

Jazz Pharmaceuticals Company

NASDAQ: JAZZ

Analyst: Eric Crown

Sector: Healthcare

BUY

Price Target: \$128.44

Key Statistics as of 11/18/2016

Market Price:	\$109.25
Industry:	Biotechnology
Market Cap:	\$6.54B
52-Week Range:	\$95.80-160.00
Beta:	1.34

Catalysts:

- Approval of Xyrem for pediatric treatment
- Announcement of Phase 3 JZP-110 results
- Submission and Approval of Vyxeos

Company Description:

Jazz Pharmaceuticals Company is a biotechnology firm that identifies, produces, and distributes pharmaceutical products for a number of medical needs. The company's pharmaceutical portfolio focuses in two areas: sleep and hematology/oncology products, with an emphasis on treating orphan diseases (condition that affects fewer than 200,000 people nationwide). Their primary approved products are Xyrem, Erwinaze, and Defitelio. With a number of patents protecting these products, and a number of new products in the pipeline Jazz is a promising company in its growth stage.



Thesis

Jazz is a mid-sized player in the pharmaceutical sub industry. It is currently trading near 52 week lows and has lots of upside potential. Jazz outperforms its competitors and is still undergoing rapid growth (as can be seen in the price chart provided in summary). Jazz has a diverse and unique set of products in its portfolio, all of which are Patton protected. As well, JAZZ has a very promising pipeline with multiple late stage approval drugs. With insiders buying multiple shares and increased hedge fund interest, now is an ideal time to BUY shares of JAZZ.

Industry Outlook

The Biotechnology industry is an inherently volatile one, and with recent political events, has been even more so. With president elect Trump there is less pressure in terms of product pricing. However with recent media attention this is still an issue to be closely followed. President elect Trump may also have an impact on the industry if there are any reforms to the Affordable Care Act (ACA). This would certainly cause volatile within the industry and should also be taken into consideration. Despite these facts, the industry looks promising with an aging population (baby boomers) that will demand a longer and higher quality of life.

Competitor COMP.

Before digging into the details it is important to get an idea where JAZZ stands amongst its competitors. The competitors were strategically chosen based on market cap, product type, and a focus on portfolios that treat orphan diseases (such as JAZZ).

	ROIC/WACC	ROICW/OGW	WACC	EBITA Margin	COR/Revenue	Ke	Kd
JAZZ:	1.621	25.13%	11.87%	50.25%	6.61%	13.19%	3.17%
Competitors:	0.491	13.52%	14.12%	21.97%	34.83%	16.12%	5.26%

As can be seen in the table above JAZZ outperforms its competitors in nearly every matrix. The value creation (ROIC/WACC) is nearly triple that of the competition. JAZZ returns more money on its investments and it generates the most profits from sales. Their cost of equity and debt is also lower than competitors. One ratio that is key in biotech's is the Cost of Revenue/ Revenue. The

marketing and selling of products can eat into the profits of biotech's, however once again JAZZ is a top performer here.

Primary Products

MIX:

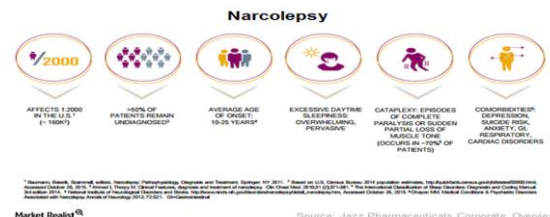
JAZZ's primary products are Xyrem, Erwinaze, and Defitelio. Xyrem is part of the Sleep products and Erwinaze/ Defitelio are part of the hematology & oncology products. Xyrem makes up around 75% of sales, as can be seen in the table below:

	2015	Change	2014	Change	2013
Xyrem	\$ 955,187	23%	\$ 778,584	37%	\$ 569,113
Erwinaze/Erwinase	203,261	2%	199,665	15%	174,251
Defitelio/defibrotide	70,731	—%	70,537	N/A(1)	—
Prialt® (ziconotide) intrathecal infusion	26,440	—%	26,421	(3%)	27,103
Psychiatry	37,135	(9%)	40,879	(17%)	49,226
Other	24,065	(48%)	46,630	2%	45,705
Product sales, net	1,316,819	13%	1,162,716	34%	865,398
Royalties and contract revenues	7,984	(21%)	10,159	45%	7,025
Total revenues	\$ 1,324,803	13%	\$ 1,172,875	34%	\$ 872,423

It is important to understand the product mix of a biotech company because it is ultimately what makes companies successful in this industry. Below is an in depth explanation of each product. Some key factors to keep in mind are: Patton protection, market size, competition in market, effectiveness of product, future growth potential and patient's need for drug.

Xyrem (Sleep Segment):

Xyrem is the current product that drives sales for JAZZ. As can be seen above it has grown in sales the last two years. This growth is a result of more volume and occasional price increases. Xyrem is the only treatment approved by the FDA for both excessive daytime sleepiness (EDS) and cataplexy in patients with narcolepsy (This means JAZZ has found a niche market which only they have a presences in). Narcolepsy is a chronic neurological disorder that is characterized by EDS, cataplexy, sleep paralysis, hypnagogic hallucinations and disrupted night time sleep.



It is estimated that narcolepsy affects approximately 1 in 2,000 people in the U.S., or approximately 160,000 people. EDS is present in all patients compared to cataplexy which is present in 70% of patients with narcolepsy. This shows with only 12,550 Xyrem patients

there is room for lots of growth. Another plus is this medicine needs to be taken daily compared to a one time use vaccine, this results in larger more consistent sales. Most importantly JAZZ has 20 U.S. patents covering Xyrem, which expire at various times from December 2019 to March 2033. This ensures that no generic form of it can be produced in the near future.

Erwinaze (hematology/oncology):

Erwinaze is for patients with acute lymphoblastic leukemia (ALL) that have a hypersensitivity to E. coli – derived asparaginase (the most common treatment method). ALL is the most common form of childhood cancer, with around 5,500 cases every year. It is estimated that up to 20% of ALL patients may develop hypersensitivity to E. coli -derived asparaginase. Erwinaze has no patent protection. However it was awarded orphan drug exclusivity for the treatment of ALL in the U.S. until November 2018. With the potential for the approval of a biosimilar protection in the U.S. through late 2023.

Defitelio (hematology/oncology):

Defitelio was developed for the treatment of severe hepatic veno-occlusive disease (VOD) in adults and children undergoing hematopoietic stem cell transplantation (HSTC). Certain conditioning regimens used as part of HSTC can damage the cells that line the hepatic vessels, which is thought to lead to the development of VOD, a blockage of the small vessels in the liver that leads to liver failure and can result in significant dysfunction in other organs such as the kidneys and lungs. Defitelio is the first and only approved treatment that increases survival in

VOD patients with multi-organ dysfunction. JAZZ has various patents for Defitelio that expire between April 2017 and June 2035, as well as an orphan drug designation until 2018.

JAZZ has implemented a number of initiatives such as outreach to prescribers who treat narcolepsy, physician/healthcare provider education, enhanced patient and physician support services and unbranded disease awareness programs for the public. These programs will help educate the professional and public segments to the different diseases, symptoms, and treatment options for all the products listed above. This will help drive sales and lead to growth as more patients are prescribed JAZZ products.

Promising Pipeline

Another key aspect to any pharmaceutical company is its product pipeline. A healthy pipeline ensures future stability and growth.

Project	Disease Area	Status
Sleep		
JZP-110	EDS in narcolepsy	Phase 3 clinical trial initiated in second quarter of 2015; preliminary data expected in fourth quarter of 2016
	EDS in obstructive sleep apnea, or OSA	Two Phase 3 clinical trials initiated in second quarter of 2015; preliminary data expected in fourth quarter of 2016
JZP-386	EDS in narcolepsy	Phase 1 clinical trials completed, further evaluation ongoing
Xyrem	Cataplexy with narcolepsy in children and adolescents	Phase 3 clinical trial ongoing, enrollment completion expected in second half of 2016
Hematology/Oncology		
Defitelio	VOD with evidence of multi-organ dysfunction following HSTC	New drug application, or NDA, accepted for filing with priority review by the FDA in third quarter of 2015; Prescription Drug User Fee Act, or PDURFA, date of March 31, 2016
Defitelio	Prevention of VOD in high-risk patients	Preparing to initiate clinical trial

The two primary products in JAZZ’s pipeline are JZP-110 and Xyrem for children/ adolescent use. Both these products are in phase 3 clinical trial approval, and are major catalyst.

Xyrem for adolescent use (Sleep Segment):

One potential driver for increased sales growth is expanding Xyrem to the adolescent (ages 7–17) market. If approved, not only would market size increase, but long term client could be established which could lead to substantial revenue in future years.

JZP-110 (Sleep Segment):

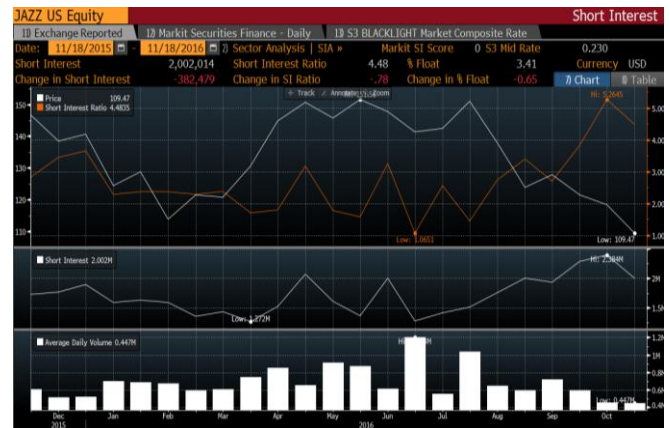
JZP-110 is chemically similar to Xyrem, and serves the same function: treatment for both excessive daytime sleepiness (EDS) and cataplexy in patients with narcolepsy. The primary difference is the sodium content. The primary complaint of Xyrem is its high quantities of sodium. Large sodium intake can lead to a number of health issues such as morbidity, modality, and cardiovascular disease. JZP-110 is billed to be a safer, and just as effective, alternative to Xyrem. This reduced sodium count could lead to more doctors prescribing JZP-110 to patients, leading to more sales growth. As well JAZZ will be able to charge a slightly higher price because of the added benefits. JAZZ anticipates preliminary results from the phase 3 clinical trials to be available by the end of fiscal 2016.

Celator Acquisition

On May 31, 2015 JAZZ announced that they entered into a definitive agreement to acquire Celator for \$30.25 per share in cash, or approximately \$1.5 billion. The driver for this purchase was to acquire Vyxeo, a product used in the treatment of Acute Myeloid Leukemia (AML). JAZZ paid a hefty price for this purchase

however they have increased synergies and added a potential breakthrough product to their hematology/oncology portfolio. Vyxeo is currently in stage three approval (adding to JAZZ's robust pipeline), however all indicators point towards approval. Vyxeo is the first drug to show significant improvement in life expectancy for patients with high risk AML. Its current data for the drug showed median overall survival for patients treated with Vyxeos was 9.56 months compared to the 5.95 months of traditional chemo-therapy. Vyxeos has received the FDA's Breakthrough Therapy designation, as well as Orphan Drug designations from the FDA and European Commission. AML is generally a disease of older adults, and the median age of a patient diagnosed with AML is about 67 years. The American Cancer Society estimates that there will be 19,950 new cases of AML and 10,430 deaths from AML in the U.S. in 2016. This number will only grow as the baby boomers enter their elderly years. Jazz Pharmaceuticals expects to finance the transaction with a combination of cash on hand and borrowings under its senior secured credit facility. This acquisition is a huge catalyst and could lead to a breakthrough product in Vyxeo.

considers the shares undervalued. Both of these are good signs that help support a buy.



The table above indicates the short interest. Companies in this industry can have rather large short interest ratios because of the inherent risk of the industry. A short interest ratio of 4.48% is reassuring because it shows that not many investors are expecting a significant decrease in the stock price.

Financials/ Debt

JAZZ reported a gross profit margin of 86.37% This is an extremely high profit margin. This tells us that if JAZZ is able to increase revenue, they will translate a large amount of that revenue to cost. This shows that their efficiently and effectively ran and can make the most out of future growth opportunities. JAZZ also has a good amount of cash on hand. Even after the purchase of Celator they still have 426 million dollars' worth of cash. It is important for a Pharma company to have ample cash so they can increase R&D and finance the purchase of acquisitions.

The recent acquisition has increased JAZZ's debt significantly up to over one billion. However I believe they have the capital structure to manage it. JAZZ also has a very low cost of borrowing compared to the industry and can transfer revenues to cash easily. Below provided is a table of when debt is due to give a better impression of their capital situation. With a majority of it due in 2020 or after. I am confident that their product line growth will be large enough by then to easily pay off these debts.

Ownership / Short Interest

Ownership and short interest can help give some hints to the future direction of a Pharmaceutical company.

Compare Current Stats Against 11/13/16			
Institutional - Based on Current Filings			
51) Institutional	11/13/16	Curr	Change
1) % of Shares Held	98.16	98.15	-0.01%
2) % of Float Held	98.80	98.80	0.00%
3) # of Institutions	572	554	-3.15%
4) # of Buyers	182	173	-4.95%
5) # of Sellers	189	185	-2.12%
6) # of New Buyers	75	64	-14.67%
7) # of Sellers	91	104	+14.29%
8) % Chg In Inst Positions	+1.64	-0.27	-1.91%
Top Geographic Ownership (%)			
53) Geographic	11/13/16	Curr	Change
3) UNITED STATES	82.24	83.37	+1.13%
2) BERMUDA	3.04	3.04	0.00%
1) Unknown	2.71	2.71	0.00%
3) BRITAIN	2.61	1.94	-0.67%
3) JAPAN	1.28	1.28	0.00%
3) LUXEMBOURG	1.25	1.23	-0.02%
3) SWEDEN	1.13	1.13	0.00%
3) SWITZERLAND	1.31	1.12	-0.19%
3) CANADA	1.18	1.11	-0.07%
Insider - Based on Last 6 Months			
52) Insider	11/13/16	Curr	Change
2) % of Shares Held	2.68	2.68	0.00%
2) % Chg In Insider Positions	-4.54	-4.95	-0.19%
2) # of Insiders	19	19	0.00%
2) # of Buyers Opn Mkt	1	2	+100.00%
2) # of Sellers Opn Mkt	11	11	0.00%
2) # of Shrs Bought Opn Mkt	1,745	3,745	+114.61%
2) # of Shrs Sold Opn Mkt	63,219	66,978	+1.82%
2) Avg Opn Mkt Buy Price	183.26	172.55	-10.97%
2) Avg Opn Mkt Sell Price	139.85	139.66	-0.14%
Top Ownership Type (%)			
54) Ownership Type	11/13/16	Curr	Change
4) Investment Advisor	79.84	77.50	-2.34%
4) Hedge Fund Manager	12.65	14.68	+2.03%
4) Individual	2.71	2.71	0.00%
4) Government	1.51	1.51	0.00%
4) Pension Fund	1.32	1.22	-0.10%
4) Bank	0.79	0.94	+0.15%
4) Private Equity	0.15	0.42	+0.27%
4) Insurance Company	0.39	0.39	0.00%
4) Venture Capital	0.37	0.37	0.00%

The table above shows the ownership summary for JAZZ as of 11/18/2016. There are two things that jump out at me from this table. First is the hedge fund manager ownership. It increased two percent from 12.65% to 15.68%. This is always a good sign because it means that there is potential for high return. The other thing that jumps out is the number of shares bought by insiders. The insiders of a Pharmaceutical company have the best idea of what is going on in the company. This large increase of insider shares bought on the market is a good sign. It could mean that the insiders know something that the market doesn't, or that the insider

Year Ending December 31,	Scheduled Long-Term Debt Maturities
2016	\$ 37,587
2017	42,280
2018	61,034
2019	79,789
2020	520,420
Thereafter	575,028
Total	\$ 1,316,138

Valuation

Special care had to be taken in the continuing period assumptions of JAZZ. This is because the industry average is not very reliable because there are many outliers and a number of companies much smaller than JAZZ in the industry. Using management guidance provided from the 10k and quarterly earnings I was able to come to a modest forecast. The target price was predicted to be \$128.44, which was considerably lower than the analyst median price of \$185. Even with this low prediction there would still be a return of nearly 20%, which I consider very desirable. This leaves a lot of upside potential and not too much downside risk, considering the industry, shown by the low short interest and the fact the stock is near its low.

Catalysts Summary

The three main catalyst are the approval of drugs in the pipeline. The first two being Xyrem for adolescents and JZP-110. If these two drugs are approved JAZZ will be able to expand its niche sleeping market even further resulting in a modest revenue increase. The biggest catalyst is the approval of Vyxeo. Products proven to help fight cancer can be cash cows, and if Vyxeo is approved, JAZZ, and its shareholders, will reap the benefits.

Summary

JAZZ is an industry leader in an industry expecting lots of growth. It is trading near 52 week lows, insider buying is up, and short interest low. JAZZ has a specialized portfolio of products, all of which are Patton or orphan status protected. There are a number of catalyst, as mentioned above, that could lead to significant growth. Based on all these factors I recommend a BUY of JAZZ at its current market price.

Jazz Pharmaceuticals Public Limited Company (JAZZ)

CENTER FOR GLOBAL FINANCIAL STUDIES

NEUTRAL

Analysis by Eric Crown

Current Price: **\$110.24**

Intrinsic Value: **\$105.19**

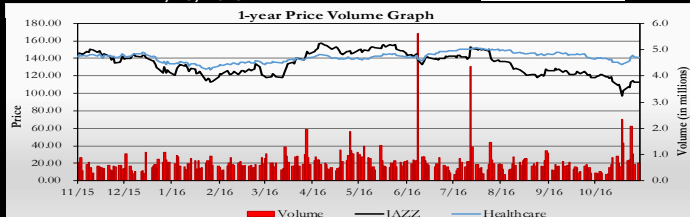
Target 1 year Return: 16.51%

Probability of Price Increase: 90.2%

11/18/2016

Divident Yield: **0.0%**

Target Price: **\$128.44**

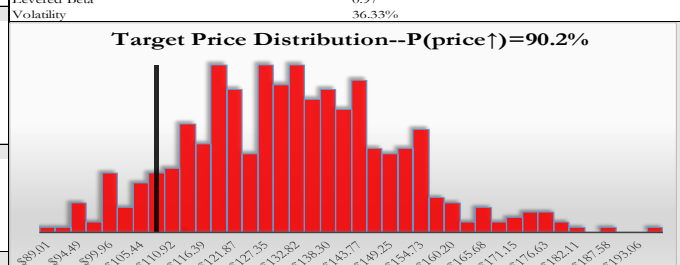


Description	
Jazz Pharmaceuticals Public Limited Company, a biopharmaceutical company, identifies, develops, and commercializes pharmaceutical products for various medical needs in the United States, Europe, and internationally.	
General Information	
Sector	Healthcare
Industry	Pharmaceuticals
Last Guidance	November 3, 2015
Next earnings date	February 23, 2017
Estimated Country Risk Premium	10.03%
Effective Tax rate	25%
Effective Operating Tax rate	-19%

Market Data	
Market Capitalization	\$6,602.53
Daily volume (mil)	0.66
Shares outstanding (mil)	59.89
Diluted shares outstanding (mil)	62.22
% shares held by institutions	74%
% shares held by investments Managers	73%
% shares held by hedge funds	14%
% shares held by insiders	2.36%
Short interest	3.34%
Days to cover short interest	3.14
52 week high	\$160.00
52-week low	\$95.80
Levered Beta	0.97
Volatility	36.33%

Past Earning Surprises	
Quarter ending	Revenue
9/30/2015	-3.46%
12/31/2015	-4.20%
3/31/2016	-6.74%
6/30/2016	-2.02%
9/30/2016	-5.75%
Mean	-4.43%
Standard error	0.8%

EBITDA	
9/30/2015	-24.57%
12/31/2015	-14.49%
3/31/2016	-27.29%
6/30/2016	-12.32%
9/30/2016	-17.05%
Mean	-19.14%
Standard error	2.9%



Management	
Cozadd, Bruce	Co-Founder, Executive Chairm
Young, Matthew	Chief Financial Officer and
Cox, Russell	Chief Operating Officer and
Hooper, Suzanne	Executive Vice President and
Smith, Karen	Chief Medical Officer and G1
Wilson, Karen	Principal Accounting Officer

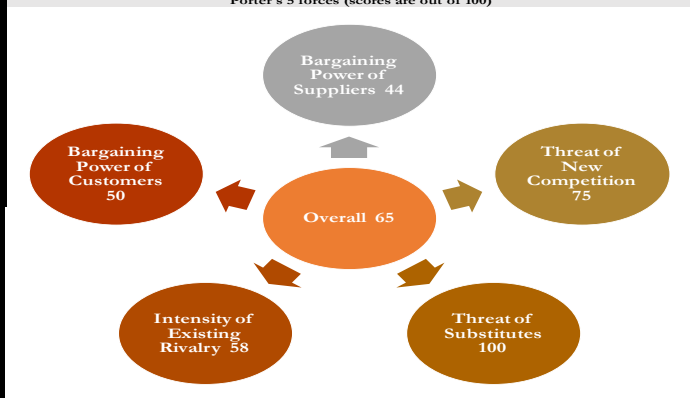
Total compensations growth	
40.81% per annum over 5y	
-6.24% per annum over 1y	
27.36% per annum over 4y	
-8.41% per annum over 3y	
N/M	
N/M	



Profitability	
ROIC	64.0%
NOPAT Margin	111%
Revenue/Invested Capital	0.57
ROE	116.7%
Adjusted net margin	108%
Revenue/Adjusted Book Value	1.08

Total return to shareholders	
18.09% per annum over 5y	
-14.15% per annum over 1y	
16.97% per annum over 4y	
35.81% per annum over 3y	
0% per annum over 0y	
0% per annum over 0y	

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



Revenue growth	
Base Year	9.2%
9/30/2017	8.8%
9/30/2018	10.1%
9/30/2019	1.1%
9/30/2020	-6.6%
9/30/2021	31.5%
9/30/2022	12.7%
9/30/2023	2.7%
9/30/2024	4.1%
9/30/2025	4.1%
9/30/2026	4.1%
Continuing Period	4.1%

Valuation	
NOPAT margin	111.4%
ROIC/WACC	5.19
9/30/2017	44.1%
9/30/2018	46.2%
9/30/2019	52.6%
9/30/2020	64.7%
9/30/2021	63.8%
9/30/2022	57.9%
9/30/2023	51.2%
9/30/2024	46.1%
9/30/2025	45.9%
9/30/2026	45.9%
Continuing Period	45.8%

Invested Capital	
Base Year	\$94.54
9/30/2017	\$599.58
9/30/2018	\$1,119.17
9/30/2019	\$1,965.83
9/30/2020	\$2,491.74
9/30/2021	\$2,386.28
9/30/2022	\$3,354.06
9/30/2023	\$3,774.25
9/30/2024	\$4,043.02
9/30/2025	\$4,130.16
9/30/2026	\$4,831.71
Continuing Period	

Net Claims	
Base Year	\$2,401.72
9/30/2017	\$2,315.76
9/30/2018	\$1,410.61
9/30/2019	\$278.49
9/30/2020	-\$1,100.92
9/30/2021	-\$2,312.81
9/30/2022	-\$3,719.73
9/30/2023	-\$5,182.82
9/30/2024	-\$6,550.81
9/30/2025	-\$7,916.84
9/30/2026	-\$9,327.55
Continuing Period	