

# Auto

*Initiating coverage*

## **MM Forgings** ***Forging for growth***

**T S Vijay Sarthy | Research Analyst**

**Rating:** Buy**Target Price:** ₹809**Share Price:** ₹603

Key data	MMFG IN / MMFO.BO
52-week high / low	₹743 / ₹304
Sensex / Nifty	37121 / 11234
3-m average volume	\$0.2m
Market cap	₹15 / \$200.5m
Shares outstanding	24m

Shareholding (%)	Jun'18	Mar'18	Dec'17
Promoters	56.3	56.3	56.4
- of which, Pledged			
Free float	43.7	43.7	43.6
- Foreign inst.	1.1	1.1	0.3
- Domestic inst.	19.9	19.2	18.1
- Public	22.6	23.4	25.3

# MM Forgings

## *Forging for growth*

Progressing to becoming a large component player in forgings, MM Forgings has planned vigorous capex for the next two years. Its added higher presslines with more machining content augurs well for its growth and profitability. While its exports are expected to grow with strong Class 8 and Class 5 trucks, its domestic business growth would be a function of the new component launches in the next two years. We initiate coverage with a Buy, at a target price of ₹809.

- Its foray into front axle beams, front axle arms, camshafts and crankshafts, apart from its present product range would ensure strong growth in the domestic market for the next two years. Against the backdrop of strong growth in Class 8 and Class 5 trucks, we expect exports to rebound after flat growth in the last four years. With the consequent strong revenue growth, we expect profitability to improve. Accordingly, we expect a 20% margin in FY18, and 22.5% by FY20, leading to 40% EBITDA growth to ₹2.4bn.
- Over the next 5-8 years, we expect MM Forgings to move to greater weight components, necessitating presslines of 12,000 tonnes and above. We believe MM Forgings would be one of the beneficiaries in the next CV capex cycle
- **Valuation.** For the next two years, we expect revenues to clock a 36% CAGR to ₹11.42bn, driven by both domestic and export growth. Accordingly, we expect earnings to register a 38% CAGR to ₹1.30bn leading to an EPS of ₹54. We initiate coverage of the company with a Buy rating, at a target price of ₹809 (15x FY20e EPS). **Risks:** Steep decline in M&H CV sales, decline in Class 8 trucks in the U.S.

# Quick Glance – Financials

P&L (₹ m) - YE Mar	FY16	FY17	FY18	FY19e	FY20e
Net revenues	5,023	4,784	6,206	8,402	11,429
Growth (%)	0	-5	30	35	36
Direct costs	3,942	3,856	4,962	6,730	9,006
EBITDA	1,080	928	1,244	1,672	2,423
EBITDA margins (%)	21.5	19.4	20.1	19.9	21.2
- Depreciation	358	389	420	499	626
Other income	54	113	121	121	121
Interest expenses	83	99	127	267	350
PBT	693	551	821	1,027	1,568
Effective tax rate (%)	28	21	17	17	17
Net income	501	434	685	857	1,302
Adjusted income	501	434	685	857	1,302
WANS	24	24	24	24	24
FDEPS (₹ / sh)	21	18	28	36	54

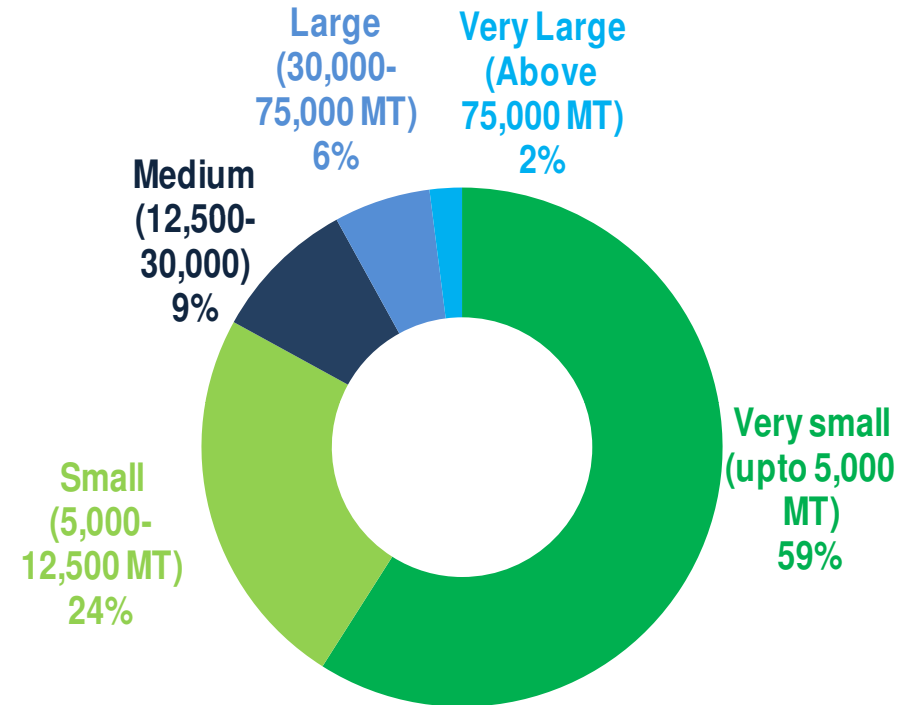
Balance sheet (₹ m) - YE Mar	FY16	FY17	FY18	FY19e	FY20e
Share capital	121	121	121	241	241
Net worth	2,796	3,146	3,691	4,326	5,106
Total debt (including Pref)	1,906	1,829	3,608	7,078	6,912
Minority interest					
DTL / (assets)	137	167	134	134	134
Capital employed	4,839	5,141	7,433	11,538	12,152
Net tangible assets	2,920	3,199	3,651	7,726	7,892
CWIP (tang. & intang.)	-	137	274	774	774
Investments (financial)	2	2	43	43	43
Current assets (ex cash)	1,247	1,211	2,751	3,495	4,348
Cash	1,208	1,338	1,640	732	658
Current liabilities	537	747	926	1,232	1,563
Working capital	710	464	1,825	2,263	2,785
Capital deployed	4,839	5,140	7,433	11,538	12,152
Contingent Liabilities	125	56	67		

Cash Flow (₹ m) - YE Mar	FY16	FY17	FY18	FY19e	FY20e
PBT	693	551	821	1,027	1,568
+ Non-cash items	387	378	610	499	626
Oper. prof. before WC	1,080	929	1,431	1,526	2,194
- Incr. / (decr.) in WC	325	273	-1,451	-438	-522
Others incl. taxes	-178	-130	-136	-170	-267
Operating cash-flow	1,228	1,073	-156	918	1,405
- Capex (tang. + intang.)	-913	-806	-872	-5,074	-793
Free cash-flow	314	267	-1,028	-4,155	613
Acquisitions			5		
- Div. (incl. buyback & taxes)	-126	-	-274	-343	-521
+ Equity raised	-	-	-	-	-
+ Debt raised	155	99	1,779	3,470	-166
- Fin investments	-	-	-	-	-
- Misc. (CFI + CFF)	-26	-236	-46	121	0
Net cash-flow	317	130	436	-908	-74

Ratio analysis - YE Mar	FY16	FY17	FY18	FY19e	FY20e
P/E (x)	29.1	33.5	21.2	17.0	11.2
EV / EBITDA (x)	14.1	16.2	13.3	12.5	8.6
EV / sales (x)	3.0	3.1	2.7	2.5	1.8
P/B (x)	5.2	4.6	3.9	3.4	2.9
RoE (%)	17.9	13.8	18.6	19.8	25.5
RoCE (%) - after tax	11.3	8.5	10.9	10.3	12.6
RoIC (%) - after tax	14.6	11.4	14.4	11.9	13.4
DPS (₹ / sh)	3.5	6.0	9.5	11.8	18.0
Dividend yield (%)	0.6	1.0	1.6	2.0	3.0
Dividend payout (%) - incl. DDT	17%	40%	40%	40%	40%
Net debt / equity (x)	0.2	0.2	0.5	1.4	1.1
Receivables (days)	11	14	34	35	35
Inventory (days)	128	119	182	185	185
Payables (days)	52	52	91	92	92
CFO : PAT%	245.1	247.0	-22.8	107.1	108.0

# The forgings industry in brief

- Forging is traditionally considered the back-bone of manufacturing. Economically, it contributes greatly to growth in sectors of the Indian economy such as Power, Construction and Mining, Automobiles, Industrial Machinery Equipment, Railways and General Engineering.
- With installed capacity of around 38.5 lakh tonnes, the Indian forgings industry has the capability to forge a variety of raw materials such as carbon steel, super alloy, alloy steel, stainless steel, aluminium, titanium and so forth, according to demand from users in the industry.
- The present share of the auto sector is about 58% of forgings; the rest stems from the non-auto sector
- The Indian forgings industry has made rapid strides and now not only meets almost all domestic demand, but has also emerged as a large exporter.
- Since the automobile industry is the main customer, the industry's continuous efforts to upgrade technologies and diversify its product range have enabled it to expand its base of customers to foreign markets.



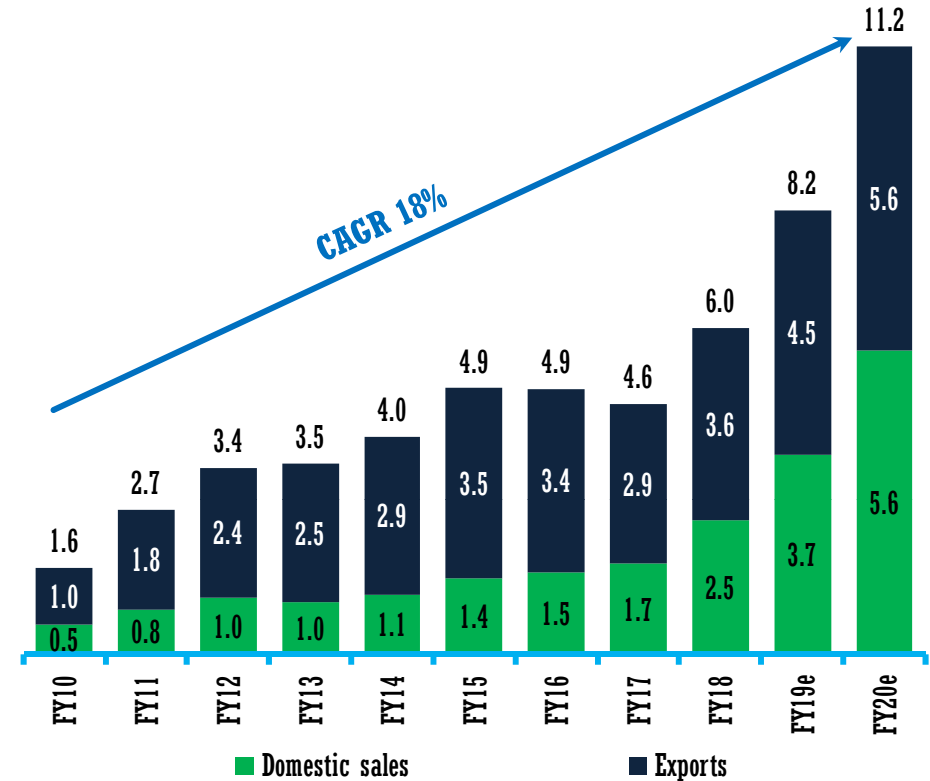
Source: Association Of Indian Forging Industry

## The company in brief ...

- MM Forgings is a leading forgings company with a wide variety of products. It manufactures products ranging from 0.20 to 120 kg.
- It forges products of steel in raw, semi-machined and fully machined stages in various grades of carbon, alloy, micro-alloy and stainless steels.
- It caters to the forgings requirements of almost all auto segments such as PVs, CVs, tractors, etc.
- MM Forgings acquired a machining company DVS Industries Pvt. Ltd. for ₹45m. The latter has capacity to machine 12,000 crankshafts a month.
- It has three plants, one each in Singampunari, Viralimalai and Paddapai in Tamil Nadu.
- It has two wind farms, one in Tirunelveli and one in Theni (both districts being in Tamil Nadu) and solar electricity-generating plants at Virudhunagar and Viralimalai (also in TN).
- Key customers: Tier 2 & Tier 3 customers in exports markets such as ZF Group, TRW and domestic customers such as Ashok Leyland, Tata Motors etc
- Key exports markets - Europe, Germany, France, US

(₹ bn)

Revenue mix- Domestic vs Exports



Source: Company, Anand Rathi Research

# The company in brief ...

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## Financials in brief

(₹ m)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Revenue	1,909	2,068	1,584	2,659	3,438	3,502	4,007	4,895	4,891	4,604	6,009
<i>Growth y/y %</i>	-	8	-20	65	29	3	14	22	0	-5	30
EBITDA	371	321	282	533	605	578	789	1,108	1,080	928	1,244
<i>EBITDA margin %</i>	19.5	15.5	17.2	19.6	17.3	16.0	19.2	22.0	21.5	19.4	20.1
PAT	148	102	104	297	268	244	293	505	501	434	685
<i>PAT margin %</i>	7.7	4.9	6.3	10.9	7.6	6.8	7.1	10.1	10.0	9.1	11.0
Debt	1,038	1,114	1,143	1,293	1,540	1,456	1,512	1,902	1,906	1,829	3,608
Cash	9	9	61	12	14	13	14	890	1,208	1,338	1,640
<i>EBITDA/Avg. gross block %</i>	19	14	11	19	18	15	19	24	20	14	17
OCF/EBITDA (x)	0.16	0.72	0.95	-0.13	0.79	0.98	0.44	0.95	1.14	1.19	-0.13
<i>RoE %</i>	17	11	10	23	18	14	15	21	18	14	19
<i>RoCE %</i>	8	6	7	14	9	9	10	14	11	8	11

Source: Company

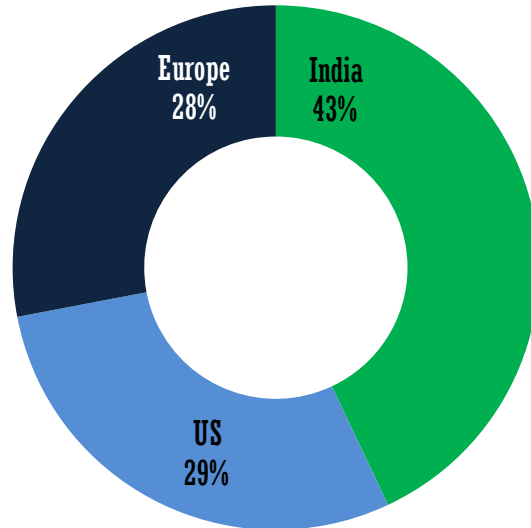
# The company in brief ...

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## Trend in pressline additions

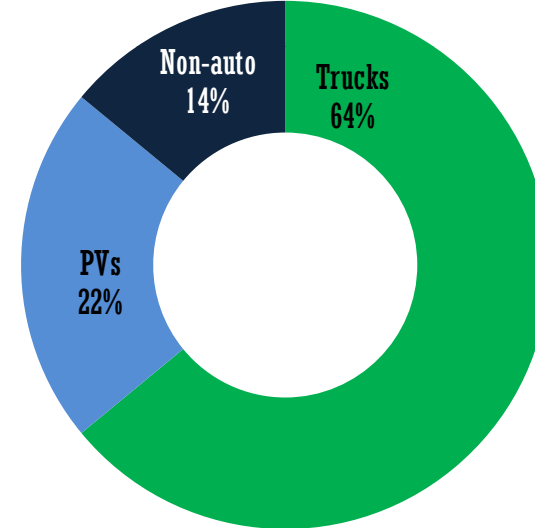
	1972	1991	1992	2003	2018
Presslines	1-tonne hammer	2-3 tonne hammer	1,600-, 2,000-tonne pressline	4,000-tonne pressline	8,000-tonne pressline
Product weight range			0-35kg	36-60kg	70-150kg
Maximum capacity			70,000 tonnes		40,000 tonnes
Products manufactured			Gears, spindles, knuckles, flinges, output shafts, body bonnets, track levers, drop arms, etc		Front axle arms, front axle beams

Geography mix (FY18)



Source: Company

Segment mix (FY18)



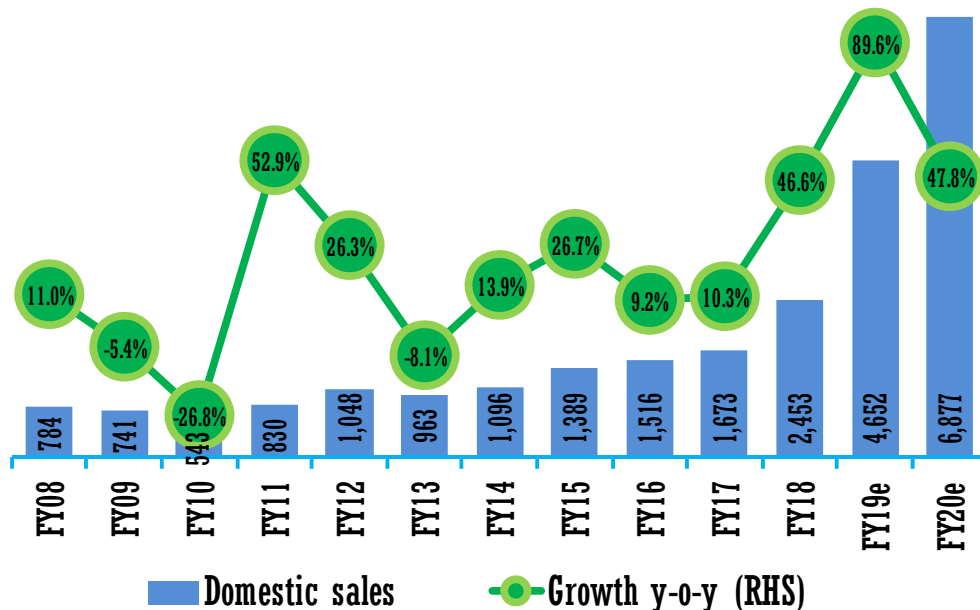
Source: Company

# Strong domestic growth over the next two years

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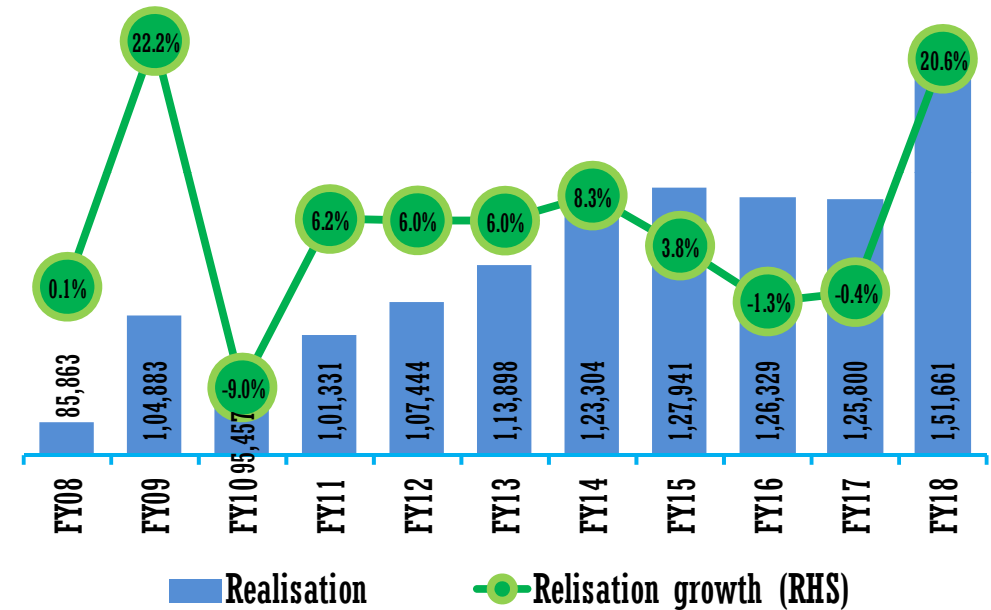
- In the last five years, revenue recorded an 11% CAGR, driven by a 20% CAGR in the domestic business and 7% in exports
- The company has installed higher presslines (of 8,000 tonnes, with peak production capacity of 45,000 tonnes) to manufacture components weighing 70-150kg (prime products such as front-axle beams and front-axle arms)
- Against the backdrop of capacity expansion and the expected 14% M&H CV growth in FY19, and 20% in FY20, we expect the domestic business to clock a 32% CAGR over FY18-20.

## Domestic sales and growth



Source: Company, Anand Rathi Research

## Realisation (domestic + exports ) vs growth in realisation (₹/ton)

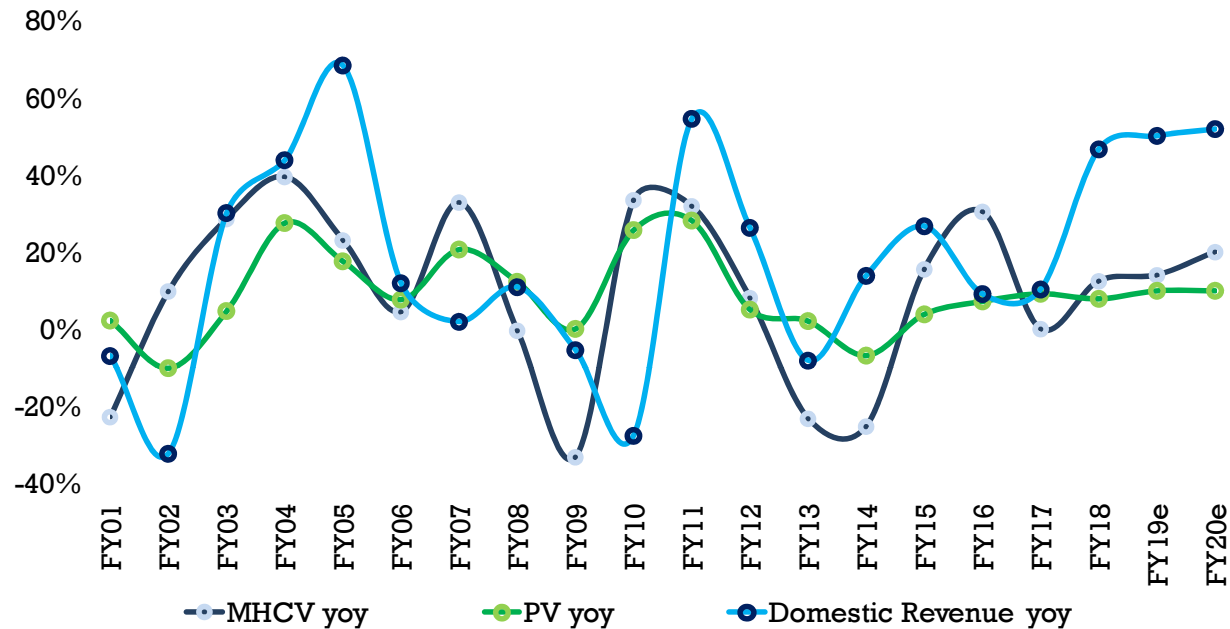


Source: Company, Anand Rathi Research



# Strong domestic growth over the next two years

## Growth in MHCVs, PVs sales and MM's domestic revenue



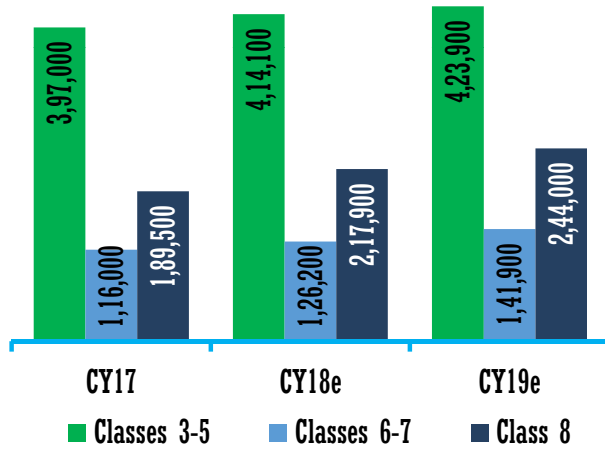
- Historically, MHCVs had grown 5% CAGR from FY13-18. PVs have grown at 4% CAGR
- MHCVs are expected to grow 17% and PVs 10% CAGR for the next two years.

# Exports – 59% of FY18 standalone revenue

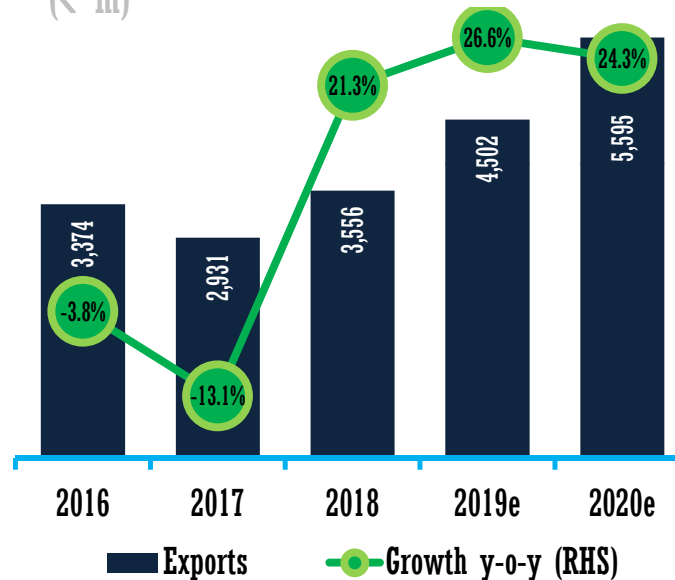
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- The company exports to Germany, France, Canada, North and South America
- It supplies components to Tier 1 and Tier 2 suppliers, who in turn assemble, machine and supply to OEMs
- It supplies for Class 8, Class 5 trucks in the US, and nearly 75-80% of exports are for Class 8 trucks
- NTEA predicts Class 8 to grow stronger than other truck classes and it expects 15% growth in CY18 and 12% in CY19. Against this backdrop, we expect the export business to register a 25% CAGR over the next two years.

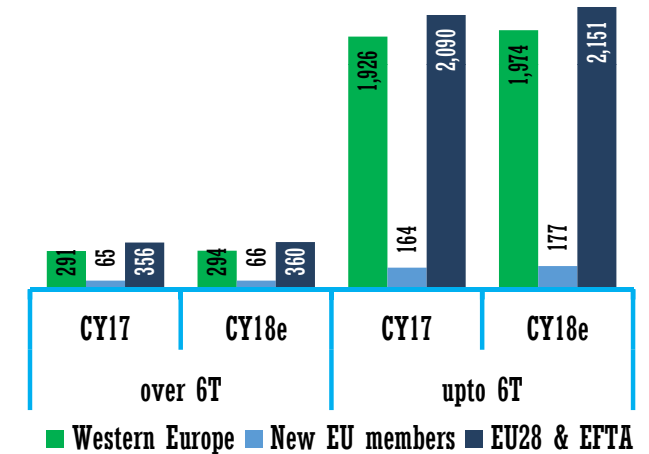
Estimated truck sales in the US  
units



Export sales of the company  
(₹ m)



CV sales in Europe  
(‘000)



# Comparative Analysis – MM Forgings, RK Forgings, Bharat Forge

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## Comparison of press-lines among players

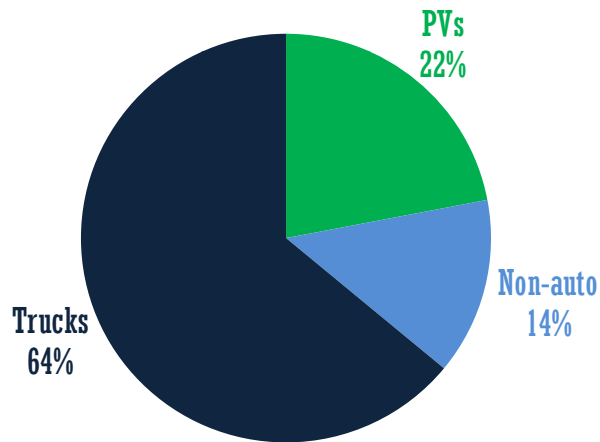
Company	Available press lines (tonnes)									Capacity (FY18)	Utilisation %
	1,600	2,000-2,500	3,000-3,150	4,000-4,500	6,000	8,000	10,000	12,000-12,500	16,000		
Weight range (kg)		5-10	10-20	20-40	40-65	70-150	80-160	80-200	150-250		
Bharat Forge	✗	✓	✗	✓	✗	✓	✓	✓	✓	625,000 (400,000 stand-alone)	75
MM Forgings	✓	✓	✗	✓	✗	✓	✗	✗	✗	70,000 + 40,000 (from 8000T presslines)	70
RK Forgings	✗	✓	✓	✓	✓	✗	✗	✓	✗	150,000	75

Note: The weight range is indicative and it also depends on the bed size.

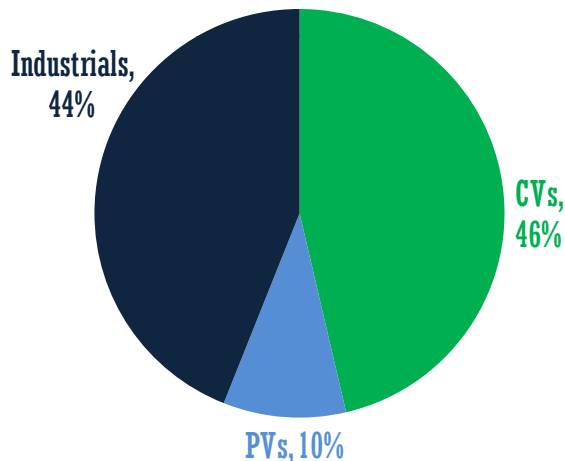
Source: Company

# Comparative Analysis – MM Forgings, RK Forgings, Bharat Forge

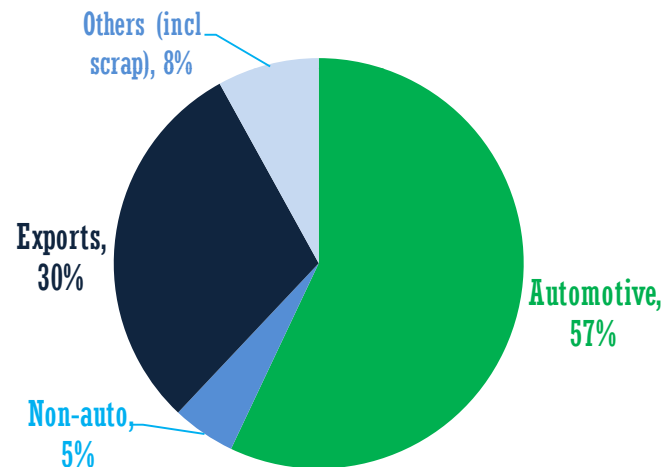
Segment mix, FY18



MM Forgings

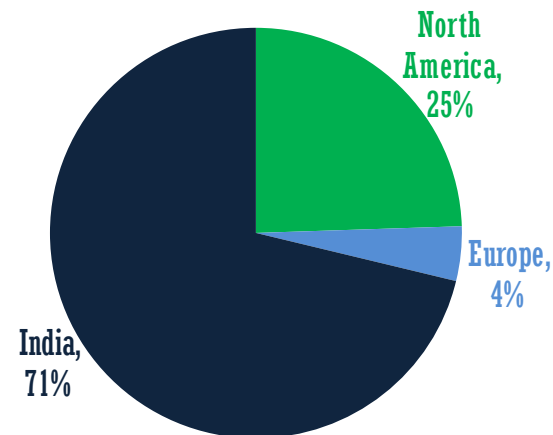
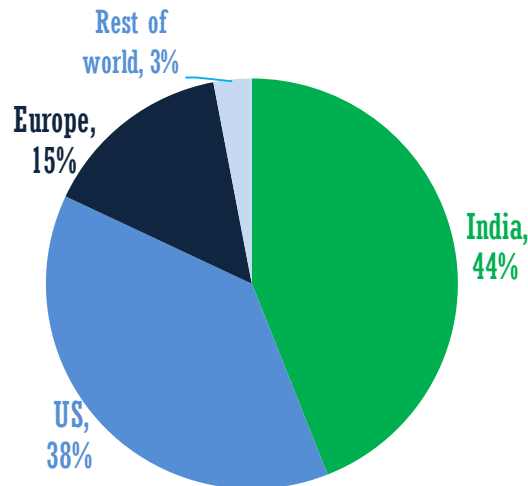
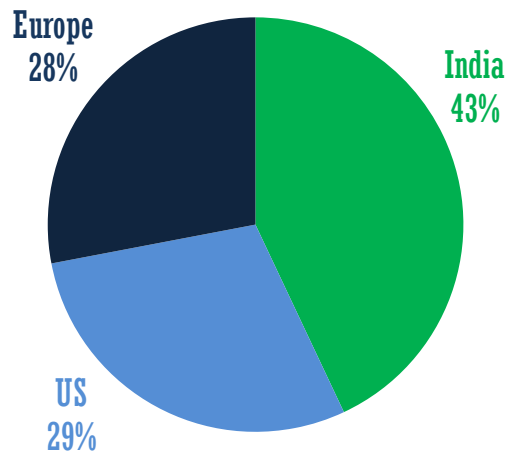


Bharat Forge



RK Forgings

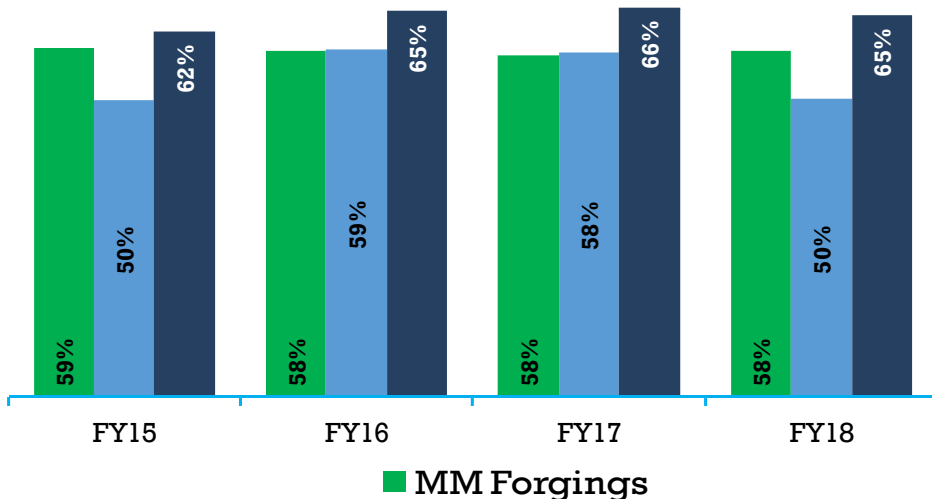
Geographic mix, FY18



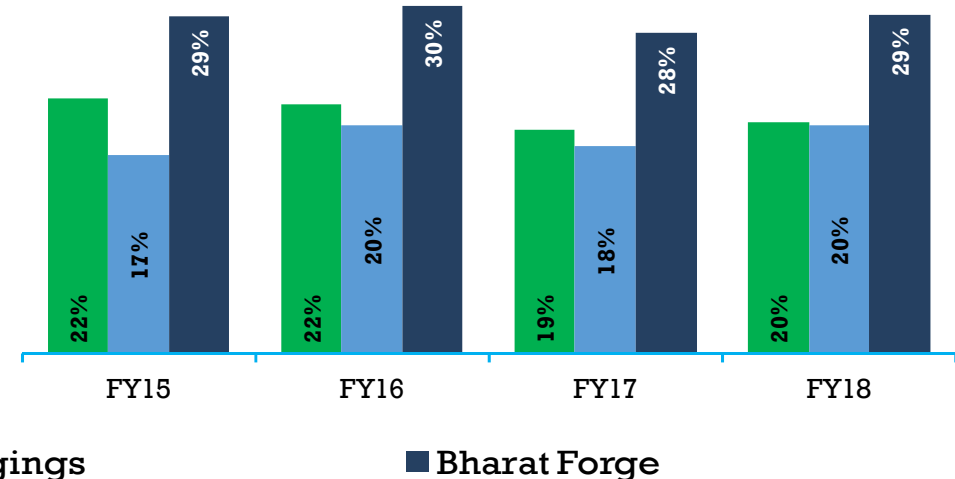
# Gross-margin and EBITDA-margin comparison

- Bharat Forge's gross margin is the highest among the comparables, as it manufactures components of higher weight (of the 12,000- and 16,000-tonne press-lines) with nearly 75% machining.
- MM Forgings' gross margin was higher than that of RK Forgings primarily due to the greater proportion of its exports, relatively. In FY18, MM Forgings' exports contributed 57% to revenue while RK Forgings' exports contribution was 25%.
- While, Bharat Forge's EBITDA margin is the highest, driven by a higher gross margin and lower power & fuel costs, MM Forgings' and RK Forgings' EBITDA margins are comparable. MM Forgings' higher power & fuel cost, higher proportion of export expenses, higher freight and packaging (due to higher share of exports) than that of RK Forgings' are some of the primary reasons for the lower difference in the EBITDA margin as opposed to the difference in their gross margins.

## Gross Margin



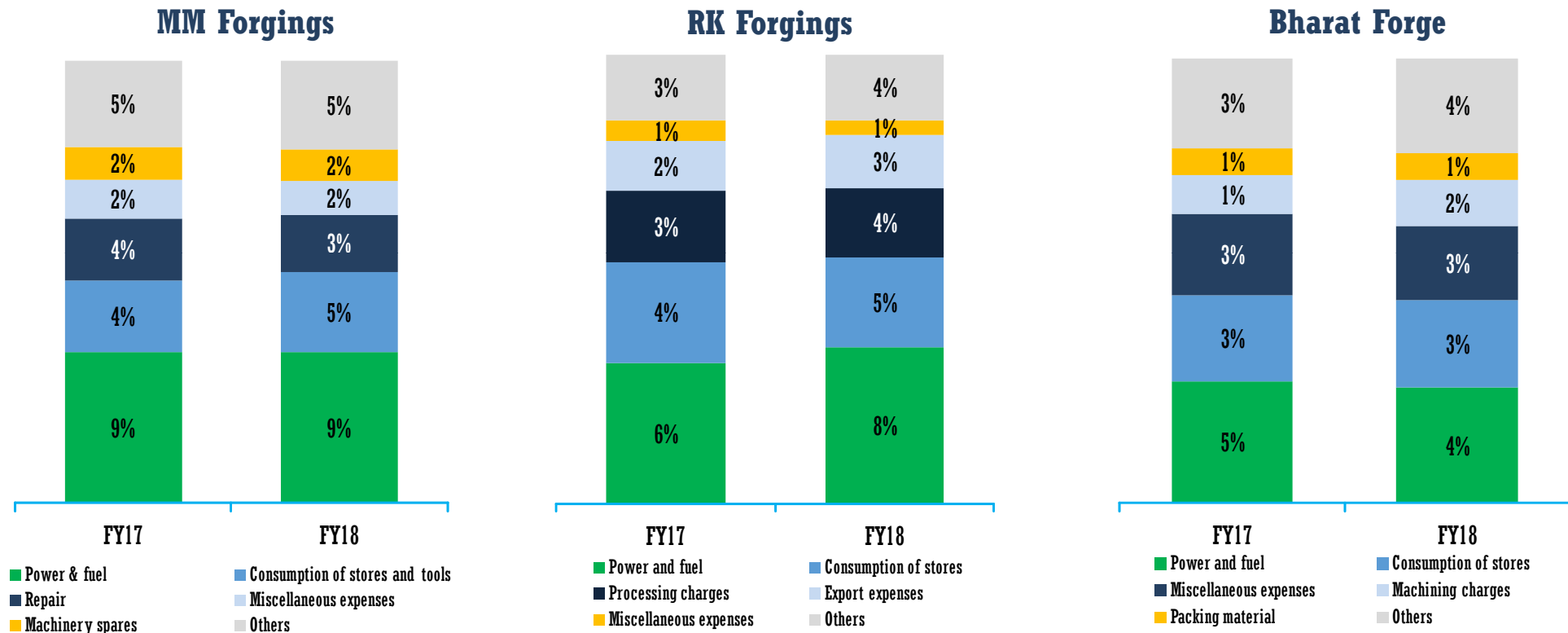
## EBITDA Margin



# Selling, admin and other overheads comparison

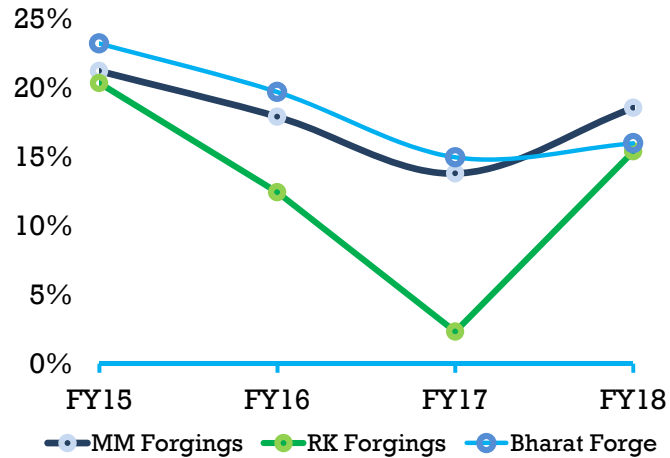
- In FY18, MM Forgings' power & fuel cost to other expenditure was 33%; in RK Forgings it was at a similar level. This is despite lower production capacity of ~70,000 tonnes against RK Forgings 120,000 tonnes.
- The primary reason was the difference in the per-unit cost of power (MM's blended cost at ₹8—8.25 a unit vs ₹5—5.5 for RK Forgings. MM Forgings obtains power from three sources: 1) captive 48%, the Coromondal group 34% and the rest from the grid. RK Forging sources all its power from the grid.

Other expenses as % of a sales



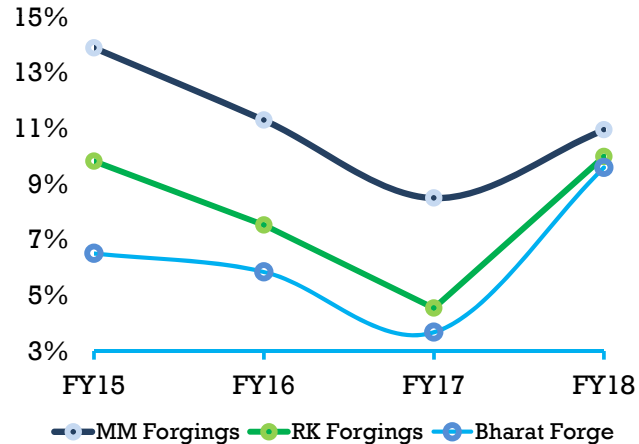
# Return-ratios, asset-turnover comparison

## RoE



Note: Figures calculated for Bharat Forge are standalone

## RoCE



Note: Figures calculated for Bharat Forge are standalone

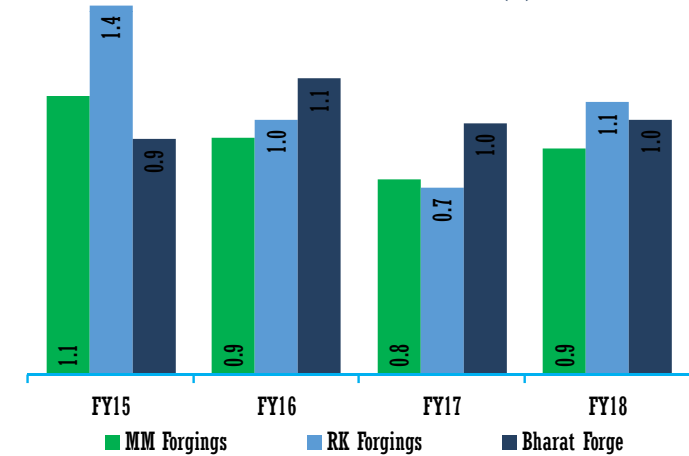
## ROCE

- ✓ Bharat Forge is similar to other players, despite higher machining, exports and heavy components, due to investment in subsidiaries, and cash in books.
- ✓ MM Forging is marginally higher than that of RK Forging due to higher exports.

## Fixed asset turnover ratio

- ✓ Bharat Forge has non-productive asset such as aircraft, investments in R&D focused on defence & others and thus dilutes its asset turnover
- ✓ MM Forging has lower asset turnover relative to RK forging probably due to wind and solar assets

## Fixed-asset turnover (x)

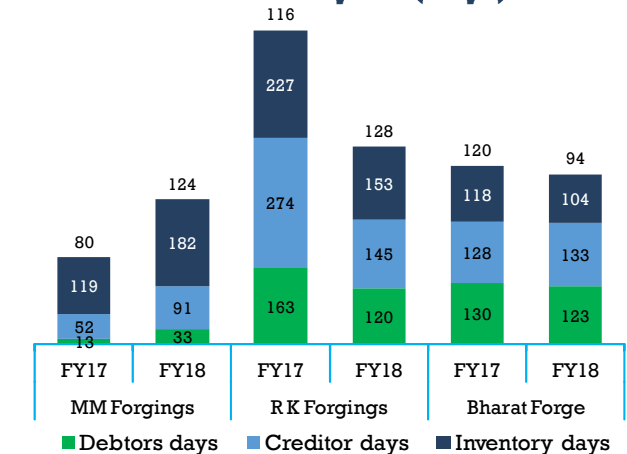


Note: Figures calculated for Bharat Forge are standalone

## Cash conversion cycle

- ✓ Debtor days - RK Forging does not have factoring and thus has higher receivables against MM Forging.
- ✓ Bharat Forge FY18 receivable includes bill discounting liability of Rs 10.6bn of the total receivable of Rs 17.9bn, thus receivable days is similar to RK Forging.
- ✓ Inventory days - Across companies, it is high given that inventory is built for exports

## Cash-conversion cycle (days)



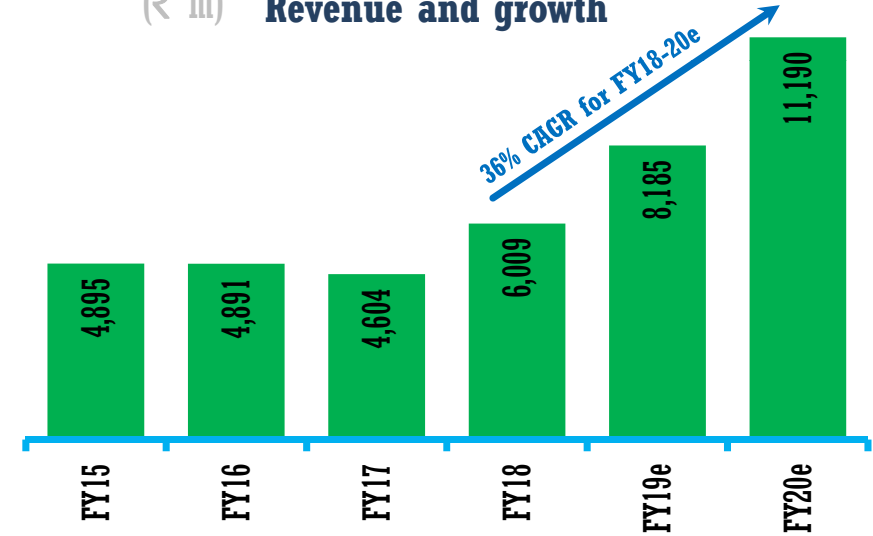
Note: Figures calculated for Bharat Forge are standalone

# MM Forging - Strong financials

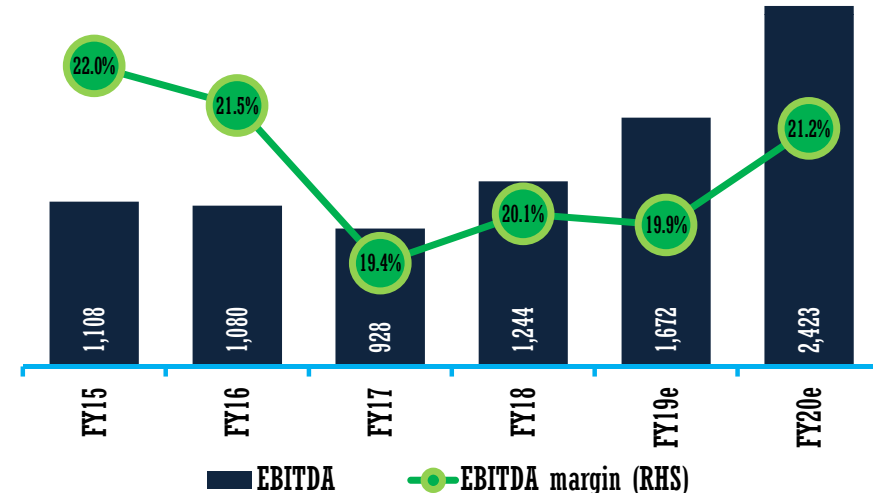
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- Over FY15-18, revenue grew only 7% due to exports coming flat.
  - We expect revenue in the next two years to clock a 35% CAGR, driven by both domestic sales and exports.
  - New products from higher presslines to ensure robust growth domestically.
  - Also, on the strong growth in the US and Europe, exports are expected to rise given strong growth in Class 8 and Class 5 trucks.
- 
- We expect the EBITDA margin in the next two years to expand 100bps to 21%, driven by strong revenue growth and higher machining content.
  - Also, with volume growth, we expect overheads such as power and fuel cost to be spread over higher volumes.

(₹ m) Revenue and growth



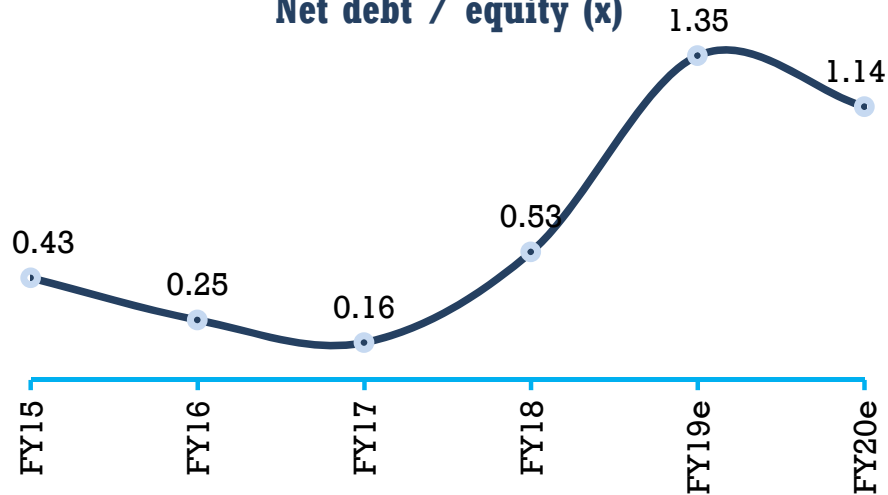
(₹ m) EBITDA and EBITDA margin



Source: Company, Anand Rathi Research

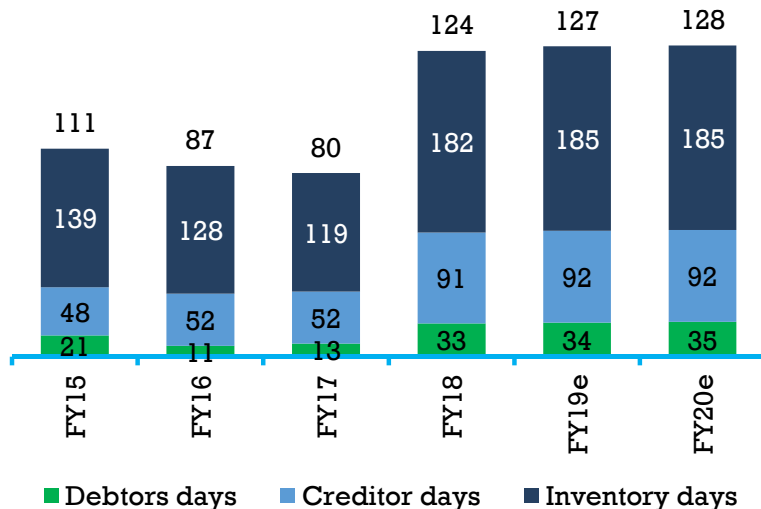


Net debt / equity (x)



- The current net debt/equity is 0.53x and we expect this to peak in FY19 and decline from FY20.
- Cash in the books is ~22% of the balance sheet size in FY18.

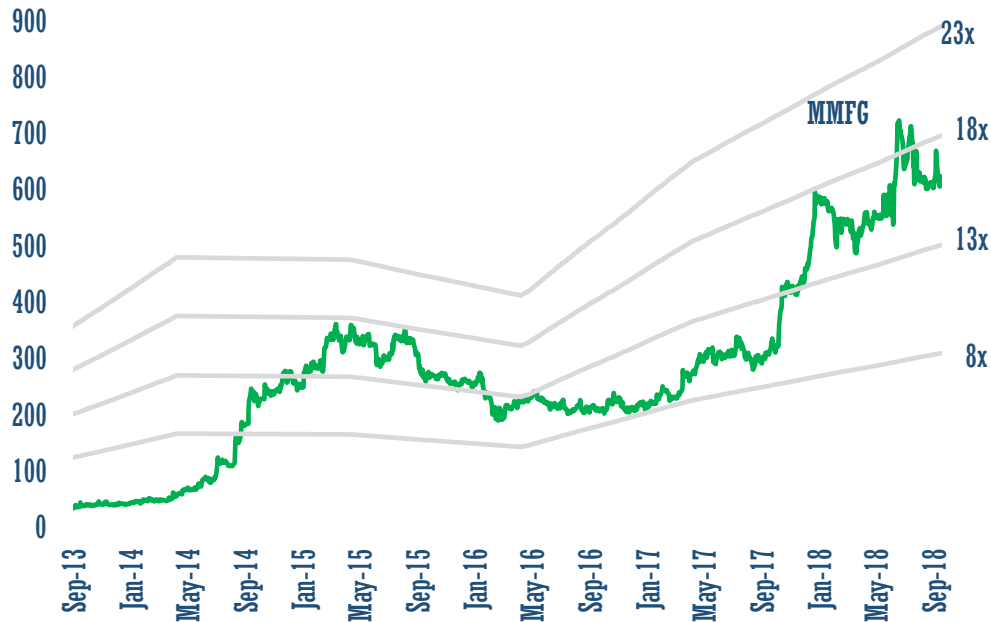
Cash-conversion cycle (days)



- The cash-conversion cycle was around 124 days in FY18.
- Inventory, in general, is higher for those forgings companies that have sizeable exports
- We expect the cash-conversion cycle to be 128 days in FY20 and believe no major working capital requirement in future.

- Over the next two years, we expect revenue to register a 36% CAGR to ₹11.42bn, driven by both domestic and export growth.
- Accordingly, we expect earnings to clock a 38% CAGR to ₹1.30bn, leading to an EPS of ₹54. We initiate coverage on the company, with a Buy rating at a target price of ₹809 (15x FY20e EPS).
- **Risks:** Steep decline in domestic M&H CV sales; decline in Class 8 trucks in the US.

PE band (one-year forward)



Source: Bloomberg

Price Movement



Source: Bloomberg

# Management and Shareholding pattern

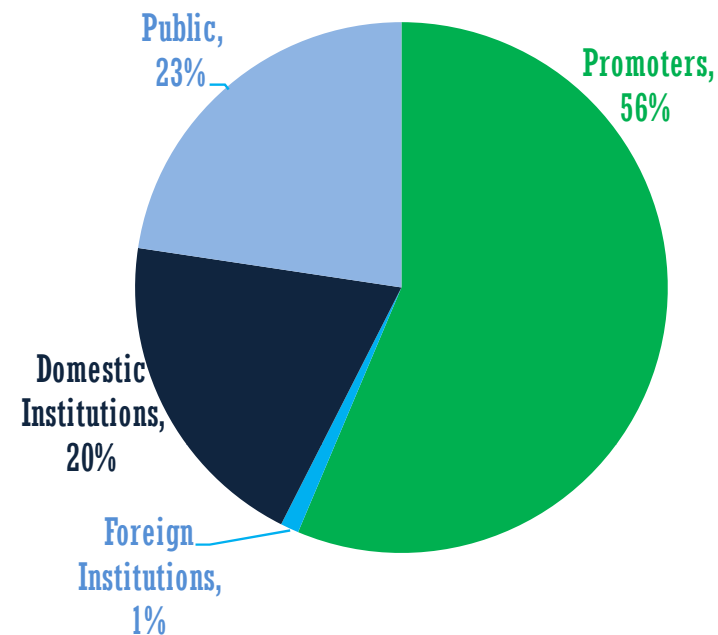
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## Promoters and Management

Name	Designation
Mr N. Srinivasan	Chairman
Mr V. Vaidyanathan	Director
Mr Vidyashankar Krishnan	Vice-Chairman & Managing Director
Mr A. Gopalakrishnan	Director
Smt. Kavitha Vijay	Director

Source: Company

## Shareholding pattern, 30th Jun'18



Source: Company, BSE

# Valuation matrix

Company name	CMP	Mcap	Rating	TP	Revenue				EBITDA				EBITDA margin (%)				PAT				EPS				Earning CAGR FY17-20E(%)	Exit multiple
					FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20		
MM Forgings	603	14,557	Buy	809	4,784	6,206	8,402	11,429	928	1,244	1,672	2,423	19.4	20.1	19.9	21.2	434	685	857	1,302	18.0	28.4	35.5	53.9	44	15
Wabco	7,055	1,34,045	Hold	7,591	20,675	25,689	29,821	33,652	3,264	3,942	4,772	5,583	15.8	15.3	16.0	16.6	2,135	2,728	3,485	4,114	112.5	143.8	183.7	216.9	24	35
Endurance	1,430	2,01,194	Hold	1,329	55,739	65,381	76,964	90,690	7,393	9,278	11,124	13,236	13.3	14.2	14.5	14.6	3,303	3,907	5,082	6,231	23.5	29.7	36.1	44.3	24	30
Jamna Auto	80	31,760	Hold	97	12,995	17,381	19,792	22,165	1,830	2,378	2,965	3,321	14.1	13.7	15.0	15.0	1,047	1,303	1,609	1,836	13.1	3.3	4.0	4.6	21	22
Minda Industries	394	1,02,147	Hold	480	33,863	44,706	61,553	71,193	3,740	5,338	7,633	8,942	11.0	11.9	12.4	12.6	1,599	3,102	3,579	4,181	6.1	10.4	13.7	16.0	38	30
Ashok Leyland	131	3,83,376	Hold	135	2,01,401	2,62,479	2,88,465	3,17,069	22,025	27,390	30,289	33,292	10.90	10.4	10.5	10.5	12,231	15,626	17,133	18,859	4.3	5.3	5.9	6.4	16	20
TVS Motors	586	2,78,259	Sell	418	1,21,353	1,51,297	1,71,847	1,91,392	8,571	11,292	13,429	14,661	7.1	7.5	7.8	7.7	5,581	6,626	7,975	8,698	11.7	13.9	16.8	18.3	16	23
Escorts	780	95,567	Hold	921	41,453	50,593	57,758	62,872	3,096	5,536	6,753	7,351	7.5	10.9	11.7	11.7	900	3,470	4,462	4,908	16.8	41.5	52.3	57.5	76	16
Exide Industries	272	2,31,540	Hold	271	75,835	91,863	1,05,643	1,21,489	10,825	12,408	15,106	17,372	14.3	13.5	14.3	14.3	6,936	6,684	9,013	10,437	8.2	8.4	10.6	12.3	15	16
VST Tillers	1,989	17,166	Sell	2,196	6,951	7,640	8,468	9,296	987	1,196	1,215	1,334	14.2	15.7	14.4	14.4	751	1,120	1,079	1,186	79.2	129.6	124.9	137.2	16	15
Balkrishna Tyres	1,160	2,24,286	Hold	1,101	37,279	44,473	52,678	61,855	11,320	11,066	15,322	18,684	30.4	24.9	29.1	30.2	7,156	7,392	10,391	13,305	74.0	38.2	53.8	68.8	23	16
Apollo Tyres	242	1,38,150	Buy	314	1,31,800	1,48,405	1,75,758	2,11,002	18,464	16,513	21,970	26,375	14.0	11.1	12.5	12.5	10,990	7,239	10,682	12,836	19.2	12.7	18.7	22.4	5	14
Ceat	1,389	56,185	Hold	1,698	57,017	61,613	75,211	85,733	6,600	6,274	7,818	8,912	11.6	10.2	10.4	10.4	3,627	2,787	4,114	4,579	93.0	75.4	101.7	113.2	8	15
MRF	70,445	2,98,767	Buy	76,794	1,32,458	1,48,219	1,71,934	1,92,566	25,860	22,699	31,464	35,240	19.5	15.3	18.3	18.3	14,511	10,923	18,051	20,351	3,422.4	2,576.1	4,257.3	4,799.7	12	16
Ramkrishna Forging	660	21,510	Buy	904	8,809	14,355	16,482	18,621	1,578	2,842	3,378	3,872	17.9	19.8	20.5	20.8	109	947	1,354	1,615	3.8	29.0	41.5	49.6	146	18
Swaraj Engines	1,645	20,433	Buy	2,498	6,662	7,712	8,552	9,372	1,045	1,216	1,368	1,500	15.7	15.8	16.0	16.0	688	801	919	1,010	55.4	66.0	75.7	83.3	14	30
Steel Strips and wheels	1,131	17,593	Hold	975	13,317	15,182	18,637	20,610	1,642	2,002	2,444	2,703	12.3	13.2	13.1	13.1	557	751	909	1,083	35.8	48.3	58.4	69.6	25	14
Atul Auto	383	8,414	Hold	475	4,753	5,560	6,414	7,471	599	726	869	1,005	12.6	13.0	13.5	13.5	373	462	570	651	17.0	21.1	26.0	29.7	20	16
Amara Raja	801	1,36,269	Sell	720	53,172	60,592	69,080	77,837	8,499	8,832	10,638	11,987	16.0	14.6	15.4	15.4	4,785	4,713	5,530	6,152	28.0	27.6	32.4	36.0	9	20
Gabreil India	139	19,909	Buy	192	15,206	18,331	21,182	24,054	1,461	1,713	2,020	2,287	9.6	9.3	9.5	9.5	827	942	1,227	1,378	5.8	6.6	8.5	9.6	19	20
SKF india	1,775	91,058	Hold	1,890	26,314	27,504	30,613	34,146	3,362	4,348	5,075	5,681	12.8	15.8	16.6	16.6	2,439	2,959	3,461	3,881	46.3	57.6	67.4	75.6	17	25

Source: Company

# Valuation matrix [contd]

	Net debt				P/E				EV/EBITDA				RoE (%)				RoCE (%)				EV			
	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20	FY17	FY18	FY19	FY20
MM Forgings	490	1,968	6,346	6,254	33.53	21.2	17.0	11.2	16.2	13.3	12.5	8.6	13.8	18.6	19.8	25.5	8.5	10.9	10.3	12.6	15,047	16,525	20,903	20,811
Wabco	-2669	-3561	-4088	-4293	62.68	49.0	38.4	32.5	40.3	33.1	27.2	23.2	18.4	19.5	20.7	20.2	18.3	19.5	20.7	20.2	1,31,376	1,30,484	1,29,957	1,29,752
Endurance	2959	559	-2599	-6651	60.90	48.2	39.6	32.3	27.6	21.7	17.9	14.7	20.8	20.0	21.2	21.5	16.4	17.0	17.9	19.0	2,04,153	2,01,753	1,98,595	1,94,543
Jamna Auto	476	348	-659	-1876	6.07	24.4	19.8	17.3	17.6	13.5	10.5	9.0	36.4	34.4	33.7	30.9	35.6	33.5	34.3	32.2	32,236	32,108	31,101	29,884
Minda Industries	771	3834	2393	-997	64.38	37.9	28.8	24.6	27.5	19.9	13.7	11.3	21.2	23.5	21.7	20.0	20.4	19.9	19.5	18.3	1,02,919	1,05,981	1,04,540	1,01,150
Ashok Leyland	12329	-21	-7327	-222	30.47	24.5	22.4	20.3	18.0	14.0	12.4	11.5	21.2	23.5	21.7	20.0	20.4	19.9	19.5	18.3	3,95,705	3,83,355	3,76,049	3,83,154
TVS Motors	10987	11783	11740	9052	50.06	42.0	34.9	32.0	33.7	25.7	21.6	19.6	25.6	25.1	25.3	23.4	18.5	18.6	19.4	19.0	2,89,245	2,90,041	2,89,999	2,87,311
Escorts	-132	-3026	-1378	-2601	46.5	18.8	14.9	13.5	30.8	16.7	13.9	12.6	5.8	18.1	18.6	17.6	9.5	17.5	18.4	17.4	95,435	92,541	94,189	92,966
Exide Industries	1506	-872	-2957	-4131	33.4	32.6	25.7	22.2	21.5	18.6	15.1	13.1	14.6	12.9	15.9	16.6	14.3	13.3	15.9	16.6	2,33,046	2,30,668	2,28,583	2,27,409
VST Tillers	-2475	-2440	-3842	-4440	25.1	15.3	15.9	14.5	14.9	12.3	11.0	9.5	15.8	20.6	16.9	16.2	14.5	19.5	16.2	15.7	14,691	14,726	13,324	12,726
Balkrishna Tyres	13475	8109	4228	97	15.7	30.3	21.6	16.9	21.0	21.0	14.9	12.0	22.6	19.3	22.8	23.8	15.2	15.2	19.8	21.8	2,37,761	2,32,395	2,28,514	2,24,383
Apollo Tyres	30997	40619	37609	35124	12.6	19.1	12.9	10.8	9.2	10.8	8.0	6.6	15.8	8.5	10.4	11.4	12.0	6.3	7.6	8.4	1,69,147	1,78,769	1,75,759	1,73,274
Ceat	7575	5679	10165	9054	14.9	18.4	13.7	12.3	9.7	9.9	8.5	7.3	16.9	11.5	15.1	14.8	15.1	11.3	13.5	12.8	63,760	61,864	66,350	65,239
MRF	17977	15641	12311	5170	20.6	27.3	16.5	14.7	12.2	13.9	9.9	8.6	18.9	12.0	17.2	16.5	15.7	11.4	16.0	15.6	3,16,744	3,14,408	3,11,078	3,03,937
Ramkrishna Forging	8528	7308	6432	5344	173.7	22.7	15.9	13.3	19.0	10.1	8.3	6.9	2.3	15.4	16.5	16.9	4.5	10.0	10.7	11.4	30,038	28,818	27,942	26,854
Swaraj Engines	-1797	-822	-1961	-2608	29.7	24.9	21.7	19.8	17.8	16.1	13.5	11.9	25.2	31.3	38.4	37.2	24.5	30.8	37.5	36.4	18,636	19,611	18,472	17,825
Steel Strips and wheels	6651	7696	5179	4351	31.5	23.4	19.4	16.2	14.8	12.6	9.3	8.1	11.5	13.7	13.7	13.7	7.0	8.6	9.2	9.4	24,245	25,289	22,773	21,944
Atul Auto	-571	-179	-19	-278	22.6	18.2	14.7	12.9	13.1	11.4	9.7	8.1	22.3	23.1	24.0	23.5	22.5	23.2	24.0	23.5	7,843	8,235	8,395	8,136
Amara Raja	-1019	-529	-1491	-3283	28.6	29.0	24.7	22.3	15.9	15.4	12.7	11.1	20.3	17.0	17.6	17.2	18.0	22.4	24.0	23.4	1,35,250	1,35,740	1,34,778	1,32,986
Gabreil India	-445	-328	-45	-214	24.1	21.1	16.2	14.4	13.3	11.4	9.8	8.6	19.9	19.3	21.6	20.8	19.5	18.7	20.8	20.2	19,464	19,581	19,864	19,695
SKF india	5575	-6576	-6994	-7175	38.4	30.8	26.3	23.5	22.6	18.7	14.7	12.8	14.0	16.2	17.6	17.3	13.7	16.0	17.2	17.0	96,633	84,481	84,063	83,883

# Appendix

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