% to 7%

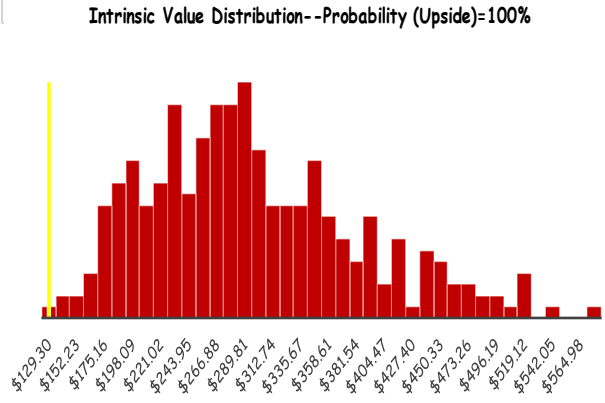
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Target Price	\$120.55

Cost of Capital Estimates			
	CGFS Credit Rating	Credit Rating Model	Probability of Default ModelModel
Implied Cost of Borrowing (ALXN)	5.1%	4.4%	5.6%
Implied Cost of Borrowing (Peers)	4.0%	4.2%	4.1%
	Base Year	Explicit Period (15 years)	Continuing Period
Cost of New Debt Estimate	3.54%	3.60%	3.60%
Country Risk Premium Estimate	6.83%	6.83%	6.83%
Cost of Equity Estimate	10.37%	10.43%	10.43%
WACC Estimate	9.46%	9.52%	9.52%

Forecast Assumptions						
Fiscal Year	Revenue Growth	EBITDA Margin	CAPEX/Revenue	DPR/CAPEX	Other	
Base Year (Actual)	15.13%	50.4%	5.2%	1.78	SBC/Revenue 4.79%	
year 1	19.26%	50.0%	5.1%	1.60	Constant/same as LTM	
year 2	14.55%	51.0%	5.4%	1.33	Lease term 10	
year 3	8.34%	52.0%	5.0%	1.33	Rent Expense/Revenue 1.03%	
year 4	8.72%	53.0%	4.6%	1.32	Tappers off to historical average	
year 5	12.14%	54.0%	4.1%	1.31	R&D life 10	
year 6	3.27%	55.0%	4.0%	1.33	R&D Expense/Revenue 44.55%	
year 7	10.38%	56.0%	3.6%	1.34	Constant/same as LTM	
year 8	6.08%	57.0%	2.4%	2.40	LIFO Reserve Tappers off to zero	
year 9	2.69%	58.0%	2.4%	1.91	Non-operating pension costs Tappers off to zero	
year 10	-8.17%	59.0%	2.7%	1.84	Net financing pensions costs Tappers off to zero	
year 11	-6.39%	60.0%	3.0%	1.70	Overfunded pension plans Tappers off to zero	
year 12	-4.61%	60.0%	3.3%	1.56	Capitalized interests Constant/same as LTM	
year 13	-2.83%	60.0%	3.5%	1.42	Dividends/Revenue 0.00%	
year 14	-1.05%	60.0%	3.8%	1.28	Tax Rate 21.38%	
year 15	0.74%	60.0%	4.1%	1.14		
Continuing Period	2.52%	60.0%	4%	1.00		

Simulation Assumptions						
Random Variables	Distribution Assumption	MAX	Likely	MIN	Sensitivity: Price Variance Attribution Analysis	
Deviations in annual Revenue Growth--Expl. Per.	Triangular	99.02%	0%	-2.12%	1.85%	Revenue growth
Deviations in annual Revenue Growth--Cont. Per.	Normal	1.74%	0%	-1.74%	1.90%	EBITDA Margin
Deviations from EBITDA Margin base annual estimates	Triangular	54.08%	0%	-39.05%	52.96%	CAPEX/Rev
Deviations from CAPEX/Revenue base annual estimates	Triangular	1.73%	0%	-1.73%	33.65%	Discount Rate
Deviations from Kd base annual estimates	Triangular	2.00%	0%	-1.27%	0.00%	TEV/Rev
Deviations from CRP base annual estimates	Triangular	1.82%	0%	-1.92%	0.00%	TEV/EBITDA
Deviations from TEV/Revenue base estimate	Triangular	8.72	0%	-2.45	0.00%	P/BV
Deviations from TEV/Revenue base estimate	Triangular	107.75	0%	-3.94	0.00%	P/E
Change in P/BV (TTM)	Triangular	7.03	0%	-2.58	0.05%	Asset Recovery Rate
Change in P/E (FW)	Triangular	37.32	0%	-3.45	0.00%	
Recovery Rate	Triangular	10.00%	0%	-10%	0.00%	

Valuation			
DCF Valuation			
	Base	Explicit Period (Average)	Continuing Period
Revenues	\$4,499.00	\$7,859.24	\$8,209.49
Net Margin	42%	52%	49%
LFCF	\$988.77	\$3,072.05	\$3,038.41
Ke	10.37%	10.43%	10.43%
ROE	12.93%	10.98%	5.05%
Relative Valuation			
	Median Justified Multiple	Basis	Implied Equity Value
EV/Rev (FW)	4.6x	\$5,598.32	\$26,326.24
EV/EBITDA (FW)	9.3x	\$2,816.34	\$26,444.88
P/BV (TTM)	3.9x	\$16,106.13	\$63,490.69
P/E (FW)	10.4x	\$2,682.11	\$27,894.22



Asset Based Valuation			
Recovery Rate	60%		
Capital	\$37,361.24		
Intangibles	\$8,525.00		
Claims	\$3,710.11		
Implied Equity Value	\$13,591.63		
Valuation Summary			
	Intrinsic Value	Target Price	Model Weight
DCF Valuation	\$ 129.26	\$ 136.28	70%
EV/Rev (FW)	\$ 115.80	\$ 126.75	0%
EV/EBITDA (FW)	\$ 116.32	\$ 127.32	0%
P/BV (TTM)	\$ 279.27	\$ 305.69	0%
P/E (FW)	\$ 122.70	\$ 134.30	30%
Asset Based Valuation	\$ 59.78	\$ 65.44	0%
Price per Share	\$ 127.29	\$ 135.68	100%