

December, 1, 2017

**Company Name: THO**  
 Tommaso Centemero

**Sector:** Consumer Discretionary  
**Industry:** Automobiles  
**Current Price:** \$151.59  
**Target Price:** \$172.61

Thor Industries is the US market leader in recreational vehicles, owning 48.5% of the market share. The company operates in two segments, towable vehicles and motorized vehicles. Towable vehicles include both travel trailers and fifth wheelers while the motorized segment includes class A, B and C motorhomes.

**BUY**

Current Price:	\$151.59
Target Price:	\$172.61
Target Return:	14.99%
Market Cap:	7.9B
Rev. Growth YoY	58.2%
EBITDA Growth YoY:	45%
ROIC:	22.1%
WAAC:	9.2%
D/E:	0.053



**Thesis:** Thor will capitalize on economic and demographic trends, which currently place the company in a scenario of potential exponential growth. An elevated capital expenditure in production facilities, along with the improvement in operating efficiencies and the rising demand for RV's and Motorhomes has allowed the company to undertake an impressive CAGR on both Revenue and EBITDA. The faster growth of the towable segment will allow the company to increase its profitability as such segment currently demonstrates the highest operating margin. The company has also invested in delevering its balance sheet, decreasing the amount of debt by 75% in the last two fiscal years, reducing substantially its interest expense and driving up its net income. Greater returns are forecast ahead as the company will successfully secure a portion of this new wave of first time buyers through its expanded capacity and therefore will capitalize on its increased profitability.

**Catalysts:**

- While both segments of the company grow at a rapid pace, the faster growth of the towable segment will drive up the company's EBITDA margin, increasing the company's profitability.
- In response to a rising demand, Thor Industries has invested heavily on the expansion of their current facilities and on the construction of new plants.
- Demographic and macro-economic trends are favorable at the moment and will lead Thor to an exponential growth



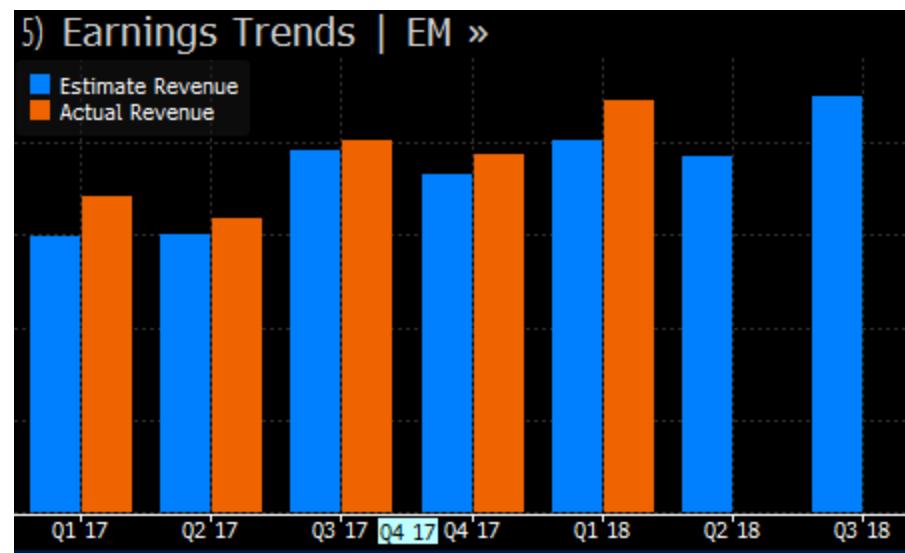
## Business Overview:

Thor Industries is the largest manufacturer of RV's in North America holding 50.9% of the market for travel trailers and fifth wheels and 39.6% of the market share for motorhomes between United States and Canada. The company was founded in 1980, with the acquisition of Airstream, a predominant RV manufacturer at the time, and went public in 1984. Since then, the company has grown exponentially through organic growth and strategic acquisitions to increase its market share. It currently operates through 17 subsidiaries, who manufacture and sell products to non-franchise dealers who retail them to the public. The company is subdivided in two segments: towables and motorized vehicles. The towable segment makes up for 71% of the total revenue while the motorized segment consist on 27%. THO is currently traded at \$151.59 and has grown by roughly 50% since the beginning of the year, still showing significant margins to increase even more.

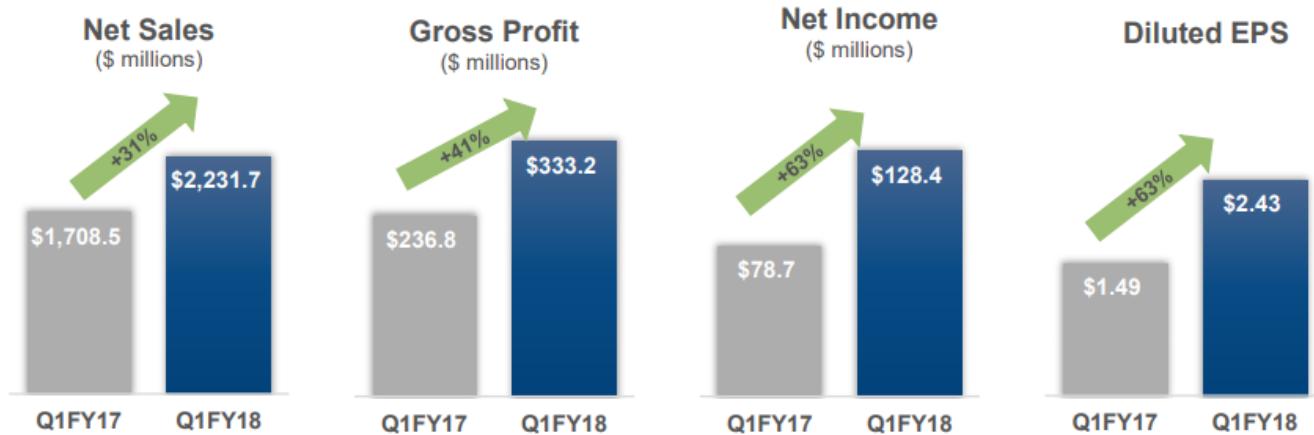


## Q1 Performance and Q2 Guidance:

Thor Industries recorded an outstanding start of its 2018 fiscal year, as it beat estimates on both sales and net income, setting up quarterly records on both metrics. The company achieved a record sales of \$2.23 billion, up 30.6% from Q1 2017 and a record net income of \$128.4 million, registering an increase of 63.1% from a year ago. This record was driven by double-digit sales growth in both segments; towables grew at a rate of 33.7% from a year ago while motorized increased by 22.8%. In particular, this growth is marked by a faster growth in towables, which has historically been growing at a lower rate relative to the other segment. Such factor enabled an enhancement in the company's margin year-over-year. The quarter was marked by the launch of the company's new marketing campaign, "Go Your Own Way. Such campaign aims to target younger families and a more diverse consumer base, as demographic trends indicate a shift in RV buyers. As part of the campaign, Thor provides a variety of tools to aid on the planning of a family trip such as advices and ranks on best parks, hiking trails and campgrounds in the US along with several videos displaying the benefits of an adoption of the "RV Lifestyle". A continuous capital expenditure has been dedicated to capacity expansion. Throughout Q1 2018, \$34 million have already been invested on facility enhancement and such investment is predicted to reach a total of \$185 million by the end of the fiscal year in order to ride along the forecast increase in demand. In addition, robust increase in consumer demand was noticed as consolidated RV backlogs rose substantially throughout the



quarter. The towables segment increased its backlog by 75% while the motorized segment's backlog rose by 59%. Such backlog is being addressed with the previously mentioned investments in capacity expansion, as an attempt to keep up with the growing RV popularity.



## Analysis by Segment:

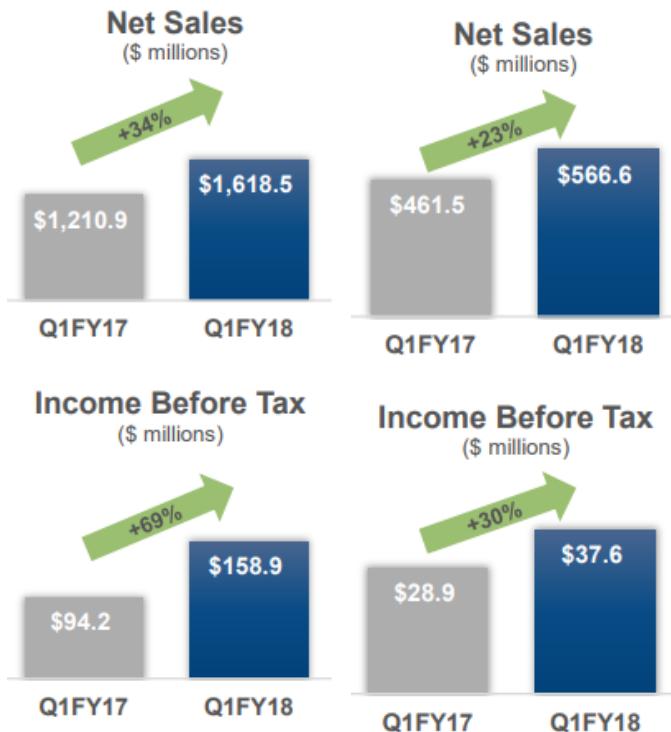
Both segments of the company have been growing at an impressive CAGR, significantly outpacing the market. While the RV Wholesale market of towable units have grown at a 5-year CAGR of 10.2%, Thor's towable segment has grown at a 5-year CAGR of 18%. Similarly, the motorized segment has been growing at

a 5-year CAGR of 41%, substantially above the 16.4% 5-year CAGR undertaken by the RV Wholesale market of motorized vehicles. However, a change in consumer focus was perceived during the last year as, since Q1 2017, towables grew by 34%, while the motorized segment grew by the lower rate of 23%. The increased growth in the segment of towables turns out to be extremely significant as the profitability of the company increases as its most profitable segment outpaces the other, while both are growing. In addition, the EBITDA margins of both segments have been constantly increasing, surpassing historical CAGRs. In particular, towables' EBITDA grew 69% from Q1 2018, compared to a 5 year CAGR of 24%. Moreover, such growth has a significant impact in the profitability of the company if compared to the 34% increase in sales also from Q1 2018. Investments aiming to achieve operational efficiencies through and optimize production, along with a better production planning process has contributed to a positive outcome as EBITDA has been growing twice as fast as sales and as Net income has grown three times faster than sales due to actions taken to pay off debt. Taking into account the heavy increase in backlog, particularly in the towable segment, the faster growth of this segment relative to motorized vehicles, and the move of customers towards more affordable options, I forecast an increase in EBITDA as moving forward the most profitable segment will increase in a faster rate. The growth of both segments will obviously be lower than the one presented in this quarter due to the seasonality of the products and it will taper off as time goes on.

Revenue and EBITDA per Segment								
TOWABLES	2012	2013	2014	2015	2016	2017	5 year CAGR	3- year CAGR
<b>Revenue</b>	\$2,285.90	\$ 2,650.30	\$ 2,721.60	\$ 3,096.40	\$ 3,338.70	\$5,127.50	18%	29%
<b>Revenue Growth</b>		16%	3%	14%	8%	54%		
<b>EBITDA</b>	\$ 159.00	\$ 205.70	\$ 221.10	\$ 259.10	\$ 321.90	\$ 458.90	24%	33%
<b>EBITDA Growth</b>		29%	7%	17%	24%	43%		
<b>EBITDA Margin</b>		7.76%	8.12%	8.37%	9.64%	8.95%		
<b>MOTORIZED</b>								
<b>Revenue</b>	\$ 353.90	\$ 591.50	\$ 803.80	\$ 870.80	\$ 1,094.30	\$1,971.50	41%	50%
<b>Revenue Growth</b>		67%	36%	8%	26%	80%		
<b>EBITDA</b>	\$ 18.50	\$ 43.90	\$ 57.30	\$ 66.70	\$ 88.50	\$ 125.30	47%	37%
<b>EBITDA Growth</b>		137%	31%	16%	33%	42%		
<b>EBITDA Margin</b>		7.42%	7.13%	7.66%	8.09%	6.36%		
<b>TOTAL</b>								
<b>Revenue</b>	\$2,639.80	\$ 3,241.80	\$ 3,525.50	\$ 4,006.80	\$ 4,582.10	\$7,247.00	22%	34%
<b>Revenue Growth</b>		23%	9%	14%	14%	58%		
<b>EBITDA</b>	165.4	222	252.8	292.9	383.3	556.4	27%	38%
<b>EBITDA Growth</b>		34%	14%	16%	31%	45%		
<b>EBITDA Margin</b>	6.27%	6.85%	7.17%	7.31%	8.37%	7.68%		

	3 Year Rev and EBITDA Forecast			
	2018	2019	2020	3-Year Forecast CAGR
<b>TOWABLES</b>				
Revenue	\$ 6,409.38	\$ 7,691.25	\$ 8,460.38	<b>14.89%</b>
Revenue Growth				
EBITDA	\$ 688.35	\$ 860.44	\$ 946.48	<b>17.26%</b>
EBITDA Growth	50%	25%	10%	
EBITDA Margin	10.74%	11.19%	11.19%	
<b>MOTORIZED</b>				
Revenue	\$ 2,267.23	\$ 2,493.95	\$ 2,618.64	<b>7.47%</b>
Revenue Growth				
EBITDA	\$ 150.36	\$ 172.91	\$ 181.56	<b>9.89%</b>
EBITDA Growth	20%	15%	5%	
EBITDA Margin	6.63%	6.93%	6.93%	
<b>TOTAL</b>				
Revenue	\$ 8,955.56	\$ 10,478.11	\$ 11,374.86	<b>12.70%</b>
Revenue Growth				
EBITDA	\$ 873.39	\$ 1,071.50	\$ 1,166.57	<b>15.57%</b>
EBITDA Growth				
EBITDA Margin	9.75%	10.23%	10.26%	<b>2.55%</b>

## TOWABLES VS MOTORIZED



## Capital Expenditure:

Due to a sharp increase in consumer demand, evident by the increase in backlog on both segments, Thor industries has invested heavily in capacity expansion, willing to increase its production rates and match the current high demand. During fiscal year of 2017, the company completed facility enhancements at several of its subsidiaries, totaling \$115 million in capital expenditure. During the first semester of fiscal year 2017, Thor opened two new Heartland facilities in Elkhart, IN and added a second production line to the existing facility in Nampa, Idaho. In addition, the company also opened a new manufacturing Jayco facility in Middlebury, IN and expanded the existing facility. During Q4 2017, Thor also added two new production facilities of the Keystone subsidiary in Goshen, IN and expanded its Thor Motor Coach (TMC) facility in Wakarusa, IN. Also during that quarter, TMC expanded its current facility by adding a second production line to its gas Class A motorhomes. Additionally, other three expansion projects were completed during Q1 2018. Both Heartland and Jayco opened a new production facilities in Middlebury, IN, and TMC added a new line to its production facility in Bristol, IN. In total, \$34.3 million were spent during the first quarter of 2018 on expansion projects. Looking forward, there are several more projects scheduled to be executed by the end of fiscal year 2018. Heartland is scheduled to open two new production facilities in Howe, IN and Jayco is also scheduled to open a mega facility in Middlebury, IN. Capital expenditure for 2018 is forecast to be around \$185 million. Out of the 12 project expansions mentioned above, 9 of them were directed to the towable segment and will be responsible for the production of travel trailers and fifth wheels. Therefore, the fact that 75% of the expansion has been directed to add to the towable segment supports its rapid growth in relation to the motorized segment, which will be beneficial to the company in the future taking into account the profitability of the segment. On average, a new plant will take from nine to twelve months to reach full consistent production, while a new line added to an existing facility may take a shorter period of time in order to launch. With that said, consistent returns on capital expenditures are still to be gained and sales are forecast to increase in the future as expansions on facilities begin to contribute. Backlogs will be fulfilled and the rising demand will be matched, giving Thor an opportunity to increase its market share even more and solidify its position as market leader.

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## Macro-Economic Favorable Trends:

As the purchase of Thor products requires a substantial financial capital from consumers, the current economic scenario has aided to an increased demand. The favorable employment and wage trend, along with relatively low interest rates, extended credit availability and stable fuel prices has allowed consumers to take advantage of such features and commit to purchase RVs, which will provide them with several cost savings in future vacations. As per demographic trends, 3.4 million of households have started camping in 2014, bringing a substantial addition to the already significant camping population. Among new campers in 2016, 72% of those were Gen X and millennials campers, a positive feature for the industry given that young campers support forecast of additional sales in the future. Out of the whole camping population in 2016, only 22% were RV campers, therefore indicating that there is an opportunity to convert a high percentage of campers into RV campers. In addition, the current trend towards a more active and healthy lifestyle along with the growing interest in activities such as equestrian events and pet shows have increased the demand for RVs. RVs provide to families the opportunity to take on unplanned vacations without significant expenses, avoiding costs related to renting vehicles, staying in hotels and eating at restaurants, and the more affordable prices presented in the market have driven families to commit to the RV lifestyle. The market is currently

reflecting this favorable scenario, as sales have been growing at a CAGR of 10.9% over the past 5 years. Such CAGR is forecast to increase as innovative products are constantly being released at affordable prices and as the increase in technology within RVs is attracting more campers. Thor Industries will capitalize on this upward trend as the company is well positioned across all products offered in the market through its subsidiaries, being the leader in the industry in the US and the preferred option of all first time buyers.



## Competition:

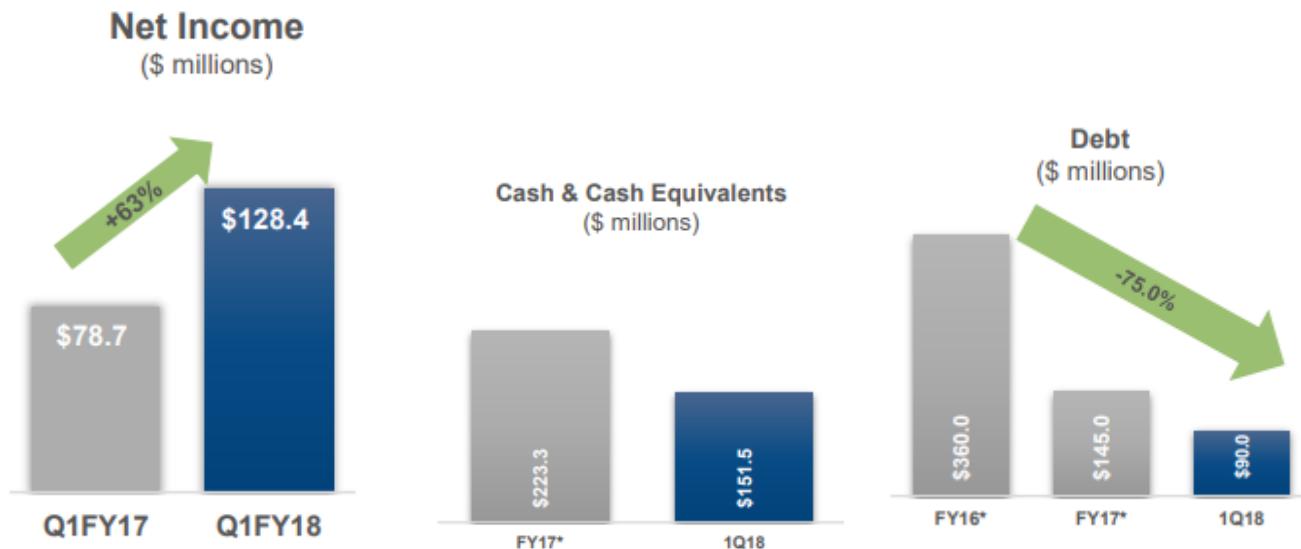
Thor Industries is currently well placed in the market, being the industry leader with 48.5% of the market share. The only substantial competitor is Forest River (not publicly traded), who makes up for 34.4% of the market. The remaining competitors make up for less than 4% of the market each, therefore imposing a small threat on the predominance of THO. Out of Thor's five main competitors, only two are currently publicly traded. Being a company of significantly lower size, Winnebago Industries is the company who presents the highest metrics, with an impressive growth in sales and EBITDA. However, Thor Industries is computing higher Capital Expenditures as a percent of sales and a higher return on invested capital, therefore placing themselves in a better position to deal with the increasing consumer demand. With the constant investment in capacity expansion, Thor is forecast to increase even more its market share and capitalize on this predicted wave of new first time buyers, which will enable them to maintain its position as market leaders and secure a significant share of future sales.

Name	Sales Growth (%)	EBITDA Growth (%)	EBITDA Margin	Operating Income Margin	Net Income Growth (%)	Net Profit Margin	pex/Sales (%)	Return on Invested Capital	Return on Assets	Return on Equity
Median	47.71%	79.92%	9.29%	8.08%	45.65%	4.96%	1.59%	18.22%	11.86%	21.61%
100) THOR INDUSTRIES INC	47.71%	45.49%	9.29%	8.08%	45.65%	5.44%	1.59%	24.23%	16.61%	28.10%
101) WINNEBAGO INDUSTRIES	58.64%	114.35%	10.69%	8.62%	56.00%	4.96%	0.90%	18.22%	11.86%	21.61%
102) REV GROUP INC	15.42%	--	5.25%	3.64%	-4.06%	1.65%	2.52%	8.22%	3.24%	8.85%

	YTD 9/30/17		Y/E 12/31/16		Y/E 12/31/15		Y/E 12/31/14	
	Total	Share %						
THOR*	184,795	48.5%	195,973	47.4%	178,520	47.6%	160,663	48.9%
Forest River**	131,851	34.6%	144,909	35.1%	132,923	35.4%	112,979	34.4%
Grand Design	14,121	3.7%	11,717	2.8%	7,000	1.9%	4,174	1.3%
Winnebago	12,031	3.2%	13,093	3.2%	12,143	3.2%	10,395	3.2%
Gulfstream	4,546	1.2%	5,129	1.2%	4,806	1.3%	4,562	1.4%
REV Group	3,115	0.8%	3,237	0.8%	3,382	0.9%	4,888	1.5%
<b>Subtotal</b>	<b>350,459</b>	<b>92.0%</b>	<b>374,058</b>	<b>90.5%</b>	<b>338,774</b>	<b>90.3%</b>	<b>297,661</b>	<b>90.5%</b>
All Others	30,864	8.0%	39,211	9.5%	36,646	9.7%	31,205	9.5%
<b>Grand Total</b>	<b>381,323</b>	<b>100.0%</b>	<b>413,269</b>	<b>100.0%</b>	<b>375,420</b>	<b>100.0%</b>	<b>328,866</b>	<b>100.0%</b>

## Debt:

Thor Industries took on a substantial amount of debt in 2016 for the acquisition of Jayco, an RV manufacturer who act now as a subsidiary of the company. On that year, Thor incurred a total of \$360 million in debt. Through the usage of available cash on hand, Thor has put effort in order to quickly pay down the debt. Such effort turned out to be successful as the total debt decreased by 75% during the last two fiscal years. A payment of \$55 million was made towards the existing debt during the first quarter of 2018, lowering the remaining balance to \$90M. Subsequent to the end of the first quarter, an additional payment of \$10 million was executed, thus bringing the remaining value to a total of \$80 million. With the execution of this payments, total interest expense was brought down to \$1.4M for the first quarter of 2018, compared to the \$2.6 million value computed in the same period of fiscal year 2017. In conclusion this decrease in interest expense was very significant to the profitability of the company, who computed a 63% increase in net income from a year ago. Although the company is now focused on organic growth and on the expansion of current facilities, the company remains opportunistic when it comes to evaluating future acquisitions and this quick pay down of debt is encouraging as the company may not be hesitant in taking on debt in order to finance future acquisitions that will allow the company to expand even more its client outreach.



## Ownership:

Thor Industries's securities are mainly owned by Investment Advisors, who currently own 74.71% of shares outstanding. The second major owners are Hedge Fund managers, currently owning 13.70 %. The remaining securities are split among individuals, banks, pension funds and so forth. Compared to a year ago, Hedge Fund ownership increased by 6.86%, therefore expressing their belief in a expected growth of the company. Another change to be noticed is the substantial increase in ownership of insiders, who increased its percentage of securities by 11.27% from a year ago. Such increase was mainly caused by Peter Orthwein, the President of the company, and Robert Martin, the CEO, who purchased several securities over the last year. Since July 31<sup>st</sup> 2017, deferred compensation plan assets increased by 11.5%, which represent investments in

securities. The company has a stock based compensation within its compensation system. As a matter of fact, CEO Robert Martin received 4.3M in restricted stock award during fiscal year of 2017. This compensation system is attractive to shareholders as it serves as an incentive to managers to grow the company, combining both individual and shareholder's interest.

Compare Current Stats Against	12/01/16	
Ownership Type	11/27/16	Curr ↓ Change
11) Investment Advisor	80.85	72.71 -8.14
12) Hedge Fund Manager	6.84	13.70 +6.86
13) Individual	4.30	4.08 -0.22
14) Bank	1.40	2.90 +1.50
15) Pension Fund	2.09	2.42 +0.33
16) Foundation	1.96	1.85 -0.11
17) Sovereign Wealth Fund		0.86
18) Insurance Company	1.05	0.74 -0.31
19) Brokerage	0.28	0.38 +0.10
20) Government	1.05	0.18 -0.87
21) Endowment	0.07	0.06 -0.01

Compare Current Stats Against	12/01/16	
Insider	11/27/16	Curr Change
11) % of Shares Held	4.30	4.37 +0.07
12) % Chg Insider Positions	-9.28	+1.99 +11.27
13) # of Insiders	11	11 0.00
14) # of Buyers Open Mkt	0	0
15) # of Sellers Open Mkt	1	3 +200.00
16) # of Shrs Bought Open Mkt	0	0
17) # of Shrs Sold Open Mkt	4,672	6,784 +45.21
18) Avg Open Mkt Buy Price	0	0
19) Avg Open Mkt Sell Price	85.69	116.23 +35.64

Holder Name	Portfolio Name	Opt	Source	Position ↓	% Out	Latest Chg	File Dt
1. ORTHWEIN PETER B		All	Insider	2,029,230	3.85	-2,784	09/18/17
2. MARTIN ROBERT W			Form 4	126,367	0.24	23,638	10/10/17
3. ZUHL COLLEEN A			Form 4	31,815	0.06	9,437	10/10/17
4. JULIAN KENNETH D			Form 4	30,974	0.06	5,495	10/10/17
5. WOELFER W TODD			Form 4	27,597	0.05	7,145	10/10/17

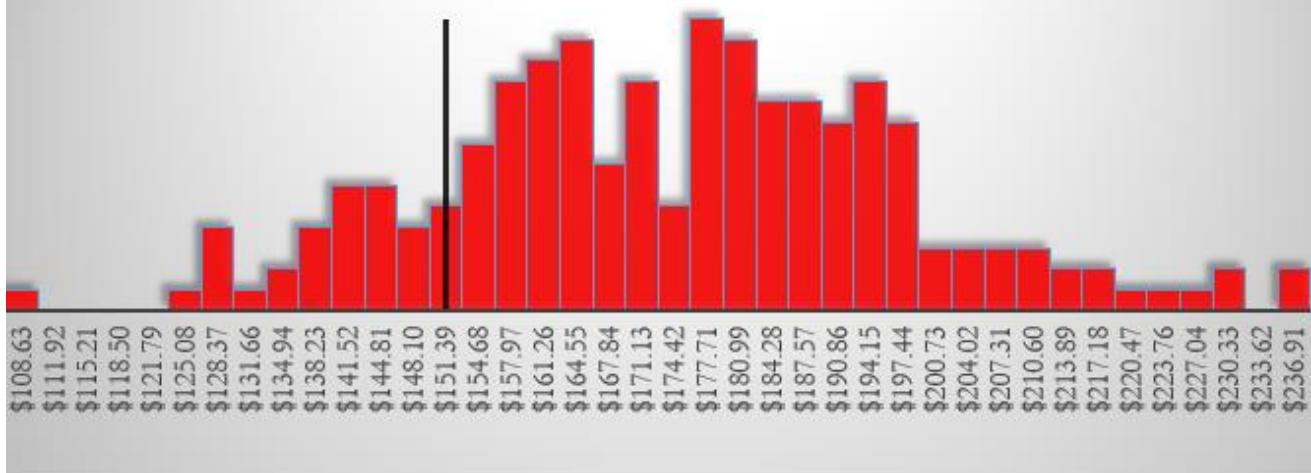
## What-If Analysis:

Realistic Case Scenario:

Revenue from Towables segment increasing at a faster rate compared to motorized segment. Rev growth of 24%, 17% and 9% on the next 3 years, tapering off to 2% within 10 years. Cost of Revenue decreasing from 90.9 to 89% due to operational efficiencies achieved with all synergies associated with the Jayco acquisition and with the capacity expansion.

Return: 14.99%

## Intrinsic Value Distribution--Probability (Upside)=83%

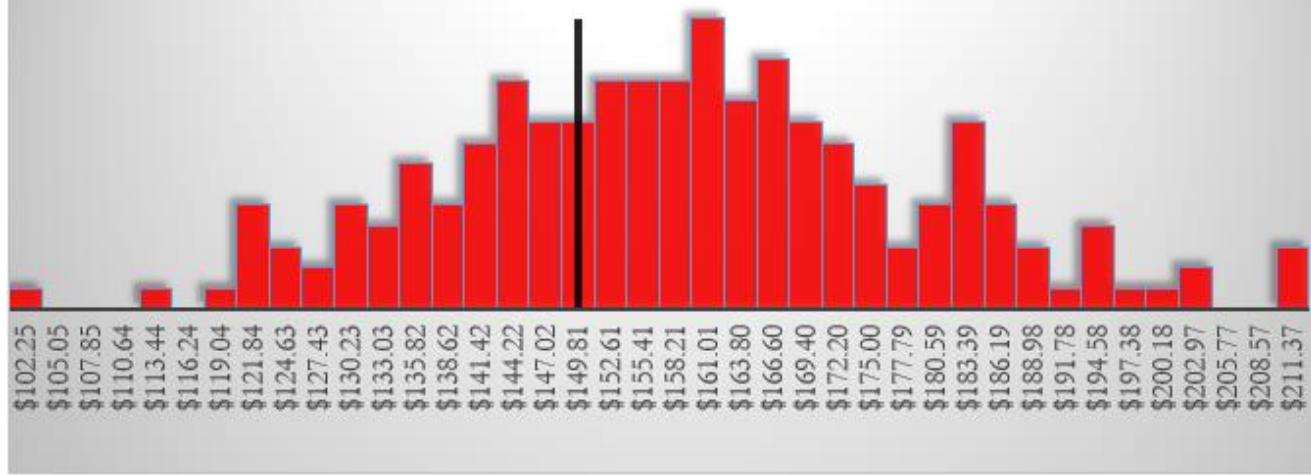


### Worst Case Scenario:

Revenue growth slows down to 15% within the next year, with a continued CAGR of the motorized segment outpacing the towable segment. Growth tapers off to 2% on the continuing period.

Return: 5.57%

## Intrinsic Value Distribution--Probability (Upside)=64.5%

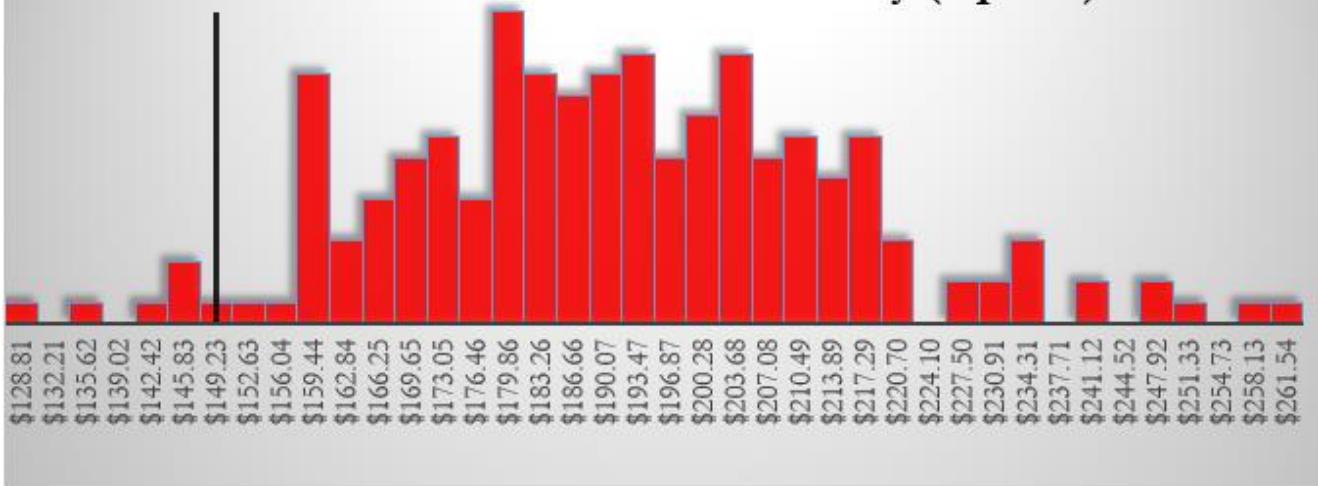


### Best Case Scenario:

Greater operational efficiencies are achieved due to an exponential growth of the towable segment and additional operational efficiencies expected from capacity expansion turn out as above expected. Revenues increase by 30% on the following year, tapering off to 2% within the next 10 years for the continuing period.

Return: 24.72%

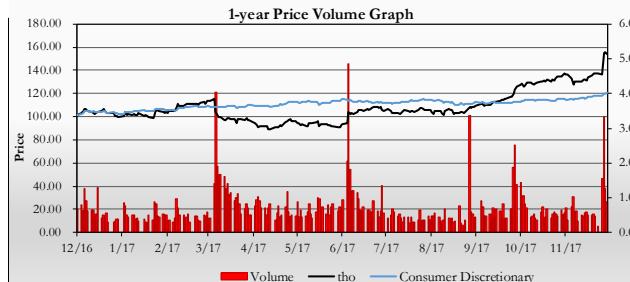
## Intrinsic Value Distribution--Probability (Upside)=96.5%



## Conclusion:

A bright future is ahead for Thor industries as macro-economic favorable scenario lays the foundation to a substantial increase in consumer demand, added to the also favorable change in demographics within buyers in the market. Thor Industries is working to capitalize on this increased demand by investing heavily in the expansion of its facilities and in the construction of new facilities that will support the increased backlog orders and the continuing increase in demand. In addition, Q1 of 2018 expressed positive signs forecasting and increase in the profitability of the company in the near future as the most profitable segment (towable) have outpaced the growth of the motorized segment and is forecast to continue this growth, as consumers are shifting to more affordable options.

**Thor Industries, Inc. (tho)**
**CENTER FOR GLOBAL FINANCIAL STUDIES**
**NEUTRAL**
**Analysis by RICK**  
 12/2/2017

**Current Price:**  
**Dividend Yield:**
**\$151.59**
**1.1%**
**Intrinsic Value:**  
**Target Price:**
**\$146.71**
**\$167.80**
**Target 1 year Return: 11.82%**  
**Probability of Price Increase: 83%**


**Description**

Thor Industries, Inc., through its subsidiaries, designs, manufactures, and sells recreational vehicles, and related parts and accessories primarily in the United States and Canada.

**General Information**

Sector: Consumer Discretionary  
 Industry: Automobiles  
 Last Guidance: November 3, 2015  
 Next earnings date: March 6, 2018  
 Estimated Country Risk Premium: 5.74%  
 Effective Tax rate: 24%  
 Effective Operating Tax rate: 24%

Market Data	
Market Capitalization	\$7,987.94
Daily volume (mil)	0.83
Shares outstanding (mil)	52.69
Diluted shares outstanding (mil)	52.79
% shares held by institutions	93%
% shares held by investments Managers	69%
% shares held by hedge funds	10%
% shares held by insiders	4.14%
Short interest	4.19%
Days to cover short interest	3.03
52 week high	\$156.86
52-week low	\$87.96
Volatility	25.23%

**Past Earning Surprises**

Quarter ending	Revenue
10/31/2016	13.83%
1/31/2017	5.10%
4/30/2017	3.49%
7/31/2017	4.07%
10/31/2017	12.89%
Mean	7.88%
Standard error	2.3%

**Peers**

EBITDA	Winnebago Industries, Inc.
14.90%	Brasswic Corporation
1.70%	Polaris Industries Inc.

Management	Position	Total compensations growth	Total return to shareholders
Orthwein, Peter	Co-Founder & Executive Chair	4.06% per annum over 6y	5.29% per annum over 6y
Martin, Robert	CEO, President & Director	28.15% per annum over 5y	14.87% per annum over 5y
Zuhl, Colleen	CFO & Senior VP	50.99% per annum over 4y	4.93% per annum over 4y
Julian, Kenneth	Senior Vice President of Adm	37.87% per annum over 3y	19.38% per annum over 3y
Woelfer, W.	Senior VP, General Counsel &	32.44% per annum over 4y	4.93% per annum over 4y
Byots, Bruce	Senior Director of Investor	N/M	N/M

Profitability	tho (LTM)	tho (5 years historical average)	Peers' Median (LTM)
Return on Capital (GAAP)	22.1%	21.23%	12.99%
Operating Margin	4%	4.08%	2.81%
Revenue/Capital (GAAP)	4.96	5.21	4.62
ROE (GAAP)	37.1%	22.6%	19.2%
Net margin	6.3%	5.8%	4.8%
Revenue/Book Value (GAAP)	5.90	3.90	4.02

Invested Funds	tho (LTM)	tho (5 years historical average)	Peers' Median (LTM)
Cash/Capital	10.8%	22.8%	5.6%
NWC/Capital	10.9%	14.6%	18.3%
Operating Assets/Capital	58.4%	35.4%	55.0%
Goodwill/Capital	19.9%	27.1%	21.1%

**Capital Structure**

tho (LTM)	tho (5 years historical average)	Peers' Median (LTM)
Total Debt/Market Capitalization	0.06	0.04
Cost of Existing Debt	4.0%	4.0%
CGFS Rating (F-score, Z-score, and default Probability)	BBB	CCC

WACC: 9.2%

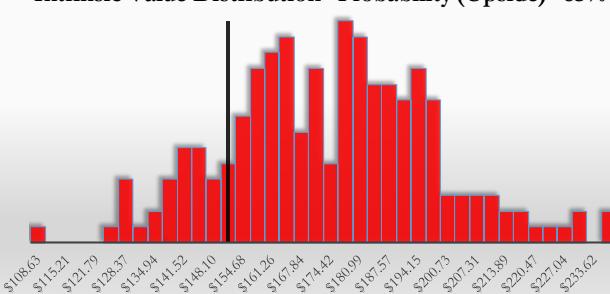
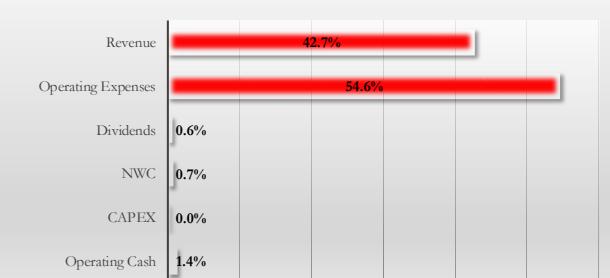
**Porter's 5 forces (scores are out of 100)**

**Period**

Period	Revenue Growth Forecast	NOPAT Margin Forecast	Revenue to Capital Forecast
Base Year	48%	6.9%	4.65
10/31/2018	24%	6.6%	5.18
10/31/2019	17%	7.0%	4.57
10/31/2020	9%	6.6%	3.91
10/31/2021	8%	6.8%	3.48
10/31/2022	7%	6.9%	3.12
10/31/2023	6%	7.1%	2.81
10/31/2024	5%	7.3%	2.54
10/31/2025	5%	7.4%	2.31
10/31/2026	4%	7.6%	2.10
10/31/2027	3%	7.7%	1.91
Continuing Period	2%	7.9%	1.74

**Period**

Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	31.9%	9.2%	\$149.61
10/31/2018	34.4%	13.8%	\$170.76
10/31/2019	31.9%	13.8%	\$192.30
10/31/2020	25.8%	13.5%	\$214.61
10/31/2021	23.5%	13.3%	\$237.58

**Intrinsic Value Distribution--Probability (Upside)=83%**

**Sensitivity Attribution Analysis**

**Valuation**

Period	Return on Capital Forecast	WACC Forecast	Price per share Forecast
Base Year	31.9%	9.2%	\$149.61
10/31/2018	34.4%	13.8%	\$170.76
10/31/2019	31.9%	13.8%	\$192.30
10/31/2020	25.8%	13.5%	\$214.61
10/31/2021	23.5%	13.3%	\$237.58