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Financial Management

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Mahindra & Mahindra

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About the Company

Mahindra & Mahindra Ltd is one of the most diversified automobile companies in India with presence across 2-wheelers, 3-wheelers, PVs, CVs, tractors & earthmovers. It was incorporated in 1945 by Ghulam Mohammad and two Mahindra Brothers (KC & JC Mahindra) and was later renamed as Mahindra & Mahindra in 1948. The Company's segments include Automotive and Farm Equipment. The Automotive segment comprises the sale of automobiles, spares, mobility solutions, construction equipment and related services. The Farm Equipment segment comprises the sale of tractors, implements, spares and related services. It also comprises Powerol and spares business unit. The Company offers a range of products and solutions, including sport utility vehicles (SUVs), pickups, commercial vehicles and tractors to electric vehicles, two-wheelers, and construction equipment. Its industries include aerospace, aftermarket, agribusiness, automotive, boats, clean energy, consulting, construction equipment, defense, farm equipment, hospitality, information technology, insurance broking, logistics, power backup, retail, steel, real estate and infrastructure, and vehicle and equipment finance.



Balance Sheet

Balance Sheet for Mahindra and Mahindra from FY 2017-2022						
	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022
Share Capital +	297	595	596	597	597	598
Reserves	26,489	29,699	33,613	33,871	34,354	38,363
Borrowings +	2,851	2,958	2,571	3,027	7,786	6,734
Other Liabilities +	10,332	14,195	15,916	13,007	18,827	21,436
Total Liabilities	39,968	47,447	52,697	50,502	61,564	67,130
Fixed Assets +	7,771	7,859	10,082	10,395	12,011	14,549
CWIP	2,040	3,129	2,420	4,009	6,125	5,018
Investments	17,908	20,583	22,016	19,938	21,783	25,110
Other Assets +	12,248	15,876	18,179	16,160	21,645	22,454
Total Assets	39,968	47,447	52,697	50,502	61,564	67,130

Profit and Loss Statements

Profit and Loss Statement for Mahindra and Mahindra from FY 2017-2022						
	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022
Sales +	44054	48686	53614	45488	44630	57446
Expenses +	39539	42462	46974	39690	37672	50404
Operating Profit	4515	6224	6640	5798	6957	7042
OPM %	0.1	0.13	0.12	0.13	0.16	0.12
Other Income +	1894	1470	1659	-346	-1888	1867
Interest	160	112	113	113	396	223
Depreciation	1526	1479	1860	2223	2370	2451
Profit before tax	4723	6102	6325	3116	2303	6235
Tax %	0.23	0.29	0.24	0.57	0.57	0.21
Net Profit	3643	4356	4796	1331	984	4935
EPS in Rs	29.33	35.04	38.58	10.7	7.92	39.7
Dividend Payout %	0.21	0.2	0.21	0.21	1.06	0.28

Debt Equity Ratio

Debt Equity Ratio from 2017-2022				
2017-18	2018-19	2019-20	2020-21	2021-22
1.52	1.772	1.996	1.875	1.584

Link : https://ycharts.com/companies/MAHMF/debt_equity_ratio

Historical Opening Price data for Mahindra and Mahindra

Mahindra and Mahindra Historical Data		
Year	Opening Price (Rs.)	Dividend (Rs.)
April 2017	592.5	13
April 2018	752	7.5
April 2019	805.1	8.5
April 2020	534.4	2.35
April 2021	726	8.75
April 2022	843.5	11.55

https://www.moneycontrol.com/stocks/hist_stock_result.php?ex=&sc_id=MM&mycomp=Mahindra%20and%20Mahindra

Dividend Data M&M

Dividend for Mahindra and Mahindra				

Announcement Date	Ex-Date	Dividend Type	Dividend (%)	Dividend (Rs)
30-05-2017	13-07- 2017	Final	260	13
29-05-2018	12-07- 2018	Final	150	7.5
29-05-2019	18-07- 2019	Final	170	8.5
12-06-2020	16-07- 2020	Final	47	2.35
28-05-2021	15-07- 2021	Final	175	8.75
30-05-2022	14-07- 2022	Final	231	11.55

<https://www.moneycontrol.com/company-facts/mahindramahindra/dividends/MM>

HPR Calculation for M&M

Holding Period Return Calculation for Mahindra and Mahindra	
Time Period	HPR
April 2017 - April 2018	29.11
April 2018 - April 2019	8.06
April 2019 - April 2020	-32.57
April 2020 - April 2021	36.29
April 2021 - April 2022	17.39
HPR = ((Dividend + (Ending Price - Opening Price))/Opening Price)*100	

Historical Opening Price Data Nifty50

NIFTY HISTORICAL DATA	
Year	Opening Price (Rs.)
April 2017	9,220.60
April 2018	10,151.65
April 2019	11,665.20
April 2020	8,584.10
April 2021	14,798.40
April 2022	17,436.90

HPR Calculation for Nifty50

Holding Period Return Calculation for Mahindra and Mahindra	
Time Period	HPR
April 2017 - April 2018	10.10
April 2017 - April 2019	14.91
April 2017 - April 2020	-26.41
April 2017 - April 2021	72.39
April 2017 - April 2022	17.83
HPR = ((Dividend + (Ending Price - Opening Price))/Opening Price)*100	
Since there is no	

<i>dividend we will keep it as 0</i>	
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Calculation of beta using Historical Data

Calculation of beta using Historical Data						
Year	Rjt	Rmt	Rjt-Rj(bar)	Rmt-Rm(bar)	(Rjt-Rj(bar))(Rmt-Rm(bar))	(Rmt-Rm(bar))^2
April 2017 - April 2018	29.11	10.10	17.46	-0.31	-5.36	0.094
April 2017 - April 2019	8.06	14.91	-3.60	-21.36	76.88	456.354
April 2017 - April 2020	-32.57	-26.41	-44.22	-61.99	2741.43	3842.555
April 2017 - April 2021	36.29	72.39	24.64	6.87	169.30	47.225
April 2017 - April 2022	17.39	17.83	5.73	-12.03	-68.97	144.749
Summation of Rjt	58.29		Cov(Rjt, Rmt)	728.3222		
Rj(bar)	11.66			147		
			sigma^2	1122.744		
				52		
Summation of Rmt	88.82					
Rm(bar)	17.76		Beta = Cov(Rjt, Rmt)/sigma^2	0.648698		
				08		
Summation of (Rjt-Rj(bar))(Rmt-Rm(bar))	2913.29					

Summation of (Rmt-Rm(bar))^2	4490.978					

Debt and Interest Calculation

Debt calculation which can be calculated as borrowings from balance sheet	
Year	Debt
April 2017 - April 2018	2,958
April 2017 - April 2019	2,571
April 2017 - April 2020	3,027
April 2017 - April 2021	7,786
April 2017 - April 2022	6,734
Interest calculation which can be calculated as interest from profit and loss statements	
Year	Interest
April 2017 - April 2018	112
April 2017 - April 2019	113
April 2017 - April 2020	113
April 2017 - April 2021	396
April 2017 - April 2022	223

Cost of Equity Calculation

Cost of Equity from 2017-2022						

2017-18			2018-19			2019-20	
Risk Free Rate [Rf]	7.40%		Risk Free Rate [Rf]	7.40%		Risk Free Rate [Rf]	7.40%
Expected return on the market portfolio [E(Rm)]	3.78%		Expected return on the market portfolio [E(Rm)]	4.47%		Expected return on the market portfolio [E(Rm)]	-2.33%
Beta [β]	-1.065 4		Beta [β]	0.4573		Beta [β]	2.8068
Cost of Equity [Re]	11.25 %		Cost of Equity [Re]	6.06%		Cost of Equity [Re]	-19.91 %
2020-21			2021-22				
Risk Free Rate [Rf]	7.40%		Risk Free Rate [Rf]	7.40%			
Expected return on the market portfolio [E(Rm)]	35.87 %		Expected return on the market portfolio [E(Rm)]	-2.04%			
Beta [β]	3.0529		Beta [β]	1.2492			
Cost of Equity [Re]	94.32 %		Cost of Equity [Re]	-4.39%			
Formula = Re = Rf + β[E(Rm) – Rf]							
Link to Calculate Beta : https://www.buyupside.com/calculators/beta.php							

Cost of Debt Calculation

Year	Rd
April 2017 - April 2018	2.461
April 2017 - April 2019	2.857
April 2017 - April 2020	2.426
April 2017 - April 2021	3.306
April 2017 - April 2022	2.153

WACC Calculation


WACC from 2017-2022							
2017-18			2018-19			2019-20	
Proportion of equity [We]	0.6031746032		Proportion of equity [We]	0.6392496392		Proportion of equity [We]	0.6662216288
Cost of equity [Re]	0.112526172		Cost of equity [Re]	6.06%		Cost of equity [Re]	-19.91%
Proportion of debt [Wd]	0.3968253968		Proportion of debt [Wd]	0.3607503608		Proportion of debt [Wd]	0.3337783712
Cost of Debt [Rd]	2.461		Cost of Debt [Rd]	2.857		Cost of Debt [Rd]	2.426
Tax Rate [t]	0.35		Tax Rate [t]	0.35		Tax Rate [t]	0.35
WACC	0.7026862414		WACC	0.7086321086		WACC	0.3938207362
2020-21			2021-22				
Proportion of equity [We]	0.652173913		Proportion of equity [We]	0.613003096			
Cost of equity [Re]	94.32%		Cost of equity [Re]	-4.39%			
Proportion of debt [Wd]	0.347826087		Proportion of debt [Wd]	0.386996904			
Cost of Debt [Rd]	3.306		Cost of Debt [Rd]	2.153			
Tax Rate [t]	0.35		Tax Rate [t]	0.35			
WACC	1.36256003		WACC	0.5145366844			
WACC = WeRe + WdRd (1 – t)							

Leverage Calculation

Leverage Calculation from 2017-2022					
	2018	2019	2020	2021	2022
Revenue	49,721.9 1	55,302.97	47,155.5 9	46,262.2 9	59,521.87
VC	1,036.36	1,688.97	1,667.81	1,221.31	2,075.90
Contribution	48,685.5 5	53,614.00	45,487.7 8	45,040.9 8	57,445.97
FC	27,541.9 4	27,541.94	17,358.9 6	17,267.2 8	23,864.99
EBIT	21,143.6 1	26,072.06	28,128.8 2	27,773.7 0	33,580.98
Interest	112.20	113.39	113.23	370.88	223.00
EBT	21,031.4 1	25,958.67	28,015.5 9	27,402.8 2	33,357.98
DOL	2.30	2.06	1.62	1.62	1.71
DFL	1.01	1.00	1.00	1.01	1.01
DCL	2.31	2.07	1.62	1.64	1.72
OVERALL					
	2018-2022				
	2				
Revenue	257,964. 63				
VC	7,690.35				
Contribution	250,274. 28				
FC	113,575. 11				

EBIT	136,699.17					
Interest	932.70					
EBT	135,766.47					
DOL	9.31					
DFL	5.03					
DCL	9.37					

Link to Excel Sheet :

 M&M Calculations

References:

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2. <https://groww.in/stocks/mahindra-mahindra-ltd>
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