

A STUDY ON THE FINANCIAL PERFORMANCE OF SELECT PASSENGER CAR COMPANIES IN INDIA

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Contents of the paper

- 1) Objective of the study.
- 2) Hypothesis
- 3) Profitability Analysis
 - Within companies.
 - Impact of cost reduction techniques & sales revenue on profitability level.
 - Within industry.
- 4) Statistical tools.

Objectives of the Study

The Primary objective of the study is to understand the profitability level of the companies selected which would throw light on their financial performance respectively.

The study answers following questions:

1. Is sales revenue a major component in determining profit level?

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2. Does cost reduction techniques and economies of scale affects profits of the companies?

What are the reasons for differences in the profit level within the company and amongst different companies within the industry

Hypothesis of the research study

The following hypothesis has been tested in this study:

- H0 = the profitability level of the company differs significantly over a period of 5 years,
- H0 = the profitability level of different companies differ significantly with respect to each other,
- H0 = fuel prices affect the profitability of the company,
- H0 = cost of production is a significant factor which affects the profit level.

Maruti Suzuki India Limited (MSIL)

- The revenues of MSIL have grown in each of the last 5 years however the growth was the sharpest during the revival period after the recession of 2008-09.
- The revenue growth was fuelled by various factors including new model launches, increased rural penetration, higher demand and higher disposable income (esp after the VI Pay Commission).
- The gross margins have fallen over the last 5 years for MSIL – mainly on account of higher input cost or lower realizations due to higher discounts offered to customers. This is also attributable to the stiff competitive environment in which these companies operate, which restricts them in passing on their increased cost of production.
- Higher metal price resulted in lower gross margins in FY11. Input cost is an important factor that affects the profitability and we note that the gross margins fluctuates with movement in input/metal prices.
- Operating and net margins moved in the same direction as the movement in gross margins.

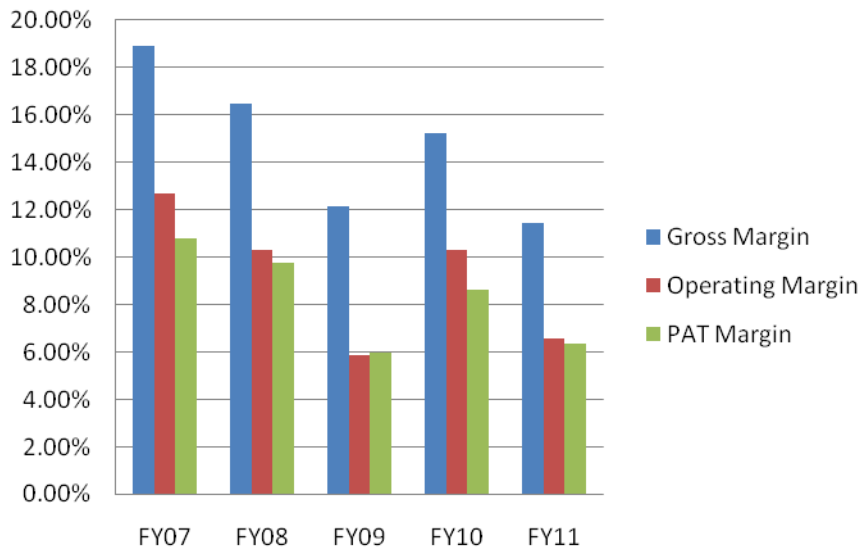
- MSIL has a very strong balance sheet with strong TNW and low borrowing levels resulting in negligible debt equity ratio and a very comfortable total gearing.
- The financial ratios of the company turned stronger with very low gearing levels and high interest coverage.
- The company has very strong liquidity with over INR 76bn in cash reserves.
- During this period, Maruti launched improved versions of its various existing models including SX4 Automatic, Dzire Diesel, Astar and Zen Estilo. All these models have been a great success in their respective categories.

| MSIL - (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Sales Turnover | 145,922 | 178,603 | 203,583 | 289,585 | 361,282 |
| Growth in Turnover | 21.57% | 22.40% | 13.99% | 42.24% | 24.76% |
| Cost of Goods Sold | 110,637 | 136,666 | 162,650 | 224,430 | 288,200 |
| Depreciation | 2,714 | 5,682 | 7,065 | 8,250 | 10,135 |
| Gross Profit | 27,567 | 29,412 | 24,689 | 44,051 | 41,249 |
| Gross Profit Margin | 18.89% | 16.47% | 12.13% | 15.21% | 11.42% |
| Operating Profit | 18,494 | 18,416 | 11,927 | 29,804 | 23,710 |
| Operating Profit Margin | 12.67% | 10.31% | 5.86% | 10.29% | 6.56% |
| EBITDA | 25,888 | 31,308 | 24,185 | 44,293 | 41,265 |
| Interest Expense | 376 | 596 | 362 | 118 | 42 |
| PAT | 15,745 | 17,397 | 12,187 | 24,976 | 22,886 |
| PAT Margin | 10.79% | 9.74% | 5.99% | 8.62% | 6.33% |
| Tangible Net worth | | | | | |

| | | | | | |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
| | 67,438 | 83,158 | 92,660 | 117,356 | 137,350 |
| Total External Borrowings | 7,236 | 12,527 | 7,538 | 8,889 | 4,317 |
| External Gearing (DEq ratio) | 0.11 | 0.15 | 0.08 | 0.08 | 0.03 |
| Total Liabilities | 34,099 | 39,886 | 43,494 | 46,098 | 46,403 |
| Cash & Cash Equivalents | 46,885 | 51,896 | 51,003 | 72,628 | 76,027 |
| Total Gearing Ratio | 0.51 | 0.48 | 0.47 | 0.39 | 0.34 |
| Current Ratio | 2.77 | 2.47 | 1.82 | 2.19 | 1.64 |
| Interest Coverage Ratio | 50.09 | 39.72 | 54.18 | 282.58 | 787.21 |
| Debt / EBITDA Ratio | 0.28 | 0.40 | 0.31 | 0.20 | 0.10 |

| MSIL | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|-------------|-------------|-------------|-------------|-------------|
| Gross Margin | 18.89% | 16.47% | 12.13% | 15.21% | 11.42% |
| Operating Margin | 12.67% | 10.31% | 5.86% | 10.29% | 6.56% |
| PAT Margin | 10.79% | 9.74% | 5.99% | 8.62% | 6.33% |

Maruti Suzuki India



Hyundai Motor India Limited (HMIL)

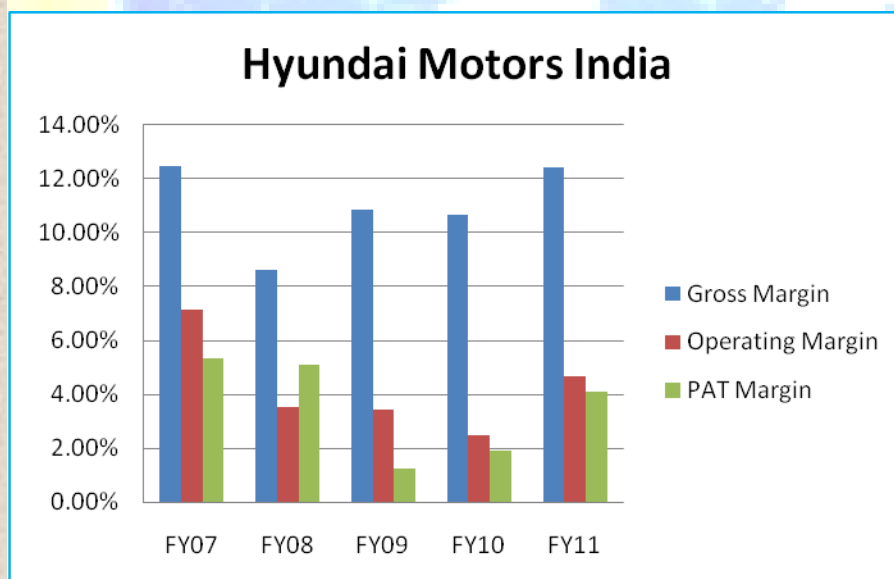
- Hyundai, the 2nd largest player, has an equally strong export market viz a viz Maruti. The growth in export sales has surpassed the domestic volumes in 2009/10. Local sales grew in 2010 over 2009 on account of lower excise duty and lower finance cost.
- Revenues grew at CAGR of 16% till 2008 while in 2009 the export sales jumped by ~80% resulting an overall growth of 53%. In 2010 revenues grew by 26%.
- Higher volume growth was supported by doubling the installed capacity in 2008. The new capacity was utilised to manufacture the *i10* and *i20* which contributed the highest in export volume.
- While raw material cost lowered the same was passed on to the customers to support topline but higher operating expenses reduced operating profit.
- Financials remain strong with significantly lower debt levels which further reduced the finance cost by over 60pct in FY2010.

- During this period, Hyundai concentrated on its existing models with higher spend on advertisement and marketing expenses. While it supported the top-line, the operating profitability was lowered by 0.96%.

| HMIL - (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|---------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Sales Turnover | 87,625 | 101,189 | 155,225 | 196,225 | 194,082 |
| Growth in Turnover | 19.39% | 15.48% | 53.40% | 26.41% | -1.09% |
| Cost of Goods Sold | 66,894 | 81,650 | 130,139 | 166,200 | 161,060 |
| Depreciation | 3,590 | 4,611 | 6,745 | 7,529 | 7,077 |
| Gross Profit | 10,943 | 8,711 | 16,860 | 20,910 | 24,076 |
| Gross Profit Margin | 12.49% | 8.61% | 10.86% | 10.66% | 12.41% |
| Operating Profit | 6,252 | 3,582 | 5,324 | 4,845 | 9,086 |
| Operating Profit Margin | 7.13% | 3.54% | 3.43% | 2.47% | 4.68% |
| EBITDA | 10,867 | 12,550 | 11,980 | 14,098 | 19,633 |
| Interest Expense | 129 | 746 | 2,235 | 939 | 428 |
| PAT | 4,667 | 5,141 | 1,957 | 3,755 | 7,943 |
| PAT Margin | 5.33% | 5.08% | 1.26% | 1.91% | 4.09% |
| Tangible Networth | 24,992 | 29,861 | 30,037 | 32,418 | 40,426 |
| Total External Borrowings | 18897 | 31,045 | 42,229 | 22,327 | 25,688 |
| External Gearing (DEq ratio) | 0.76 | 1.04 | 1.41 | 0.69 | 0.64 |
| Total Liabilities | 35562 | 56119 | 77165 | 59519 | 56,040 |
| Cash & Cash Equivalents | 2,403 | 6,616 | 5,619 | 4,514 | 18,113 |

| | | | | | |
|-------------------------|-------|-------|------|-------|-------|
| Total Gearing Ratio | 1.42 | 1.88 | 2.57 | 1.84 | 1.39 |
| Current Ratio | 1.08 | 1.09 | 1.1 | 1.35 | 1.59 |
| Interest Coverage Ratio | 65.01 | 14.07 | 4.89 | 13.02 | 36.09 |
| Debt / EBITDA Ratio | 1.74 | 2.47 | 3.52 | 1.58 | 1.31 |

| Hyundai | FY07 | FY08 | FY09 | FY10 | FY11 |
|-------------------------|---------------|--------------|---------------|---------------|---------------|
| Gross Margin | 12.49% | 8.61% | 10.86% | 10.66% | 12.41% |
| Operating Margin | 7.13% | 3.54% | 3.43% | 2.47% | 4.68% |
| PAT Margin | 5.33% | 5.08% | 1.26% | 1.91% | 4.09% |



Tata Motors Limited (TML)

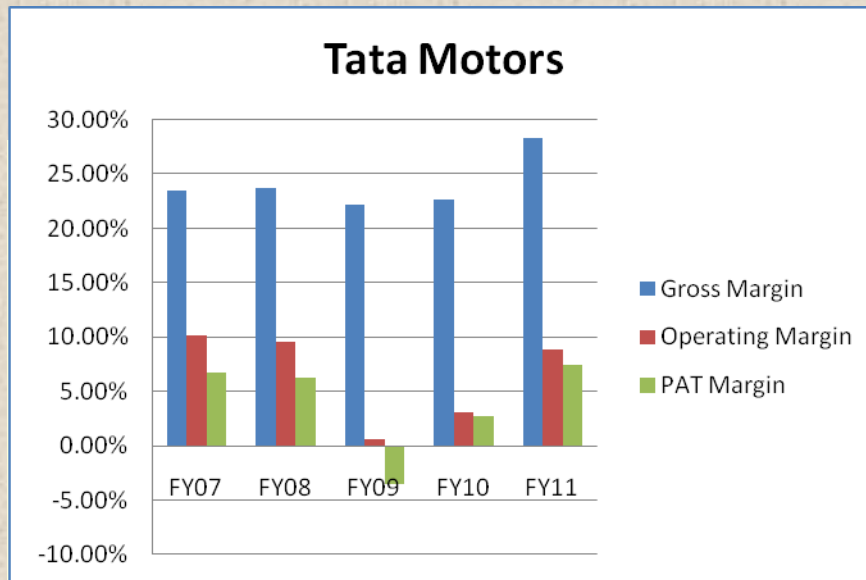
- Tata Motors, the 3rd largest player, has been fairly stable in its overall market share over last 4-5 yrs.
- Financials of FY09/FY10 are not comparable with that of PY's as FY09 includes UK based Jaguar and Land Rover as well, the company which Tata acquired in 2008. The company sells commercial vehicles which is also included in the income number but not in volumes shown in table above.
- Lower raw material cost was mostly passed on to the customers supporting revenue growth but main support to profitability was provided by significantly lower than proportionate operating expenses resulting in higher operating profit in FY10 over FY09. Interest cost (loan for JLR acquisition) remained high. Contribution from JLR improved in FY10 and higher operating profit supported the higher finance charges. Profit on currency fluctuation of INR 8Bn further increased the profit.
- Financials were acceptable till FY08 while in FY09 it became weak on account of losses, high level of debts and poor financial ratios. In 2008 it also delayed payment to its vendors, when it felt cash crunched while moving its Nano plant to Gujarat from WB. Debt level increased but higher profits improved the debt/EBITDA levels sharply to 3.75x.
- The company launched – Indica Vista, Indigo Manza and improved Tata Sumo.

| TML - (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Sales Turnover | 323,612 | 354,086 | 709,231 | 917,873 | 1,231,333 |
| Growth in Turnover | 36.15% | 9.42% | 100.30% | 29.42% | 34.15% |
| Cost of Goods Sold | 219,613 | 243,623 | 480,246 | 614,953 | 790,563 |
| Depreciation | 6,881 | 7,821 | 25,068 | 38,871 | 46,555 |
| Gross Profit | 75,910 | 84,246 | 157,815 | 208,066 | 349,438 |
| Gross Profit Margin | 23.46% | 23.79% | 22.25% | 22.67% | 28.38% |

| | | | | | |
|------------------------------|---------------|---------------|-----------------|-----------------|----------------|
| Operating Profit | 32,806 | 33,813 | 4,603 | 28,148 | 109,456 |
| Operating Profit Margin | 10.14% | 9.55% | 0.65% | 3.07% | 8.89% |
| EBITDA | 42,419 | 46,124 | 18,283 | 89,782 | 159,217 |
| Interest Expense | 4,864 | 7,431 | 14,508 | 15,684 | 20,454 |
| PAT | 22,048 | 22,348 | (24,651) | 25,169 | 92,208 |
| PAT Margin | 6.81% | 6.31% | -3.48% | 2.74% | 7.49% |
| Tangible Networth | 71,328 | 77,441 | (35,513) | (55,295) | 108,322 |
| Total External Borrowings | 97,397 | 156,649 | 387,126 | 414,422 | 327,914 |
| External Gearing (DEq ratio) | 1.37 | 2.02 | -10.90 | -7.49 | 3.03 |
| Total Liabilities | 177,000 | 266,487 | 684,468 | 788,974 | 821,179 |
| Cash & Cash Equivalents | 12,918 | 48,039 | 42,018 | 98,174 | 120,706 |
| Total Gearing Ratio | 2.48 | 3.44 | -19.27 | -14.27 | 7.58 |
| Current Ratio | 0.82 | 0.78 | 0.50 | 0.67 | 0.84 |
| Interest Coverage Ratio | 6.95 | 5.06 | 1.03 | 5.08 | 7.78 |
| Debt / EBITDA Ratio | 2.30 | 3.40 | 21.17 | 4.62 | 2.06 |

| Tata Motors | FY07 | FY08 | FY09 | FY10 | FY11 |
|--------------|--------|--------|--------|--------|--------|
| Gross Margin | 23.46% | 23.79% | 22.25% | 22.67% | 28.38% |
| Operating | 10.14% | 9.55% | 0.65% | 3.07% | 8.89% |

| | | | | | |
|------------|-------|-------|--------|-------|-------|
| Margin | | | | | |
| PAT Margin | 6.81% | 6.31% | -3.48% | 2.74% | 7.49% |



Ford India Private Limited (FIPL)

- Ford tried hard to increase its market share by the launch of the Ikon in late 90's and also the Fiesta in 2005 but it could not survive more than a year of growth. Its volume at both domestic and export market confirms this fact, which has fallen sharply post an increase till 2007. It almost lost its export market. Ford Endeavour in SUV segment continues to perform fairly stable. Ford Figo was launched towards the end of FY10 & has improved the market share of the company to some extent.
- Sharp growth in the revenues in FY07 was on account of the launch of Fiesta which had turned around the financials and the company showed an operating profit in 2007. Lack of car variants in addressable market and higher servicing cost resulted in lower acceptability of Ford vehicles. The revenues have fallen since 2007.
- While raw material cost was lower the company was not able to fully reap the benefit and while the revenue increased by 19.5pct, the gross margin fell by ~7pct. The company saved on the proportionate operating expenses and lower finance cost but these were not

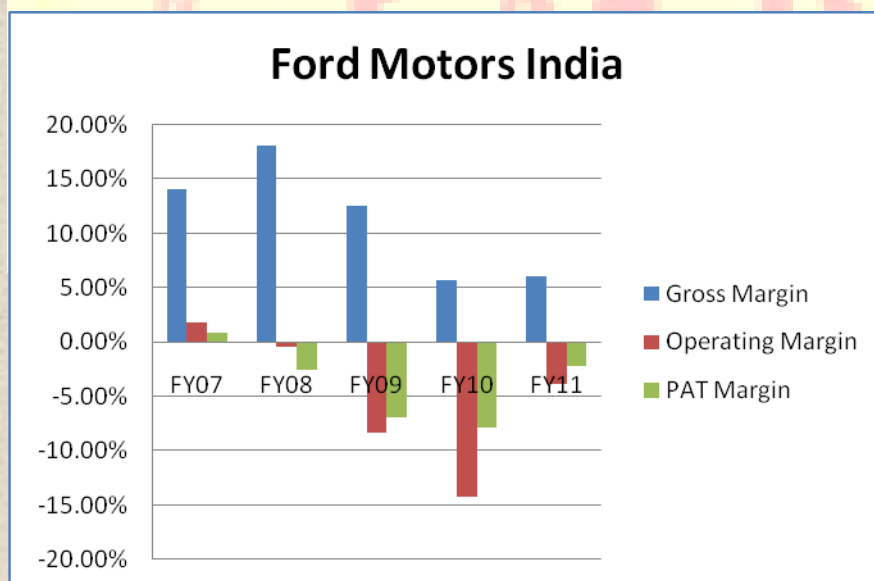
enough for the gross loss incurred by the company and the company closed the year with a net loss margin of 7.8pct FY10.

- Higher debt level were supported by the equity support from its parent in 2009 of INR 9Bn.
- The financials remain weak.

| FIPL - (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|---------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Sales Turnover | 21,918 | 20,315 | 17,017 | 20,329 | 48,651 |
| Growth in Turnover | | -7.31% | -16.23% | 19.46% | 139.32% |
| Cost of Goods Sold | 17,030 | 14,786 | 13,065 | 16,578 | 40,521 |
| Depreciation | 1,041 | 1,049 | 985 | 1,435 | 2,810 |
| Gross Profit | 3,090 | 3,673 | 2,147 | 1,162 | 2,936 |
| Gross Profit Margin | 14.10% | 18.08% | 12.62% | 5.72% | 6.03% |
| Operating Profit | 413 | (94) | (1,410) | (2,900) | (1,884) |
| Operating Profit Margin | 1.88% | -0.46% | -8.29% | -14.27% | -3.87% |
| EBITDA | 1,665 | 1,053 | 163 | 17 | 2,121 |
| Interest Expense | 419 | 494 | 339 | 165 | 386 |
| PAT | 196 | (508) | (1,182) | (1,584) | -1,075 |
| PAT Margin | 0.89% | -2.50% | -6.95% | -7.79% | -2.21% |
| Tangible Net worth | 3,208 | 2,711 | 10,188 | 10,151 | 9,083 |
| Total External Borrowings | 6,770 | 8,670 | 8,071 | 12,636 | 14,180 |

| | | | | | |
|------------------------------|--------|--------|--------|--------|--------|
| External Gearing (DEq ratio) | 2.11 | 3.20 | 0.79 | 1.24 | 1.56 |
| Total Liabilities | 12,102 | 16,197 | 14,939 | 25,300 | 28,505 |
| Cash & Cash Equivalents | 540 | 1,058 | 2,677 | 2,499 | 3,461 |
| Total Gearing Ratio | 3.77 | 5.97 | 1.47 | 2.49 | 3.14 |
| Current Ratio | 0.64 | 0.74 | 1.01 | 0.86 | 0.8 |
| Interest Coverage Ratio | 3.95 | 2.10 | 0.42 | 0.10 | 5.49 |
| Debt / EBITDA Ratio | 4.07 | 8.23 | 49.52 | 743.29 | 6.69 |

| Ford | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|--------|--------|---------|--------|
| Gross Margin | 14.10% | 18.08% | 12.62% | 5.72% | 6.03% |
| Operating Margin | 1.88% | -0.46% | -8.29% | -14.27% | -3.87% |
| PAT Margin | 0.89% | -2.50% | -6.95% | -7.79% | -2.21% |



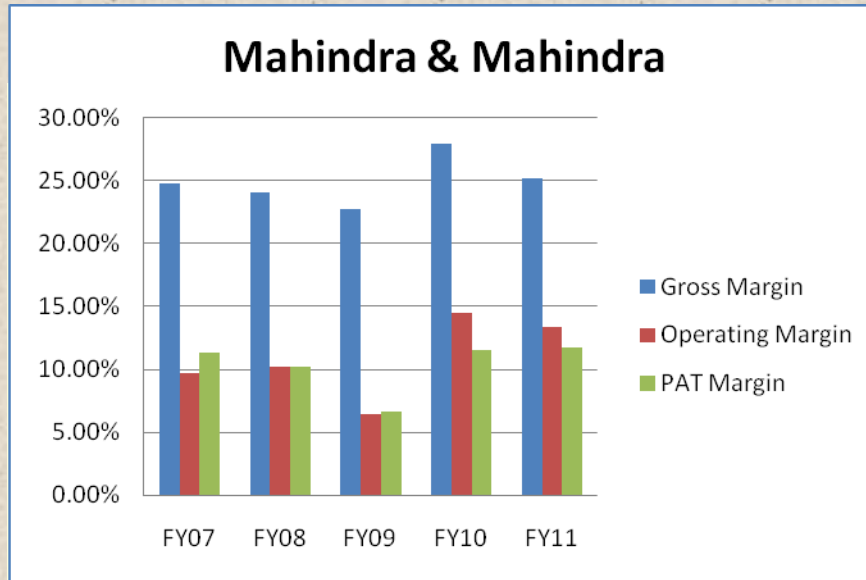
Mahindra & Mahindra Limited (M&M)

- M&M has been a player mostly in the SUV segment and recently in FY08 – it launched the Logan in JV with Renault. Earlier it used to sell SUV's like the Bolero and Scorpio.
- The revenues increased at a CAGR of 17% till FY09 and by 42% in FY10 led by strong growth in the SUV segment and the launch of Logan.
- The financials of M&M also include the sale of tractors and farm equipments. Hence they were not majorly affected as agri-production in FY08/10 was good and hence supported the revenues and profitability of M&M in the said period.
- The operating profit margins reached an all time of 14.5pct during the last 4 years. This was supported by better realisation on account of lower excise duty and lower input cost.
- The company loaded significant debts on its balance sheet till FY09 for its capex which increased the interest cost but the significant repayment of debt in FY10 resulted in improved capital structure and lower finance charges. The company was less affected by the global recession as it received support from the tractors segment.
- Bolero continues to remain a very strong product in its segment and is driving the sales in the UV segment.

| M&M (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Sales Turnover | 96,037 | 108,046 | 126,491 | 180,381 | 227,575 |
| Growth in Turnover | | 12.50% | 17.07% | 42.60% | 26.16% |
| Cost of Goods Sold | 67,808 | 76,794 | 92,314 | 122,733 | 162,130 |
| Depreciation | 2,096 | 2,387 | 2,915 | 3,708 | 4,139 |
| Gross Profit | 23,844 | 25,972 | 28,757 | 50,352 | 57,347 |

| | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| Gross Profit Margin | 24.83% | 24.04% | 22.73% | 27.91% | 25.20% |
| Operating Profit | 9,325 | 11,073 | 8,068 | 26,145 | 30,370 |
| Operating Profit Margin | 9.71% | 10.25% | 6.38% | 14.49% | 13.35% |
| EBITDA | 16,673 | 17,330 | 14,621 | 33,746 | 40,045 |
| Interest Expense | 198 | 876 | 1,341 | 1,569 | 709 |
| Profit After Tax (PAT) | 10,876 | 11,033 | 8,368 | 20,878 | 26,622 |
| PAT Margin | 11.32% | 10.21% | 6.62% | 11.57% | 11.70% |
| Tangible Networth | 34,924 | 42,417 | 50,206 | 74,840 | 99,243 |
| Total External Borrowings | 17580 | 27,129 | 41,591 | 29,874 | 25,405 |
| External Gearing (Debt to Equity ratio) | 0.50 | 0.64 | 0.83 | 0.40 | 0.26 |
| Total Liabilities | 43216 | 58838 | 88506 | 83204 | 95,274 |
| Cash & Cash Equivalents | 17094 | 14070 | 24431 | 27800 | 13,348 |
| Total Gearing Ratio | 1.24 | 1.39 | 1.76 | 1.11 | 0.96 |
| Current Ratio | 1.42 | | 1.07 | 1.28 | 0.94 |
| Interest Coverage Ratio | 66.52 | 16.32 | 9.41 | 16.67 | 44.39 |
| Debt / EBITDA Ratio | 1.05 | 1.57 | 2.84 | 0.89 | 0.63 |
| M&M | FY07 | FY08 | FY09 | FY10 | FY11 |
| Gross Margin | 24.83% | 24.04% | 22.73% | 27.91% | 25.20% |

| | | | | | |
|------------------|--------|--------|-------|--------|--------|
| Operating Margin | 9.71% | 10.25% | 6.38% | 14.49% | 13.35% |
| PAT Margin | 11.32% | 10.21% | 6.62% | 11.57% | 11.70% |



Skoda Auto India Pvt Ltd (Skoda)

- Globally Skoda fell prey to the recession and was acquired by Volkswagen. In India, Skoda operates as a separate entity but it is ultimately owned by Volkswagen. Its sale performance has been consistently stable.
- Revenues have grown at CAGR of 25% in the last 4 years. The operating performance of the company was good during 2006/07 when the operating margin increased to 7.8pct led by better sales realisation.
- Revenue growth in 2008 was also supported by the launch of Skoda Fabia – the small segment hatch back car catering to premium segment.
- However in 2008/09, the company had to book a loss at operating level mainly on account of higher selling expenses in the form of discounts and higher depreciation cost –

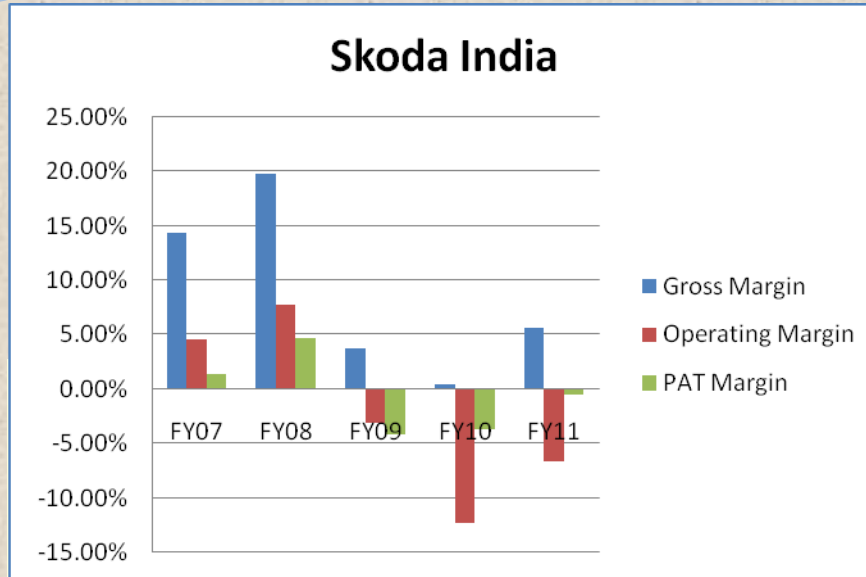
which increased the overall cost of the car while the selling price could not be increased due to recession.

- Financials remain moderate with comfortable gearing ratios. But due to loss booked in 2009 it had a negative interest cover – which was supported by strong TNW.

| Skoda (Amount in INR M) | Audited 31Dec06 | Audited 31Dec07 | Audited 31Dec08 | Audited 31Dec09 | Audited 31Dec10 |
|--------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Sales Turnover | 11,647 | 12,333 | 15,112 | 19,073 | 29,747 |
| Growth in Turnover | | 5.89% | 22.53% | 26.21% | 55.96% |
| Cost of Goods Sold | 9,485 | 9,536 | 14,060 | 18,324 | 27,346 |
| Depreciation | 221 | 195 | 381 | 596 | 630 |
| Gross Profit | 1,681 | 2,450 | 571 | 78 | 1,665 |
| Gross Profit Margin | 14.43% | 19.87% | 3.78% | 0.41% | 5.60% |
| Operating Profit | 537 | 958 | (467) | (2,352) | (1,968) |
| Operating Profit Margin | 4.61% | 7.77% | -3.09% | -12.33% | -6.62% |
| EBITDA | 758 | 1,153 | (67) | (78) | 673 |
| Interest Expense | 0 | 0 | 19 | 29 | 3 |
| Profit After Tax (PAT) | 168 | 584 | (623) | (704) | (134) |
| PAT Margin | 1.44% | 4.74% | -4.12% | -3.69% | -0.45% |
| Tangible Networth | 718 | 2,508 | 2,053 | 1,349 | 999 |
| Total External | 1758 | 3,002 | 4,692 | 3,496 | 5,116 |

| | | | | | |
|---------------------------------|----------|----------|---------|---------|--------|
| Borrowings | | | | | |
| External Gearing (DEq ratio) | 2.45 | 1.20 | 2.29 | 2.59 | 5.12 |
| Total Liabilities | 5254 | 8485 | 11362 | 10165 | 14,974 |
| Cash & Cash Equivalents | 796 | 2983 | 191 | 1274 | 199 |
| Total Gearing Ratio | 7.32 | 3.38 | 5.53 | 7.54 | 14.99 |
| Current Ratio | 1.30 | 1.60 | 1.22 | 1.18 | 1.40 |
| Interest Coverage Ratio | 3,891.00 | 7,791.00 | (11.74) | (2.72) | 166.33 |
| Debt / EBITDA Ratio | 2.32 | 2.60 | (70.03) | (44.82) | 7.60 |
| Total Borrowings (Excluding PS) | 1,758 | 2,440 | 3,279 | 3,496 | 4,554 |

| Skoda | FY07 | FY08 | FY09 | FY10 | FY11 |
|-------------------------|---------------|---------------|---------------|----------------|---------------|
| Gross Margin | 14.43% | 19.87% | 3.78% | 0.41% | 5.60% |
| Operating Margin | 4.61% | 7.77% | -3.09% | -12.33% | -6.62% |
| PAT Margin | 1.44% | 4.74% | -4.12% | -3.69% | -0.45% |



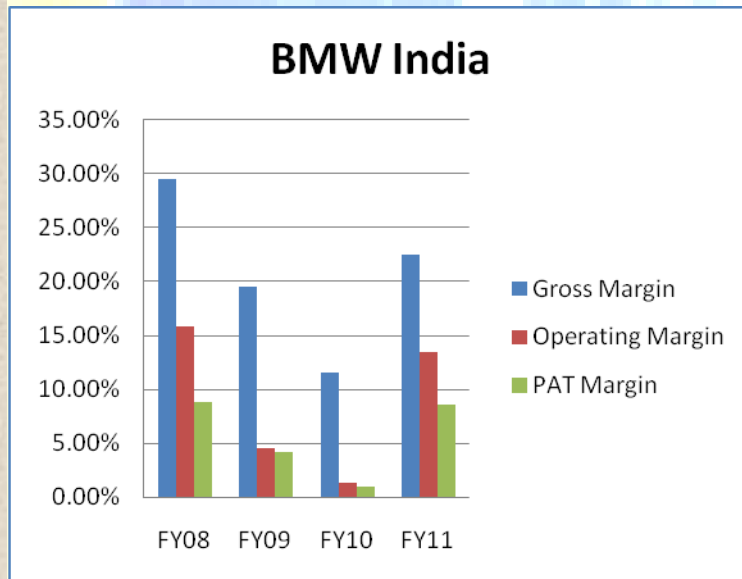
BMW India Private Limited (BMW)

- Globally Skoda fell prey to the recession and was acquired by Volkswagen. In India, Skoda operates as a separate entity but it is ultimately owned by Volkswagen. Its sale performance has been consistently stable.
- Revenues have grown at CAGR of 25% in the last 4 years. The operating performance of the company was good during 2006/07 when the operating margin increased to 7.8pct led by better sales realisation.
- Revenue growth in 2008 was also supported by the launch of Skoda Fabia – the small segment hatch back car catering to premium segment.
- However in 2008/09, the company had to book a loss at operating level mainly on account of higher selling expenses in the form of discounts and higher depreciation cost – which increased the overall cost of the car while the selling price could not be increased due to recession.
- Financials remain moderate with comfortable gearing ratios. But due to loss booked in 2009 it had a negative interest cover – which was supported by strong TNW.

| BMW India (Amount in INR M) | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|------------------------------------|------------------------|------------------------|------------------------|------------------------|
| Sales Turnover | 8,164 | 9,219 | 11,742 | 19,292 |
| Growth in Turnover | | 12.92% | 27.37% | 64.30% |
| Cost of Goods Sold | 5,629 | 7,191 | 10,211 | 14,741 |
| Depreciation | 89 | 99 | 151 | 153 |
| Gross Profit | 2,408 | 1,805 | 1,359 | 4,332 |
| Gross Profit Margin | 29.50% | 19.58% | 11.57% | 22.45% |
| Operating Profit | 1,290 | 413 | 160 | 2,586 |
| Operating Profit Margin | 15.80% | 4.48% | 1.36% | 13.40% |
| EBITDA | 1,246 | 808 | 491 | 2,873 |
| Interest Expense | 53 | 126 | 140 | 44 |
| Profit After Tax (PAT) | 718 | 381 | 109 | 1,655 |
| PAT Margin | 8.79% | 4.13% | 0.93% | 8.58% |
| Tangible Networth | 2,048 | 2,452 | 2,569 | 4,175 |
| Total External Borrowings | 822 | 1,966 | 1,042 | 507 |
| External Gearing (Debt ratio) | 0.40 | 0.80 | 0.41 | 0.12 |
| Total Liabilities | 3,431 | 8,829 | 5,866 | 11,433 |
| Cash & Cash Equivalents | 533 | 346 | 186 | 672 |
| Total Gearing Ratio | 1.68 | 3.60 | 2.28 | 2.74 |
| Current Ratio | 1.66 | 1.27 | 1.28 | 1.27 |

| | | | | |
|-------------------------|-------|------|------|-------|
| Interest Coverage Ratio | 16.23 | 4.81 | 2.86 | 42.09 |
| Debt / EBITDA Ratio | 0.66 | 2.43 | 2.12 | 0.18 |

| BMW | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|--------|--------|--------|
| Gross Margin | 29.50% | 19.58% | 11.57% | 22.45% |
| Operating Margin | 15.80% | 4.48% | 1.36% | 13.40% |
| PAT Margin | 8.79% | 4.13% | 0.93% | 8.58% |



Mercedes India Pvt Ltd (Merc)

- Mercedes India, similar to BMW India, is a luxury car manufacturer in India. The company manufactures some models in India while they also trades in some of their best selling models globally into India.

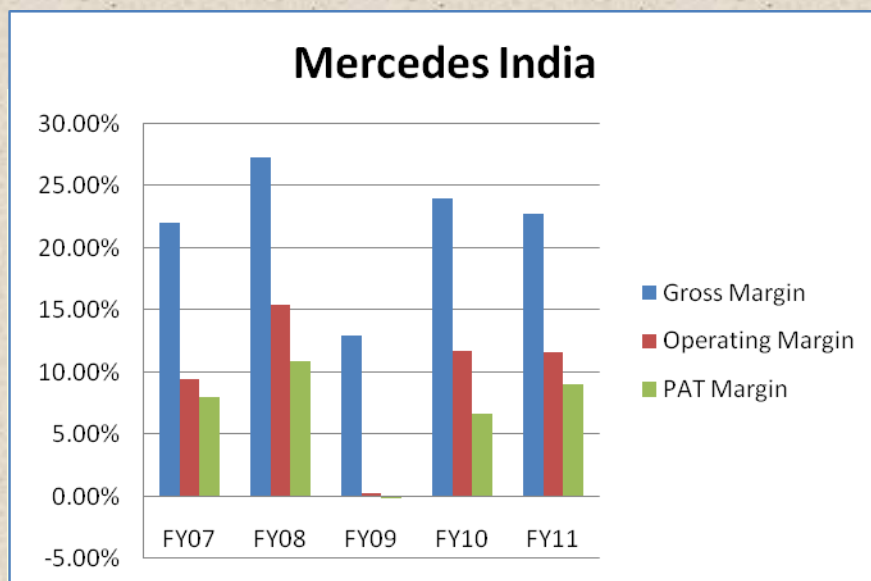
- While the revenue growth has been consistent till FY10, it was strong competition from rivals BMW and Audi (part of Volkswagen Grp) which has resulted in the revenue growth of 71pct in FY11.
- Historically the gross margins has remained above 20pct level, except the period of downturn in FY09, during which the gross margins reduced to 13pct. The operating margins was also significantly affected in FY09 due to lower gross margins by 13pct. The gross margins however improved in FY10 to 24pct and reduced marginally to 22pct in FY11. This is further expected to reduce in FY12 as well.
- Interest cover remains string with low debt levels and thereby lower finance charges resulting in higher interest coverage ratio.
- Revenue growth was also supported by the launch of corporate segment in the sedan class along with significant push on the selling and distribution side.
- The company remains debt free with only overdraft facility having a small outstanding. Higher TNW and negligible borrowings resulted in the external gearing to stand at nil. The liquidity profile of the company is however moderate – mainly on account of lower than average cash balance.

| Mercedes (Amount in INR M) | Audited 31Mar07 | Audited 31Mar08 | Audited 31Mar09 | Audited 31Mar10 | Audited 31Mar11 |
|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Sales Turnover | 6,674 | 9,539 | 11,318 | 13,057 | 22,381 |
| Growth in Turnover | | 42.93% | 18.65% | 15.36% | 71.41% |
| Cost of Goods Sold | 4,917 | 6,558 | 9,479 | 9,345 | 16,621 |
| Depreciation | 129 | 134 | 149 | 114 | 98 |
| Gross Profit | 1,474 | 2,608 | 1,473 | 3,141 | 5,097 |
| Gross Profit Margin | 22.09% | 27.34% | 13.01% | 24.06% | 22.77% |
| Operating Profit | 629 | 1,477 | 33 | 1,534 | 2,592 |
| Operating Profit | 9.42% | 15.48% | 0.29% | 11.75% | 11.58% |

| | | | | | |
|------------------------------|--------------|--------------|--------------|--------------|--------------|
| Margin | | | | | |
| EBITDA | 1,038 | 1,882 | 198 | 1,645 | 3,129 |
| Interest Expense | 1 | 4 | 126 | 210 | 51 |
| Profit After Tax (PAT) | 532 | 1,036 | -15 | 864 | 2,035 |
| PAT Margin | 7.97% | 10.86% | -0.13% | 6.62% | 9.09% |
| Tangible Networth | 4,122 | 4,455 | 4,488 | 5,267 | 7,058 |
| Total External Borrowings | 32 | 0 | 370 | 19 | 23 |
| External Gearing (DEq ratio) | 0.01 | 0.00 | 0.08 | 0.00 | 0.00 |
| Total Liabilities | 2,674 | 5,862 | 8,688 | 5,894 | 10,405 |
| Cash & Cash Equivalents | 750 | 1,208 | 497 | 1,058 | 733 |
| Total Gearing Ratio | 0.65 | 1.32 | 1.94 | 1.12 | 1.47 |
| Current Ratio | 1.64 | 1.18 | 1.34 | 1.67 | 1.47 |
| Interest Coverage Ratio | 662.00 | 293.50 | 2.06 | 5.66 | 42.82 |
| Debt / EBITDA Ratio | 0.03 | 0.00 | 1.87 | 0.01 | 0.01 |

| Mercedes | FY07 | FY08 | FY09 | FY10 | FY11 |
|--------------|--------|--------|--------|--------|--------|
| Gross Margin | 22.09% | 27.34% | 13.01% | 24.06% | 22.77% |

| | | | | | |
|------------------|-------|--------|--------|--------|--------|
| Operating Margin | 9.42% | 15.48% | 0.29% | 11.75% | 11.58% |
| PAT Margin | 7.97% | 10.86% | -0.13% | 6.62% | 9.09% |



Financial Performance / Comparison within Industry

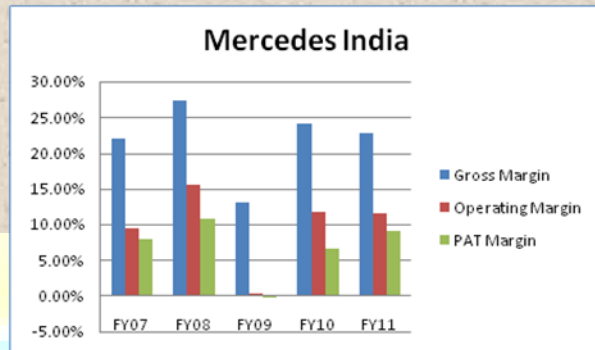
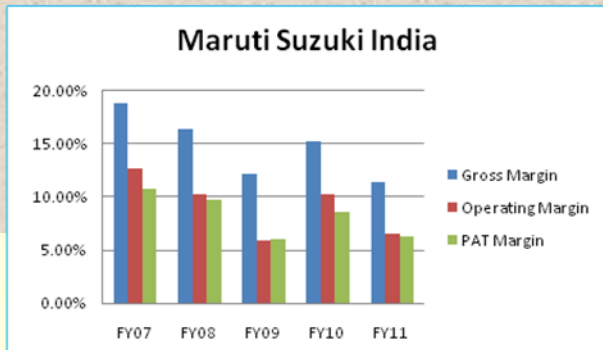
| Amount in INR Million | Maruti | Hyundai | Tata | Ford | M&M | Skoda | BMW | Mercedes |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Financial Year Ending | 31-Mar-11 | 31-Mar-11 | 31-Mar-11 | 31-Mar-11 | 31-Mar-11 | 31-Dec-10 | 31-Mar-11 | 31-Mar-11 |
| Sales Turnover | 361,282 | 194,082 | 1,231,333 | 48,651 | 227,575 | 29,747 | 19,292 | 22,381 |
| Growth in Turnover | 24.76% | -1.09% | 34.15% | 139.32% | 26.16% | 55.96% | 64.30% | 71.41% |
| Cost of Goods Sold | 288,200 | 161,060 | 790,563 | 40,521 | 162,130 | 27,346 | 14,741 | 16,621 |
| Depreciation | 10,135 | 7,077 | 46,555 | 2,810 | 4,139 | 630 | 153 | 98 |
| Gross Profit | 41,249 | 24,076 | 349,438 | 2,936 | 57,347 | 1,665 | 4,332 | 5,097 |
| Gross Profit Margin | 11.42% | 12.41% | 28.38% | 6.03% | 25.20% | 5.60% | 22.45% | 22.77% |
| Operating Profit | 23,710 | 9,086 | 109,456 | | 30,370 | | 2,586 | 2,592 |

| | | | | | | | | |
|------------------------------|----------------|---------------|----------------|--------------|---------------|------------|--------------|--------------|
| | | | | (1,884) | | (1,968) | | |
| Operating Profit Margin | 6.56% | 4.68% | 8.89% | -3.87% | 13.35% | -6.62% | 13.40% | 11.58% |
| EBITDA | 41,265 | 19,633 | 159,217 | 2,121 | 40,045 | 673 | 2,873 | 3,129 |
| Interest Expense | 42 | 428 | 20,454 | 386 | 709 | 3 | 44 | 51 |
| Profit After Tax (PAT) | 22,886 | 7,943 | 92,208 | -1,075 | 26,622 | (134) | 1,655 | 2,035 |
| PAT Margin | 6.33% | 4.09% | 7.49% | -2.21% | 11.70% | -0.45% | 8.58% | 9.09% |
| Tangible Networth | 137,350 | 40,426 | 108,322 | 9,083 | 99,243 | 999 | 4,175 | 7,058 |
| Total External Borrowings | 4,317 | 25,688 | 327,914 | 14,180 | 25,405 | 5,116 | 507 | 23 |
| External Gearing (DEq ratio) | 0.03 | 0.64 | 3.03 | 1.56 | 0.26 | 5.12 | 0.12 | 0.00 |
| Total Liabilities | 46,403 | 56,040 | 821,179 | 28,505 | 95,274 | 14,974 | 11,433 | 10,405 |
| Cash & Cash Equivalents | 76,027 | 18,113 | 120,706 | 3,461 | 13,348 | 199 | 672 | 733 |
| Total Gearing Ratio | 0.34 | 1.39 | 7.58 | 3.14 | 0.96 | 14.99 | 2.74 | 1.47 |
| Current Ratio | 1.64 | 1.59 | 0.84 | 0.8 | 0.94 | 1.40 | 1.27 | 1.47 |
| Interest Coverage Ratio | 787 | 36.09 | 7.78 | 5.49 | 44.39 | 166.33 | 42.09 | 42.82 |

| | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|
| Debt / EBITDA Ratio | 0.10 | 1.31 | 2.06 | 6.69 | 0.63 | 7.60 | 0.18 | 0.01 |
|---------------------|------|------|------|------|------|------|------|------|

- The above table gives a snapshot of the financial position of the key players in the automobile industry in the previous financial year. As per the table above, while the revenue of Tata Motors is the highest, it should be noted that the revenue of Tata Motors mainly represents the revenue from the commercial vehicle segment while other players (excluding M&M which is also in present in CV segment) revenue consist of passenger vehicles only.
- Maruti remains the top player with highest revenue contribution from passenger car segment while M&M has the highest profit margin. Ford is the weakest amongst the key players along with Skoda, which as well is loss making.
- Capital structure of Maruti remains the strongest with Ford/Skoda being the weakest. Tata has a significant debt and their gearing levels are high mainly on account of higher intangibles which results in lower TNW. Tata Motors maintains strong profit levels and satisfactory interest cover. Tata Motors has the hasghest cash reserves at INR 121Bn followed by Maruti at INR 76Bn. These are sufficient to meet any unforeseen cash flow mismatches.
- Overall Maruti is the strongest player and also has the highest market share.

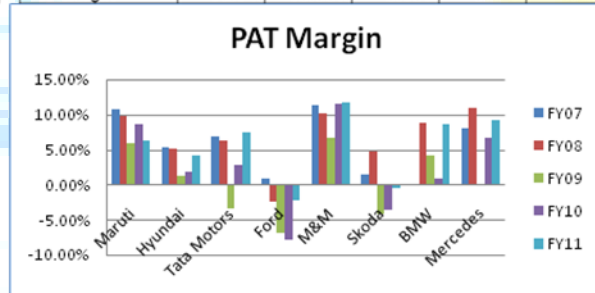
Hypothesis: H0 = the profitability level of the company differs significantly over a period of 5 years,



| MSIL | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|--------|--------|--------|--------|
| Gross Margin | 18.89% | 16.47% | 12.13% | 15.21% | 11.42% |
| Operating Margin | 12.67% | 10.31% | 5.86% | 10.29% | 6.56% |
| PAT Margin | 10.79% | 9.74% | 5.99% | 8.62% | 6.33% |

| Mercedes | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|--------|--------|--------|--------|
| Gross Margin | 22.09% | 27.34% | 13.01% | 24.06% | 22.77% |
| Operating Margin | 9.42% | 15.48% | 0.29% | 11.75% | 11.58% |
| PAT Margin | 7.97% | 10.86% | -0.13% | 6.62% | 9.09% |

- The table and chart above shows that the profitability level of the company has not remained at the same level but has moved in similar direction over the tenor of last 5 years.
- The movement in gross margins has also resulted in the operating and net margins to move in similar manner.
- The table above shows the profitability levels of only two companies and this test is also valid across the industry – refer the chart alongside.



Hypothesis Testing Using META Analysis

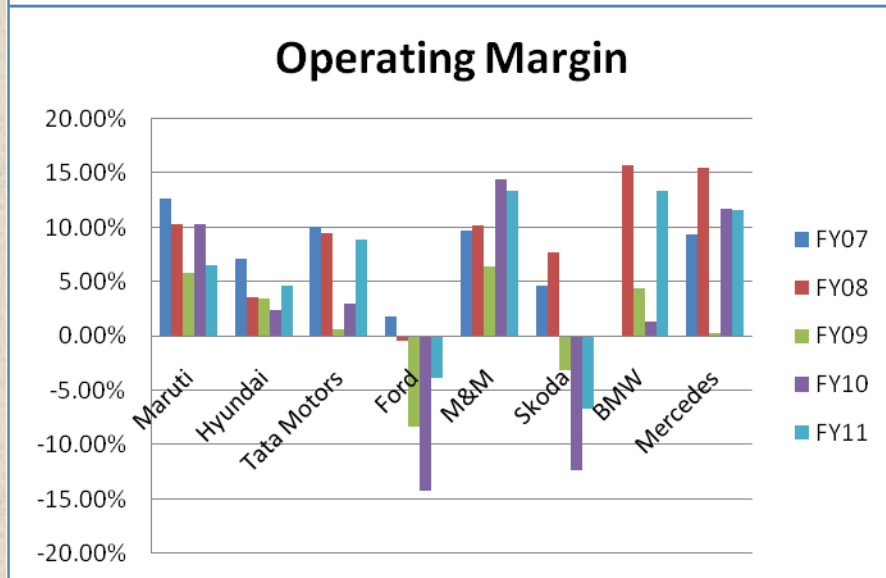
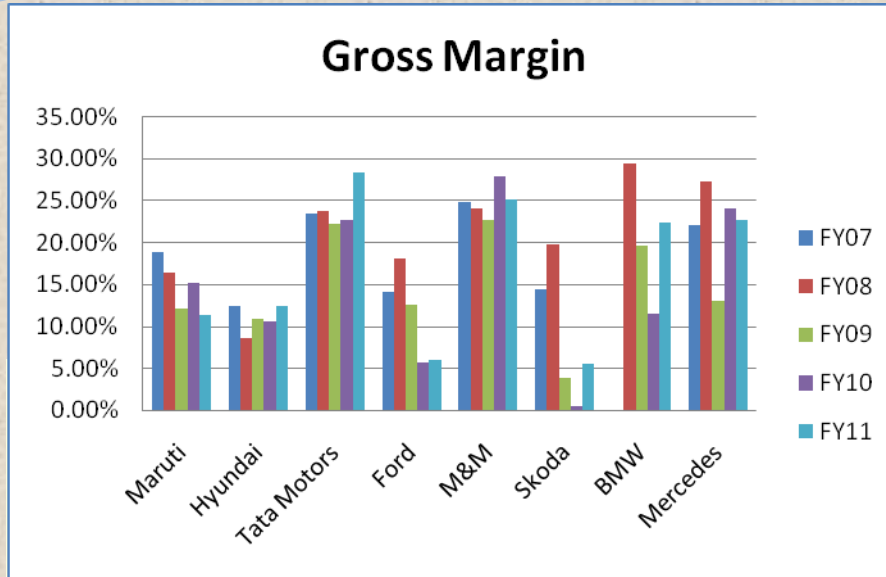
- Random effects meta-regression rests on the assumption that θ in $N(\theta, \mu)$ is a random variable following a (hyper-)distribution. A random effects meta-regression is called a mixed effect model when moderators are added to the model.
- $Y = B_1\theta_1 + B_2\theta_2 + \dots + B_N\theta_N$. Is the regression equation which analysis the impact of different variables on the dependant variable.
- μ is the MEAN PROFIT of the industry in study. Between study variance is estimated using common estimation procedures for random effects models.

Various θ variables are the profitability ratio calculated for different companies. B1, B2.....BN are the weights assigned to s particular ratio. After calculations, the resulted generated showed that Maruti Suzuki, Hyundai and M&M are the most consistent performers

Hypothesis: H0 = the profitability level of different companies differ significantly with respect to each other,

| Gross Margin | FY07 | FY08 | FY09 | FY10 | FY11 |
|--------------|--------|--------|--------|--------|--------|
| Maruti | 18.89% | 16.47% | 12.13% | 15.21% | 11.42% |
| Hyundai | 12.49% | 8.61% | 10.86% | 10.66% | 12.41% |
| Tata Motors | 23.46% | 23.79% | 22.25% | 22.67% | 28.38% |
| Ford | 14.10% | 18.08% | 12.62% | 5.72% | 6.03% |
| M&M | 24.83% | 24.04% | 22.73% | 27.91% | 25.20% |
| Skoda | 14.43% | 19.87% | 3.78% | 0.41% | 5.60% |
| BMW | - | 29.50% | 19.58% | 11.57% | 22.45% |
| Mercedes | 22.09% | 27.34% | 13.01% | 24.06% | 22.77% |

| Operating Margin | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|--------|--------|---------|--------|
| Maruti | 12.67% | 10.31% | 5.86% | 10.29% | 6.56% |
| Hyundai | 7.13% | 3.54% | 3.43% | 2.47% | 4.68% |
| Tata Motors | 10.14% | 9.55% | 0.65% | 3.07% | 8.89% |
| Ford | 1.88% | -0.46% | -8.29% | -14.27% | -3.87% |
| M&M | 9.71% | 10.25% | 6.38% | 14.49% | 13.35% |
| Skoda | 4.61% | 7.77% | -3.09% | -12.33% | -6.62% |
| BMW | - | 15.80% | 4.48% | 1.36% | 13.40% |
| Mercedes | 9.42% | 15.48% | 0.29% | 11.75% | 11.58% |



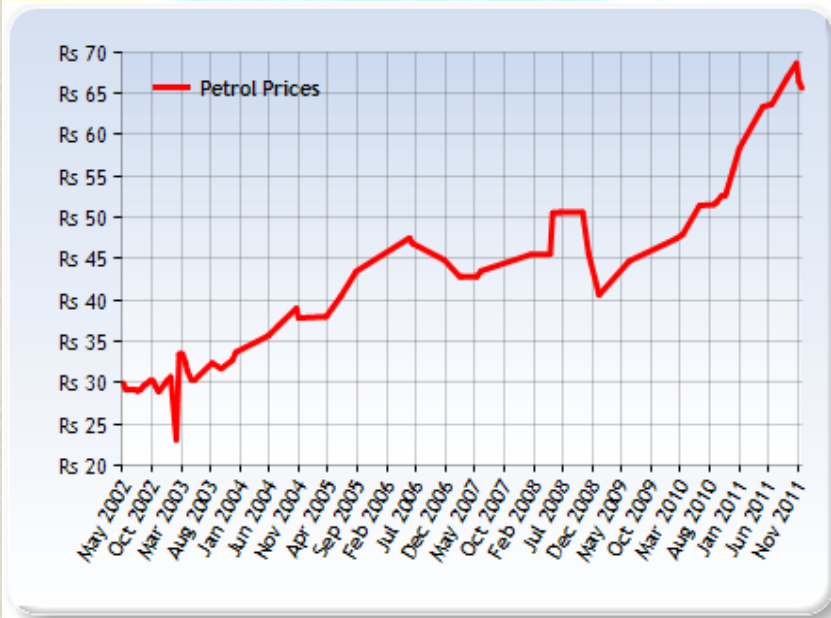
- The table and chart above clearly shows that various companies have different levels of profit margins despite being in the same industry. This is mainly on account of different pricing policy, product strength, customer loyalty and type of input materials used.
- It is noted that the profit margins of Ford and Skoda are the weakest. This is mainly because of their small scale of operation in the country which has resulted in higher operating expenses and also are unable to enjoy higher economies of scale.

Hypothesis Testing Using T-Test & F-Test

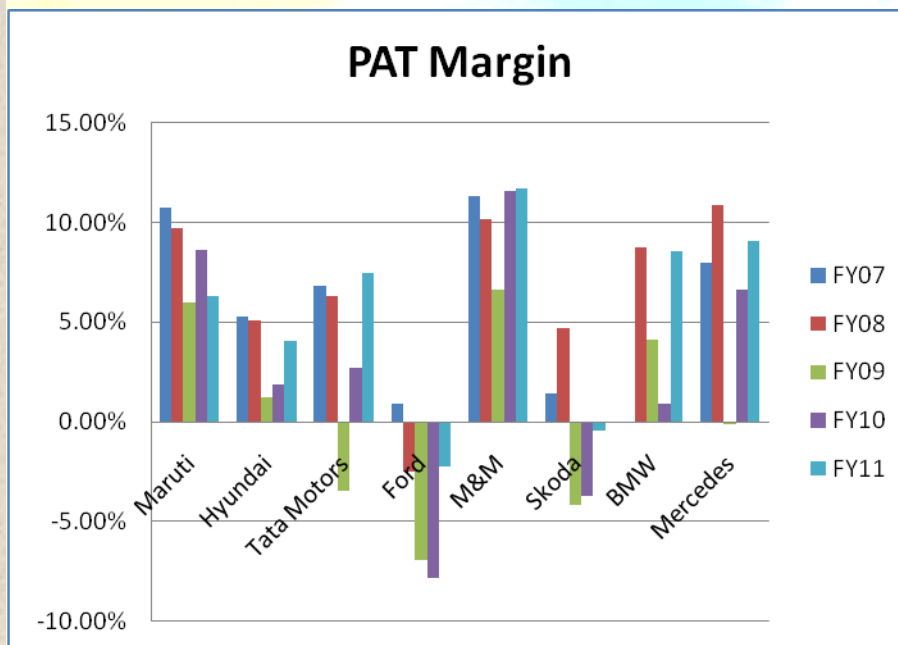
- T-Test was conducted at 10pct confidence interval to check the profitability levels of the companies in the industry and significant differences were found.
- $Y = (\text{population mean} - \text{sample mean}) / \text{standard deviation of the population}$. In this case, population mean is industry population, sample mean is the company profit. After finding the T values, again the Meta analysis was performed and analysed as follows:

- $Y = B_1\theta_1 + B_2\theta_2 + \dots + B_N\theta_N$, where θ_1 & θ_2 are the values of the independent variables.

Hypothesis: $H_0 =$ fuel prices affect the profitability of the company,



| PAT Margin | FY07 | FY08 | FY09 | FY10 | FY11 |
|-------------|--------|--------|--------|--------|--------|
| Maruti | 10.79% | 9.74% | 5.99% | 8.62% | 6.33% |
| Hyundai | 5.33% | 5.08% | 1.26% | 1.91% | 4.09% |
| Tata Motors | 6.81% | 6.31% | -3.48% | 2.74% | 7.49% |
| Ford | 0.89% | -2.50% | -6.95% | -7.79% | -2.21% |
| M&M | 11.32% | 10.21% | 6.62% | 11.57% | 11.70% |
| Skoda | 1.44% | 4.74% | -4.12% | -3.69% | -0.45% |
| BMW | - | 8.79% | 4.13% | 0.93% | 8.58% |
| Mercedes | 7.97% | 10.86% | -0.13% | 6.62% | 9.09% |



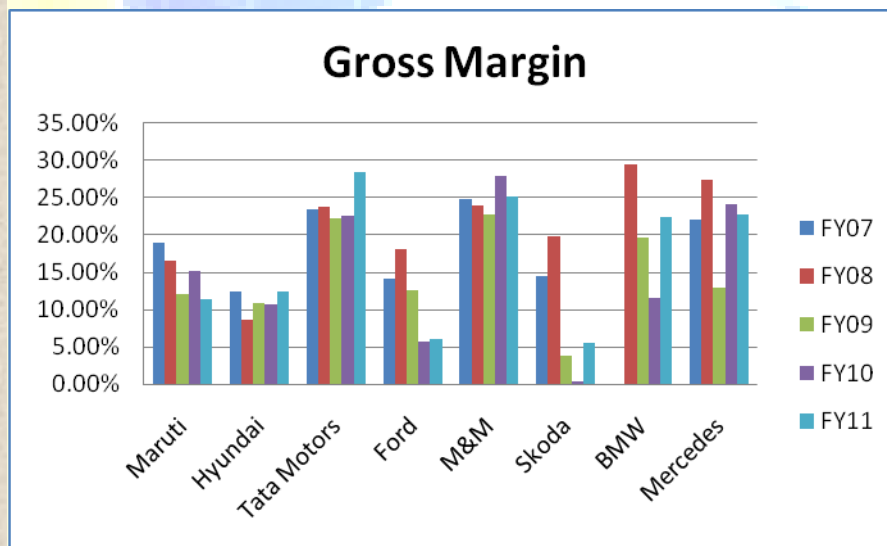
Hypothesis Testing Using Co-determination

- [test hypotheses](#) about [cause-and-effect](#) relationships. In this case, the experimenter determines the values of the X-variable and sees whether variation in X causes variation in Y. For example, giving people different amounts of a drug and measuring their blood pressure.
- The second main use for correlation and regression is to see whether two variables are associated, without necessarily inferring a [cause-and-effect](#) relationship. In this case, neither variable is determined by the experimenter; both are naturally variable. If an association is found, the inference is that variation in X may cause variation in Y, or

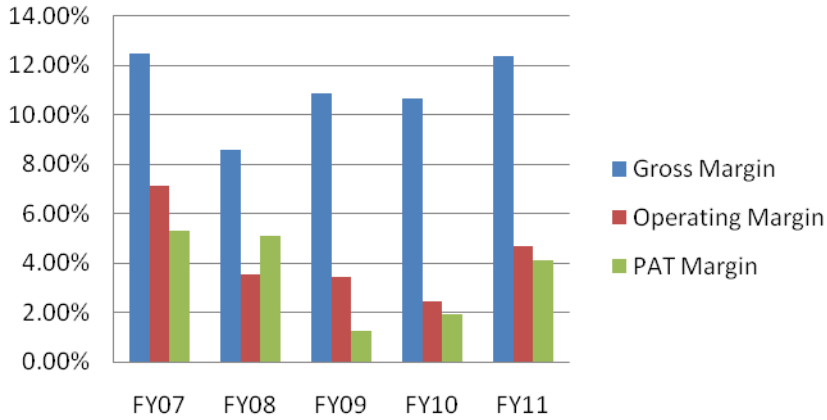
variation in Y may cause variation in X, or variation in some other factor may affect both X and Y.

- The third common use of linear regression is estimating the value of one variable corresponding to a particular value of the other variable.
- A non linear correlation equation of the form $y = a + bx + cxx$ is being used
- r^2 is a co determination co-efficient which gives the impact of independent variable on dependant variable. Here fuel price is independent variable while sales and profits are dependant variable. It was found that by and large the sales and profit of all the companies (except luxury car manufacturers) were affected by the fuel price change. A negative correlation was found between the fuel price and the sales.

Hypothesis: H_0 = cost of production is a significant factor which affects the profit level.

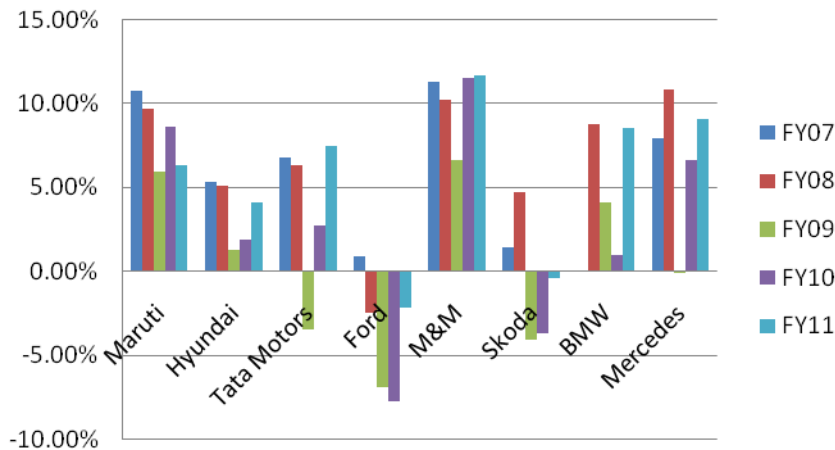


Hyundai Motors India



| Hyundai | FY07 | FY08 | FY09 | FY10 | FY11 |
|------------------|--------|-------|--------|--------|--------|
| Gross Margin | 12.49% | 8.61% | 10.86% | 10.66% | 12.41% |
| Operating Margin | 7.13% | 3.54% | 3.43% | 2.47% | 4.68% |
| PAT Margin | 5.33% | 5.08% | 1.26% | 1.91% | 4.09% |

PAT Margin



Statistical Tools Used in the Study

The statistical tools used in the study are as follows:

- 1) T-Test for dependant and independent samples: We analyse the impact of cost and sales as independent variables on the profit level, (dependant variables) of a company on yearly basis and then find out how significantly has the profit changed.
- 2) Multiple Regression Analysis: In this analysis the profit is a dependant variable and cost, sales and other factors are independent variable. This calculation will help us in understanding the impact of these factors on profit, if any.
- 3) F-Test and analysis of Variance Test: Since the study is analysing the impact of cost and sales on profit level of a company, Two factor analysis of variance test is being used.
- 4) Ratio Analysis: which will determine the liquidity position, long term solvency, operating efficiency, overall profitability, inter firm comparison and trend analysis.