CFA Institute

CFA Institute Research Challenge

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University of Kentucky

University of Kentucky – Student Research

Industrial Goods Sector, Diversified Machinery Industry
New York Stock Exchange

Cummins Inc.

Date: 2/12/2017
Ticker – NYSE: CMI

Current Price: $150.14 (2/9/17)
Headquarters: Columbus, IN

Recommendation: SELL
Target Price: $120.69

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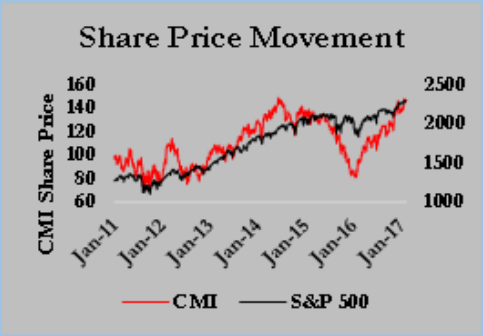
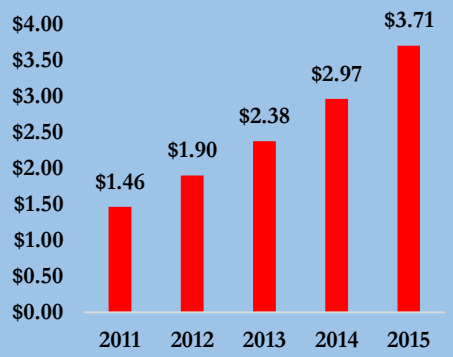


Market Profile	
Closing Price	150.14
52-Week High / Low	$153.44 / $149.63
Diluted Shares Out.	168,697,710
Market Cap	25.3Bn
Dividend Yield	2.78%
Beta	1.26
Trailing Price / Earnings	20.56
EV / EBITDA	10.69
Institutional Holdings	84.70%
Insider Holdings	0.21%

Valuation	Estimated Price
P/E Model	$ 124.51
RIM	$ 103.23
DCF	$ 121.91
EV / EBITDA	$ 133.13
Target Price	**$120.69**

CMI Annual Dividend



Highlights

We initiate coverage on Cummins Inc. (CMI) with a **SELL** recommendation based on a one-year target price of **$120.69**, a 19.62% discount to its last closing price of $150.14 on February 9, 2016. Our recommendation is primarily driven by:

- **Market Share Loss:** Over the last five years, Cummins has experienced severe losses in market share in many of their key operating segments. This market share decline has compounded on the already declining revenues Cummins has endured.
- **Contracting Margins:** A majority of Cummins business segments have been experiencing a contraction of margins which has continued to strain the company's financials. This arose from decreased volume and a shift in production and distribution to lower margin areas.
- **Valuation:** The valuation methods indicate a one year target price of $120.69 per share. CMI lacks organic growth opportunities and is suffering from contracting market share, which has led to this valuation. We evaluated Cummins Target Price through a Discounted Cash Flow Analysis, Relative Multiples Valuation, Forward Price to Earnings Model, and a Residual Income Model.
- **Risks:** Currently, Cummins is the subject of a class action lawsuit from Fiat-Chrysler and owners of Dodge Ram Trucks with Cummins Diesel Engines for misrepresenting their emissions reports. This could result in a $1.3bn loss for Cummins. This misrepresentation could be a sign of other undiscovered issues with Cummins products.

Recent News

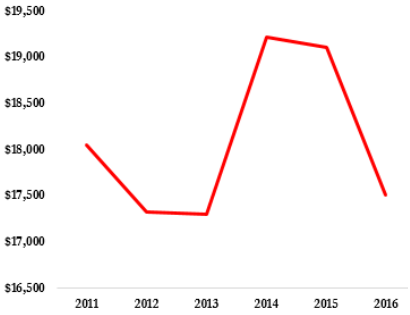
- **Q4 2016 Earnings Announcement** – 2/9/2017: Cummins reports $263 million decrease in revenues from Q4 2015.
- **Truck Tonnage Declines 6.2% in December** – 1/25/2017: Truck tonnage decline exceeds five-year average decline of 0.5%. This also extends 2016's pattern of higher month-to-month volatility.
- **Diesel Emission Worries Hits Cummins** – 1/12/2017: Fiat-Chrysler Group announces suit against Cummins over emissions scandal that resulted in earlier class action lawsuit against both companies.

Key Financials and Ratios	2014A	2015A	2016P	2017P	2018P	2019P	2020P
Total Revenue	$19,221	$19,110	$17,913	$17,312	$17,741	$18,021	$18,355
Gross Profit	$4,861	$4,947	$4,389	$4,415	$4,524	$4,595	$4,681
Gross Profit Margin	25.29%	25.89%	24.50%	25.50%	25.50%	25.50%	25.50%
Operating Margin	25.29%	25.89%	24.50%	25.50%	25.50%	25.50%	25.50%
Interest Coverage	36.95x	36.28x	28.42x	30.01x	30.69x	31.15x	31.69x
Return on Assets	10.83%	9.06%	11.34%	13.54%	13.66%	12.26%	11.25%
Return on Equity	20.40%	18.05%	27.99%	35.13%	26.89%	22.21%	19.10%
LT Debt to Assets	0.10x	0.10x	0.12x	0.13x	0.12x	0.10x	0.09x

Image 1: 16-Cylinder High-Speed Cummins Diesel Engine

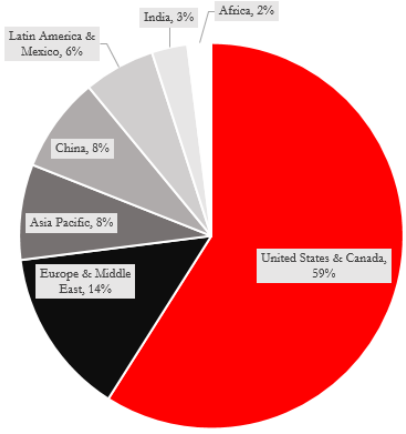
Source: Company Site

Figure 1: Total Revenue ($ in mm)



Source: Company Data, Bloomberg

Figure 2: Revenue by Region (Q3 2016 LTM)



Source: Company Data

Business Description

Cummins Inc. (CMI) was founded in 1919 and is currently headquartered in Columbus, Indiana. CMI operated as a private company for nearly 30 years before it officially went public with its IPO in 1947. CMI has grown into the global power leader in diesel and other fuel engines and is responsible for manufacturing, designing, selling, and servicing these engines. As of 2015, CMI employs over 55,000 employees in 190 countries through an expansive distribution network that includes roughly 600 distributors and 7,200 dealers and continues to grow through acquisitions and joint ventures. Their enterprises exist in four main segments: Engine, Power Systems, Components, and Distribution. [Appendix A]

Strategy

The company's main current strategy is to rebound off of a tough year and regain lost revenues through:

Finding areas to grow through continued use of joint ventures and acquisitions

CMI has had past success with using joint ventures and acquisitions to expand their distribution network which has grown into one of their most prominent segments. This is one of the key reasons why they have grown into a global power. However, there are more areas for expansion to make the distribution network even broader and farther-reaching.

Looking to grow margins by shifting focus from low to high growth areas

For Cummins, this strategy comes in two distinct ways. The first is within their individual segments. Since engine sales have been down over the last five years, buyers will likely be in greater demand for repairs and replacement parts which is a part of their components segment. The company sees the need to shift more of their focus from the Engine segment to the faster growing Components segment. CMI is also shifting its focus from down and contracting markets (like Brazil) to growing markets (like China and India).

Creating cost synergies by restructuring current operations

Cummins understands that the current company structure is not the most efficient model for the current industry environment. They understand that, to move forward, they need to adapt to the climate and be able to create more cost synergies to better position themselves in a significantly constrained industrial growth environment. They attempted to cut costs in 2015 through restructuring, but the benefits are still being realized.

Industry Overview and Competitive Positioning

Industry Overview

The industry has seen rising costs as steel and copper prices are coming out of a five year slump. However, lower commodity prices in energy and agriculture will be hurting demand for machinery. The entire industry, and CMI in particular, has tried to hold on to their margins via consolidation and globalization, looking for more operating efficiencies. This emphasis on cost cutting and efficiency is due to the fact that there are few organic growth opportunities apparent in most of the world. Modest gains in China and India have bolstered CMI and the industry, but it cannot offset weakness across other markets.

Demand Drivers

Customer Needs

Cummins recognizes five major types of customers for its different segments with those being Truck Manufacturers, Construction Equipment Manufacturers, Current Engine Owners, Repair Shops, and Federal and State governments. The main driver of Cummins' business and demand comes from their Engine Division which is highly dependent upon Truck Manufactures. There is an increasing long-term demand for trucking in the United States and in other key markets across the globe. According to

Figure 3: Industrial Outlook

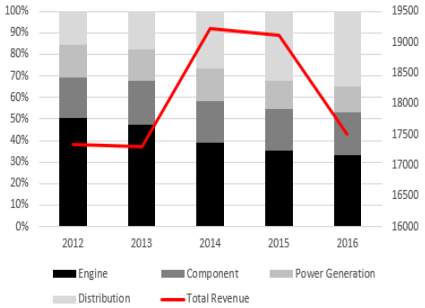
Industrials End Market Outlook

End Market	Outlook	North America Companies Most Exposed
Trucks		PCAR, NAV, **CMI,** ETN
Energy		FLS, DOV, GE, CAT, HON
Agriculture		AGCO, CNHI, DE, LII
Power		GE, CAT, **CMI**
Construction		CAT, ASTE, MTW, CN, TEX
Building/Electrical		HON, EMR, AYI, IR, SWK
Rental		URI, HEES, NEFF, HRI
Mining		JOY, CAT, KMTUF, SAND
Automotive		ITW, HOM, **CMI,** ETN
Health Care		DHR, ROP, 3M, GE, IDEX
Food Equipment		ITW, DOV, MFS, MIDD, LII
Defense		LMT, BA, GD, NOC, RTN
Aero-Commercial		UTX, HON, GE, PH, ETN

Below Average Trends
Modestly Below Average Trends
Average Trends
Modestly Above Average Trends
Above Average Trends

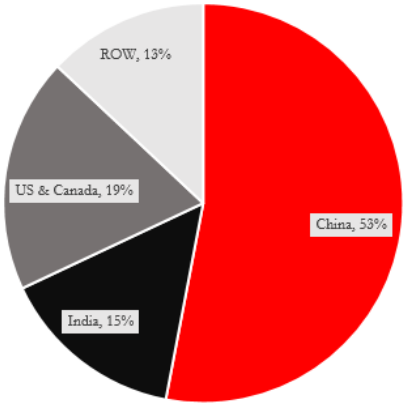
Source: Bloomberg

Figure 4: Historical Revenue Mix by Segment



Source: Bloomberg

Figure 5: Joint Venture Sales (Q3 2016 LTM)



Source: Bloomberg

the Bureau of Transportation, the total tonnage transported in 2013 was 12.6 million, but by 2040 that number is expected to be at 17 million. However, little growth is expected over the next three years. This long-term growth number could change significantly if the mix of shipping methods is disrupted by new technology or business methods. An example of this is Amazon's new methods of shipment that include blimp and drone-based delivery.

Industry Cycle

Because, historically, engines are built to last long periods of time, the industry has an internal cycle that balances new engine purchases and repair (or component part sales). There will be periods where engine sales are up and then those will be followed by periods where component sales are up because customers are more inclined to do repairs on a relatively new engine compared to buying a new one. The cycle eventually resets itself when those engines stop working or the benefit of a new engine outweighs the cost of repairing. This cycle can also be lengthened or shortened depending on economic factors. For example, a recession will lead to more customers doing additional repairs compared to buying a new engine because of the lower up-front cost of repairs. As seen in the industry segments CMI operates, they do not have strong outlooks and currently find themselves facing a challenging industry cycle.

Trump Infrastructure Plan

President Trump, throughout his campaign and in the early parts of his presidency, has continued to emphasize his infrastructure plan for the United States. As analyzed by Bloomberg, it is expected that Caterpillar, Astec, Deere, and rental companies URI and Ashtead will be the ones to benefit most in the industry. [Figure 3]

Competitive Positioning

Cost Reduction

Cummins has seen industry organic growth lag over the last two years. CMI's plan to combat this burden has been to continually find new and creative ways to cut costs. Their most recent strategy has been to restructure and move toward a plan to produce all of their engines in the end markets that they will be sold. They are trying to find other areas where they can cut variable overhead costs and can reduce certain fixed costs. While this cost cutting is advantageous to Cummins at the moment, it is not a sustainable way to grow margins.

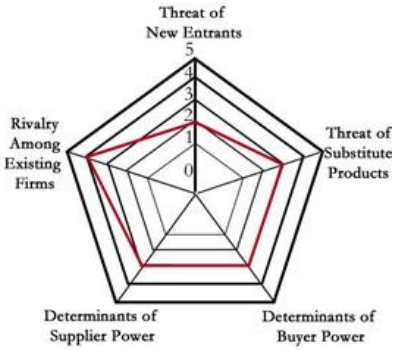
China

In the Industrials Sector and in the Engine and Power Industries, China and India continue to be the global markets that have been experiencing the largest and fastest growth among all others. Cummins has seen this growth and understands the importance of entering this market as quickly as possible. The Chinese government has always been strict on foreign companies and is usually resistant to multiple foreign companies competing with its own domestic companies. Cummins has done an excellent job of entering the market early through joint ventures and has positioned itself to be able to stay in the market. This advantage becomes even more important as China announces their roughly $250 billion infrastructure plan. However, it is expected that China will focus on contracting with Chinese companies, and Cummins will be hard pressed to tap into this revenue stream.

Distribution Network

Cummins has tried to differentiate themselves from their competitors by investing in a strong global distribution network. Cummins is continually trying to tap into the maintenance and service side of the industry but that sort of positive positioning and revenue growth requires a strong distribution network. The increased expansion of their distribution network has allowed CMI to grow their services business and shield themselves from the cyclical medium and heavy-duty truck segments.

Figure 6: Porter's Five Forces

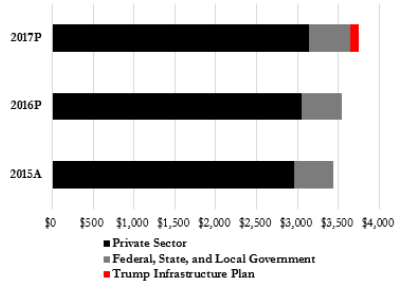


Source: Team Calculations, Appendix C

Figure 7: SWOT Analysis

Source: Team Calculations, Appendix D

Figure 8: Trump Infrastructure Gains



Source: Cato Institute

Table 1: Lawsuit Calculation

Lawsuit Financial Impact	
Damages Amount per Truck	$2,500.00
Number of Trucks	500,000
Class Action Suit Total	**$1,250,000,000**
FCG Suit Amount	$60,000,000
Total Suit Amount	**$1,310,000,000**

Source: Bloomberg News

Investment Summary

We issue a **Sell** recommendation on Cummins Inc. (CMI) with a target price of **$120.69** using a Discounted Cash Flow Analysis, Relative Multiples Valuation, Forward Price to Earnings Model, and a Residual Income Model. This valuation is supported by a variety of merits and concerns that were taken into consideration.

Merits

Returning Cash to Shareholders

It is Cummins' objective to return roughly 50% of their operating cash flow to shareholders. A large aspect of this commitment has been to create share buyback programs and increase dividends. CMI has been fairly consistent with this commitment to returning money to shareholders. [Appendix H, I]

Exposure in Growing Chinese Market

The Chinese market continues to be one of the fastest growing markets in the world and especially so for the industrials industry. China has recently announced their "One Belt, One Road" initiative. This roughly $250 billion infrastructure plan will drive growth in the country for years to come. CMI has already entered the market (17% of sales) and continues to expand through joint ventures and acquisitions. CMI has set themselves up to have competitive gains among all of the international companies as there will likely be intense competition with the Chinese companies.

Concerns

Declining Market Share

Over the last five years, CMI heavy truck market share has continued to steadily fall from 25% in 2011 to 11% in 2016. This decline has been attributed to the continued decline in market share of their most profitable segment (over 20% of sales) of North American Class 8 Heavy Duty Engines which have fallen from 50% to 33% over the last five years. This market share decline has continued to compound the already declining revenues Cummins has endured. CMI operates in many highly competitive markets with geographically specific competitors which has been a key force in the declining market share.

Contracting Margins

A majority of Cummins' business segments have been experiencing a contraction of margins which has continued to strain the company's financials. The Engine segment cost cutting has not been sizeable enough to offset the increased warranty costs of the engines. The Distribution segment has been hit hard over the past five years as sales have continued to shift from regions with high margin distribution networks to regions with low margin distribution networks.

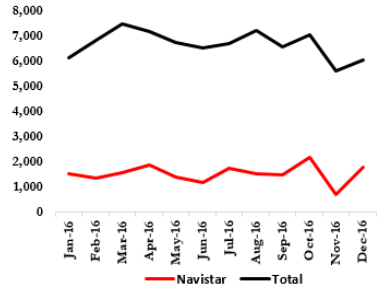
Trump Infrastructure Program Plan

President Trump's continued planning and commitment to a large scale infrastructure repair and rebuild has the potential to bring increased business and revenues to the industry as a whole. However, Cummins is not positioned, or expected, to catch much of the government's outlays. Rather, Cummins is hopeful to receive downstream stimulus from the infrastructure plan but not be a direct beneficiary. The increased business will be relevant, but may not add the value investors are expecting. The $100bn a year added investment in infrastructure, given a constant mix of infrastructure spending on transportation, would result in a 1.58% increase in previously projected infrastructure spending on transportation. [Appendix G]

Lawsuit from Fiat-Chrysler and Dodge Truck Owners

Cummins is currently being pursued for improper emissions reporting in the engines they provided for Dodge Ram Trucks. The potential cost to Cummins is $2,500 per truck for 500,000 trucks with the engine and a $60 million bullet payment to Fiat-Chrysler for their misrepresentation. This would result in a material loss for Cummins monetarily ($1.31 billion) and in brand sentiment. Further, this could be a sign of future issues with Cummins products resulting in larger losses. [Appendix E]

Figure 9: Navistar/VW Impact



Source: Bloomberg

Navistar - Volkswagen Deal

Navistar's deal with Cummins in which Cummins made 12 and 16L engines for Navistar is seen as a strategically important partnership. Cummins continuously references not only the sales loss (5% of total sales) but also the loss of keeping Navistar out of certain engine markets [Figure 23]. This deal with VW might allow Navistar to develop those specific engines themselves in the near future which would decrease Cummins market share and their sales which could significantly impact their engine segment. [Appendix F]

Emission Standards Regression

Cummins has been following a strong trend of being the industry leader in energy efficiency. As the Trump administration begins its first term, the continued threat of reduced emissions brings concern to CMI's bottom line. Other competitors who were struggling to keep up with standards were forcibly losing opportunities and revenues. With the regression of standards, these competitors will now be afforded more opportunities than when there were stricter regulations which again hurts Cummins.

CMI Share Prices and News Flow

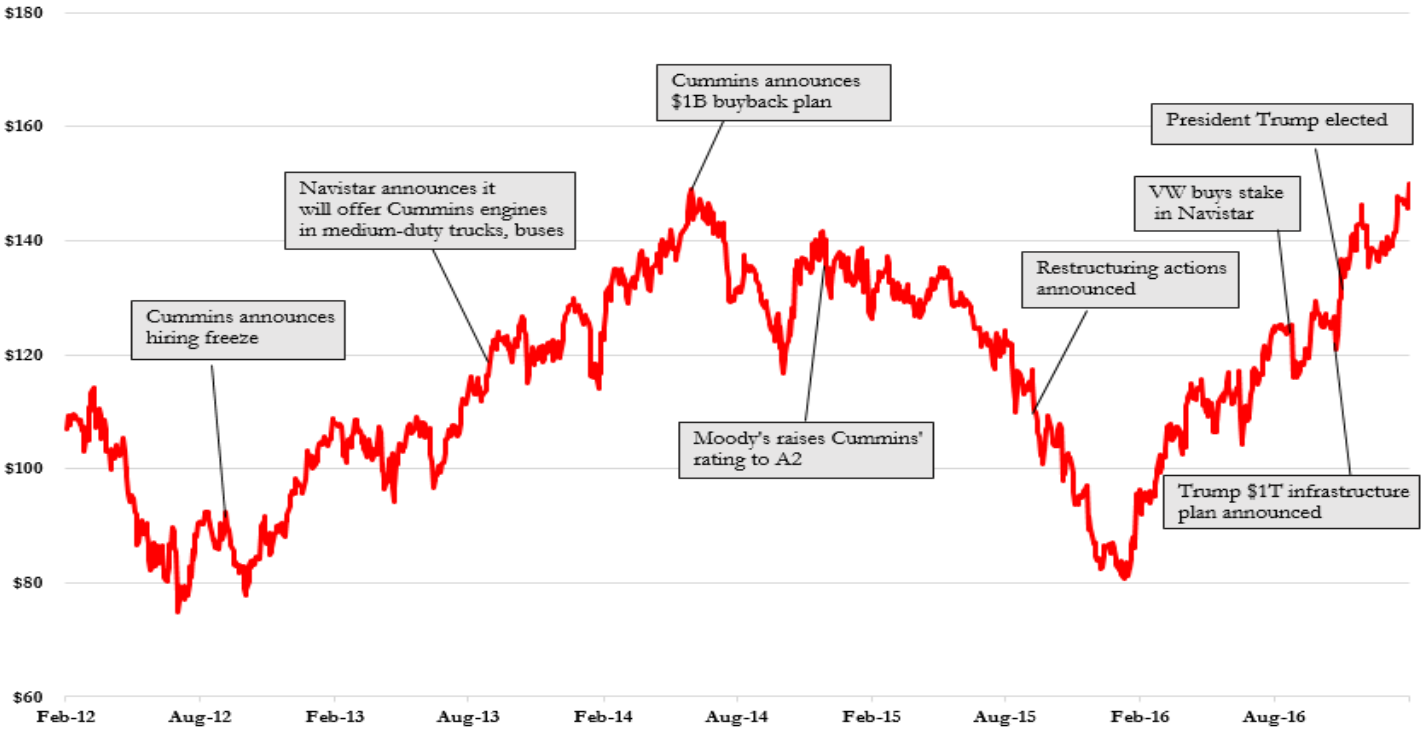
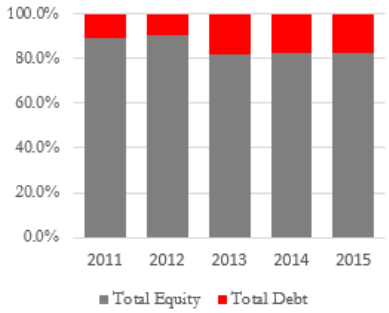


Figure 11: Historic Cap Structure - Book Value



Source: Bloomberg

Valuation

Several methods were used to compute a price target for CMI. These methods include a five year Discounted Cash Flow Model, Relative Multiples Approach, Forward Price to Earnings Model, and a Residual Income Model.

WACC

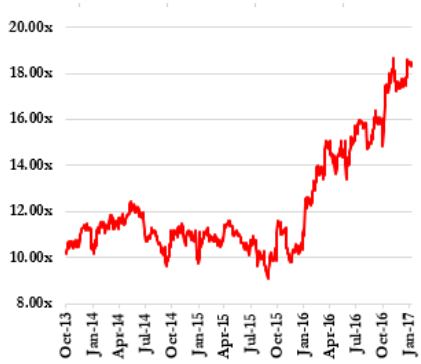
To determine a proper discount rate for our models, the WACC calculation was utilized. Beta was calculated using a linear regression model running daily percent changes in CMI stock price and daily percent changes in the S&P 500. [Appendix L] CAPM was used to determine Cost of Equity, while CMI's Cost of Debt was determined by dividing total interest expense by total debt. The Cost of Debt was multiplied by one minus the

Table 2: WACC Analysis

WACC Analysis	Values
Risk-free Rate	2.47%
S&P 500 Adjusted Beta	1.26
Market Risk Premium	6.88%
Cost of Equity	**11.14%**
Interest Expense	47
Tax Rate	27.00%
Cost of Debt	**2.41%**
Market Value of SE	21477.9
Interest Bearning Debt	1949
SE %	91.68%
Debt %	8.32%
WACC	**10.41%**

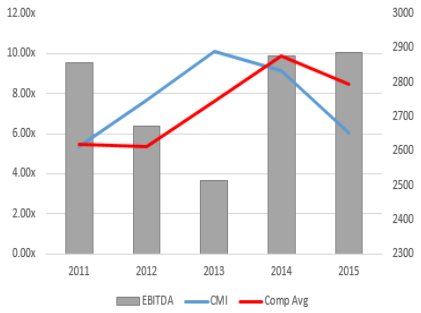
Source: Team Calculations

Figure 12: Forward PE



Source: Bloomberg

Figure 13: Historic EV/EBITDA



Source: Company Data, Bloomberg

Table 3: EV/EBITDA

Relative Valuation	
Avg. EV from EBITDA Multiple	$23,302
Less: Debt	-$1,949
Less: Minority Interest	-$330
Add: Cash and Equivalents	$1,501
Equity Value	**$22,524**
Diluted Shares Outstanding	168.2
Intrinsic Value Per Share	**$133.91**

Source: Bloomberg, Team Calculations

tax rate to get the after-tax Cost of Debt. The weighted average of Cost of Equity and Debt were taken based off of their current market values.

Models

Discounted Cash Flow Model

A DCF model was used to calculate the intrinsic value of Cummins. A five year model was utilized to determine how relative near term events might impact the equity valuation of the company. Cash flow was calculated by first examining the revenue derived by CMI's four business segments: Engine, Distribution, Components, and Power Systems. Gross profit was then derived by subtracting cost of sales from revenue. Next, operating profit (EBIT) was determined by factoring in other revenue and expenses to gross profit. EBIT was then tax adjusted and depreciation, amortization, capital expenditure, and change in working capital were factored in to derive free cash flow. The present value of the FCF was calculated by using the weighted average cost of capital of 10.41% as a discount rate. The five year DCF generates a price target of $121.91. The base case for this model was created using company guidance along with historical averages. This model is most sensitive to WACC, revenue, and tax rate. [Appendix P]

Dividend Discount Model

The DDM was created by forecasting out the current dividend over a 10 year period. The growth rates were pulled from Bloomberg's one year and three to five year dividend growth rate estimates. The relatively high dividend growth rate is supported by the sentiment Cummins continues to express that is centered on their plan to give 50% of operating cash flow back to shareholders. The recent share buyback is one way they are committed to doing that, but we do not see this being a long-term plan. Therefore, we see a steady increase in dividends being in the best interest of the company moving forward so that is our justification for the larger dividend increase. However, we see this number softening back to current rates in ten years' time. The future dividends were discounted with our determined WACC, and the model resulted in a share price of $63.35. However, this valuation method produced an outlier. Therefore, we left it out of our target price but felt it provide other insights.

Forward Price to Earnings Model

We used the five year Forward P/E Multiple High, Low, and Average to estimate a valuation based on our expected future earnings. Currently, the market is pricing in much of the perceived future benefits, and we believe the multiple will lower as expected benefits are either realized, resulting in increased earnings, or missed, resulting in a drop in the share price. Therefore, we believe that using their average forward Price/Earnings multiple over the last five years along with our expected next twelve months earnings produces a value for the company. The model derived a value of $124.51 with a P/E multiple of 13.3x and next twelve months earnings at $1.57bn.

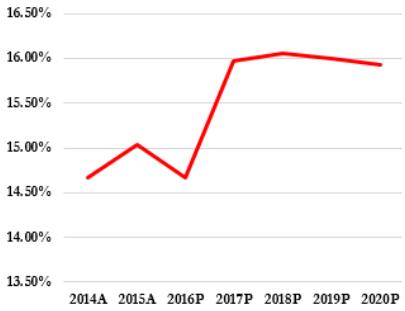
Residual Income Model

The RIM was created by forecasting Earnings per Share and Book Value of Equity over a ten year period. The growth rates were pulled from Bloomberg's one year and three to five year EPS and Book Value growth rate estimates. The high earnings growth number is based on the perceived revenue rebound and future revenues from the Trump infrastructure plan. Residual Income is determined by taking EPS and subtracting out the change in the Book Value of Equity. This change in Book Value of Equity is a way to measure the amount of earnings that went to sources outside of the company. The resulting number is the amount of Earnings that remain with Cummins or Residual Income. The forecasted Residual Incomes were discounted with our determined WACC, and the model resulted in a share price of $103.23.

Relative Valuation

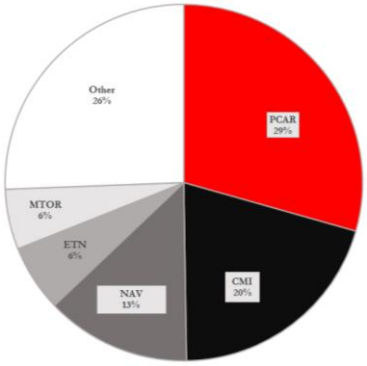
Relative valuation was calculated using an EV/EBITDA multiple approach. CMI's peer group [Appendix W] has an EV/EBITDA of 8.69x. If this multiple were applied to

Figure 14: EBITDA Margin



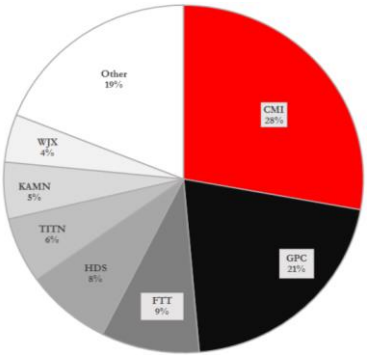
Source: Bloomberg

Figure 15: Engine Market Share



Source: Bloomberg

Figure 16: Distribution Market Share



Source: Bloomberg

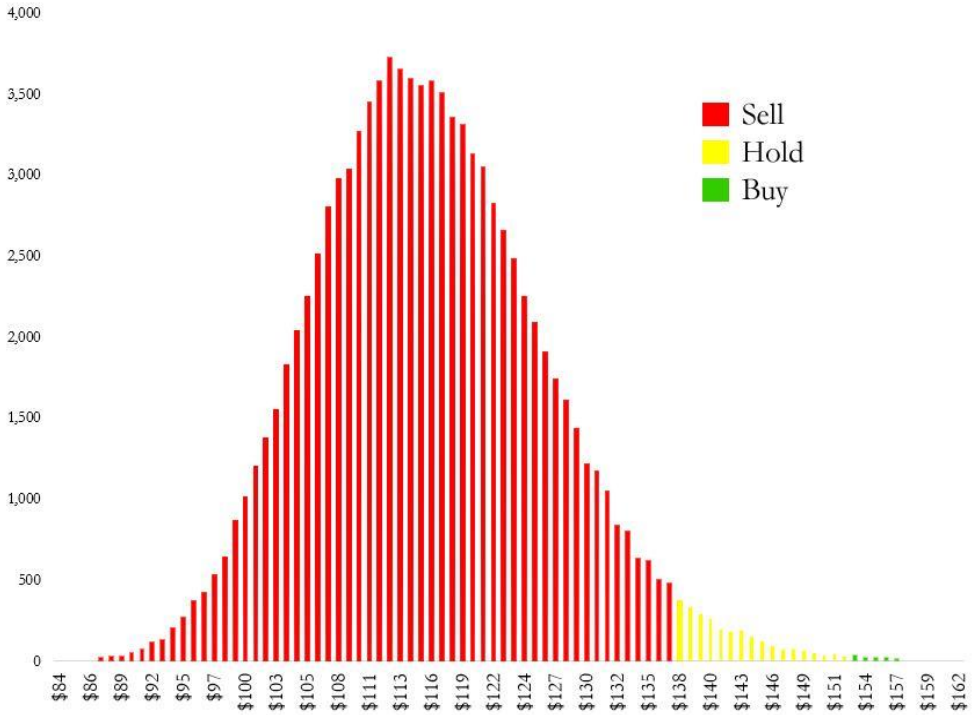
CMI's projected 2016 EBITDA of $2.628, an intrinsic value of $133.13 is generated. This calculation falls in line with the valuation derived from the DCF model.

Analysis

Monte Carlo Simulation

A Monte Carlo Simulation was utilized in order to analyze the potential target price outcomes for the Discounted Cash Flow Model. The simulation sensitizes key factors including Engine, Distribution, Components, and Power Generation Segment revenue growth, gross profit margin, long term growth rate, and terminal EBITDA multiple. These inputs led to a one year price target of $115.56 with a 95% confidence level in our sell recommendation. [Appendix Q]

Monte Carlo – DCF



Price Target

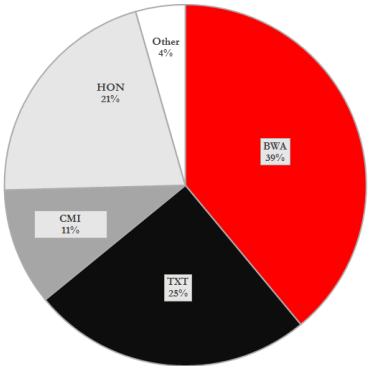
A $120.69 price target is generated by the average of the Price to Earnings Model, Residual Income Model, Discounted Cash Flow Analysis, and an Enterprise Value to EBITDA model. All of these models take into account macroeconomic factors [Appendix B] along with potential current implications from the recent US Presidential Election. With a $120.69 price target, we estimate that CMI is currently overvalued by approximately 19.62% (Current Price = $150.14).

Impact and Application

Our recommendation to sell is based off of our belief that the market has overvalued CMI. Since November 2, CMI is up over 23.5%. We believe that this run-up in equity value is unfounded because of the lack of improving fundamentals to support it. Under the new Trump Administration, industrials and transports have been positively impacted. However, we believe that potential increases in EPS will not be realized for another several years.

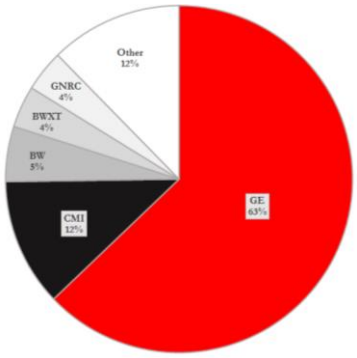
The limited growth expectations, contracting margins, and loss of market share further support the value that was derived in our financial analysis. In order for Cummins to be classified as a buy, it would need to show a number of large growth opportunities and a strategy to maintain and grow market share.

Figure 17: Components Market Share



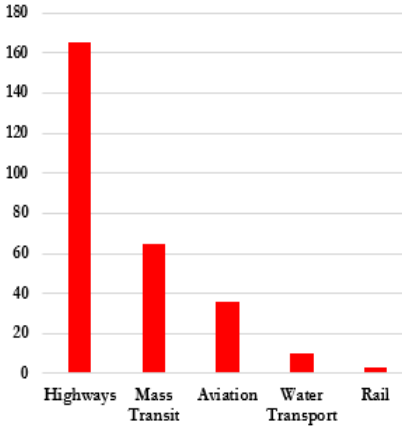
Source: Bloomberg

Figure 18: Power Generation Equipment Market Share



Source: Bloomberg

Figure 19: Government Transportation Infrastructure Spending



Sources: US Bureau of Economic Analysis

Financial Analysis

Financial Condition	2014A	2015A	2016P	2017P	2018P	2019P	2020P
Profitability							
EBITDA Margin	14.67%	15.03%	14.67%	15.97%	16.06%	16.00%	15.93%
Gross Profit Margin	25.29%	25.89%	24.50%	25.50%	25.50%	25.50%	25.50%
Return on Assets	10.83%	9.06%	11.34%	13.53%	13.65%	12.25%	11.24%
Return on Equity	20.40%	18.05%	27.98%	35.08%	26.85%	22.17%	19.06%
Liquidity							
Current Ratio	2.25	2.09	1.98	1.85	2.07	2.28	2.47
Cash Ratio	0.60	0.48	0.40	0.27	0.49	0.69	0.88
Quick Ratio	1.54	1.38	1.25	1.13	1.35	1.56	1.75
Financial Leverage							
Long-term Debt to Assets	10.00%	10.41%	11.95%	13.33%	11.60%	10.40%	9.43%
Long-term Debt to Equity	19.49%	20.34%	26.48%	32.68%	24.42%	19.86%	16.78%
Debt to Equity	0.95	0.95	1.22	1.45	1.10	0.91	0.78
Interest Coverage	36.95	36.28	28.42	30.01	30.69	31.15	31.69
Activity							
Accounts Recievable Turnover	6.87	6.63	6.54	6.60	6.79	6.76	6.76
Total Asset Turnover	1.22	1.26	1.45	1.57	1.40	1.27	1.18
Fixed Asset Turnover	5.21	5.10	5.83	6.29	5.61	5.11	4.72
Shareholder Ratios							
Dividend Payout Ratio	32.88%	47.25%	43.91%	46.03%	48.08%	50.67%	53.28%

Source: Team Calculations

Overview

The Financial Condition chart above indicates Cummins' financial health and their ability to take on more debt if an investment opportunity arises. It also highlights their EBITDA margin maintenance, with slight growth due to cost cutting efforts. The business is set up to capitalize on growth opportunities if they were to arise.

EBITDA Margin Maintenance

Gross profit margins are decreasing at a percentage point level due to decreasing volume outpacing cost cuts. An increase in depreciation from newly acquired distribution and service centers is allowing the EBITDA margin to be slightly boosted compared to gross margin leading to its maintenance in 2016 and 2017, and its slight expansion from 2018 to 2020 from recovering gross profit margins.

Decreasing Revenue

Revenue is expected to decrease across all segments in 2016 as Cummins is seeing a broad decrease in demand and a long term loss in market share in their engine segment. Revenue had been increasing up until 2016 in the distribution segment as Cummins was completing a number of acquisitions to change their revenue structure. [Appendix J]

Strong Credit Profile and Liquidity

Cummins has good liquidity and a strong capital structure and would be able to act on an investment opportunity if one arose. [Appendix K]

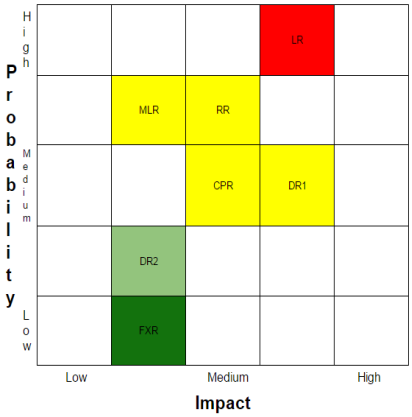
Increasing Dividend Payments

Cummins states that they plan to return 50% of operating cash flow to shareholders, which would make for a growth in dividend yield. This is reasonable with their capital structure and liquidity ratings. [Appendix I]

Unfavorable Industry Trends

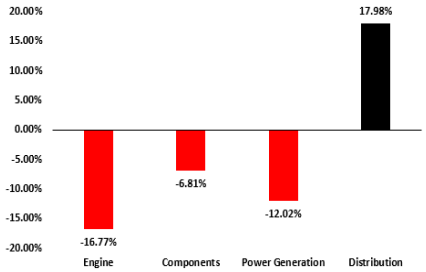
Lack of organic growth has caused extreme competition between current market participants which has led to Cummins losing market share in their engine segment. Beyond competition, the industry has become intensely focused on cutting costs as a way to create higher profits and greater value for shareholders.

Figure 20: Risk Matrix



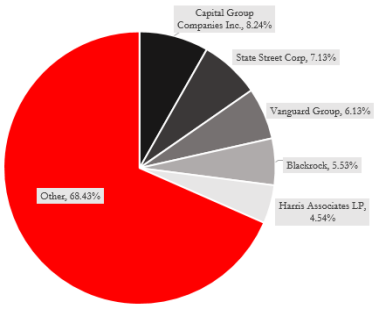
Source: Team Calculations

Figure 21: 3-yr CAGR by Segment



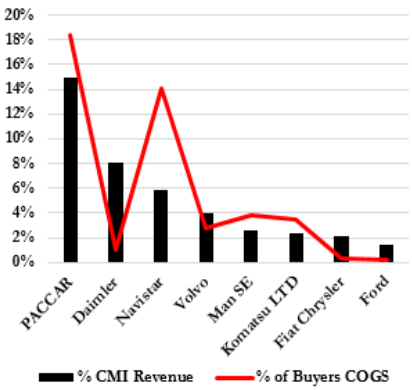
Source: Company Data

Figure 22: Shareholder Structure



Source: Company Data

Figure 23: Customer Sales



Sources: Bloomberg

Investment Risks

Company Risks

Regulatory Risk (RR)

CMI has spent a large amount of capital over the last ten years improving its emissions technology to the point that it is now a global leader in low emissions technology in the large engine market which has allowed them to take advantage of many global markets with harsh emission standards. In the US, the Trump presidency has brought about some risk associated with the notion that they plan to move toward environmental deregulation. This could drive down CMI specific demand and open up the market for all engine providers who had not spent the resources investing in lower emission engines. In the global market, emission standards can be highly unpredictable with variability depending on the market itself and the government overseeing it. Some markets are moving toward more stringent standards while others are moving to allow more emissions. Both open up increased competition by other companies.

Commodity Price Risk (CPR)

CMI continues to be a leader in fuel efficient engines and has made this a part of their marketing strategy and brand name. With the sentiment being that oil prices will remain relatively low in the long-term, the demand for these more fuel efficient engines will decrease. This issue also compounds in another source of energy that CMI is heavily involved in. CMI is the only natural gas provider in the engines industry. The demand for natural gases has a relatively strong correlation with the price of oil. Natural gas is highly profitable if it is a cheaper option than oil. If oil prices would remain low, then demand for natural gas will remain low as well.

Leverage Risk (LR)

CMI has plans to make acquisitions over the next year or two. They plan to do some of these acquisitions with cash. However, Cummins does not have enough cash to make the total amount of acquisitions as it would want, so they will need to increase leverage to make the rest of them. This increase in leverage entails an increase in financial risk. Also, acquisitions may be hard to find in this current market which could entail additional costs for CMI if the acquisitions have poor terms.

United States Demand Risk (DR1)

A majority of CMI's business in the US market is driven by demand for trucks and truck engines. Other segments, like Power Generation, provide decent revenues in the US but not to the same degree as the Engine Segment. This heavy exposure along with continually declining demand for engines in the US market could pose a great risk for CMI.

Global Demand Risk (DR2)

Many of the global markets have been experiencing downturns that will negatively impact Cummins. There does not seem to be any clear global indication or consensus on when and how drastically the global market for engines and power systems will rebound. CMI has spent a great deal of money diversifying in these global markets which has been helping out some but not enough to override the risks. CMI also continues to be dependent on certain emerging markets (China and India) to drive their global demand. However, these markets are only small parts of total sales, so these growths aren't overly impactful.

Foreign Currency Exchange Risk (FXR)

With roughly 40-41% of total sales coming from overseas market, CMI faces some exchange rate risk. This risk is relatively low because President Donald Trump has repeatedly expressed his desire to want to keep the value of the dollar lower than it has been over the last few years. The International Monetary Fund has also put a lot of pressure on China, who is a major foreign market for CMI, to allow their currency to appreciate.

Figure 24: Buy Scenario (Revenue Growth)

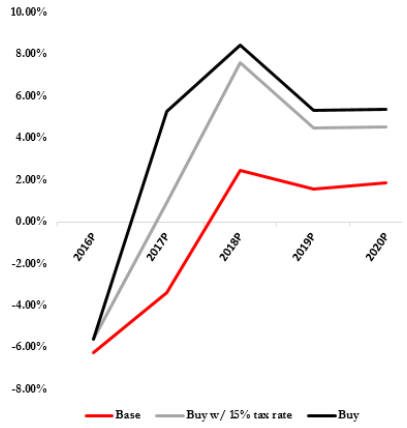
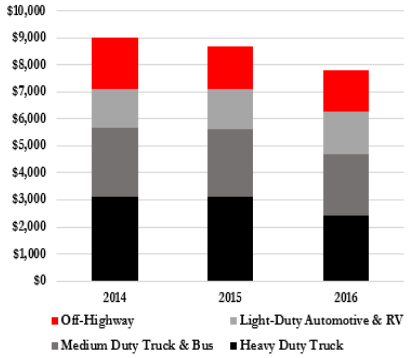
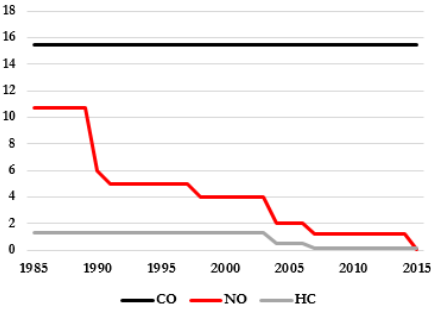


Figure 25: Engine Segment Sales



Source: Bloomberg

Figure 26: Historic Emission Standards (units in g/bhp·hr)



Source: EPA

Multiple Lawsuit Risk (MLR)

Cummins is currently being pursued in conjunction with Fiat-Chrysler for improper emissions reporting in their Dodge Ram Trucks. It is measured at fourteen times higher than what it was supposed to be. The expected cost to Cummins, if they lose the lawsuit, is $2,500 per truck for 500,000 trucks with the engine and a $60 million bullet payment to Fiat-Chrysler for their misrepresentation which totals to $1.31 billion in losses. Volkswagen recently lost a similar lawsuit which shows that courts are remaining tough on misrepresentation of emissions.

Buy Scenario

President Trump decreases the corporate tax rate to 15%

A decrease in the corporate tax rate for Cummins to 15% would have to occur, with greater growth opportunities than we anticipated in our base case, roughly 4-5% higher a year, an increase in the long term growth rate to 2%, and an increase in the EV/EBITDA multiple to 10.0x. [Appendix R]

President Trump does not change the corporate tax rate

In this case 4-8% year over year growth would have to be assumed, with slight margin expansion, a long term growth rate of 2% and an EV/EBITDA multiple of 10.0x.

Management and Governance

Cummins' executive management team, like any company's management team, is a key driver in the success or failure of the company. This is a team that has a few members who have long and established tenures as executive managers and on the board. However, a majority of the board and management team have relatively short tenures. CEO Tom Linebarger has been with Cummins for over twenty years, while being CEO for the last 5 years. One key issue with CMI management is the large amount of insider selling that has occurred over the last year. Insider position has changed -14.73% over the last 7 months. This leads to some concerning questions about the confidence the board and management have about the future of CMI.

In terms of Corporate Governance, Cummins is not a highly rated company. They excel in some areas like Audit but are mainly weak or average in the crucial areas of Shareholder Rights, Board Structure, and Compensation. The main weaknesses in Cummins corporate governance lie in these key areas:

Board Inexperience

CMI's Board of Directors is regarded as a relatively inexperienced group with a majority of members having tenures under eight years and the board average only being around nine years. The group is also female underrepresented. [Appendix AD]

Compensation Issues

Cummins' base compensation for its executive management and average employees is drastically different from each other. The other issue is the plan for stock-based compensation is highly restrictive and gives tough limits on flexibility and liquidity for employees.

Disclosures:

Ownership and material conflicts of interest

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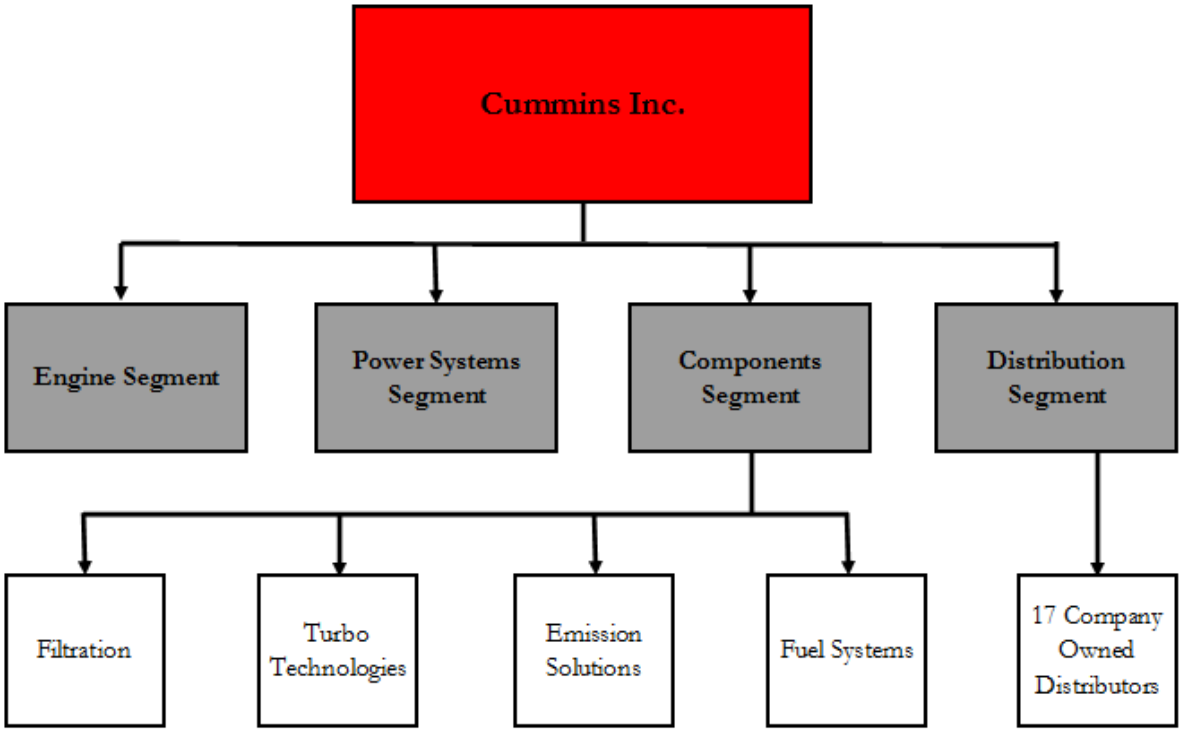
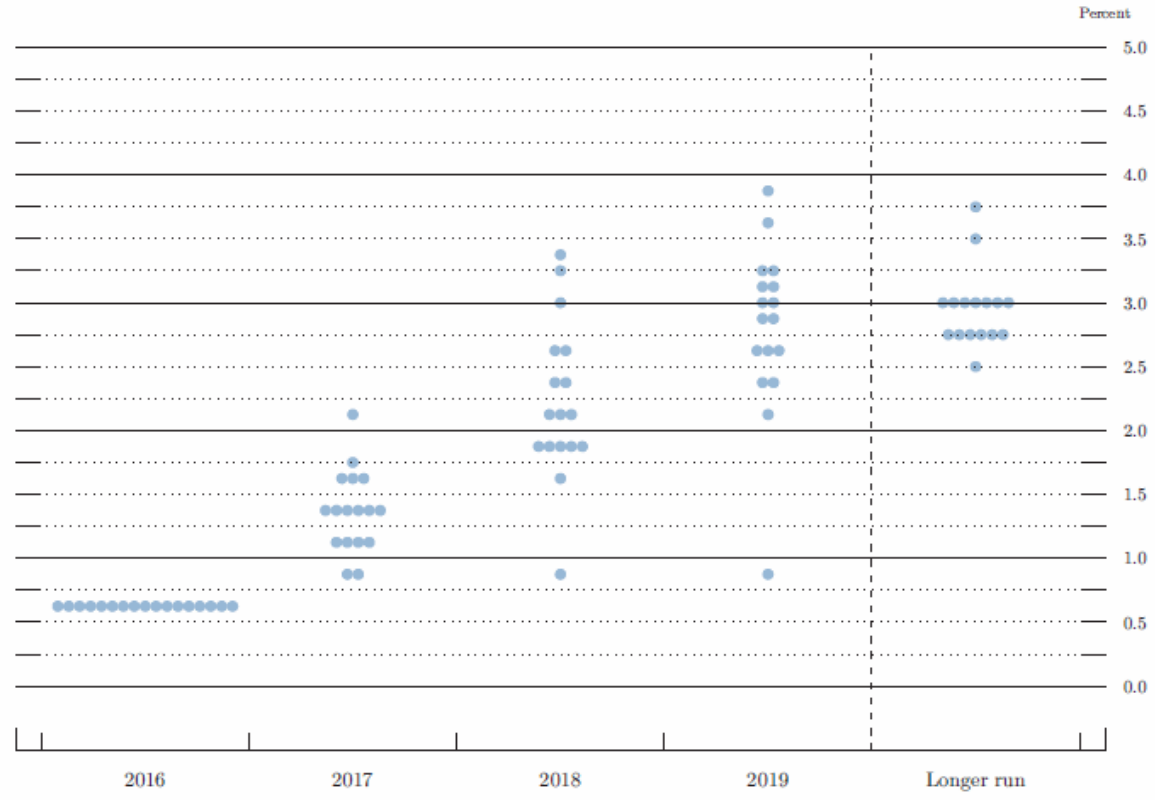
CFA Institute Research Challenge

Appendix Table of Contents

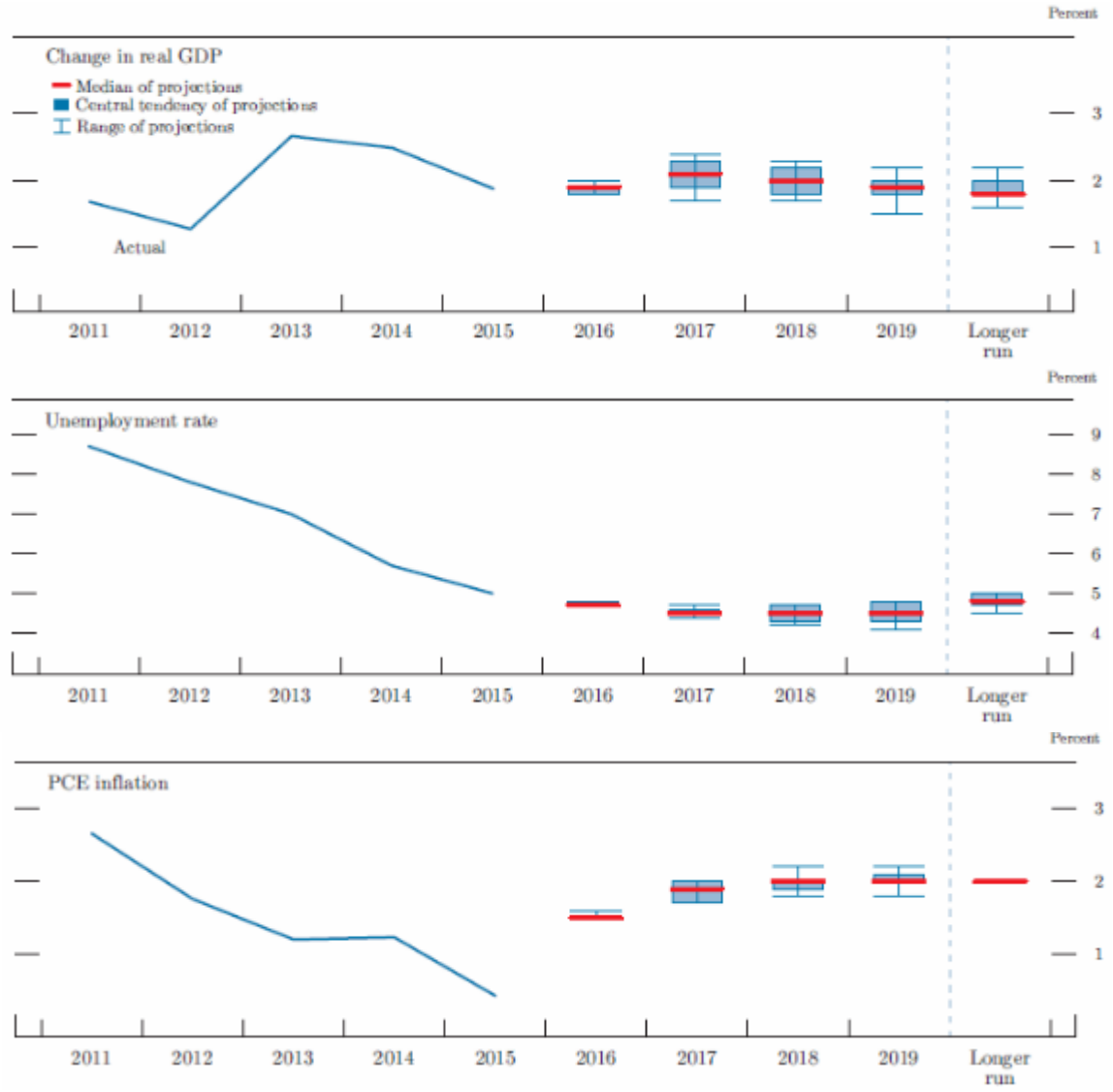
Appendix A: Organizational Structure



Appendix B: Macroeconomic Factors



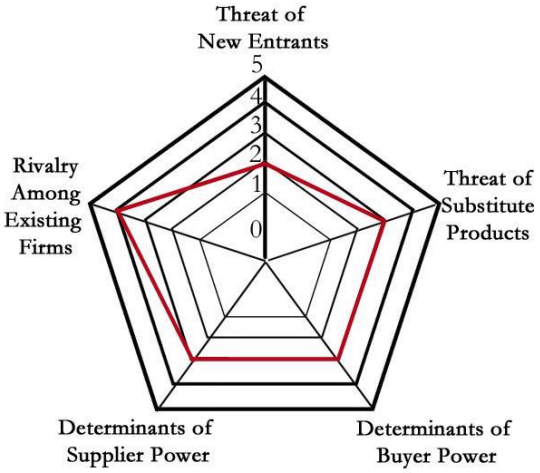
*Note: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.



Source of Economic Charts: The Federal Reserve

The future of the economic environment does not provide an optimistic outlook for CMI. An increase in expected inflation and the future federal funds rate will hurt Cummins' future lending needs as well as costs associated with their operations and lending. The expected stagnation in real GDP and unemployment does not speak to the sentiment of expected industry growth.

Appendix C: Porter's Five Forces



Threat of New Entrants - Low (2): There exists somewhat significant barriers to entry for new enterprises. To manufacture engines at a cost that allows competitive pricing, a manufacturer must be able to utilize economies of scale. In addition, there are large capital requirements in designing the engines and in producing engines with some level of differentiation. Also, the lack of strong distribution channels could significantly deteriorate a new entrant's ability to cost-effectively sell their products to non-local businesses. On the other side, a threat of entry does exist from buyers beginning to merge or acquire sellers (i.e. Volkswagen taking stake in Navistar). This action would begin to consolidate the industry and would not be affected as heavily by the barriers to entry as a "blank check company" would.

Determinants of Buyer Power - Moderate (3): There are more buyers than sellers of engines in the market, but sales are still relatively consolidated. Further, there is a general lack of product differentiation beyond the size of the engine and its level of efficiency. Many buyers, including Fiat-Chrysler for their Dodge Ram, will use multiple sources for their engine needs. The buyers would classify the engines as mission critical and therefore relinquish some power to the seller. Many buyers are large enough to merge or acquire a seller which gives them the power to decide whether to make or buy the engines.

Threat of Substitute Products - Moderate (3): Prices and the quality of substitutes are relatively similar. The major difference lies in the brand name. Cummins claims that many truck owners want to buy trucks with Cummins engines because they trust them. Switching costs can be high but are usually expensed in research and development when a truck or vehicle is being designed to be compatible with a certain engine. For many large truck manufacturers, this cost becomes insignificant as they receive savings from economies of scale.

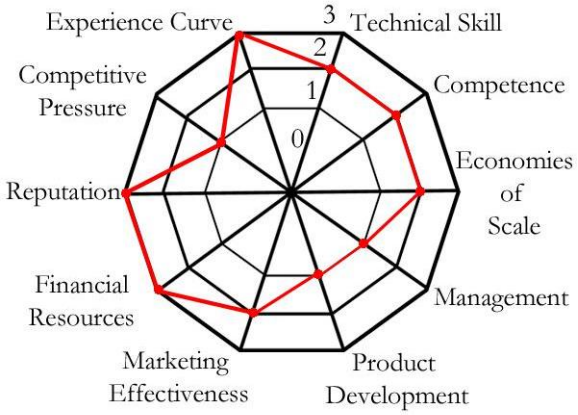
Determinants of Supplier Power - Moderate (3): There are a relatively large number of suppliers of steel, oil, lubricant, tools, and other necessary supplies for Cummins products. There are a lack of substitutes from which Cummins can switch to as many of the raw materials used to produce engines have no substitutes. Therefore, the suppliers are important to Cummins as they cannot manufacture without the raw material. Further, the suppliers have many other industries in which they can sell their products.

Rivalry Among Existing Firms - High (4): Currently there is no organic growth in the industry which is resulting in extreme competition for existing and sometimes dwindling market share. There is a relatively small competitor group which does not allow a company to hide its strategy. There are also major capacity swings as the engine market is considered rather cyclical. There also exist high exit barriers as the knowledge and capability of producing engines is considered specialized and not broadly applicable.

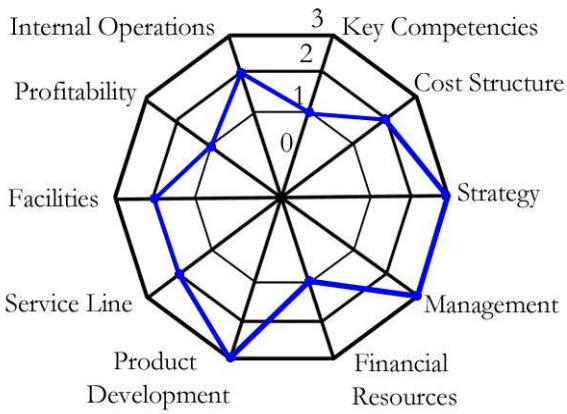
Appendix D: SWOT Analysis

S	**Strengths** • Experience Curve • Financial Resources • Reputation • Technical Skill • Competence • Economies of Scale • Marketing Effectiveness	**W**	**Weaknesses** • Strategy • Management • Product Development • Cost Structure • Service Line • Facilities • Internal Operations
O	**Opportunities** • Expansion of Facilities • Vertical Integration • Product Enhancement • Regulatory Overheads	**T**	**Threats** • Business Cycle • Pricing • Market Share Loss • Technology • Demographics • Legal • Buyer/Supplier Power

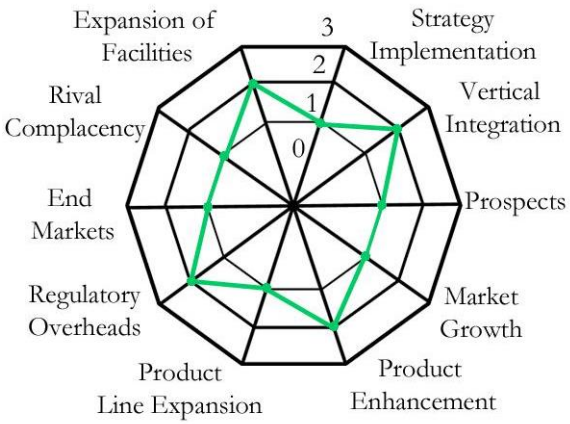
Strengths



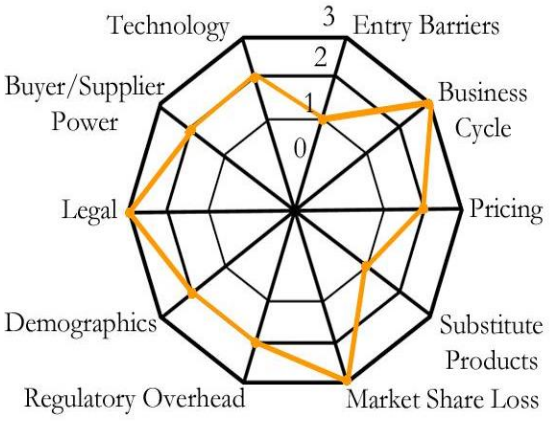
Weaknesses



Opportunities



Threats



Appendix E: PESTEL Analysis

Political

The current political environment in the United States (and abroad) offers some major opportunities for Cummins Inc. as well as a few risks. The new presidential administration has taken a pro-business stance and seems poised to de-regulate certain industries. This de-regulation and a lack of forward progress in the stringency of emission standards could come as a hindrance for a company like Cummins. Additionally, pushes in China to further regulate the trucking industry, by enforcing carry load limits, could lead to increased sales. However, their foothold in the Chinese market will likely continue to be impeded by the Chinese government's hostility towards US businesses.

Economic

CMI is exposed to market downturns and any economic stagnation would further hurt their already declining revenues. While emerging market economies in which Cummins does business are poised for economic growth, these markets are not nearly as crucial to the success of the business as the domestic market is. Expected stagnation in real GDP and unemployment point to a looming economic downturn, which would spell further problems for CMI.

Social

The social landscape of the 21st century delivers some serious risks to CMI's core businesses, as green movements gain traction throughout the world. Pushes to reduce carbon emissions and to move away from internal combustion engines altogether are gaining widespread popularity and would have a severe negative impact a manufacturer of diesel engines in the long-term.

Technological

Technological innovation is crucial in this industry, especially in times of increasing regulation and higher efficiency standards. While this does not appear to be the case in domestic markets, their material operations in Europe could be impacted by increased regulatory standards. This area could be an opportunity if Cummins' engineers are able to successfully innovate and create better products, or it could be a major risk if a competitor successfully innovates in a way Cummins cannot replicate.

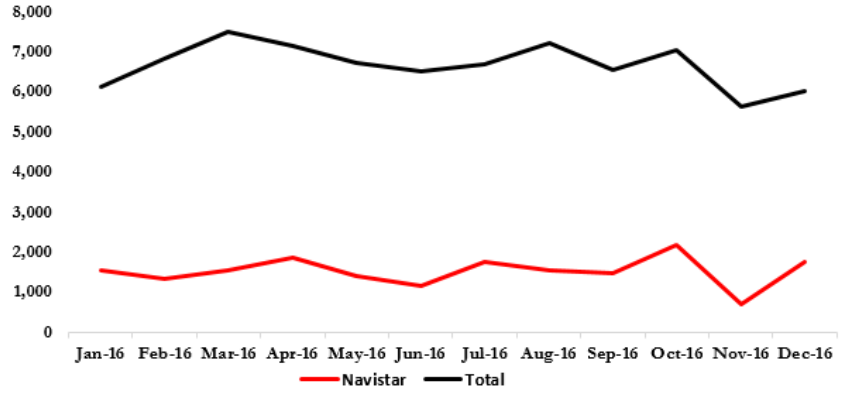
Environment

Environmental factors such as the climate and weather likely have a negligible impact on Cummins' operations, and any event that would have a major impact would likely be impossible to predict. However, Cummins is heavily exposed to political and social factors surrounding the environment. Increased regulatory standards abroad and general attitudes in favor of environmental protection pose significant long-term risks.

Legal

Cummins is currently involved in a class action lawsuit against them for improper emissions reporting in their engines. This lawsuit is being brought against Cummins and Fiat-Chrysler over the engines they provided for Dodge Ram Trucks. This lawsuit represents a potential loss of $1.31 billion dollars and untold reputational damages. We see this as a major risk to Cummins' business because if this case does have merit, the likelihood that this is a systemic problem increases and the possibility for other future lawsuits to open up.

Appendix F: Navistar and Volkswagen Deal



Source: Bloomberg

Volkswagen took a minority stake in Navistar on September 6, 2016 and plans to begin using Volkswagen powertrain components, perhaps as early as 2019. Any sort of alliance between NAV and VW would negatively impact Cummins. Navistar, Cummins' third largest customer, currently represents 5.84% of sales (20-25% of CMI's Class 8 and medium-duty engine units). While Navistar's importance to Cummins has been declining, the potential loss of $1 billion in sales would be devastating. Volkswagen owns Man and Scania which produce engines in the sizes used by Navistar, which overtime could replace Cummins. Navistar's long term agreement with Cummins allows for termination of the agreement when there is a change in control.

Appendix G: Trump Infrastructure Impact

Infrastructure Spending			
Spending Category	2015	2016	2017P
Private Sector	$2,963	$3,052	$3,143
Federal State and Local Governments	$472	$486	$601
Total Infrastructure Spending	$3,435	$3,538	$3,744

Transportation Specific Spending	
Year	2015
Federal State and Local Governments	279

Percent of Total Infrastructure Spending	
Federal State and Local Governments	59.11%

Growth Rates		
Spending Category	2016	2017
Private Sector	3%	3%
Federal State and Local Governments	3%	3%

Donald Trump Infrastructure Projected Spending	
Year	2017
Total Spending Increase	$100

Donald Trump Transportation Infrastructure Impact	
Trump Spending Increase	$100.00
Transportation Related Spending	$59.11
Total Infrastructure Spending 2017	$3,744.19
% of Total 2017 Infrastructure Spending	1.58%

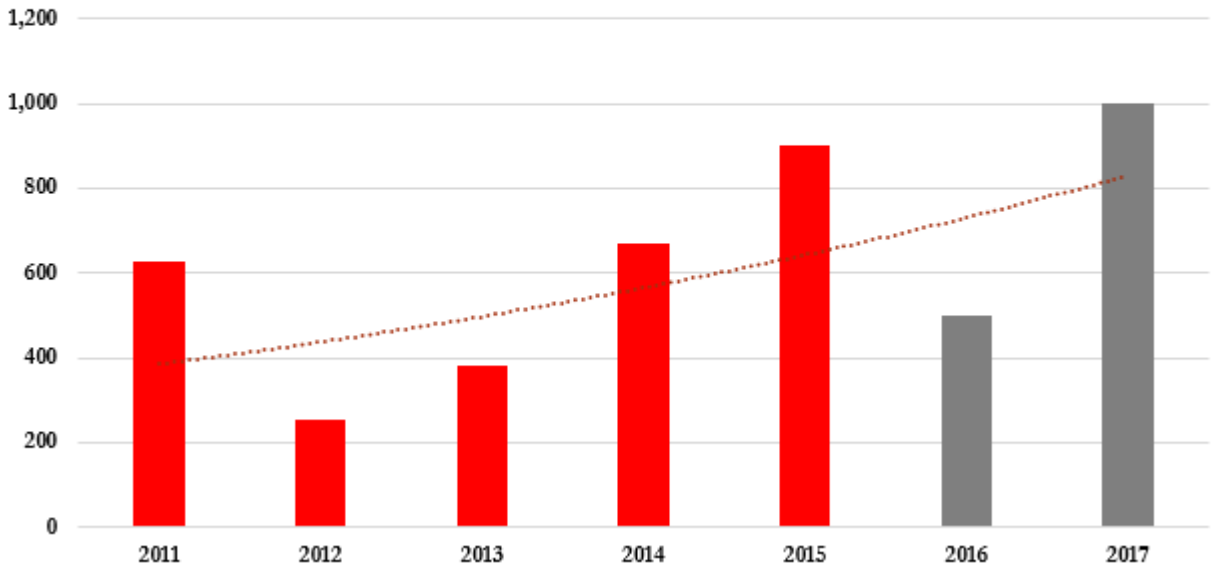
Sources: Cato Institute

In our analysis, we are projecting that President Donald Trump will introduce an infrastructure spending plan of $100 billion a year for 10 years. In the best case scenario, it is assumed that this spending plan will begin to be realized completely in 2017. In 2015, total infrastructure spending from the private sector and Federal, State and Local Governments was $3.435 trillion. Assuming spending grows at 3% a year, while also including the $100 billion Trump addition to total spending, we project 2017 total infrastructure spending to equal $3.744 trillion. In 2015, of all the Federal State and Local Government spending on infrastructure, $279 billion was related to transportation. Assuming this ratio of transportation spending to total spending of 59.11% stays constant, we expect $59.11 billion of President Trump's infrastructure spending plan to go toward transportation expenses. This increase in transportation related infrastructure spending corresponds to only a 1.58% increase in previously projected total infrastructure spending, which leads to our belief that the implications from this spending plan are drastically overstated.

Appendix H: Share Buyback Program

Cummins Share Buybacks

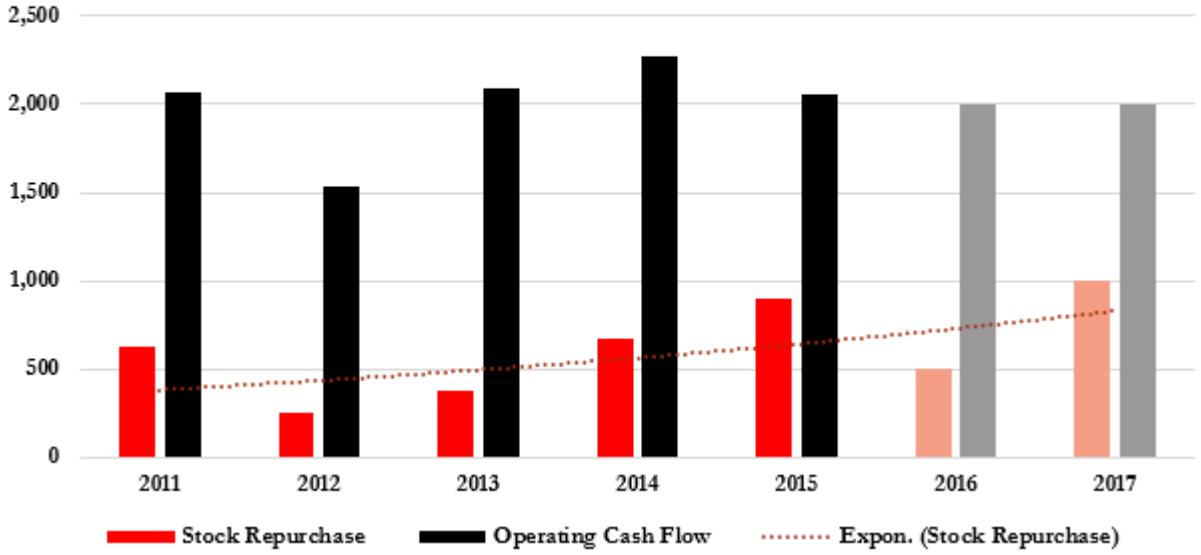
	2011	2012	2013	2014	2015	2016	2017
Stock Repurchase	629	256	381	670	900	500	1,000



Note: All units in mm

Cummins Share Buybacks vs. Operating Cash Flow

	2011	2012	2013	2014	2015	2016	2017
Stock Repurchase	629	256	381	670	900	500	1,000
Operating Cash Flow	2,070	1,530	2,090	2,270	2,060	2,000	2,000

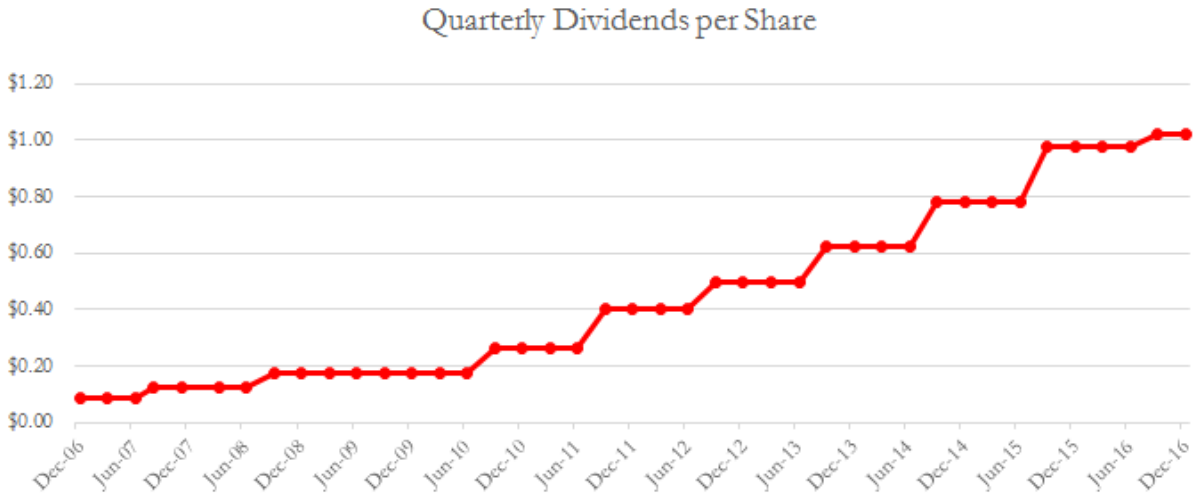


Note: All units in mm

CMI seeks to return 50% of operating cash flow to shareholders. They set their dividends at a level they believe they can maintain and use share buybacks extensively to return the remaining capital to shareholders. The buy-backs seem to happen irrespective of share price, because the ultimate goal is to return capital.

We do not believe that the repurchases should be viewed by investors as a signal by CMI that they believe their share price undervalued. In December 2016, CMI announced their intent to repurchase $1B worth of its common stock in 2017, while the share price was trading at 52 week highs.

Appendix I: Dividend History



Appendix J: Income Statement

INCOME STATEMENT									
Fiscal year	2012A	2013A	2014A	2015A	2016P	2017P	2018P	2019P	2020P
Fiscal year end date	*12/31/12*	*12/31/13*	*12/31/14*	*12/31/15*	*12/31/16*	*12/31/17*	*12/31/18*	*12/31/19*	*12/31/20*
Engine Segment Revenue	10,733	8,270	8,437	7,540	7,012	6,577	6,748	6,897	7,104
Distribution Segment Revenue	3,044	3,726	5,135	6,198	6,074	6,135	6,380	6,444	6,508
Components Segment Revenue	4,063	3,151	3,791	3,745	3,633	3,433	3,502	3,572	3,643
Power Systems Revenue	3,498	3,031	4,414	4,067	3,522	3,416	3,416	3,451	3,485
Other Segement Revenue	(4,004)	(877)	(2,556)	(2,440)	(2,328)	(2,250)	(2,305)	(2,342)	(2,385)
Revenue	**17,334**	**17,301**	**19,221**	**19,110**	**17,913**	**17,312**	**17,741**	**18,021**	**18,355**
Cost of sales (enter as -)	(12,826)	(13,021)	(14,360)	(14,163)	(13,524)	(12,897)	(13,217)	(13,426)	(13,675)
Gross Profit	**4,508**	**4,280**	**4,861**	**4,947**	**4,389**	**4,415**	**4,524**	**4,595**	**4,681**
Research & development (enter as -)	(728)	(713)	(754)	(735)	(717)	(692)	(710)	(721)	(734)
Selling, general & administrative (enter as -)	(1,900)	(1,817)	(2,095)	(2,092)	(1,881)	(1,818)	(1,863)	(1,892)	(1,927)
Equity, royalty and interest income from investees	384	361	370	315	318	321	325	328	331
Other Operating Income (Expense)	(16)	(10)	(17)	(77)	(16)	(16)	(16)	(16)	(17)
Operating profit (EBIT)	**2,248**	**2,101**	**2,365**	**2,358**	**2,093**	**2,210**	**2,260**	**2,294**	**2,334**
Interest income	25	27	23	24	24	29	32	32	32
Interest expense (enter as -)	(32)	(41)	(64)	(65)	(74)	(74)	(74)	(74)	(74)
Other income (expense)	24	32	110	9	88	0	0	0	0
Non-recuring Income (Expense)	6	0	0	(301)	0	0	0	0	0
Pretax profit	**2,271**	**2,119**	**2,434**	**2,025**	**2,132**	**2,165**	**2,218**	**2,252**	**2,292**
Taxes (enter expense as -)	(533)	(531)	(698)	(555)	(576)	(585)	(599)	(608)	(619)
Net income	**1,738**	**1,588**	**1,736**	**1,470**	**1,556**	**1,581**	**1,619**	**1,644**	**1,673**
Less: Net Income attributable to non-controlling int	(93)	(105)	(85)	(71)					
Net Income Attributable to Cummins	**1,645**	**1,483**	**1,651**	**1,399**	**1,556**	**1,581**	**1,619**	**1,644**	**1,673**

INCOME STATEMENT									
Growth rates & margins	2012A	2013A	2014A	2015A	2016P	2017P	2018P	2019P	2020P
Other Segment Revenue Growth		(4.8%)	(11.7%)	(11.3%)	(11.5%)	(11.5%)	(11.5%)	(11.5%)	(11.5%)
Engine Segment Revenue Growth		(22.9%)	2.0%	(10.6%)	(7.0%)	(6.2%)	2.6%	2.2%	3.0%
Distribution Segment Revenue Growth		22.4%	37.8%	20.7%	(2.0%)	1.0%	4.0%	1.0%	1.0%
Components Segment Revenue Growth		(22.4%)	20.3%	(1.2%)	(3.0%)	(5.5%)	2.0%	2.0%	2.0%
Power Systems Revenue Growth		(13.4%)	45.6%	(7.9%)	(13.4%)	(3.0%)	0.0%	1.0%	1.0%
Gross profit as % of sales	26.0%	24.7%	25.3%	25.9%	24.5%	25.5%	25.5%	25.5%	25.5%
R&D margin	(4.2%)	(4.1%)	(3.9%)	(3.8%)	(4.0%)	(4.0%)	(4.0%)	(4.0%)	(4.0%)
SG&A margin	(11.0%)	(10.5%)	(10.9%)	(10.9%)	(10.5%)	(10.5%)	(10.5%)	(10.5%)	(10.5%)
Equity, royalty and interest income from investees growth		(6.0%)	2.5%	(14.9%)	1.0%	1.0%	1.0%	1.0%	1.0%
Other Operating Income (Expense)	(0.1%)	(0.1%)	(0.1%)	(0.4%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)
Tax rate	(23.5%)	(25.1%)	(28.7%)	(27.4%)	(27.0%)	(27.0%)	(27.0%)	(27.0%)	(27.0%)

Appendix K: Balance Sheet

Balance Sheet	2012A	2013A	2014A	2015A	2016P	2017P	2018P	2019P	2020P
Current Assets									
Inventories	2221	2381	2866	2707	2502	2386	2445	2484	2530
Accounts Recievable - Trade	2235	2362	2744	2640	2436	2365	2423	2462	2507
Prepaid Expenses and Other	855	760	849	609	281	271	278	282	287
Accounts Recievable - Non Trade	240	287	202	180	224	218	223	227	231
Cash and Equivalents	1369	2699	2301	1711	1240	740	1520	2244	2948
Marketable Securities	247	150	93	100	143	138	142	144	147
Deffered Income Tax Assets	0	0	0	0	0	0	0	0	0
Total Current Assets	7167	8639	9055	7947	6827	6118	7031	7843	8651
Noncurrent Assets									
Investment in Affiliates / Joint Ventures	897	931	981	975	785	704	809	902	995
Deferred Income Tax Asset	0	0	0	0	0	0	0	0	0
Prepaid Pensions	0	0	637	735	273	245	281	314	346
Goodwill	445	461	479	482	393	352	404	451	497
Other Noncurrent Assets	946	1184	583	922	768	688	791	882	973
Other Intangible Assets	0	357	343	328	205	184	211	235	260
Property Plant and Equipment Net	2724	3156	3686	3745	3072	2753	3164	3529	3893
Total Assets	**12179**	**14728**	**15764**	**15134**	**12323**	**11043**	**12691**	**14156**	**15614**
Current Liabilities									
Accrued Compensation	400	433	508	409	414	400	410	416	424
Accrued Expense	932	926	1122	1222	1040	993	1018	1034	1053
Unearned Revenue	215	285	401	403	313	303	310	315	321
Accounts Payable	1339	1557	1881	1706	1623	1548	1586	1611	1641
Short Term Borrowings	16	17	86	24	29	29	29	29	29
Current Portion of Long Term Debt	61	51	23	39	37	37	37	37	37
Income Taxes Payable	173	99	0	0	0	0	0	0	0
Total Current Liabilities	3136	3368	4021	3803	3456	3310	3391	3443	3506
Noncurrent Liabilities									
Pension Liabilities	432	588	658	647	553	530	542	551	561
Other Noncurrent Liabilities	1308	1230	1415	1358	1279	1225	1254	1274	1297
Long Term Debt	698	1672	1577	1576	1,473	1,473	1,473	1,473	1,473
Total Liabilities	**5574**	**6858**	**7671**	**7384**	**6761**	**6537**	**6660**	**6740**	**6836**
Shareholders Equity	**6605**	**7870**	**8093**	**7750**	**5562**	**4506**	**6031**	**7416**	**8778**

Appendix L: Beta Analysis

Regression Statistics	
Multiple R	0.628995447
R Square	0.395635272
Adjusted F	0.395153323
Standard E	0.012601974
Observatio	1256

ANOVA

	df	*SS*	*MS*	*F*
Regressior	1	0.130367885	0.130367885	820.9060011
Residual	1254	0.199147439	0.00015881	
Total	1255	0.329515323		

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.000188013	0.000356147	-0.527907983	0.597656601
0.007265	1.262778705	0.044073804	28.65145722	2.6796E-139

The Beta value for Cummins was determined by running a linear regression analysis of the daily percent changes in CMI stock price to the daily percent changes in the S&P 500. The data used was the adjusted closing price for both CMI and the S&P for every day the market was open over the last 5 years. The linear regression analysis gave a Beta coefficient of 1.26 which is the value used in all the models that require it. The R^2 value of 39.6% that represents the amount of systematic risk Cummins experiences.

Appendix M: WACC Analysis

WACC Analysis	Values
Risk-free Rate	2.47%
S&P 500 Adjusted Beta	1.26
Market Risk Premium	6.88%
Cost of Equity	**11.14%**
Interest Expense	47
Tax Rate	27.00%
Cost of Debt	**2.41%**
Market Value of SE	21477.9
Interest Bearning Debt	1949
SE %	91.68%
Debt %	8.32%
WACC	**10.41%**

Appendix N: Diluted Shares

Diluted Shared Outstanding		
Stock Options Outstanding (12/31/15)		1,318,101
Weighted-average Exercise Price	$	100.55
Cummins Share Price (2/7/17)	$	148.00
Proceeds from Excercised Options	$	132,535,056
Shares Repurchased from Options Proceeds		895,507
In-the-Money Share Options		1,318,101
Less: Shares Repurchased		(895,507)
Net New Shares		422,594
Common Shares Outstanding (10/02/16)		168,275,116
Dilutive Effect of Stock Options		422,594
Diluted Shares Outstanding		**168,697,710**

In computing diluted shares, we took the most up to date information from a variety of CMI's financial documents. We started with the stated stock options outstanding in the 2015 10-K and the average exercise price of those options. If all the options were exercised, we computed what the proceeds would have been from the issuance of those shares. By using the CMI 2/7/17 share price, we computed how many shares Cummins could buy back with those proceeds. We took the shares issued from options less what was purchased back to compute net new shares. We used the Q3 2016 common shares outstanding and then added the net new shares to find the diluted shares outstanding.

Appendix O: Debt Schedule

Debt Schedule				
Maturity Date	**Coupon**	**Value**	**Annual Payment**	**Type**
Total	**5.00%**	**$ 1,473**	**$ 73.65**	
10/1/2023	3.65%	500	18.25	Callable
2/15/2027	6.75%	58	3.89	Putable
3/1/2028	7.13%	250	17.81	At Maturity
10/1/2043	4.88%	500	24.38	Callable
3/1/2098	5.65%	165	9.32	At Maturity

*1,750 avaliable in Senior Unsecured Loans (Revolver) maturing 11/13/2020

This table shows CMI's long-term outstanding debt where all values are shown in millions. The putable bond can be called by the lender, but it represents the smallest outstanding liability at $58 million. As seen from the schedule, their debt ladder is long term, and none of the debt represents a large liability to CMI.

Appendix P: Discount Cash Flow Analysis

Forecasted Revenue	2016P	2017P	2018P	2019P	2020P
Engine Segment Revenue	7,012	6,577	6,748	6,897	7,104
Distribution Segment Revenue	6,074	6,135	6,380	6,444	6,508
Components Segment Revenue	3,633	3,433	3,502	3,572	3,643
Power Systems Revenue	3,522	3,416	3,416	3,451	3,485
Other Segement Revenue	(2,328)	(2,250)	(2,305)	(2,342)	(2,385)
Total Revenue	**17,913**	**17,312**	**17,741**	**18,021**	**18,355**
Revenue Growth Rate	-6.26%	-3.36%	2.48%	1.58%	1.85%

Business Segments Revenue Breakdown

Engine Segment Revenue

In 2011 Engine Segment Revenue accounted for 51.6% of total revenue. Since then, Cummins has expanded their distribution segment through acquisition in order to decrease their exposure to the cyclical nature of the engine market and to increase their ability to offer service on their engines. The demand is usually high for service during times of low purchasing volume of engines. The engine segment is driven in majority by demand for trucking, changes in construction spending, and demand for diesel engines. While construction spending may increase with a new governmental infrastructure plan, we do not see a reason to assume that Cummins will see a major windfall. Further, demand for trucking has been somewhat stable over the last two years. This demand is expected to change as Amazon and other shipping innovators begin to implement shipment mediums. In terms of demand for diesel engines with low emissions, expectations are that President Trump's Administration's plans to deregulate emission standards could severely hurt Cummins bottom line. Their engine segment has also been seeing major losses in market share. In Cummins North American Class 8 Heavy Duty Engine market, they have gone from controlling 51% of the market in 2009 to 33% in 2015 as many truck producers are moving to a more integrated model. In Heavy Truck Cummins market share has fallen from 25% in 2010 to 11% in 2015. The impact of the trends are examined and sensitized in the Monte Carlo Simulation.

Distribution Segment Revenue

Distribution segment revenue is expected to be down in 2016 following strong growth from acquisitions and a focus on expanding their ability to service their engines globally. Following these acquisitions we expect low levels of growth as synergies begin to be recognized and engine sales return to positive growth.

Components Segment Revenue

Revenue will be down in 2016 due to lower industry truck production, but has been partially offset by growth in emerging markets. We expect components to have moderate decreases in revenue for 2016 and 2017 due to a stagnant engine market where Cummins is continuing to lose market share. From 2018 to 2020, we expect average growth of 2% as we expect the engine market to be bolstered by slight growth. There has been a decline in EBIT as a percent of sales in 2016 due to a decrease in production volume.

Power Systems Revenue

An extreme decrease in revenue has occurred due to serious market contraction. US sales fell 9% and international sales fell 19% in the third quarter of 2016. We expect for the market to recover and grow at a moderately low rate for the foreseeable future.

Forcasted Revenue Growth	2016P	2017P	2018P	2019P	2020P
Engine Segment Revenue	-7.0%	-6.2%	2.6%	2.2%	3.0%
Distribution Segment Revenue	-2.0%	1.0%	4.0%	1.0%	1.0%
Components Segment Revenue	-3.0%	-5.5%	2.0%	2.0%	2.0%
Power Systems Revenue	-13.4%	-3.0%	0.0%	1.0%	1.0%

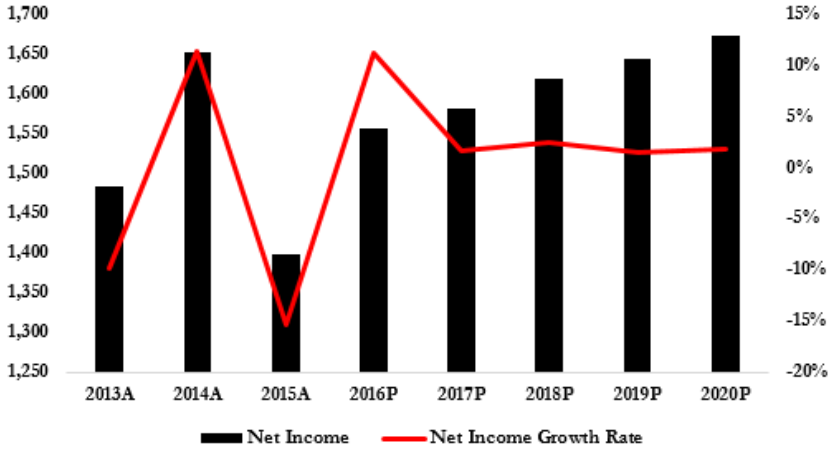
Joint Venture Income

Joint venture income decreased in 2016 due to the full acquisition of many distribution partners, therefore the revenue was not lost but rather moved to the overall top line revenue. Cummins believes that joint venture income will continue to grow as they are positioning themselves in emerging markets like China and India.

Cost of Sales, Selling, General, Administrative, Research, and Development
As Cummins has been subject to industries with low organic growth, they have put a focus on cutting costs. This will be combatted with decreasing output which increases costs. We expect these two forces to mostly offset, resulting in maintaining costs as a percentage of sales. We see no material change in Cummins cost structure moving forward.

Depreciation
Depreciation is expected to remain at historic levels, with a slight uptick due to the full acquisition of distribution centers and the increased investment in joint ventures.

Net Income
The CAGR from 2012-2015 is -3.97%, which is adversely affected by poor performance in 2015 and one-time restructuring costs. Without the restructuring costs, the CAGR for 2012-2015 is 0.83%. The estimated CAGR from 2016-2020 is 1.46%. This would result in a CAGR of 0.19% from 2012-2020.



Source: Team Calculations

Terminal Growth Rate
The expected terminal growth rate used in the discounted cash flow model is 1.0%. This reflects the mature industry with low growth prospects and expected majority value creation through cost cuts. The value was derived in part by the estimated CAGR for weight of shipments for the United States from 2013-2040 which is 1.11%. This represents a slowdown from what was roughly a 1.5% CAGR industry from 2007 to 2013.

Weight of Shipments by Transportation Mode: 2007A, 2013A, and 2040P

	2007A		2013A		2040P	
	Total	% Mix	Total	% Mix	Total	% Mix
Truck	11,592	67.69%	12,660	69.56%	17,042	65.87%
Rail	1,723	10.06%	1,686	9.26%	2,513	9.71%
Water	862	5.03%	733	4.03%	971	3.75%
Air, air & truck	12	0.07%	13	0.07%	48	0.19%
Multiple modes & mail	1,296	7.57%	1,410	7.75%	3,243	12.54%
Pipeline1	1,354	7.91%	1,397	7.67%	1,579	6.10%
Other & unknown	287	1.68%	302	1.66%	477	1.84%
Total	**17,127**		**18,201**		**25,874**	

(millions of metric tonnes)

Source: U.S. Department of Transportation

Exit Multiple
The exit multiple utilized was 8.63x which was derived from Cummins 5 year average and is close to the derived multiple in the comparable companies analysis of 8.69.

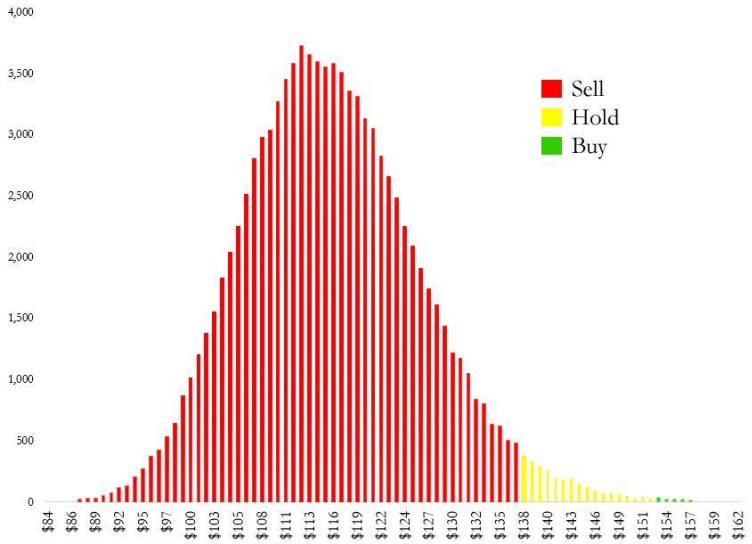
Cummins 5 Year Average EV/EBITDA Multiple				
2011	**2,012**	**2013**	**2014**	**2015**
10.06x	6.36x	8.58x	10.28x	7.89x

Appendix Q: Monte Carlo Simulation

The Monte Carlo Simulation accounted for eight different variables which led to different intrinsic values that were used to evaluate a final share price for the discounted cash flow model.

Factor	Parameters	Explanation
Engine Segment Revenue Growth Rate	**2016** *x:* (7.00%) *s:*1.50% **2017** *x:* (6.20%) *s:*1.50% **2018** *x:* 2.60% *s:*1.50% **2019** *x:* 2.20% *s:*1.50% **2020** *x:* 3.00% *s:*1.50%	Accounts for the risk of a change in expectations for revenue growth in the Engine Segment
Distribution Segment Revenue Growth Rate	**2016** *x:* (2.00%) *s:*1.50% **2017** *x:* 1.00% *s:*1.50% **2018** *x:* 4.00% *s:*1.50% **2019-2020** *x:* 1.00% *s:*1.50%	Accounts for the risk of a change in expectations for revenue growth in the Distribution Segment
Components Segment Revenue Growth Rate	**2016** *x:* (3.00%) *s:*1.50% **2017** *x:* (5.50%) *s:*1.50% **2018-2020** *x:* 2.00% *s:*1.50%	Accounts for the risk of a change in expectations for revenue growth in the Components Segment
Power Generation Revenue Growth Rate	**2016** *x:* (13.40%) *s:*1.50% **2017** *x:* (3.00%) *s:*1.50% **2018** *x:* 0.00% *s:*1.50% **2019-2020** *x:* 1.00% *s:*1.50%	Accounts for the risk of a change in expectations for revenue growth in the Power Generation Segment
Gross Profit Rate	**2016** *x:* 24.50% *s:*1.00% **2017-2020** *x:* 25.50% *s:*1.00%	Accounts for changes in the cost structure as Cummins continues to focus on cost cutting as a source of free cash flow growth
Long Term Growth Rate	*x:* 1.00% *s:* 0.50%	Accounts for the risk in assuming a long term growth rate
Exit EBITDA Mult.	*x:* 8.63x *s:*1.50%	Accounts for changes in the Exit EBITDA Multiple for the industry

Our simulation included 100,000 trials. The model produced an average value of $115.56 with a standard deviation of $10.15. The results further support our thesis that Cummins is currently overvalued.



Simulation Statistics	
Mean	$115.56
Standard Deviation	$10.15
25th Percential	$108.52
Median	$114.92
75th Percentile	$121.88

Appendix R: Buy Scenario

Difference Between Base and Buy Case, with Trump Tax Rate Decrease to 15% in 2017					
	2016P	2017P	2018P	2019P	2020P
Engine Segment Revenue Growth	1.00%	5.20%	12.40%	3%	2%
Distribution Segment Revenue Growth	0.50%	2.00%	0.00%	4%	4%
Components Segment Revenue Growth	1.00%	7.50%	3.00%	3.00%	3.00%
Power Generation Segment Revenue Growth	0.00%	3.00%	2.00%	1.00%	1.00%
Total Revenue Growth	**0.67%**	**4.27%**	**5.11%**	**2.93%**	**2.67%**
Gross Profit Margin	0.70%	0.00%	0.00%	0.25%	0.25%
Tax Rate	0.00%	12.00%	12.00%	12.00%	12.00%

Difference Between Base and Buy Case, with no Trump Tax Rate Decrease					
	2016P	2017P	2018P	2019P	2020P
Engine Segment Revenue Growth	1.00%	12.20%	12.40%	3.80%	3.00%
Distribution Segment Revenue Growth	0.50%	5.00%	2.00%	5.00%	5.00%
Components Segment Revenue Growth	1.00%	10.50%	3.00%	3.00%	3.00%
Power Generation Segment Revenue Growth	0.00%	6.00%	3.00%	2.00%	2.00%
Total Revenue Growth	**0.67%**	**8.66%**	**5.98%**	**3.77%**	**3.50%**
Gross Profit Margin	0.70%	0.00%	0.00%	0.25%	0.25%
Tax Rate	0.00%	0.00%	0.00%	0.00%	0.00%

Due to our sell recommendation and price target being significantly below the current market price, we decided to run a "buy scenario" where we would see what was needed to output a price target range of $170-$175. In this case, we created two different buy scenarios, one that includes President Trump's plan to decrease the corporate tax rate to 15% and one that doesn't. The other metrics that were changed were each segment's revenue growth rate and the gross profit margin. The charts above represent the two scenarios, with the percentages representing how much more each metric would have to grow as compared to our base case analysis.

We found that revenue would have to increase significantly year over year from 2017-2020 and that the long term growth rate of Cummins would have to be 2% and have an EV/EBITDA multiple at 10.0x. This further enforces the sell recommendation as the changes necessary for a buy recommendation are unlikely.

Appendix S: Dividend Discount Model

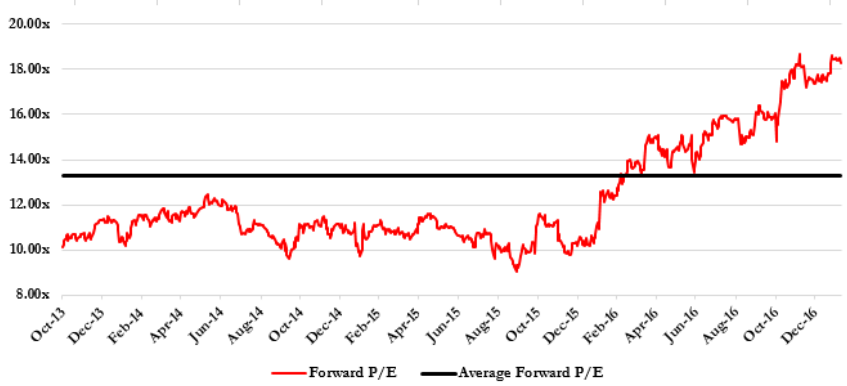
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Dividend Growth	5.50%	6.00%	6.50%	7.00%	7.00%	7.00%	6.60%	6.20%	5.80%	5.40%	5.00%
Dividends	4	4.24	4.52	4.83	5.17	5.53	5.90	6.26	6.63	6.98	7.33
PV of Dividends		3.84	3.70	3.59	3.48	3.37	3.26	3.13	3.00	2.86	2.72

Appendix T: Residual Income Model

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Book Value Growth	6.50%	6.25%	6.00%	6.50%	6.50%	6.50%	5.00%	4.75%	4.50%	4.25%	4.00%
EPS Growth	-4.00%	1.00%	6.00%	11.00%	11.00%	11.00%	2.60%	3.70%	4.80%	5.90%	7.00%
Book Value/Share	41.55	44.15	46.80	49.84	53.08	56.53	59.35	62.17	64.97	67.73	70.44
EPS	8.25	8.33	8.83	9.80	10.88	12.08	12.39	12.85	13.47	14.26	15.26
Residual Income/share		5.74	6.18	6.76	7.64	8.63	9.57	10.03	10.67	11.50	12.55
PV of Residual Income		5.19	5.07	5.02	5.14	5.26	5.28	5.02	4.83	4.72	4.66

Appendix U: Forward Price to Earnings

5 Year Foward P/E for CMI			
	Low	Average	High
Selected Forward P/E	9.0x	13.3x	18.5x
Forward Earnings	1574.60	1574.60	1574.60
Shares Outstanding	168.200	168.200	168.200
Price	**84.25**	**124.51**	**173.19**



Source: Bloomberg

Next 12 Months Earnings

To calculate our expected next 12 months earnings, Q4 2016 to Q3 of 2017, we took 25% of the total income in 2016 and 75% of total income in 2017 to smooth an expected next 12 months earnings.

Appendix V: Net Asset Value

Net Asset Value Build (MM)	CMI	PCAR	CAT
NOI	2024.9	1947.4	3097
Cap Rate	28.17%	12.77%	7.25%
Market Value of Current Portfolio	**7187**	**15253.2**	**42737**
Assets			
Cash	1811	2465.1	7168
Other Current Assets	6136	2920.6	24799
Total Current Assets	**7947**	**5385.7**	**31967**
Gross Net Asset Value	**15134**	**20638.9**	**74704**
Total Liabilities	**7384**	**12780.9**	**61491**
Preferred Stock	**0**	**0**	**0**
Net Asset Value	**7750**	**7858**	**13213**
Dilluted Shares Outstanding	168.2	351.9	585.8
NAV per Share	**46.07609988**	**22.33020745**	**22.55547969**
Current Share Price (2/5/2017)	146.096	68.11	92.81
Premium (Discount) to NAV	**217.08%**	**205.01%**	**311.47%**

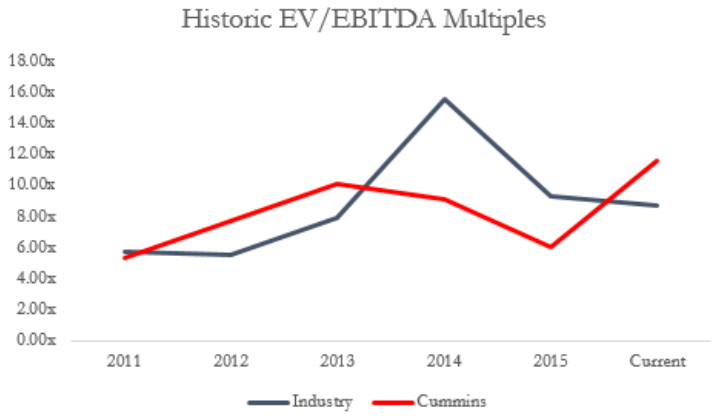
Cummins' relative Net Asset Value position reveals a market premium being paid well above the intrinsic NAV per share. The entire engine industry appears to have a premium paid on it, and this brings concern as well. The market is pricing these stocks based on the inclination that revenues will abound in large part to the proposed and widely discussed infrastructure plan coveted by President Trump. The NAV of these companies is showing that may not be the case which brings heavy concern toward the entire engine industry and in part to Cummins.

Appendix W: Comparable Companies Analysis: Enterprise Value to EBITDA Multiple

Comparables	Price	% of 52 Week High	Market Cap (mm)	EV/EBITDA	LTM Gross Margin	LTM EBITDA Margin	1 Yr. Revenue Growth
Navistar	$26.83	80%	2,196	10.36x	16.0%	6.3%	(20.0%)
Caterpillar Inc	$92.54	93%	54,399	9.83x	26.1%	15.0%	(17.1%)
Volvo Powertrain	$13.14	97%	228,805	9.92x	23.0%	11.8%	(3.7%)
Ford Motor Company	$12.41	87%	49,314	2.36x	13.9%	10.6%	5.7%
Fiat Power Systems	$10.63	94%	15,091	2.13x	13.7%	10.3%	2.7%
Donaldson Company	$41.55	90%	5,497	15.59x	34.6%	16.7%	(3.3%)
Honeywell International	$119.79	100%	91,586	11.90x	32.2%	21.2%	1.1%
Borgwarner	$40.41	96%	8,507	7.29x	20.9%	16.4%	13.2%
Tenneco Inc	$65.39	92%	3,599	5.72x	17.5%	9.9%	3.6%
Denso Corporation	$21.79	96%	4,064	6.21x	16.8%	13.1%	0.1%
Generac	$40.67	93%	2,644	14.30x	35.5%	18.7%	1.6%
Comparables Average		**93%**		**8.69x**	**22.7%**	**13.6%**	**(1.5%)**
Cummins	**$145.15**	**97%**	**24,394**	**11.59x**	**25.60%**	**14.30%**	**(8.6%)**

In analyzing the financial metrics of Cummins in comparison with their peers and competitors, specifically its current enterprise value to EBITDA multiple, we have found support for our sell recommendation. Currently Cummins is trading at roughly 33% premium to the industry in terms of EV/EBITDA, with only slightly better margins and significantly worst sales growth for 2015. Further, we believe that Cummins growth prospects are much lower than that of their competitors with the potential loss of sales from the Navistar Volkswagen Deal, class action lawsuit from Fiat-Chrysler and Dodge Truck Drivers, and the fact that Cummins competitors are expected to benefit more from the Trump Infrastructure plan than they are. This supports our analysis that Cummins is overvalued at its current price.

Avg. EV from Competitors Multiple	22,847
Less: Minority Interest	(330)
Less: Debt	(1,949)
Add: Cash and Equivalents	1,501
Equity Value	**22,069**
Fully Diluted Shares Outstanding	168.2
Value Per Share	**$131.21**



Appendix X: ROE Decomposition

ROE Decomposition				
	CMI	**NAV**	**PCAR**	**CAT**
Net Profit Margin	10.94%	3.64%	12.79%	7.15%
Asset Turnover	1.24	1.32	0.92	0.58
Financial Leverage	2.04	0	3.05	5.17
ROE	**27.67%**	**0.00%**	**35.89%**	**21.44%**

As the chart shows, CMI has a relatively average ROE compared to the other large players in its peer group. CMI boasts a fairly strong Asset Turnover Ratio as well as an above average Net Profit Margin. CMI takes a huge hit with its weak Financial Leverage Ratio. It is well below its major competitors (outside of NAV who has negative equity) which is the main limiter to its ROE.

Appendix Y: Key Executives

Executive	Title	Tenure (Years)
N. Thomas Linebarger	Chairman and Chief Executive Officer	5.1
Richard J. Freeland	President and Chief Operating Officer	2.5
Patrick J. Ward	Chief Finance Officer	9.1
Casimiro Antonio Vieira Leitao	President of Power Generation Division	1.8
Tracy A. Embree	President of Components Division	2.1
Livingston Lord Satterthwaite	President of Distribution Division	8.6
David J. Compton	President of Engine Division	Recently Resigned

Appendix Z: Insider Holding

Management		
Name	Title	% Change in Personal Holdings From High
Mr. N. Thomas Linebarger	Chairman, CEO	-61.31%
Mr. Richard J. Freeland	President, COO	-67.11%
Mr. Patrick J. Ward	VP, CFO	-34.18%
Ms. Marya M. Rose	VP, CAO	-60.78%
Ms. Marsha Hunt	VP, Controller	-95.28%

Source: Bloomberg

Appendix AA: Insider Selling

Management			
Name	Title	Insider Postion (in shares)	% Change in Personal Holdings From High
Mr. N. Thomas Linebarger	Chairman, CEO	126,027	-61.31%
Mr. Richard J. Freeland	President, COO	31,125	-67.11%
Mr. Patrick J. Ward	VP, CFO	28,852	-34.18%
Ms. Marya M. Rose	VP, CAO	14,948	-60.78%
Ms. Marsha Hunt	VP, Controller	2,844	-95.28%

Source: Bloomberg

Insider holdings as a percent of shares held has fallen from .925% on 12/31/11 to .28% on 12/31/16. Over the past several years, there is not a single C-level executive that has been increasing their holdings in CMI. A few company executives selling may be routine, but in the case of CMI, where almost all executives have cut their stake in half, we see this as a potential sign of insiders being aware of CMI's overly high valuation.

Appendix AB: Board of Directors

Member	Career	Tenure (Years)
N. Thomas Linebarger, 54: *Chairman	Mr. Linebarger has been Chairman of Cummins since 2012 where he also serves as CEO. He also seves as a Board Member for Harley-Davidson Inc.	5.1
Robert J. Bernard, 64	Mr. Bernard has been a Director of Cummins since 2008. He currently serves as the Vice President of Research at Notre Dame University and is also an adjunct professor at Purdue University.	8.2
Franklin Chang-Diaz, 66	Mr. Chang-Diaz has been a Director of Cummins since 2009. He currently serves as Chairmen, Founder, and CEO of AD Astra Rocket Co and is also an adjunct professor at both Rice University and the University of Houston.	7.1
Bruno V. Di Leo, 59	Mr. Di Leo has been a Director of Cummins since 2015. He currently serves as Senior Vice President of Global Markets for IBM Corporation.	2.1
Stephen B. Dobbs, 60	Mr. Dobbs has been a Director of Cummins since 2010. He also currently serves as a Board Member for the Lendlease Group.	6.3
Robert K. Herdman, 68	Mr. Herdman has been a Director of Cummins since 2008. He currently serves as Managing Director for Kalorama Partners LLC and as a consultant for Howrey LLP and Ernst & Young LLP. He also serves as a Board Member for WPX Energy Inc and HSBC Bank North America.	9
Alexis M. Herman, 69: *Lead Director	Mrs. Herman has been a Director of Cummins since 2001. She currently serves as Chairman and CEO of New Ventures LLC. She also serves as a Board Member for MGM Resorts International, Coca-Cola Co, and Entergy Corp. From 1997-2001, she serves as Secretary of Labor for the United States.	15.8
Thomas J. Lynch, 61	Mr. Lynch has been a Director of Cummins since 2015. He currently serves as Chairman and CEO of TE Connectivity Ltd. He also serves as a Board Member for the US-China Business Council, the Franklin Institute, and Thermo Fisher Scientific Inc.	2.1
William I. Miller, 60	Mr. Miller has been a Director of Cummins since 2001. He currently serves as the President of the Wallace Foundation. He serves as Chairman for the Tipton Lakes Co, New Perspective Fund Inc, and New world Fund Inc.	15.8
Georgia R. Nelson, 66	Mrs. Nelson has been a Director of Cummins since 2004. She currently serves as President and CEO of PTI Resources LLC and is also a lecturer at the Kellogg Graduate School of Management. She also serves as a Board Member for Sims Metal Mgmt Ltd, Transalta Corp, Ch2m Hill Cos Ltd, and Ball Corp.	12.5

Appendix AC: Committee Assignments

Audit Committee	Title
Robert K. Herdman	Chairman
Alexis M. Herman	Member
Thomas J. Lynch	Member
Georgia R. Nelson	Member
Compensation Committee	
Georgia R. Nelson	Chairman
Robert K. Herdman	Member
Alexis M. Herman	Member
Thomas J. Lynch	Member
Environment, Safety, and Technology Committee	
Robert J. Bernhard	Chairman
Franklin Chang Diaz	Member
Bruno V. Di Leo	Member
Stephen B. Dobbs	Member
William I. Miller	Member
Executive Committee	
N. Thomas Linebarger	Chairman
Alexis M. Herman	Member
William I. Miller	Member

Finance Committee	
William I. Miller	Chairman
Robert J. Bernhard	Member
Franklin Chang Diaz	Member
Bruno V. Di Leo	Member
Stephen B. Dobbs	Member
Governance and Nominating Committee	
Alexis M. Herman	Chairman
Robert J. Bernhard	Member
Franklin Chang Diaz	Member
Bruno V. Di Leo	Member
Stephen B. Dobbs	Member
Robert K. Herdman	Member
Thomas J. Lynch	Member
William I. Miller	Member
Georgia R. Nelson	Member

Appendix AD: Corporate Governance

To analyze the strength of Cummins' corporate governance, the U.S. Securities and Exchange Commission and the Institutional Shareholder Service (ISS) Rating Methodology on Corporate Governance were utilized. The rating for corporate governance is as follows:

Key	
1 2	Insignificant Threat to Shareholders
3 4	Low Threat to Shareholders
5 6	Moderate Threat to Shareholders
7 8	Significant Threat to Shareholders
9 10	High Threat to Shareholders

Disclosure and Transparency - 1

Management provides quarterly earning calls to investors where they discuss a variety of key metrics and issues facing the company. Cummins has an easy-to-access investor relations website. They also have had no major reporting issues and a clean reporting record over the last 5 years. CMI also has a strong Code of Ethics that emphasizes proper reporting as a key part of their image.

Board of Directors - 7

Some issues do arise in terms of Cummins Board structure. They have an ideal number of directors however they are underrepresented by women with Cummins only at 20%. The Board's level of independence is average with a fairly independent group. The other main issue is the length of tenure for most of the board. The average tenure is roughly 9 years, but a majority of the board has 8 years or less which is below the general threshold for proper board independence and self-reliance (according to ISS).

Rights and Obligations of Shareholders - 7

Shareholder voting rights follow 1 vote per common share and limited voting rights for preferred and preference shares. Common stock owners have no cumulative or preemptive voting rights, and preferred stock owners are only able to vote for directors and on certain amendments. Cummins also has a reward/compensation program called the Omnibus Plan. However, this reward is in restricted common stock that has a limited sale period and sale rules.

Executive Management and Compensation - 5

The average compensation for board members is roughly $2.6 million per year. This is drastically more than the average compensation range for their employees ($55,000-85,000 per year). Cummins also has a pay by performance system that is based on market position and risk relative to seniority.

Overall - 7

Our rating is in line with the Significantly High ISS Rating Methodology

Criteria	Risk Rating
Compensation	5
Shareholder Rights	8
Board Structure	6
Audit	1
Overall Rating	**7**

Source: Bloomberg, 10K, S-3ASR, Proxy Statement, DEF 14A,11K