



## Ramkrishna Forgings Ltd

Years	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
<b># Income Statement</b>										
Sales	₹ 433.99	₹ 753.84	₹ 907.85	₹ 920.73	₹ 1,490.90	₹ 1,931.08	₹ 1,216.47	₹ 1,288.93	₹ 2,320.25	₹ 3,192.90
Sales Growth		73.70%	20.43%	1.42%	61.93%	29.52%	-37.01%	5.96%	80.01%	37.61%
COGS	₹ 355.20	₹ 574.13	₹ 662.65	₹ 683.70	₹ 1,102.28	₹ 1,447.41	₹ 909.78	₹ 955.44	₹ 1,662.33	₹ 2,243.11
COGS% Sales	81.85%	76.16%	72.99%	74.26%	73.93%	74.95%	74.79%	74.13%	71.64%	70.25%
Gross Profit	₹ 78.79	₹ 179.71	₹ 245.20	₹ 237.03	₹ 388.62	₹ 483.67	₹ 306.69	₹ 333.49	₹ 657.92	₹ 949.79
Gross Margins	18.15%	23.84%	27.01%	25.74%	26.07%	25.05%	25.21%	25.87%	28.36%	29.75%
Selling & General Expenses	₹ 18.85	₹ 49.06	₹ 64.07	₹ 74.09	₹ 99.69	₹ 97.85	₹ 97.96	₹ 109.21	₹ 139.65	₹ 255.92
S&G Exp% Sales	4.34%	6.51%	7.06%	8.05%	6.69%	5.07%	8.05%	8.47%	6.02%	8.02%
EBITDA	₹ 59.94	₹ 130.65	₹ 181.13	₹ 162.94	₹ 288.93	₹ 385.82	₹ 208.73	₹ 224.28	₹ 518.27	₹ 693.87
EBITDA Margins	13.81%	17.33%	19.95%	17.70%	19.38%	19.98%	17.16%	17.40%	22.34%	21.73%
Interest	₹ 23.23	₹ 32.09	₹ 55.17	₹ 78.13	₹ 73.37	₹ 84.00	₹ 79.80	₹ 80.64	₹ 97.18	₹ 121.75
Interest % Sales	5.35%	4.26%	6.08%	8.49%	4.92%	4.35%	6.56%	6.26%	4.19%	3.81%
Depreciation	₹ 25.07	₹ 31.64	₹ 53.32	₹ 75.02	₹ 84.65	₹ 121.06	₹ 120.54	₹ 116.70	₹ 169.35	₹ 201.64
Depreciation % Sales	5.78%	4.20%	5.87%	8.15%	5.68%	6.27%	9.91%	9.05%	7.30%	6.32%
Earnings Before Tax	₹ 11.64	₹ 66.92	₹ 72.64	₹ 9.79	₹ 130.91	₹ 180.76	₹ 8.39	₹ 26.94	₹ 251.74	₹ 370.48
EBT % Sales	2.68%	8.88%	8.00%	1.06%	8.78%	9.36%	0.69%	2.09%	10.85%	11.60%
Tax	₹ 4.48	₹ 3.89	₹ 20.42	₹ 5.63	₹ 40.13	₹ 63.62	₹ 5.10	₹ 11.07	₹ 55.17	₹ 126.33
Effective Tax Rate	38.49%	5.81%	28.11%	57.51%	30.65%	35.20%	60.79%	41.09%	21.92%	34.10%
Net Profit	₹ 7.16	₹ 63.03	₹ 52.22	₹ 4.16	₹ 90.78	₹ 117.14	₹ 3.29	₹ 15.87	₹ 196.57	₹ 244.15
Net Margins	1.65%	8.36%	5.75%	0.45%	6.09%	6.07%	0.27%	1.23%	8.47%	7.65%
No of Equity Shares	13.05	13.73	14.33	14.33	16.3	16.33	16.33	15.99	16.02	15.99
Earnings Per Share	₹ 0.55	₹ 4.59	₹ 3.64	₹ 0.29	₹ 5.57	₹ 7.17	₹ 0.20	₹ 0.99	₹ 12.27	₹ 15.27
EPS Growth %		736.71%	-20.62%	-92.03%	1818.47%	28.80%	-97.19%	392.63%	1136.31%	24.44%
Dividend per Share	₹ 2.61	₹ 5.49	₹ 5.73	₹ 2.87	₹ 3.26	₹ 4.89	-	-	₹ 27.18	₹ 31.98
Dividend Payout Ratio	4.757053073	1.195901951	1.572403294	9.886322115	0.585349196	0.681694554	0	0	2.215107087	2.094450952
Retained Earnings	0.00%	0.00%	0.00%	0.00%	41.47%	31.83%	100.00%	100.00%	0.00%	0.00%
<b>Balance Sheet</b>										
Equity Share Capital	₹ 26.10	₹ 27.47	₹ 28.67	₹ 28.67	₹ 32.59	₹ 32.61	₹ 32.61	₹ 31.93	₹ 31.98	₹ 31.98
Reserves	₹ 289.08	₹ 377.05	₹ 441.70	₹ 439.99	₹ 725.99	₹ 839.85	₹ 843.39	₹ 850.65	₹ 1,046.41	₹ 1,289.79
Borrowings	₹ 511.44	₹ 734.70	₹ 881.97	₹ 956.71	₹ 845.04	₹ 911.68	₹ 992.99	₹ 1,232.78	₹ 1,618.26	₹ 1,333.40
Other Liabilities	₹ 203.91	₹ 303.16	₹ 332.43	₹ 432.56	₹ 452.15	₹ 416.60	₹ 360.72	₹ 587.26	₹ 784.60	₹ 1,075.57
Total	₹ 1,030.53	₹ 1,442.38	₹ 1,684.77	₹ 1,857.93	₹ 2,055.77	₹ 2,200.74	₹ 2,229.71	₹ 2,702.62	₹ 3,481.25	₹ 3,730.74
Fixed Assets Net Block	₹ 242.47	₹ 532.31	₹ 947.46	₹ 1,024.37	₹ 1,075.62	₹ 1,113.91	₹ 1,174.53	₹ 1,240.36	₹ 1,473.21	₹ 1,692.76
Capital Work in Progress	₹ 347.04	₹ 315.68	₹ 35.06	₹ 50.42	₹ 43.56	₹ 129.59	₹ 219.03	₹ 275.63	₹ 129.47	₹ 90.67
Investments	₹ 0.11	₹ 0.11	₹ 0.11	₹ 0.11	₹ 0.11	₹ 0.11	₹ 0.11	₹ 0.11	₹ 55.11	₹ 0.11
Other Assets	₹ 132.93	₹ 118.73	₹ 141.61	₹ 108.73	₹ 112.48	₹ 112.48	₹ 130.12	₹ 106.21	₹ 184.79	₹ 216.79
Total Non Current Assets	₹ 722.55	₹ 966.83	₹ 1,124.24	₹ 1,183.63	₹ 1,240.52	₹ 1,356.09	₹ 1,523.79	₹ 1,622.31	₹ 1,842.58	₹ 2,000.33
Receivables	₹ 135.58	₹ 298.72	₹ 338.30	₹ 443.79	₹ 514.66	₹ 509.59	₹ 342.69	₹ 572.90	₹ 890.61	₹ 775.22
Inventory	₹ 157.13	₹ 175.61	₹ 220.05	₹ 228.56	₹ 299.39	₹ 331.90	₹ 359.94	₹ 438.95	₹ 709.64	₹ 907.89
Cash & Bank	₹ 15.27	₹ 1.22	₹ 2.18	₹ 1.95	₹ 1.20	₹ 3.16	₹ 3.29	₹ 68.46	₹ 38.42	₹ 47.30
Total Current Assets	₹ 307.98	₹ 475.55	₹ 560.53	₹ 674.30	₹ 815.25	₹ 844.65	₹ 705.92	₹ 1,080.31	₹ 1,638.67	₹ 1,730.41
Total Assets	₹ 1,030.53	₹ 1,442.38	₹ 1,684.77	₹ 1,857.93	₹ 2,055.77	₹ 2,200.74	₹ 2,229.71	₹ 2,702.62	₹ 3,481.25	₹ 3,730.74
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
<b>Cash Flow Statement</b>										
<b>Operating Activities</b>										
Profit from operations	₹ 57.00	₹ 136.00	₹ 184.00	₹ 161.00	₹ 291.00	₹ 368.00	₹ 196.00	₹ 221.00	₹ 500.00	₹ 654.00
Receivables	₹ (53.00)	₹ (153.00)	₹ (37.00)	₹ (58.00)	₹ (71.00)	₹ (13.00)	₹ 175.00	₹ (252.00)	₹ (314.00)	₹ 147.00
Inventory	₹ (8.00)	₹ (18.00)	₹ (44.00)	₹ (78.00)	₹ (71.00)	₹ (27.00)	₹ (27.00)	₹ (73.00)	₹ (271.00)	₹ (198.00)
Payables	₹ 57.00	₹ 42.00	₹ 20.00	₹ 125.00	₹ 4.00	₹ (35.00)	₹ (61.00)	₹ 238.00	₹ 180.00	₹ 185.00
Other WC items	₹ (29.00)	₹ 24.00	₹ (6.00)	-	₹ 2.00	₹ (8.00)	₹ (8.00)	₹ 5.00	₹ (2.00)	₹ 1.00
Working capital changes	₹ (1.00)	₹ 30.00	₹ 3.00	₹ (2.00)	₹ (2.00)	₹ 16.00	₹ (14.00)	₹ 1.00	₹ (3.00)	₹ 24.00
Direct taxes	₹ (34.00)	₹ (76.00)	₹ (65.00)	₹ (13.00)	₹ (139.00)	₹ (57.00)	₹ (80.00)	₹ (409.00)	₹ 159.00	₹ 159.00
Cash From Operating Activities	₹ (11.00)	₹ (15.00)	₹ 55.00	₹ 135.00	₹ 12.00	₹ 254.00	₹ 326.00	₹ 60.00	₹ (319.00)	₹ 972.00
<b>Investing Activities</b>										
Fixed assets purchased	₹ (291.00)	₹ (299.00)	₹ (171.00)	₹ (109.00)	₹ (113.00)	₹ (255.00)	₹ (228.00)	₹ (231.00)	₹ (300.00)	₹ (357.00)
Fixed assets sold	₹ 1.00	₹ 9.00	-	-	₹ 1.00	-	-	₹ 1.00	-	₹ 2.00
Investments purchased	-	-	-	-	-	-	-	-	₹ (55.00)	-
Investments sold	-	-	-	-	-	-	-	-	-	₹ 55.00
Interest received	₹ 3.00	₹ 3.00	₹ 2.00	₹ 2.00	₹ 2.00	₹ 1.00	₹ 2.00	₹ 2.00	₹ 1.00	₹ 1.00
Dividends received	-	-	-	-	-	-	-	-	-	-
Invest in subsidiaries	-	-	-	-	-	-	-	-	-	-
Loans to subsidiaries	₹ (1.00)	₹ 2.00	-	-	-	-	-	-	-	-
Acquisition of companies	₹ 1.00	₹ 14.00	-	₹ (1.00)	₹ 1.00	₹ (1.00)	₹ (6.00)	₹ 6.00	₹ (1.00)	₹ (1.00)
Other investing items	₹ (287.00)	₹ (271.00)	₹ (169.00)	₹ (108.00)	₹ (109.00)	₹ (255.00)	₹ (232.00)	₹ (222.00)	₹ (355.00)	₹ (300.00)
Cash from Investing Activities	₹ (287.00)	₹ (271.00)	₹ (169.00)	₹ (108.00)	₹ (109.00)	₹ (255.00)	₹ (232.00)	₹ (222.00)	₹ (355.00)	₹ (300.00)
<b>Financing Activities</b>										
Proceeds from borrowings	₹ 287.00	₹ 286.00	₹ 151.00	₹ 162.00	₹ 37.00	₹ 270.00	₹ 160.00	₹ 343.00	₹ 648.00	₹ 234.00
Repayment of borrowings	₹ (31.00)	₹ (40.00)	₹ (32.00)	₹ (115.00)	₹ (175.00)	₹ (196.00)	₹ (97.00)	₹ (102.00)	₹ (266.00)	₹ (547.00)
Interest paid	₹ (34.00)	₹ (48.00)	₹ (58.00)	₹ (77.00)	₹ (73.00)	₹ (81.00)	₹ (76.00)	₹ (78.00)	₹ (98.00)	₹ (114.00)
Dividends paid	₹ (3.00)	₹ (3.00)	₹ (7.00)	₹ (6.00)	₹ (3.00)	₹ (3.00)	₹ (5.00)	-	₹ (5.00)	₹ (27.00)
Financial liabilities	-	-	-	-	-	-	-	-	₹ (1.00)	₹ (7.00)
Other financing items	₹ 1.00	₹ 6.00	-	₹ (1.00)	₹ (1.00)	₹ (3.00)	₹ (4.00)	₹ (15.00)	-	₹ 24.00
Cash From Financing Activities	₹ 220.00	₹ 201.00	₹ 54.00	₹ (37.00)	₹ (215.00)	₹ (13.00)	₹ (22.00)	₹ (148.00)	₹ 278.00	₹ (437.00)
Net Cash Flow	₹ 11.00	₹ (14.00)	₹ 1.00	₹ (1.00)	-	₹ 1.00	₹ 1.00	₹ 65.00	₹ (31.00)	₹ 8.00



# Ramkrishna Forgings Ltd

## Ratio Analysis

Years	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Trend	Mean	Medium
Sales Growth	73.70%	20.43%	1.42%	61.93%	29.52%	-37.01%	5.96%	80.01%	37.61%		30.40%	29.52%
EBITDA Growth	25.49%	15.12%	-11.30%	9.51%	3.10%	-14.12%	1.41%	28.37%	-2.71%		6.10%	3.10%
EBIT Growth	230.98%	-9.87%	-86.71%	725.80%	6.61%	-92.63%	203.05%	419.10%	6.95%		155.92%	6.95%
Net Profit Growth	780.31%	-17.15%	-92.03%	2082.21%	29.04%	-97.19%	382.37%	1138.63%	24.21%		470.04%	29.04%
Dividend Growth	110.34%	4.37%	-49.91%	13.59%	50.00%	-100.00%	0.00%	0.00%	17.66%		5.12%	4.37%
Gross Margin	73.70%	20.43%	1.42%	61.93%	29.52%	-37.01%	5.96%	80.01%	37.61%		30.40%	29.52%
EBITDA Margin	17.33%	19.95%	17.70%	19.38%	19.98%	17.16%	17.40%	22.34%	21.73%		19.22%	19.38%
EBIT Margin	13.13%	14.08%	9.55%	13.70%	13.71%	7.25%	8.35%	15.04%	15.42%		12.25%	13.70%
EBT Margin	8.88%	8.00%	1.06%	8.78%	9.36%	0.69%	2.09%	10.85%	11.60%		6.81%	8.78%
Net Profit Margin	8.36%	5.75%	0.45%	6.09%	6.07%	0.27%	1.23%	8.47%	7.65%		4.93%	6.07%
SalesExpenses%Sales	76.16%	72.99%	74.26%	73.93%	74.95%	74.79%	74.13%	71.64%	70.25%		73.68%	74.13%
Depreciation%Sales	4.20%	5.87%	8.15%	5.68%	6.27%	9.91%	9.05%	7.30%	6.32%		6.97%	6.32%
OperatingIncome%Sales	17.33%	19.95%	17.70%	19.38%	19.98%	17.16%	17.40%	22.34%	21.73%		19.22%	19.38%
Return on capital Employ	8.69%	9.45%	6.17%	12.74%	14.84%	4.72%	5.09%	12.94%	18.54%		10.35%	9.45%
Retained Earnings%	0.00%	0.00%	0.00%	41.47%	31.83%	100.00%	100.00%	0.00%	0.00%		30.37%	0.00%
Return on Equity%	15.58%	11.10%	0.89%	11.97%	13.43%	0.38%	1.80%	18.23%	18.47%		10.20%	11.97%
Self sustained Growth Rate	0.00%	0.00%	0.00%	5.28%	4.72%	4.72%	5.09%	0.00%	0.00%		2.20%	0.00%
Interest coverage Ratio	3.09x	2.32x	1.13x	2.78x	3.15x	1.11x	1.33x	3.59x	4.04x		2.50x	2.78x
Debtor Turnover Ratio	2.52x	2.68x	2.07x	2.90x	3.79x	3.55x	2.25x	2.61x	4.12x		2.94x	2.68x
Credit Turnover Ratio	2.49x	2.73x	2.13x	3.30x	4.64x	3.37x	2.19x	2.96x	2.97x		2.97x	2.96x
Inventory Turnover	4.29x	4.13x	4.03x	4.98x	5.82x	3.38x	2.94x	3.27x	3.52x		4.04x	4.03x
Fixed Asset Turnover	1.42x	0.96x	0.90x	1.39x	1.73x	1.04x	1.04x	1.57x	1.89x		1.33x	1.39x
Capital Turnover Ratio	1.86x	1.93x	1.96x	1.97x	2.21x	1.39x	1.46x	2.15x	2.42x		1.93x	1.96x
Debtor Days	0	0	0	0	0	0	0	0	0		0	0
Payable Days	145	136	176	126	96	103	162	140	89		130	136
Inventory Days	147	134	171	111	79	108	166	123	123		129	123
Cash Conversion cycle	145	136	176	126	96	103	162	140	89		130	136
CFO/Sales	18.04%	20.27%	17.49%	19.52%	19.06%	16.11%	17.15%	21.55%	20.48%		18.85%	19.06%
CFO/Total Assets	9.43%	10.92%	8.67%	14.16%	16.72%	8.79%	8.18%	14.36%	17.53%		12.08%	10.92%
CFO/Total Debt	18.51%	20.86%	16.83%	34.44%	40.37%	19.74%	17.93%	30.90%	49.05%		27.62%	20.86%



# Ramkrishna Forgings Ltd

## Forecasting

### Sales Forecasting

Year Weight	Year	Sales	Sales Growth
1	2014A	433.99	
2	2015A	753.84	73.70%
3	2016A	907.85	20.43%
4	2017A	920.73	1.42%
5	2018A	1490.90	61.93%
6	2019A	1931.08	29.52%
7	2020A	1216.47	-37.01%
8	2021A	1288.93	5.96%
9	2022A	2320.25	80.01%
10	2023A	3192.90	37.61%
11	2024E	2746.62	-13.98%
12	2025E	2983.16	8.61%
13	2026E	3219.69	7.93%
14	2027E	3456.22	7.35%
15	2028E	3692.75	6.84%

### EBITDA Forecasting

Year Weight	Year	EBITDA	EBITDA Growth
1	2014A	59.94	
2	2015A	130.65	117.97%
3	2016A	181.13	38.64%
4	2017A	162.94	-10.04%
5	2018A	288.93	77.32%
6	2019A	385.82	33.53%
7	2020A	208.73	-45.90%
8	2021A	224.28	7.45%
9	2022A	518.27	131.08%
10	2023A	693.87	33.88%
11	2024E	581.08	-16.26%
12	2025E	634.83	9.25%
13	2026E	688.58	8.47%
14	2027E	742.33	7.81%
15	2028E	796.08	7.24%

### EPS Forecasting

Year Weight	Year	EPS	EPSGrowth
1	2014A	0.55	
2	2015A	4.59	736.71%
3	2016A	3.64	-20.62%
4	2017A	0.29	-92.03%
5	2018A	5.57	1818.47%
6	2019A	7.17	28.80%
7	2020A	0.20	-97.19%
8	2021A	0.99	392.63%
9	2022A	12.27	1136.31%
10	2023A	15.27	24.44%
11	2024E	10.87	-28.84%
12	2025E	11.92	9.72%
13	2026E	12.98	8.86%
14	2027E	14.04	8.14%
15	2028E	15.09	7.53%



# Ramkrishna Forgings Ltd

## Common Size Statement

Particulars	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
<b>Sales</b>	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Raw Material Cost	50.02%	48.21%	46.36%	45.82%	49.08%	48.84%	45.72%	49.76%	53.13%	50.83%
Change in Inventory	-2.45%	-1.96%	3.40%	5.86%	1.20%	0.86%	4.18%	0.39%	8.65%	5.28%
Power and Fuel	9.95%	7.42%	7.80%	9.41%	8.16%	7.38%	8.00%	7.26%	6.57%	5.89%
Other Mfr. Exp	9.95%	10.62%	12.52%	15.57%	11.55%	14.14%	16.76%	9.98%	15.08%	13.85%
Employee Cost	9.47%	7.94%	9.72%	9.32%	6.34%	5.45%	8.50%	7.51%	5.52%	4.97%
Selling and admin	7.27%	9.14%	9.46%	6.74%	5.35%	3.90%	5.72%	5.89%	5.08%	6.56%
Other Expenses	-2.92%	-2.63%	-2.40%	1.30%	1.34%	1.16%	2.34%	2.58%	0.94%	1.46%
Other Income	0.30%	1.64%	0.26%	0.77%	0.28%	0.15%	0.53%	0.37%	0.06%	0.12%
Depreciation	5.78%	4.20%	5.87%	8.15%	5.68%	6.27%	9.91%	9.05%	7.30%	6.32%
Interest	5.35%	4.26%	6.08%	8.49%	4.92%	4.35%	6.56%	6.26%	4.19%	3.81%
Profit before tax	2.98%	10.52%	8.26%	1.83%	9.06%	9.51%	1.22%	2.46%	10.91%	11.73%
Tax	1.03%	0.52%	2.25%	0.61%	2.69%	3.29%	0.42%	0.86%	2.38%	3.96%
Net profit	1.95%	10.00%	6.01%	1.22%	6.37%	6.22%	0.80%	1.60%	8.53%	7.77%
Dividend Amount	0.60%	0.73%	0.63%	0.31%	0.22%	0.25%	0.00%	0.00%	1.17%	1.00%

## Common Size Balance Sheet

Particulars	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
<b>Total Liabilities</b>	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Equity Share Capital	2.53%	1.90%	1.70%	1.54%	1.59%	1.48%	1.46%	1.18%	0.92%	0.86%
Reserves	28.05%	26.14%	26.22%	23.68%	35.31%	38.16%	37.83%	31.48%	30.06%	34.57%
Borrowings	49.63%	50.94%	52.35%	51.49%	41.11%	41.43%	44.53%	45.61%	46.49%	35.74%
Other Liabilities	19.79%	21.02%	19.73%	23.28%	21.99%	18.93%	16.18%	21.73%	22.54%	28.83%
<b>Total Assets</b>	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Net Block	23.53%	36.90%	56.24%	55.14%	52.32%	50.62%	52.68%	45.89%	42.32%	45.37%
Capital Work in Progress	143.13%	59.30%	3.70%	4.92%	4.05%	11.63%	18.65%	22.22%	8.79%	5.36%
Investments	0.03%	0.03%	0.31%	0.22%	0.25%	0.08%	0.05%	0.04%	42.57%	0.12%
Receivables	13.16%	20.71%	20.08%	23.89%	25.03%	23.16%	15.37%	21.20%	25.58%	20.78%
Inventory	15.25%	12.18%	13.06%	12.30%	14.56%	15.08%	16.14%	16.24%	20.38%	24.34%
Cash & Bank	1.48%	0.08%	0.13%	0.10%	0.06%	0.14%	0.15%	2.53%	1.10%	1.27%
Other Assets	12.90%	8.23%	8.41%	5.85%	5.90%	5.11%	5.84%	3.93%	5.31%	5.81%



## Ramakrishna Forgings Ltd

### Beta Regression

Ramakrishna Forgings Limited Returns			Nifty Returns		Beta Drifting	
Date	Closing Price	Weekly Returns	Closing Price	Weekly Returns	Levered Raw Beta	1.39
4/8/2019	₹ 102.47		₹ 11,643.45		Raw Beta Weight	75.00%
4/15/2019	₹ 103.23	0.75%	₹ 11,752.80	0.94%		
4/22/2019	₹ 102.40	-0.81%	₹ 11,754.65	0.02%	Market Beta	1.00
4/29/2019	₹ 98.68	-3.63%	₹ 11,712.25	-0.36%	Market Beta Weight	25.00%
5/6/2019	₹ 94.94	-3.79%	₹ 11,278.90	-3.70%		
5/13/2019	₹ 91.33	-3.80%	₹ 11,407.15	1.14%		
5/20/2019	₹ 97.97	7.27%	₹ 11,844.10	3.83%		
5/27/2019	₹ 100.61	2.69%	₹ 11,922.80	0.66%		
6/3/2019	₹ 94.45	-6.12%	₹ 11,870.65	-0.44%		
6/10/2019	₹ 89.27	-5.48%	₹ 11,823.30	-0.40%		
6/17/2019	₹ 81.99	-8.16%	₹ 11,724.10	-0.84%		
6/24/2019	₹ 86.41	5.40%	₹ 11,788.85	0.55%		
7/1/2019	₹ 93.53	8.24%	₹ 11,811.15	0.19%		
7/8/2019	₹ 91.58	-2.08%	₹ 11,552.50	-2.19%		
7/15/2019	₹ 95.83	4.65%	₹ 11,419.25	-1.15%		
7/22/2019	₹ 91.96	-4.05%	₹ 11,284.30	-1.18%		
7/29/2019	₹ 91.13	-0.90%	₹ 10,997.35	-2.54%		
8/5/2019	₹ 88.88	-2.48%	₹ 11,109.65	1.02%		
8/12/2019	₹ 80.61	-9.30%	₹ 11,047.80	-0.56%		
8/19/2019	₹ 66.18	-17.91%	₹ 10,829.35	-1.98%		
8/26/2019	₹ 61.34	-7.32%	₹ 11,023.25	1.79%		
9/2/2019	₹ 58.81	-4.12%	₹ 10,946.20	-0.70%		
9/9/2019	₹ 59.24	0.73%	₹ 11,075.90	1.18%		
9/16/2019	₹ 55.62	-6.11%	₹ 11,274.20	1.79%		
9/23/2019	₹ 60.28	8.38%	₹ 11,512.40	2.11%		
9/30/2019	₹ 56.39	-6.46%	₹ 11,174.75	-2.93%		
10/7/2019	₹ 54.25	-3.79%	₹ 11,305.05	1.17%		
10/14/2019	₹ 52.91	-2.47%	₹ 11,661.85	3.16%		
10/21/2019	₹ 54.71	3.40%	₹ 11,583.90	-0.67%		
10/28/2019	₹ 58.58	7.09%	₹ 11,890.60	2.65%		
11/4/2019	₹ 57.66	-1.58%	₹ 11,908.15	0.15%		
11/11/2019	₹ 56.67	-1.72%	₹ 11,895.45	-0.11%		
11/18/2019	₹ 59.79	5.51%	₹ 11,914.40	0.16%		
11/25/2019	₹ 71.84	20.15%	₹ 12,056.05	1.19%		
12/2/2019	₹ 65.08	-9.41%	₹ 11,921.50	-1.12%		
12/9/2019	₹ 65.69	0.95%	₹ 12,086.70	1.39%		
12/16/2019	₹ 66.58	1.35%	₹ 12,271.80	1.53%		
12/23/2019	₹ 68.43	2.78%	₹ 12,245.80	-0.21%		
12/30/2019	₹ 76.67	12.04%	₹ 12,226.65	-0.16%		
1/6/2020	₹ 68.95	-10.06%	₹ 12,256.80	0.25%		
1/13/2020	₹ 80.98	17.45%	₹ 12,352.35	0.78%		
1/20/2020	₹ 75.88	-6.30%	₹ 12,248.25	-0.84%		
1/27/2020	₹ 67.13	-11.53%	₹ 11,962.10	-2.34%		
2/3/2020	₹ 72.95	8.66%	₹ 12,098.35	1.14%		
2/10/2020	₹ 65.09	-10.78%	₹ 12,113.45	0.12%		
2/17/2020	₹ 67.91	4.34%	₹ 12,080.85	-0.27%		
2/24/2020	₹ 57.94	-14.68%	₹ 11,201.75	-7.28%		
3/2/2020	₹ 54.36	-6.18%	₹ 10,989.45	-1.90%		
3/9/2020	₹ 41.69	-23.30%	₹ 9,955.20	-9.41%		
3/16/2020	₹ 34.70	-16.79%	₹ 8,745.45	-12.15%		
3/23/2020	₹ 29.36	-15.39%	₹ 8,660.25	-0.97%		
3/30/2020	₹ 27.46	-6.47%	₹ 8,083.80	-6.66%		
4/6/2020	₹ 34.77	26.65%	₹ 9,111.90	12.72%		
4/13/2020	₹ 42.75	22.93%	₹ 9,266.75	1.70%		
4/20/2020	₹ 37.78	-11.63%	₹ 9,154.40	-1.21%		
4/27/2020	₹ 36.99	-2.08%	₹ 9,859.90	7.71%		
5/4/2020	₹ 32.49	-12.17%	₹ 9,251.50	-6.17%		
5/11/2020	₹ 32.82	1.01%	₹ 9,136.85	-1.24%		
5/18/2020	₹ 33.39	1.76%	₹ 9,039.25	-1.07%		
5/25/2020	₹ 30.30	-9.26%	₹ 9,580.30	5.99%		
6/1/2020	₹ 37.19	22.74%	₹ 10,142.15	5.86%		
6/8/2020	₹ 36.11	-2.91%	₹ 9,972.90	-1.67%		
6/15/2020	₹ 34.95	-3.19%	₹ 10,244.40	2.72%		
6/22/2020	₹ 34.54	-1.19%	₹ 10,383.00	1.35%		
6/29/2020	₹ 32.01	-7.31%	₹ 10,607.35	2.16%		
7/6/2020	₹ 32.64	1.96%	₹ 10,768.05	1.51%		
7/13/2020	₹ 31.59	-3.20%	₹ 10,901.70	1.24%		
7/20/2020	₹ 29.73	-5.88%	₹ 11,194.15	2.68%		
7/27/2020	₹ 28.80	-3.14%	₹ 11,073.45	-1.08%		
8/3/2020	₹ 36.15	25.51%	₹ 11,214.05	1.27%		
8/10/2020	₹ 39.66	9.71%	₹ 11,178.40	-0.32%		
8/17/2020	₹ 46.48	17.20%	₹ 11,371.60	1.73%		
8/24/2020	₹ 49.23	5.93%	₹ 11,647.60	2.43%		
8/31/2020	₹ 47.14	-4.24%	₹ 11,333.85	-2.69%		
9/7/2020	₹ 45.13	-4.26%	₹ 11,464.45	1.15%		
9/14/2020	₹ 57.93	28.35%	₹ 11,504.95	0.35%		
9/21/2020	₹ 59.69	3.04%	₹ 11,050.25	-3.95%		
9/28/2020	₹ 67.50	13.09%	₹ 11,416.95	3.32%		
10/5/2020	₹ 69.84	3.46%	₹ 11,914.20	4.36%		
10/12/2020	₹ 67.80	-2.92%	₹ 11,762.45	-1.27%		
10/19/2020	₹ 68.93	1.67%	₹ 11,930.35	1.43%		
10/26/2020	₹ 74.42	7.96%	₹ 11,642.40	-2.41%		
11/2/2020	₹ 72.73	-2.27%	₹ 12,263.55	5.34%		
11/9/2020	₹ 71.96	-1.07%	₹ 12,719.95	3.72%		
11/16/2020	₹ 74.18	3.09%	₹ 12,859.05	1.09%		
11/23/2020	₹ 89.93	21.23%	₹ 12,968.95	0.85%		
11/30/2020	₹ 93.07	3.49%	₹ 13,258.55	2.23%		
12/7/2020	₹ 97.00	4.22%	₹ 13,513.85	1.93%		
12/14/2020	₹ 98.78	1.83%	₹ 13,760.55	1.83%		
12/21/2020	₹ 93.30	-5.55%	₹ 13,749.25	-0.08%		
12/28/2020	₹ 94.56	1.35%	₹ 14,018.50	1.96%		
1/4/2021	₹ 104.61	10.63%	₹ 14,347.25	2.35%		
1/11/2021	₹ 117.63	12.44%	₹ 14,433.70	0.60%		
1/18/2021	₹ 115.11	-2.14%	₹ 14,371.90	-0.43%		
1/25/2021	₹ 101.30	-12.00%	₹ 13,634.60	-5.13%		
2/1/2021	₹ 107.39	6.01%	₹ 14,924.25	9.46%		
2/8/2021	₹ 105.77	-1.51%	₹ 15,163.30	1.60%		
2/15/2021	₹ 101.06	-4.45%	₹ 14,981.75	-1.20%		
2/22/2021	₹ 110.05	8.89%	₹ 14,529.15	-3.02%		
3/1/2021	₹ 113.61	3.23%	₹ 14,938.10	2.81%		
3/8/2021	₹ 109.50	-3.61%	₹ 15,030.95	0.62%		
3/15/2021	₹ 102.43	-6.46%	₹ 14,744.00	-1.91%		



# Ramkrishna Forgings Ltd

## Weighted Average Cost of Capital

### Peer Comps

Name	Country	Total Debt	Total Equity	Tax Rate <sup>1</sup>	Debt/Equity	Debt/Capital	Levered Beta 2	Unlevered Beta 3
Ramkrishna Forg.	India	1,561.38	12,486.21	30.00%	12.50%	11.11%	0.75	0.69
Bharat Forge	India	7,503.70	53,340.16	30.00%	14.07%	12.33%	1.28	1.17
AIA Engineering	India	483.83	37,687.12	30.00%	1.28%	1.27%	0.40	0.40
CIE Automotive	India	855.41	18,482.54	30.00%	4.63%	4.42%	1.06	1.03
TVS Holdings	India	26,402.89	16,897.95	30.00%	156.25%	60.98%	0.76	0.36
Average				30.00%	44.06%	19.75%	0.88	0.74
Median				30.00%	9.35%	8.38%	0.91	0.71

### Cost of Debt

Pre-tax cost of debt	2.63%
Tax Rate	30.00%
<b>After Tax cost of debt</b>	<b>1.84%</b>

### Capital Structure

		Current	Target
Total Debt	1,561.38	11.11%	44.06%
Market Capitalization	12,486.21	88.89%	55.94%
<b>Total Capitalization</b>	<b>14,047.59</b>	<b>100.00%</b>	<b>100.00%</b>
<b>Debt / Equity</b>		<b>12.50%</b>	<b>78.75%</b>

1. Tax Rate considered as Marginal Tax Rate for the country
2. Levered Beta is based on 5 year monthly data
3. Unlevered Beta = Levered Beta / (1 + (1 - Tax Rate) x Debt/Equity)
3. Levered Beta = Unlevered Beta / (1 + (1 - Tax Rate) x Debt/Equity)

### Cost of Equity

Risk free rate	7.35%
Equity Risk Premium	8.30%
Levered Beta 4	0.76
<b>Cost of Equity</b>	<b>13.63%</b>

### Levered Beta

Comps Median Unlevered Beta	0.71
Target Debt/ Equity	78.75%
Tax Rate	30.00%
<b>Levered Beta</b>	<b>0.76</b>

### Weighted Average Cost of Capital

Cost of Equity	13.63%
Equity Weight	55.94%
Cost of Debt	1.84%
Debt Weight	44.06%
<b>WACC</b>	<b>8.44%</b>



# Ramkrishna Forgings Ltd

## Intrinsic Growth

Calculation of ROIC	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
<b>Current Assets</b>						
Inventories	₹ 299.00	₹ 332.00	₹ 360.00	₹ 439.00	₹ 710.00	₹ 908.00
Trade receivables	₹ 515.00	₹ 510.00	₹ 343.00	₹ 573.00	₹ 891.00	₹ 775.00
Cash Equivalents	₹ 1.00	₹ 3.00	₹ 3.00	₹ 68.00	₹ 38.00	₹ 47.00
Short term loans	₹ 1.00	₹ 1.00	₹ 8.00	-	₹ 2.00	₹ 2.00
Other asset items	₹ 120.00	₹ 112.00	₹ 122.00	₹ 106.00	₹ 183.00	₹ 215.00
<b>Total Current Assets</b>	<b>₹ 936.00</b>	<b>₹ 958.00</b>	<b>₹ 836.00</b>	<b>₹ 1,186.00</b>	<b>₹ 1,824.00</b>	<b>₹ 1,947.00</b>
<b>Current Liabilities</b>						
Trade Payables	₹ 301.00	₹ 279.00	₹ 214.00	₹ 433.00	₹ 608.00	₹ 792.00
Advance from Customers	₹ 4.00	₹ 6.00	₹ 6.00	₹ 10.00	₹ 16.00	₹ 17.00
Other liability items	₹ 148.00	₹ 132.00	₹ 140.00	₹ 145.00	₹ 160.00	₹ 267.00
<b>Total Current Liabilities</b>	<b>₹ 453.00</b>	<b>₹ 417.00</b>	<b>₹ 360.00</b>	<b>₹ 588.00</b>	<b>₹ 784.00</b>	<b>₹ 1,076.00</b>
<b>Net Working Capital</b>	<b>₹ 483.00</b>	<b>₹ 541.00</b>	<b>₹ 476.00</b>	<b>₹ 598.00</b>	<b>₹ 1,040.00</b>	<b>₹ 871.00</b>
<b>Non Current Assets</b>						
Land	₹ 17.00	₹ 17.00	₹ 26.00	₹ 28.00	₹ 42.00	₹ 40.00
Building	₹ 134.00	₹ 146.00	₹ 217.00	₹ 232.00	₹ 317.00	₹ 410.00
Plant Machinery	₹ 1,033.00	₹ 1,172.00	₹ 1,254.00	₹ 1,411.00	₹ 1,705.00	₹ 2,007.00
Equipments	₹ 1.00	₹ 1.00	₹ 7.00	₹ 9.00	₹ 9.00	₹ 9.00
Furniture n fittings	₹ 5.00	₹ 8.00	₹ 9.00	₹ 10.00	₹ 11.00	₹ 16.00
Railway slidings	-	-	-	-	-	-
Vehicles	₹ 6.00	₹ 7.00	₹ 7.00	₹ 9.00	₹ 9.00	₹ 10.00
Intangible Assets	₹ 5.00	₹ 5.00	₹ 5.00	₹ 5.00	₹ 5.00	₹ 5.00
Other fixed assets	₹ 5.00	₹ 5.00	₹ 5.00	₹ 5.00	₹ 6.00	₹ 6.00
<b>Gross Block</b>	<b>₹ 1,235.00</b>	<b>₹ 1,393.00</b>	<b>₹ 1,572.00</b>	<b>₹ 1,753.00</b>	<b>₹ 2,151.00</b>	<b>₹ 2,568.00</b>
Accumulated Depreciation	₹ 159.00	₹ 279.00	₹ 397.00	₹ 512.00	₹ 678.00	₹ 876.00
<b>Net Non Current Assets</b>	<b>₹ 1,394.00</b>	<b>₹ 1,672.00</b>	<b>₹ 1,969.00</b>	<b>₹ 2,265.00</b>	<b>₹ 2,829.00</b>	<b>₹ 3,444.00</b>
<b>Invested Capital</b>	<b>₹ 1,877.00</b>	<b>₹ 2,213.00</b>	<b>₹ 2,445.00</b>	<b>₹ 2,863.00</b>	<b>₹ 3,869.00</b>	<b>₹ 4,315.00</b>
<b>EBIT</b>	<b>₹ 204.28</b>	<b>₹ 264.76</b>	<b>₹ 88.19</b>	<b>₹ 107.58</b>	<b>₹ 348.92</b>	<b>₹ 492.23</b>
<b>ROIC</b>	<b>10.88%</b>	<b>11.96%</b>	<b>3.61%</b>	<b>3.76%</b>	<b>9.02%</b>	<b>11.41%</b>

Calculation of Reinvestment I	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
Net Capex	₹ 112.00	₹ 255.00	₹ 228.00	₹ 230.00	₹ 300.00	₹ 355.00
Change in Working Capital		₹ 58.00	₹ (65.00)	₹ 122.00	₹ 442.00	₹ (169.00)
EBIT	₹ 204.28	₹ 264.76	₹ 88.19	₹ 107.58	₹ 348.92	₹ 492.23
Marginal Tax Rate	25%	25%	25%	25%	25%	25%
EBIT(1-T)	₹ 153.21	₹ 198.57	₹ 66.14	₹ 80.69	₹ 261.69	₹ 369.17
<b>Reinvestment</b>		<b>₹ 313.00</b>	<b>₹ 163.00</b>	<b>₹ 352.00</b>	<b>₹ 742.00</b>	<b>₹ 186.00</b>
<b>Reinvestment Rate</b>		<b>157.63%</b>	<b>246.44%</b>	<b>436.26%</b>	<b>283.54%</b>	<b>50.38%</b>

4 Year Average	254.16%
4 Year Median	264.99%

Calculation of Growth Rate	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23
Reinvestment Rate		157.63%	246.44%	436.26%	283.54%	50.38%
ROIC		11.96%	3.61%	3.76%	9.02%	11.41%
<b>Intrinsic Growth</b>		<b>18.86%</b>	<b>8.89%</b>	<b>16.39%</b>	<b>25.57%</b>	<b>5.75%</b>

4 Year Average	14.15%
4 Year Median	12.64%



# Hindustan Aeronautics Limited

## DCF Valuation

Calculation of PV of FCFF	Mar/23A	Mar/24F	Mar/25F	Mar/26F	Mar/27F	Mar/28F
EBIT	492.23	516.84	542.68	569.82	598.31	628.22
Tax Rate	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
EBIT(1-T)	369.1725	387.63	407.01	427.36	448.73	471.17
Less: Reinvestment Rate	50.38%	50.38%	50.38%	50.38%	50.38%	50.38%
Free Cash Flow to Firm (FCFF)	183.1725	192.33	201.95	212.05	222.65	233.78
Mid Year Convention		0.5	1.5	2.5	3.5	4.5
Discounting Factor		0.96	0.89	0.82	0.75	0.69

<b>PV of FCFF</b>		<b>184.70</b>	<b>178.84</b>	<b>173.17</b>	<b>167.69</b>	<b>162.37</b>
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Expected Growth	5.00%
Terminal Growth	6.25%
WACC	8.44%

### Calculation of Terminal Value

FCFF (n+1)	245.47
WACC	8.44%
Terminal Growth Rate	6.25%
<b>Terminal Value</b>	<b>11,223.56</b>

### Sensitivity Analysis

	6.00%	8.44%	9.20%	14.00%
4.00%	12273.43	5528.57	4720.55	2454.69
5.00%	24546.87	7135.72	5844.49	2727.43
6.25%	-98187.47	11208.62	8320.97	3167.34
8.00%	-12273.43	55788.33	20455.72	4091.14
9.00%	-8182.29	-43833.69	122734.33	4909.37

### Calculation of Equity Value per Share

PV of FCFF	866.77
PV of Terminal Value	7,795.25
<b>Value of Operating Assets</b>	<b>8,662.02</b>
Add: Cash	47.3
Less: Debt	1308
<b>Value of Equity</b>	<b>7,401.32</b>
No of Shares	18.08

<b>Equity Value per Share</b>	<b>409.42</b>
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<b>Share price</b>	<b>695.75</b>
<b>Discount/Premium</b>	<b>1.70x</b>





## Ramakrishna Forgings Ltd

Amount in crores

### Comparable Company Valuation

Company	Ticker	Share Price	Market Data			Enterprise Value	Financials			Valuation		
			Shares Outstanding	Equity Value	Net Debt		Revenue	EBITDA	Net Income	EV/Revenue	EV/EBITDA	P/E
Ramakrishna Forg.		690.7	18.08	12486.21	1561.38	13982.77	3823.26	1057.57	316.04	3.66x	13.22x	39.51x
Bharat Forge		1145.65	46.56	53340.16	7503.7	59564.31	15146.92	3174.87	810.79	3.93x	18.76x	65.79x
AIA Engineering		3995.65	9.43	37687.12	483.83	36862.42	4977.11	1451.1	1144.17	7.41x	25.40x	32.94x
CIE Automotive		487.2	37.94	18482.54	855.41	19099.23	9280.35	1745.61	1125.15	2.06x	10.94x	16.43x
TVS Holdings		8352.05	2.02	16897.95	26402.89	39776.26	38397.69	6226.96	1723.03	1.04x	6.39x	9.81x

High										7.41X	25.40X	65.79X
75th Percentile										3.93X	18.76X	39.51X
Average										3.62X	14.94X	32.89X
Median										3.66X	13.22X	32.94X
25th Percentile										2.06X	10.94X	16.43X
Low										1.04X	6.39X	9.81X

RK FORGE Comparable Valuation										EV/Revenue	EV/EBITDA	P/E
Implied Enterprise Value										13982.77	13982.77	11971.23
Net Debt										1561.38	1561.38	1561.38
Implied Market Value										12421.39	12421.39	10409.85
Shares Outstanding										18.08	18.08	18.08

Implied Value per Share										687.02	687.02	575.77
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overvalued    overvalued    overvalued