Spring 5-13-2021

Douglas Dynamics, Inc. A Financial Analysis and Valuation Report

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Douglas Dynamics, Inc.

A Financial Analysis and Valuation Report

A Project Presented to
the Graduate Faculty of
Minnesota State University Moorhead

by

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In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in
Accounting and Finance

April 2021

Moorhead, Minnesota

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EXECUTIVE SUMMARY

Douglas Dynamics, Inc. was founded in 1977 and is one of the many construction machinery companies in the industry. Their headquarters is located in Milwaukee, WI, but they sell products in the United States, Canada, Northern Europe, and Asia. The company consist of two segments, a Work Truck Attachment, and a Work Truck Solutions. Having these two segments allow the company to reach into different markets, but the main market is snow and ice management. They have been able to stay ahead of the competition by acquiring other construction machinery businesses and innovating their current products. In the beginning of 2019, the company appointed a new President and CEO, Robert McCormick. He has had various roles in the company for the last 15 years.

This report comprises historical financial analysis from 2014 to 2019 and current valuation of the business. There are also financial comparisons to another company, which is a member of the same industry and is located in the same region. Since 2014, the company has had steady quality of earnings ratio and activity ratios. In all of these years' annual reports, there were no material deficiencies reported in the test of internal controls, and external auditors gave unqualified opinions on the financials.

Based on the analysis, I believe this stock is undervalued. I recommend that you buy this stock as I believe it is worth more than the current price on 12/31/2020. Purchasing this stock at lower cost than valued, there is opportunity for long term profit as it is expected to increase in price.

ACKNOWLEDGEMENTS

I would like to acknowledge my appreciation for my friends and family that have supported me through this journey, as I could not have done this without your support. A separate thank you to my other half Kyle, who has been nothing but there for me through all the late nights of writing.

1. INTRODUCTION

This financial statement analysis and valuation of Douglas Dynamics, Inc. focuses on the examination of the firm's historical financial performance. Based on the company's overall performance is the last five years, a recommendation will be given on whether clients should buy, hold, or sell common stock. For this analysis, another firm within the same industry is used as a benchmark to compare accounting and financial measurement against.

There are certain selection criteria used to determine the main company (Douglas Dynamics) and the benchmark company (Manitowoc Company). First, both companies had to be headquartered or incorporated in the Midwest, both of them are headquartered in Wisconsin. Second, they both had to be listed on the Russel 2000 index. The index is an index of small capitalization stocks, smaller compared to those on the Dow Jones and S&P 500. Lastly, they should have the same standard industrial classification code (SIC). Both of the company's SIC code is 3531, meaning they are both part of the construction machinery industry.

I chose Douglas Dynamics as the company to report on because of it being a part of the construction machinery industry. Currently I work as an operations accountant at a privately owned dealer of construction and agriculture machinery, so I feel I somewhat understand the industry. With my knowledge of the industry, I felt that it was easier to connect with information and have the motivation to report on it.

For the reports and calculations, five fiscal years were used for financial analysis calculations and six years were used for the valuation of the company.

2. FIRM CHARACTERISTICS AND HISTORY

Douglas Dynamics was created in 1977 by Douglas Seaman and is one of the premier manufacturers and upfitters of commercial work truck attachments and equipment. The company was formed as a Delaware corporation in 2004 and uses Deloitte & Touche as their outside auditor. In 2010, the company completed an initial public offering under the symbol "PLOW". As of December of 2019, the company employed over 1600 people, none of which were in unions, including a senior management team that has had an average of 15 years in the industry.

Their products are manufactured in the Midwest, East, and Northeast regions of the United States with their main headquarters being in Milwaukee, WI. In 45 years, they have acquired several corporations and equipment companies. One of the company's business strategies is to make products that help the customer work more efficiently and effectively. They are able to do this by having two business segments that cater to different customer needs, Work Truck Attachments (WAT) and Work Truck Solutions (WTS). These different segments are made up of multiple brands that the company sells.

Being based out of the Midwest where the majority of snow and ice accumulate in North America, most of WAT's net sales comes from the manufacturing and selling of snow and ice control equipment. In 2019 alone, this equipment comprised 83 percent of their WAT net sales. The other 17 percent comes from part and accessory sales. The WTS segment oversees the sales of upfitting for trucks that are more commercial work-related, and result in contracts with governmental agencies (Douglas Dynamics Annual Report, 2019).

One of the firm's competitors is The Manitowoc Company, who is also headquartered in Wisconsin. Manitowoc Company's main products includes cranes, but it becomes a direct competitor when it comes to adding on truck attachments (Manitowoc, 2021). Manitowoc Company was founded and incorporated in 1902 and focuses on bringing their customers the best engineered lifting solutions. As of December 2019, the company employed around 4,900 people. The company has an annual fiscal year end date of December 31st and uses PricewaterhouseCoopers as their outside auditor.

Products that they design, manufacture, and sell include mobile telescopic cranes, tower cranes, and boom trucks. They sell their products under three reporting segments: Americas, Europe and Africa ("EURAF"), and Middle East and Asia Pacific ("MEAP"). In Manitowoc Company's 2019 annual report, they stated, "Our first quarter is typically the slowest quarter of the year due to seasonal conditions in the northern hemisphere impacting customer buying behavior." The reasoning for this seasonality, is due to the amount of snow the region gets and the lack of new building projects during that time of year.

Acquisitions

A consolidating acquisition is a way that companies can purchase other companies to remove competition from the market. As discussed above, the creation of Douglas Dynamics was an acquisition in itself when it was created to become the parent company of Western Welding and Manufacturing. They have been acquiring many of their competitors in the last 45 years. Since the date of creation, Douglas Dynamics has acquired a total of seven companies (Creative, 2021), as illustrated in Table 1 below.

Number	Acquired Company	Year
1	Western Welding & Manufacturing	1977
2	Fisher Engineering	1984
3	Blizzard Corporation	2005
4	Trynex International	2013
5	Henderson Products	2014
6	Dejana Truck & Utility Equipment	2016
7	Arrowhead Equipment	2017

Table 1: Douglas Dynamics Acquisition by Year

When looking at the possibility of another acquisition, the company does not have a perfect way to identify whether the transaction will be successful, due to risk involved in acquisitions. A future acquisition is seen as a potential growth opportunity that will help expand their product line, enhance technology, and reach new customers (Financial Terms Dictionary, 2021).

The most recent acquisition was that of Arrowhead Equipment, Inc's assets in May 2017 for $7.385 million. It included two upfitting locations in Albany and Queensbury, New York. This acquisition helped to expand the WTS segment into new regions. Table 2 shows the financial impact that the Arrowhead Equipment acquisition had on the financial statements. The goodwill from the purchase is expected to be amortized over 15 years.

Account	Amount
Accounts receivable- trade	$852
Inventories	$1,547
Prepaids and other current assets	$6
Property and equipment	$624
Goodwill	$2,720
Intangible assets	$2,700
Accounts payable and other liabilities	$(957)
Unfavorable Lease	$(107)
Total	$7,385

Table 2: Financial Impact of Arrowhead Equipment (dollars in thousands)

The most recent entire company acquisition was of Dejana in July 2016 for $206 million. Dejana was seen as one of their competitors in the manufacturing equipment industry. By buying this company, Douglas Dynamics was able to grow and diversify their manufacturing and upfitting of vehicle attachments revenue. The additional revenues coming from this newer segment of the business helps offset the off-season revenue risk found in the snow and ice-related segment. The risk factor of weather is related to the amount of snowfall in the region of most sales. More revenues are expected in high amounts of snowfall than that of small amounts of snowfall.

With the purchase of Dejana, the company also incurred cost of earn outs paid to the former owners being no more than $26 million, which was adjusted after 2016 to $21.4 million. The definition of an earnout is, "a contractual provision stating that the seller of a business is to obtain additional compensation in the future if the business achieves certain financial goals, which are usually stated as a percentage of gross sales or earnings (Financial Terms Dictionary, 2021)." This earnout was supposed to last three years, but after the second year it was extended two more years so that the former owners could receive at least 50% of the unearned earnout payments. Before December 31, 2021, they are expected to payout $16 million, unless the purchase agreement is amended again. Table 3 shows the fair value adjustment resulting from the payouts. (Douglas Dynamics Annual Report, 2019).

Year	Payout	Fair Value Adj.
2016	$-	$173
2017	$5,487	$(1,786)
2018	$ -	$(900)
2019	$ -	$(200)
Total	$5,487	$(2,713)

Table 3: Payout Fair Value Adjustment (dollars in thousands)

3. MARKET CHARACTERISTICS

The market for snow and ice control equipment is mainly dependent on snowfall. If someone is to live in the Midwest, they are more likely to be the customer of these products than someone who lives on the West Coast. During the summer months there are not a lot of sales of snow equipment, but it is found that is when parts and service see the majority of their revenue.

There are a couple of characteristics that show the prospects of the snow control equipment market; 1: High pricing potential and urgency. This is more frequent when the northern regions of the United States notice snow falls sooner than expected. 2: In modest offering, Uniqueness. This is up to every company and how they want to help the customer, whether it be extra attachments or technology that help get the job done faster.

Companies in this industry base their go-to-market strategy off of customer relationships. When designing new products, the customers need is top priority. With customer relationships also comes brand loyalty. When customers are loyal to a brand, they are less likely to go to a competitor if the competitor does not carry the brand. If another company does sell the same brand at a cheaper price, there is potential for a customer to leave. In these situations, you want to give the customer the best experience possible and do what you can for them. A customer relationship can be improved by delivering products quickly and made the way the customer requested.

4. INDUSTRY CHARACTERISTICS

Main Players

Some of the global main players in this highly competitive industry include Caterpillar, Komatsu, and Hitachi Construction, and John Deere. These companies are able to stay ahead with technological innovation, better designs, and a large customer base. Companies are more like to launch new products after one of their competitors have to show that they can stay up to date.

Entry/Exit Barriers

On average there are not many new entrants when it comes to this industry. One because the cost is two high and two because of the main players in the game and their established customer lists.

Threats of Substitutes

There are not many substitutes for these kinds of equipment unless you want to do it by hand or fully automated. Like many other industries, automation technology has changed how everything works.

Industry Outlook/Growth Potential

In 2019, the market size of the industry had a value around $127 billion globally. It is expected to grow by $46 billion by the year 2027. This industry is constantly growing with new enhancement of technology and the demand for equipment to help with infrastructures. Many companies have been able to sign government contracts to help with growing cities. Douglas Dynamics will see long-term growth as long as they keep innovating and marketing the right products in the right region. Across the Midwest, East, and Northeast are the places with the most snow fall and best place to see revenue.

5. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The company's financial statements are prepared in accordance with generally accepted accounting principles (GAAP). Estimates are made by using historical experience and reasonable assumptions for multiple liabilities, including revenue recognition, impairment assessment of goodwill, and pension obligation. The three most significant accounting policies that affect the company are revenue recognition, goodwill, and liquidity and capital resources. There are also three measurements that non-GAAP, meaning they do not follow GAAP standards.

The Financial Accounting Standard Board (FASB) revised the revenue recognition policy in May of 2014 from ASC 605 to ASC 606. The company implemented ASC 606 using the modified retrospective approach in the beginning of 2018. Adoption of the new policy on open contracts resulted in an opening balance adjustment to retained earnings for $400,000. The different segments for work truck revenue are recognized differently as there are many moving pieces. For the WTA segment revenue is recognized once the equipment has been shipped to the customer. The use of discounts and allowances are also recognized at the time of sale as a cost of sale. Revenue for the WTS segments is recorded from the sale amount of an uplift. It is also recognized for the truck chassis, but it is at net book value of the truck chassis to wash out with the floor plan or bailment pool agreement, not including interest.

A test for impairment of goodwill is performed annually and sometime more often if there is a specific event that most likely caused impairment. Goodwill impairment is when the carrying value of a unit is at a higher value than its fair value. In the last three years, 2019, 2018, and 2017, there has been impairment of goodwill resulting in no need to do adjustments. More detail to come in the goodwill portion of the analysis.

The liquidity and capital resources are separate discussion requirements of the U.S. Securities and Exchange Commission (SEC). SEC 9210.1 states, “A key objective of the liquidity and capital resources discussion is to provide a clear picture of the company's ability to generate cash and to meet existing known or reasonably likely future cash requirements (U.S. Securities and Exchange Commission (SEC, 2017, p.1)." The company has the ability to generate cash from operations and borrowings. The cash generated is primarily used to meet debt requirements, provide working capital, payout dividends, and support growth. The company's Board of Directors has put in a policy for dividends that may result in lack of cash to fund operations or meet debt requirements to pay for capital expenditures.

The three non-GAAP measurements are free cash flow, adjusted EBITDA, and adjusted net income and earnings per share. Even though free cash flow is not a GAAP measurement, it provides investors with the knowledge of how the company generates extra cash flow from operations. The EBITDA adjustment allows the company to show their operating performance without factors that can differ among companies due to accounting methods and value of assets and liabilities. Net income and earnings per share reported using GAAP do not take in account that some expense and income items are not transparent when it comes to underlying business performance (Douglas Dynamics Annual Report, 2019).

Goodwill

There have been no adjustments needed to the carrying value of goodwill in the last couple years. There is always an assumption that the balance will be impaired sometime in the future because of uncontrollable factors. Some factors that the company stated in their annual report are,

- A prolonged global economic crisis.

- A decrease in the demand for our products
- The inability to develop new and enhanced products and services in a timely manner

The two biggest goodwill transactions that are in risk of impairment as of December 31, 2019 are WTS's Municipal and Dejana reporting units. If there is no change is financial projects or market conditions both segments will be at risk for impairment. A plan has been put in place to help reduce cost and improve margins to decrease the risk of impairment (Douglas Dynamics Annual Report, 2019).

Inventories

Inventory cost are accounted for using the first-in, first-out (FIFO) method. This method allows the company to dispose of the oldest inventory first so that there is no aging inventory that can lose value. It has been found that FIFO is a more accurate measure and profits are naturally higher than using the last-in, first-out (LIFO) method (Financial Terms Dictionary, 2021). Douglas Dynamics inventories consist of finished goods, work-in-process, and raw materials, as shown in Table 4.

Inventories	2019	2018
Finished goods	$42,125	$43,192
Work-in-process	$6,906	$7,357
Raw material and supplies	$28,911	$31,447
Total	$77,942	$81,996

Table 4: Douglas Dynamics Inventories (dollars in thousands)

They also have a separate inventory account specifically for truck chassis that they receive as part of a floor plan agreement with the title of the chassis. A floor plan agreement is when the manufacturer uses financing to buy its large inventory items from suppliers. As of 2019, the company had over $6.5 million worth of chassis inventory.

There are truck chassis that are on consignment through bailment pool agreements which do not get included in inventory. This is when the title of the chassis does not transfer to the company but both parties recognize revenue from upfitting and installations. The company is also responsible for paying interest on the units held for consignment (Douglas Dynamics Annual Report, 2019).

Manitowoc Company also uses the FIFO method, which makes their inventory a good comparison and no adjustments need to be made to evaluate. The company's inventory consists of raw material, work-in-process, finished goods, and excess and obsolete inventory reserve.

Inventories	2019	2018
Finished goods	$239,400	$248,000
Work-in-process	$116,300	$102,000
Raw materials	$156,300	$159,200
Total	$512,000	$509,200
Excess & obsolete inventory reserve	$50,600	$56,100
Inventories - net	$461,400	$453,100

Table 5: Manitowoc Company Inventories (dollars in thousands)

6. QUALITY OF EARNINGS

The quality of earnings ratio can measure the reliability of a company's financial statements. The higher the quality of earnings ratio is, the closer the earnings and cashflows figures are. The ratio is calculated by dividing net cash from operating activities by net income (Financial terms dictionary, 2021).

Douglas Dynamics	2019	2018	2017	2016	2015	2014
Net Cash from Oper. Act. ($)	77,296	58,181	66,354	69,920	56,465	53,747
Net Income ($)	49,166	43,905	55,324	39,009	44,176	39,961
Quality of Earnings Ratio	1.57	1.33	1.20	1.79	1.28	1.34
Manitowoc	2019	2018	2017	2016	2015	2014
Net Cash from Oper. Act. ($)	(53,300)	(513,000)	77,900	(172,300)	98,000	98,300
Net Income ($)	46,600	(67,100)	9,400	(375,800)	63,500	148,400
Quality of Earnings Ratio	1.14	7.65	8.29	0.46	1.54	0.66

Table 6: Quality of Earnings for Both Companies (dollars in thousands)

As you can see from the tables above, Douglas Dynamics had a steadier and more reliable quality of earnings than Manitowoc in the last six years. For all six years of calculations, both companies received unqualified audit opinions, meaning the auditor believes that the statements fairly represent the financial position and result of operation of the firm.

Looking at 2019 Douglas Dynamics annual report, the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) test the controls at the end of the period. They found that the procedures in place were proven to be effective. Because they were found to be effective no changes were made after the testing.

The CFO and CEO of Manitowoc came to the same conclusions of their company, but there were some changes made in internal control over financial reporting in 2019. The internal control change was over financial reporting to comply with ASC 842- "Leases" new standards ((Manitowoc Company Annual Report, 2019). The two most concerning years seen above are 2018 and 2017 as they are much greater than prior years . In 2018, the internal controls were all effective and did not change. In 2017, the internal controls were all effective and did not change (Douglas Dynamics Annual Report, 2019) (Manitowoc Company Annual Report, 2019).

7. HISTORICAL FINANCIAL STATEMENT ANALYSIS

To discuss the historical financial statement analysis, it is best to look at the company's sales growth, gross profit growth, and operating income growth. Growth can be measured by the percentage growth between two fiscal periods.

Douglas Dynamics	2019	2018	2017	2016	2015
Sales Growth	9.09%	10.35%	14.09%	3.96%	31.93%
Gross Profit Growth	8.99%	8.25%	6.80%	0.84%	14.22%
Operating Income Growth	17.85%	4.81%	1.41%	-10.64%	7.11%
Manitowoc Company	2019	2018	2017	2016	2015
Sales Growth	-0.69%	16.79%	-1.97%	-53.05%	-11.60%
Gross Profit Growth	4.88%	16.39%	11.29%	-69.60%	-15.51%
Operating Income Growth	661.66%	-1854.55%	100.72%	-215.70%	-55.66%

Table 7: Company Growth Rates (dollars in thousands)

As you can see in the tables above, none of the growth rates are consistent, but it is good that Douglas Dynamics is seeing more growth than Manitowoc Company. One main factor that they said in their annual report helps with this growth is innovation. New technology is readily coming available each year and Douglas Dynamics is taking advantage of it. Customers are wanting the new technology so they do what they can for them. This is part of the company's strategy to stay ahead of the competition.

There are also a couple of economic factors that also played into the ultimate growth of Douglas Dynamics. Sales growth for 2018 of 10.35 percent was "due primarily to increased demand from generally favorable macro-economic conditions (Douglas Dynamics Annual Report, 2019)." In 2018, they were also able to see growth from operating income because of better interest rates after refinancing. For Manitowoc Company a main contributor to lack of growth in 2019 was the unfavorable foreign exchange rates, as they do over half their sales outside of the U.S (Douglas Dynamics Annual Report, 2019) (Manitowoc Company Annual Report, 2019).

7A. RELEVANT RATIOS AND INTERPRETATIONS

Activity Ratios

Douglas Dynamics	2019	2018	2017	2016	2015
Accounts Receivable Turnover in Days	57.05	57.36	61.62	69.93	62.94
Accounts Receivable Turnover	6.40	6.36	5.92	5.22	5.80
Inventory Turnover in Days	76.54	85.22	87.15	96.73	70.37
Inventory Turnover Ratio	4.77	4.28	4.19	3.77	5.19
Manitowoc Company	2019	2018	2017	2016	2015
Accounts Receivable Turnover in Days	38.53	39.82	51.06	47.04	25.11
Accounts Receivable Turnover	9.28	8.74	7.37	7.26	29.07
Inventory Turnover in Days	113.03	108.90	111.26	115.15	83.94
Inventory Turnover Ratio	3.26	3.58	3.15	2.65	8.70

Table 8: Activity Ratios (dollars in thousands)

As Table 8 shows, there are different ways to measure the activity of a company. The AR turnover ratio measures how effective the company is at collecting money owed by their clients. From the table you can see that in all years evaluated, Manitowoc has a better collection rate than Douglas. In all but 2015, Douglas has a higher inventory turnover, this ratio measures how much have been sold and how much inventory has been replaced during a period of time. It is calculated by dividing cost of goods sold by average inventories. Inventory turnover for Douglas Dynamics in 2019 and 2018 were 4.77 and 4.28. For Manitowoc Company the inventory turnover in 2019 and 2018 were 3.23 and 3.35. For this comparison, the higher the inventory turnover the better the company is at selling products quickly and may have more demand for their products (Manitowoc Company Annual Report, 2019) (Financial Terms Dictionary, 2021).

The cash conversion cycle (CCC) is a measurement made of up smaller measurements to indicate how long in days it would take to convert a company's investments in inventory into cash. This cycle is computed using the days inventory outstanding (DIO) plus days sales outstanding (DSO) minus days payable outstanding (DPO). Below you will see how those calculations are calculated. For this calculation, the years 2019 and 2018 will be used. DIO equals average inventory divided by cost of goods sold (COGS) multiplied by 365. DSO equals average accounts receivable divided by total credit sales multiplied by 365. DPO equals average accounts payable divided by COGS multiplied by 365.

2019	Douglas Dynamics (Days)	Manitowoc Company (Days)
DIO	77.31	112.01
DSO	54.81	39.31
DPO	15.77	53.44
Cash Conversion Cycle	116.36	97.89

Table 9: Cash Conversion Cycle

As you can see in the table above, Douglas Dynamics has a longer CCC, a breakdown of the CCC equation can help highlight the issue. A lower DIO indicates that the company is doing well with sales and has better turnover. A higher DSO means that it takes them 15.5 more days to collect from customers. A lower DPO means that they are possibly paying the expenses early. An overall longer CCC indicates that Douglas Dynamics takes longer to convert inventory into cash, this could be a risk to investors (Cash conversion cycle, 2021) (Financial Terms Dictionary, 2021).

Liquidity and Solvency Ratios

Douglas Dynamics	2019	2018	2017	2016	2015
Operating Cycle (Days)	133.58	142.58	148.77	166.65	133.32
Working Capital ($)	133,425	120,027	117,330	130,769	127,510
Current Ratio	2.71	2.52	2.45	3.54	4.06
Acid Test	1.58	1.38	1.44	1.89	2.51
Cash Ratio	0.46	0.35	0.46	0.36	0.88
Cash Flow/Cur. Mat. of Debt&NP	3.49	1.78	2.03	24.72	34.66
Times Interest Earned	4.73	4.29	3.89	5.19	7.08
Debt/Equity %	125.34	139.14	166.94	204.77	152.13
Manitowoc Company	2019	2018	2017	2016	2015
Operating Cycle (Days)	151.56	148.72	162.32	162.19	109.05
Working Capital ($)	431,500	346,300	346,200	336,900	130,000
Current Ratio	1.98	1.70	1.76	1.82	1.15
Acid Test	0.87	0.67	0.73	0.65	0.34
Cash Ratio	0.45	0.28	0.26	0.17	0.09
Cash Flow/Cur. Mat. of Debt&NP	(14.03)	(80.16)	9.50	(13.90)	1.45
Times Interest Earned	2.80	(.83)	(.01)	(5.77)	1.58

Table 9: Liquidity and Solvency Ratios (dollars in thousands)

Liquidity ratios are used to determine a company's ability to pay off current debt without the need for more capital. The two most commonly used liquidity ratios are the current ratio and the acid test, also known as the quick ratio. Using the current ratio allows investors to know how quickly assets can be turned into cash to pay its short-term debts. In 2019, Douglas Dynamic's acid test is higher, meaning that they have enough money to cover debts and are able to handle their assets efficiently. The acid test is a measure of the company's ability to pay off current liabilities, this gives the ability to use more current assets like accounts receivable to cover the debt. For this measurement, Douglas Dynamics has a higher result in 2019, meaning their overall liquidity and financials are healthier.

Two main solvency measurements are the interest coverage ratio and the debt-to-equity ratio. These ratios can help lenders evaluate the company's creditworthiness. A higher ratio is better for the coverage ratio, which is what Douglas Dynamics had in 2019 and 2015. Since both companies have two years where their debt-to-equity is lower than the other, the best way to evaluate is to look at the average of all five years. The average debt-to-equity can be calculated as the sum of the five years states divided by five. Douglas Dynamics had an average of 157.66% and Manitowoc Company had an average of 184.42%. These number show that Douglas Dynamics company and stocks are less of a risk to investors (Financial Terms Dictionary, 2021).

Profitability ratios

Douglas Dynamics	2019	2018	2017	2016	2015
Net Profit Margin	8.60%	8.38%	11.65%	9.37%	11.03%
Total Asset Turnover	0.81	0.78	0.69	0.62	0.79
Return on Assets	6.97%	6.49%	8.07%	5.81%	8.74%
Operating Income Margin	15.14%	14.02%	14.76%	16.60%	19.32%
Operating Asset Turnover	2.10	2.04	1.87	1.77	1.88
Return on Operating Assets	31.85%	28.54%	27.63%	29.42%	36.41%
Sales to Fixed Assets	11.02	10.06	9.57	8.62	9.89
Return on Investment	9.78%	9.41%	11.36%	8.07%	11.23%
Return on Total Equity	15.70%	15.53%	21.55%	17.69%	22.03%
Return on Common Equity	15.70%	15.53%	21.55%	17.69%	22.03%
Gross Profit Margin	29.53%	29.56%	30.13%	32.18%	33.18%
Manitowoc Company	2019	2018	2017	2016	2015
Net Profit Margin	2.54%	(3.62)%	0.63%	(22.85)%	1.84%
Total Asset Turnover	1.13	1.20	0.98	1.06	1.00
Return on Assets	2.88%	(4.34)%	0.62%	(24.29)%	1.84%
Operating Income Margin	5.91%	(1.05)%	0.07%	(9.50)%	3.86%
Operating Asset Turnover	1.52	1.56	1.38	1.48	2.19
Return on Operating Assets	8.96%	(1.63)%	0.10%	(-14.10)%	8.46%
Sales to Fixed Assets	6.58	6.61	5.70	5.52	7.88
Return on Investment	6.09%	(2.31)%	6.21%	(29.78)%	4.51%
Return on Total Equity	7.21%	(11.13)%	1.48%	(62.42)%	7.72%
Return on Common Equity	7.98%	(12.29)%	1.62%	(69.86)%	8.46%
Gross Profit Margin	18.76%	17.77%	17.83%	15.70%	24.25%

Table 10: Profitability Ratios (dollars in thousands)

Profitability ratios are measurements that assess the ability of a company to efficiently earn a profit. The three most common ratios used for measurement are gross profit margin, return on assets (ROA), and return on equity (ROE).

Gross profit margin is the measurement of how much revenue can be turned into profit. It is calculated by dividing revenue minus COGS by revenue. This is one of the most used figures to compare between businesses and can be used to help a company secure financing when needed. A good profit margin is 20% or higher according to Investopedia.

ROA is the measurement of how efficiently assets are being used by management. This is calculated by dividing net income by total assets. This measurement is a tool used by investors to compare companies within the same industry. A company with rising ROA is better off than that of a falling one as the rising one means the company is able to raise its profits year over year. According to Investopedia, ROAs that are over 5% are considered good.

ROE is the measurement of the profitability of a company base on its shareholders equity. The S&P 500 states that a bad ROE is below 10%. It is calculated as net income divided by average shareholders' equity. ROE can be used to help investors determine companies' future growth rates (Financial terms dictionary, 2021).

All three ratio have the same result meaning, if the result is higher, the company is doing better. From the data in Table 10 above, you can see for the last five years, Douglas Dynamics has better ratios when it comes to profitability and in the last five years have not seen negative ratios. Investors are likely to find Douglas Dynamics more attractive as an investment than Manitowoc Company due to the ratio consistency.

Positive and increasing ratios show investors that the company is increasing in value and increasing investor profits. Even though some of Douglas Dynamics ratios decrease, none of them have large differences or negative amounts like Manitowoc Company.

Working Capital Cycle

Another financial measurement is the working capital cycle (WCC). This cycle calculates the amount of time it would take a company to convert its current assets and current liabilities into cash. The lower the WCC the better, this means the company is collecting money from customers sooner and paying payables later. A couple of the calculations that are a part of the WCC are inventory days and working capital days. Inventory days calculation tells you how many days it would take a company to sell all their inventory, a relatively low number is favorable. The working capital day calculation shows investors how long it would take to convert working capital into revenues, a lower number is also favorable.

From the table below you can see that Douglas Dynamic has longer result for all but 2019's sales to working capital. You would expect this as in table 10 they also had a lower total asset turnover. This one discrepancy does not change the fact that they are more consistent with their WCC which would help investors trust them more. Both companies have a positive WCC which means that they are both able to finance it operational needs.

Douglas Dynamics	2019	2018	2017	2016	2015
Sales to Working Capital (Days)	85.28	83.52	90.12	113.84	116.24
Sales to Working Capital	4.28	4.37	4.05	3.18	3.14
Manitowoc Company	2019	2018	2017	2016	2015
Sales to Working Capital (Days)	85.88	68.48	79.87	76.20	13.81
Sales to Working Capital	4.25	5.33	4.57	4.79	26.43

Table 11: Working Capital (dollars in thousands)

Both companies' days in inventory are impacted by the seasonality of their business. Douglas Dynamics is able to keep their inventory low by using pre-season sales and restocking right before their season of greatest sales volume. Both companies are also able to have low days as they use the FIFO method that was mentioned in the inventories section. Manitowoc has a higher inventory number, but they also try to write off excess and obsolete inventory which helps reduce days, as they are monitoring aging items.

7B. CASH MANAGEMENT CONCLUSION

Cash management is the management of the cash inflows and outflows that can be found on the cash flow statement. This statement is separated into three types of spending, operating, investing, and financing. Douglas Dynamics's 2019 annual report states that for the years 2017, 2018, and 2019 "net cash provided by operating activities was used for funding capital investment, paying dividends, paying interest on our senior credit facilities, and funding working capital requirements during our pre-season shipping period (Page 33, Douglas Dynamics Annual Report, 2019)." The company is constantly putting the money they earn back into the business. Below are both companies' inflows and outflows from each type.

Douglas Dynamic Cash Flows	2019	2018	2017	2016	2015
Operating activities ($)	77,296	58,181	66,354	69,920	56,465
Investing activities ($)	(11,533)	(9,690)	(14,948)	(191,174)	(21,827)
Financing activities ($)	(57,918)	(57,546)	(33,140)	103,019	(21,989)
Change in cash & cash equivalents ($)	7,845	(9,055)	18,266	(18,235)	12,649
Manitowoc Company Cash Flows	2019	2018	2017	2016	2015
Operating activities ($)	(53,300)	(513,000)	77,900	(172,300)	98,000
Investing activities ($)	108,400	534,400	(21,300)	(41,500)	16,900
Financing activities ($)	3,700	(1,300)	(9,700)	219,400	(112,900)
Net increase (decrease) in cash, cash equivalents & restricted cash ($)	59,000	17,300	49,300	6,500	(4,600)

Table 12: Cash Flows (dollars in thousands)

8. OVERVIEW

Overall, Douglas Dynamics has proven to be a well-rounded company. They are able to maintain internal control of the company and compete financially with others in the industry. Even though they may be smaller than Manitowoc, they show that their numbers still matter and can be more consistent. One of Douglas Dynamics' strategies is to constantly stay ahead of the competition by growing their business and they have achieved this against the Manitowoc Company. They have grown by acquiring other businesses and investing in new technology and it has worked for them.

9. VALUATION

The cost of capital is a requirement used when a new project or investment is in question. It allows analyst and investors to know if the new venture is worth the risk and what kind of return will be received on it. For companies with multiple sources of financing, the calculation for cost of capital is called the weighted average cost of capital (WACC). This calculation valuates all the company's capital and allows an investor to get a bigger picture of the risk in investing in the company. The calculation for this report is as follows

$$\text{WACC} = \left(\frac{E}{V} \times Re\right) + \left(\frac{D}{V} \times Rd \times (1 - Tc)\right)$$

where:

E = Market value of the firm's equity

D = Market value of the firm's debt

$V = E + D$

Re = Cost of equity

Rd = Cost of debt

Tc = Corporate tax rate

For this valuation E, D, and V are set to default as zero, as the current are all under 15%. Douglas Dynamics also has no preferred stock.

First calculation is the estimate cost of equity or CAPM. This is formulated by taking the risk-free rate plus beta times the expected return. The risk-free rate of return is the rate of return that a possible investor would receive when invested in risk-free investment. This is calculated by taking the yield of the 10-year U.S. treasury bond minus the inflation rate. Market risk premium is the expected return that investors expect. The β is for Beta which is a measurement risk in a certain stock or portfolio. The Beta of Douglas Dynamic is given on Yahoo Finance as .89. This is a 5-year monthly number that is used as of 12/31/2020. The risk-free rate of return is given on the U.S. Department of Treasury website of .93% as of December 31st, 2020 (U.S Department of Treasury, 2021). The market risk premium was 5.6% from Statista, a statistic portal for market data (Department, P., & 9, D., 2020). With the number given the total for cost of equity is 5.91%, for the formula =.0093+(.89*.0560) (Financial Terms Dictionary, 2021).

The next calculation that needs to be made is that of after-tax cost of long-term debt. First is to start with the bond rating for the company's debt so that the spread can be determined. The bond rating scale is based on the company's interest coverage ratio, return of equity ratio (ROE), and Debt to MVIC. The interest coverage ratio is calculated EBIT divided by total interest expense.

- Interest coverage ratio: 1.13, ROE: 15.70%
- Bond rating (based off of tables below from Professor Sliwoski and calculation of ratios above)
    - B, Spread 4.84%

Long Term Debt Rating	Interest Coverage Ratio	Return on Equity Ratio
AAA	23.8	27.6%
AA	19.5	27.0%
A	8.0	17.5%
BBB	4.7	13.4%
BB	2.5	11.3%
B	1.2	8.7%
CCC	0.4	3.2%

Long Term Debt Rating	Long Term Debt Yield (%)	Long Term Debt Default Risk Premium (%)
10 Year T-Bond	2.18	
AAA	4.11	1.93
AA	3.38	1.20
A	3.37	1.19
BBB	6.24	4.06
BB	6.28	4.10
B	7.02	4.84
CCC	9.98	7.80

Cost of long-term debt is equal to the risk-free rate (.93%) plus the spread for bond rating (4.84%) is 5.77%. Based on the 21% business tax rate, after-tax cost of long-term debt is 4.56%. This is the prime rate time the tax rate that assumed before. Douglas Dynamics estimated WACC from these calculations is 5.91%. Here is how it was calculated,

- WACC=((1-0-0-0)*5.91%)+(0*4.56%)+(0*0)+(0*0)= 5.91%

Now that the WACC is calculated there are some assumptions that were put into the input for projections and valuation. As seen through most of the data, the company is particularly good at keeping their number consistent or at a constant growth. The company has had many years of experience and the numbers show it. For the starting rate, the trend rates given were used as those are based on the historical rates. Also because of the company's reliability the average was used as the long-term rate.

One more assumption should be given before the projections are done. The numbers used at the target date may be terribly skewed by the Corona Virus and how it affected the economy. This industry was marked as essential during this time.

10. PROJECTIONS

Sales Growth

Since 2017, Douglas Dynamics has been seeing a smaller percentage of sales growth. In the projection the starting rate of sale growth for 2020 is 2.1%, this number is not near the company's six-year average of 13.9% or its most recent year with 9.1%. This seems to be a good rate to start at with the uncertainties of COVID affecting everyone in 2020 and seeing how it affected this industry. The company is likely to recover from this as the sale growth strategy is to innovate and keep going. As of 2025, the valuation is projecting that the sales growth will reach 6.1%.

ROIC

In the most recent year 2019, ROIC was 10.8%, it is projected to be 4.3% as of 12/31/20 and 9.6% 12/31/21. From the projection, it is estimated that there will be a negative of 987 in the taxes reported but not paid. This projection would be consistent with thoughts around COVID, but this may possibly be from the assumption of the tax rate in the direction of the valuation.

P/E Ratio

The price/earnings ratio is a measurement used by analyst and investors to measure the value of a company by looking at its current share price and comparing it to the earnings per share (EPS). This ratio can also help determine if a stock is overvalued or has no value due to no earnings. The S&P 500 states that a good range for a P/E ratio is between 13 and 15. As you can see in the tables below, Douglas Dynamics has a relatively high P/E ratio, meaning that the stock will possibly be overvalued going forward, but will be in range in 2025. Table 13 shows that Manitowoc Company has a zero P/E ratio, meaning that the business may be at risk for bankruptcy and/or no growth (Financial Terms Dictionary, 2021).

Douglas Dynamics	2019	2018	2017	2016	2015
Price/earnings ratio (P/E ratio)	25.09	17.82	14.42	17.61	9.33
Manitowoc Company	2019	2018	2017	2016	2015
Price/earnings ratio (P/E ratio)	13.36	0	0	0	7.51

Table 13: Both Company P/E Ratios (dollars in thousands)

Douglas Dynamics	2020	2021	2022	2023	2024	2025
Price/earnings ratio (P/E ratio)	42.6	29.4	26.0	24.1	22.9	22.1

Table 14: Douglas Dynamics forecasted P/E Ratios (dollars in thousands)

11. STOCK RECOMMENDATION

For the valuation, the target of 12/31/20 was used which would be a year after the last fiscal year given would be. On the target date the price per share is expected to be $72.39 which is $3.14 more than the estimated price for most recent fiscal year on the valuation template, $43.52. Douglas Dynamic, Inc. (NYSC: PLOW) had a stock value of $42.53 on 12/31/20 (Douglas Dynamics Yahoo, 2021). The difference between the targeted date and the actual date is a $29.86.

From this difference the stock is estimated to be undervalued on 12/31/2020. The reason for this assumption can be made from some calculations in the valuation model. Some key factors for this evaluation are P/E ratio, ROA, and ROE. As seen in Table 14, the P/E ratio as of 12/31/2020 is expected to be at it highest of 42.6. This shows that investors are expecting for this company to have higher growth than the market. Douglas Dynamics also has seen higher ROA and ROE ratio meaning that they are expecting higher returns on their assets and equity. This will add the value of return to investors.

From the ratios calculated in this report, Douglas Dynamics is a good company, and they are able to manage their money well. The company is really focused on growth and want to stay competitive as the industry get harder to keep up with. To investors, this company has not shown as a risk due to their consistent numbers and above average gross profit margin, ROE, and ROA ratios. From the forecasting done, I believe this company will survive and recover from the global pandemic and will be a great company to invest in once the market calms down.

Based on the analysis, I recommend that you buy this stock as I believe it is worth more than the current price on 12/31/2020. Purchasing this stock at lower cost than valued, opens up opportunity for long term profit as it is expected to increase in price.

APPENDIX A:

SUMMARIZED HISTORICAL FINANCIAL STATEMENTS

DOUGLAS DYNAMICS

FinSAS Version 2003051213	**Input**				
Company:	**Douglas Dynamics, Inc.**				
Analyst:	**Jess Lhotak**				
Most Recent Year Available:	**2019**				
Years Available for:					
Income Statement (1-5)	5				
Balance Sheet (1-5)	5				
==	===========	===========	===========	===========	===========
INCOME STATEMENT	2019	2018	2017	2016	2015
--	-----------	-----------	-----------	-----------	-----------
Net Sales	571710	524067	474927	416268	400408
Less: Cost of Goods Sold	402893	369177	331841	282294	267545
	-----------	-----------	-----------	-----------	-----------
Gross Profit	168817	154890	143086	133974	132863
Other Operating Revenue	0	0	0	0	0
Less: Operating Expenses	82244	81430	72995	64856	55512
	-----------	-----------	-----------	-----------	-----------
Operating Income	86573	73460	70091	69118	77351
Less: Interest Expense	16782	16943	18336	15195	10895
(no capitalized interest)					
Other Income (Expenses)	-565	-758	1160	9773	-193
Unusual or Infreq. Item;					
Gain (Loss)	-6609	0	0	0	0
Equity in Earnings of Assoc.;					
Profit (Loss)	0	0	0	0	0
	-----------	-----------	-----------	-----------	-----------
Income before Taxes	62617	55759	52915	63696	66263
Less:Taxes Related to Operations	13451	11854	-2409	24687	22087
	-----------	-----------	-----------	-----------	-----------
N.I. before Min. Ern.	49166	43905	55324	39009	44176
Minority Share of Earnings (Loss)	0	0	0	0	0
	-----------	-----------	-----------	-----------	-----------
N.I. before Nonrecurring Items	49166	43905	55324	39009	44176
Oper. of Discontinued Segment;					
Income (Loss)	0	0	0	0	0
Disposal of Discont. Segment;					
Gain (Loss)	0	0	0	0	0
Extraordinary Item;					
Gain (Loss)	0	0	0	0	0
Cum. Effect of Acct Change;					
Gain (Loss)	0	0	0	0	0
	-----------	-----------	-----------	-----------	-----------
Net Income (Loss)	49166	43905	55324	39009	44176

BALANCE SHEET	2019	2018	2017	2016	2015
--	-----------	-----------	-----------	-----------	-----------
ASSETS					
Current Assets:					
Cash	35665	27820	36875	18609	36844
Marketable Securities	0	0	0	0	0
Gross Receivables	89358	82356	80176	79747	69050
Less: Allowance for Bad Debts	1487	871	1056	1158	1343
Net Trade Receivables	87871	81485	79120	78589	67707
Inventories	84481	86200	79235	74810	51584
Prepaid Expenses	3511	3590	2883	2886	2104
Other Current Assets	0	0	0	7267	11004
	-----------	-----------	-----------	-----------	-----------
Total Current Assets	211528	199095	198113	182161	169243
Long-Term Assets:					
Net Tangible (Fixed) Assets (other than construction in progress)	51889	52111	49642	48291	40481
Construction in Progress	6555	3084	4320	3850	2155
Intangible Assets	404728	415684	427156	433137	288579
Investments	22557	0	0	0	2337
Other Nonoperating Assets	0	0	0	0	0
Other Operating Assets	8438	6219	5945	4460	2708
	-----------	-----------	-----------	-----------	-----------
Total Long-Term Assets	494167	477098	487063	489738	336260
Total Assets	705695	676193	685176	671899	505503
LIABILITIES AND EQUITY					
Current Liabilities:					
Accounts Payable	16113	18703	16323	17299	14555
Short Term Loans	0	0	0	0	0
Current Maturity of L.t. Debt	22143	32749	32749	2829	1629
Other Current Liabilities	39847	27616	31711	31264	25549
	-----------	-----------	-----------	-----------	-----------
Total Current Liabilities	78103	79068	80783	51392	41733
Long-Term Liabilities:					
Long-term Debt	241062	242946	274872	306726	184843
Reserves	0	0	0	0	0
Deferred Liabilities	47211	48198	39269	60289	54932
Minority Interest	0	0	0	0	0
Redeemable Preferred	6338	8369	16570	17377	17495
Other Long-term Liabilities	19818	14856	17004	15652	6004
	-----------	-----------	-----------	-----------	-----------
Total Long-term Liabilities	314429	314369	347715	400044	263274
Total Liabilities	392532	393437	428498	451436	305007
Shareholders' Equity:					
Preferred Equity	0	0	0	0	0
Common Equity-incl. Ret. Ern.	313163	282756	256678	220463	200496
	-----------	-----------	-----------	-----------	-----------
Total Equity	313163	282756	256678	220463	200496
Total Liabilities and Equity	705695	676193	685176	671899	505503
==	===========	===========	===========	===========	===========

OTHER DATA	2019	2018	2017	2016	2015
Capitalized Interest	0.0	0.0	0.0	0.0	0.0
Interest Portion of Rentals	0.0	0.0	0.0	0.0	0.0
Liquidation Value of Pref. Stock	0.0	0.0	0.0	0.0	0.0
Dividends on Redeemable Pref.	0.0	0.0	0.0	0.0	0.0
Dividends on Nonredeemable Pref.	0.0	0.0	0.0	0.0	0.0
Dividends per Common Share	1.090	1.060	0.960	0.940	0.890
Total Cash Dividends	25183.0	24383.0	21974.0	21451.0	20173.0
Dil. Earn. per Sh. before Nonrec. Items	2.110	1.890	2.400	1.700	1.940
Market Price per Common Share	52.960	33.600	34.570	29.870	17.990
Tax Rate (0-1)	0.274	0.274	0.274	0.274	0.274
Common Shares Outstanding	22795.4	22701.0	22590.9	22501.6	22387.8
Diluted Weighted Average Common Shares	22813.7	22704.9	22587.6	22480.7	22341.8
Cash Flow from Operations	77296.0	58181.0	66354.0	69920.0	56465.0
Option expense:					
Net income not including opt. exp.	0.0	0.0	0.0	0.0	0.0
Net income including opt. exp.	0.0	0.0	0.0	0.0	0.0

APPENDIX B:

SUMMARIZED HISTORICAL FINANCIAL STATEMENTS

MANITOWOC

FinSAS Version 2003051213	**Input**				
Company:	**Manitowac Company Inc**				
Analyst:	**Jess Lhotak**				
Most Recent Year Available:	**2019**				
Years Available for:					
Income Statement (1-5)	5				
Balance Sheet (1-5)	5				
INCOME STATEMENT	2019	2018	2017	2016	2015
Net Sales	1834100	1846800	1581300	1613100	3435800
Less: Cost of Goods Sold	1490000	1518700	1299400	1359800	2602600
Gross Profit	344100	328100	281900	253300	833200
Other Operating Revenue	0	0	0	0	0
Less: Operating Expenses	235700	347400	280800	406600	700700
Operating Income	108400	-19300	1100	-153300	132500
Less: Interest Expense	32700	39100	39200	39600	97000
(no capitalized interest)					
Other Income (Expenses)	8300	-13300	-1400	1100	21300
Unusual or Infreq. Item;					
Gain (Loss)	-25000	0	0	-76300	-200
Equity in Earnings of Assoc.;					
Profit (Loss)	0	0	0	0	0
Income before Taxes	59000	-71700	-39500	-268100	56600
Less:Taxes Related to Operations	12400	-4800	-49500	100500	-6700
N.I. before Min. Ern.	46600	-66900	10000	-368600	63300
Minority Share of Earnings (Loss)	0	0	0	0	0
N.I. before Nonrecurring Items	46600	-66900	10000	-368600	63300
Oper. of Discontinued Segment;					
Income (Loss)	0	-200	-600	-7200	200
Disposal of Discont. Segment;					
Gain (Loss)	0	0	0	0	0
Extraordinary Item;					
Gain (Loss)	0	0	0	0	0
Cum. Effect of Acct Change;					
Gain (Loss)	0	0	0	0	0
Net Income (Loss)	46600	-67100	9400	-375800	63500

BALANCE SHEET	2019	2018	2017	2016	2015
--	-----------	-----------	-----------	-----------	-----------
ASSETS					
Current Assets:					
Cash	199300	140300	119200	69900	80900
Marketable Securities	0	0	0	0	0
Gross Receivables	193600	201500	221200	207900	236400
Less: Allowance for Bad Debts	7900	10300	10900	11100	16900
Net Trade Receivables	185700	191200	210300	196800	219500
Inventories	461400	453100	396100	429000	598500
Prepaid Expenses	0	0	0	0	0
Other Current Assets	26000	58300	73600	54000	114700
	-----------	-----------	-----------	-----------	-----------
Total Current Assets	872400	842900	799200	749700	1013600
Long-Term Assets:					
Net Tangible (Fixed) Assets (other than construction in progress)	278700	279300	277600	292100	436100
Construction in Progress	127500	127700	139400	130800	729700
Intangible Assets	232500	232800	321300	299600	1152300
Investments	47600	0	0	0	0
Other Nonoperating Assets	0	0	0	0	0
Other Operating Assets	59000	59200	70300	45600	117200
	-----------	-----------	-----------	-----------	-----------
Total Long-Term Assets	745300	699000	808600	768100	2435300
Total Assets	1617700	1541900	1607800	1517800	3448900
LIABILITIES AND EQUITY					
Current Liabilities:					
Accounts Payable	187100	249200	204900	157700	403400
Short Term Loans	0	6400	8200	12400	67600
Current Maturity of L.t. Debt	3800	0	0	0	0
Other Current Liabilities	250000	241000	239900	242700	412600
	-----------	-----------	-----------	-----------	-----------
Total Current Liabilities	440900	496600	453000	412800	883600
Long-Term Liabilities:					
Long-term Debt	308400	266700	266700	269100	1346000
Reserves	0	0	0	0	0
Deferred Liabilities	35800	30900	33800	56900	123300
Minority Interest	0	0	0	0	0
Redeemable Preferred	102800	104000	114400	124400	176100
Other Long-term Liabilities	83900	42400	62400	64100	100400
	-----------	-----------	-----------	-----------	-----------
Total Long-term Liabilities	530900	444000	477300	514500	1745800
Total Liabilities	971800	940600	930300	927300	2629400
Shareholders' Equity:					
Preferred Equity	61900	56900	59800	62900	71600
Common Equity-incl. Ret. Ern.	584000	544400	617700	527600	747900
	-----------	-----------	-----------	-----------	-----------
Total Equity	645900	601300	677500	590500	819500
Total Liabilities and Equity	1617700	1541900	1607800	1517800	3448900
==	===========	===========	===========	===========	===========

OTHER DATA	2019	2018	2017	2016	2015
--	-----------	-----------	-----------	-----------	-----------
Capitalized Interest	0.0	0.0	0.0	0.0	0.0
Interest Portion of Rentals	0.0	0.0	0.0	0.0	0.0
Liquidation Value of Pref. Stock	0.0	0.0	0.0	0.0	0.0
Dividends on Redeemable Pref.	0.0	0.0	0.0	0.0	0.0
Dividends on Nonredeemable Pref.	0.0	0.0	0.0	0.0	0.0
Dividends per Common Share	0.000	0.000	0.000	0.000	0.000
Total Cash Dividends	0.0	0.0	0.0	0.0	0.0
Dil. Earn. per Sh. before Nonrec. Items	1.310	-1.890	0.260	-10.920	1.840
Market Price per Common Share	17.390	18.390	19.390	20.390	21.390
Tax Rate (0-1)	0.234	-0.094	-0.574	0.002	0.460
Common Shares Outstanding	35374.5	35588.8	35273.9	34960.3	34154.3
Diluted Weighted Average Common Shares	35641.8	35513.2	35854.9	34441.8	34358.5
Cash Flow from Operations	-53300.0	-513000.0	77900.0	-172300.0	98000.0
Option expense:					
Net income not including opt. exp.	0.0	0.0	0.0	0.0	0.0
Net income including opt. exp.	0.0	0.0	0.0	0.0	0.0

APPENDIX C:

VALUATION ASSUMPTIONS, SPREADSHEETS, AND CALCULATIONS

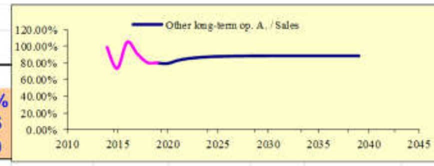
Cost of Capital	
Enter inputs in yellow cells.	
Key Output of Valuation:	
Inputs to Estimate WACC	**Input**
Enter Current Market Value for Equity	
Current stock price	$36.48
Number of shares common stock outstanding	22,795,000
Market value of common stock	$831,561,600
Enter Current Market Value for Long-Term Debt	
Estimated value of long-term debt	$244,884
Enter Current Market Value for Short-Term Debt	
Estimated value of short-term debt	$22,143
Enter Current Market Value for Preferred Stock	
Estimated value of lpreferred stock	$0
Estimate Percent of Firm that will be Financed by Long-term Del	
Current percent of firm financed with long-term debt	0.03%
Target percent financed with long-term debt=	0%
Estimate Percent of Firm that will be Financed by Preferred Stock	
Current percent of firm financed with preferred stock	0.00%
Target percent financed with preferred stock =	0.00%
Estimate Percent of Firm that will be Financed by Short-term Debt	
Current percent of firm financed with short-term debt	0.00%
Target percent financed with short-term debt =	0.00%
Estimate Cost of Equity	
Beta=	0.89
Risk-free rate=	0.93%
Market risk premium =	5.60%
Cost of equity=	**5.91%**
Estimate Cost of Long-term Debt	
Bond rating for company's debt	B-
Spread for bond rating	4.84%
Tax rate=	21.0%
Cost of long-term debt=	5.77%
After-tax cost of long-term debt=	4.56%
Inputs to Estimate Cost of Preferred Stock	
Yield on preferred stock	0.00%
Current coupon rate (preferred dividend/preferred stock)	0.00%
Cost of preferred stock =	0.00%
Inputs to Estimate Cost of Short-term Debt	
Prime rate	0.00%
Adjustment to prime	0.00%
Cost of short-term debt	0.00%
After-tax cost of short-term debt	0.00%
Estimated WACC	**5.91%**

Inputs for Projections and Valuation

Enter inputs in yellow cells.

Key Output of Valuation:

Projected ROIC at horizon	=		**11.6%**
Estimated price for 12/31/2019	=	$	**69.25**
Estimated price for 12/31/2020	=	$	**72.39**



2020	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*	*2030*
Projected	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*

Inputs

Number of years historical data analyzed 6

Historical Values for Ratios Used to Project Financial Statements	**Average**	**Trend**	**Most Recent**	**Starting rate**	**Long Term rate**	**Time until long term (years)**	**Fade Rate**	**graph**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Ratios to calculate operating profit																			
Sales growth rate	13.9%	2.1%	9.1%	2.1%	5.9%	10	0.50	Sales g	2.1%	3.6%	4.5%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%	5.9%	5.9%
COGS / Sales	66.5%	71.9%	69.0%	71.9%	66.5%	10	0.50	CGS	71.9%	69.8%	68.5%	67.7%	67.2%	66.9%	66.7%	66.6%	66.5%	66.5%	66.5%
SGA / Sales	12.7%	12.9%	12.3%	12.9%	12.7%	10	0.50	SGA	12.9%	12.8%	12.8%	12.8%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%	12.7%
Depreciation / Net PPE	31.2%	37.3%	32.9%	37.3%	31.2%	10	0.50	Depr	37.3%	34.9%	33.4%	32.5%	32.0%	31.7%	31.5%	31.3%	31.3%	31.2%	31.2%
Ratios to calculate operating capital																			
Cash / Sales	6.8%	5.1%	6.2%	5.1%	6.8%	10	0.50	Cash	5.1%	5.8%	6.2%	6.5%	6.6%	6.7%	6.8%	6.8%	6.8%	6.8%	6.8%
Inventory/ Sales	15.0%	14.5%	13.6%	14.5%	15.0%	10	0.50	Invty	14.5%	14.7%	14.8%	14.9%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Accts. rec. / Sales	17.2%	14.3%	15.4%	14.3%	17.2%	10	0.50	AcctRec	14.3%	15.4%	16.2%	16.6%	16.9%	17.0%	17.1%	17.2%	17.2%	17.2%	17.2%
Other short term operating assets/Sales	2.3%	1.4%	1.8%	1.4%	2.3%	10	0.50	Othr STA	1.4%	1.7%	1.9%	2.1%	2.1%	2.2%	2.2%	2.2%	2.2%	2.3%	2.3%
Net PPE / Sales	11.3%	10.1%	10.2%	10.1%	11.3%	10	0.50	Net PPE	10.1%	10.5%	10.8%	11.0%	11.1%	11.2%	11.2%	11.2%	11.3%	11.3%	11.3%
Other long-term op. A. / Sales	88.2%	79.6%	80.2%	79.6%	88.2%	10	0.50	Othr LTA	79.6%	83.0%	85.1%	86.3%	87.1%	87.6%	87.8%	88.0%	88.1%	88.2%	88.2%
Accts. pay./ Sales	3.5%	3.2%	2.8%	3.2%	3.5%	10	0.50	Acct Pay	3.2%	3.3%	3.4%	3.4%	3.4%	3.4%	3.5%	3.5%	3.5%	3.5%	3.5%
Accruals / Sales	6.5%	2.7%	5.2%	2.7%	6.5%	10	0.50	Accruals	2.7%	4.2%	5.1%	5.7%	6.0%	6.2%	6.3%	6.4%	6.4%	6.5%	6.5%
Other current liabilities / Sales	0.9%	2.1%	1.8%	2.1%	0.9%	10	0.50	Othr CL	2.1%	1.6%	1.3%	1.1%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%
Ratios to calculate operating taxes																			
Deferred taxes/Net PPE	103.3%	59.8%	80.8%	59.8%	103.3%	10	0.50	Def Tax	59.8%	77.0%	87.5%	93.8%	97.6%	100.0%	101.4%	102.3%	102.8%	103.1%	103.3%
Average tax rate (Taxes/EBT)	24.0%	9.4%	21.2%	21.0%	21.0%	10	0.50	Avg Tax	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Marginal tax rate	24.0%	9.4%	21.2%	21.0%	21.0%	10	0.50	Marg Tax	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Dividend and debt ratios																			
Dividend policy: growth rate	5.2%	6.8%	3.3%	2.10%	5.90%	10	0.50	Div g	2.1%	3.6%	4.5%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%	5.9%	5.9%
Long-term debt / market value of firm	#N/A	#N/A	0.03%	1.9355%	0.03%	10	0.50	LTD/MV	1.9%	1.2%	0.7%	0.4%	0.3%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%
Preferred stock / market value of firm	#N/A	#N/A	#N/A	0.00%	0.00%	10	0.00	PFS/MV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Coupon rate on preferred stock	#N/A	#N/A	#N/A	0.00%	0.00%	10	0.00	PFS Cpn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Permanent component of short-term debt / mark	#N/A	#N/A	#N/A	0.00%	0.00%	10	0.00	Perm STD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ratios to calculate rest of income statement and balance sheet																			
Nonop. inc. / Sales	0.15%	-0.67%	-1.29%	-1.29%	0.15%	10	0.10	N-OP Inc	-1.29%	-1.07%	-0.88%	-0.70%	-0.54%	-0.40%	-0.27%	-0.15%	-0.04%	0.06%	0.15%
Extr. inc. / Sales	-0.10%	0.21%	0.00%	0.00%	-0.10%	10	0.10	Ex Inc	0.00%	-0.02%	-0.03%	-0.04%	-0.05%	-0.06%	-0.07%	-0.08%	-0.09%	-0.10%	-0.10%
Long-term investments / Sales	0.00%	0.00%	0.00%	0.00%	0.00%	10	0.10	LT Inv	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other long-term liab. / Sales	6.88%	6.27%	7.90%	7.90%	6.88%	10	0.10	Othr LT L	7.90%	7.74%	7.60%	7.48%	7.37%	7.26%	7.17%	7.09%	7.01%	6.94%	6.88%
Interest rates																			
Interest rate on cash				0.00%	0.00%	10	0.10	Cash Int	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest rate on short-term invest.				0.00%	0.00%	10	0.10	STInv Int	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest rate on all current debt				0.00%	0.00%	10	0.10	Cur D Int	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest rate on long-term debt				3.990%	5.77%	10	0.10	LT D Int	3.99%	4.26%	4.50%	4.72%	4.92%	5.10%	5.26%	5.41%	5.54%	5.66%	5.77%
Cost of Capital and L-T ROIC																			
Weighted Average Cost of Capital (WACC)			5.91%																
Long-term return on invested capital			5.91%																

Projections and Valuation

Estimated price for most recent fiscal year	12/31/2019	=	$ 69.25
Estimated price for target date	12/31/2020	=	$ 72.39

	Most Recent 12/31/19	Projected 12/31/20	Projected 12/31/21	Projected 12/31/22	Projected 12/31/23	Projected 12/31/24	Projected 12/31/25	Projected 12/31/26	Projected 12/31/27	Projected 12/31/28	Projected 12/31/29	Projected 12/31/30
Income Statement ($ Thousands)												
Sales	$ 571,710	$ 583,716	$ 604,761	$ 632,086	$ 664,146	$ 700,063	$ 739,349	$ 781,753	$ 827,175	$ 875,612	$ 927,126	$ 981,827
Costs of goods sold (COGS)	394,637	419,920	421,971	432,739	449,400	470,323	494,551	521,526	550,936	582,625	616,535	652,675
Sales, general and administrative expense (SGA)	70,148	75,497	77,678	80,844	84,726	89,168	94,082	99,420	105,160	111,294	117,827	124,769
Depreciation	19,212	21,912	22,247	22,890	23,793	24,904	26,184	27,609	29,164	30,839	32,633	34,545
Operating profit	$ 87,713	$ 66,387	$ 82,866	$ 95,612	$ 106,227	$ 115,669	$ 124,532	$ 133,197	$ 141,915	$ 150,853	$ 160,132	$ 169,839
Interest expense	17,922	9,771	1,625	1,097	734	490	328	221	152	108	79	61
Interest income	0	0	0	0	0	0	0	0	0	0	0	0
Nonoperating income (Expense)	(7,380)	(7,535)	(6,499)	(5,556)	(4,662)	(3,793)	(2,934)	(2,077)	(1,217)	(348)	533	1,427
Earnings before taxes (EBT)	$ 62,411	$ 49,081	$ 74,742	$ 88,960	$ 100,831	$ 111,386	$ 121,270	$ 130,898	$ 140,546	$ 150,398	$ 160,585	$ 171,204
Tax expense	13,245	10,307	15,696	18,681	21,174	23,391	25,467	27,489	29,515	31,583	33,723	35,953
Net income before extraordinary items	$ 49,166	$ 38,774	$ 59,046	$ 70,278	$ 79,656	$ 87,995	$ 95,803	$ 103,410	$ 111,031	$ 118,814	$ 126,862	$ 135,251
After-tax extraordinary income (Expense)	0	0	(93)	(186)	(280)	(375)	(473)	(573)	(676)	(783)	(894)	(1,008)
Net income (NI)	$ 49,166	$ 38,774	$ 58,953	$ 70,092	$ 79,377	$ 87,620	$ 95,330	$ 102,837	$ 110,355	$ 118,031	$ 125,968	$ 134,243
Dividends-- preferred	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Dividends-- common	$ 25,183	$ 25,712	$ 26,639	$ 27,842	$ 29,255	$ 30,837	$ 32,567	$ 34,435	$ 36,436	$ 38,569	$ 40,839	$ 43,248
Additions to RE	$ 23,983	$ 13,062	$ 32,314	$ 42,249	$ 50,122	$ 56,783	$ 62,763	$ 68,402	$ 73,919	$ 79,461	$ 85,130	$ 90,995
Balance Sheets ($ Thousands)	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/24	12/31/25	12/31/26	12/31/27	12/31/28	12/31/29	12/31/30
Assets												
Cash	$ 35,665	$ 29,890	$ 35,052	$ 39,226	$ 42,866	$ 46,239	$ 49,510	$ 52,783	$ 56,128	$ 59,594	$ 63,214	$ 67,018
Inventory	77,942	84,783	89,036	93,817	99,059	104,725	110,800	117,281	124,177	131,501	139,271	147,510
Accounts receivable	87,871	83,231	93,373	102,119	110,183	117,987	125,789	133,761	142,020	150,648	159,712	169,263
Other short-term operating assets	10,050	7,954	10,385	12,214	13,699	14,994	16,191	17,347	18,501	19,678	20,896	22,167
Short-term investments	0	0	0	0	0	0	0	0	0	0	0	0
Total current assets	$ 211,528	$ 205,857	$ 227,846	$ 247,375	$ 265,808	$ 283,945	$ 302,290	$ 321,173	$ 340,826	$ 361,420	$ 383,093	$ 405,958
Net plant, property, & equipment (PPE)	58,444	58,674	63,724	68,464	73,122	77,835	82,689	87,742	93,040	98,617	104,501	110,720
Other long-term operating assets	458,526	464,623	502,033	537,812	573,437	609,784	647,422	686,745	728,054	771,590	817,564	866,173
Long-term investments	0	0	0	0	0	0	0	0	0	0	0	0
Total Assets	$ 728,498	$ 729,154	$ 793,603	$ 853,652	$ 912,367	$ 971,565	$ 1,032,400	$ 1,095,661	$ 1,161,920	$ 1,231,627	$ 1,305,158	$ 1,382,851
Liabilities and Equity												
Accounts payable (AP)	$ 16,113	$ 18,575	$ 19,937	$ 21,277	$ 22,637	$ 24,040	$ 25,503	$ 27,040	$ 28,658	$ 30,366	$ 32,172	$ 34,083
Accruals	29,486	15,697	25,364	32,280	37,594	41,977	45,839	49,433	52,925	56,422	59,997	63,701
Other operating current liabilities	10,361	12,133	9,661	8,253	7,496	7,150	7,070	7,166	7,385	7,690	8,060	8,484
All short-term debt	22,143	237,218	259,843	267,556	265,504	256,700	242,944	225,319	204,469	180,762	154,393	125,446
Total current liabilities	$ 78,103	$ 283,623	$ 314,805	$ 329,366	$ 333,230	$ 329,866	$ 321,356	$ 308,959	$ 293,437	$ 275,240	$ 254,623	$ 231,714
Long-term debt	244,884	38,159	24,368	15,556	9,965	6,434	4,210	2,815	1,943	1,400	1,065	860
Deferred taxes	47,211	35,062	49,067	59,876	68,588	76,003	82,671	88,966	95,136	101,352	107,730	114,352
Preferred stock	0	0	0	0	0	0	0	0	0	0	0	0
Other long-term liabilities	45,137	46,085	46,823	48,066	49,674	51,569	53,706	56,063	58,627	61,397	64,373	67,562
Total liabilities	$ 415,335	$ 402,929	$ 435,064	$ 452,864	$ 461,457	$ 463,872	$ 461,944	$ 456,803	$ 449,143	$ 439,389	$ 427,791	$ 414,488
Par plus PIC Less treasury (and other adjustments)	174,384	174,384	174,384	174,384	174,384	174,384	174,384	174,384	174,384	174,384	174,384	174,384
Retained earnings (RE)	138,779	151,841	184,155	226,404	276,526	333,309	396,072	464,474	538,393	617,854	702,984	793,979
Total common equity	$ 313,163	$ 326,225	$ 358,539	$ 400,788	$ 450,910	$ 507,693	$ 570,456	$ 638,858	$ 712,777	$ 792,238	$ 877,368	$ 968,363
Total liabilities and equity	$ 728,498	$ 729,154	$ 793,603	$ 853,652	$ 912,367	$ 971,565	$ 1,032,400	$ 1,095,661	$ 1,161,920	$ 1,231,627	$ 1,305,158	$ 1,382,851

Info for making the sheets balance												
Specified assets		729,154	793,603	853,652	912,367	971,565	1,032,400	1,095,661	1,161,920	1,231,627	1,305,158	1,382,851
Specified liabilities		491,988	533,814	586,153	646,923	714,927	789,520	870,408	957,520	1,050,936	1,150,839	1,257,481
Net required financing		237,165	259,788	267,499	265,444	256,638	242,880	225,253	204,400	180,690	154,319	125,370
Current debt		237,165	259,788	267,499	265,444	256,638	242,880	225,253	204,400	180,690	154,319	125,370
Short-term investments		0	0	0	0	0	0	0	0	0	0	0
Balance check: TA-TL		**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**	**Balance**
Valuation												
Calculating Projected FCF												
Marginal tax rate	21.2%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Reported income tax expense	13,245	10,307	15,696	18,681	21,174	23,391	25,467	27,489	29,515	31,583	33,723	35,953
Taxes reported but not paid	(987)	(12,149)	14,005	10,809	8,712	7,415	6,669	6,295	6,170	6,216	6,378	6,623
Actual taxes paid	14,232	22,456	1,691	7,872	12,463	15,976	18,798	21,194	23,344	25,368	27,345	29,330
Plus tax saved due to net interest expenses	3,803	2,052	341	230	154	103	69	47	32	23	17	13
Minus tax paid on non-operating income	(1,566)	(1,582)	(1,365)	(1,167)	(979)	(797)	(616)	(436)	(255)	(73)	112	300
Tax on operating income	19,602	26,090	3,397	9,269	13,596	16,876	19,483	21,677	23,632	25,464	27,250	29,043
Net operating profit after taxes (NOPAT)	68,112	40,297	79,469	86,343	92,631	98,793	105,049	111,521	118,283	125,389	132,881	140,795
NOPAT adjusted for extraordinary income	68,112	40,297	79,375	86,157	92,352	98,418	104,576	110,948	117,606	124,606	131,988	139,787
Operating current assets	211,528	205,857	227,846	247,375	265,808	283,945	302,290	321,173	340,826	361,420	383,093	405,958
Operating current liabilities	55,960	46,405	54,962	61,810	67,726	73,167	78,412	83,639	88,968	94,479	100,230	106,268
Net operating working capital	155,568	159,452	172,884	185,566	198,082	210,779	223,878	237,533	251,858	266,942	282,862	299,690
Operating long term capital	516,970	523,297	565,757	606,276	646,559	687,619	730,110	774,488	821,094	870,206	922,066	976,893
Operating capital (adjusted for any special asset impairment of ac	672,538	682,749	738,641	791,842	844,641	898,398	953,988	1,012,021	1,072,952	1,137,148	1,204,928	1,276,583
Investment in operating capital	42,664	10,211	55,892	53,202	52,799	53,757	55,591	58,033	60,931	64,196	67,780	71,655
Free cash flow (including extraordinary income)	25,448	30,086	23,484	32,955	39,553	44,661	48,986	52,915	56,676	60,410	64,208	68,132
Calculating Projected ROIC												
ROIC (NOPAT/ Beginning capital)	10.8%	6.0%	11.6%	11.7%	11.7%	11.7%	11.6%	11.6%	11.6%	11.6%	11.6%	11.6%
Projected Growth Rates												
Growth in Sales		2.1%	3.6%	4.5%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%	5.9%	5.9%
Growth in NOPAT		-40.8%	97.0%	8.5%	7.2%	6.6%	6.3%	6.1%	6.0%	6.0%	5.9%	5.9%
Growth in operating capital		1.5%	8.2%	7.2%	6.7%	6.4%	6.2%	6.1%	6.0%	6.0%	6.0%	5.9%
Growth in FCF		18.2%	-21.9%	40.3%	20.0%	12.9%	9.7%	8.0%	7.1%	6.6%	6.3%	6.1%
Calculating Value												
WACC	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%	5.91%
Assumed long-term return on invested capital												
Horizon value												
Value of operations	1,837,161	1,915,715	2,005,516	2,091,155	2,175,262	2,259,233	2,343,845	2,429,533	2,516,526	2,604,929	2,694,762	2,785,983
Value of operations adjusted for half-year convention	1,890,701	1,971,544	2,063,961	2,152,097	2,238,654	2,325,073	2,412,151	2,500,335	2,589,864	2,680,843	2,773,294	2,867,174
Value of investments	0	0	0	0	0	0	0	0	0	0	0	0
Total value of firm	1,890,701	1,971,544	2,063,961	2,152,097	2,238,654	2,325,073	2,412,151	2,500,335	2,589,864	2,680,843	2,773,294	2,867,174
Value of all debt, preferred stock, and other nonoperating liabilities	312,164	321,462	331,035	331,178	325,143	314,702	300,861	284,197	265,039	243,558	219,831	193,868
Value of equity	1,578,537	1,650,082	1,732,927	1,820,919	1,913,511	2,010,371	2,111,290	2,216,138	2,324,825	2,437,285	2,553,464	2,673,306
Number of shares	22,795	22,795	22,795	22,795	22,795	22,795	22,795	22,795	22,795	22,795	22,795	22,795
Estimated price per share, end of fiscal year	**$ 69.25**	**$ 72.39**	**$ 76.02**	**$ 79.88**	**$ 83.94**	**$ 88.19**	**$ 92.62**	**$ 97.22**	**$ 101.99**	**$ 106.92**	**$ 112.02**	**$ 117.27**

Price per share on target date													
Most recent actual fiscal year end	12/31/2019												
Target valuation date	12/31/2020												
Most recent fiscal year-end prior to target date	12/31/2020												
Number of days from target to fiscal year-end prior to target	0.00												
Value of operations on target date	1,971,544												
Value of investments on target date	0												
Total value of firm on target date	1,971,544												
Value of debt, preferred stock, and other nonoperating liabilities on target date	321,462												
Value of equity on target date	1,650,082												
Number of shares on target date	22,795												
Price per share, target date	**$ 72.39**												
Selected Projected Ratios and Other Data													
Projected economic profit (EP)		68,111	527	39,001	42,478	45,527	48,471	51,450	54,534	57,761	61,158	64,743	68,534
Projected market value added (MVA)		1,218,163	1,288,795	1,325,321	1,360,255	1,394,013	1,426,675	1,458,163	1,488,314	1,516,912	1,543,695	1,568,366	1,590,591
Price/earnings ratio (P/E ratio)		32.1	42.6	29.4	26.0	24.1	22.9	22.1	21.6	21.1	20.6	20.3	19.9
Market to book ratio		5.0	5.1	4.8	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.8
Value/EBITDA ratio		17.7	22.3	19.6	18.2	17.2	16.5	16.0	15.5	15.1	14.8	14.4	14.0
Value/Sales ratio		3.3	3.4	3.4	3.4	3.4	3.3	3.3	3.2	3.1	3.1	3.0	2.9
Times-interest-earned ratio		4.9	6.8	51.0	87.2	144.7	236.0	379.7	601.4	932.3	1401.6	2020.9	2765.0
Long-term debt/value of operations			1.9%	1.2%	0.7%	0.4%	0.3%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%
Statement of Cash Flows													
Operating Activities													
Net income		$ 49,166	$ 38,774	$ 58,953	$ 70,092	$ 79,377	$ 87,620	$ 95,330	$ 102,837	$ 110,355	$ 118,031	$ 125,968	$ 134,243
Depreciation		19,212	21,912	22,247	22,890	23,793	24,904	26,184	27,609	29,164	30,839	32,633	34,545
Change in deferred tax		(987)	(12,149)	14,005	10,809	8,712	7,415	6,669	6,295	6,170	6,216	6,378	6,623
Change in inventory		4,054	(6,841)	(4,253)	(4,781)	(5,242)	(5,666)	(6,075)	(6,482)	(6,896)	(7,324)	(7,770)	(8,239)
Change in accounts receivable		(6,386)	4,640	(10,142)	(8,746)	(8,065)	(7,803)	(7,803)	(7,972)	(8,258)	(8,628)	(9,064)	(9,552)
Change in other short-term operating assets		(2,256)	2,096	(2,431)	(1,829)	(1,486)	(1,295)	(1,196)	(1,156)	(1,154)	(1,177)	(1,218)	(1,272)
Change in accounts payable		(2,590)	2,462	1,363	1,340	1,359	1,403	1,464	1,536	1,618	1,708	1,806	1,911
Change in accruals		6,074	(13,789)	9,667	6,915	5,314	4,384	3,861	3,595	3,492	3,497	3,575	3,704
Change in other current liabilities		6,157	1,772	(2,472)	(1,408)	(757)	(346)	(80)	97	218	305	371	423
Net cash from operating activities		$ 72,444	$ 38,878	$ 86,935	$ 95,283	$ 103,006	$ 110,615	$ 118,355	$ 126,358	$ 134,709	$ 143,467	$ 152,679	$ 162,386
Investing Activities													
Investment in PPE		$ (22,461)	$ (22,141)	$ (27,297)	$ (27,630)	$ (28,451)	$ (29,616)	$ (31,038)	$ (32,663)	$ (34,462)	$ (36,416)	$ (38,517)	$ (40,763)
Investment in other long-term oper. ass.		(36,623)	(6,097)	(37,409)	(35,780)	(35,625)	(36,347)	(37,637)	(39,324)	(41,308)	(43,536)	(45,975)	(48,609)
Net cash from investing activities		$ (59,084)	$ (28,239)	$ (64,706)	$ (63,410)	$ (64,076)	$ (65,964)	$ (68,675)	$ (71,987)	$ (75,770)	$ (79,951)	$ (84,492)	$ (89,372)
Financing Activities													
Change in short-term investments		$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Change in long-term investments		0	0	0	0	0	0	0	0	0	0	0	0
Change in short-term debt		(10,606)	215,075	22,625	7,713	(2,052)	(8,804)	(13,756)	(17,625)	(20,850)	(23,707)	(26,369)	(28,947)
Change in long-term debt		1,938	(206,725)	(13,791)	(8,812)	(5,591)	(3,531)	(2,223)	(1,395)	(873)	(543)	(335)	(204)
Preferred dividends		0	0	0	0	0	0	0	0	0	0	0	0
Change in preferred stock		0	0	0	0	0	0	0	0	0	0	0	0
Change in other long-term liabilities		21,912	948	738	1,243	1,608	1,895	2,137	2,357	2,565	2,769	2,976	3,189
Change in common stock (Par + PIC)		6,424	0	0	0	0	0	0	0	0	0	0	0
Common dividends		(25,183)	(25,712)	(26,639)	(27,842)	(29,255)	(30,837)	(32,567)	(34,435)	(36,436)	(38,569)	(40,839)	(43,248)
Net cash from financing activities		$ (5,515)	$ (16,414)	$ (17,066)	$ (27,700)	$ (35,290)	$ (41,278)	$ (46,409)	$ (51,099)	$ (55,594)	$ (60,050)	$ (64,566)	$ (69,211)
Net cash flow		$ 7,845	$ (5,775)	$ 5,163	$ 4,174	$ 3,640	$ 3,373	$ 3,271	$ 3,273	$ 3,345	$ 3,465	$ 3,621	$ 3,803
Starting cash		27,820	35,665	29,890	35,052	39,226	42,866	46,239	49,510	52,783	56,128	59,594	63,214
Ending cash		$ 35,665	$ 29,890	$ 35,052	$ 39,226	$ 42,866	$ 46,239	$ 49,510	$ 52,783	$ 56,128	$ 59,594	$ 63,214	$ 67,018

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