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VIVUS, Inc. (VVUS - NASDAQ)

Enterprise Valuation Update

Based on our forecasts, we apply a 10x multiple to 2023 EBITDA and discount the result to present at a 15% rate. This approach generates a valuation of approximately $2.50 per share. We anticipate adding a valuation component for VI-0106 following a successful IND and launch of the trial.

Current Price (6/8/2020)	$1.47
Valuation	**$2.50**

OUTLOOK

VVUS is a specialty pharmaceutical company developing and commercializing a portfolio of products for PAH, EPI, obesity and ED. The development asset is designated VI-0106, generically named tacrolimus and previously approved for the prevention of transplant rejection. Pancreaze for EPI was purchased from Janssen in June 2018 to leverage the company's expense base. Qsymia is an established asset for obesity with a new direct to patient strategy that should increase penetration with modest impact on net revenues. Stendra/ Spedra is a royalty generating PDE5 inhibitor differentiated by its rapidity of action and improved side effect profile compared to others in the class.

Vivus' appreciation potential stems from management's execution on converting the company into a cash generating entity with an ability to layer on new products and employ an efficient growth strategy utilizing technology and traditional sales and marketing efforts unique to each individual product's characteristics and market. The company recently turned EBITDA positive; however, it is facing debt refinancing issues which may force it to be turned over to IEH.

SUMMARY DATA

52-Week High	**4.75**
52-Week Low	**0.80**
One-Year Return (%)	**-55.2**
Beta	**-0.83**
Average Daily Volume (sh)	**1,682,939**
Shares Outstanding (mil)	**17.9**
Market Capitalization ($mil)	**26.3**
Short Interest Ratio (days)	**1.1**
Institutional Ownership (%)	**19.1**
Insider Ownership (%)	**7.1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**-4.3**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2019 Estimate	**N/A**
P/E using 2020 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Small-Growth**
Industry	**Med-Biomed/Gene**

ZACKS ESTIMATES

Revenue

(In millions of US$)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2019	$16.1 A	$18.4 A	$18.0 A	$17.3 A	$69.8 A
2020	$19.6 A	$19.0 E	$18.4 E	$19.1 E	$76.1 E
2021					$82.9 E
2022					$91.8 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2019	-$0.41 A	-$0.22 A	-$0.10 A	-$0.27 A	-$0.99 A
2020	-$0.15 A	-$0.36 E	-$0.21 E	-$0.18 E	-$0.90 E
2021					-$0.21 E
2022					-$0.18 E

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WHAT'S NEW

Debt Restructuring

In May 2013, Vivus, Inc. (NASDAQ: VVUS) closed offerings of $250 million of 4.5% convertible debt that became due in May 2020. The conversion rate of the notes is 6.73038 per $1,000 of face value leaving them well out of the money and unable to convert. Without conversion, the notes remained as debt and required repayment in cash. Due to the financial market disruptions related to the coronavirus pandemic, banks and other lenders were unwilling to refinance the $181 million outstanding. As a result, Vivus entered into discussions with IEH Biopharma, the entity that holds $170 million of the debt, and settled amounts owed to others with cash on the balance sheet. IEH granted Vivus a 30-day extension during the month of May, in order to explore other opportunities for repaying the debt; however, the grace period expired without a successful restructuring at the beginning of June. On June 2nd, Vivus announced an updated agreement with IEH that allowed Vivus another month to continue to seek a financing solution for the due and outstanding debt. If the company is unable to refinance on or before June 30, 2020, IEH has offered Vivus shareholders $5 million[1] allocated *pro rata* over the approximately 18 million shares outstanding and a contingent value right (CVR) of up to $2 per share and will take 100% control of the company. The non-transferable contractual CVR will pay the $2.00 per share to shareholders if certain, as yet undisclosed, milestones are met in 2021 and in 2022.

Vivus has until June 30, 2020 to fully pay all of the principal, fee and expense amounts in cash. If the company is unable to do so, it will pursue a restructuring consistent with the term sheet and petition for voluntary relief under Chapter 11.

On June 8th, Vivus filed an S-1 in an effort to raise sufficient funds to pay down the debt owed to IEH. It is unclear what the outcome will be at this point, but our valuation suggests a value higher than the current enterprise value of the company.[2] Our valuation supports a refinancing. In order to better educate and guide investors who may participate in the capital raise, we are updating our valuation to reflect our updated estimates and providing a separate value for the VI-0106 asset when, based on our methodology, it enters the clinic.

Following the release of first quarter results, we have updated our forecasts for future EBITDA and earnings. We anticipate sales of almost $92 million in 2022 and $100 million by 2023. EBITDA forecasts for these respective periods are $21.1 and $26.7 million. Below we summarize a range of values based on future EBITDA for Vivus then discount the value to present at a 15% rate.

Exhibit I – Vivus Valuation Table[3]

Year	EBITDA	Multiple	Target EV	Debt	Cash	Equity Value	Value/Share	PV @ 15%
2022	$21,146	10.0	$211,462	$240,732	$42,354	$13,084	$0.73	$0.55
2022	$21,146	11.0	$232,608	$240,732	$42,354	$34,230	$1.92	$1.45
2022	$21,146	12.0	$253,754	$240,732	$42,354	$55,376	$3.10	$2.34
2023	$26,667	10.0	$266,671	$240,732	$42,354	$68,293	$3.82	$2.51
2023	$26,667	11.0	$293,338	$240,732	$42,354	$94,960	$5.31	$3.49
2023	$26,667	12.0	$320,005	$240,732	$42,354	$121,627	$6.81	$4.48

Vivus is also developing VI-0106; however, our valuation methodology does not include pre-clinical assets. A development asset is included when an IND has been cleared and the first study launched. However, since we anticipate VI-0106 will be in the clinic in the next few quarters, we provide a conservative estimate of the value of VI-0106 in Group 1 pulmonary hypertension or PAH. This should help guide expectations regarding the impact of this program. Note that the research and development expenditures in our model do not include amounts for the VI-0106 program; however, these expenses are included in our NPV analysis.

Our research finds that the incidence of PAH is from 15 to 25 cases per million or 43,000 globally guided by a variety of research and NIH numbers. We estimate this to be approximately 6,520 patients in the United States and 14,820 patients in the EU. Individuals that belong to the more severe Class 3 and Class 4 categories are the initial

[1] This is approximately $0.28 per share based on most recent share balance outstanding.
[2] Our valuation does not include the amount for VI-0106; however, we calculate a value for this asset separately appropriate to when the asset enters the clinic as a Phase II candidate for PAH.
[3] Source: Author's estimates.

target of the therapy and make up about half the total patients. Thus, our target market is about 3,300 to 3,400 patients in the US and 7,500 to 7,600 patients in the EU. Penetration into the target market begins at 25% in year one and increases to 50% by year four. Net pricing to Vivus is estimated to be $75,000 per year of treatment in the United States and $35,000 per year in Europe based on historical proportional pricing between the two regions. R&D is expected to be $75 million to take the asset from Phase II to approval in both the US and Europe. As a percent of revenues, cost of goods sold is 5%, sales expense is 30% and tax is 25%. Our model discounts the resulting cash flows at 15%. We assume that these values are above and beyond Vivus' core business and there will be no incremental G&A. The indication has been granted an orphan indication which provides seven years of marketing exclusivity in the United States and 10 years of marketing exclusivity in Europe. We also apply a valuation adjustment for the probability of success. Based on the data provided in the Biomedtracker[4] analysis for 505(b)(2) pathway products, a Phase II asset has a 32% probability of ultimate approval. We multiply this probability by our NPV to generate our target value for the asset.

Under these assumptions, our NPV model yields a value of $33.2 million for VI-0106 in the United States and a value of $51.3 million for Europe. The product could also be submitted for approval and commercialized in other regions such as Japan, Australia and greater Asia. If development and commercialization were pursued for both the EU and/or the US, this would increase the value of Vivus by anywhere from 25% to 40% of our target EV value. However, we note that this value is only appropriate after IND clearance and the start of the Phase II trial as per our methodology.

Exhibit II – Incremental Value Estimate of VI-0106 Firm Value Upon Entering Clinic[5]

VI-0106	US	Europe
Probability Adjusted NPV ($'000)	$33,164	$51,348

While we do not use comparable multiples for our primary valuation approach due to the dramatically varied characteristics of the companies in the pharmaceutical and biotechnology space, we provide median and average multiples of sales and EBITDA for reference. We performed a screen to identify drug companies trading on US exchanges with trailing twelve-month revenues between $50 and $999 million to identify market comparables appropriate to Vivus. Our screen identified 47 companies with a median EV to sales of 3.6x and EV to EBITDA of 11.5x.

Exhibit III – Peer Valuations for EV/Sales and EV/EBITDA[6]

Drugs N=47	TTM Sales ($MM)	TTM EBITDA ($MM)	EV	EV/ Sales	EV/ EBITDA
Median	$284	$67	$1,133	3.6x	11.5x
Average	$347	$135	$2,466	5.8x	23.6x

Summary

As Vivus' debt has come due, the company's priority has been to recapitalize its balance sheet in short order or cede the company to IEH. Due to unfortunate timing, the debt and equity markets were closed for refinancing in the period leading up to the expiration of the debt. As a result, Vivus has negotiated with the convertible noteholders and has one last opportunity to to pursue an equity capital raise for repayment. Vivus has a solid portfolio of products and has developed an innovative platform that we expect will expand penetration and improve patient loyalty. The company also has an attractive development asset on the cusp of entering the clinic. While revenue trends have lagged our initial expectations, we continue to see value in the company in excess of the market's indication. However, time is running out. Vivus filed an S-1 and is seeking to raise sufficient funds to repay IEH. If unsuccessful, equity holders will surrender the company in return for $5 million and a shot at making an additional $2 per share. We see the equity valuation of the company at $2.50 per share (present value), which ignores the additional $33.1 and $51.3 million value we attribute to VI-0106 when it enters the clinic.

[4] Clinical Development Success Rates 2006-2015. David W. Thomas, Justin Burns, John Audette, Adam Carroll, Corey Dow-Hygelund, Michael Hay.
[5] Source: Author's estimates.
[6] Source: Author's estimates and Zacks Research System.

PROJECTED FINANCIALS

VIVUS, Inc. - Income Statement

VIVUS, Inc.	2019 A	Q1 A	Q2 E	Q3 E	Q4 E	2020 E	2021 E	2022 E
Total Revenues	**$69,760**	**$19,631**	**$18,961**	**$18,367**	**$19,100**	**$76,058**	**$82,861**	**$91,799**
Cost of Product Sales	$15,671	$4,627	$4,904	$4,397	$4,534	$18,462	$18,793	$21,653
Gross Margin	*77.5%*	*76.4%*	*74.1%*	*76.1%*	*76.3%*	*75.7%*	*77.3%*	*76.4%*
Amortization of Intangibles	$14,552	$3,638	$3,638	$3,638	$3,638	$14,552	$14,552	$14,552
SG&A	$40,039	$10,960	$12,000	$9,780	$9,790	$42,530	$40,180	$41,000
R&D	$10,467	$2,445	$2,250	$2,100	$2,100	$8,895	$8,000	$8,000
Operating Income	($10,969)	($2,039)	($3,831)	($1,548)	($963)	($8,381)	$1,336	$6,594
Operating Margin	*-15.7%*	*-10.4%*	*-20.2%*	*-8.4%*	*-5.0%*	*-11.0%*	*1.6%*	*7.2%*
Interest & Other Expense	$20,513	$3,219	$5,200	$5,875	$5,875	$20,169	$23,500	$23,500
Pre-Tax Income	($31,482)	($5,258)	($9,031)	($7,423)	($6,838)	($28,550)	($22,164)	($16,906)
Taxes & Other	$21	($45)	$0	$0	$0	($45)	$0	$0
Tax Rate	*0%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net Income	($31,503)	($5,213)	($9,031)	($7,423)	($6,838)	($28,505)	($22,164)	($16,906)
Reported EPS	**($2.96)**	**($0.49)**	**($0.60)**	**($0.41)**	**($0.38)**	**($1.85)**	**($1.17)**	**($0.87)**
Adjusted EPS	**($0.99)**	**($0.15)**	**($0.36)**	**($0.21)**	**($0.18)**	**($0.90)**	**($0.40)**	**($0.12)**
Shares Outstanding	10,641	10,649.0	15,000.0	18,000.0	18,100.0	15,437.3	19,000.0	19,500.0

Source: Company Filing // Zacks Investment Research, Inc. Estimates

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HISTORICAL STOCK PRICE

VIVUS, Inc. – Share Price Chart



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