

Emergent Biosolutions, Inc.

NYSE:EBS

Analyst: Laura Pladys

Sector: Healthcare

BUY

Price Target: \$59.47

Key Statistics as of 4/23/2015

Market Price:	\$29.82
Industry:	Specialty Pharma
Market Cap:	\$1.1 B
52-Week Range:	\$19.31-30.96
Beta:	1.05

Thesis Points:

- The BioDefense market: a growth opportunity
- Relative valuation showing signs of undervaluation compared to its peers

Company Description:

Emergent BioSolutions Inc., a specialty pharmaceutical company, develops, manufactures, and commercializes specialized products for use in biodefense and commercial markets in the United States and internationally. The company's Biodefense segment markets BioThrax, an FDA approved vaccine for the prevention of anthrax disease; BAT (Botulinum Antitoxin Heptavalent (A,B,C,D,E,F,G)-Equine) for the treatment of suspected or documented exposure to botulinum neurotoxin A, B, C, D, E, F, or G; Anthrax Immune Globulin Intravenous to treat toxemia associated with inhalational anthrax; Vaccinia Immune Globulin Intravenous for addressing adverse events from smallpox vaccination; and RSDL (reactive skin decontamination lotion) to remove and/or neutralize chemical warfare agents from the skin. This segment is also developing NuThrax, an anthrax vaccine product candidate based on BioThrax combined with CPG 7909, an adjuvant licensed from Pfizer Inc.; and PreviThrax, a recombinant protective antigen anthrax vaccine product candidate, as well as GC-072, the compound in the EV-035 series of broad spectrum antibiotics. Its Biosciences segment markets WinRho SDF, to treat autoimmune platelet disorder and hemolytic disease of the newborn; HepaGam B for the prevention of Hepatitis B reinfection after liver transplantation, and for use as a post-exposure prophylaxis; VARIZIG for post-exposure prophylaxis of chickenpox; and Episil to treat pain associated with oral mucositis. This segment is also developing IXINITY, a therapeutic to prevent bleeding episodes in people with hemophilia B; MOR209/ES414, treatment for metastatic castration resistant prostate cancer; Orlertuzumab, treatment for chronic lymphocytic leukemia. In addition, it provides contract manufacturing services to third-party customers. The company has an agreement with MorphoSys AG to develop and commercialize MOR209/ES414. Emergent BioSolutions Inc. was founded in 1998 and is headquartered in Gaithersburg, Maryland.



Thesis

Emergent BioSolutions is a company that does not deliver vaccines or treatment for common disease but rather that focuses on a few orphan diseases. The specialty pharma outlook looks very positive due to the actual demographics and the current spending on healthcare and research. The BioDefense division of EBS is the most profitable one and is closely linked to the US government spending on BioDefense. It is a source of funding for the company and is a growth opportunity that the market seems to underestimate. In addition, the company shows sign of undervaluation compared to its peers.

Industry Outlook

The Specialty Pharma industry has an intense competition with a fast growth. It mainly deals with innovation and patents approvals by the FDA (Food and Drug Administration). Within the United States, the total market cap of the industry is estimated at \$172 trillion, represented by more than 55 companies. The Obama Affordable Care enabled more patients to be treated in the United States. In an industry such as specialty pharma where care is expensive, more patients are now able to be treated and the number of patients treated for rare diseases is expected to keep increasing as well. Therefore, the Affordable Care Act is expected to increase firms' revenues and therefore their research and development expenses. These companies should therefore increase their pipelines and come up with more preventive vaccine or treatments.

The industry specialty pharma specializes on orphan diseases. Though rare, people are still sick. Thanks to the increase in science and technology and the increased spending on healthcare, it is an industry that will keep growing in the upcoming years. This industry develops products that have no generics yet. It is a needed and essential industry.

The positive outlook of the industry is mainly explained by favorable patient demographics, a better and constantly improving technology leading to an increased research in specialized pharmaceuticals, as well as an increased healthcare spending.

Management

Emergent BioSolutions has been founded by Fuad El-Hibri in 1998. He has a Bachelor of Economics with Honors from Stanford university as well as a Master's degree from Yale. He has an extensive background in telecommunications and biopharmaceuticals and developed and co-managed the first digital cellular operating network in Russia. In EBS, he served as Chief Executive Officer for a decade, President and Chairman of the Board after having an outstanding career in the pharmaceuticals industry.

Daniel Abdun-Nabi is the Chief Executive Officer of EBS since 2012. He has a lot of experience within the company. Prior to that; he held the position of EBS President for 8 years, as well as the position of Chief Operating Officer. His background in law makes him a great asset for the company. Pharmaceutical companies always deal with patent approval and legal procedures.

Robert Kramer has been the Chief Financial Officer since 2012 and serves as Treasurer. He, as well, has been an asset for the company for more than a decade and has experience in other pharmaceutical and biotech companies prior to joining EBS. EBS management is made up of talented people, with extensive experience in pharmaceutical companies as well as long tenures within Emergent BioSolutions, making them very effective in the decisions made for the company.

Pipeline

The company's area of focus is the bacterium Anthrax. It is a rare acute disease that less than 20,000 people in the US have each year. Though mostly animals are infected and that it is not contagious, meat can be infected and the bacterium can be transmitted to humans or it can be lethal if inhaled. EBS goal is to provide effective preventive vaccines against this bacterium and other types of bacteria.

The company currently operates in two different divisions: biodefense and bioscience in order to protect and enhance life. EBS has 9 marketed products: 5 in biodefense and 4 in biosciences. The company also has 6 named products in investigational stage of development – 3 in each category – and other at earlier stages of development.

Refer to the two charts below for details of the products proposed the company.

MARKETED PRODUCT PORTFOLIO

BIODEFENSE		
Product	Indication	Regulatory Approvals
BioThrax® (Anthrax Vaccine Adsorbed)	Pre-exposure prophylaxis of anthrax disease	United States Germany Singapore
BAT™ (Botulinum Antitoxin Heptavalent (A,B,C,D,E,F,G)-(Equine))	Treatment of suspected or documented exposure to botulinum neurotoxin A, B, C, D, E, F or G	United States
Anthraxil (Anthrax Immune Globulin Intravenous (Human))	Treatment of toxemia associated with inhalational anthrax	Anthraxil is an investigational product, but is procured by U.S. Health & Human Services, or HHS, for inclusion into the Strategic National Stockpile, or SNS, for use in an emergency under an Emergency Use Authorization, or EUA.
VIGIV (Vaccinia Immune Globulin Intravenous (Human))	Post-exposure prophylaxis of vaccinia (a common virus used to vaccinate against small pox)	United States
RSDL® (Reactive Skin Decontamination Lotion Kit)	Removal or neutralization of chemical warfare agents, T-2 toxin and many pesticide-related chemicals from the skin	United States (5100k) United Kingdom Australia Canada

BIOSCIENCES

Product	Indications	Regulatory Approvals
WinRho® SDF [Rh ₀ (D) Immune Globulin Intravenous (Human)]	ITP - immune thrombocytopenic purpura HDN - hemolytic disease of the newborn Preventing Rh ₀ (D) immunization in Rh ₀ (D)- women [1] Treating Rh ₀ (D)- patients after transfusions with incompatible Rh ₀ (D)(+) blood or erythrocyte products [2]	Canada - ITP, HDN United States - ITP, HDN Portugal - [1] and [2]
HepaGam B® (Hepatitis B Immune Globulin Intravenous (Human))	Post-exposure prophylaxis for hepatitis B Prevention of hepatitis B recurrence following liver transplantation in patients who are positive for hepatitis B surface antigen	United States Canada Israel Kuwait Turkey
VARIZIG® (Varicella Zoster Immune Globulin (Human))	Post-exposure prophylaxis for varicella (chickenpox) in high-risk patient groups, including immunocompromised children, newborns and pregnant women [1] Prevention and reduction of severity in maternal infections within four days of exposure to Varicella zoster virus [2]	United States - [1] Canada - [2]
epi™ (oral liquid)	Relief of pain, soothing oral lesions of various etiologies, including oral mucositis/stomatitis caused by chemotherapy and radio therapy	United States (exclusive commercialization rights in the United States)

BioThrax, the company leading product, represents 80% of the firm's revenues as of fiscal year 2014 with only 9% of the total R&D expenses associated with it. Globally, the company markets its products in the United States, Canada, Germany, and Singapore.

Competitors

Competition arises because of the intent to treat and prevent CBRNE (Chemical, Biological, Radiological, Nuclear and Explosives) threats. This competition can arise from two different parties. First, it can come from already marketed products from other companies. For the company's leading product BioThrax, which is the only FDA approved vaccine for Anthrax; there can be a future competition from other vaccine companies since the United States provides lots of funding to develop alternative vaccines.

Competition in this industry comes from both the development and the procurement of the product. This means that competition comes from EBS' peers growing in the same industry for the sales but it also comes from government funding distributed to companies.

The BioDefense market: a growing opportunity

The company is strongly focused on its BioDefense

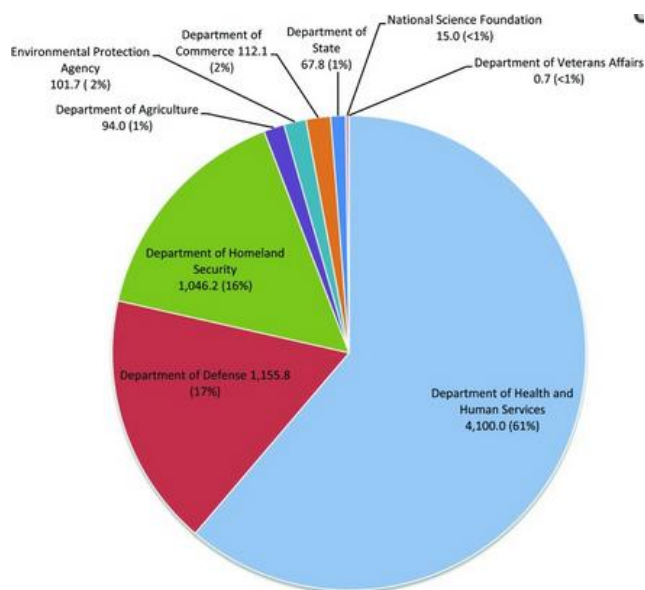
division since 2014 and announced its expansion recently. The BioDefense division is a specialty pharmaceutical business focused on countermeasures that address CBRNE threats. When it comes to Emergent BioSolutions, the United States is the company's primary purchaser of those biodefense products. Since the anthrax attack of 2001, the United States has been increasing its spending in the biodefense field. A week after the terrorist attack of the World Trade Center, five people were killed and 17 injured because of letters infected with the anthrax bacterium sent to media offices as well as two democratic U.S. senators. EBS BioThrax, the company's leading product, is a vaccine for the treatment for anthrax. Thanks to the consistent funding of the US government, the company has been able to secure a post exposure or peripheral access for BioThrax, supporting the vaccine position as the leading medical counter measure against Anthrax disease.



Culture of Anthrax

Making a bioweapon is easier and cheaper than making a nuclear weapon. Indeed, it only required 15 grams of anthrax to infect and kill these people but it cost the economy more than \$6 billion in the aftermath. Since the anthrax attack of 2001, the US government has already spent more than \$60 billion in biodefense.

The country fears another bioterrorist attack. It is one of the main reasons why the government is funding pharmaceuticals companies in their researches. For the fiscal year 2014, the civilian biodefense totaled \$6.69 billion and out of those \$6.69 billion, 88% was attributed to companies with biodefense goals and applications like EBS. Below is a split of the civilian biodefense budget by agency for FY 2014.



division of EBS.

Financials and undervaluation

Emergent BioSolutions is a pharmaceutical company generating a lot of cash with positive free cash flow. Though the company is growing by acquisitions, it still had growing cash since 2011. For FY 2014, cash represented 65% of the company's current assets and 30% of the total assets. Though EBS has been established almost two decades ago, the company has not reached the mature stage yet. It has every ingredient to keep on growing.

Compared to its peers, EBS shows signs of undervaluation. The P/E of 32.97 times for EBS is 1.6 times lower than the peers' average of 52.88 times. The EV/EBITDA of 12.64 times is 14 times lower than the peers' average of 180.51 times. Other multiples showing even more signs of undervaluation are the EV/Sales and the price to sales ratio. The EV/Sales of 2.54 times is 1,291 times lower than the peers' average of 3.28k times. Concerning the price to sales ratio of 2.55 times is 1,368 lower than the peers' average of 3.49k times.

The sales growth of the company of 43.93% is 100% lower than the peers' average of 146.25%. However, the company is more efficient at generating EBITDA margins than its peers. Indeed, the EBITDA margins of EBS peers' average are -5,583.74%, whereas EBS EBITDA margin is at 20.11%. Thus, the gross margins of both EBS and its peers are within the same percentage, 76.18% for the peers and 73.69% for EBS. All returns on assets, on equity, and on capital are negative for the peers whereas they are positive for EBS.

The proforma also shows signs of undervaluation with a potential upside of 99.44%. By plugging the company's revenues expectations for the next two years that are significantly lower than the current one, the company still has a consequent upside. With a long term growth rate established at 4%, it is conservative as the current revenue growth of EBS is of 43.9%. The company is generating consequent margins compared to its peers and has a bright future ahead that should enable the company to gain value, and therefore increase the stock price.

The biodefense segment represents 82% of the company's revenues. In addition, it also represents 212% of the company's net income for FY 2014. This segment is the most profitable one for the company. In addition, that focus made by the company's first purchaser of biodefense products, the American government, is expected to surge the company's revenues.

In addition, the company acquired several molecules from the company Evolva in the last quarter of 2014. This acquisition follows the government's strategy and objective to fight antibiotic resistant bacteria. At the meantime, this acquisition has occurred to develop a treatment of Burkholderia. It is a bacterium responsible for glanders, a disease that occurs primarily in horses and related animals but that is an important pathogen of pulmonary infections for people with cystic fibrosis (mucoviscidosis). Thus, the acquisition offers a potential for commercialization of a broader spectrum antibiotics to protect against multi drug resistant bacteria.

Due to the past terrorist attacks in the US and worldwide, the previous bio attacks that happened, and the potential bioweapons to be made, the United States keeps and will keep funding pharmaceutical companies to develop preventive vaccines or treatments for relatively unknown diseases. The market is underestimating EBS potential to develop new vaccines, but because of the constant funding from the government and the persistent fear from the government to face another bio attack, the BioDefense market should keep on increasing, and so will the BioDefense

Conclusion

Emergent BioSolutions is a specialized pharmaceutical company that still has room to grow. Its specialization in the biodefense products is a strong asset as it is a consequent focus for the US government since the bio attack of 2001. This opportunity is becoming more and more of a target for EBS and should start to increase the company's stock price. Concerning the current price of the company, the relative valuation shows that EBS is currently undervalued. The company is generating cash, is having more than respectable margins, and creates value. EBS is a buy with a target price at \$59.47 with a target return at 99.44%.

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Emergent BioSolutions, Inc.		EBS	Analyst Laura Pladys	Current Price \$29.82	Intrinsic Value \$53.71	Target Value \$59.47	Divident Yield 0%	Target Return 1-y Return: 99.44%	BULLISH	
General Info		Peers		Market Cap.	Management					
Sector	Healthcare	DepoMed Inc		\$1,550.67	Professional	Title	Comp. FY2012	Comp. FY2013	Comp. FY2014	
Industry	Biotechnology	Nektar Therapeutics		\$1,570.01	El-Hibri, Fuad	Founder, Executive Chairman, Ch	\$1,408,428	\$1,295,472	\$3,591,373	
Last Guidance	Mar-05-2015				Abdun-Nabi, Daniel	Chief Executive Officer, President,	\$1,675,366	\$2,160,851	\$4,147,386	
Next earnings date	5/5/2015				Kramer, Robert	Chief Financial Officer, Executive V	\$1,046,126	\$800,747	\$1,917,987	
Market Data		Chimerix, Inc		Market Cap.	Historical Median Performance					
Enterprise value	\$1,100.68			\$1,580.17	Growth	EBS	Peers	Industry	All U.S. firms	
Market Capitalization	\$1,130.18	Current Capital Structure			ROIC	16.5%	31.3%	13.8%	7.4%	
Daily volume	0.10	Total debt/market cap	22.21%		NOPLAT Margin	9.7%	-2.7%	1.1%	14.3%	
Shares outstanding	38.32	Cost of Borrowing	1.50%		Revenue/Invested Capital	0.40	-0.35	0.15	10.4%	
Diluted shares outstanding	45.80	Interest Coverage	2.9x		Excess Cash/Rev.	55.3%	168.8%	13.5%	12.9%	
% shares held by institutions	77.73%	Altman Z	2.92		Total Cash/Rev.	55.3%	195.8%	12.3%	15.2%	
% shares held by insiders	5.55%	Debt Rating	BAA		Unlevered Beta	-0.11	0.63	1.09	0.95	
Short interest	8.86%	Levered Beta	1.10		TEV/REV	2.1x	6.7x	6.2x	2.5x	
Days to cover short interest	12.90	WACC (based on market value weights)	7.07%		TEV/EBITA	5.3x	94.4x	17.4x	13.1x	
52 week high	\$30.96	Past Earning Surprises			PE (normalized and diluted EPS)	9.2x	-23.6x	31.3x	23.5x	
52-week low	\$19.31	Revenue			P/BV	0.8x	1.9x	2.3x	2.2x	
5y Beta	1.05	EBITDA			Non-GAAP Adjustments in estimates computations					
6-month volatility	29.51%	Norm. EPS			Operating Leases Capitalization	100%	Straightline		10 years	
		Last Quarter	-6.3%	0.0%	8.7%	R&D Exp. Capitalization	100%	Straightline	10 years	
		Last Quarter-1	10.4%	0.0%	45.9%	Expl./Drilling Exp. Capitalization	0%	N/A	N/A	
		Last Quarter -2	1.3%	33.1%	-3.8%	SG&A Capitalization	0%	N/A	N/A	
		Last Quarter -3	-6.0%	0.0%	NM					
		Last Quarter -4	5.2%	0.0%	50.0%					
Proforma Assumptions		Forecast								
		Period	Rev. Growth	Adj. Op. Cost/Rev	Invested Capital	NOPLAT Margin	ROIC	WACC		
Money market rate as of today		LTM	43.9%	75.5%	\$1,346.16	23%	7.5%	7.1%		
Annual increase (decrease) in interest rates		NTM	4.5%	75.5%	\$1,467.04	25%	8.6%	7.5%		
Yield Spread acceleration		NTM+1	22.8%	75.4%	\$1,609.98	24%	9.4%	7.6%		
Marginal Tax Rate		NTM+2	20.0%	75.4%	\$1,749.87	23%	10.0%	7.7%		
Risk-Free rate		NTM+3	16.0%	75.3%	\$1,882.45	23%	10.5%	7.8%		
Tobin's Q		NTM+4	14.0%	75.3%	\$2,006.39	23%	11.0%	7.9%		
Op. Cash/Rev.		NTM+5	12.0%	75.2%	\$2,117.09	22%	11.4%	8.0%		
Growth in PPE		NTM+6	8.0%	75.2%	\$2,211.51	22%	11.6%	8.1%		
Long term Growth		NTM+7	5.0%	75.1%	\$2,297.06	22%	11.6%	8.2%		
Base Year Unlevered Beta		NTM+8	4.0%	75.1%	\$2,382.90	22%	11.7%	8.3%		
Long term Unlevered Beta		Continuing Period	4.0%	75.0%	\$2,231.92	12%	10.0%	8.4%		
		Valuation				Pricing Model				
		Period	Invested Capital x (ROIC-WACC)	Total Debt	Other non-interest bearing claims	Shares Outstanding	DCF (Weight = 100%)	Relative (Weight = 0%)	Distress (Weight = 0%)	Weighted Average Price Per Share
		LTM	\$0.00	\$251.00	-\$159.18	38.32	\$54.40	\$70.77	\$43.15	\$54.40
		NTM	\$15.45	\$251.00	-\$186.87	38.32	\$60.19	\$77.53	\$47.76	\$60.19
		NTM+1	\$26.93	\$251.00	-\$222.91	38.32	\$66.06	\$96.22	\$52.84	\$66.06
		NTM+2	\$37.64	\$251.00	-\$285.45	38.32	\$72.48	\$115.68	\$58.36	\$72.48
		NTM+3	\$47.40	\$251.00	-\$377.58	38.32	\$79.16	\$135.22	\$64.45	\$79.16
		NTM+4	\$57.61	\$251.00	-\$488.03	38.32	\$85.60	\$155.39	\$70.58	\$85.60
		NTM+5	\$67.52	\$251.00	-\$559.66	38.32	\$90.43	\$174.07	\$74.98	\$90.43
		NTM+6	\$73.19	\$251.00	-\$654.65	38.32	\$95.45	\$189.29	\$79.41	\$95.45
		NTM+7	\$75.31	\$251.00	-\$766.77	38.32	\$100.58	\$201.10	\$84.12	\$100.58
		NTM+8	\$76.74	\$251.00	-\$888.35	38.32	\$104.27	\$211.92	\$88.86	\$104.27
		Continuing Value	\$767.16							
		Monte Carlo Simulation Assumptions				Monte Carlo Simulation Results				
		Base	Stdev	Min	Max	Distribution	Intrinsic Value		1y-Target	
Revenue Variation		0	10%	N/A	N/A	Normal	Mean est.	\$54.40	\$60.19	
Op. Costs Variation		0	10%	N/A	N/A	Normal	σ(e)	\$0.23	\$0.24	
Country Risk Premium		6%	N/A	5%	7%	Triangular	3 σ(e) adjusted price	\$53.71	\$59.47	
Long term Growth		4%	N/A	3%	31%	Triangular	Current Price	\$29.82		
						Analysts' median est.			\$32.00	