Companies

Bajaj Auto

MnM

Tata Motors ¶

Maruti Suzuki

Eicher Motors

Hero Motor Corp

TVS Motors

Jamna Auto

Ashok Leyland

===

# 1.Annual Performance Comparison

Sales Comparison

This chart compares the sales performance of a company
x-axis → The last year sales volume
y-axis → The median sales growth in percentage
bubble size → The median of the current year sales deviation from the 3 term SMA. A small value (i.e. bubble size) implies a constant sales growth(degrowth)

Rationale: *Companies with a high median growth(y-axis value) in sales and a smaller variation implies (bubble size) that they are able to generate steady growth in their buisness. The last year sale volume (x-axis value) tell the size of the company buisness. Companies with a large sales value tend to have a smaller median growth rate. A company should be able to convert its sales to profit.*
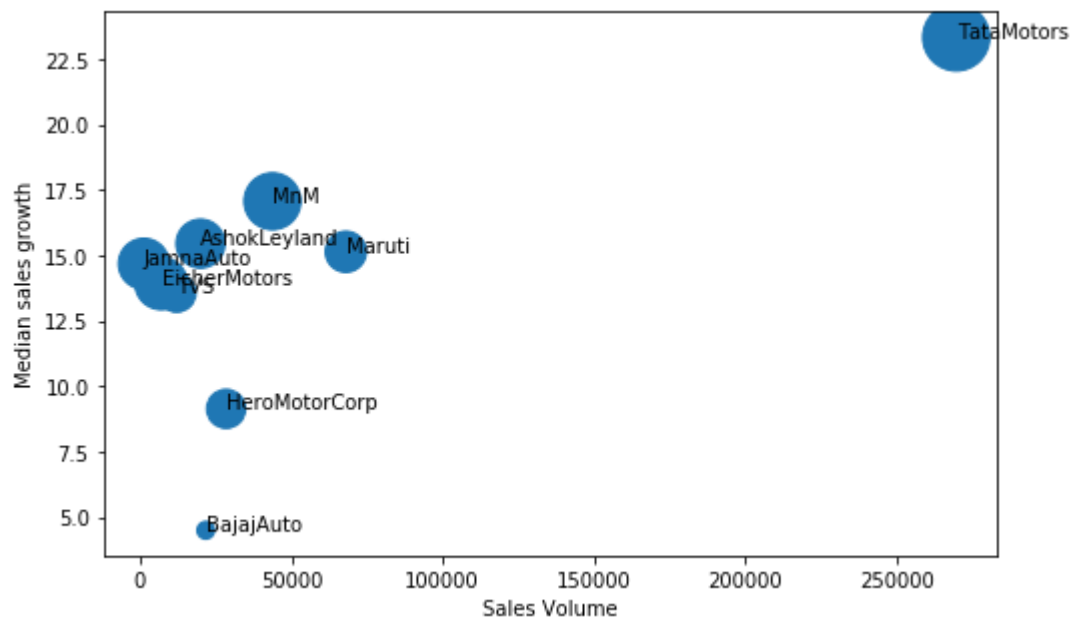
```
                    lsv    msgp     msd   msgpRank   msdRank   SG_Rank
TataMotors     269692.51   23.33   10.575         1         1         1
MnM             43785.36   17.07    8.960         2         2         4
AshokLeyland    20018.66   15.45    7.705         3         5        15
EicherMotors     7033.36   13.93    8.275         6         3        18
JamnaAuto        1299.46   14.68    8.030         5         4        20
Maruti          68034.80   15.14    6.460         4         6        24
HeroMotorCorp   28474.99    9.14    6.130         8         7        56
TVS             12135.31   13.57    6.065         7         8        56
BajajAuto       21766.68    4.50    2.760         9         9        81
```

Top 3 companies by sales growth: ['TataMotors', 'MnM', 'AshokLeyland']

Profit Comparison

This chart compares the Profit performance of a company

x-axis → Medium Profit Growth

y-axis → Median OPM

bubble size → The Median of the current year profit deviation from the 3 term SMA. A small value (i.e. bubble size) implies a less variation of the year on year profits.

Rationale: *This comparison is to filter out companies that have a larger profit growth (y-axis value) while having a better OPM compared to their peers. If the company is achieving the above steadily (and not erratically) then they would have a small bubble size. Companies doing this are better able to convert their sales to profit.*
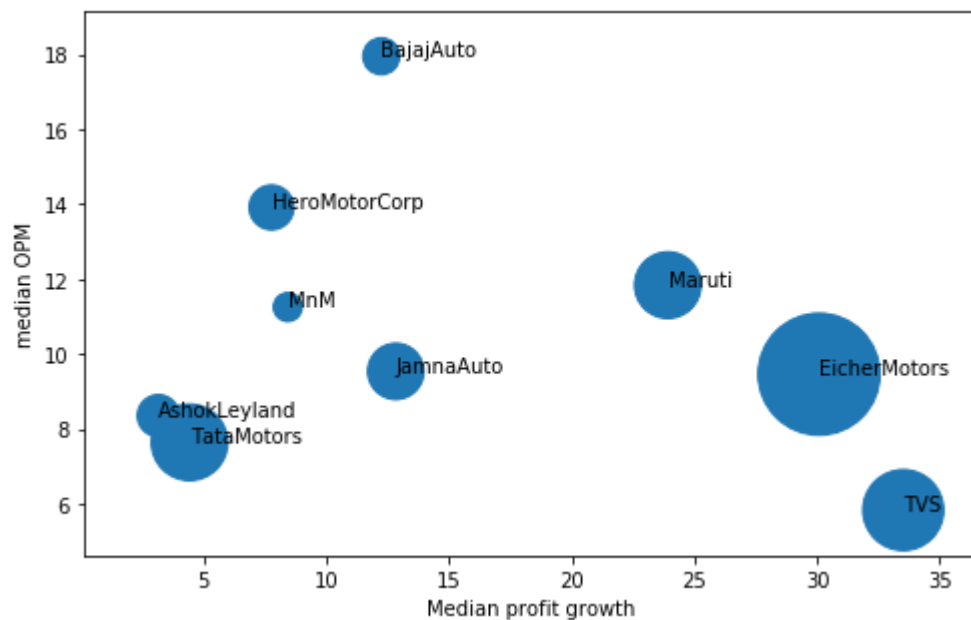
	mpg	mopm	mpd	mopmRank	mpdRank	mpgRank	PG_Rank
EicherMotors	30.08	9.463792	19.245	6	1	2	9
Maruti	23.92	11.839026	10.505	3	4	3	10
TVS	33.51	5.839191	12.765	9	2	1	12
JamnaAuto	12.84	9.539447	8.865	5	5	4	14
BajajAuto	12.25	17.944026	5.810	1	8	5	14
HeroMotorCorp	7.78	13.912382	7.065	2	6	7	15
MnM	8.44	11.254587	4.525	4	9	6	19
TataMotors	4.44	7.646988	12.075	8	3	8	19
AshokLeyland	3.17	8.357615	6.630	7	7	9	23

Top 3 companies by profit: ['EicherMotors', 'Maruti', 'TVS']

Market Cap

A comparison of the Market Capitalisation is perfromed to check the current market valuationn of the companies. It differentiates the large ones from te small ones. Very large companies have tend to have an inertia and show a stablel and comparitively smaller growth.
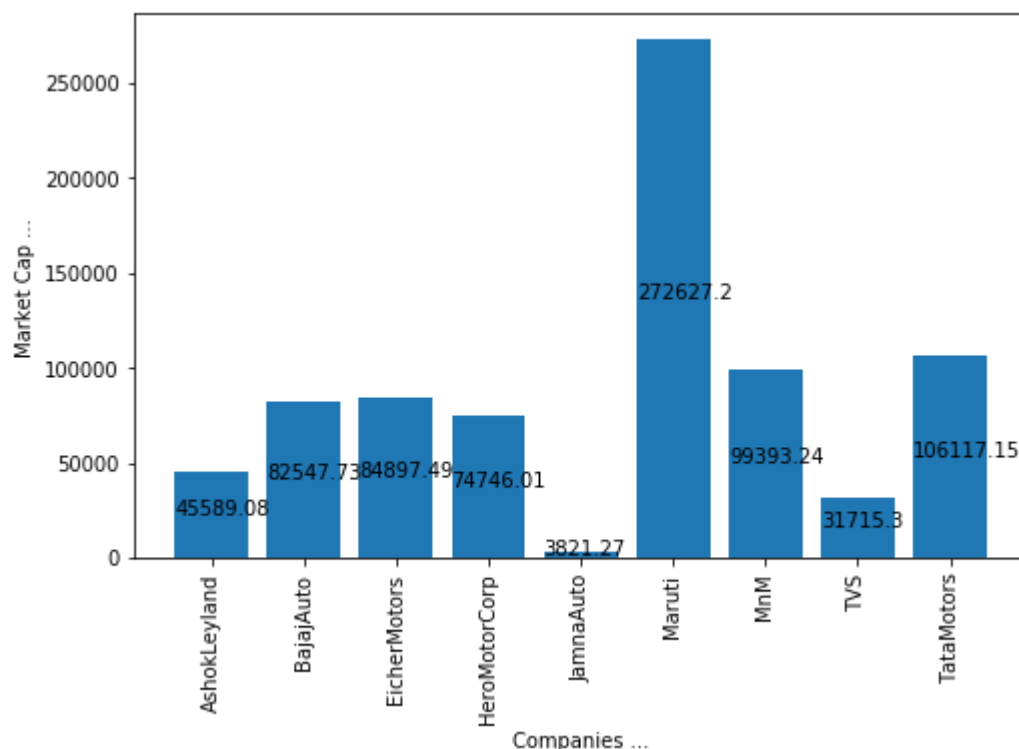
RoE vs RoCE comparison

Return on Equity(RoE)→ Returns generated by the company as compared to the shareholder's equity
Return on Capital Employed→ Returns generated by the company as compared to the Capital Employed (i.e. Total Assests - Current Liabilities)

Rationale: RoE and RoCE provides a important measure of the efficiency of the capital utilization of the company.
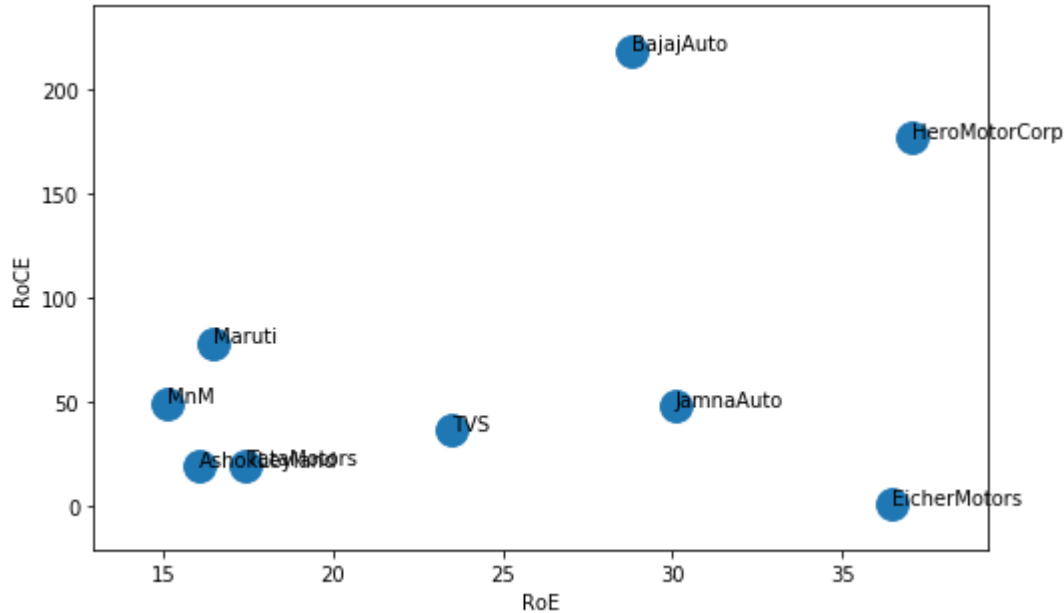

```
                  roe     roce   roeRank   roceRank   Ret_Rank
HeroMotorCorp    37.08  176.85        1         2          2
BajajAuto        28.82  219.06        4         1          4
JamnaAuto        30.08   48.50        3         5         15
EicherMotors     36.48    1.00        2         9         18
Maruti           16.48   78.44        7         3         21
TVS              23.48   36.33        5         6         30
MnM              15.14   49.53        9         4         36
TataMotors       17.43   19.63        6         7         42
AshokLeyland     16.07   19.47        8         8         64
```

Top 3 companies by returns: ['HeroMotorCorp', 'BajajAuto', 'JamnaAuto']

Debt to Equity Ratio and Borrowings

The companies are ranked according to the debt to equity and the trend in the change in their borrowings.
Companies with a lower DE is ranked higher
Companies wit ha decreasing trend in borrowings are ranked higher

Rationale The Company has to pay interest (often high) on its debt irrespective of Profits/Loss it genertes from its operations. One can argue that a company leverages debt to expand its buisness. But after the capital expenditure cycle the interest on debt is oftena a strain on the company earnings. Hence a smaller debt is desired.
Also one should see that the debt of the company has a downward trend
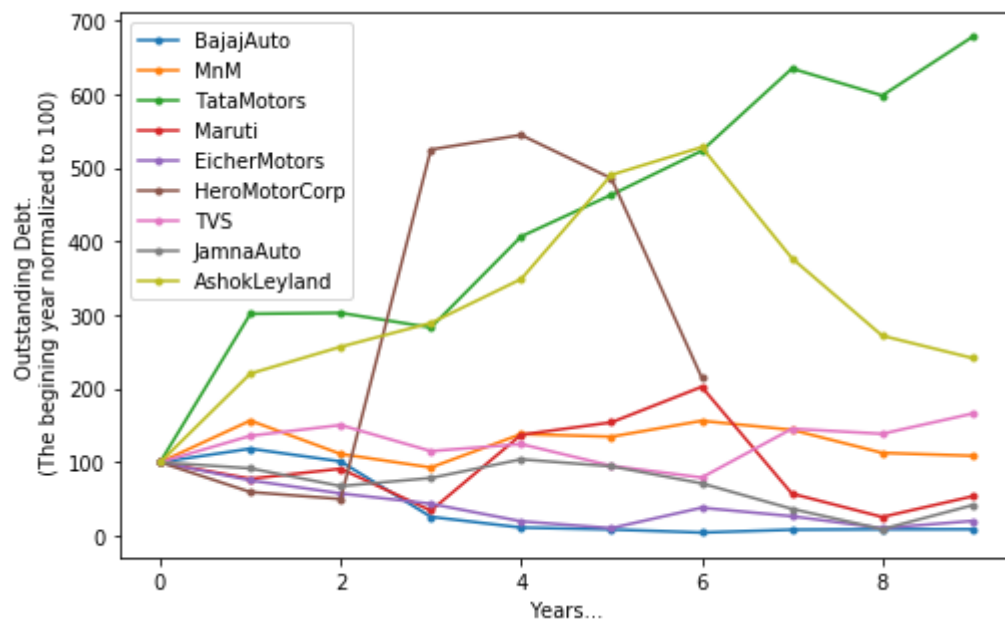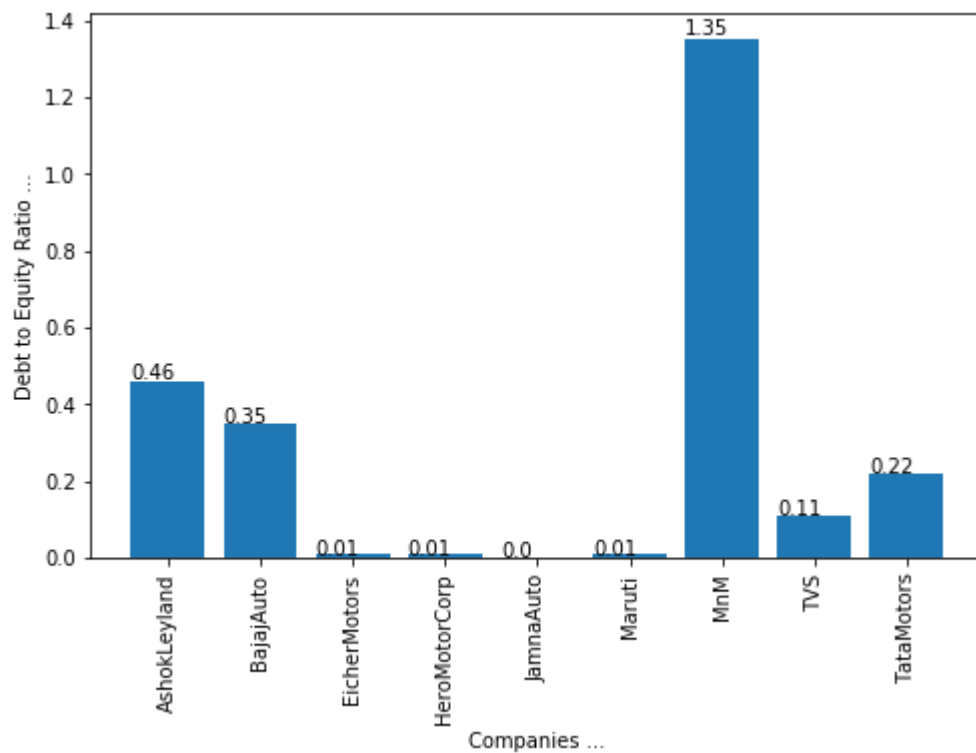
	DE	DE_Rank	DebtMonotone	DebtMonotone_Rank	Debt_Rank
EicherMotors	0.01	2	-5	1	3
HeroMotorCorp	0.00	1	1	5	6
MnM	0.11	5	-3	2	7
BajajAuto	0.01	4	-1	4	8
JamnaAuto	0.22	6	-3	3	9
Maruti	0.01	3	1	6	9
TVS	0.46	8	1	7	15
AshokLeyland	0.35	7	3	8	15
TataMotors	1.35	9	5	9	18

Top 3 companies by Debt-to-Equity Ratio: ['EicherMotors', 'HeroMotorCorp', 'MnM']

Price to Earnings Growth (PEG)

Companies are ranked according to the PE as compared to their median earnings growth. Higher rank is given to smaller (+ve)value. Negative PEG vales are eliminated from rankings
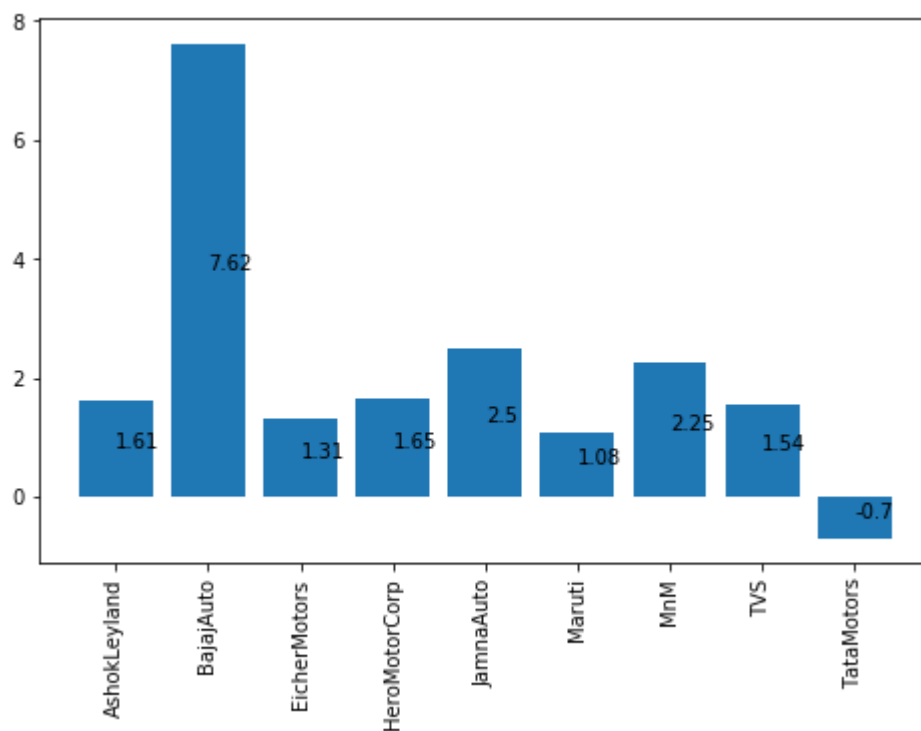
```
                  PEG    PEG_Rank
Maruti           1.08           1
EicherMotors     1.31           2
TVS              1.54           3
AshokLeyland     1.61           4
HeroMotorCorp    1.65           5
MnM              2.25           6
TataMotors      -0.70           7
JamnaAuto        2.50           7
BajajAuto        7.62           8
```

Top 3 companies by Price-to-EarningsGrowth Ratio: ['Maruti', 'EicherMotors', 'TVS']

Self Sustainable Profit growth (SSPG)

Given:

$OPM \rightarrow$ Operating Profit Margin

$Dep \rightarrow$ Depreciation

$F_{RI} \rightarrow$ Funds aviable for re-investment

$FA_k \rightarrow$ Fixed asset at the begining of year 'k'

$DPR \rightarrow$ Dividend paid as a percentage of net-PAT

$NFA \rightarrow$ Net Fixed Assets (Gross Fixed Assets - Depreciation)

$NFAT \rightarrow$ Net Fixed Asset Turnover ($Sales/NFA_{average}$)

NOTE: Subscript 0 implies current yr and -1 previous year

step 1. $F_{j-1}^{(RI)} = Sales_{j-1} * OPM_{j-1} * (1 - DPR_{j-1})$

step 2. $FA_j = FA_{j-1} - Dep_{j-1} + F_{j-1}^{(RI)}$

step 3. $Sales_0 = FA_j \times NFAT$

step 4. $SSGR = \frac{Sales_j}{Sales_{j-1}} - 1$

ssgr3y $\rightarrow$ SSGR 3yr mean

ssgr5y $\rightarrow$ SSGR 5yr mean

pgr3y $\rightarrow$ Profit Growth Rate 3yr mean

pgr5y $\rightarrow$ Profit Growth Rate 5yr mean

SSGRMF $\rightarrow$ SSGR Monotonic Factor

The above provides a good way to see whether the profits generated by the company is sustainable or not. In most cases if SSGR is greater than the Profit growth rate then there is a higher probability fo rthe company to continue with their growth.

```
                  ssgr3y        pgr3y       ssgr5y        pgr5y  SSGRMF
AshokLeyland    29.069398   423.293832    25.014270   230.657105       8
TataMotors      76.600922   -17.622276    56.490613    -7.649736       9
JamnaAuto       23.493990   100.711860    23.645357    43.554380       5
EicherMotors    88.212391    66.079307    66.339588    44.948705       8
Maruti          90.624038    38.227898    63.324856    35.462580       9
BajajAuto       72.109800     8.061850    56.972764     6.969324       9
MnM             60.036556     2.764960    48.388774     7.370464       9
HeroMotorCorp   64.451805    17.481489    42.668387     8.216819       8
TVS             60.247077    29.225063    36.749738    31.952139       8
```

Tax

The comapny that pays less than the 2σ of the mean tax paid by the companies, is an outlier and needs more detailed scrutiny.
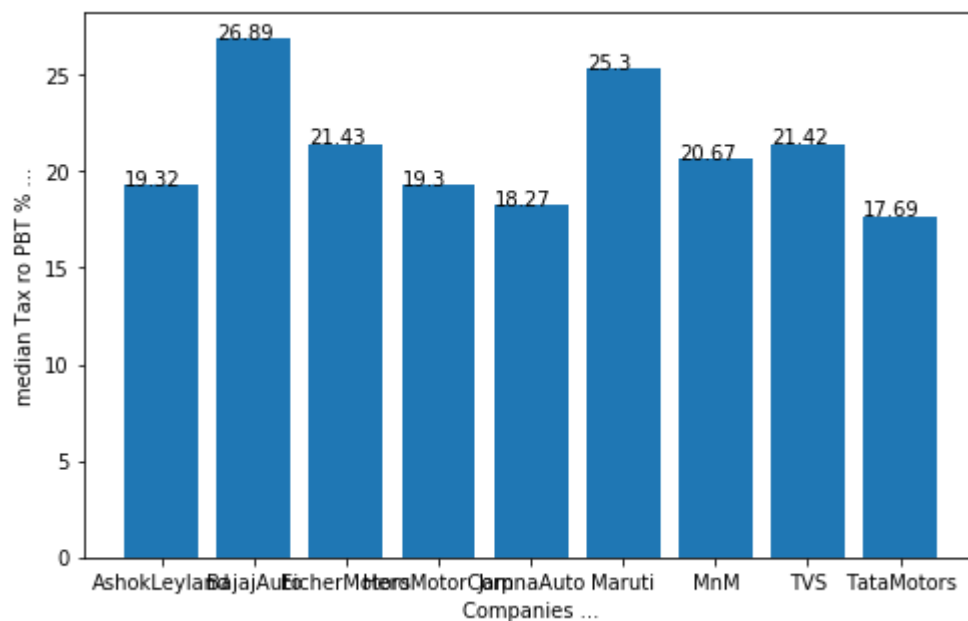

```
                tax2PBT
AshokLeyland     19.32
TataMotors       17.69
JamnaAuto        18.27
EicherMotors     21.43
Maruti           25.30
BajajAuto        26.89
MnM              20.67
HeroMotorCorp    19.30
TVS              21.42
```

Companies paying less tax: []

FInal order of Company Rankings

	SG_Rank	PG_Rank	Ret_Rank	Debt_Rank	PEG_Rank	Sum_Rank
EicherMotors	4	1	4	1	2	12
Maruti	6	2	5	6	1	20
HeroMotorCorp	7	6	1	2	5	21
MnM	2	7	7	3	6	25
JamnaAuto	5	4	3	5	8	25
TVS	8	3	6	7	3	27
BajajAuto	9	5	2	4	9	29
TataMotors	1	8	8	9	7	33
AshokLeyland	3	9	9	8	4	33

PAT vs Price

Median profit growth rate of the companies are being compared with the median price growth rate. This gives as an insight as to whether the profits of the company has kept pace with the price escalation company stock. A ratio lesser then 1 implies that the stock price has grown faster then the profits.

	SG_Rank	PG_Rank	Ret_Rank	Debt_Rank	PEG_Rank	Sum_Rank
EicherMotors	4	1	4	1	2	12
Maruti	6	2	5	6	1	20
HeroMotorCorp	7	6	1	2	5	21
MnM	2	7	7	3	6	25
JamnaAuto	5	4	3	5	8	25
TVS	8	3	6	7	3	27
BajajAuto	9	5	2	4	9	29
TataMotors	1	8	8	9	7	33
AshokLeyland	3	9	9	8	4	33

```
BajajAuto : [225.47, 39.75, 14.08, 6.93, 13.83, 1.32, 21.75, 14.39]
BajajAuto : [-28.52, 198.11, 116.31, -11.76, 2.76, 7.9, -10.49, 34.23, 0.45]
MnM : [-28.65, 131.59, 41.97, -5.11, 22.84, 18.32, 18.91, 6.02, 0.04]
MnM : [-21.38, 140.66, 27.51, 8.14, 16.46, 12.1, -11.63, -3.51, 23.44]
TataMotors : [-61.58, 243.74, 54.73, 20.06, -8.32, 52.09, 30.37, -26.09, 14.9]
TataMotors : [-215.57, -202.63, 260.69, 45.75, -26.81, 41.43, -0.03, -17.21, -
35.62]
Maruti : [7.15, 66.78, -4.87, 4.61, 8.97, 32.51, 87.16, 1.09, 70.3]
Maruti : [-29.59, 104.94, -8.37, -28.55, 46.29, 16.34, 33.35, 44.54, 36.79]
EicherMotors : [0.0, -23.64, 243.52, 82.54, 74.42, 25.17, 120.69, 223.75, 30.8
2]
EicherMotors : [14.32, 33.21, 126.55, 63.44, 5.02, 21.49, 56.21, 117.44, 24.5
9]
HeroMotorCorp : [43.55, 77.46, -11.36, 22.45, -28.0, 46.24, 11.19, 20.9, 8.35]
HeroMotorCorp : [32.43, 74.12, -13.62, 23.35, -10.93, -0.43, 13.11, 32.47, 6.8
6]
TVS : [-26.06, 224.39, 36.67, -31.75, -11.72, 154.97, 165.44, 32.82, 47.25]
TVS : [-2.17, 183.17, 121.09, 28.0, -53.42, 125.5, 32.95, 40.67, 14.06]
JamnaAuto : [-76.15, 557.33, 47.77, -1.58, -46.79, -0.39, 192.63, 29.72, 60.6
6]
JamnaAuto : [-178.27, -252.03, 94.66, 13.41, -34.27, -50.09, 112.28, 143.36, 4
6.49]
AshokLeyland : [-45.47, 170.53, -0.93, 10.53, -27.4, 5.21, 206.79, 50.33, -22.
07]
AshokLeyland : [-59.52, 122.98, 49.01, -10.35, -23.37, -93.23, 1039.58, 16.36,
213.93]
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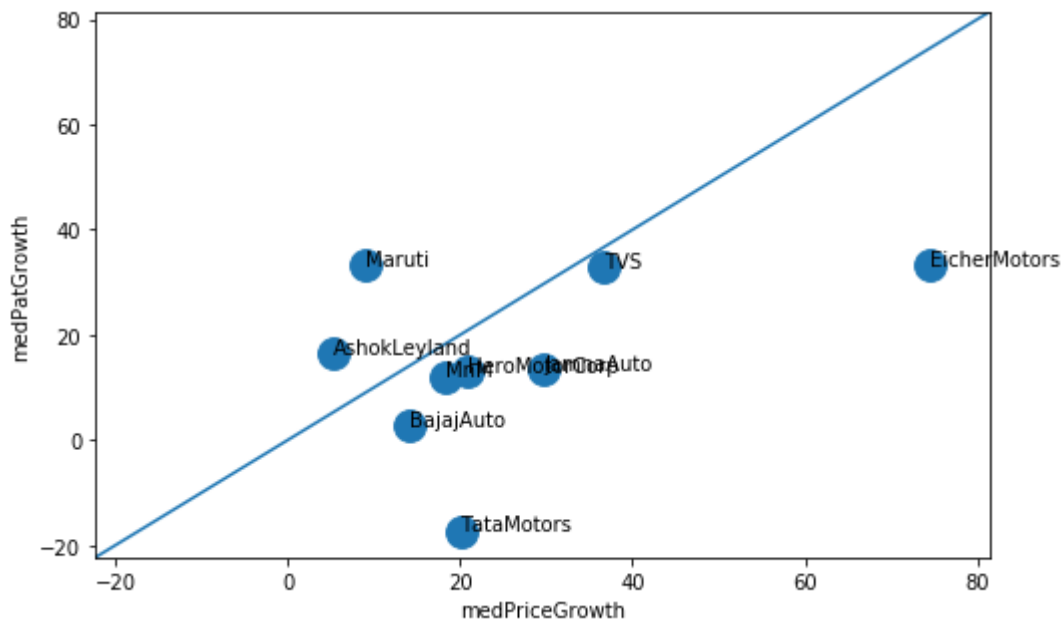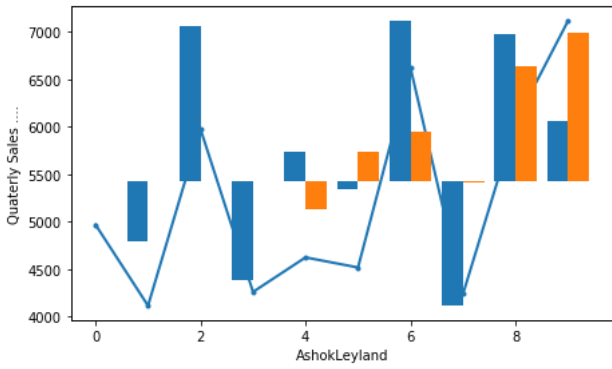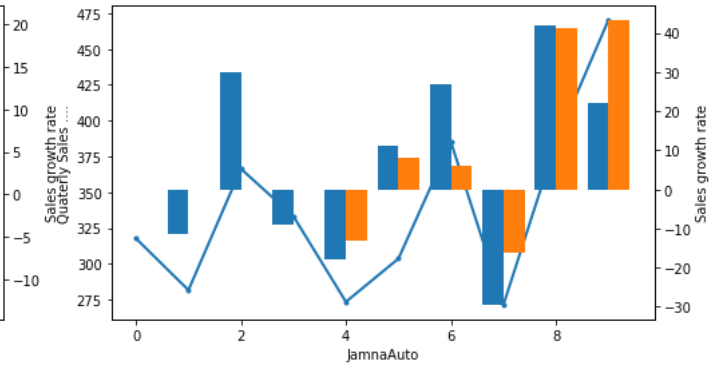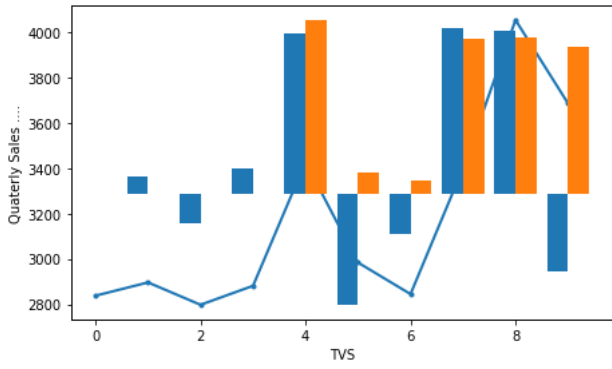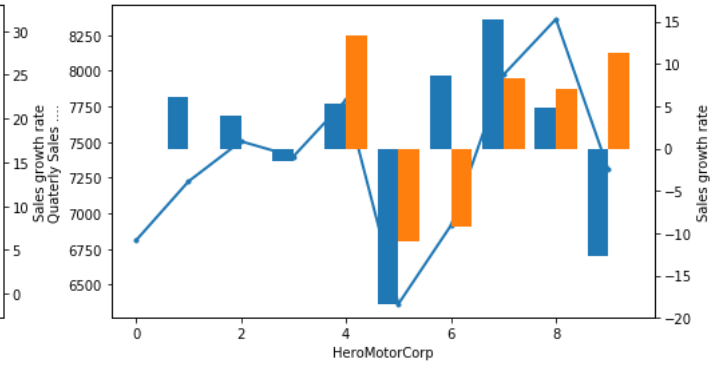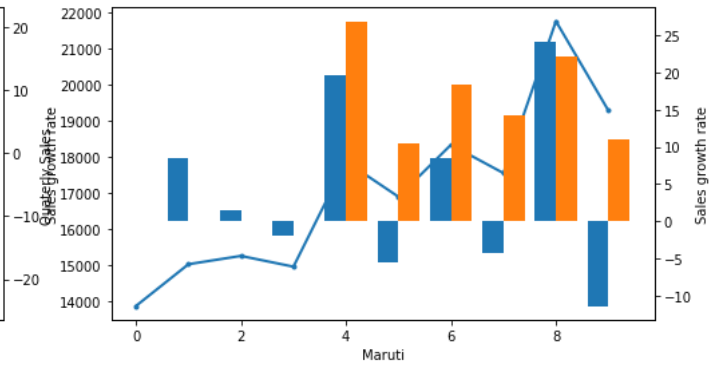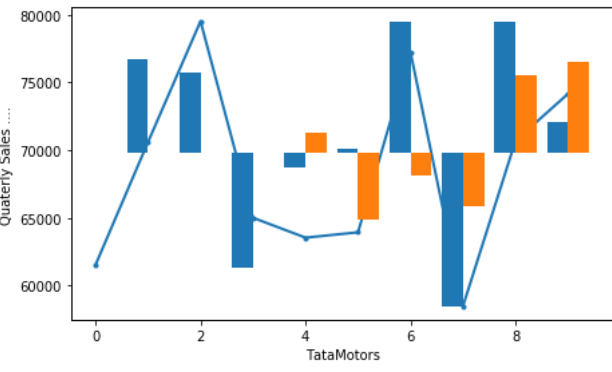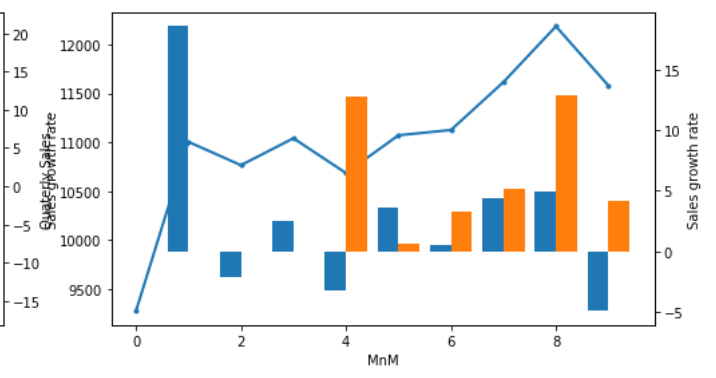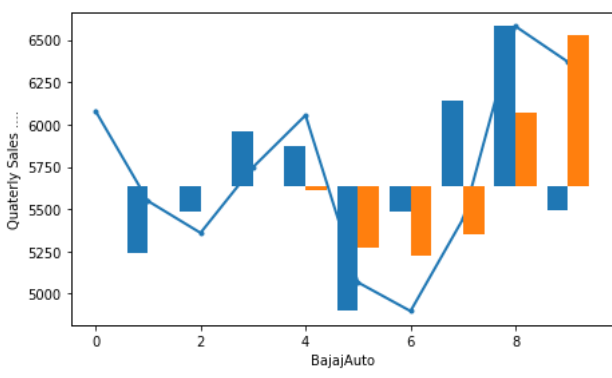
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001, u'BajajAuto': 2.7599999999999998, u'MnM': 12.1, u'HeroMotorCorp': 13.10999
9999999999, u'TVS': 32.950000000000003}
```

Quarterly Performance

BajajAuto - Quarterly Sales Growth: [-8.75, -3.39, 7.25, 5.33, -16.31, -3.35, 11.13, 20.9, -3.2]

BajajAuto - Year on Year Quarterly Sales Growth: [-0.44, -7.94, -9.12, -6.24, 9.65, 19.79]

MnM - Quarterly Sales Growth: [18.63, -2.17, 2.55, -3.22, 3.61, 0.49, 4.4, 4.9, -4.97]

MnM - Year on Year Quarterly Sales Growth: [12.77, 0.63, 3.25, 5.16, 12.9, 4.16]

TataMotors - Quarterly Sales Growth: [14.74, 12.63, -18.24, -2.26, 0.62, 20.78, -24.25, 20.85, 4.9]

TataMotors - Year on Year Quarterly Sales Growth: [3.1, -10.48, -3.59, -8.43, 12.23, 14.46]

Maruti - Quarterly Sales Growth: [8.39, 1.54, -1.96, 19.57, -5.49, 8.56, -4.3, 24.07, -11.42]

Maruti - Year on Year Quarterly Sales Growth: [26.88, 10.49, 18.29, 14.19, 22.22, 11.0]

EicherMotors - Quarterly Sales Growth: [-1.18, 19.3, 1.53, 12.8, 4.55, 2.91, 5.96, 8.33, 4.69]

EicherMotors - Year on Year Quarterly Sales Growth: [29.25, 31.37, 19.4, 23.57, 20.62, 20.04]

HeroMotorCorp - Quarterly Sales Growth: [6.08, 3.9, -1.42, 5.37, -18.36, 8.65, 15.28, 4.9, -12.63]

HeroMotorCorp - Year on Year Quarterly Sales Growth: [13.34, -11.02, -9.27, 8.28, 7.1, 11.25]

TVS - Quarterly Sales Growth: [2.06, -3.4, 2.99, 18.94, -12.93, -4.66, 19.51, 19.21, -9.07]

TVS - Year on Year Quarterly Sales Growth: [20.45, 2.55, 1.58, 18.23, 18.41, 17.31]

JamnaAuto - Quarterly Sales Growth: [-11.36, 30.08, -9.06, -17.92, 11.03, 26.82, -29.52, 41.89, 22.14]

JamnaAuto - Year on Year Quarterly Sales Growth: [-13.29, 8.04, 6.15, -16.05, 41.12, 43.28]

AshokLeyland - Quarterly Sales Growth: [-17.18, 45.2, -28.7, 8.54, -2.3, 46.53, -35.96, 42.69, 17.63]

AshokLeyland - Year on Year Quarterly Sales Growth: [-8.1, 8.71, 14.28, -0.32, 33.61, 42.95]
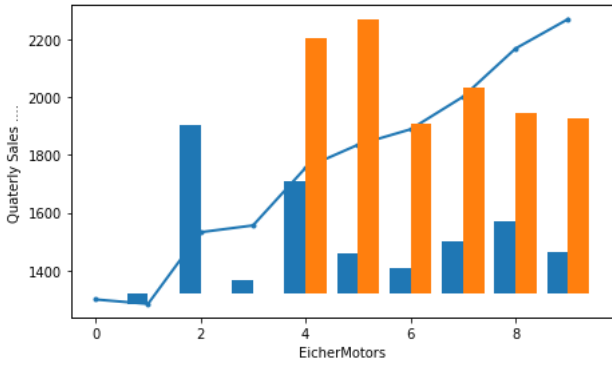
Sales and expense comparison