



# FMC

FMC

NYSE: FMC

Recommendation: **BUY**

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# Investment Thesis

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## **Recommendation:**

FMC Corp. (NYSE: FMC) is undervalued in the market with substantial long-term upside, therefore we recommend a buy – FMC offers NDIC an opportunity to invest in chemicals through to channels: agriculture and lithium.

**Rationale:** FMCs early footing as a pure play crop chemical company resulting from its deal with DuPont places the company in strong position to gain market share and deliver organic growth.

- 1 The market is overestimating the future competitiveness of DowDupont's new agrosience company Corteva
- 2 Market is ignoring significant value creation opportunity related to spin-off of Lithium segment
- 3 R&D pipeline and exposure to emerging markets will continue to drive organic growth as major patents expire

Price Target: \$104.92

26.1% upside to current price of \$83.18



# Company Overview

## Company Profile

- FMC is a **crop chemical company** that also **produces lithium derivatives** through its majority equity ownership stake in Livent.
- The company has diversified its sales to create a **geographically balanced crop chemicals portfolio**.
- Through acquisitions, FMC is now a large player in the crop chemicals industry, and the company will continue to develop new products through its improved research and development pipeline.

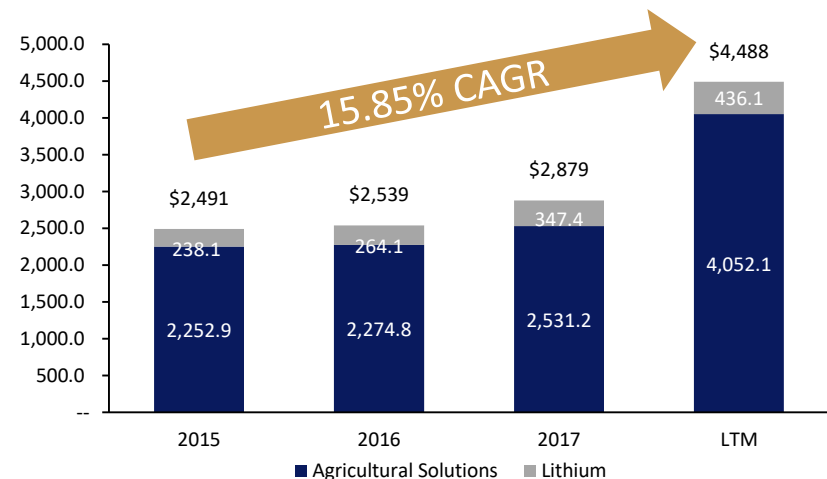
## Key Events

- **2014:** Sells Peroxygen business for \$199 million
- **2015:** Sold its Alkali chemical business for \$1.64 billion and acquired Cheminova for \$1.8 Billion.
- **2017:** Traded its Health and Nutrition business plus 1.6 billion in capital for a significant portion of DuPont’s crop protection business and substantial R&D capabilities
- **2018:** Livent IPO and stock repurchase announcement.
- **2019:** Spinoff remaining Livent Shares

## Historical Stock Chart



## Revenue Breakdown (\$ in millions)



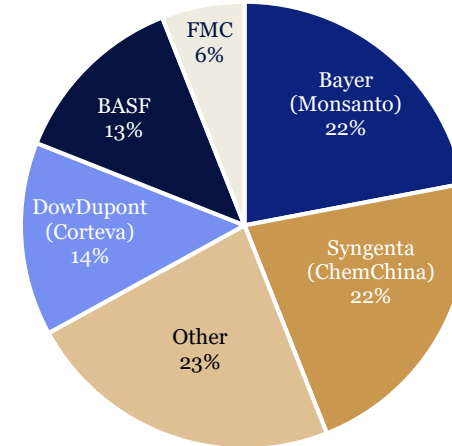


# Industry Overview

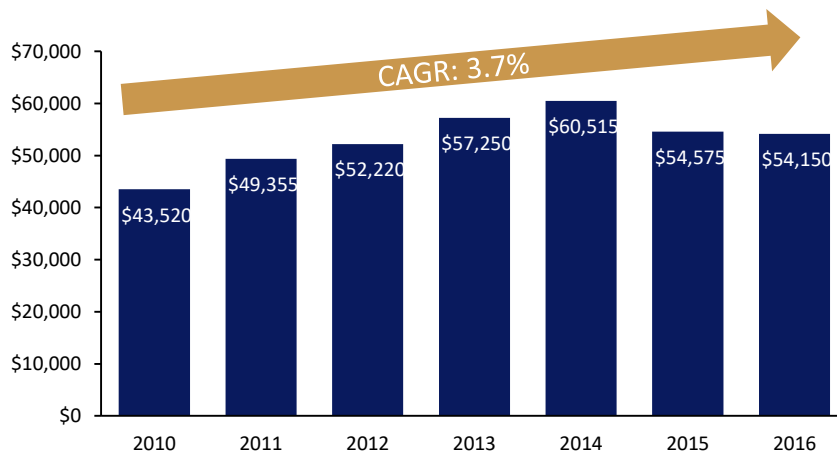
## Overview

- Market similar to Pharmaceuticals where there are the technology driven innovators and generics.
- Pressure from generic brands making the market highly competitive.
- Industry undergoing change and consolidation.
- The global crop protection chemicals market size was estimated growing at a CAGR of 6.8% over the forecast period. Increasing necessity of enhanced crop yield to fulfill the demand by the rising population in the emerging economies is expected to compel farmers to opt for the use of crop protection chemicals.

## Market Share (Pro Forma)



## Revenue Growth Global Crop Protection

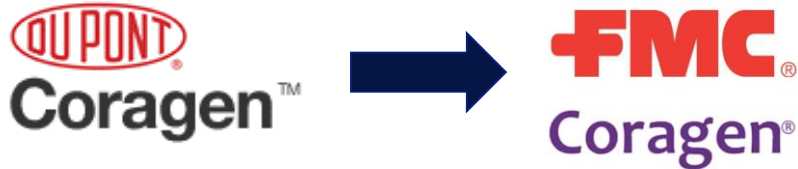


## M&A Activity

- ChemChina takeover of Syngenta in 2016
- Dow and DuPont merged in 2017 and will spin off into three different pure play companies in 2019. The Crop Chemical company being rebranded as Corteva.
- FMC acquires substantial portion of DuPont crop protection.
- Bayern acquisition of Monsanto in 2018
- BASF set to acquire portion of Bayer being divested.
- Many other tier 2 and 3 players seeking to merge in order to move to a higher tier in an increasingly competitive market.

# DuPont Acquisition and Corteva Competition

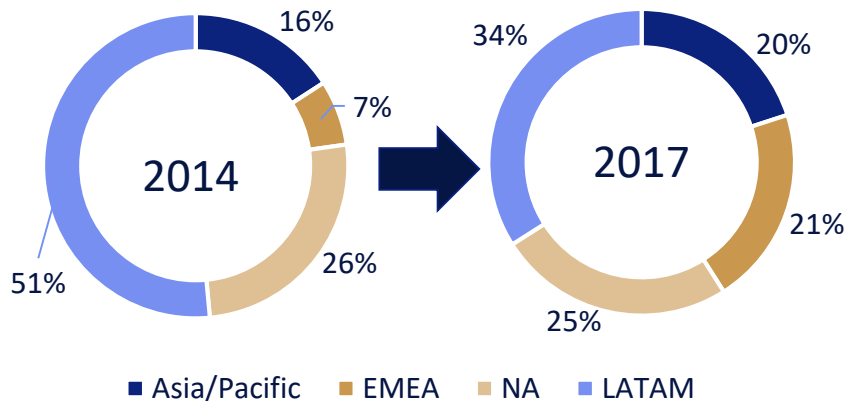
## DuPont Forced to Divest Key Products



- FMC acquired DuPont's Cereal Broadleaf Herbicides and Chewing Insecticides portfolios--including Rynaxypyr, Cyazypyr and Indoxacarb.
- The assets being divested generated revenues in 2016 of about \$1.4 billion.
- Also acquired 14 manufacturing plants unlocking growth potential.

## Balanced Regional Presence

Revenue by Region



## Spinoff Uncertainties



- Brand recognition important in highly competitive crop protection market where technology based premiums and generics compete for market share
- Corteva will face a challenge integrating Dow and DuPont segments.

## R&D Capabilities

- As part of the DuPont deal FMC acquired:
  - 15 R&D sites around the world, including the Stine Research Center in Delaware.
  - 15 active ingredients currently under development.
- Strong R&D capabilities critical to remaining competitive as a technology driven innovator in the crop chemical market.
- FMC announced it will increase R&D expenditure to fully fund these new R&D capabilities.

### 3 Lithium Spinoff

#### Livent Overview



In October 2018, FMC conducted an initial public offering of its Lithium business.

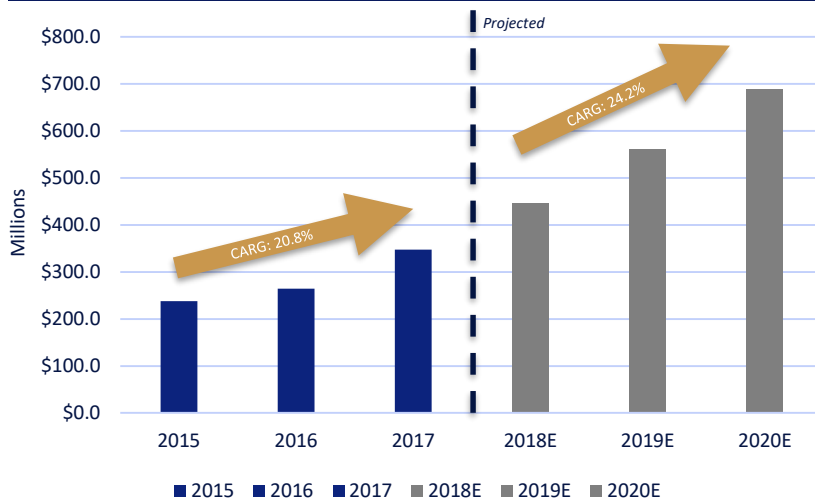
- The new company, Livent Corporation, is approximately 85 percent owned by FMC and is will be completely spun off in 2019.



Livent focuses on:

- Supplying high performance lithium compounds to the fast growing Electric Vehicle battery market.
- Maintaining its position as a leading global producer of butyllithium and high purity lithium metal.

#### Revenue Projections



#### Producer of Performance Lithium Compounds

##### Performance Applications

- Electric Vehicles
- Primary Battery
- Greases
- Pharmaceutical
- Polymer
- Aerospace

##### Differentiating Approach and Capabilities

- Focus on producing lithium hydroxide, butyllithium, and high purity lithium metal.
- Customer collaboration and extensive application expertise.
- Deep customer relationships with long-term supply contracts

##### Low-Cost Global Manufacturing Network

- Expanding battery-grade lithium-hydroxide capacity.
- Ability to supply global customers in each region.
- Vertically integrated lithium metal production.
- Low cost mineral deposits for base lithium compounds, with capacity to support production

#### Market Opportunity

- EV sales are projected to grow at a 32% CAGR through 2027, driving lithium demand to 19% CAGR over the same period.
- Battery grade lithium hydroxide is a critical component in the production of EV batteries.
- Market with significant barriers to entry.
- As a pure play lithium company Livent will no longer compete for capital allocation. With more capital Livent can unlock the potential of its raw lithium supply.

<sup>1</sup>Difference in revenue is due to rounding.

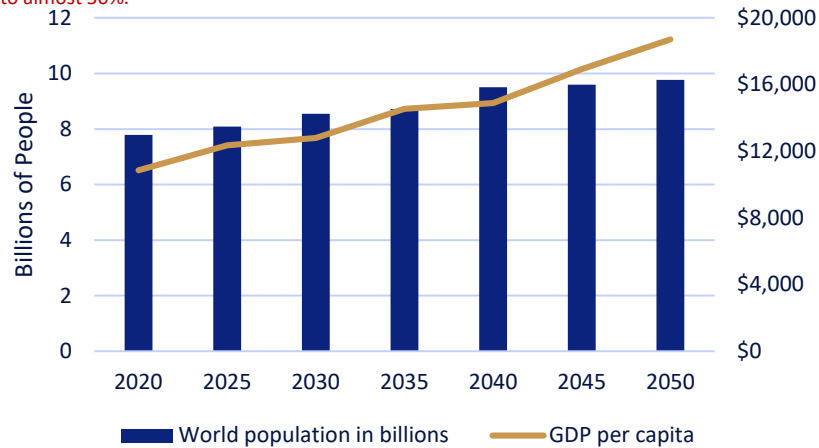


# 3

## R&D Pipeline and Exposure to Emerging Markets

### Population and Standards of Living

By 2050, the E7 economies could have increased their share of world GDP from around 35% to almost 50%.



### Growth Driven by Emerging Markets

#### Population Growth and Rising Standards of Living

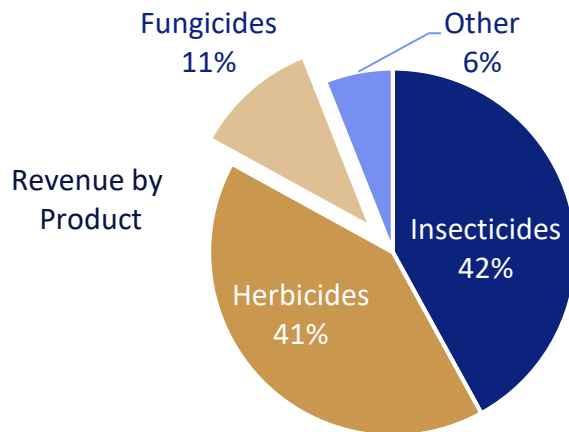
Population increases the number of mouths to feed, while income growth tends to increase the amount of calories the people eat.

National Academy of Sciences in said crop demand might rise by 100 to 110 percent by 2050.

Projected world population will be around 9.6 billion by 2050

World Resources Institute expects a 23 percent global increase in consumption of livestock and cattle by 2050

### Underweight Fungicide Revenues



### R&D Pipeline

- FMC will begin launching its legacy technology pipeline of eight new active ingredients in 2019.
- The first active ingredient from the R&D pipeline will bring 5 new fungicides to market in 2019. New Fungicides will help increase revenues from fungicides where currently underweight.
- The DuPont Crop Protection Business Acquisition added 15 discovery leads to the pipeline.
- FMC is now conducting full discovery research seeking to develop proprietary molecules.

<sup>1</sup>Difference in revenue is due to rounding.



# Key Risks

Key Risks	Mitigants
✘ Failing to commercialize new products from it's R&D pipeline.	✔ Experienced R&D team acquired from Dupont sets up FMC for success in bringing the products to market.
✘ New Products not matching the success of Rynaxypyr and Cyaxypyr once patent expires.	✔ Even moderate success in variety of new products schedule to launch will help offset revenue loss from patent
✘ Increased adoption of GMO's would lower pesticide demand.	✔ There is a strong non GMO movement across the US and GMO's are still banned from many countries worldwide.
✘ Raw materials needed in manufacturing FMC's products exposes them to commodity price fluctuations.	✔ Even if successful, Corteva is unlikely to take market share away from FMC while Rynaxypyr and Cyaxypyr are patent protected.
✘ Corteva establishing its brand successfully and eating into market share.	✔ Through key acquisitions FMC is now a key player in the crop protection market, making it less susceptible to pricing pressures from big players.
✘ Highly competitive crop chemical market places pricing and volume pressures.	✔ Even with short term price fluctuations lithium demand will continue to increase long term.
✘ Livent is highly exposed to lithium price fluctuations due to supply.	





# Final Recommendation



## Downside Case

Price Target: **\$74.86**  
Downside: **(10%)**

## Base Case

Price Target: **\$104.92**  
Upside: **26.1%**

## Upside Case

Price Target: **\$130.19**  
Upside: **56.5%**

## Recommendation:

FMC, Corp. (NYSE: FMC) is undervalued in the market with ----, therefore we recommend a buy



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 Notre Dame  
Investment Club

# Appendix



# Annotated Stock Chart





# Valuation – Comparable Companies Analysis

Company	Ticker	Market Capitalization	Enterprise Value	EV / Revenue		EV / EBITDA		Price / Earnings	
				2017A	LTM	2017A	LTM	2017A	LTM
Albemarle Corporation	ALB	\$10,262	\$11,318	5.0x	3.4x	17.7x	11.9x	45.7x	31.0x
DowDuPont Inc.	DWDP	131,277	159,271	3.0x	1.9x	16.6x	9.4x	37.3x	62.3x
The Mosaic Company	MOS	13,615	17,195	1.6x	1.9x	9.5x	9.7x	26.8x	NM
Nufarm Limited	NUF	2,243	3,617	1.0x	1.1x	8.3x	10.4x	22.6x	NM
BASF SE	CF	60,298	78,324	1.6x	1.2x	8.8x	7.3x	–	–
Sociedad Química y Minera de Chile S.A.	SQM	11,349	11,848	7.6x	5.2x	18.9x	13.6x	39.3x	25.7x
<b>FMC Corporation</b>	<b>FMC</b>	<b>\$11,201</b>	<b>\$13,766</b>	<b>5.5x</b>	<b>3.1x</b>	<b>25.6x</b>	<b>11.3x</b>	<b>44.7x</b>	<b>50.1x</b>

Low	\$2,243	\$3,617	1.0x	1.1x	8.3x	7.3x	22.6x	25.7x
Mean	38,174	46,929	3.3x	2.4x	13.3x	10.4x	28.6x	29.7x
Median	12,482	14,521	2.3x	1.9x	13.0x	10.1x	32.0x	28.3x
High	131,277	159,271	7.6x	5.2x	18.9x	13.6x	45.7x	62.3x

## Operating Statistics

Company	Ticker	Revenue		Revenue Growth		EBITDA		EBITDA Margin	
		2017A	LTM	'16-'17A	LTM	2017A	LTM	2017A	LTM
Albemarle Corporation	ALB	\$3,072	\$3,311	14.7%	13.7%	\$875	\$953	28.5%	28.8%
DowDuPont Inc.	DWDP	62,484	85,944	29.7%	55.0%	11,218	16,875	18.0%	19.6%
The Mosaic Company	MOS	7,409	9,159	3.4%	27.6%	1,217	1,767	16.4%	19.3%
Nufarm Limited	NUF	3,111	3,308	11.5%	6.3%	363	348	11.7%	10.5%
BASF SE	BASY	64,475	65,572	12.0%	7.8%	11,635	10,797	18.0%	16.5%
Sociedad Química y Minera de Chile S.A.	SQM	2,157	2,275	11.2%	6.5%	865	874	40.1%	38.4%
<b>FMC Corporation</b>	<b>FMC</b>	<b>\$2,879</b>	<b>\$4,488</b>	<b>13.4%</b>	<b>73.5%</b>	<b>\$623</b>	<b>\$1,214</b>	<b>21.6%</b>	<b>27.1%</b>

Low	\$2,157	\$2,275	3.4%	6.3%	\$363	\$348	11.7%	10.5%
Mean	23,785	28,261	13.8%	19.5%	4,362	5,269	22.1%	22.2%
Median	5,260	6,235	11.7%	10.8%	1,046	1,360	18.0%	19.5%
High	64,475	85,944	29.7%	55.0%	11,635	16,875	40.1%	38.4%

# Valuation – WACC



## WACC Calculation

Capital Structure	
Debt-to-Total Capitalization	19.7%
Equity-to-Total Capitalization	80.3%
<u>Cost of Debt</u>	
Cost of Debt	3.8%
Tax Rate	17.0%
<b>After-tax Cost of Debt</b>	<b>3.19%</b>
<u>Cost of Equity</u>	
Risk-free Rate <sup>(1)</sup>	3.1%
Market Risk Premium <sup>(2)</sup>	5.0%
Levered Beta	1.6
<b>Cost of Equity</b>	<b>11.16%</b>
<b>WACC</b>	<b>9.59%</b>



# Valuation – DCF (Base)

(\$ in millions)	FYE December 31,			- LTM 9/30/18	FYE December 31,						
	2015A	2016A	2017A		2018E	2019E	2020E	2021E	2022E	2023E	2024E
<b>Total Revenue</b>	\$2,491.0	\$2,538.9	\$2,878.6	\$4,488.2	\$4,648.1	\$5,069.0	\$5,454.5	\$5,788.2	\$6,069.5	\$6,307.7	\$6,495.6
Revenue Growth	--	1.9%	13.4%	73.5%	61.5%	9.1%	7.6%	6.1%	4.9%	3.9%	3.0%
<b>Expenses</b>											
COGS	1,632.8	1,607.7	1,757.1	2,468.6	2,556.5	2,711.9	2,890.9	3,067.7	3,216.8	3,343.1	3,442.7
<b>Gross Profit</b>	<b>\$858.2</b>	<b>\$931.2</b>	<b>\$1,121.5</b>	<b>\$2,019.6</b>	<b>\$2,091.5</b>	<b>\$2,357.1</b>	<b>\$2,563.6</b>	<b>\$2,720.5</b>	<b>\$2,852.7</b>	<b>\$2,964.6</b>	<b>\$3,052.9</b>
Gross Margin	34.5%	36.7%	39.0%	45.0%	45.0%	46.5%	47.0%	47.0%	47.0%	47.0%	47.0%
SG&A	398.4	411.7	470.2	689.5	706.5	760.4	807.3	845.1	874.0	908.3	935.4
R&D	135.9	134.5	141.5	264.9	348.6	380.2	409.1	434.1	455.2	473.1	487.2
Operating Expenses	534.3	546.2	611.7	954.4	1,055.1	1,140.5	1,216.4	1,279.2	1,329.2	1,381.4	1,422.5
<b>Operating Income (EBIT)</b>	<b>\$323.9</b>	<b>\$385.0</b>	<b>\$509.8</b>	<b>\$1,065.2</b>	<b>\$1,036.4</b>	<b>\$1,216.6</b>	<b>\$1,347.3</b>	<b>\$1,441.3</b>	<b>\$1,523.4</b>	<b>\$1,583.2</b>	<b>\$1,630.4</b>
EBIT Margin	13.0%	15.2%	17.7%	23.7%	22.3%	24.0%	24.7%	24.9%	25.1%	25.1%	25.1%
Income Tax Expense (19%)	5.2	50.1	264.1	363.4	176.2	206.8	229.0	245.0	259.0	269.2	277.2
<b>EBIAT</b>	<b>\$318.7</b>	<b>\$334.9</b>	<b>\$245.7</b>	<b>\$701.8</b>	<b>\$860.2</b>	<b>\$1,009.7</b>	<b>\$1,118.2</b>	<b>\$1,196.2</b>	<b>\$1,264.5</b>	<b>\$1,314.1</b>	<b>\$1,353.2</b>
<b>Cash Flow</b>											
Plus: D&A	59.2	77.0	85.6	90.6	176.6	202.8	229.1	254.7	279.2	302.8	311.8
<b>Discretionary Cash Flow</b>	<b>\$377.9</b>	<b>\$411.9</b>	<b>\$331.3</b>	<b>\$792.4</b>	<b>\$1,036.9</b>	<b>\$1,212.5</b>	<b>\$1,347.3</b>	<b>\$1,450.9</b>	<b>\$1,543.7</b>	<b>\$1,616.9</b>	<b>\$1,665.0</b>
Less: Increase in NWC	--	81.8	353.7	686.7	633.4	(67.1)	(42.0)	(27.0)	(27.2)	(27.4)	(26.8)
Less: CapEx	(53.4)	(91.2)	(85.7)	(137.0)	(223.1)	(243.3)	(261.8)	(277.8)	(291.3)	(302.8)	(311.8)
<b>Free Cash Flow</b>	<b>\$324.5</b>	<b>\$402.5</b>	<b>\$599.3</b>	<b>\$1,342.1</b>	<b>\$1,447.2</b>	<b>\$902.1</b>	<b>\$1,043.5</b>	<b>\$1,146.1</b>	<b>\$1,225.1</b>	<b>\$1,286.7</b>	<b>\$1,326.4</b>
Free Cash Flow Growth		24.0%	48.9%	123.9%	141.5%	(37.7%)	15.7%	9.8%	6.9%	5.0%	3.1%
<b>Unlevered Free Cash Flow</b>											
WACC	9.59%										
Discount Period					1	2	3	4	5	6	7
Discount Factor					0.91	0.83	0.76	0.69	0.63	0.58	0.53
<b>Present Value of Free Cash Flow</b>					<b>\$1,320.6</b>	<b>\$751.2</b>	<b>\$792.8</b>	<b>\$794.6</b>	<b>\$775.1</b>	<b>\$742.8</b>	<b>\$698.8</b>



# Valuation – DCF (Base)

Enterprise Value	
Cumulative Present Value of FCF	\$5,875.9
<b>Terminal Value</b>	
Terminal Year EBITDA	\$1,942.2
Exit Multiple	10.4x
<b>Terminal Value</b>	\$20,154.1
Discount Factor	52.68%
<b>Present Value of Terminal Value</b>	\$10,617.2
<i>% of Enterprise Value</i>	64.4%
<b>Enterprise Value</b>	\$16,493.1

DCF Implied Equity Value and Share Price	
Enterprise Value	\$16,493.1
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$13,917.6
<b>Implied Share Price</b>	<b>\$103.32</b>
Shares Outstanding	135

Comps Implied Equity Value and Share Price	
Enterprise Value	\$12,228.6
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$9,653.1
<b>Implied Share Price</b>	<b>\$71.66</b>
Shares Outstanding	135

EV/EBITDA

## DCF Sensitivity Analysis

		WACC				
		7.6%	8.6%	9.6%	10.6%	11.6%
EV/EBITDA	8.4x	\$99.98	\$93.85	\$88.13	\$82.79	\$77.79
	9.4x	\$108.62	\$101.95	\$95.73	\$89.91	\$84.48
	10.4x	\$117.26	\$110.05	\$103.32	\$97.04	\$91.17
	11.4x	\$125.90	\$118.15	\$110.92	\$104.17	\$97.86
	12.4x	\$134.54	\$126.25	\$118.51	\$111.30	\$104.56

Method	Weight	Price	Upside
Perpetuity Growth Method	70%	\$105.60	27.0%
Exit Multiple Method	30%	\$103.32	24.2%
<b>Fair Value Estimate</b>		<b>\$104.92</b>	26.1%



# Valuation – DCF (Upside)

(\$ in millions)	FYE December 31,			- LTM 9/30/18	FYE December 31,						
	2015A	2016A	2017A		2018E	2019E	2020E	2021E	2022E	2023E	2024E
<b>Total Revenue</b>	\$2,491.0	\$2,538.9	\$2,878.6	\$4,488.2	\$4,648.1	\$5,152.3	\$5,626.1	\$6,074.5	\$6,439.6	\$6,839.4	\$7,199.9
Revenue Growth	--	1.9%	13.4%	73.5%	61.5%	10.8%	9.2%	8.0%	6.0%	6.2%	5.3%
<b>Expenses</b>											
COGS	1,632.8	1,607.7	1,757.1	2,468.6	2,510.0	2,730.7	2,925.6	3,158.8	3,348.6	3,556.5	3,744.0
<b>Gross Profit</b>	<b>\$858.2</b>	<b>\$931.2</b>	<b>\$1,121.5</b>	<b>\$2,019.6</b>	<b>\$2,138.1</b>	<b>\$2,421.6</b>	<b>\$2,700.6</b>	<b>\$2,915.8</b>	<b>\$3,091.0</b>	<b>\$3,282.9</b>	<b>\$3,456.0</b>
Gross Margin	34.5%	36.7%	39.0%	45.0%	46.0%	47.0%	48.0%	48.0%	48.0%	48.0%	48.0%
SG&A	398.4	411.7	470.2	689.5	714.1	669.8	731.4	789.7	837.2	889.1	936.0
R&D	135.9	134.5	141.5	264.9	371.8	412.2	450.1	486.0	515.2	547.2	576.0
Operating Expenses	534.3	546.2	611.7	954.4	1,085.9	1,082.0	1,181.5	1,275.7	1,352.3	1,436.3	1,512.0
<b>Operating Income (EBIT)</b>	<b>\$323.9</b>	<b>\$385.0</b>	<b>\$509.8</b>	<b>\$1,065.2</b>	<b>\$1,052.2</b>	<b>\$1,339.6</b>	<b>\$1,519.1</b>	<b>\$1,640.1</b>	<b>\$1,738.7</b>	<b>\$1,846.6</b>	<b>\$1,944.0</b>
EBIT Margin	13.0%	15.2%	17.7%	23.7%	22.6%	26.0%	27.0%	27.0%	27.0%	27.0%	27.0%
Income Tax Expense (19%)	5.2	50.1	264.1	363.4	178.9	227.7	258.2	278.8	295.6	313.9	330.5
<b>EBIAT</b>	<b>\$318.7</b>	<b>\$334.9</b>	<b>\$245.7</b>	<b>\$701.8</b>	<b>\$873.3</b>	<b>\$1,111.9</b>	<b>\$1,260.8</b>	<b>\$1,361.3</b>	<b>\$1,443.1</b>	<b>\$1,532.7</b>	<b>\$1,613.5</b>
<b>Cash Flow</b>											
Plus: D&A	59.2	77.0	85.6	90.6	176.6	206.1	236.3	267.3	296.2	328.3	345.6
<b>Discretionary Cash Flow</b>	<b>\$377.9</b>	<b>\$411.9</b>	<b>\$331.3</b>	<b>\$792.4</b>	<b>\$1,050.0</b>	<b>\$1,318.0</b>	<b>\$1,497.1</b>	<b>\$1,628.6</b>	<b>\$1,739.3</b>	<b>\$1,861.0</b>	<b>\$1,959.1</b>
Less: Increase in NWC	--	81.8	353.7	686.7	604.3	(55.8)	(63.9)	(33.7)	(33.1)	(36.8)	(37.4)
Less: CapEx	(53.4)	(91.2)	(85.7)	(137.0)	(223.1)	(247.3)	(270.1)	(291.6)	(309.1)	(328.3)	(345.6)
<b>Free Cash Flow</b>	<b>\$324.5</b>	<b>\$402.5</b>	<b>\$599.3</b>	<b>\$1,342.1</b>	<b>\$1,431.1</b>	<b>\$1,014.9</b>	<b>\$1,163.2</b>	<b>\$1,303.3</b>	<b>\$1,397.2</b>	<b>\$1,495.9</b>	<b>\$1,576.1</b>
Free Cash Flow Growth		24.0%	48.9%	123.9%	138.8%	(29.1%)	14.6%	12.0%	7.2%	7.1%	5.4%
<b>Unlevered Free Cash Flow</b>											
WACC	9.59%										
Discount Period					1	2	3	4	5	6	7
Discount Factor					0.91	0.83	0.76	0.69	0.63	0.58	0.53
<b>Present Value of Free Cash Flow</b>					<b>\$1,305.9</b>	<b>\$845.1</b>	<b>\$883.8</b>	<b>\$903.6</b>	<b>\$883.9</b>	<b>\$863.6</b>	<b>\$830.3</b>





# Valuation – DCF (Upside)

Enterprise Value	
Cumulative Present Value of FCF	\$6,516.2
<b>Terminal Value</b>	
Terminal Year EBITDA	\$2,289.6
Exit Multiple	11.4x
<b>Terminal Value</b>	\$26,101.1
Discount Factor	52.68%
<b>Present Value of Terminal Value</b>	\$13,750.1
<i>% of Enterprise Value</i>	67.8%
<b>Enterprise Value</b>	\$20,266.3

DCF Implied Equity Value and Share Price	
Enterprise Value	\$20,266.3
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$17,690.8
<b>Implied Share Price</b>	<b>\$131.33</b>
Shares Outstanding	135

Comps Implied Equity Value and Share Price	
Enterprise Value	\$12,228.6
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$9,653.1
<b>Implied Share Price</b>	<b>\$71.66</b>
Shares Outstanding	135

EV/EBITDA

## DCF Sensitivity Analysis

		WACC				
		7.6%	8.6%	9.6%	10.6%	11.6%
EV/EBITDA	9.4x	\$128.54	\$120.72	\$113.43	\$106.61	\$100.25
	10.4x	\$138.73	\$130.27	\$122.38	\$115.02	\$108.14
	11.4x	\$148.91	\$139.82	\$131.33	\$123.42	\$116.03
	12.4x	\$159.10	\$149.37	\$140.29	\$131.82	\$123.91
	13.4x	\$169.29	\$158.91	\$149.24	\$140.22	\$131.80

Method	Weight	Price	Upside
Perpetuity Growth Method	20%	\$125.62	51.0%
Exit Multiple Method	80%	\$131.33	57.9%
<b>Fair Value Estimate</b>		<b>\$130.19</b>	56.5%



# Valuation – DCF (Downside)

(\$ in millions)	FYE December 31,			LTM 9/30/18	FYE December 31,						
	2015A	2016A	2017A		2018E	2019E	2020E	2021E	2022E	2023E	2024E
<b>Total Revenue</b>	\$2,491.0	\$2,538.9	\$2,878.6	\$4,488.2	\$4,648.1	\$4,943.7	\$5,220.9	\$5,511.8	\$5,598.5	\$5,686.6	\$5,807.0
Revenue Growth	--	1.9%	13.4%	73.5%	61.5%	6.4%	5.6%	5.6%	1.6%	1.6%	2.1%
<b>Expenses</b>											
COGS	1,632.8	1,607.7	1,757.1	2,468.6	2,556.5	2,669.6	2,819.3	2,976.4	3,023.2	3,070.7	3,135.8
<b>Gross Profit</b>	<b>\$858.2</b>	<b>\$931.2</b>	<b>\$1,121.5</b>	<b>\$2,019.6</b>	<b>\$2,091.5</b>	<b>\$2,274.1</b>	<b>\$2,401.6</b>	<b>\$2,535.4</b>	<b>\$2,575.3</b>	<b>\$2,615.8</b>	<b>\$2,671.2</b>
Gross Margin	34.5%	36.7%	39.0%	45.0%	45.0%	46.0%	46.0%	46.0%	46.0%	46.0%	46.0%
SG&A	398.4	411.7	470.2	689.5	714.1	759.5	802.1	846.7	860.1	873.6	892.1
R&D	135.9	134.5	141.5	264.9	302.1	395.5	417.7	440.9	447.9	454.9	464.6
Operating Expenses	534.3	546.2	611.7	954.4	1,016.2	1,155.0	1,219.7	1,287.7	1,308.0	1,328.5	1,356.7
<b>Operating Income (EBIT)</b>	<b>\$323.9</b>	<b>\$385.0</b>	<b>\$509.8</b>	<b>\$1,065.2</b>	<b>\$1,075.4</b>	<b>\$1,119.1</b>	<b>\$1,181.9</b>	<b>\$1,247.7</b>	<b>\$1,267.4</b>	<b>\$1,287.3</b>	<b>\$1,314.6</b>
EBIT Margin	13.0%	15.2%	17.7%	23.7%	23.1%	22.6%	22.6%	22.6%	22.6%	22.6%	22.6%
Income Tax Expense (19%)	5.2	50.1	264.1	363.4	182.8	190.3	200.9	212.1	215.5	218.8	223.5
<b>EBIAT</b>	<b>\$318.7</b>	<b>\$334.9</b>	<b>\$245.7</b>	<b>\$701.8</b>	<b>\$892.5</b>	<b>\$928.9</b>	<b>\$981.0</b>	<b>\$1,035.6</b>	<b>\$1,051.9</b>	<b>\$1,068.5</b>	<b>\$1,091.1</b>
<b>Cash Flow</b>											
Plus: D&A	59.2	77.0	85.6	90.6	176.6	197.7	219.3	242.5	257.5	273.0	278.7
<b>Discretionary Cash Flow</b>	<b>\$377.9</b>	<b>\$411.9</b>	<b>\$331.3</b>	<b>\$792.4</b>	<b>\$1,069.2</b>	<b>\$1,126.6</b>	<b>\$1,200.2</b>	<b>\$1,278.1</b>	<b>\$1,309.4</b>	<b>\$1,341.4</b>	<b>\$1,369.8</b>
Less: Increase in NWC	--	81.8	353.7	686.7	633.4	(48.9)	(21.2)	(23.2)	(19.4)	(20.0)	(21.6)
Less: CapEx	(53.4)	(91.2)	(85.7)	(137.0)	(223.1)	(237.3)	(250.6)	(264.6)	(268.7)	(273.0)	(278.7)
<b>Free Cash Flow</b>	<b>\$324.5</b>	<b>\$402.5</b>	<b>\$599.3</b>	<b>\$1,342.1</b>	<b>\$1,479.5</b>	<b>\$840.4</b>	<b>\$928.4</b>	<b>\$990.3</b>	<b>\$1,021.3</b>	<b>\$1,048.5</b>	<b>\$1,069.5</b>
Free Cash Flow Growth		24.0%	48.9%	123.9%	146.9%	(43.2%)	10.5%	6.7%	3.1%	2.7%	2.0%
<b>Unlevered Free Cash Flow</b>											
WACC	9.59%										
Discount Period					1	2	3	4	5	6	7
Discount Factor					0.91	0.83	0.76	0.69	0.63	0.58	0.53
<b>Present Value of Free Cash Flow</b>					<b>\$1,350.1</b>	<b>\$699.8</b>	<b>\$705.4</b>	<b>\$686.6</b>	<b>\$646.2</b>	<b>\$605.3</b>	<b>\$563.4</b>



# Valuation – DCF (Downside)

## Enterprise Value

Cumulative Present Value of FCF	\$5,256.8
<b>Terminal Value</b>	
Terminal Year EBITDA	\$1,593.3
Exit Multiple	8.4x
<b>Terminal Value</b>	\$13,383.7
Discount Factor	52.68%
<b>Present Value of Terminal Value</b>	\$7,050.5
<i>% of Enterprise Value</i>	57.3%
<b>Enterprise Value</b>	\$12,307.3

## DCF Implied Equity Value and Share Price

Enterprise Value	\$12,307.3
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$9,731.8
<b>Implied Share Price</b>	<b>\$72.25</b>
Shares Outstanding	135

## Comps Implied Equity Value and Share Price

Enterprise Value	\$12,228.6
<i>Less: Total Debt</i>	\$2,752.6
<i>Plus: Cash &amp; Cash Equivalents</i>	\$177.1
Implied Equity Value	\$9,653.1
<b>Implied Share Price</b>	<b>\$71.66</b>
Shares Outstanding	135

EV/EBITDA

## DCF Sensitivity Analysis

		WACC				
		7.6%	8.6%	9.6%	10.6%	11.6%
EV/EBITDA	6.4x	\$67.91	\$63.71	\$59.79	\$56.11	\$52.67
	7.4x	\$74.99	\$70.35	\$66.02	\$61.96	\$58.16
	8.4x	\$82.08	\$77.00	\$72.25	\$67.81	\$63.65
	9.4x	\$89.17	\$83.64	\$78.48	\$73.65	\$69.14
	10.4x	\$96.26	\$90.29	\$84.71	\$79.50	\$74.63

Method	Weight	Price	Upside
Perpetuity Growth Method	20%	\$85.30	2.5%
Exit Multiple Method	80%	\$72.25	-13.1%
<b>Fair Value Estimate</b>		<b>\$74.86</b>	-10.0%