

Consumer Staples

Recommendation	NEUTRAL
Target (today's value)	\$30
Current Price	\$29.96
52 week range	\$28.81-\$37.29

Share Data	
Ticker:	GT
Market Cap. (Billion):	\$7.8
Inside Ownership	0.4%
Inst. Ownership	99.3%
Beta	1.33
Dividend Yield	1.8%
Payout Ratio	10.3%

	'15	'16	'17E	'18E	'19E
Sales (billions)					
Year	\$16.4	\$15.2	\$15.1	\$15.5	\$15.9
Gr %		-7.8%	-0.6%	3.0%	2.5%
Cons	-	-	\$15.2	\$15.5	\$15.7
EPS					
Year	\$1.12	\$4.47	\$2.47	\$2.84	\$3.31
Gr %		261.8%	-51.6%	20.5%	22.6%
Cons	-	-	\$2.90	\$3.73	\$4.33

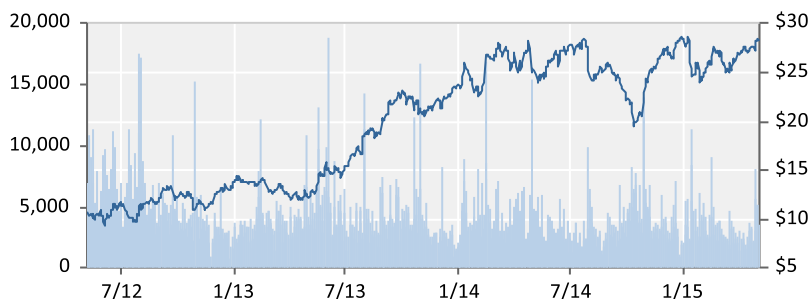
Ratio	'13	'14	'15	'16	'17E
ROE (%)	39.3%	88.3%	9.4%	29.0%	12.3%
Industry	15.3%	15.6%	18.9%	15.2%	14.3%
NPM (%)	3.5%	13.9%	2.3%	8.5%	6.7%
Industry	6.1%	6.6%	8.1%	2.6%	7.9%
A. T/O	1.11	1.02	0.95	0.92	0.88
ROA (%)	3.4%	14.1%	2.2%	7.8%	3.5%
Industry	5.9%	6.7%	8.4%	7.0%	6.8%
A/E	7.17	6.24	4.32	3.71	3.49

Valuation	'14	'15	'16	'17E
P/E	3.3	29.2	6.9	13.4
Industry	10.3	15.0	10.1	12.4
P/S	0.4	0.5	0.5	0.5
P/B	1.9	2.3	1.7	1.7
P/CF	23.5	5.3	5.5	6.8
EV/EBITDA	5.3	5.2	4.8	5.9

Performance	Stock	Industry
1 Month	8.3%	3.5%
3 Month	-3.0%	0.1%
YTD	1.9%	6.7%
52-week	-4.6%	4.9%
3-year	5.7%	32.6%

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Goodyear Tire and Rubber Co.



Source: FactSet Prices

Summary: I recommend a neutral rating with a target price of \$30. Goodyear has the potential to expand margins through penetration into the over 17" tire and original equipment markets. This potential is limited by muted sales growth and raw material price headwinds. The stock is fairly valued based on both DCF and relative valuation analyses.

Key Drivers:

- **Move Towards Autonomous Driving and Ride Share Programs:** Autonomous driving is forecasted to cause global vehicle miles to double by 2030 and triple by 2040. A positive correlation between global vehicles and GT's stock price in the past indicates the potential upside.
- **Growing Segment of Over 17" Tires:** GT has had a 12% CAGR in EMEA in this segment over the past few years and growth may continue. This area is both high growth and high margin compared to smaller tires.
- **Expansion of OE Sales:** Driving the expansion of OE sales today leads to more RE sales in the future, which are higher margin. Currently, approximately 29% of GT's unit sales are OE. GT is looking to capitalize on its high brand share in United States with regards to OE.
- **Raw Materials Prices:** Raw materials account for 40% of GT's COGS. Some of GT's contracts are indexed to raw materials prices. In addition, GT adjusts retail prices to preserve its gross margin. These price increases have raised its prices above the industry average in recent years.

Valuation: Using a relative valuation approach, Goodyear appears to be fairly valued in comparison to other tire manufacturers. Due to greater precision of inputs, DCF analysis provides the best way to value the stock and suggests it is worth \$33. A combination of approaches suggest that Goodyear is fairly valued, as the stock's value is about \$32 and the shares trade at \$29.96.

Risks: Threats to the business include volatility in raw material prices, foreign currency fluctuations, and a competitive market place.

Company Overview

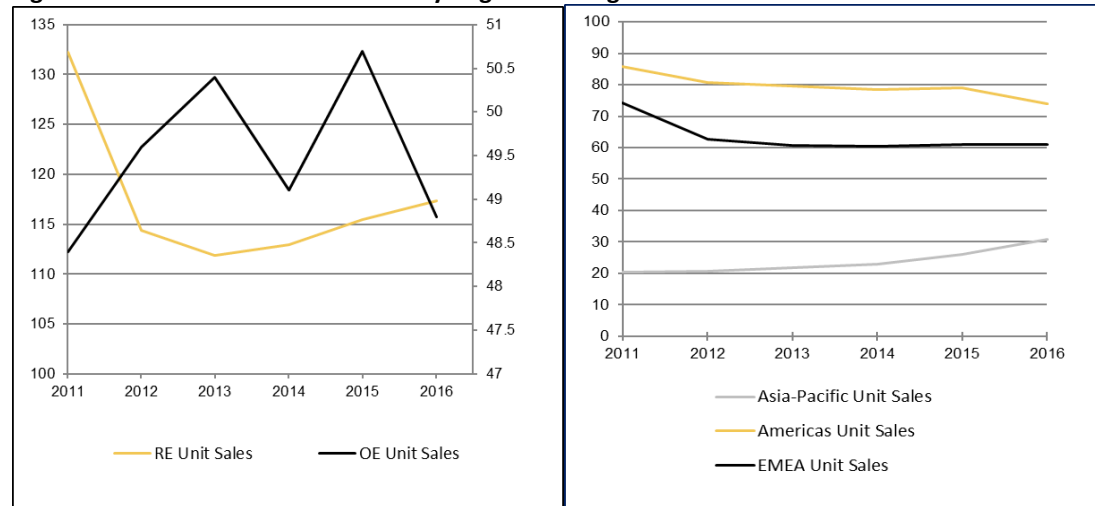
The Goodyear Tire & Rubber Company (GT) was organized in Ohio in 1898. Goodyear is one of the world’s leading manufacturers of tires, engaging in operations in most regions of the world. In 2016, its net sales were \$15.2 billion and Goodyear’s net income was \$1.3 billion. Together with its U.S. and international subsidiaries, the company develops, manufactures, markets, and distributes tires for most applications.

The company also manufactures and markets rubber-related chemicals for various applications. Goodyear is one of the world’s largest operators of commercial truck service and tire retreading centers. In addition, it operates approximately 1,100 tire and auto service center outlets where products are sold and automotive repair and other services are provided. Goodyear manufactures products in 48 manufacturing facilities in 21 countries, including the United States, and has marketing operations in almost every country around the world. Goodyear employs approximately 66,000 full-time and temporary associates worldwide.

(Source: company 10-K)

The company breaks out its unit sales first by segment, and then by region. Goodyear’s operating segments are original equipment and replacement equipment. Unit sales are then broken down based on regions, which include: Asia-Pacific, Americas, and Europe, Middle-East and Africa (EMEA). The America, EMEA, and Asia-Pacific regions have had CAGRs of -2.41%, -3.21%, and 7.08% respectively. Original equipment has been relatively flat over the past 6 years, whereas replacement equipment has had a CAGR of about 2%.

Figures 1 and 2: Historical Unit Sales by Region and Segment in Millions



Source: Company Reports

Business/Industry Drivers

Though several factors may contribute to Goodyear’s future success, the following are the most important business drivers:

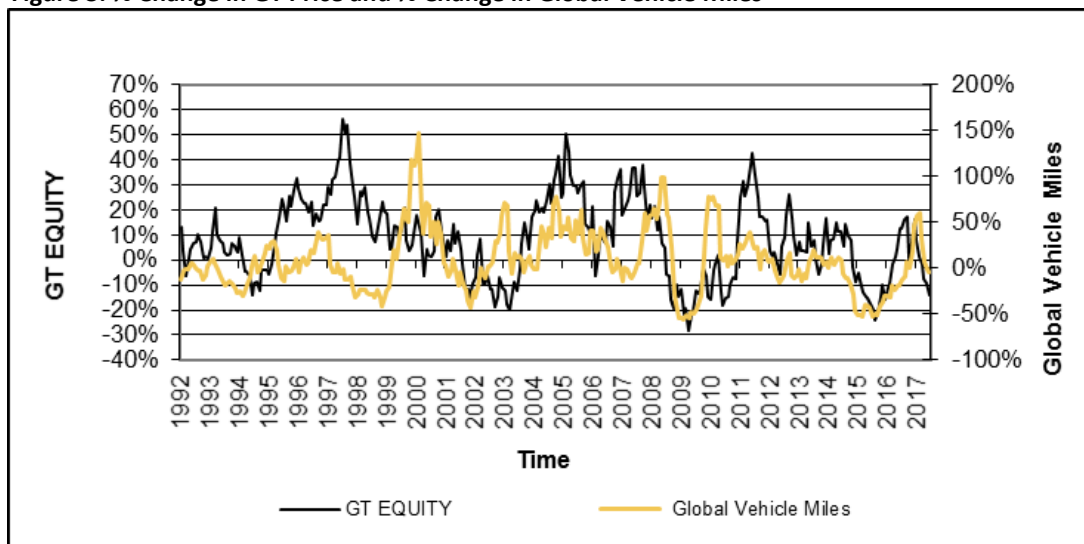
- 1) Move Towards Autonomous Driving and Ride Share Programs
- 2) Growing Segment of Over 17” tires
- 3) Expansion of OE Sales
- 4) Raw Material Prices

Move towards autonomous driving and ride share programs

The move towards autonomous driving and the expansion of ride sharing programs such as Uber and Lyft are leading to an increase in global vehicle miles traveled. Consensus estimates predict that this statistic will double by 2030 to 10 trillion miles and triple by 2040 to 30 trillion miles. Ride sharing increases global miles traveled by offering people who normally use public transportation an alternative way to commute. As global vehicle miles increase, so will demand for tires. There is a positive correlation in the United States between travel on all roads and streets and Goodyear’s stock price (over the last twenty years). In a company presentation, Goodyear estimates that autonomous driving will be a \$7 trillion business by 2050 and that by 2030 25% of global miles traveled will be ride shared.

By 2030, 25% of global miles traveled will be ride shared.

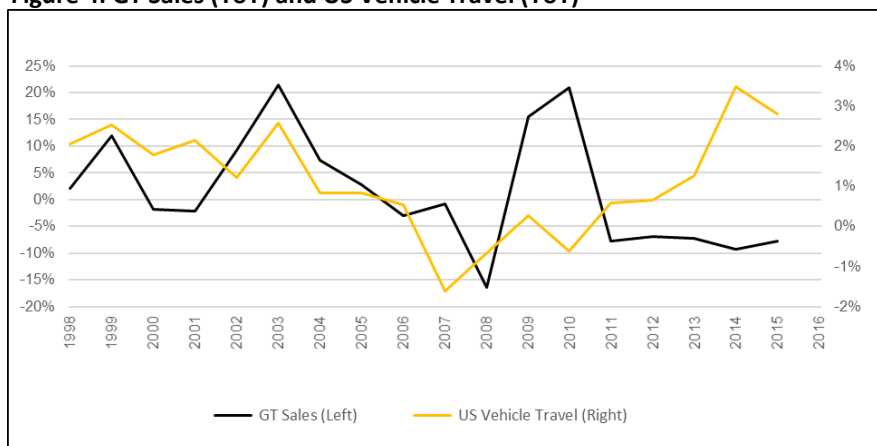
Figure 3: % Change in GT Price and % Change in Global Vehicle Miles



Source: Bloomberg

Goodyear’s operating margin has been steadily improving over the past six years, rising from 5.17% to 11.83%. Likewise, travel on all US roads and streets in terms of vehicle miles has grown at an average rate of 1.36% over the same period. Despite this, Goodyear’s operating income as a portion of travel on US roads has diminished at an average rate of -4.21% over the past six years, implying that the company’s operating income is not growing as quickly as travel on US roads. Consensus expects vehicle miles statistics to double in the next thirteen years. This could be a big driver of GT’s sales, because over the past twenty years, there is a positive correlation between vehicle miles traveled in the U.S. and GT sales. Despite diverging recently (see figure 4), if the trend comes back to what it was in previous business cycles and consensus is correct in predicting 100% miles driven growth in thirteen years, then GT sales should accelerate.

Figure 4: GT Sales (YoY) and US Vehicle Travel (YoY)



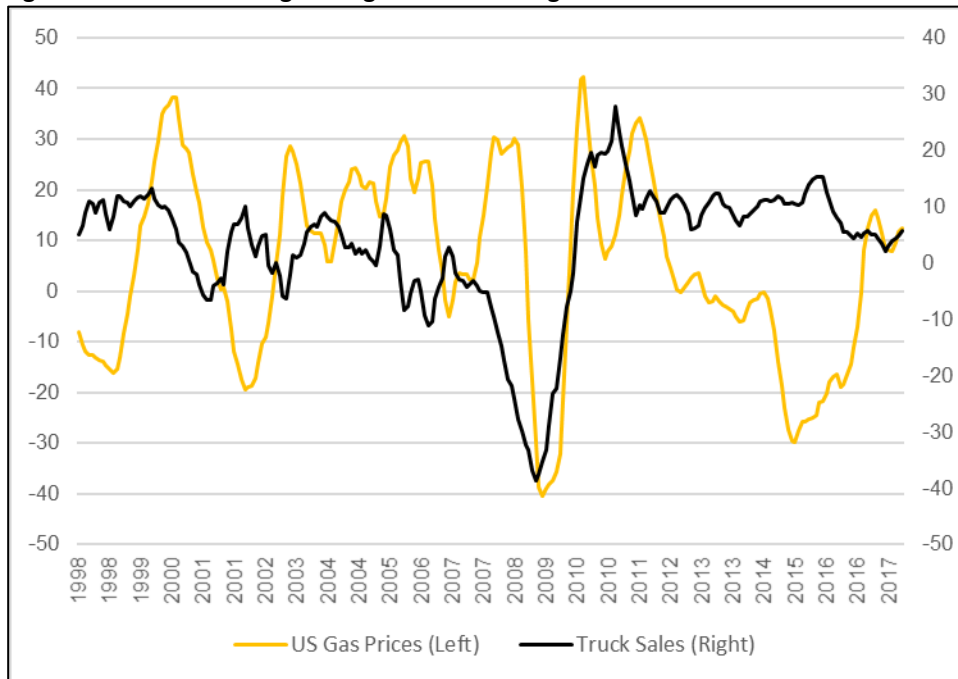
Source: FactSet

Growing segment of over 17” tires

Goodyear generated 12% CAGR in the over 17” tire segment since 2009.

A growing segment of Goodyear’s business is selling tires that are over 17 inches in diameter. Retail prices for tires over 17” range from \$100 for 17” to almost \$300 for 22”. Retail prices for tires under 17” range from about \$60 for 16” to \$30 for 13”. This is a high growth and high margin area compared to smaller sized tires, especially in the Europe, Middle East and Africa (EMEA) segment. Goodyear has had 12% CAGR in this segment between 2009 and 2016 compared to -2% CAGR in tires smaller than 17 inches. Over the past three years, EMEA has accounted for about 37% of Goodyear’s unit sales. In addition, over 17” tires account for 30% of EMEA unit sales. This means that if the 12% CAGR extends into the next year, Goodyear could see a jump of 1.69% or 2.8 million in worldwide unit sales. Also, as demonstrated in figure 5, as gas prices fall, sales of trucks rise which benefits GT.

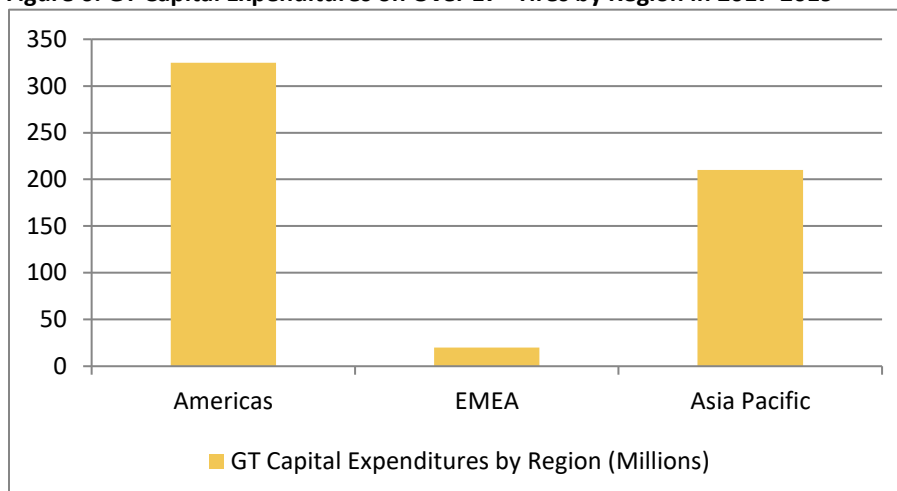
Figure 5: 6-Month Moving Average of Y-Y % Changes of US Gas Prices and US Truck Sales



Source: Factset

Goodyear has spent an average of 967 million on capital expenditures between 2014 and 2016, which is 13.83% of total average net fixed assets over the same period. In the next three years the company plans to allocate \$555 million is to modernize four different facilities to increase capacity for over 17” tires.

Figure 6: GT Capital Expenditures on Over 17” Tires by Region in 2017-2019



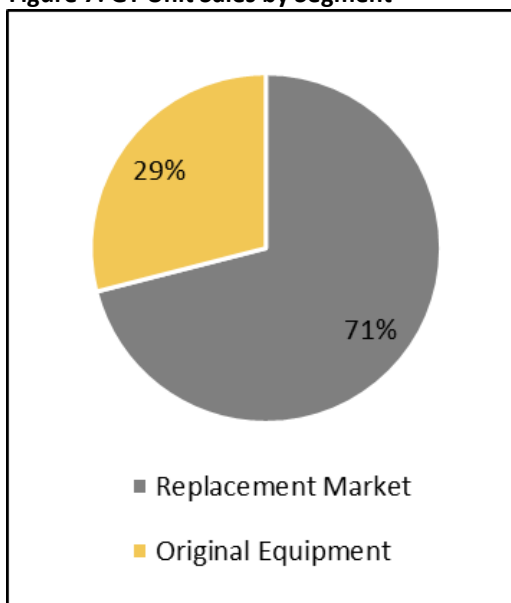
Source: Company Presentation

Expansion of OE Sales

Goodyear operates in two majors segments: replacement tires (RE) and original equipment (OE) tires. Approximately one-quarter (29%) of Goodyear’s tire shipments are original equipment, whereas three-quarter (71%) of its shipments are replacement tires. This ratio of RE to OE shipments has been constant over the past three years. Margins on replacement tires are higher than margins on original equipment. The firm does not provide margins on OE vs RE shipments. Although the Asia-Pacific region, has 40.13% of unit sales as OE equipment, has an operating margin of 17.1%; whereas, the Americas region, which has 25.78% OE shipments, has a 14.1% operating margin.

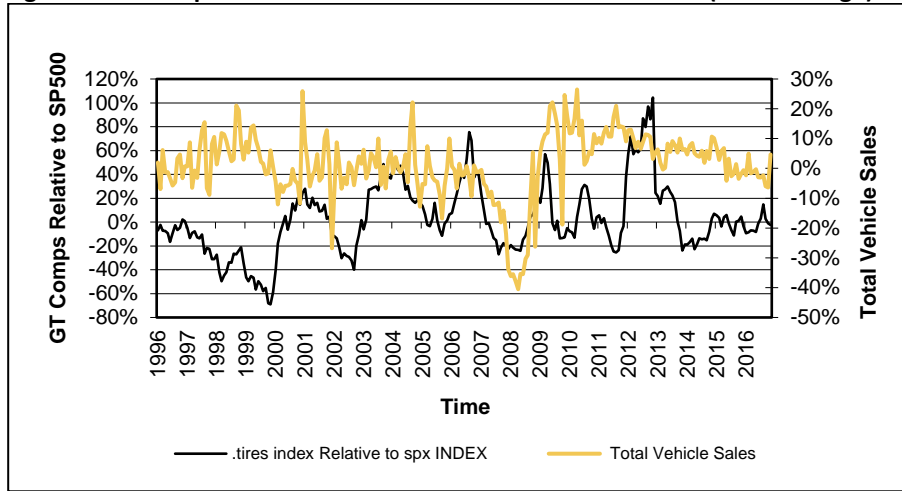
29% of Goodyear’s tire shipments are original equipment, whereas 71% are replacement tires.

Figure 7: GT Unit Sales by Segment



Source: Company Presentation

Figure 8: GT Comps Relative to S&P 500 and Total Vehicle Sales (Y-Y % Change)

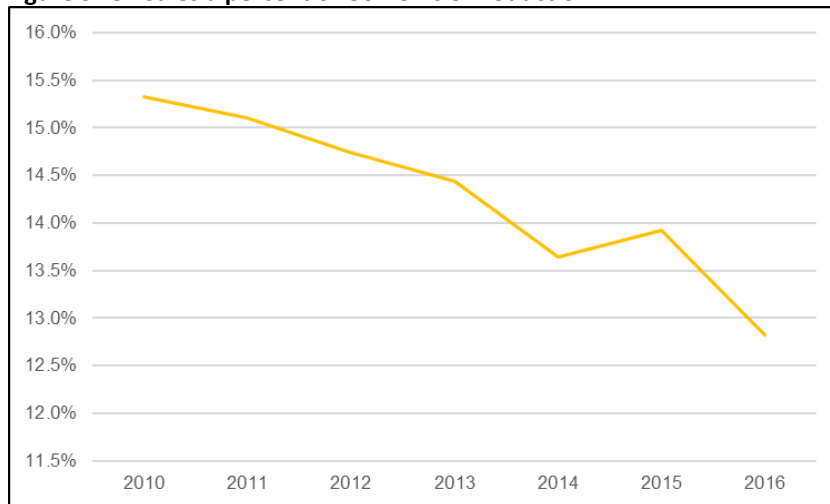


Source: Bloomberg

Goodyear is #1 in brand share on original equipment for Chrysler/Fiat and General Motors.

Goodyear is number one in brand share for OE in the United States and Canada; however, it has been declining which helps explain why sales have not risen during a time of high vehicle sales. As a supplier, it is number one in brand share on original equipment for Chrysler/Fiat and General Motors, and also rank in the top five for Honda, Mercedes-Benz, Ford, Nissan, Tesla, and Toyota (source: moderntiredealer.com). Goodyear has strong brand loyalty but it is declining so it must focus on growing its OE business. This will help drive the replacement segment, because customers who have Goodyear tires on their car originally are more likely to replace them with the higher margin Goodyear tire. Auto sales are at a high, which means future replacement tires will rise along with margins.

Figure 9: GT Sales a percent of US Vehicle Production



Source: Bloomberg

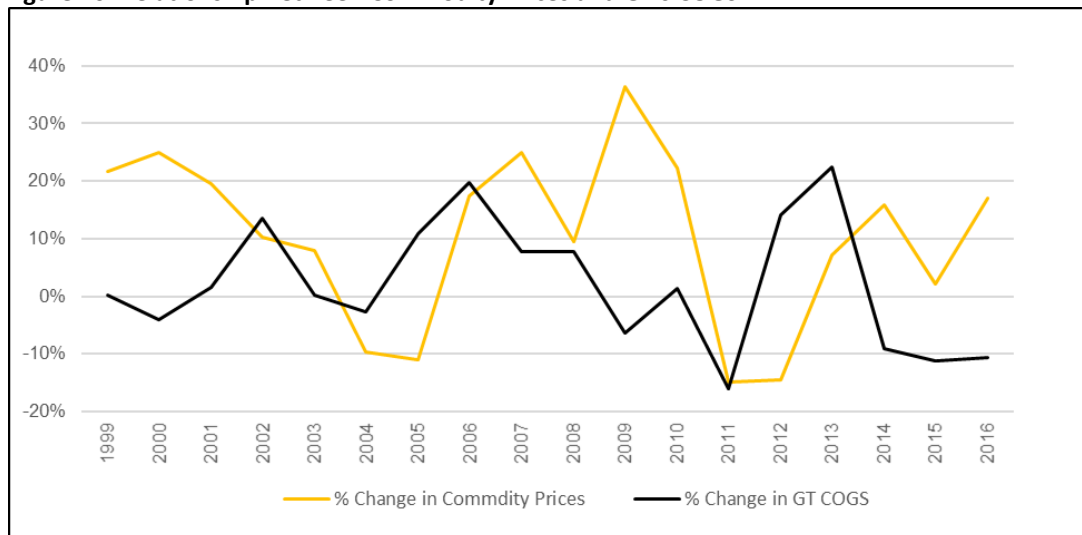
Raw Material Prices

Goodyear indexes some customer contracts to raw material prices to preserve margins.

Raw materials represent a large portion of Goodyear's inputs (40% of COGS). Goodyear in the past has increased and decreased prices in response to changing input costs, to preserve margins, Goodyear had to raise prices twice in 2016 in response to rising raw material prices. These price increases put GT tire prices above the industry average. In the first quarter of 2017, GT's prices have

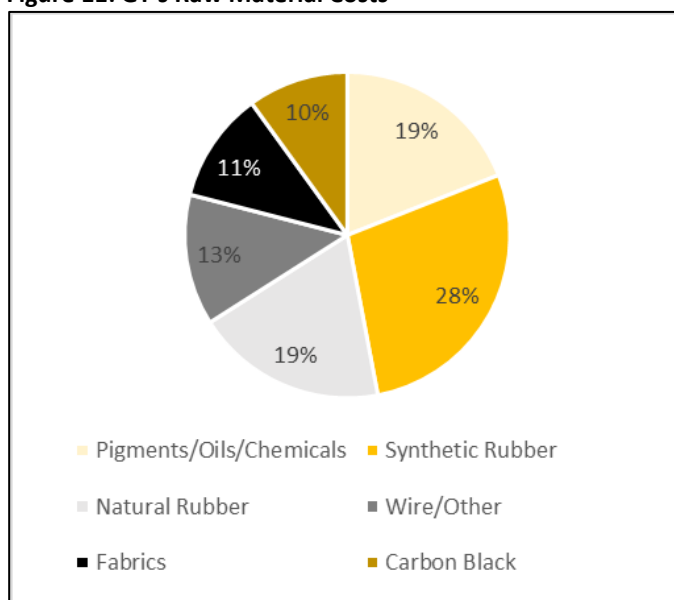
risen approximately 2% compared to their December 2016 prices, whereas the industry has not increased prices since December 2016.

Figure 10: Relationship Between Commodity Prices and GT's COGS



Source: Bloomberg

Figure 11: GT's Raw Material Costs



Source: Company Presentation

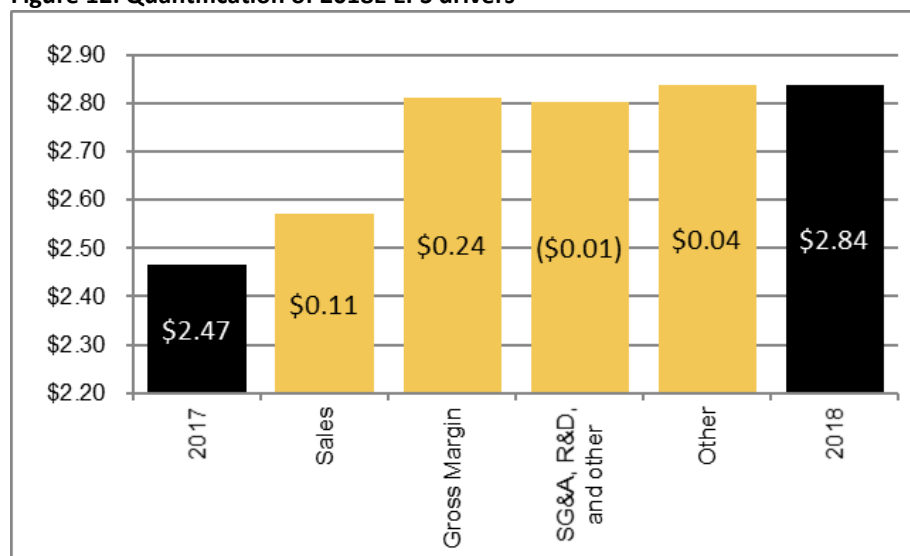
For contracts with customer that are not indexed to raw material prices, every 1% increase in oil prices results in a 0.65% increase in Goodyear's COGS.

Goodyear's raw material costs are in six different categories: synthetic rubber, natural rubber, carbon black, fabrics, pigments/oils/chemicals, and wire/other. Approximately 65% of Goodyear's raw material segments are influenced by oil prices (source: company presentation). This means that for contracts with customers that are not indexed to raw material prices, every 1% increase in oil prices could result in a 0.65% increase in Goodyear's COGS. Goodyear's management anticipates lower raw material costs in future years will allow Goodyear to lower prices and capture more market share while at the same time improving its product mix.

Financial Analysis

I anticipate EPS to grow to \$2.84 in FY 2018. Holding all other factors constant, my projection of 3.0% sales growth contributes \$0.11 to 2018 EPS. Now holding all other factors constant besides sales, growth in gross margin due to exposure in over 17" tires is projected to add \$0.24 to EPS in 2018. Next, SG&A, R&D, and other costs are projected to stay the same as a percent of sales so its impact on EPS is negligible. Since sales are projected to grow 3%, these costs grow by 3% as well and subtract \$0.01 from 2018 EPS. Lastly, I project GT to have excess cash in FY 2018. This cash is used to buy back \$200 million in shares and pay down \$200 million in debt. Reduced share count and reduced interest payment contributes \$0.04 to FY 2018 EPS.

Figure 12: Quantification of 2018E EPS drivers

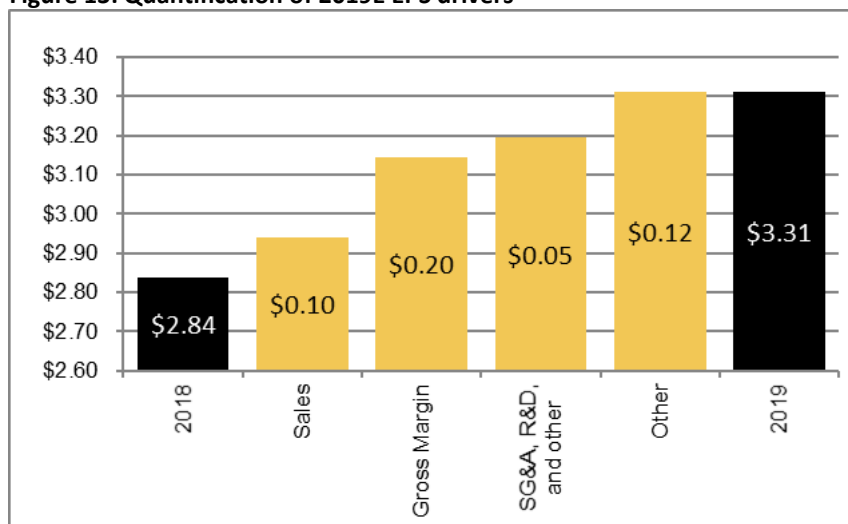


Source: IMCP

My 2018 EPS estimate of \$2.84 is less than consensus estimates of \$3.73. Since my sales growth is high than consensus, the discrepancies are below the top line. I am predicting growth in margins from 23.7% to 24.2%, FactSet consensus estimates are that gross margin will be 26.2% in 2018. A 26.2% gross margin would contribute \$1.21 to 2018 EPS, making my 2018 EPS \$3.84.

I anticipate earnings to grow from \$2.84 in 2018 to \$3.31 in FY 2019. Sales growth continues to be positive in 2019, but the rate slows to 2.5%. The increase in sales contributes \$0.10 to 2019 EPS. Gross margins expand once again, from 24.2% to 24.6%; this contributes \$0.20 to 2019 EPS. In 2019, I predict that SG&A, R&D, and other costs increase, but not as fast as sales. The slowing in these costs is due to operating efficiency of new facilities GT plans to put in place in 2017 and 2018 to capitalize on the growing over 17" tire segment. This contributes \$0.05 to 2019 EPS. Lastly, I project that GT will have excess cash again in 2019, resulting in \$175 million in share buy backs. This decreases the share count from 239.3 million shares to 233.5 million shares, implying a buyback price of \$30. In addition to the buy back, I also anticipate that GT will use the excess cash to pay down debt by \$175 million; the lower interest expense results in higher earnings. The lower share count and decreased interest adds \$0.12 to EPS.

Figure 13: Quantification of 2019E EPS drivers



Source: IMCP

\$3.31 is a pessimistic assessment compared to consensus. According to FactSet, consensus estimates for 2019 EPS is \$4.33. To reach \$4.33 EPS in 2019, gross margin would need to be 29.4% and share buybacks in 2019 would need to be \$375 million each year, along with paying down debt by \$375 million. Another factor that could be causing the discrepancy between consensus’s estimate and mine is the estimated price that the shares are bought back. I assume a \$30 per share buyback price, but if consensus estimates a lower price, that would lead to more shares being bought back, and reduce the denominator in the EPS calculation. In 2018 and 2019, I allocate \$200 million and \$175 million to pay down debt, which has a reduced effect on earnings because of taxes. If that excess cash was allocated only to share buybacks, my EPS estimates for 2018 and 2019 would be \$2.90 and \$3.38 respectively.

Figure 14: Sales and EPS Estimates Versus Consensus

Year	2017E	2018E	2019E
Sales - Estimate	\$15,071	\$15,522	\$15,913
YoY Growth	-0.6%	3.0%	2.5%
Sales - Consensus	\$15,231	\$15,499	\$15,736
YoY Growth	0.5%	1.8%	1.5%
EPS-Estimate	\$2.47	\$2.84	\$3.31
YoY Growth	-51.6%	15.1%	16.7%
EPS- Consensus	\$2.34	\$3.73	\$4.33
YoY Growth	-54.1%	59.4%	16.1%

Source: FactSet, IMCP

In order to meet consensus EPS estimates, GT gross margins would need to be 26.2% and 27.6% in 2018 and 2019 respectively.

Revenues

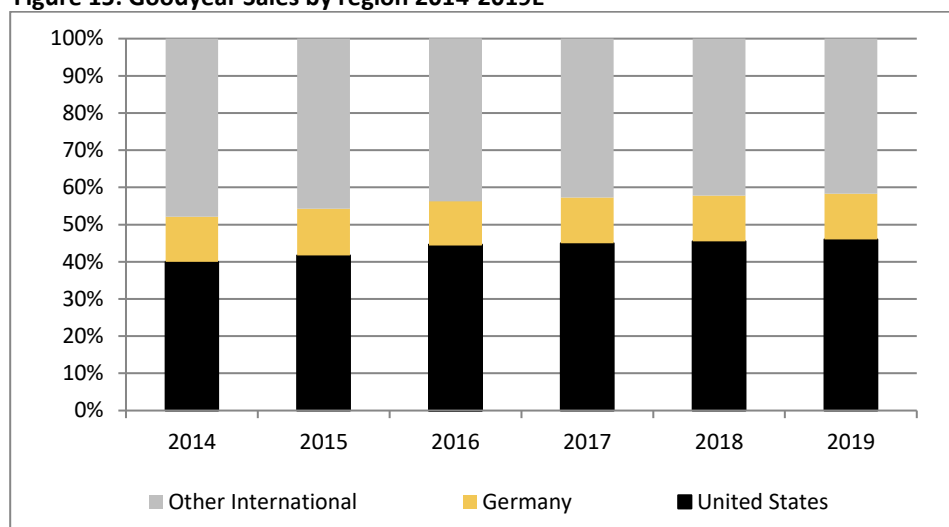
Goodyear’s sales have been declining with a -6.15% CAGR over the past 4 years. I anticipate that rate to slow in 2017, and that sales growth will be positive in 2018 and 2019. Sales were forecasted in part by relating GT’s sales to industrial production. Over the past twenty years (two business cycles), on average, GT sales increased by a factor of 1.2x to the yearly change in industrial production. The relationship yields a standard deviation of 4.53 and a coefficient of variation of 3.78 (4.53/1.2). Industrial production was chosen because its relationship with GT sales had the lowest coefficient of

variation compared to other economic indicators. Other economic indicators considered were: real GDP, nominal GDP, consumer confidence, and money supply.

I anticipate that total sales will be \$15.07 billion in 2017, \$15.52 billion in 2018, and \$15.91 billion in 2019. These estimates are slightly more optimistic than consensus, which are \$15.23 billion, \$15.50 billion, and \$15.74 billion in 2017, 2018, and 2019, respectively.

Goodyear generates its revenue from three predominant regions: United States, Germany and other international. Germany as a percent of sales has been holding steady at around 12%. The United States segment has been increasing since 2014, while other international revenue has been declining both on an absolute scale and as a percent of total sales.

Figure 15: Goodyear Sales by region 2014-2019E



Source: Company Reports, IMCP

Growth in United States' sales is making up for lack of growth in other international sales.

I anticipate that sales growth in the United States segment will continue as vehicle production in the United States remains at an above average level. The other international segment should continue its decline as competition in the Pacific region undercuts GT's pricing. As discussed earlier in the drivers section, new opportunities in the OE segment in the EMEA region should help to stabilize and slightly increase German sales as a portion of total revenue.

Return on Equity

Goodyear's ROE has varied greatly over the past three years. A negative tax rate in 2014 and 2016 generated an unusually high ROE. I expect ROE to stabilize and steadily climb over the next three years. The first factor contributing to ROE growth is EBIT margin. With gross margin increasing and other operating expenses holding at a constant percent of sales, the EBIT margin is expanding at about the same pace as the gross margin. GT's asset turnover has been decreasing over the past three years. I anticipate this decline to continue but level off in 2018 and 2019. GT has been trying to expand its presence in the OE market, which is more capital intensive, explaining the decrease in asset turnover. Decreased asset turnover is a detriment to ROE. However, the OE segment is a higher margin segment. GT might generate fewer sales per dollar of assets in the OE market, but the margin on those sales is higher. The effect of margins is greater than that of the sales, therefore this increases GT's bottom line and explains the increase in ROA for 2017-2019.

Figure 16: ROE Breakdown, 2014 – 2019E

5 - Stage DuPont ROE	2014	2015	2016	2017E	2018E	2019E
EBIT / sales	6.24%	6.36%	10.42%	7.53%	8.00%	8.50%
Sales / avg assets	1.018	0.953	0.921	0.877	0.862	0.866
EBT / EBIT	60.74%	58.13%	76.44%	69.45%	71.04%	74.24%
Net income / EBT	366.96%	61.84%	106.38%	76.99%	76.99%	76.99%
ROA	14.15%	2.18%	7.80%	3.53%	3.77%	4.21%
Avg assets / avg equity	6.238	4.320	3.711	3.490	3.403	3.233
ROE	88.25%	9.42%	28.96%	12.32%	12.84%	13.60%

Source: Company Reports, IMCP

Expansion into the OE market will decrease GT's asset turnover but increase its return on assets.

Several factors affect the assets to equity ratio. The first is the growth of assets compared to equity. I expect equity, on average, to grow at a 7.8% pace over the next three years, whereas I anticipate assets growing at an average rate of 4.1%. So the A/E ratio will continue its historic trend lower. While equity is being reduced through share buybacks, I also expect the firm to pay down debt. The effect of the buybacks over rides the effect of the debt repayment, lowering overall equity, but I also anticipate GT to retain some of its earnings, which explains the overall increase in equity. Taking all of these factors into account, I expect ROE to be 12.32%, 12.84%, and 13.60% in 2017, 2018, and 2019, respectively.

Free Cash Flow

Figure 17: Free Cash Flows 2014 – 2019E

Free Cash Flow						
Year	2014	2015	2016	2017E	2018E	2019E
NOPAT	\$4,150	\$647	\$1,680	\$873	\$956	\$1,041
Growth		-84.4%	159.7%	-48.0%	9.5%	8.9%
Subtract: Change in NWC**	295	(676)	122	1,186	(7)	(39)
Subtract: Change in NFA	(167)	(376)	263	291	204	190
FCFF	\$4,022	\$1,699	\$1,295	-\$604	\$759	\$890
Subtract: After Tax Interest**	1,629.29	270.87	395.73	266.83	276.86	268.23
FCFE	\$2,393	\$1,428	\$899	-\$870	\$482	\$622
Growth		-40.3%	-37.0%	-196.8%	155.4%	28.9%
FCFE per share	\$8.93	\$5.35	\$3.57	-\$3.54	\$2.02	\$2.66
Growth		-40.1%	-33.3%	-199.2%	157.0%	32.1%

Source: Company Reports, IMCP

This model of FCF does not include cash into operating assets, nor does it include changes in debt. A build-up of cash is a sign of excess FCF, and if included, the build-up of cash would subtract from FCF. This model does not include debt because it is a use of FCF. For example, if a company were to use FCF to pay down debt, next year's debt would be lower, and therefore take away from calculated FCF.

GT's free cash flow has been declining steadily the past three years. The decrease in 2015 was due entirely to reduced NOPAT as the company shrunk both its NWC and NFA. Despite increased NOPAT in 2016, the company expanded its NFA and NWC even faster and contributing FCF declined from 2015 to 2016. I anticipate NOPAT to fall and NWC to expand significantly in 2017E, causing FCF and FCFE to decline sharply in 2017. The increase in NWC is due almost entirely to an increase in accounts receivable. When comparing the company's balance sheet at February 8, 2017 and October 27, 2017, total operating assets excluding cash increased by \$1.2 billion. About \$900 million of \$1.2 billion increase is explained by an increase in accounts receivable. In 2018, FCFE is expected to be positive. In 2018, NWC stabilizes after the increase in 2017 and NFA grows at the rate of sales. Expanding margins contributes to the growth in NOPAT, interest holds steady, and FCFE per share grows quicker than FCFE because of share buybacks. In 2019, NFA increases slightly and NWC contracts slightly from its elevated level as sales increase modestly. Debt repayment in 2018 leads to lower interest payments in 2019, increasing FCFE, which I estimate to grow by 32.1% in 2019.

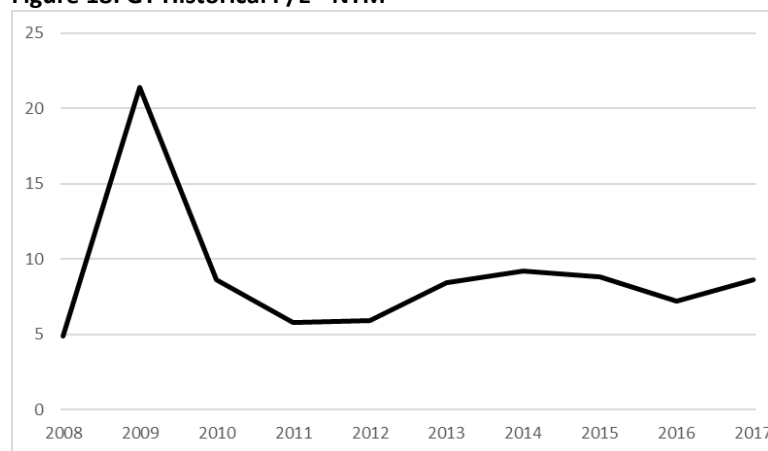
Valuation

GT was valued using multiples and a 3-stage discounting cash flow model. Based on earnings multiples, the stock is expensive and is worth \$25.67. Relative valuation shows GT to be slightly overvalued based on its fundamentals versus those of its peers in the tire industry. A Detailed DCF analysis values GT higher, at \$32.64; I give this value a bit more weight because it incorporates details that reflect GT's future capital assumptions. As a result of these valuations, I value the stock at \$30.00.

Trading History

GT is currently trading around its 10-year average of absolute NTM P/E. At the end of 2017, the company's NTM P/E was 8.67. This is slightly below the 10-year average of 8.90 but above the 10-year median of 8.56.

Figure 18: GT Historical P/E - NTM



Source: FactSet

GT's average NTM P/E throughout the last business cycle was 8.9.

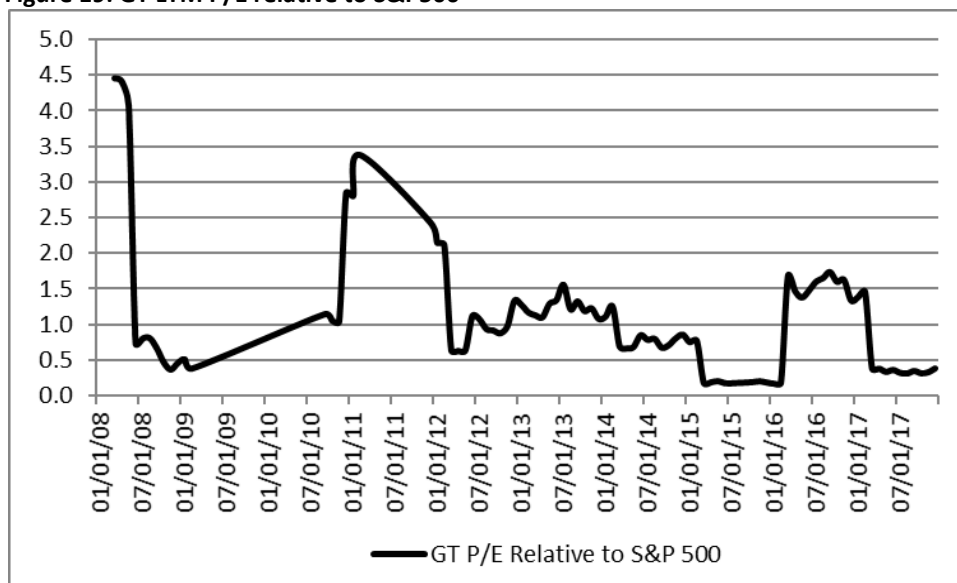
Assuming the firm maintains an 8.67 NTM P/E at the end of 2018, it should trade at \$24.63.

- Price = P/E x Forecasted EPS = 8.67 x \$3.31 = \$28.70

Discounting \$28.70 back to today at a 11.8% cost of equity (explained in Discounted Cash Flow section) yields a price of \$25.67. Given GT's potential for margin expansion and share buybacks, this seems to be a low valuation. However, this makes sense because I am more bearish about near-term earnings than consensus.

Currently, GT's LTM P/E relative to the market is 0.38. Historically, it has traded at an average of 0.91 and a median 0.86. I expect the company to perform better in 2017 than it has the past few years, therefore, I expect Goodyear's relative P/E to increase to 0.6. Using a relative P/E of 0.6 and a LTM Market P/E of 21.9, I can imply that GT should be trading at a P/E of 13.1. With a 13.1 P/E, and my forecasted FY 17 EPS of \$2.47, the target price for Goodyear at the end of 2017 is \$32.36.

Figure 19: GT LTM P/E relative to S&P500



Source: Factset

Relative Valuation

Goodyear is currently trading at a discount compared to its peers, with a P/E TTM of 9.1 compared to an average of 12.8. GT's P/B and P/S are also below the industry average, especially in P/S where GT has the industry low of 0.57. The company's low P/S makes sense because of its low profit margin

Figure 20: GT Competitors

Ticker	Name	Current Price	Market Value	Price Change					Earnings Growth					LT Debt/Equity	S&P Rating	LTM Dividend				
				1 day	1 Mo	3 Mo	6 Mo	52 Wk YTD	LTG	NTM	2016	2017	2018			2019	Pst 5yr	Beta	Yield	Payout
GT	GOODYEAR TIRE & RUBBER CO	\$29.58	\$7,109	0.8	(12.8)	0.7	(2.2)	(17.3)	(8.4)	176.5%	-87.2%	299.1%	-47.7%	60.3%	1.42	110.3%	B	1.38%	32.1%	
CTB	COOPER TIRE & RUBBER CO	\$35.85	\$1,838	0.6	(10.0)	4.1	4.5	(5.5)	1.4	12.7	-13.8%	7.9%	22.2%	-28.8%	9.0%	0.25	25.2%	B+	1.07%	10.9%
5108-JP	BRIDGESTONE CORP	\$44.92	\$31,727	(0.7)	(9.7)	(2.9)	0.2	12.4	(8.4)	9.6	4.2%	-5.6%	-0.3%	11.0%	8.4%	20.8%	0.84	12.8%	2.64%	38.7%
CON-DE	CONTINENTAL AG	\$283.12	\$56,625	2.1	(6.5)	4.9	20.2	18.5	1.4	9.9	12.3%	3.1%	-0.5%	23.8%	11.2%	17.7%	1.09	13.2%	1.76%	
ML-FR	MICHELIN (CGDE)	\$154.15	\$27,673	1.3	(3.6)	4.7	6.1	17.5	3.9	9.9	4.3%	35.3%	14.7%	12.0%	12.0%		0.81		2.52%	
161390-KR	HANKOOK TIRE CO	\$50.50	\$6,255	0.0	1.5	0.4	(12.5)	(9.8)	(0.4)	10.0	3.3%	-12.3%	36.1%	-14.8%	20.7%	19.7%	0.38	12.2%	0.75%	6.9%
Average			\$21,871	0.7	(6.9)	2.0	2.7	2.6	(1.7)	10.8	36.5%	-15.0%	65.3%	-7.0%	20.3%	19.4%	0.80	34.7%	1.69%	22.1%
Median			\$17,391	0.7	(8.1)	2.4	2.4	3.4	0.5	10.0	4.2%	-1.3%	28.8%	-1.9%	11.6%	19.7%	0.82	13.2%	1.57%	21.5%
SPX	S&P 500 INDEX	\$2,699		1.3	(3.1)	4.6	9.4	15.4	0.9			0.0%	0.5%	10.2%	11.0%					
Ticker	Website	2017		P/E						2017			EV/EBIT	P/CF	P/CF	Sales Growth			Book Equity	
		ROE	P/B	2015	2016	2017	TTM	NTM	2018	2019	NPM	P/S				OM	ROIC	NTM		STM
GT	http://www.goodyear.com	22.6%	1.49	3.3	29.2	6.9	21.6	7.8	12.6	7.9	7.1%	0.47	3.6%	9.4	5.2	3.8%	4.0%		\$19.82	
CTB	http://www.coopertire.com	19.8%	1.57	10.1	10.3	8.6	9.3	10.7	11.2	10.2	7.9%	0.63	12.3%	18.8%	4.4	0.5%	1.2%		\$22.78	
5108-JP	http://www.bridgestone.co.jp	10.9%	1.62	10.9	11.5	12.0	13.7	13.2	13.4	12.4	7.2%	1.07	11.8%	10.7%	6.8	7.4	6.2	2.0%	\$27.72	
CON-DE	http://www.conti-online.com	15.5%	2.98	14.8	16.5	13.1	17.1	15.2	15.5	13.9	6.9%	1.33	10.9%	17.0%	9.6	8.4	7.8	5.9%	\$95.00	
ML-FR	http://www.michelin.com	12.9%	2.10	13.6	13.7	11.8	14.3	14.2	12.7	12.7	7.7%	1.25	13.0%	8.2	8.1				\$73.33	
161390-KR	http://kr.hankooktire.com	12.6%	1.03	9.3	8.9	7.8	10.0	9.6	9.7	8.0	13.2%	1.08	13.2%	13.0%	8.1	5.2	5.9	13.0%	\$48.85	
Average		15.7%	1.80	10.3	15.0	10.1	14.3	11.8	12.8	10.9	8.3%	0.97	12.1%	12.7%	7.7	6.5	6.6	5.8%	2.8%	
Median		14.2%	1.60	10.5	12.6	10.2	13.7	12.0	13.0	11.3	7.4%	1.08	12.1%	13.0%	8.1	6.3	6.2	3.8%	2.0%	
spx	S&P 500 INDEX			17.3	17.2	18.7			20.5	18.5										

Source: Factset

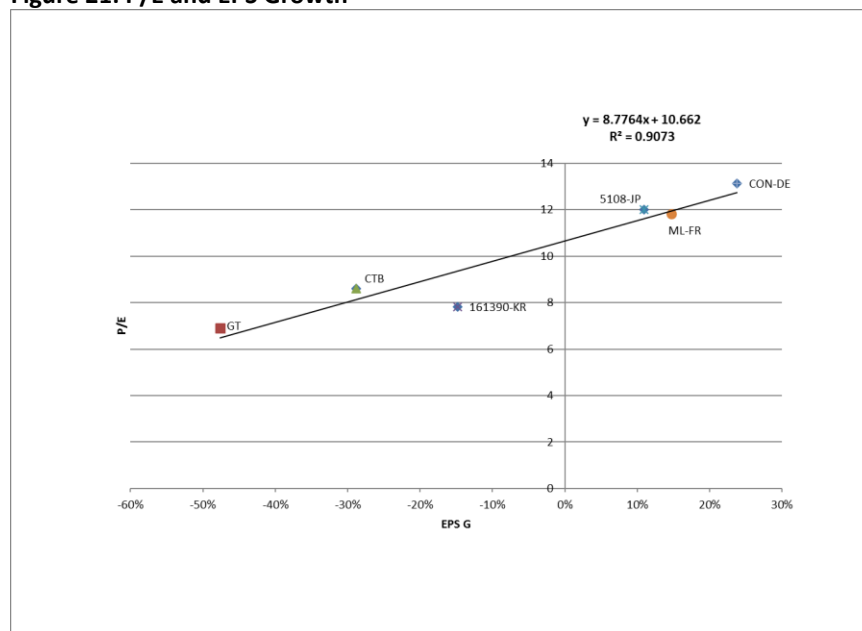
compared to its peers. Goodyear trades at a discount despite having the best 5-yr earnings growth of its competitors, as well as the highest ROE in 2016.

A more thorough analysis of P/E and EPS growth is shown in figure 21. The calculated R-squared of the regression indicates that over 90% of a sampled firm's P/E is explained by its EPS growth. GT has the lowest P/E and EPS of this grouping and according to this measure is slightly overvalued.

- Estimated P/E = Estimated 2017 EPS Growth (-48%) x 8.7764 + 10.662 = 6.5

Using this estimated P/E and GT's EPS, a target price of \$33.03 is calculated.

Figure 21: P/E and EPS Growth



Source: Factset, IMCP

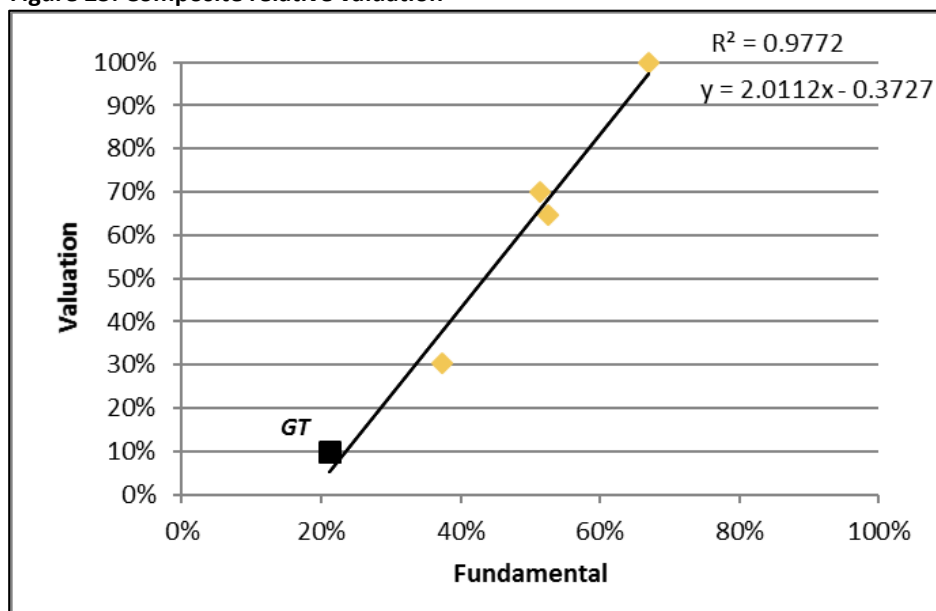
For a final comparison, I created a composite ranking of several valuation and fundamental metrics. Since the variables have different scales, each was converted to a percentile before calculating the composite score. Fundamental weightings of 40% for 2017 EPS growth, and equal 20% weightings for financial leverage, NPM, and ROE was compared to valuation weightings of 50% NTM P/E and equal 25% weightings for P/B and P/S. After eliminating Hankook, an extreme outlier, the regression line had an R-squared of .9772. One can see that GT is above the line, so it is expensive based on its fundamentals.

Figure 22: Composite valuation, % of range

Ticker	Name	Fundamental Metrics				Valuation Metrics			
		Weights	40.0%	20.0%	20.0%	20.0%	50.0%	25.0%	25.0%
			EPS Growth	1/(LTD/Equity)	ROE	NPM	NTM	P/B	P/S
GT	GOODYEAR TIRE & RUBBER CO		0%	0%	100%	3%	0%	24%	0%
CTB	COOPER TIRE & RUBBER CO		26%	42%	76%	16%	40%	28%	19%
5108-JP	BRIDGESTONE CORP		82%	95%	0%	4%	72%	30%	70%
CON-DE	CONTINENTAL AG		100%	91%	40%	0%	100%	100%	100%
ML-FR	MICHELIN (CGDE)		87%	50%	17%	12%	87%	55%	91%

Source: IMCP

Figure 23: Composite relative valuation



Source: IMCP

Discounted Cash Flow Analysis

A three stage discounted cash flow model was also used to value GT.

For the purpose of this analysis, the company's cost of equity was calculated to be 11.8% using the Capital Asset Pricing Model. The underlying assumptions used in calculating this rate are as follows:

- The risk-free rate, as represented by the ten year Treasury bond yield, is 2.65%.
- A beta was of 1.25 was utilized since GT has a 5-yr beta of 1.33, and the industry average 5-yr beta is 0.98.
- A long-term market rate of return of 10% was assumed, since historically, the market has generated an annual return of about 10%.

Given the above assumptions, the cost of equity is 11.8% ($2.65 + 1.25 (10.0 - 2.65)$).

Stage One - The model's first stage simply discounts fiscal years 2018 and 2019 free cash flow to equity (FCFE). These per share cash flows are forecasted to be \$2.02 and \$2.66, respectively. Discounting these cash flows, using the cost of equity calculated above, results in a value of \$3.93 per share. Thus, stage one of this discounted cash flow analysis contributes \$3.93 to value.

Stage Two - Stage two of the model focuses on fiscal years 2020 to 2024. During this period, FCFE is calculated based on revenue growth, NOPAT margin and capital growth assumptions. The resulting cash flows are then discounted using the company's 11.8% cost of equity. I assume 2.0% sales growth in 2020, falling to 1% through 2024. The ratio of sales to NWC will elevate to 35 in 2020 and steadily decrease to 20 by 2024. NFA turnover will fall from 1.9 in 2020 to 1.8 in 2024 as a result of increased investment in production facilitates with limited sales growth. Also, the NOPAT margin is expected to hold constant at 6.5% from 2020 to 2024. Finally, after-tax interest is expected to rise at 2.0% per year as the result of modest increases in borrowing.

Figure 24: FCFE and discounted FCFE, 2018 – 2024

Year	2018	2019	2020	2021	2022	2023	2024
FCFE	\$2.02	\$2.66	\$4.94	\$1.59	\$1.50	\$2.40	\$3.28
Discounted FCFE	\$1.80	\$2.13	\$3.53	\$1.02	\$0.86	\$1.23	\$1.50

Added together, the discounted cash flows from 2020-2024 total \$10.26.

Stage Three – Net income for the years 2020-2024 is calculated based upon the same margin and growth assumptions used to determine FCFE in stage two. EPS is expected to grow from \$1.80 in 2018 to \$3.75 in 2024.

Figure 25: EPS estimates for 2018 – 2024

Year	2018	2019	2020	2021	2022	2023	2024
EPS	\$2.84	\$3.31	\$3.54	\$3.66	\$3.70	\$3.73	\$3.75

Stage three of the model requires an assumption regarding the company's terminal price-to-earnings ratio. For the purpose of this analysis, it is generally assumed that Goodyear is a mature company and has a lot of risk due to its cyclicality. Its P/E ratio will trade below the historical average of the S&P 500 and its comparable companies. Therefore, a P/E ratio of 12 is assumed at the end of GT's terminal year. This P/E was derived from a combination historical average of the company's P/E since 2005, which is 17.42 and the average of GT's comparables over the last two business cycle, which is 15.66. Since the company is in the mature phase of the business cycle and is declining, it will trade at a discount compared to its historical average.

Given the assumed terminal earnings per share of \$3.75 and a price to earnings ratio of 12, a terminal value of \$45.03 per share is calculated. Using the 11.8% cost of equity, this number is discounted back to a present value of \$20.58.

Total Present Value – Given the above assumptions and utilizing a three stage discounted cash flow model, an intrinsic value of \$32.64 is calculated (3.93 + 8.13 + 20.58). Given GT's current price of \$29.96, this model indicates that the stock is slightly undervalued.

Scenario Analysis

Goodyear is difficult to value with certainty because it is nearly impossible to predict with all facets of the company's business. Furthermore, it is extremely difficult to predict economics factors six years out, many of which have a high correlation with Goodyear's stock.

Bull Case – In this scenario, I assume stronger sales growth and more aggressive gross margin expansion. Global economic growth could lead to GT's international segments to grow more than they have historically. In this bull case, I assume accelerating sales growth from 2% in 2020 to 5% in 2024. Holding everything else constant and using the same method above, GT's value becomes \$33.59 per share. Next, instead of holding NOPAT margin constant, I assume that the company's penetration into higher segment margins happens more aggressively. This causes their NOPAT margin to increase from 6.5% to 7.5% by 2024. GT's value is sensitive to NOPAT margin, as its value per share with more aggressive sales growth and margin expansion becomes \$39.45.

Bear Case – In this scenario, I assume a slight economic downturn and therefore, negative top line growth. In addition, Goodyear plans to add to NFA by investing in their production facilities. So, with negative sales growth and increased NFA, NFA turnover decreases in this scenario. If sales growth is flat in 2020 and falls to -3% by 2024 then GT's value per share becomes \$32.27. In the base case, NFA goes from 1.9 in 2020 to 1.8 in 2024. In this bear case, I assume it falls from 1.9 in 2020 to 1.5 in 2024. This decreased NFA turnover, combined with the decreased sales, gives the company a value of \$28.42.

The stock is currently trading around \$30. This means that the market is pricing in expectations that are close to my assumptions. My assumptions for sales growth and margin expansion are modest at best, so the market could be more bearish on NFA turnover, as well as the P/E GT will trade at in 2024. Keeping all other factors constant, if NFA turnover decreases to 1.6 by 2024, the value per share today becomes \$30. Again, holding all other factors constant, if the terminal P/E for GT happens to be between 10 and 11 instead of 12, the value per share today also becomes \$30.

Business Risks

Exposure to currency fluctuations:

Goodyear does business in all parts of the world. After coming off a year where the dollar weakened, a stronger dollar could cause some of GT's overseas sales to be lost in conversion.

Competitive marketplace:

Bridgestone and Michelin are Goodyear's biggest competitors. They are located in Japan and France, respectively, and have large market shares in their home countries. Many other global competitors do business in low cost countries, and therefore undercut GT's ability to expand global market share.

Raw Material Price Volatility:

Goodyear's COGS and raw material prices are highly correlated and raw material prices are historically volatile. If raw material prices go up, some contractual obligations would keep GT from passing this cost along to consumers, hurting margins. If raw material prices go down, it allows competitors to reduce their selling prices, forcing Goodyear to reduce their prices and again, lower margins. (Source: company 10-k)

Appendix 1: Porter's 5 ForcesThreat of New Entrants – Low

There are barriers to entry to be competitive in the global tire market. The industry is comprised of mature, reputable companies. Success in the industry also requires high capital expenditures.

Threat of Substitutes – High

Currently, Goodyear is able to extract a premium price for its products due to strong brand share. The threat of cheaper substitutes in the Asia-Pacific region is gaining traction.

Supplier Power – Low

Many companies can provide the necessary raw materials to produce tires with little costs associated with switching suppliers.

Buyer Power – Medium

At the consumer level, buying power is low. There are not any costs to switch brands in the RE market, but most consumers are inclined to purchase the same tires that came with their cars originally. Buying power is high when trying to sell tires to car manufacturers, especially on the international scale when Goodyear has to compete with international manufacturers.

Intensity of Competition – High

Goodyear is toward the top of the global tire market in terms of market share. There are many other competitors with recognizable names in the industry including: Continental, Bridgestone, Michelin, Cooper, Hankook, and Yokohama.

Appendix 2: SWOT Analysis

Strengths	Weaknesses
Consumers are willing to pay a premium for their brand Strong brand share	Company is highly cyclical Exposed to fluctuations in raw material costs
Opportunities	Threats
Expansion in over 17" market Potential for growth in OE market	Entry of lower cost competitors Susceptible to economic downturns

Appendix 3: Sales Forecasts

Sales							
Items	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19
Sales	19,540	18,138	16,443	15,158	15,071	15,523	15,911
Growth		-7.2%	-9.3%	-7.8%	-0.6%	3.0%	2.5%
% of sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
United States	7,820	7,558	7,338	6,724	6,782	7,063	7,319
Growth		-3.4%	-2.9%	-8.4%	0.9%	4.1%	3.6%
% of sales	40.0%	41.7%	44.6%	44.4%	45.0%	45.5%	46.0%
Germany	2,372	2,288	1,905	1,853	1,854	1,909	1,957
Growth		-3.5%	-16.7%	-2.7%	0.0%	3.0%	2.5%
% of sales	12.1%	12.6%	11.6%	12.2%	12.3%	12.3%	12.3%
Other International	9,348	8,292	7,200	6,581	6,435	6,551	6,635
Growth		-11.3%	-13.2%	-8.6%	-2.2%	1.8%	1.3%
% of sales	47.8%	45.7%	43.8%	43.4%	42.7%	42.2%	41.7%

Appendix 4: Income Statement

Income Statement	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	
Sales	\$19,540	\$18,138	\$16,443	\$15,158	\$15,071	\$15,523	\$
Direct costs	15,422	13,906	12,164	10,972	11,498	11,766	
Gross Margin	4,118	4,232	4,279	4,186	3,572	3,756	
SG&A, R&D, and other	2,913	3,101	3,233	2,607	2,438	2,515	
EBIT	1,205	1,131	1,046	1,579	1,134	1,242	
Interest	392	444	438	372	347	351	
EBT	813	687	608	1,207	788	891	
Taxes	138	(1,834)	232	(77)	181	205	
Income	675	2,521	376	1,284	607	686	
Net income	675	2,521	376	1,284	607	686	
Basic Shares	246.0	268.0	267.0	252.0	246.0	229.3	
EPS	\$2.74	\$9.41	\$1.41	\$5.10	\$2.47	\$2.99	
DPS	\$0.05	\$0.22	\$0.25	\$0.33	\$0.30	\$0.60	

Appendix 5: Balance Sheet

Balance Sheet	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19
Capital							
Cash	2,996	2,161	1,476	1,132	822	761	600
Operating assets ex cash	5,648	5,563	4,650	4,587	5,905	6,054	6,054
Operating assets	8,644	7,724	6,126	5,719	6,727	6,814	7,054
Operating liabilities	4,938	4,558	4,321	4,136	4,268	4,424	4,424
NOWC	3,706	3,166	1,805	1,583	2,459	2,391	2,391
NOWC ex cash (NWC)	710	1,005	329	451	1,637	1,630	1,630
NFA	7,320	7,153	6,777	7,040	7,331	7,535	7,535
Other Assets	1,563	3,232	3,488	3,752	3,794	3,794	3,794
Invested capital	\$11,026	\$10,319	\$8,582	\$8,623	\$9,790	\$9,926	\$10,000
Total assets	\$17,527	\$18,109	\$16,391	\$16,511	\$17,852	\$18,143	\$18,143
Short-term and long-term debt	\$6,235	\$6,364	\$5,659	\$5,479	\$6,115	\$5,915	\$5,915
Other liabilities	3,909	2,760	2,269	2,171	2,348	2,348	2,348
Equity	1,868	3,845	4,142	4,725	5,121	5,457	5,457
Minority Equity	577	582					
Total supplied capital	\$12,589	\$13,551	\$12,070	\$12,375	\$13,584	\$13,720	\$14,000
Total liabilities and equity	\$17,527	\$18,109	\$16,391	\$16,511	\$17,852	\$18,143	\$18,143

Appendix 6: Ratios

Ratios	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19
Profitability							
Gross margin	21.1%	23.3%	26.0%	27.6%	23.7%	24.2%	24.6%
Operating (EBIT) margin	6.2%	6.2%	6.4%	10.4%	7.5%	8.0%	8.5%
Net profit margin	3.5%	13.9%	2.3%	8.5%	4.0%	4.4%	4.9%
Activity							
NFA (gross) turnover		2.51	2.36	2.19	2.10	2.09	2.09
Total asset turnover		1.02	0.95	0.92	0.88	0.86	0.87
Liquidity							
Op asset / op liab	1.75	1.69	1.42	1.38	1.58	1.54	1.54
NOWC Percent of sales		18.9%	15.1%	11.2%	13.4%	15.6%	15.3%
Solvency							
Debt to assets	35.6%	35.1%	34.5%	33.2%	34.3%	32.6%	30.8%
Debt to equity	333.8%	165.5%	136.6%	116.0%	119.4%	108.4%	97.0%
Other liab to assets	22.3%	15.2%	13.8%	13.1%	13.2%	12.9%	12.6%
Total debt to assets	57.9%	50.4%	48.4%	46.3%	47.4%	45.5%	43.4%
Total liabilities to assets	86.1%	75.6%	74.7%	71.4%	71.3%	69.9%	68.2%
Debt to EBIT	5.17	5.63	5.41	3.47	5.39	4.76	4.24
EBIT/interest	3.07	2.55	2.39	4.24	3.27	3.45	3.88
Debt to total net op capital	56.5%	61.7%	65.9%	63.5%	62.5%	59.6%	56.2%
ROIC							
NOPAT to sales	5.1%	22.9%	3.9%	11.1%	5.8%	6.2%	6.5%
Sales to NWC		21.15	24.65	38.87	14.44	9.50	9.88
Sales to NFA		2.51	2.36	2.19	2.10	2.09	2.09
Sales to IC ex cash		2.24	2.15	2.08	1.83	1.71	1.72
Total ROIC ex cash		51.3%	8.5%	23.0%	10.6%	10.5%	11.3%
NOPAT to sales	5.1%	22.9%	3.9%	11.1%	5.8%	6.2%	6.5%
Sales to NOWC		5.28	6.62	8.95	7.46	6.40	6.53
Sales to NFA		2.51	2.36	2.19	2.10	2.09	2.09
Sales to IC		1.70	1.74	1.76	1.64	1.57	1.58
Total ROIC		38.9%	6.8%	19.5%	9.5%	9.7%	10.3%
NOPAT to sales	5.1%	22.9%	3.9%	11.1%	5.8%	6.2%	6.5%
Sales to EOY NWC	27.52	18.05	49.98	33.61	9.21	9.52	10.00
Sales to EOY NFA	2.67	2.54	2.43	2.15	2.06	2.06	2.06
Sales to EOY IC ex cash	2.43	2.22	2.31	2.02	1.68	1.69	1.71
Total ROIC using EOY IC ex cash	12.5%	50.9%	9.1%	22.4%	9.7%	10.4%	11.2%
NOPAT to sales	5.1%	22.9%	3.9%	11.1%	5.8%	6.2%	6.5%
Sales to EOY NOWC	5.27	5.73	9.11	9.58	6.13	6.49	6.41
Sales to EOY NFA	2.67	2.54	2.43	2.15	2.06	2.06	2.06
Sales to EOY IC	1.77	1.76	1.92	1.76	1.54	1.56	1.56
Total ROIC using EOY IC	9.1%	40.2%	7.5%	19.5%	8.9%	9.6%	10.2%
ROE							
5-stage							
EBIT / sales		6.2%	6.4%	10.4%	7.5%	8.0%	8.5%
Sales / avg assets		1.02	0.95	0.92	0.88	0.86	0.87
EBT / EBIT		60.7%	58.1%	76.4%	69.4%	71.0%	74.2%
Net income / EBT		367.0%	61.8%	106.4%	77.0%	77.0%	77.0%
ROA		14.1%	2.2%	7.8%	3.5%	3.8%	4.2%
Avg assets / avg equity		6.24	4.32	3.71	3.49	3.40	3.23
ROE		88.3%	9.4%	29.0%	12.3%	12.8%	13.6%
3-stage							
Net income / sales		13.9%	2.3%	8.5%	4.0%	4.4%	4.9%
Sales / avg assets		1.02	0.95	0.92	0.88	0.86	0.87
ROA		14.1%	2.2%	7.8%	3.5%	3.8%	4.2%
Avg assets / avg equity		6.24	4.32	3.71	3.49	3.40	3.23
ROE		88.3%	9.4%	29.0%	12.3%	12.8%	13.6%
Payout Ratio							
		2.4%	18.1%	6.4%	12.4%	21.1%	18.1%
Retention Ratio							
		97.6%	81.9%	93.6%	87.6%	78.9%	81.9%
Sustainable Growth Rate							
		86.2%	7.7%	27.1%	10.8%	10.1%	11.1%

Appendix 8: 3-stage DCF Model

Cost of equity

Market return	10.0%
- Risk free rate	2.65%
= Market risk premium	7.4%
* Beta	1.25
= Stock risk premium	9.2%

Terminal year P/E
2016 12.00

$r = r_f + \text{stock RP}$

	Year						
	1	2	3	4	5	6	7
First Stage							
Cash flows	2018	2019	2020	2021	2022	2023	2024
Sales Growth	3.0%	2.5%	2.0%	1.5%	1.2%	1.2%	1.0%
NOPAT / S	6.2%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
S / NWC	9.52	10.00	35.00	30.00	25.00	20.00	20.00
S / NFA (EOY)	2.06	2.06	1.90	1.85	1.80	1.80	1.80
S / IC (EOY)	1.69	1.71	1.80	1.74	1.68	1.65	1.65
ROIC (EOY)	10.4%	11.2%	11.7%	11.3%	10.9%	10.7%	10.7%
ROIC (BOY)		11.4%	11.3%	11.9%	11.5%	11.0%	10.8%
Share Growth		-2.4%	-5.5%	-2.0%	0.0%	0.0%	0.0%
Sales	\$15,522	\$15,913	\$16,231	\$16,475	\$16,672	\$16,872	\$17,041
NOPAT	\$956	\$1,041	\$1,055	\$1,071	\$1,084	\$1,097	\$1,108
Growth		8.9%	1.3%	1.5%	1.2%	1.2%	1.0%
- Change in NWC	-7	-39	-1128	85	118	177	8
NWC EOY	1630	1591	464	549	667	844	852
Growth NWC		-2.4%	-70.9%	18.4%	21.4%	26.5%	1.0%
- Chg NFA	204	190	818	362	357	111	94
NFA EOY	7,535	7,725	8,543	8,905	9,262	9,374	9,467
Growth NFA		2.5%	10.6%	4.2%	4.0%	1.2%	1.0%
Total inv in op cap	197	151	-310	448	475	288	102
Total net op cap	9165	9316	9007	9454	9929	10217	10319
FCFF	\$759	\$890	\$1,365	\$623	\$609	\$809	\$1,006
% of sales	4.9%	5.6%	8.4%	3.8%	3.7%	4.8%	5.9%
Growth		17.2%	53.3%	-54.3%	-2.3%	32.9%	24.3%
- Interest (1-tax rate)	277	268	274	279	285	290	296
Growth		-3.1%	2.0%	2.0%	2.0%	2.0%	2.0%
FCFE w/o debt	\$482	\$622	\$1,091	\$344	\$324	\$518	\$709
% of sales	3.1%	3.9%	6.7%	2.1%	1.9%	3.1%	4.2%
Growth		28.9%	75.4%	-68.5%	-5.7%	60.0%	36.8%
/ No Shares	239.3	233.5	220.7	216.2	216.2	216.2	216.2
FCFE	\$2.02	\$2.66	\$4.94	\$1.59	\$1.50	\$2.40	\$3.28
Growth		32.1%	85.7%	-67.8%	-5.7%	60.0%	36.8%
* Discount factor	0.89	0.80	0.71	0.64	0.57	0.51	0.46
Discounted FCFE	\$1.80	\$2.13	\$3.53	\$1.02	\$0.86	\$1.23	\$1.50
Third Stage							
Terminal value P/E							
Net income	\$679	\$773	\$781	\$792	\$799	\$806	\$812
% of sales	4.4%	4.9%	4.8%	4.8%	4.8%	4.8%	4.8%
EPS	\$2.84	\$3.31	\$3.54	\$3.66	\$3.70	\$3.73	\$3.75
Growth		16.7%	7.0%	3.4%	0.9%	0.9%	0.6%
Terminal P/E							12.00
* Terminal EPS							\$3.75
Terminal value							\$45.03
* Discount factor							0.46
Discounted terminal value							\$20.58
Summary							
First stage	\$3.93	Present value of first 2 year cash flow					
Second stage	\$8.13	Present value of year 3-7 cash flow					
Third stage	\$20.58	Present value of terminal value P/E					
Value (P/E)	\$32.64	= value at beg of fiscal yr 2018					