TITAN CAPITAL MANAGEMENT RESEARCH REPORT FOR: **TCM EQUITY & AWP PORTFOLIO**

Analyst(s): Brandon Leon and Israel Nazari Date: October 10, 2022

COMPANY/TICKER: **VALVOLINE, INC. (VVV) $25.35** **Stock** **BUY**

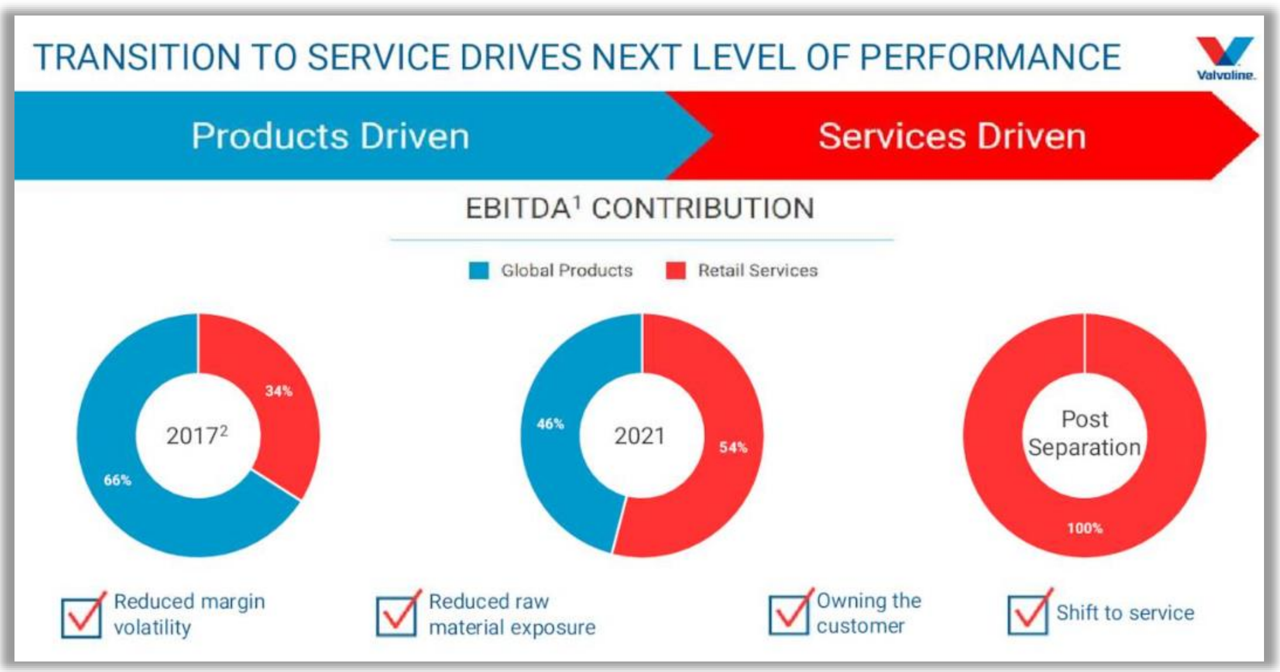
EXECUTIVE SUMMARY

We recommend a BUY rating for Valvoline (VVV) to the Equity & All-Weather portfolios due to three main drivers:

1) Deal allows Aramco to sell all of Valvoline's Global Products (VGP). Valvoline will focus solely on its faster-growing, higher-margin automotive service sector. The deal closed at $2.65b in August 2022.
2) Automotive Services are non-cyclical and used more for preventative care when a worsening economy is expected.
3) The long-term organic growth strategy is to expand 150 stores in North America annually and increase the retail footprint and increase revenues

With an estimated 17% discount to our weighted average value of $29.60, we believe there is an upside in the short and long term due to our critical drivers that allow Valvoline to justify this forecasted upside.

Key uncertainties: Un-diversifying its business model with the sale of its Global Products and strictly focusing on services, sales to Aramco might not materialize or transition as smoothly as anticipated, increasing mileage ranges before a service requirement causing a decrease in demand for oil changes, potentially fewer oil changes as E.V. becomes increasingly popular as true E.V. (not plug-in hybrid) cars do not need an oil change



*Rising oil prices would likely be an issue for Valvoline, however In May 2022, Valvoline increased its lube prices 15% to help pass all these costs onto their customers and will continue to try and do so in the future.

CATALYSTS

Deal with ARAMCO in 2023

<u>Valvoline to sell lubricant business to ARAMCO</u>

- Aramco has agreed to purchase Valvoline's Global Products business for $2.65 billion cash. Valvoline intends to focus on the growth of its Retail Services business with sales. Retail Services are the more prominent contributor to its revenues. Valvoline Global Products is a leading worldwide independent producer and distributor of premium branded automotive lubricants and chemicals.
- The cash infusion unlocks value for shareholders, which will be realized as share repurchases, dividends, and reinvestment in the growth of the retail services business.
- The partnership has real potential; Aramco has no downstream finished lubricant business. Aramco is interested in Valvoline, and buying the brand is part of the transaction.
  1) Aramco, being a long-term owner, wants to develop this business to diversify its brand while using Valvoline to help.
  2) Aramco signage is well seen; for Valvoline, this can be an added intangible benefit as advertising becomes more accessible and widespread.
  3) Deep pockets for Aramco compared to a minor private partner

Restructuring Segment supports Long-Term Growth

<u>Separating its Retail Services and Global Products Segments</u>

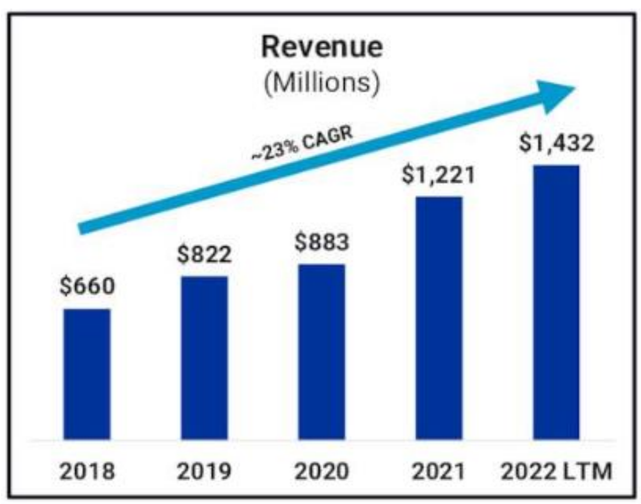
- Separation allows Valvoline to maximize the potential of its core business by capturing share and expanding non-oil change services revenue.
- The separation of Retail Services, which generated more than half of revenue and grew at an exceptional pace
- Top-line growth is projected by management to be 12-14% above internal projections with a 23-26% EBITA Margin after restructuring

<u>What it means to shareholders:</u>

- Accelerated profit growth, strong ROIC, and returns through share buybacks
- Focusing on the higher profit margin services sector, it will allow more free cash flow to be reinvested, and help grow the company

Long-term Targets

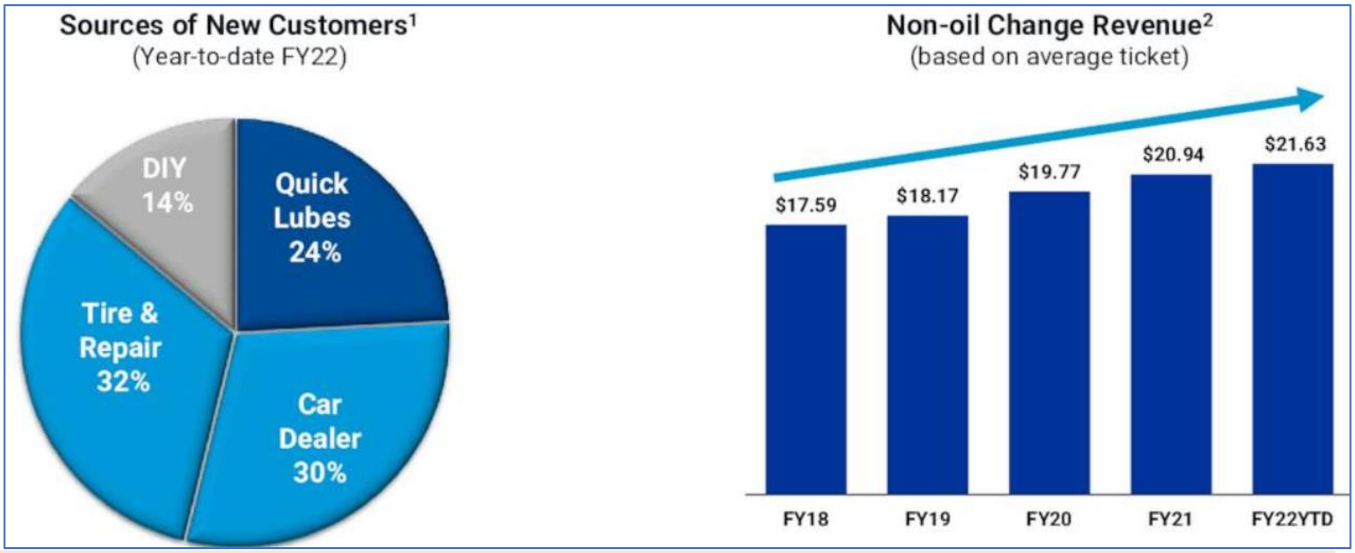
Sales Growth	12 – 14%
EBITDA[1] Margin	23 – 26%
Tax Rate	25 – 27%
Leverage Ratio	2.5 – 3.5x
EPS Growth[3]	~20%+



Large Store Footprint with Growing Retail Business

<u>Acquired 134 service center stores for $282 million in FY 21</u>

- Covid shutdown allowed Valvoline to gain market share as 99% of stores were open while competitors were closed
- Company same-store sales have grown year-over-year (YoY) for 15 consecutive years
- The footprint has grown faster than any other U.S. quick oil change competitor in the past four years.
- Intend to expand 75 company-owned stores & 75 franchised stores each year
- $200m in CAPEX spending per year, according to management, primarily to build stores
- EBITA is $1.5-2m per store with 35-40m annual maintenance CapEx
- Total company-operated facilities are now 1690 in 140 countries



Automotive Services -- Non-Cyclical Industry

<u>Preventative care in a weakening economy</u>

- Consumers less able to handle larger repairs in a weakened economy
- More likely to opt for minor services to mitigate the risk of a major repair
- New car purchases are typically postponed

COMPANY OVERVIEW

Valvoline Inc. is a global vehicle and engine care company based in Kentucky, USA, with 9,800 employees that continuously power the future of mobility through innovative services and products for electric, hybrid, and internal combustion powertrains.

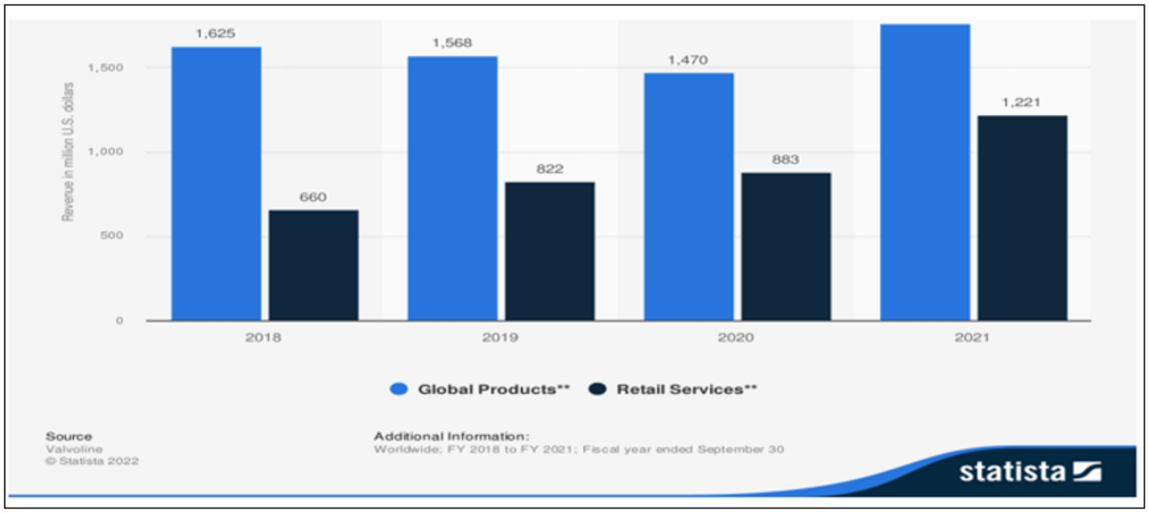
<u>Valvoline's business is currently divided into two divisions:</u>

- Retail Services (70% EBITA): services the passenger car and light truck quick lube market in the United States and Canada with a broad array of preventive maintenance services and capabilities performed through Valvoline's retail network.
- Global Products (30% EBITA): operates in over 140 countries and sells lubricants and other automotive and engine maintenance products primarily to automotive retailers, installers, and original equipment manufacturers (OEMs).

The separation of segments will allow Retail Services to continue its growth and focus on leveraging its world-class service model.

INDUSTRY OVERVIEW *(IBISWorld 'Industry at a Glance' July 2022 – Oil Change Services)*

The industry is expected to experience robust revenue growth over the next five years as consumers increasingly choose to spend on vehicle services, when necessary, as opposed to delaying maintenance. Consumers are expected to be in a better position to spend on maintenance and repairs. However, extended maintenance intervals will continue to be a concern over the next five years as new cars enter the market. As economic conditions are expected to improve by 2027, the amount of new cars sales is forecast to increase an annualized 0.6% over the five years to 2027. This gives consumers a stronger incentive to spend more in products such as new cars. In contrast, the average age of the US vehicle fleet is forecast to increase an annualized 0.7% over the five years to 2027



Over the past five years, many industry operators added simple repairs to the mix of overall services. This trend will continue over the next five years as consumers seek to keep its cars in good shape with small repairs to avoid larger repair costs. Consumers are more likely to spend on preventative care for cars during harder economic times to avoid a possible major repair later. Oil change providers are anticipated to continue including other value-added services to respond to a shift in demand for preventive repairs. Operators will need to focus on providing its existing customer to gain referrals.

Strategic Focus

Valvoline's retail presences drive solid same-store sales and continue to do so for a sustainable future. The company has faced discomforting exposure to volatility in gross margins due to its lack of competitive pricing in raw materials and supply-chain-related issues in recent years. By selling its Global Products (Lubricants) business, Valvoline disposes of that risk and can double down on its retail services business's growth. By separating the two, the company can have improved capital allocation by reinvesting money into the expansion of its surviving business, resulting in 20-30% ROIC, according to Mack Sharaf, VP of Investor Relations, and Treasurer for Valvoline. Additionally, the Retail Services business continues to strategically expand to other services and verticals (e.g., ICE vehicles, hybrid vehicles, and electric ones), maximizing shareholder value.

Objective: The industry leader in auto aftermarket services while giving customers easy access to vehicle care

1. Management states they wish to drive continued high levels of market share gains and non-oil change revenue growth in existing stores.
2. Expanding its retail footprint as a growth-oriented retail company with increased emphasis on franchise growth
3. Continue to invest in capabilities for fleets and E.V.s to capture new customer and service opportunities.

SWOT Analysis

Strengths:
- Successful track record of product innovation
- High level of customer satisfaction
- Good returns on capital expenditure

Weaknesses:
- Limited success outside core business
- Marketing of the products left a lot to be desired

Opportunities:
- Expand retail footprint with increased emphasis on franchisee growth
- Continue to invest in capabilities for fleets and E.V.'s to capture new customer and service opportunities

Threats:
- The rise in inflation increases the cost of production and affects the business profitability
- Shortage of skilled labor in the market

FINANCIAL ANALYSIS

Profitability

Company Name	Sales Growth (3 yr.)	Gross Margin (NTM)	EBIT Margin (NTM)	ROIC (NTM)	ROE (NTM)	Sales	EBITDA	Total Debt	Sales Growth	Gross Margin	EBIT Margin	ROIC	ROE	Avg. Rank	*Evaluation*
Valvoline	**74.10**	**26.52**	**17.62**	**20.60**	**349.40**	**$3,536**	**$567**	**$1,700**	**1**	**3**	**3**	**3**	**1**	2.5	*Profitable*
AutoZone	46.80	51.32	19.39	42.09	-	$15,817	$3,642	$6,057	3	1	2	1		1.8	*More Profitable*
O'Reilly Automotive	56.69	51.22	20.42	38.72	-	$13,738	$3,236	$4,670	2	2	1	2		1.8	*More Profitable*
BP ADR	-3.13	22.63	15.37	-8.54	-13.96	$203,852	$38,617	$52,866	4	4	4	4	2	4.0	*Less Profitable*

Valvoline's **3-year Sales Growth** of 74.10% is the highest amongst its peers. Valvoline continues to gain market share – retail presence drives solid same-store sales. Its same-store sales have grown faster than the U.S. quick oil change market year-over-year in the past 15 consecutive years. The company has the opportunity to increase retail sales shortly through the opening of additional stores, acquisitions, and expansion of service offerings.

With a **Return on Invested Capital** (ROIC) of 20.60%, Valvoline has efficiently generated profits for its investors. Valvoline plans to continue increasing the penetration of its entire product line to drive speed, efficiency, and value across the business and customer interactions.

Relative Value

Company Name	P/E (NTM)	P/B (NTM)	EV/Sales (NTM)	EV/ EBITDA	BV/Shr (NTM)	FCF/Shr (NTM)	Price	Price Target	P/E Rank	P/B Rank	EV/Sales	EV/ EBITDA	FCF/Share (NTM)	Avg. Rank	*Evaluation*
Valvoline	**13.26x**	**7.32x**	**1.76x**	**10.95x**	**3.43**	**-30.92**	**$25.12**	**$38.00**	2	2	2	2	4	**2.4**	*Fair Price*
AutoZone	17.27x	-	3.07x	13.44x	-182.77	-5.14	$2,174.00	$2,336.26	3		3	3	3	3.0	*High Price*
O'Reilly Automotive	20.51x	-	3.63x	15.42x	-5.78	2.38	$710.77	$768.63	4		4	4	2	3.5	*High Price*
BP ADR	4.53x	1.18x	0.57x	3.02x	26.26	164.86	$31.08	$36.88	1	1	1	1	1	1.0	*Low Price*

Valvoline's **P/E (NTM) ratio** of 13.26x is priced moderately amongst its peers, with plenty of upside potential. Valvoline is currently undervalued, being priced at $25.35 with a FactSet analyst consensus target price of $38.00, a 52-week low of $24.80, and a 52-week high of $37.97.

Leverage

Company Name	Curr Ratio	EBITDA / Int. Exp	Net Debt / EBITDA	LT Debt/ Ttl Capital	FCF Yield	Dividend Yield	Beta	Diluted Shares	Curr Ratio	EBITDA / Int. Exp	Net Debt / EBITDA	LT Debt/ Capital	Dividend Yield	FCF Yield	Debt Rank	Yield Rank
Valvoline	**1.64**	**7.77x**	**3.33x**	**87.04**	**4.56**	**1.60**	**1.13**	**180.0**	**1**	**4**	**4**	**2**	2	4	**2.8**	**3.0**
AutoZone	0.78	19.72x	2.38x	155.70	8.21	0.00	0.92	20.4	3	2	3	4	3	2	3.0	2.5
O'Reilly Automotive	0.75	22.82x	1.99x	113.70	5.62	0.00	0.92	65.7	4	1	2	3	3	3	2.5	3.0
BP ADR	1.10	14.45x	0.72x	41.33	14.15	4.80	1.00	3,269.9	2	3	1	1	1	1	1.8	1.0

Valvoline has the healthiest current ratio at 1.64 amongst its peers. This demonstrates its liquidity to pay short-term obligations in comparison to its peers. Although its Net Debt/EBITA is the highest amongst at 3.33x, management stated that it plans to use part of the $2.25 billion from the sale, net of taxes, to pay down a portion of the company's $1.7 billion in total debt. Also, due to maturities extending to 2030-2031, Valvoline is comfortable with its current debt position. With an EBITDA/interest expense ratio of 7.77x, Valvoline can quickly pay the interest on its outstanding debt without relying on funds from the sale.

VALUATION ANALYSIS

Discounted Cash Flow Model

Our DCF model shows that Valvoline is undervalued as per our weighted average price, implying an estimated 17% upside to an intrinsic value of $29.60 (See appendix: Discounted Cash Flow Model).

Revenue Growth: We anticipate that Valvoline will decline in revenue in 2022 compared to FY21 due to a 20% decrease in operating income from its Global Products services earlier in Q1 22. However, management expects top-line growth of 10-12% on average starting in 2023 and through 2026. The restructuring of Valvoline drives this will be able to expand margins by focusing on its lower-cost service model. We are averaging 10% in our base case, according to management.

EBIT Margin: Management claims Valvoline will be able to achieve an average EBIT margin of 21-24% over the next five years, starting in 2023, when the restructuring deal is complete. A slight decrease in FY22 is due to higher operating costs, including 'pulling forward' labor-related expenses.

- Restructuring and splitting retail services from global products will allow Valvoline to focus on the higher margin, higher growing, service industry. Management estimates these margins will stay around 23-25% in the future.

WACC: We estimated a **weighted average cost of capital** of 8.4% for Valvoline. We believe this WACC provides a fair assessment for our reasonable value estimate of $38.28 per share. We use a 10-year Treasury yield of 3.76% for the risk-free rate, a 3-year beta of 1.20 to ensure a conservative WACC, and 8.25% as the required market return to stay near street projections. FactSet reported a WACC of 8.01%, which we believe is too conservative for the current market environment.

Terminal Growth Rate: Our 1.75% perpetual growth rate is higher than IBISWorld's industry growth forecast of 1.5%. This forecast is based on Valvoline focusing on growth sectors and selling its products business to Aramco. In addition, expanding its service footprint, which will add 150 service centers per year, will help grow its market share faster than its previous annual industry growth of 1.2% between 2017 and 2021.

DCF Valuation Sensitivity Analysis

< terminal growth rate > / WACC >	8.0%	8.2%	8.4%	8.9%	9.4%
0.8%	$29	$27	$27	$24	$22
1.3%	$31	$30	$29	$26	$23
1.8%	**$34**	**$32**	**$31**	**$28**	**$25**
2.3%	$37	$36	$34	$30	$27
2.8%	$41	$39	$38	$33	$30

INVESTMENT RISKS

Strict Environmental Regulations

- Growing consumers prefer eco-friendly oil lubricants; strict regulations can make it costly for the lubricant industry to develop innovative products.
- Eco-friendly vegetables or plant oil-based lubricants are possibly natural and renewable resources.
- However, they are less stable than petroleum-based products (low thermo-oxidative stability and poor cold flow behavior)

Margin Pressures rising in recent quarters

- Rising labor costs: Along with higher salaries, Valvoline has 'pulled forward' several labor-related expenses to retain and attract employees. The company expects these pressures to ease in Q3 2022, but the industry's complex dynamic could take longer.
- Economic factors out of Valvoline's control, like oil pricing, could have an adverse effect on total miles driven, thus limiting potential sales or services.

Execution Risks

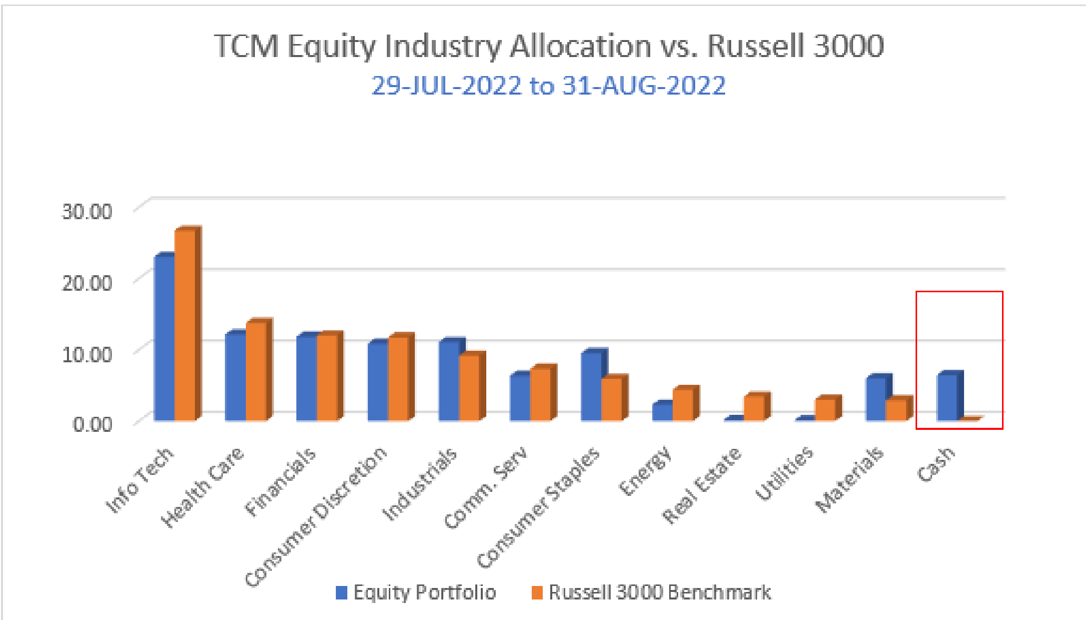
Valvoline's management team has set aggressive goals for growing its business. Some strategies include increasing sales, cash flow, market share, margins, and several VIOC stores to achieve this goal. However, in taking an aggressive growth approach, some execution risks arise.

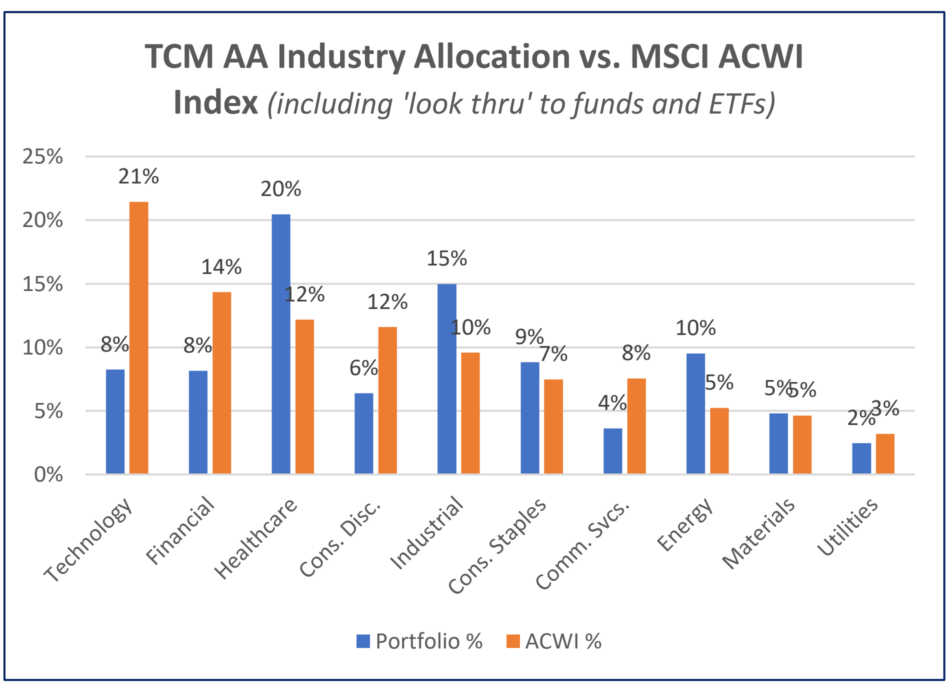
- Damage to Valvoline's brand and reputation could adversely affect its business if products fail to perform or if consistency problems are present.

- The success of Valvoline's growth is dependent on its ability to successfully develop and implement integrated digital platform(s) that will allow them to understand how customers act and engage with them.

PORTFOLIO IMPACT AND SUMMARY

Valvoline is a good business at a fair price with plenty of upside potential, making it a prudent addition to the Equity and All-Weather portfolios. The equity portfolio currently holds an excess of cash that needs to be reallocated to companies with positive fundamental factors regardless of how the overall market may be doing. Valvoline continues to drive robust and consistent growth and financial performance. The All-Weather portfolio can benefit from its ability to generate stable cash flows, growing store footprint, and be in a non-cyclical industry that will always require some demand.





APPENDIX

Company Name: Valvoline, Inc. (VVV)

Source: FactSet Fundamentals

Condensed Financial Data

	SEP '21	SEP '20	SEP '19	SEP '18	SEP '17	SEP '16	5-yr. Avg.
Revenue	$2,932	$2,254	$2,277	$2,088	$1,840	$1,694	$2,181
Growth	30.11%	-1.03%	9.05%	13.50%	8.61%		12.05%
Operating Margin	15.40%	18.40%	15.70%	16.50%	24.90%	23.40%	19.05%
Growth	-16.30%	17.20%	-4.85%	-33.73%	6.41%		-6.26%
EBIT / Int. Expense	6.10x	5.90x	5.10x	6.00x	12.30x	50.20x	14.27x
Growth	3.39%	15.69%	-15.00%	-51.22%	-75.50%		-24.53%
Total Debt / EBITDA	3.40x	4.10x	3.20x	3.20x	2.10x	1.50x	2.92x
Growth	-17.07%	28.13%	0.00%	52.38%	40.00%		20.69%
LT Debt / Total	91.50%	101.80%	121.30%	132.40%	102.50%	174.20%	120.62%
Growth	-10.12%	-16.08%	-8.38%	29.17%	-41.16%		-9.31%
Return on Inv. Cap.	18.90%	19.10%	19.80%	17.00%	44.20%	53.50%	28.75%
Growth	-1.05%	-3.54%	16.47%	-61.54%	-17.38%		-13.41%
Gross Profit Margin	32.90%	36.70%	33.90%	35.30%	37.20%	40.60%	36.10%
Growth	-10.35%	8.26%	-3.97%	-5.11%	-8.37%		-3.91%
Net Margin	14.10%	13.50%	8.70%	7.30%	14.60%	14.20%	12.07%
Growth	4.44%	55.17%	19.18%	-50.00%	2.82%		6.32%
EPS (diluted)	$2.30	$1.69	$1.10	$0.84	$1.49	$1.33	$1.46
Growth	36.09%	53.64%	30.95%	-43.62%	12.03%		17.82%
Dividends per Share	$0.50	$0.45	$0.42	$0.30	$0.20	$0.00	$0.31
Growth	11.11%	7.14%	40.00%	50.00%	#DIV/0!		#DIV/0!
Return on Equity	#######	0.00%	0.00%	0.00%	0.00%	190.20%	268.98%
Growth	n/a	n/a	#DIV/0!	#DIV/0!	-100.00%		n/a

Source: FactSet Fundamentals

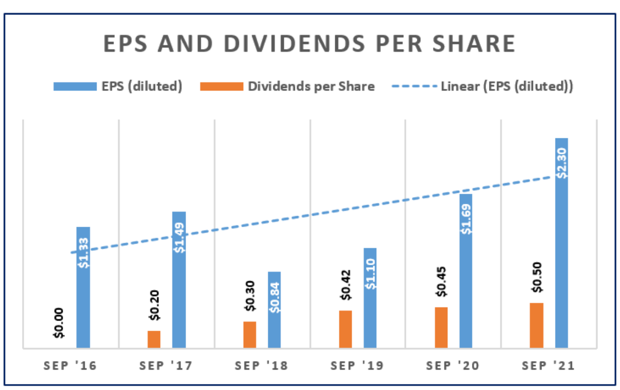
Capital Structure

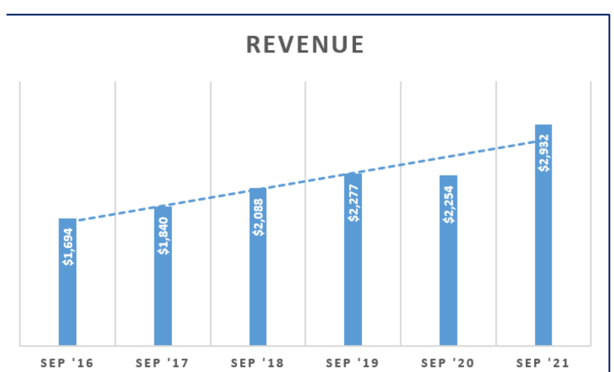
Valvoline, Inc. (VVV)		
Process Industries	*<=Industry*	
Chemicals: Major Diversified	*<=Sub-Sector*	
Fully Diluted Market Cap.	4,893	*74.2%*
+ Long-term Debt	1,639	*24.8%*
+ Short-term Debt	61	*0.9%*
- In-the-Money Convertible Debt	-	
- Cash & Equivalents	-100	*-1.5%*
+ Preferred Stock	-	
- In-the-Money Convertible Pfd.	-	
- Investments in Unconsol. Subs	-48	*-0.7%*
+ Non-Controlling Interest	0	*0.0%*
+ Pension Liabilities	151	*2.3%*
Enterprise Value	**$6,596**	*100%*

Stock Statistics

Beta	1.13
P/E (next 12 months)	14.37
52-week low	$26.70
52-week high	$37.97
Dividend Yield	1.60%
WACC (per FactSet)	7.70%
ROIC - WACC	21.05%

5 yr. average ROIC OK: equal to or better than required return





INDUSTRY TRENDS

Key Trends

New car sales are estimated to decrease, dampening industry demand

An abrupt decline in industry demand caused industry profit to drop considerably

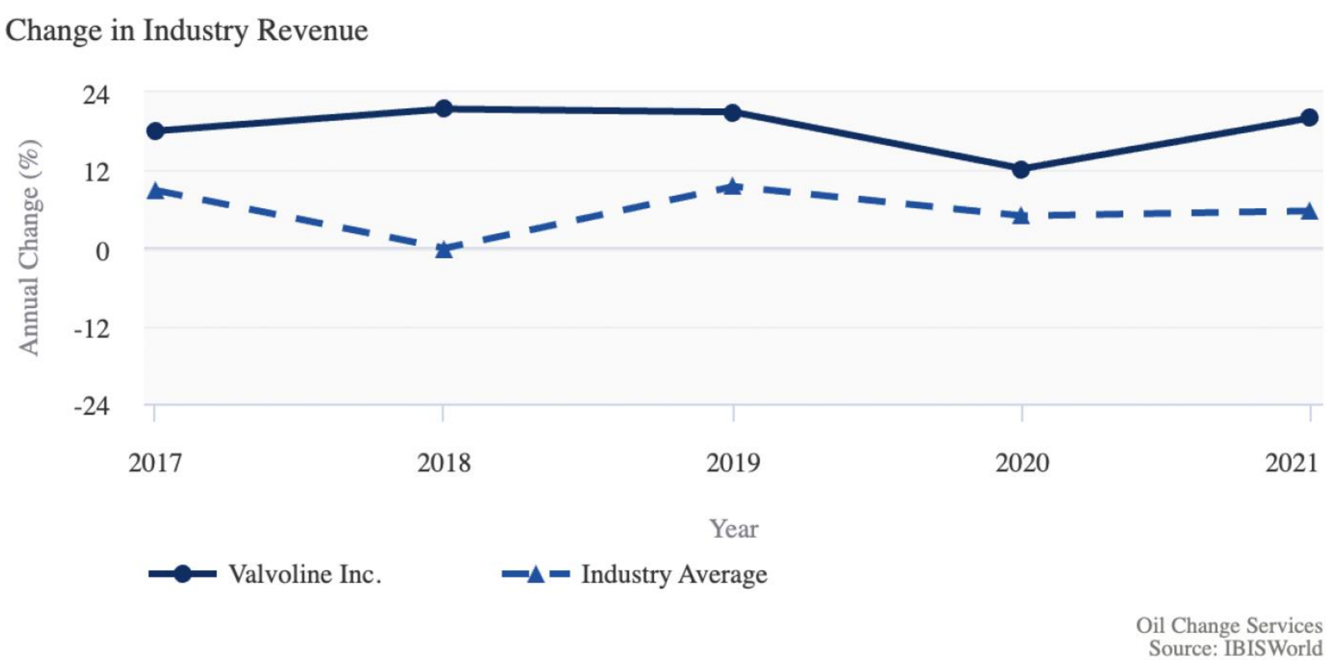
The industry has experienced strong external competition from major retailers

The implications of new, more efficient motor oils will complicate inventory management, which could hurt profit

Operators will need to focus on providing quality service to gain strong referral business

External competition will likely affect growth as major retailers continue to pose price competition

An unprecedented reduction in demand at the end of the period has placed downward pressure on industry profit



DISCOUNTED CASH FLOW MODEL

BASE CASE Projected Cash Flows	2022	2023	2024	2025	2026		Annualized trailing 5-yr. revenue growth for the industry >
BASE CASE *Revenue Growth (see avg. H26) >*	*-11.0%*	*14.0%*	*13.5%*	*13.0%*	*12.0%*	*7.8%*	*< Annualized avg TCM forecast revenue growth* *0.0%*
Total Revenue	**$3,341.5**	**$3,809.3**	**$4,323.6**	**$4,885.7**	**$5,471.9**		*Growth is projected to increase marginally and level around 12-14%*
Average Analyst Forecast Sales	*$2,734*	*$2,686*	*$1,996*	*-*			
Growth (%)	*-22.68%*	*-1.76%*	*-25.69%*	*0.00%*	*0.00%*	*-10.8%*	*< Annualized average analyst Net Income growth estimates*
BASE CASE *EBIT Profit Margin (see avg. H28)>*	*19.0%*	*22.4%*	*23.1%*	*22.7%*	*22.5%*	*21.9%*	*< Annualized average TCM forecast EBIT growth*
Earnings Before Interest and Taxes (EBIT)	$634.9	$853.3	$998.7	$1,109.0	$1,231.2		*Management is striving for 23-26% Ebit Margins after restructure*
Less: Tax	-$194.6	-$261.5	-$306.1	-$339.9	-$377.3		*Service sector has much higher margins than retail*
Net Operating Profit After Tax (NOPAT)	$440.3	$591.8	$692.7	$769.2	$853.9		
Less: Interest	-$86.6	-$98.7	-$112.1	-$126.6	-$141.8		
Net Income	**$353.7**	**$493.1**	**$580.6**	**$642.5**	**$712.0**		
Average Analyst Forecast Net Income	*$182.0*	*$209.0*	*-*	*-*			
Growth (%)	*-58.16%*	*14.84%*	*0.00%*	*0.00%*	*0.00%*	*-13.6%*	*< Annualized average analyst Net Income growth estimates*
Change to shares: buybacks (-), new issues (+) >	*-0.9%*	*-0.8%*	*-0.7%*	*-0.6%*	*-0.5%*	*0.00%*	*< Historical annualized 5-yr. change in # of shares (for reference)*
Forecast Earnings per Share	**$2.01**	**$2.83**	**$3.36**	**$3.74**	**$4.16**		*$40m buy back issued from $100m -- growth driven company now*
Growth (%)	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*< Annualized average TCM EPS growth forecast*
Average Analyst Forecast Earnings per Share	*$1.89*	*$2.17*	*$2.15*	*-*			
Growth (%)		*14.8%*	*-0.9%*	*0.0%*	*0.0%*	*2.6%*	*< Annualized average analyst EPS growth estimates*
EPS Forecast OK ^							
Plus: Depeciation	$87.0	$99.2	$112.6	$127.2	$142.5		
CapEx % of Sales Forecast (see avg. H31)>	*6.0%*	*5.1%*	*4.5%*	*4.1%*	*3.7%*		*FY2023 Capex will be 200m going forward according to management*
Less: Capital Expenditures	-$200.0	-$200.0	-$200.0	-$200.0	-$200.0		*teams -- % Calc from Revenue*
NWC % of Sales Forecast (see avg. H33) >	*16.0%*	*15.4%*	*15.0%*	*14.8%*	*14.6%*		*Forcasted from Revenue thru FY24 with historical (15%)taper*
Net Working Capital	534.6	586.6	648.5	723.1	798.9		
Less: Increase in Net Working Capital	66.6	52.0	61.9	74.5	75.8		
Free Cash Flow	**$174.1**	**$340.2**	**$431.3**	**$495.2**	**$578.7**		
Growth (%)	*-33.1%*	*95.5%*	*26.8%*	*14.8%*	*16.9%*	*17.4%*	*< Annualized average TCM EPS growth forecast*
Average Analyst Forecast Free Cash Flow	*$158.0*	*$177.0*	*-*	*-*			
Growth (%)	*-39.23%*	*12.03%*	*0.00%*	*0.00%*	*0.00%*	*-7.4%*	*< Annualized average analyst EPS growth estimates*

Discounted Cash Flow Model Valuation

Terminal Growth Rate *g* (after 5 years) => 1.75% *< Industry long-term growth rate >* *1.40%*

+/- competitive advantage

	2022	2023	2024	2025	2026	Terminal Value		
Base Case Cash Flow Present Value	**$161**	**$290**	**$339**	**$359**	**$387**	**$5,957**	*8.36%*	*< Median WACC*
Pessimistic Cash Flow Present Value	$186	$231	$260	$241	$246	$3,777		
Optimistic Cash Flow Present Value	$161	$323	$400	$410	$424	$6,523		

	Pessimistic DCF Scenario	**Base Case DCF Scenario**	**Optimistic DCF Scenario**	**FactSet Analyst Average**		*Current Market Value*
Total Present Value of Cash Flows (EV)	$4,941	**$7,493**	$8,241			
Net Debt (Current Debt + LT Debt - Cash)	$1,962	$1,962	$1,962			
Equity Value (EV - Net Debt)	$2,979	**$5,531**	$6,279			
Number of Shares Outstanding	177	177	177			
Estimated Stock Value (DCF Method)	$16.81	**$31.21**	$35.44	**$38.00**	Avg. Analyst Target Price	*$25.35*
Current Market Price	$25.35	$25.35	$25.35	Overweight/Buy	Average Analyst Rating	
Overvaluation (+), Undervaluation (-)	34%	**-23%**	-40%	-50%		
	Overvalued	*Undervalued*	*Undervalued*	*Undervalued*		
Probability of scenario:	20%	50%	30%	**$29.60**	**Wtd. Scenario Valuation**	
				$25.35		
				-17%		
				Undervalued		

Price Range between Pessimistic and Optimistic DCF Scenarios

$16.81 to $35.44

Price Range between Wtd. Avg. Multiples and DCF

$0 to $29.6

PESSIMISTIC SCENARIO Projected Cash Flows	2022	2023	2024	2025	2026				
PESSIMISTIC CASE Revenue Growth Forecast >	-18.0%	12.0%	13.0%	8.0%	7.0%	3.7%	< Annualized avg TCM forecast reven	0.0%	Annualizec
Total Revenue	$2,899.5	$3,247.5	$3,669.6	$3,963.2	$4,240.6	Low Growth, Service sector was not as big of a driver as thought			
Average Analyst Forecast Sales	$2,734	$2,686	$1,996	-					
Growth (%)	0.0%	-1.8%	-25.7%	0.0%	0.0%	-6.1%	< Annualized average analyst Net Income growth estimat		
PESSIMISTIC CASE EBIT Profit Margin >	18.4%	21.0%	21.4%	19.3%	18.9%	19.8%	< Annualized average TCM forecast EBIT growth		
Earnings Before Interest and Taxes	$533.5	$682.0	$785.3	$764.9	$801.5	Service sector does not see the same growth it is/has with covid			
Less: Tax	-$163.5	-$209.0	-$240.7	-$234.4	-$245.6	Economy gets better and people buy new cars that do not require			
Net Operating Profit After Tax (NOPAT)	$370.0	$473.0	$544.6	$530.5	$555.9	servicing for a few years from third party dealers			
Less: Interest	-$75.2	-$84.2	-$95.1	-$102.7	-$109.9				
Net Income	$294.9	$388.8	$449.5	$427.8	$445.9				
Average Analyst Forecast Net Income	$182.0	$209.0	-	-					
Growth (%)	-58.2%	14.8%	0.0%	0.0%	0.0%	-13.6%	< Annualized average analyst Net Income growth estimat		
Change to shares: buybacks (-), new issues (+) >	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%	0.00%	< Annualized 5-yr. change in # of shares		
Forecast Earnings per Share	$1.65	$2.23	$2.60	$2.49	$2.61				
Growth (%)		35.3%	16.4%	-4.3%	4.8%	9.6%	< Annualized average TCM EPS growth forecast		
Average Analyst Forecast Earnings per Share	$1.89	$2.17	$2.15 -						
Growth (%)		14.8%	-0.9%	0.0%	0.0%	2.6%	< Annualized average analyst EPS growth estimates		
	$1.98	< **Lowest** FactSet EPS estimate							
EPS Forecast too pessimistic ^									
Plus: Depeciation	$75.5	$84.6	$95.5	$103.2	$110.4				
CapEx % of Sales Forecast (from base case) >	6.0%	5.1%	4.5%	4.1%	3.7%				
Less: Capital Expenditures	-$173.4	-$165.6	-$163.3	-$162.5	-$156.9				
NWC % of Sales Forecast (from base case) >	16.0%	15.4%	15.0%	14.8%	14.6%				
Net Working Capital	463.9	500.1	550.4	586.6	619.1				
Less: Increase in Net Working Capital	(4.1)	36.2	50.3	36.1	32.6				
Free Cash Flow	$201.0	$271.5	$331.4	$332.3	$366.9				
Growth (%)	-22.7%	35.1%	22.1%	0.3%	10.4%	7.1%	< Annualized average TCM EPS growth forecast		
Average Analyst Forecast Free Cash Flow	$158.0	$177.0	-	-					
Growth (%)	-39.2%	12.0%	0.0%	0.0%	0.0%	-7.4%	< Annualized average analyst EPS growth estimates		

OPTIMISTIC SCENARIO Projected Cash Flows	2022	2023	2024	2025	2026				
OPTIMISTIC CASE Revenue Growth Forecast >	0.0%	16.0%	12.5%	12.0%	12.0%	10.4%	< Annualized avg TCM forecast reven	0.0%	Annualizec
Total Revenue	$3,536.0	$4,101.8	$4,614.5	$5,168.2	$5,788.4	Management projections of 10-12% top line growth			
Average Analyst Forecast Sales	$2,734	$2,686	$1,996	-					
Growth (%)	0.0%	-1.8%	-25.7%	0.0%	0.0%	-6.1%	< Annualized average analyst Net Income growth estimat		
OPTIMISTIC CASE EBIT Profit Margin >	19.7%	23.0%	24.2%	23.7%	23.1%	22.7%	< Annualized average TCM forecast EBIT growth		
Earnings Before Interest and Taxes	$696.6	$943.4	$1,116.7	$1,224.9	$1,337.1	Optomositic scenario of 22-24% Ebit Margins due to			
Less: Tax	-$213.5	-$289.1	-$342.2	-$375.4	-$409.8	restructuring deal and lower operating costs in FY23			
Net Operating Profit After Tax (NOPAT)	$483.1	$654.3	$774.5	$849.5	$927.3				
Less: Interest	-$91.7	-$106.3	-$119.6	-$134.0	-$150.0				
Net Income	$391.5	$548.0	$654.9	$715.5	$777.3				
Average Analyst Forecast Net Income	$182.0	$209.0	-	-	#REF!				
Growth (%)	-58.2%	14.8%	0.0%	0.0%	0.0%	-13.6%	< Annualized average analyst Net Income growth estimat		
Change to shares: buybacks (-), new issues (+) >	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%	0.00%	< Annualized 5-yr. change in # of shares		
Forecast Earnings per Share	$2.19	$3.15	$3.79	$4.16	$4.54				
Growth (%)		43.6%	20.4%	9.9%	9.2%	15.7%	< Annualized average TCM EPS growth forecast		
Average Analyst Forecast Earnings per Share	$1.89	$2.17	$2.15 -						
Growth (%)		14.8%	-0.9%	0.0%	0.0%	2.6%	< Annualized average analyst EPS growth estimates		
	$2.11	< **Highest** FactSet EPS estimate							
EPS Forecast OK ^									
Plus: Depeciation	$92.1	$106.8	$120.1	$134.6	$150.7				
CapEx % of Sales Forecast (from base case) >	6.0%	5.1%	4.5%	4.1%	3.7%				
Less: Capital Expenditures	-$211.5	-$209.2	-$205.3	-$211.9	-$214.2				
NWC % of Sales Forecast (from base case) >	16.0%	15.4%	15.0%	14.8%	14.6%				
Net Working Capital	565.8	631.7	692.2	764.9	845.1				
Less: Increase in Net Working Capital	97.8	65.9	60.5	72.7	80.2				
Free Cash Flow	$174.3	$379.7	$509.2	$565.5	$633.6				
Growth (%)	-33.0%	117.8%	34.1%	11.1%	12.1%	19.5%	< Annualized average TCM EPS growth forecast		
Average Analyst Forecast Free Cash Flow	$158.0	$177.0	-	-	#REF!				
Growth (%)	-39.2%	12.0%	0.0%	0.0%	0.0%	-7.4%	< Annualized average analyst EPS growth estimates		

Valvoline Website
https://www.valvoline.com

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