University of Connecticut Student Managed Fund
2019 Analyst Report
Suzan Talo & Reginald Joazil

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		Exchange:	NASDAQ	Sector:	Healthcare	:	Recommendation:	Buy					
Celgene Corporation		Ticker:	CELG	Industry:	Biotechnology		Current Price	$93.76	As of 2/7/2019				
Price		**Key Stats**		**Market Data**		**Profitability LTM**		**Leverage**		**Key Valuation Drivers**		**ESG Score**	**CELG / Peer**
Current Price	$93.76	Employees	7,467	Shares O/S (million)	702.5	ROIC	13.9%	Debt / Capital:	80.70%	Cost of Equity	14.9%	Env	76 / 67
Target Price	$137.29	Founded	1980	Market Cap (million)	$65,862	ROA	10.5%	Total Debt / EBIDA	3.5x	Cost of Debt	3.0%	Soc	49.2 / 50.2
Upside	46.4%	CEO	Alles, Mark J.	Dividend	N/A	ROE	68.7%	EBITDA / Int. Expense	7.9	WACC	12.4%	Gov	58.6 / 59.2
PEG Ratio (5 yr expected	0.49	Headquarter	Summit, NJ | USA	52-Week Hi/L	95.44/ 58.59			Fiscal Year End	31-Dec	Long-Run Tax	24%		

Report Highlights

We recommend a Buy rating for Celgene based off our analysis with a target price of $137.29 per share. This allows for a margin of safety of about 46.4% based of its closing price on February 7th, 2019. The company's stock has gained 31.7% in the past six months against the industry's decline of 2.6%.

Basis for Recommendation:

1. **Global leadership in therapeutic areas of high unmet need** – Celgene is a leader in the therapies to treat cancer and immune inflammatory related diseases.

2. **Industry-leading operational performance** – Celgene has an impressive operating performance history. With revenue and profit growth consistently averaging 15-20% per year.

3. **High growth potential** – Celgene has many very promising treatments under development. Celgene expects to launch 10 blockbuster drugs over the next few years. Half of those could generate peak annual sales of $2 billion or more.

4. **Competing Firms** - The following is a brief summary of some of Celgene's biggest and most direct competitors.

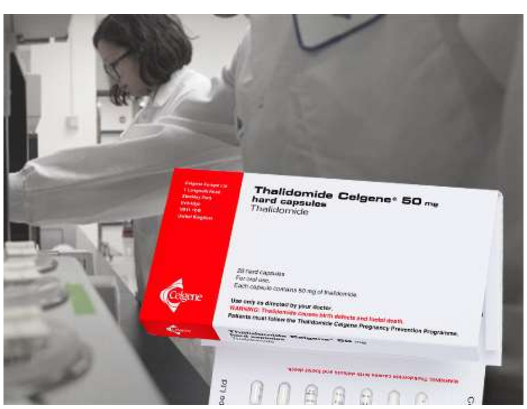
Business Overview

Business Description

Celgene Corporation is an integrated global biopharmaceutical company engaged primarily in the discovery, development and commercialization of innovative therapies for the treatment of cancer and inflammatory diseases through next-generation solutions in protein homeostasis, immuno-oncology and neuro-inflammation. The primary products include REVLINID, POMALYST, OTEZLA, ABRAXANE, and VIDAZA. Celgene Corporation invests substantially in research and development in support of multiple ongoing clinical development programs which support existing products and potential new products. The company was founded in 1980 and is headquartered in Summit, New Jersey.

Patients	Health System	Future Innovation
The overall patient experience is the primary driver of innovation. Celgene looks to improve patients' outcomes, improve patient's quality of life, and improve patients education and support	Celgene tracks the impact of their innovation throughout the healthcare system, representing considerable cost savings and promotes and incentivizes medical innovations.	Celgene prides itself in investing for future breakthroughs. Celgene targets areas with high patient and scientific unmet need. Celgene believes that relentless innovation is good for patients and Celgene.

History



Celgene was created by David Stirling and Sol Barer in 1986 as a biotechnology company and had its initial public offering in 1987. Since its inception, Celgene has been leading the biopharmaceutical sector in world renown research and product development. One of Celgene's first successful drugs was a version of ADHD treatment Ritalin. Celgene has partnered and collaborated with over 50 organizations, advancing its pipeline through mutually beneficial deals with other organizations. From helping people obtain their medication to using cutting-edge scientific technology to discover new treatments, Celgene's entrepreneurial spirit, teamwork-oriented culture and commitment to rare disease create a unique platform for transforming patient outcomes.

Recent Awards

Business Segment

Celgene operates within one business segment: human therapeutics. Within that, they focus on 5 areas: oncology, hematology, autoimmune, myelodysplastic, and chronic skin conditions.

Drug Segments	Celgene Brands
Oncology	Pomalyst (pomalidomide) capsules 1 · 2 · 3 · 4 mg; Revlimid; Abraxane (nanoparticle albumin-bound paclitaxel)
Hematologic (blood disorder)	Vidaza azacitidine for injection
Autoimmune	
Myelodysplastic (blood and marrow disorder)	Vidaza azacitidine for injection
Chronic Skin Condition	Otezla (apremilast) 30mg tablets

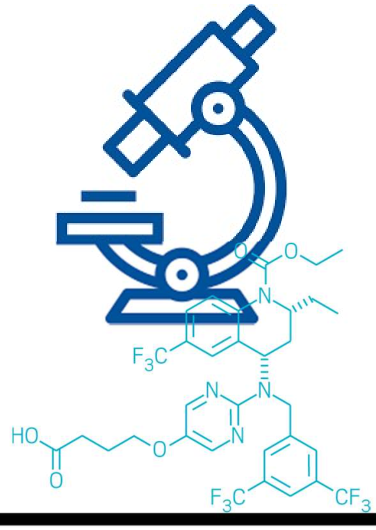
Industry Overview and Competitive Positioning

Industry Overview

Celgene operates in the biopharmaceutical/biotechnology industry, which is intensely competitive driven by R&D innovation. The industry is highly volatile and unpredictable sector due to the scientifically intensive operations of companies that reside. The industry emerged in the 1970s, with the main goal of enhancing the quality of human life. New discoveries for the treatment of diseases provide opportunities for growth and gains in stockholder value. The sales and earnings potential of a newly introduced commercial drug or treatment can be immense and remain positive for years.

The U.S. Food and Drug Administration (FDA) is the primary regulator for the industry. Before a drug makes it to market, it must traverse a strict clearance process set forth by the FDA. Statistically, there are significant odds against a drug progressing through all the required clinical trial stages. For every 5,000 compounds discovered in pre-clinical studies, only about five make it to the FDA approval status.

The nature of the operations of firms in this industry makes these equities more suited to aggressive, risk-tolerant investors. Stock prices fluctuate dramatically, particularly in response to news developments concerning the success or failure of a particular drug.



Competition

Many firms have significant expenditures on their R&D, as this is what ultimately can lead to the next big drug. Celgene has one of the best EBITDA margins in the industry at 52%. Furthermore, the company has long lasting patents in place that will protect against competition in the long run..

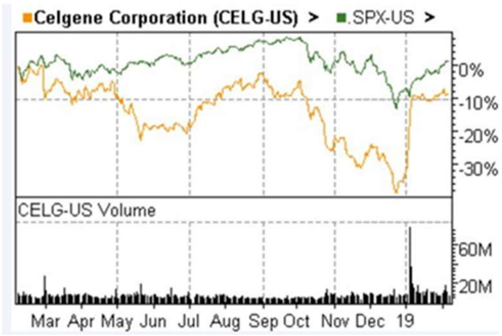
Celgene believes that patients will continue to use their drugs as they have developed a reputation in terms of safety, security and reliability. Biosimilars are expected to help Celgene gain market share from competitors while they continue to safeguard their own name brand drugs.

Competing Firms

The following is a brief summary of some of Celgene's biggest and most direct competitors.

Competitor	Description
Lilly	**Founded in 1876 and headquartered in Indiana, Lilly has annual revenue of $24.6B (2018) and 38,680 employees**
novo nordisk	**Founded in 1923, headquartered in Denmark, Novo Nordisk has annual revenues of $16.97B (2018) and 40,000 employees**
NOVARTIS	**Founded in 1859, headquartered in Switzerland, Novartis has annual revenues of $51.90B (2018) and 125,161 employees**

Investment Thesis

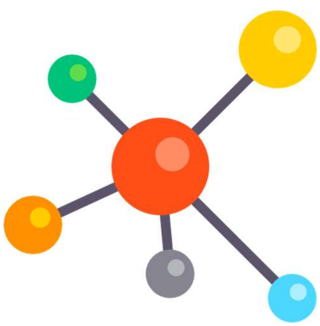


Global leadership in therapeutic areas of high unmet need

Celgene is a leader in the therapies to treat cancer and immune inflammatory related diseases. Celgene succeeded to maintain this position by an outstanding commercial execution and more importantly in delivering positive clinical and regulatory outcomes on its portfolio of assets. Celgene focus mainly on two therapeutic market segments: The Hematology & Oncology segment and the Inflammation and Immunology segment. To address a broad swath of unmet medical needs and to boost innovation in those areas, Celgene has been spending heavily on R&D. Referring to Celgene's financial statement, you'll see that Celgene spent $5.7 billion on R&D last year, representing an increase of 75% over 2017.

Industry-leading operational performance

Celgene has an impressive operating performance history. With revenue and profit growth consistently averaging 15-20% per year. This growth is expected to continue through 2020, given a young portfolio and growing clinical pipeline. For the FY 2018, revenue has increased by 18%, which continues a long run of strong growth. Celgene milestones are impressive. Early this week Celgene has released its 2019 revenue guidance revenue is expected to reach $17.2 billion in 2019 compared to 15.3 billion, in 2018 which represents 12.4% year-over-year growth.



High growth potential

Celgene has many very promising treatments under development. Celgene expects to launch 10 blockbuster drugs over the next few years. Half of those could generate peak annual sales of $2 billion or more. In total, Celgene could add another $16 billion or more in peak revenue through 2030 just with these 10 pipeline candidates. Celgene stock now trades at less than 13.2 times EBIDA. Its price-to-earnings-to-growth ratio is very low. Looking to the revenue and the and earnings that Celgene generates in the biotech industry, this stock looks really attractive. There are reasons to be optimistic about its stock and Its growth prospects.

Predictable free cash flow

Celgene has generated strong and predictable free cash flow for the past 10 years. The strong cash flow generation has shown Celgene ability to pay its debt. All these attributes contribute to increasing.

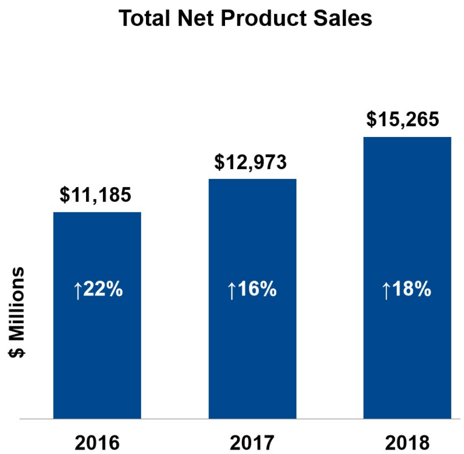


Figure 1

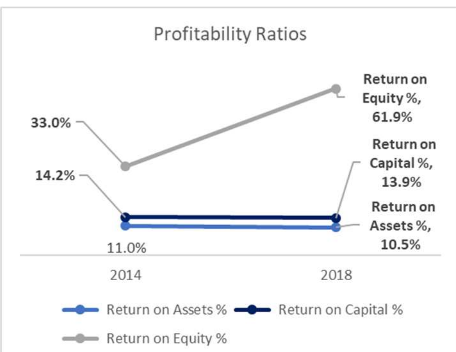


Figure 2

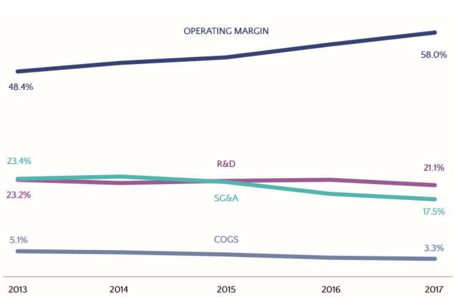


Figure 3

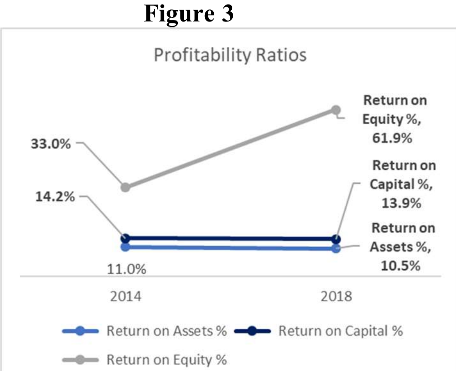


Figure 4

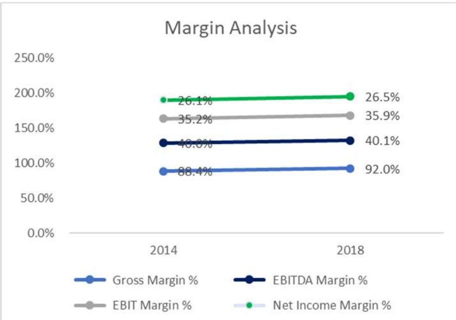
Financial Analysis

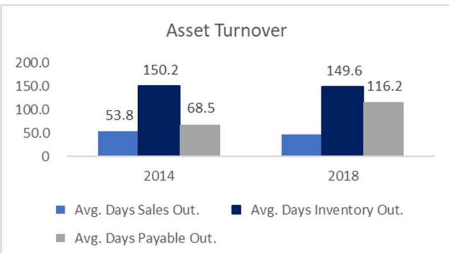
The financial analysis uses years financial results from FY2014 through FY2018 2018 of Celgene Corporation to illustrate basic financial analysis, including common size statements and ratio analysis.

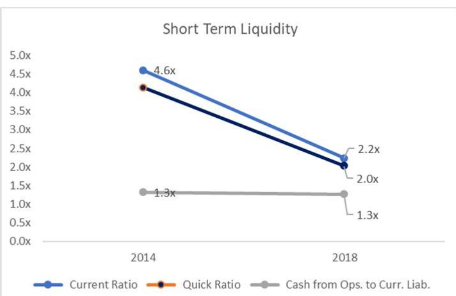
Strong Net Product Sales. For the past 3 years from 2016 to 2018, Celgene has generated a dramatic growth. Revenue in total increased $4,080 million (Fig. 1) over these three years period, representing a 16.7% YoY CAGR (Fig2). In 2018, Celgene delivered solid financial results, with strong growth across its portfolio with REVLIMID, POMALYST, OTEZLA and ABRAXANE as key brands in their respective indications. Its total year-over-year revenue growth was 17.5%, largely driven by continued volume demand, which Celgene have supported through expanded indications across key global markets and excellent commercial execution. Last year, REVLIMID sales representing the biggest product mix by net sales was $9,685 million, an increase of 18% year-over-year while the full year POMALYST sales were $2,040 million, an increase of 26% year-over-year. OTEZLA sales were $2,040 million surging an increase of 26% net sales. We believe that Celgene will continue to be a leader in the treatment of hematologic malignancies, with innovative therapies that have the potential to transform outcomes for cancer patients worldwide. This unprecedented opportunity within their portfolio after a year of multiple catalysts from research and development partnerships makes us believe that Celgene is well positioned to capture a 13.5% revenue CAGR the next five years.

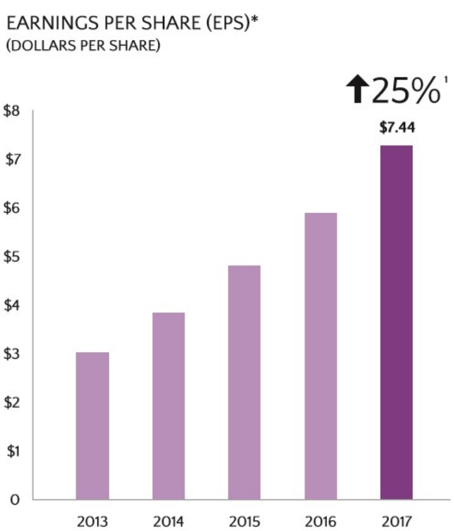
Strong Operating performance delivering value to shareholders. The Total Cost of Goods sold over the past 3 years has averaged 4% of Net Sales. Cost of Goods sold are projected to be 3% of the Net Sales in the projected 5 years. This is primarily due to the operational capacity of Celgene to achieving milestones, meeting or exceeding financial guidance, and demonstrating operational excellence with its near-term portfolio. Moreover, the capacity of Celgene to enter new markets and new indications secured within its core portfolio is one of the drivers of the volume effect reducing the percent average net sales. Going forward, even with the uncertainty, we believe that Celgene does have a well-planned pipeline from risk/reward perspective. We are expecting top-line growth to pick up in the coming 5 year. Current developments on both Celgene and customer sides will provide Celgene more scalable advantage over time, the operating margin should growth faster. R&D expenses averaged 23% of Celgene revenue during the past 3 years. Full year 2018, R&D expenses were $5,673 million Celgene diluted earnings per share increased 25% year-over-year to $7.44. The company delivered this robust earnings growth while continuing to invest in innovative, disruptive R&D. This strategy strengthened Celgene cash position which grew, resulting in approximately $12 billion in cash and investments at the end of 2017. Comparing to industry peers, Net sales, EBITDA, Net Income, all indicators presented high-performance history and higher performance target. Celgene core business remains strong, with solid organic revenue growth and margin expansion contributing to their earnings beat.

Efficient Operating Momentum delivering value to shareholders. Adjusted diluted earnings per share increased 25% year-over-year to $7.44. We delivered this robust earnings growth while continuing to invest in innovative, disruptive R&D. Our cash position strengthened and grew, resulting in approximately $12 billion in cash and investments at the end of 2017. The constant expenses in R&D were primarily driven by the inclusion of R&D expenses associated with the acquisition of Juno Therapeutics and regulatory submission related work for multiple programs. In the light of the superior business model and growth track records, Celgene operational performance and accounting book are great. To better understand what drove the 13.3% ROE in 2018, we have performed an analysis of the key financial ratios for FY2014 through.









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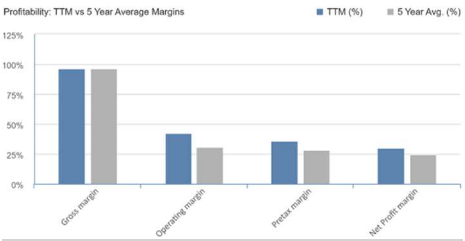
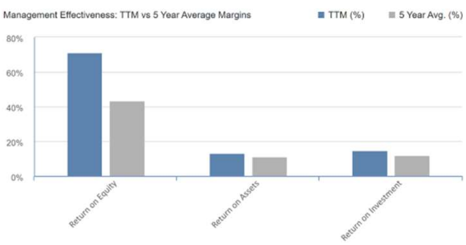
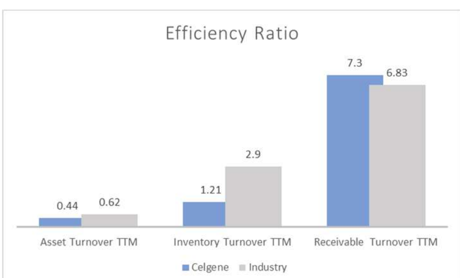
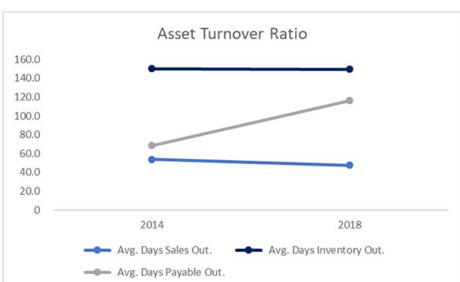


	Celgene	Industry
Gross margin TTM	96.25%	70.74%
Gross Margin 5YA	95.94%	69.78%
Operating margin TTM	42.38%	-433.50%
Operating margin 5YA	30.96%	-192.35%
Net Profit margin TTM	30.09%	-435.85%
Net Profit margin 5YA	24.55%	-212.65%

Profitability Management Ratios. In general, the company had a good fiscal year the past five years. It improved its ability to generate profit. All three of the main profitability's ratio (profit margin, return on assets and return on equity) have increased from the previous year; it means that the company is using its resources more efficiently. **Gross Margin are high**, increasing in 2016, 2017 and 2018. Gross Profit in 2018 was $14,062 million, an increase of $2,353 approximately 19.4% over the 3-year period (2016-2018). This is due to a decrease in organic total operating expenses as well as the favorable impact from foreign currency translation resulting from the strength of the U.S. dollar relative to the foreign currencies where Celgene operate. Comparing to peers Celgene gross margin TTM and Gross margin 5YA are higher shower the capacity of Celgene to leverage its resource to increase performance.







Asset Management Ratios. Another strong aspect of the company's operations is its asset management efficiency.
Avg. Days Sales Out. The account receivable ratio has been stable from 2014 to 2018, and the account receivable days have gone up slightly from 44.11 in 2014 to 57.33 in LTM Q32018. It is taking longer over time to receive payment for the revenue. The steady increase in this measure is in line with the new acquisition made, given that most Advent's term license clients are billed on an annual cycle, rather than monthly, resulting in a slightly longer collection cycle and corresponding increase in days' sales outstanding.
Avg. Days Payable. There is continuous increase of in account payable days. All else being equal, this is a good sign because the company is taking longer to pay its supplier and its vendors and increased the for the business. There could be strategic reasons for this, given that Celgene is a highly leverage company and delaying the payment of its supplier and vendors over a longer period and save that cash.
Long-term Debt to Capital Ratio. The debt management ratios shown that long-term debt has increase as a percentage of capital for Celgene between 2017 and 2018. This is because Celgene major bond issues outstanding over the period. As long-term debt has grown and asset has increased in a lower proportion, the long-term debt to total assets measure has declined.

Liquidity Ratios, Quick Ratio. With a quick ratio of higher than 1, from 2014 to 2018, Celgene appeared to be well positioned to cover its current liabilities and has liquid assets available to cover each dollar of short-term debt. In the LTM Q1 2019 figure shown, there is a substantial increase in quick ratio of 1.6. This high performance is mainly due to the high synergies in the company operation.
Current Ratio. The current ratio shown the same patterns and story (Figure 26). It has declined slightly in 2016 to hit a spike in 2017.

Long-term Debt ratio. With total debt exceeding equities, Celgene is considered a highly levered company. This is common amongst large-cap companies because debt can often be a less expensive alternative to equity due to tax deductibility of interest payments. Since large-caps are seen as safer than their smaller constituents, they tend to enjoy lower cost of capital. To assess the sustainability of CELG's debt levels, we decided to analyze the company's current ratio and quick ratio. A company generating current ratio between 2.0x and 5.0x considered financially sound. For CELG, the ratio of 2.1x suggests that interest is appropriately covered.

Celgene got a steady improvement on return on equity, which increased phenomenal from 9.57% in 2014 to 13.3% in 2018. Great increasing profit margin and an increasing asset leverage mostly drove this return on equity. On the bottom line, the asset turnover ratio stayed constant which is understandable due to the number of recent acquisitions made by the company.

Valuation

Discounted Cash Flow Model

Celgene appears substantially undervalued relative to its peer companies as well as to the implied intrinsic value from the discounted Cash flow (DCF) analysis. We believe a share price closer to $137.29, representing 45.71% upside potential on the closing price of $145.9, would be more in line with the median EBITDA multiple from the comparable and the DCF output. Our target price is based on a combination of:

- Discounted Cash flow Model (70%)
- Multiples Model (30%)

To project Free Cash flow and complete the Discounted Cash flow analysis, we relied upon our "Base Case" financial projection. Our assumptions of:
FCF projection: 11.9%
The Discount Rate: 12.4% based on the WACC for comparable and 3.0% cost of Debt and 14.9% Cost of Equity
The terminal EBITDA Multiple of 13.1x
This approach set the target price to $145.9. With a sensitivity analysis on WACC and a Terminal EBITDA of 13.1x, we can reach an upside of $165.02 and a down side of $135.99
For the multiple approach, we focused on EV/EBITDA multiple. We underweighted revenue and P/E multiples given the wide variance in non-recurring and non-cash charges and tax rates of comparable and knowing that we are dealing with companies generating revenue and most are profitable and cash flow positives. We realized that Celgene is traded at a discount of 22%. As a result, we arrive to a target price of $ $117.31.

Comparative Model

Celgene Corporation, Comparable Analysis
($ in millions)

Company Name (in millions, except per share data)	Enterprise Value	LTM Total Revenue	Financial Data 2019E Total Revenue	LTM EBITDA	2019E EBITDA	EV/Revenue LTM	EV/Revenue 2019E	EV/EBITDA LTM	EV/EBITDA 2019E
Asset and Wealth Management									
Biogen Inc.	$46,923	$13,453	$13,740	$7,026	$8,131	3.5x	3.4x	6.7x	5.8x
Gilead Sciences, Inc.	$77,013	$22,127	$21,900	$10,449	$12,454	3.5x	3.5x	7.4x	6.2x
Amgen Inc.	$113,938	$23,747	$22,790	$12,497	$12,918	4.8x	5.0x	9.1x	8.8x
Regeneron Pharmaceuticals, Inc.	$34,168	$6,711	$7,380	$2,683	$3,222	5.1x	4.6x	12.7x	10.6x
AbbVie Inc.	$146,910	$32,753	$32,830	$13,676	$16,282	4.5x	4.5x	10.7x	9.0x
Alexion Pharmaceuticals, Inc.	$29,905	$4,131	$4,750	$2,000	$2,785	7.2x	6.3x	15.0x	10.7x
Vertex Pharmaceuticals Incorporated	$40,415	$3,048	$3,560	$736	$1,316	13.3x	11.4x	54.9x	30.7x
Mean	**$69,896**	**$15,139**	**$15,279**	**$7,009**	**$8,158**	**6.0x**	**5.5x**	**16.6x**	**11.7x**
Median	$46,923	$13,453	$13,740	$7,026	$8,131	4.8x	4.6x	10.7x	9.0x
Min	$29,905	$3,048	$3,560	$736	$1,316	3.5x	3.4x	6.7x	5.8x
Max	$146,910	$32,753	$32,830	$13,676	$16,282	13.3x	11.4x	54.9x	30.7x
Celgene Corporation	**$80,083**	**$2,749**	**$37,779**	**$5,807**	**$6,738**	**29.1x**	**2.1x**	**13.8x**	**11.9x**

Investment Risks

Regulation

The testing, manufacturing and marketing of Celgene products requires regulatory approvals, including approvals from the FDA and similar bodies in other countries. The future growth of the company can negatively impacted if the company fails to obtain timely, or at all, requisite regulatory approvals in the United States and internationally for products in development.

Preclinical tests and clinical trials can take many years and require the expenditure of substantial resources, and data obtained from these tests and trials may not lead to regulatory approval.

Competition

Manufacturers of generic drugs are seeking to compete with Celgene drugs and that presents a challenge. Those manufacturers may challenge the scope, validity of patents, requiring Celgene to engage in complex, lengthy and costly litigation.

Reliance on Third Parties

Sales depend on some third party materials, drug delivery mechanisms, and other medical devices. Some of Celgene's drugs offer patients the ability to administer the correct dosage themselves, in the comfortability of their own home. However, in order to be used in conjunction with the drug, these third party devices must go through and pass their own regulatory approval process. Celgene can only market their drugs as having in-home delivery systems so long as the third party medical devices stay up to date with regulations. Should any third party device get denied, Celgene could lose sales as patients could choose to go with another similar drug that offers the convenience they are looking for.

Conclusion

In conclusion, we believe Celgene is a Buy, with a price target of $137.29, providing about a 46% margin of safety. Celgene has drugs with long-term patents that will provide protection for Celgene's revenue in the future..

Appendix

Income Statement						
		Reclassified	Restated			LTM
For the Fiscal Period Ending	**12 months**	**12 months**	**12 months**	**12 months**	**12 months**	**12 months**
	Dec-31-2014	**Dec-31-2015**	**Dec-31-2016**	**Dec-31-2017**	**Dec-31-2018**	**Mar-31-2019**
Currency	***USD***	***USD***	***USD***	***USD***	***USD***	***USD***
Revenue	7,563.8	9,161.0	11,185.0	12,973.0	15,265.0	15,758.0
Other Revenue	106.6	95.0	44.0	30.0	16.0	10.0
Total Revenue	**7,670.4**	**9,256.0**	**11,229.0**	**13,003.0**	**15,281.0**	**15,768.0**
Cost Of Goods Sold	891.0	1,949.0	1,365.0	1,294.0	1,219.0	1,206.0
Gross Profit	**6,779.4**	**7,307.0**	**9,864.0**	**11,709.0**	**14,062.0**	**14,562.0**
Selling General & Admin Exp.	2,027.9	2,300.0	2,459.0	2,626.0	3,154.0	3,063.0
R & D Exp.	1,796.3	2,089.0	3,543.0	3,274.0	5,101.0	4,132.0
Depreciation & Amort.	-	-	-	-	-	-
Amort. of Goodwill and Intangibles	258.3	279.0	459.0	329.0	318.0	340.0
Other Operating Expense/(Income)	-	-	-	-	-	-
Other Operating Exp., Total	**4,082.5**	**4,668.0**	**6,461.0**	**6,229.0**	**8,573.0**	**7,535.0**
Operating Income	**2,696.9**	**2,639.0**	**3,403.0**	**5,480.0**	**5,489.0**	**7,027.0**
Interest Expense	(176.1)	(311.0)	(500.0)	(522.0)	(741.0)	(767.0)
Interest and Invest. Income	28.2	31.0	30.0	105.0	45.0	66.0
Net Interest Exp.	**(147.9)**	**(280.0)**	**(470.0)**	**(417.0)**	**(696.0)**	**(701.0)**
Currency Exchange Gains (Loss)	(27.5)	(12.0)	(2.0)	21.0	3.0	(3.0)
Other Non-Operating Inc. (Exp.)	(2.5)	13.0	34.0	13.0	17.0	10.0
EBT Excl. Unusual Items	**2,519.0**	**2,360.0**	**2,965.0**	**5,097.0**	**4,813.0**	**6,333.0**
Restructuring Charges	-	-	-	(188.0)	60.0	60.0
Merger & Related Restruct. Charges	(48.7)	(84.0)	(38.0)	1,350.0	(112.0)	(158.0)
Impairment of Goodwill	-	-	-	-	-	-
Gain (Loss) On Sale Of Invest.	(13.7)	47.0	(394.0)	(10.0)	317.0	(373.0)
Gain (Loss) On Sale Of Assets	-	-	38.0	-	-	-
Asset Writedown	(129.2)	-	-	(1,620.0)	(150.0)	(150.0)
Legal Settlements	-	-	(199.0)	(315.0)	(96.0)	(96.0)
Other Unusual Items	-	(300.0)	-	-	-	-
EBT Incl. Unusual Items	**2,327.4**	**2,023.0**	**2,372.0**	**4,314.0**	**4,832.0**	**5,616.0**
Income Tax Expense	327.5	421.0	373.0	1,374.0	786.0	871.0
Earnings from Cont. Ops.	**1,999.9**	**1,602.0**	**1,999.0**	**2,940.0**	**4,046.0**	**4,745.0**
Earnings of Discontinued Ops.	-	-	-	-	-	-
Extraord. Item & Account. Change	-	-	-	-	-	-
Net Income to Company	**1,999.9**	**1,602.0**	**1,999.0**	**2,940.0**	**4,046.0**	**4,745.0**
Minority Int. in Earnings	-	-	-	-	-	-
Net Income	**1,999.9**	**1,602.0**	**1,999.0**	**2,940.0**	**4,046.0**	**4,745.0**

Balance Sheet

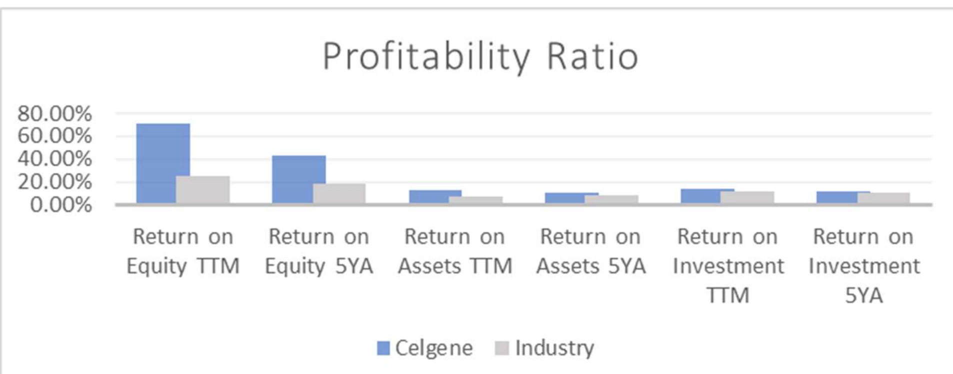
Balance Sheet as of:	Dec-31-2014	Restated Dec-31-2015	Restated Dec-31-2016	Dec-31-2017	Dec-31-2018	Mar-31-2019
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
ASSETS						
Cash And Equivalents	4,121.6	4,880.3	6,170.0	7,013.0	4,234.0	5,433.0
Short Term Investments	3,425.1	1,671.6	1,800.0	5,029.0	1,808.0	2,258.0
Trading Asset Securities	18.0	30.8	1.0	3.0	7.0	6.0
Total Cash & ST Investments	**7,564.7**	**6,582.7**	**7,971.0**	**12,045.0**	**6,049.0**	**7,697.0**
Accounts Receivable	1,166.7	1,420.9	1,621.0	1,921.0	2,066.0	2,327.0
Other Receivables	-	-	72.0	80.0	113.0	-
Total Receivables	**1,166.7**	**1,420.9**	**1,693.0**	**2,001.0**	**2,179.0**	**2,327.0**
Inventory	393.1	443.4	498.0	541.0	458.0	442.0
Prepaid Exp.	-	199.9	158.0	144.0	194.0	-
Other Current Assets	588.1	754.0	548.0	161.0	187.0	515.0
Total Current Assets	**9,712.6**	**9,400.9**	**10,868.0**	**14,892.0**	**9,067.0**	**10,981.0**
Gross Property, Plant & Equipment	1,166.1	1,445.6	1,647.0	1,903.0	2,360.0	-
Accumulated Depreciation	(523.5)	(631.5)	(717.0)	(833.0)	(993.0)	-
Net Property, Plant & Equipment	**642.6**	**814.1**	**930.0**	**1,070.0**	**1,367.0**	**1,669.0**
Long-term Investments	1.3	22.4	32.0	-	1.0	2.0
Goodwill	2,191.2	4,879.0	4,866.0	4,866.0	8,003.0	8,003.0
Other Intangibles	4,067.6	10,858.1	10,392.0	8,436.0	16,213.0	16,101.0
Deferred Tax Assets, LT	56.6	65.6	138.0	23.0	24.0	-
Other Long-Term Assets	668.2	924.3	860.0	854.0	805.0	883.0
Total Assets	**17,340.1**	**26,964.4**	**28,086.0**	**30,141.0**	**35,480.0**	**37,639.0**
LIABILITIES						
Accounts Payable	198.2	240.8	247.0	305.0	418.0	340.0
Accrued Exp.	1,070.3	1,330.8	1,586.0	2,078.0	2,391.0	2,896.0
Short-term Borrowings	605.9	-	-	-	-	-
Curr. Port. of LT Debt	-	-	501.0	-	501.0	579.0
Curr. Income Taxes Payable	12.7	19.8	41.0	84.0	78.0	72.0
Unearned Revenue, Current	28.5	60.6	55.0	75.0	73.0	68.0
Def. Tax Liability, Curr.	131.2	-	-	-	-	-
Other Current Liabilities	65.4	316.9	529.0	445.0	596.0	-
Total Current Liabilities	**2,112.2**	**1,968.9**	**2,959.0**	**2,987.0**	**4,057.0**	**3,955.0**
Long-Term Debt	6,265.7	14,162.3	13,789.0	15,838.0	19,769.0	20,015.0
Unearned Revenue, Non-Current	27.8	30.0	28.0	34.0	73.0	76.0
Def. Tax Liability, Non-Curr.	555.6	377.7	-	1,327.0	2,753.0	2,714.0
Other Non-Current Liabilities	1,854.0	4,506.5	4,710.0	3,034.0	2,667.0	2,714.0
Total Liabilities	**10,815.3**	**21,045.4**	**21,486.0**	**23,220.0**	**29,319.0**	**29,474.0**
Common Stock	9.2	9.4	10.0	10.0	10.0	10.0
Additional Paid In Capital	9,827.2	11,119.3	12,378.0	13,806.0	14,978.0	15,381.0
Retained Earnings	6,472.4	8,074.4	10,074.0	13,061.0	17,559.0	19,104.0
Treasury Stock	(10,698.8)	(14,051.8)	(16,281.0)	(20,243.0)	(26,336.0)	(26,298.0)
Comprehensive Inc. and Other	914.8	767.7	419.0	287.0	(50.0)	(32.0)
Total Common Equity	**6,524.8**	**5,919.0**	**6,600.0**	**6,921.0**	**6,161.0**	**8,165.0**
Total Equity	**6,524.8**	**5,919.0**	**6,600.0**	**6,921.0**	**6,161.0**	**8,165.0**
Total Liabilities And Equity	**17,340.1**	**26,964.4**	**28,086.0**	**30,141.0**	**35,480.0**	**37,639.0**

Assumptions	**2016A**	**2017A**	**2018A**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**
Sales (% growth)	21.3%	15.8%	17.5%	12.0%	13.0%	13.4%	13.7%	14.0%
COGS (% sales)	12.2%	10.0%	8.0%	10.0%	10.0%	10.0%	10.0%	10.0%
SG&A (% sales)	21.9%	20.2%	20.6%	20.9%	20.9%	20.9%	20.9%	20.9%
R&D (% sales)	31.6%	25.2%	33.4%	30.0%	30.0%	30.0%	30.0%	30.0%
Depreciation & Amortization (% sales)	4.1%	2.5%	2.1%	2.9%	2.9%	2.9%	2.9%	2.9%
Tax Rate	15.7%	31.8%	16.3%	21.3%	21.3%	21.3%	21.3%	21.3%
Capital Expenditures (% sales)	2.1%	2.1%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
Working Capital (% sales)	70.4%	91.6%	32.8%	64.9%	64.9%	64.9%	64.9%	64.9%

Celgene Corporation, Celgene Projected Unlevered Free Cash Flow

enario Base

	Historical Period			CAGR	Projection Period					CAGR
	2016A	2017A	2018A	('16 - '18)	2019E	2020E	2021E	2022E	2023E	('18 - '23)
Sales	**$11,229.0**	**$13,003.0**	**$15,281.0**	*16.7%*	**$17,114.7**	**$19,339.6**	**$21,931.1**	**$24,935.7**	**$28,426.7**	*13.5%*
% growth	*22.6%*	*15.8%*	*17.5%*		*12.0%*	*13.0%*	*13.4%*	*13.0%*	*14.0%*	
COGS	1,365.0	1,294.0	1,219.0		1,716.3	1,939.4	2,199.3	2,500.6	2,850.7	
Gross Profit	**$9,864.0**	**$11,709.0**	**$14,062.0**	*19.4%*	**$15,398.4**	**$17,400.2**	**$19,731.8**	**$22,435.1**	**$25,576.0**	*13.5%*
% margin	*87.8%*	*90.0%*	*92.0%*		*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	
SG&A	2,459.0	2,626.0	3,154.0		3,578.9	4,044.2	4,586.1	5,214.4	5,944.4	
R&D	3,543.0	3,274.0	5,101.0		5,140.8	5,809.1	6,587.6	7,490.1	8,538.7	
EBITDA	**$ 3,862.0**	**$5,809.0**	**$5,807.0**	*22.6%*	**$6,678.7**	**$7,546.9**	**$8,558.2**	**$9,730.6**	**$11,092.9**	*13.5%*
% margin	*34.4%*	*44.7%*	*38.0%*		*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	
Depreciation & Amortization	459.0	329.0	318.0		496.3	560.8	635.9	723.0	824.3	
EBIT	**$3,403.0**	**$5,480.0**	**$5,489.0**	*27.0%*	**$6,182.4**	**6986.120551**	**$7,922.3**	**9007.61042**	**10268.676**	*13.5%*
% margin	*30.3%*	*42.1%*	*35.9%*		*36.1%*	*36.1%*	*36.1%*	*36.1%*	*36.1%*	
Taxes	373.0	1,374.0	786.0		1,315.6	1,486.7	1,685.9	1,916.9	2,185.2	
EBIAT	**$3,030.0**	**$4,106.0**	**$4,703.0**	*24.6%*	**$4,866.8**	**$5,499.4**	**$6,236.4**	**$7,090.7**	**$8,083.5**	*13.5%*
Plus: Depreciation & Amortizatio	459.0	329.0	318.0		496.3	560.8	635.9	723.0	824.3	
Less: Capital Expenditures	(236.0)	(279.0)	(330.0)		(365.5)	(413.0)	(468.4)	(532.5)	(607.1)	
Less: Increase in Net Working C	(477.0)	(3,996.0)	6,895.0	-	807.3	807.3	807.3	807.3	807.3	
Unlevered Free Cash Flow	**$2,776.0**	**$160.0**	**$11,586.0**		**$5,804.8**	**$6,454.5**	**$7,211.2**	**$8,088.6**	**$9,108.0**	*11.9%*
% growth	-	*(94.2%)*	*7,141.3%*		*(49.9%)*	*(44.3%)*	*11.7%*	*12.2%*	*12.6%*	
WACC	**12.4%**									
Discount Period					1.0	2.0	3.0	4.0	5.0	
Discount Factor					0.89	0.79	0.71	0.63	0.56	
Present Value of Free Cash Flow					**$5,166.5**	**$5,112.9**	**$5,084.2**	**$5,075.6**	**$5,086.7**	



Celgene Corporation, Working Capital Calculations
($ in millions, fiscal year ending December 31)

	2016	2017	2018	2019	2020	2021	2022	2023
				Projection Period				
Sales	11,229.0	13,003.0	15,281.0	17,114.7	19,339.6	21,931.1	24,935.7	28,426.7
Cost of Goods Sold	1,294.0	1,219.0	1,716.3	1,716.3	1,939.4	2,199.3	2,500.6	2,850.7
Current Assets								
Accounts Receivable	1,693.0	2,001.0	2,179.0	2,823.9	3,191.0	3,618.6	4,114.4	4,690.4
Inventories	498.0	541.0	458.0	-	-	-	-	-
Prepaid Expenses and Other	8,677.0	12,350.0	6,430.0	171.1	193.4	219.3	249.4	284.3
Total Current Assets	**$10,868.0**	**$14,892.0**	**$9,067.0**	**$2,995.1**	**$3,384.4**	**$3,838.0**	**$4,363.7**	**$4,974.7**
Current Liabilities								
Accounts Payable	247.0	305.0	418.0	214.5	242.4	274.9	312.6	356.3
Accrued Liabilities	1,586.0	2,078.0	2,391.0	1,711.5	1,063.7	1,206.2	1,371.5	1,563.5
Other Current Liabilities	1,126.0	604.0	1,248.0	427.9	483.5	548.3	623.4	710.7
Total Current Liabilities	**$2,959.0**	**$2,987.0**	**$4,057.0**	**$2,353.9**	**$1,789.6**	**$2,029.4**	**$2,307.4**	**$2,630.5**
Net Working Capital	**$7,909.0**	**$11,905.0**	**$5,010.0**	**$1,026.9**	**$1,160.4**	**$1,315.9**	**$1,496.1**	**$1,705.6**
% sales	*70.4%*	*91.6%*	*32.8%*	*6.0%*	*6.0%*	*6.0%*	*6.0%*	*6.0%*
(Increase) / Decrease in NWC	**($477.0)**	**($3,996.0)**	**$6,895.0**	**$3,983.1**	**($133.5)**	**($155.5)**	**($180.3)**	**($209.5)**

Assumptions	2016	2017	2018	2019	2020	2021	2022	2023
Days Sales Outstanding	55.0	56.2	52.0	60.2	60.2	60.2	60.2	60.2
Days Inventory Held	140.5	162.0	162.0	-	-	-	-	-
Prepaids and Other CA (% of sales)	77.3%	95.0%	42.1%	1.0%	1.0%	1.0%	1.0%	1.0%
Days Payable Outstanding	69.7	91.3	88.9	45.6	45.6	45.6	45.6	45.6
Accrued Liabilities (% of sales)	14.1%	16.0%	16.0%	10.0%	5.5%	5.5%	5.5%	5.5%
Other Current Liabilities (% of sales)	10.0%	4.6%	4.6%	2.5%	2.5%	2.5%	2.5%	2.5%

Celgene Corporation, Working Cost of Capital Calculations
($ in millions, fiscal year ending December 31)

WACC Calculation	
Capital Structure	
Debt-to-Total Capitalization	21.5%
Equity-to-Total Capitalization	78.5%
Cost of Debt	
Cost of Debt	4.1%
Tax Rate (5 Year Average)	26.0%
After-tax Cost of Debt	**3.0%**
Cost of Equity	
Risk-free Rate(1)	2.7%
Market Risk Premium(2)	6.0%
Levered Beta	2.03
Size Premium(3)	- %
Cost of Equity	**14.9%**
WACC	**12.4%**

Unlevered Free Cash Flow	**$2,776.0**	**$160.0**	**$11,586.0**	**$5,804.8**	**$6,454.5**	**$7,211.2**	**$8,088.6**	**$9,108.0**	*11.9%*
% growth	-	*(94.2%)*	*7,141.3%*	*(49.9%)*	*(44.3%)*	*11.7%*	*12.2%*	*12.6%*	
WACC	**12.4%**								
Discount Period				1.0	2.0	3.0	4.0	5.0	
Discount Factor				0.89	0.79	0.71	0.63	0.56	
Present Value of Free Cash Flow				**$5,166.5**	**$5,112.9**	**$5,084.2**	**$5,075.6**	**$5,086.7**	

Enterprise Value	
Cumulative Present Value of I	**$25,525.8**
erminal Value Calculation using Exiit Multipl	
#REF!	$11,092.9
Exit Multiple	13.1x
Terminal Value	**$145,317.5**
Discount Factor	0.63
Present Value of Terminal V	**$91,186.4**
Enterprise Value	**$116,712.3**

Implied Equity Value and Share Price	
Enterprise Value	$116,712.3
Less: Total Debt	(20,270.0)
Less: Preferred Securities	-
Less: Noncontrolling Interest	-
Plus: Cash and Cash Equivalents	6,049.0
Implied Equity Value	**$102,491.3**
Number of diluted Shares Outstandin	702.5
Implied Share Price	**$145.90**

Implied Share Price

WACC	Exit Multiple: 12.1x	12.6x	13.1x	13.6x	14.1x
11.4%	141.34	146.47	151.61	156.74	161.88
11.9%	144.11	149.33	154.56	159.79	165.02
12.4%	144.11	149.33	**$154.56**	159.79	165.02
12.9%	141.34	146.47	151.61	156.74	161.88
13.4%	135.99	140.94	145.90	150.85	155.80

PV of Terminal Value as % of Enterprise Value

WACC	Exit Multiple: 12.1x	12.6x	13.1x	13.6x	14.1x
11.4%	76.9%	77.6%	78.3%	78.9%	79.5%
11.9%	77.0%	77.7%	78.4%	79.0%	79.6%
12.4%	77.0%	77.7%	**78.4%**	79.0%	79.6%
12.9%	76.9%	77.6%	78.3%	78.9%	79.5%
13.4%	76.7%	77.5%	78.1%	78.8%	79.4%