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International Journal of Current Research
Vol. 5, Issue, 5, pp.1273-1286, May, 2013

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

FUNDAMENTAL ANALYSIS OF INDIAN AUTOMOBILE INDUSTRY

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ARTICLE INFO

Article History:
Received 06th February, 2013
Received in revised form
14th March, 2013
Accepted 29th April, 2013
Published online 12th May, 2013

Key words:
EIC Approach,
Intrinsic Value,
Economy Analysis,
Industry Analysis,
Company Analysis.

ABSTRACT

Fundamental analysis is an approach to arrive at the 'correct price' of the security. Its objective is to identify the under priced and overpriced securities in the market place so that the investment decision-buying and selling of securities can be made. A security is said to be under priced if its current market price is less than the 'correct price' known as 'intrinsic value' or 'true value'. Conversely, it is overpriced if the current market price is above its intrinsic value. Fundamental analysis is a method of evaluating a security that entails attempting to measure its intrinsic value by examining related economic, financial and other qualitative and quantitative factors, and company specific factors. TOP- DOWN APPROACH E-I-C approach: Economy (E)- industry(I)- company(C) is used for carrying out Fundamental Analysis. The present study aims at carrying out the Fundamental analyses of two leading companies of Indian automobile industry and estimating their intrinsic value to assist investment decisions. The automobile industry is one of the core industries in India and is optimistic of posting good sales in the coming years. So, the investment in the shares and securities of automobile companies seems to be profitable. Two leading automobile companies Tata motors and Maruti Suzuki listed in the National Stock Exchange are selected for this study. The study is done using secondary data collected from Reserve Bank of India website, BSE website and Company Annual Reports for the period of last five years from year 2007 to 2011. Fundamental Analysis of both the companies is carried out and their intrinsic value ranges are obtained from the EIC Analysis of these companies to help investor decisions.

INTRODUCTION

Fundamental analysis is an approach to arrive at the 'correct price' of the security. Its objective is to identify the underpriced and overpriced securities in the market place so that the investment decision-buying and selling of securities can be made. A security is said to be underpriced if its current market price is less than the 'correct price' known as 'intrinsic value' or 'true value'. Conversely, it is overpriced if the current market price is above its intrinsic value. Fundamental analysis is a method of evaluating a security that entails attempting to measure its intrinsic value by examining related economic, financial and other qualitative and quantitative factors, and company specific factors. Intrinsic value of the security as defined by the GRAHAM & DODD is "that value which is justified by the facts, e.g. assets, earnings, dividends, definite prospects, including the factors of management." The intrinsic value of the company is determined by discounting the company's prospective earnings stream or the shareholder's prospective dividend stream. According to fundamental analysts, earning of the company and prospective dividend stream of shareholders depend on following factors:

✓Economic and industrial environment.
✓Relative importance of company within its industry.
✓Company's financial strength and performance.
✓Its policies, quality of assets and management

Fundamental analysis is based on the assumption that a security has an intrinsic value at any given time. This value is a function of underlying economic values-specifically expected return and risk. By assessing these fundamental determinants of intrinsic value of a security, it is possible to determine the intrinsic value. The estimated intrinsic value can then be compared to the current market price to determine whether the stock is underpriced or overpriced. Another assumption of the fundamental analysis is that discrepancies between the intrinsic value and current market value occurs from time to time, which eventually is recognised by the investors who invest in the stock and those who recognize these value discrepancies earlier, benefit from these in the long run. The objective of the fundamental analysis is not to enter and exit the market very often, for switching securities or to have speculative gains; instead, it is for long-term investments. It reduces the risk of loss from buying an overpriced stock or selling an under priced stock.

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Framework of Fundamental Analysis:

There are broadly two main approaches to fundamental analysis:

(1) TOP- DOWN APPROACH
E-I-C approach
Economy (E)-Industry(I)- Company(C)
(2) BOTTOM-UP APPROACH
C-I-E approach
Company(C) -Industry (I) - Economy (E)

For our purpose of carrying out Fundamental Analysis we follow TOP- DOWN APPROACH i.e.; E-I-C Approach: Economy (E) - Industry (I) - Company(C). Thus,

- ✓ We first analyse the overall economy.
- ✓ Then analyse the industry within which a particular company operates.
- ✓ Finally we carry out the analysis of the company.

Literature Review

Rajiv Kumar Bhatt (2011) has attempted to analyze the impact of recent global financial crisis on Indian Economy. The paper is divided into three sections. In the first introductory section, he has discussed the features of recent global financial meltdown. Section two deals with the impact of this crisis on Indian economy and discusses how India came back to high growth. Conclusion and suggestions have been given in the third section.

Dyna Sen et. al., (2012) have taken fundamental analysis research beyond the spatial and temporal bounds of previous studies. They have investigated how detailed financial statement data enter the decisions of market makers by examining how current changes in the fundamental signals chosen can provide information on subsequent earnings changes. Using global data from 1990 to 2000, they have extended the body of research using fundamental signals for prediction of future earnings changes. Contextual factors such as prior earnings news, industry membership, macroeconomic conditions and country of incorporation that may influence this predictive ability are also investigated. Results indicate that the fundamental signals are significant predictors of both short- and long-term future earnings changes. Research results provide evidence to support the use of fundamental analysis.

Hossein Khanifar et. al., (2012): This paper studies affecting factors on analysts' decisions in Tehran Stock Exchange. Principally, analysts use two types of fundamental and technical analyses in their decisions. In present research, they have studied the affecting factors on analysts' decisions in the format of fundamental analysis. Such analysis is studied in three sectors: (1) economy/market, (2) industry, (3) firm. This paper uses analytical approach to study affecting factors on analysts' decisions. Its statistical population contains analysts in brokering companies at Tehran Stock Exchange. Based on the results, it was determined that firm – related factors such as actual EPS, estimated EPS, profit margin, P/E ratio and sale rate have the highest importance in analysts' decisions followed by economy/market related factors and industry – related factors.

Richard C. Grimm (2012) explores fundamental analysis to determine its application as an Austrian approach to common stock selection. The Thymologic method and the category of understanding are applied as frameworks for an Austrian approach and to evaluate fundamental analysis as a process for common stock selection. The analysis supports the conclusion that fundamental security analysis can be practiced in a manner consistent with traditional Austrian views and is suitable as a common stock selection method by those who wish to adhere to such views.

Rationale of the Study

The automobile industry, one of the core sectors, has undergone metamorphosis with the advent of new business and manufacturing practices in the light of liberalisation and globalisation. The sector seems to be optimistic of posting strong sales in the couple of years in the view of a reasonable surge in demand. The Indian automobile market is gearing towards international standards to meet the needs of the global automobile giants and become a global hub. Thus the automobile industry is one of the core industries in India and is optimistic of posting good sales in the coming years. So, the investment in the shares and securities of automobile companies seems to be profitable. The present study aims at carrying out the Fundamental analyses of two leading companies of automobile industry and estimating their intrinsic values to assist investment decisions.

Objectives

The major objectives of this study are:

- To analyse the performance of selected companies of Indian automobile industry.
- To estimate the intrinsic value of the stocks of the selected companies.
- To assist the investors in making investment decisions in automobile industry.

Research Methodology

Starting from the era when there was too slim of a variety of cars available in Indian market, Indian automobile industry has come up a long way to have a diverse array of cars these days. There are a number of top automobile companies running their operations in India, which again have a range of models in different segments of cars. However, while looking for top 10 automobile companies in India, a name that would always lead the list is Maruti Suzuki India. However, there are also other big names like Tata Motors, Mahindra and Mahindra, Hyundai Motors, Hindustan Motors etc. For our purpose of study we have selected two leading automobile companies Tata Motors and Maruti Suzuki listed in the National Stock Exchange. Maruti Suzuki has consistently been the dominant leader in the Indian automobile industry. Maruti Suzuki India is an undisputed leader in the Indian automobile industry, started its journey in February 1981 as Maurti Udyog Limited, the company created history in the Indian automobile market. The company became the first Indian automobile company to manufacture one million vehicles in 1994. The company became Maruti Suzuki India Limited on September 17, 2007. Maruti Suzuki is India's largest passenger vehicle company with a market share close to 40%.

Whereas, Tata Motors is the largest automobile company of Asia headquartered in Mumbai, India. It also occupies the number one position in commercial car segment. Tata Motors enjoys 31.2% of market share in the multi-utility vehicles, while in luxury car segment, it has 6.4% market share. Most of the Tata Motors' vehicles are sold predominantly in India and over 4 million vehicles have been produced domestically within India. These two companies are keen competitors in the Indian market. We have attempted to carry out EIC analysis for both these companies and estimate their intrinsic values to assist investment decisions. The study is done using secondary data collected from Reserve Bank of India website, BSE website and Company Annual Reports for the period of last five years from year 2007 to 2011 since this was the most turbulent period for the Indian Economy. India faced recessionary effects of the global recession since the year 2007-08 which indicated the serious impact in year 2008-09. After that Indian economy successfully recovered from these recessionary effects and is currently at a growing stage.

Data Analysis

Economy Analysis

The economic analysis aims at determining if the economic climate is conducive and is capable of encouraging the growth of business sector, especially the capital market. When the economy expands, most industry groups and companies are expected to benefit and grow. When the economy declines, most of the sectors and companies usually face survival problems. Hence, to predict share prices, an investor has to spend time exploring the forces operating in the overall economy. The selection of a country for investment has to focus itself to the examination of a national economic scenario. It is important to predict the direction of the national economy because economic activity affects corporate profits, not necessarily through tax policies but also through foreign policies and administrative procedures. A zero growth rate of the economy can lead to lower business profits, a prospect that can endanger investor outlook and lower share prices.

King B.F. (1966) observed that, on an average, over half the variations in a share price could be attributed to a market influence that affects all stock market indices. However, shares are also subject to an industry influence, over and above the influence common to all shares. This industry influence explains, on an average, about 13% of

the variation in a share price. On the whole according to this research finding, about 2/3rd of the variations in share price are the result of market and industry influences. In the present study, the variables used for performing economic analysis are:

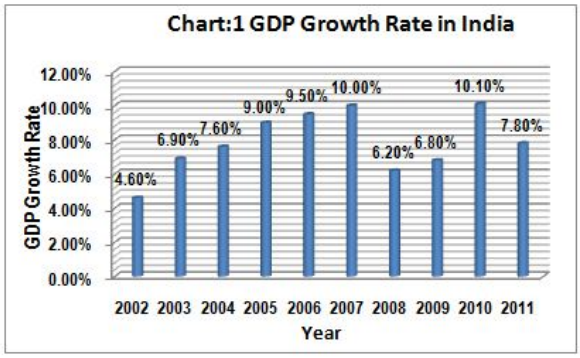
- Gross Domestic Product
- Inflation
- Unemployment
- Foreign Direct Investments

GDP Growth Rate

GDP is the measure of the total amount of goods and services produced in a country during a particular year. According to the estimates of the World Bank, GDP of India is worth 1217 billion USD or 1.96% of the world GDP. According to a report published by a domestic broking firm Major Edelweiss Capital in March 2010, India's GDP is set to quadruple over the next ten years and country is likely to be a US$4 trillion economy by 2020. India will overtake China to become the world's fastest growing economy by 2018.

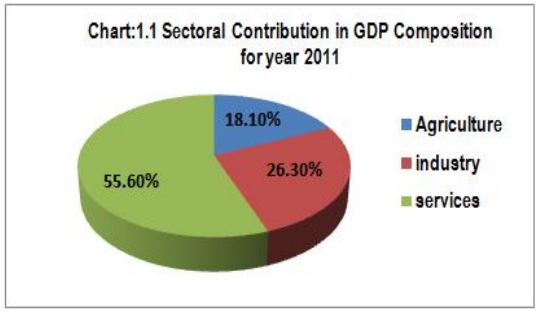
Table 1. GDP Growth Rate in India

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP Growth	4.6%	6.9%	7.6%	9.0%	9.5%	10.0%	6.2%	6.8%	10.1%	7.8%



In the above Chart, we can see that, GDP growth rate since year 2002 has increased up to year 2007. But in year 2008 GDP growth rate has declined to 6.2% from 10.0% in year 2007. Even during the economic slowdown some of the sectors including the automobile industry have recorded a positive growth while many nations had experienced a negative growth rate.

GDP Composition



From the above Chart, we can say that agriculture contribution in GDP was 18.10% in 2011. Contribution of industry & services was 26.30% & 55.60% respectively. This shows that contribution of services was very high in India's GDP in 2011. Contribution of automobile industry in Indian GDP is nearly about 5% and is expected to be doubled by 2016.

Inflation Rate

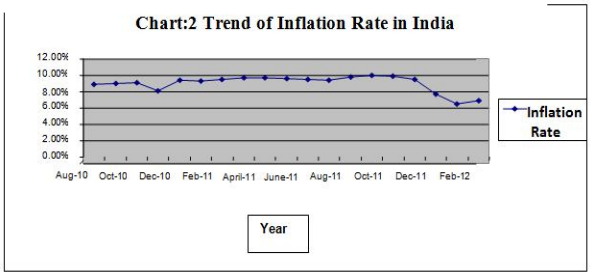
Inflation always has a negative effect on the car market. The development of the car market comes to a standstill when there is inflation in the market. The effect of inflation on car market is not at all encouraging and it badly affects every sector, which is also associated with vehicle production and manufacturing. Wholesale price index is used to measure inflation rate in India. Thus, Inflation rates in India were as follows:

Overall wholesale price index (WPI) inflation during December'10 remained at a high level of 9.41%, up from 8.08% in November'10. The WPI inflation rate of January'11 was 9.35%, which increased to 9.74% in April'11. Inflation further increased in September'11, which had reached 10%. But in December'11, it had fallen down to 7.74%. This shows the favourable situation in economy. Further in January'12, inflation rate was 6.55%, which was lower than the inflation rate of December'11. In February'12, it further increased to 6.95%. The hike in the rate of steel and fuel has resulted in a slower rate of development of the Indian automobile industry. The effect of inflation has resulted in the hike of vehicle prices to the extent of 3%-4% which sequentially is adequate for the necessity of meeting the hike of rates of raw materials for making an automobile. The effect of inflation on car market has not only badly impacted the manufacturing and sales of Indian vehicle dealers, but also the employees, and vehicle financers. Survey and studies have resulted in the conclusion that the vehicle market and the vehicle manufacturing industry in India experienced 8-9% slump due to inflation. On the whole, it has been observed that the car market in India has witnessed a slump with the inflation badly hitting nearly every sector to which the Indian automobile market is closely associated.

Table 2. Inflation Rates in India

Month	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	March-11	April-11	May-11
Inflation Rate	8.87%	8.98%	9.08%	8.08%	9.41%	9.35%	9.54%	9.68%	9.74%	9.56%

Month	June-11	July-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12
Inflation Rate	9.51%	9.36%	9.78%	10.00%	9.87%	9.46%	7.74%	6.55%	6.95%

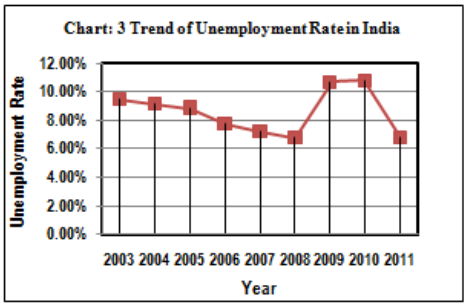


Unemployment

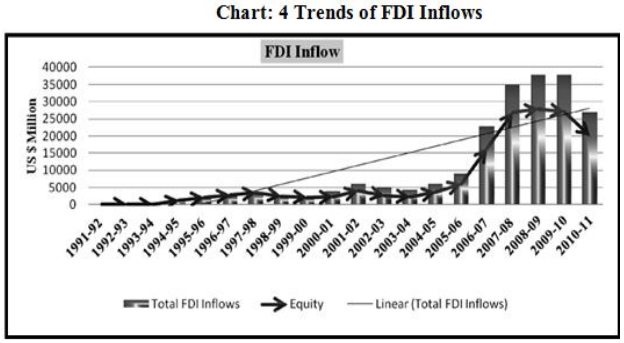
From the above graph we can see that unemployment rate in India was 9.5% in year 2004, which has continuously declined up to 6.8% in year 2008. This shows the favourable situation in economy. In year 2009 unemployment rate had increased to 10.70%, which again declined to 6.8% in year 2011. It was at its peak in years 2009 and 2010.

Table 3. Unemployment Rate in India

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Unemployment Rate	9.5%	9.2%	8.9%	7.8%	7.2%	6.8%	10.7%	10.8%	6.8%



FDI Inflows Trends: 1991 to 2011



The data on FDI inflows into the country shows that foreign investors have shown a keen interest in the Indian economy ever since it has been liberalized. An increasing trend of flows can be observed since 1991 with the peak of FDI flows being reached in 2008-09 (Chart 4). Therefore the trend gives support to the fact that as and when the government has taken initiatives to open up and liberalize the economy further, the investors have welcomed the initiative and reciprocated by infusing investments into India. There are various reasons which work in favour of India and increase the level of interest shown in by foreign organizations some of them being its demographics. With a young population there is a huge consumer base that is to be tapped, due to the growing middle class, increased urbanization and awareness, and rising disposable incomes.

Findings of Economy Analysis

From the Economy Analysis of India, we can say that in last five years, inflation rate and unemployment rate have declined considerably. This shows a favourable situation in Indian economy. In Indian economy GDP has continuously increased. A huge flow of FDI is also available in India during this period. This shows the possibility of significant growth of Indian economy in future.

Industry Analysis

Irrespective of specific economic situations, some industries might be expected to perform better, and share prices in these industries may not decline as much as in other industries. This identification of economic and industry specific factors influencing share prices will help investors to identify the shares that fit individual expectations. Industry analysis is a type of business research that focuses on the status of an industry or an industrial sector. A complete industrial analysis usually includes a review of an industry's recent performance, its current status, and outlook for the future. Many industry analyses include a combination of qualitative and statistical data. Through industry analysis one usually tries to find the answers to the following questions:

- Is there a difference between the returns for alternative industries during specific time periods?
- Will an industry that performs well in one period continue to perform well in the future?
- Do companies within an industry show consistent performance over time?
- Are there risk differences between different industries?
- Does the risk for individual industries vary or does it remain relatively constant over time?

Industry Analysis of Automobile Industry

India is the world's second fastest growing auto market and boasts of the sixth largest automobile industry after China, the US, Germany, Japan and Brazil. According to Vikas Sehgal, Global Head of automotive industry, Rothschild, the Indian automobile market, which includes cars, trucks and auto parts, is pegged at 3.5 million units by the end of 2011-12. Rothschild is a UK-based global financial advisory firm. India's car market is evolving at a great pace. A car is not only a utility, but also represents aspirations and image of its owner. Hence, auto giants across the globe are leaving no stone unturned to attract Indian consumers by offering luxury, value, utility and convenience in their products. Major aspects covered under industry analysis are:

- ✓ Development of Automobile Industry
- ✓ Segmentation of Industry
- ✓ Key players in the Industry
- ✓ Automobile Production Trend
- ✓ Gross Turnover of the Automobile Industry in India
- ✓ Automobile Export Trend
- ✓ Life Cycle of Indian automobile industry
- ✓ Porter's five forces analysis of Automobile Industry
- ✓ SWOT Analysis of Automobile Industry of India
- ✓ BCG Matrix of Indian industry
- ✓ FDI in automobile sector of India
- ✓ Key Statistics of Automobile Industry of India

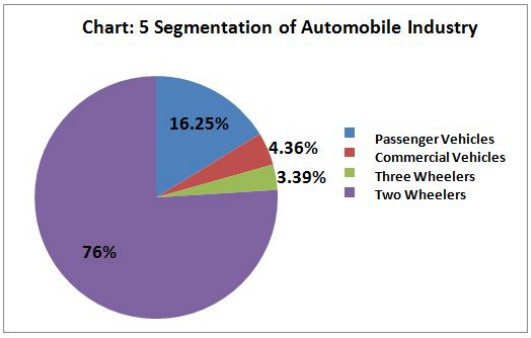
Development of Automobile Industry

In the year 1769, a French engineer by the name of Nicolas J. Cugnot invented the first automobile to run on roads. This automobile, in fact, was a self-powered, three-wheeled, military tractor that made the use of a steam engine. The range of the automobile however was very brick and at the most, it could only run at a stretch for fifteen minutes. In addition these automobiles were not fit for the roads as the steam engines made them very heavy and large, and required ample starting time. Oliver Evans was the first to design a steam engine driven automobile in the US. A stockman Robert Anderson was the first to invent an electric carriage between 1832 & 1839. However, Thomas Davenport of the USA and Scotsman Robert Davidson were the first to invent more applicable automobiles, making use of non-rechargeable electric batteries in 1842. Development of roads made travelling comfortable and as a result, the short ranged electric battery driven automobiles were no more the best option for travelling over longer distances. The automobile industry came of age with Henry Ford in 1914 for the bulk production of cars. This led to the development of the industry and it first began in the assembly lines of his car factory. The several methods adopted by the ford, made the new invention popular amongst the rich as well as the masses. According to history, automobile industry of US, dominated the

automobile market around the globe with no notable competitors. However after the end of the Second World War in 1945, the automobile industry of other technologically advanced nations such as Japan and certain European nations gained momentum and within a very short period, beginning in the early 1980s, the US auto industry was flooded with foreign automobile companies, especially those of Japan and Germany. The current trend of the global automobile industry reviews that in developed countries the automobile industry is stagnating as a result of the drooping car markets, whereas the automobile industry in developing nations such as India & Brazil, have been consistently registering higher growth rates every passing year for their flourishing domestic automobile markets.

Segmentation of the Industry

The automobile industry can be broadly segmented into two wheelers, three wheelers, passenger vehicle and commercial vehicles.

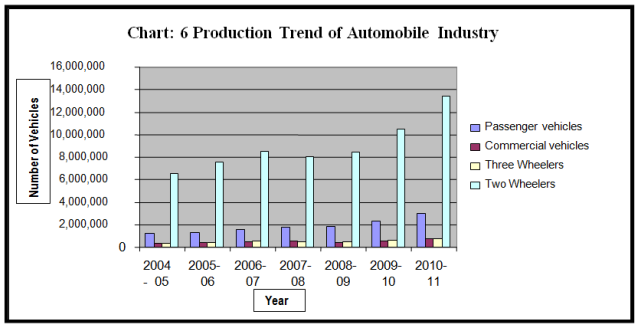


The above figure shows that the two wheelers enjoy a major share in the Indian automobile industry constituting 76% of the industry, while the passenger vehicles constituting 16.25%, commercial vehicles constituting 4.36%, and the three wheelers constituting 3.39%. This shows that India has a great potential in the passenger vehicle segment which includes cars and vans because increase in the standard of living makes people to switch from two wheelers to cars.

Key Players in the Industry

The Indian automobile industry is floated with both domestic and international players making it highly competitive. The fact is that almost 8 out of 10 global companies including General Motors, BMW etc. have their presence in India contributing 25% of the country's production. The top 10 companies in Indian automobile industry are: Maruti Suzuki India Ltd., Tata Motors, Hyundai motor India Ltd., Mahindra and Mahindra Ltd., Hero Honda Motors Ltd., Bajaj Auto, Toyota, Kirloskar Motor Pvt. Ltd., and General Motors Pvt. Ltd. Many companies are present in more than one segment of the industry.

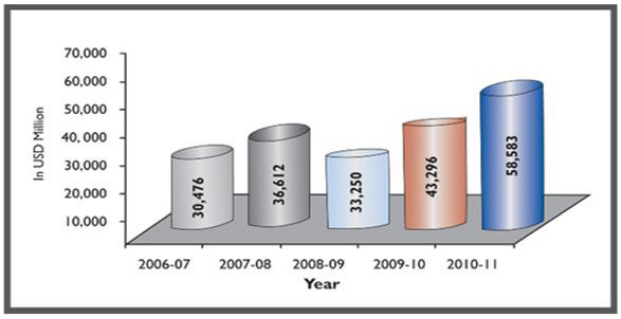
Automobile Production Trends



From the above chart, we can know that the production of passenger vehicles has continuously increased from 2004-05 to 2010-11. Production of automobile has increased by 147% from 2004-05 to 2010-11. In commercial vehicles, production has a raising trend up to 2007-08. In 2008-09, production has declined by 24%. But from 2009-10 onwards production has continuously increased. In three wheelers category, up to 2007-08, production was showing an upward trend, but in 2008-09 there was slight decline in production. Again from 2009-10 onwards, production has continuously increased. In two wheelers category, up to 2006-07 production has increased but in 2007-08 production has declined by 5%. After 2008-09 it is continuously rising. Thus from the above analysis, we can say that, there is high growth potential for all categories in future.

Gross Turnover of the Automobile Industry in India

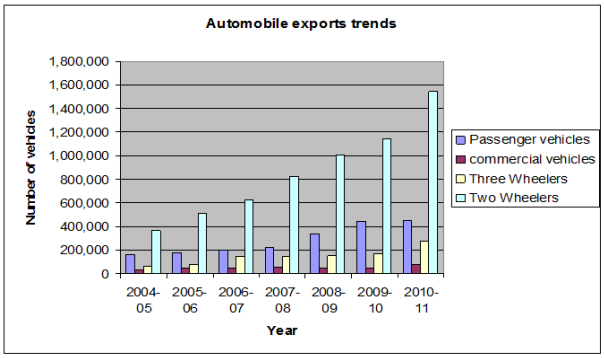
Chart: 7 Gross Turnover of the Indian Automobile Industry



From the above chart, we can say that turnover of automobile industry has increased continuously except for a slight decline in 2008-09. The gross turnover of the automobile industry had increased by 92% from year 2006-07 to 2010-11.

Automobile Export Trends

Chart: 8 Export Trends of Automobile Industry



From the above Chart, we can say that exports of automobile have continuously increased in all categories. The exports have increased from 6, 29,544 units to 23, 39,333 units within the time period of six years. This gives the signal that exports can be expected to increase in future.

Evaluating the Industry Life Cycle:

An insightful analysis when predicting industry sales and trends in profitability is to view the industry over time and divide its development into stages similar to those of the human progress through: birth, adolescence, adulthood, middle age, old age. The number of stages in this industry life cycle analysis can vary based on how much detail you want. A five stage model would include:

- Pioneering development.
- Rapid accelerating growth.
- Mature growth.
- Stabilisation and market maturity.
- Deceleration of growth and decline.

The automobile industry in India is in its rapid accelerating growth stage at an accelerating rate of sales and earnings growth. The industry is booming at a growth rate of around 18%. The demand for automobile in the country is rising continuously. Only one car is available per thousand people in India which shows that the passenger vehicles segment has good prospects of growth.

Analysis of Industry Competition

A critical factor affecting the profit potential of an industry is the intensity of competition in the industry, as Porter has discussed. Porter's concept of competitive strategy is described as the search by a firm for a favourable competitive position in an industry. To create a profitable competitive strategy, a firm must first examine the basic competitive structure of its industry because the potential profitability of a firm is heavily influenced by the profitability of its industry. After determining the competitive structure of the industry, we examine the factors that determine the relative competitive position of a firm within its industry. Porter believes that the competitive environment of an industry determines the ability of the firms to sustain above average rate of return on invested capital.

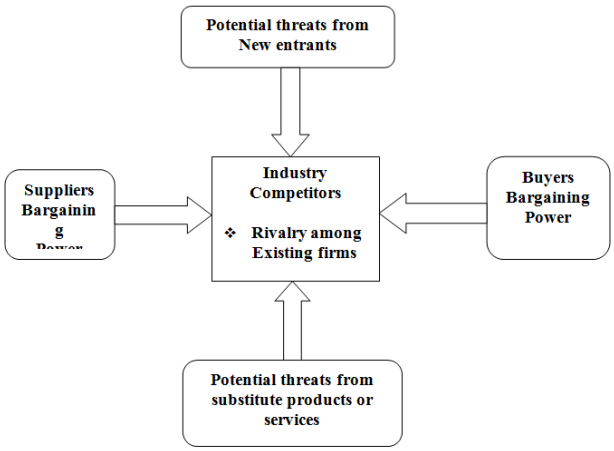


Figure 1. Porter's five Forces Model

As shown in above figure, Porter suggests that five competitive forces determine the intensity of competition and that the relative effect of each of these five forces can vary dramatically among industries.

Porter's Five Forces Analysis

Barrier to Entry: The barriers to enter automobile industry are substantial. For a new company, the start-up capital required to establish manufacturing capacity to achieve minimum efficient scale is prohibitive. Government legislation and government policy also create the problem for new company. However, a domestic company, with local knowledge and expertise, has the potential to compete its home market against the global firms who are not well established there.

Threat of Substitutes: The threat of substitutes to the automobile industry is very high. Because there are lots of substitutes available, the buyers have many of choices for two wheelers as well as four-wheelers.

Bargaining Power of Suppliers: In the automobile industry this refers to all the suppliers of parts, tires, components, electronics and even the assembly line workers. In India some suppliers are small firms who rely on the company, and may only have one carmaker as a client. In the relationship between the industry and its suppliers, the power axis is tipped in industry's favour. The industry is comprised of powerful buyers who are generally able to dictate their terms to suppliers.

Bargaining Power of Customers: Buyers in India have a wide variety of choice. There are more than 20 foreign manufacturers selling in India. A Switching cost associated with selecting from among competing brands is low. So in the relationship between the automotive industry and its ultimate consumers, the power axis is tipped in the consumer's favour.

Rivalry among Competitors: Despite the high concentration ratio seen in the automotive sector, rivalry in the Indian auto sector is intense due to the entry of foreign companies in the market. The industry rivalry is extremely high with any existing product being matched in a few months by the competitors. This instinct of the industry is primarily driven by technical capabilities acquired over years of gestation under the technical collaboration with international players.

SWOT ANALYSIS

SWOT analysis is applied in industrial evaluation as well as in evaluating individual organisations. SWOT analysis involves an examination of the industries strengths, weakness, opportunities, and threats. It helps to evaluate an industry's position to exploit its competitive advantages or defend against its weaknesses. Strengths and weaknesses involve identifying the industry's own abilities or lack thereof. Opportunities and threats include external situations such as competitive forces, technologies, and Government regulations, domestic and international economic trends and so on.

STRENGTHS	WEAKNESSES
✓ Large domestic market ✓ Cost advantage ✓ Engineering skills ✓ Competitive auto component vendor base	✓Research & development ✓Infrastructure & facilities ✓Low labour productivity ✓High interest costs
OPPORTUNITIES	**THREATS**
✓ Increasing disposable income ✓ Vehicle switchovers ✓ Infrastructure development stirs demand ✓ Rising rural demand	✓Integration of Indian economy with global economy ✓Pollution and emission controls ✓Increased competition

Figure 2. SWOT Analysis of Automobile Industry of India

STRENGTHS

Large Domestic Market

India has the target domestic market which is not fully exploited. In specific, the passenger vehicles segment has a bright scope in the coming years.

Cost Advantage

India enjoys lower cost of $8 per hour of skilled labour while the labour cost in other developed countries is around $20 per hour. The cost of creating an automotive design is very economical in India ($60 per hour) as compared to Europe and US (around $800 per hour)

Engineering Skills

India has a strong competitive advantage in design and engineering skills as compared to other low cost economies. India is the ninth country in the world to design a vehicle on its own.

Competitive Auto Component Vendor Base

India has a competitive auto component vendor base which helps to get the required auto components at competitive rates leading to lower manufacturing costs.

WEAKNESSES

Research and Development: Even though there is a development in R&D, India is not competitive with other countries. The industry should improve its R&D.

Infrastructure and Facilities: India is lacking proper infrastructural facilities. Many companies view that the cost advantages in India are being eroded because of its bad infrastructural facilities.

Low Labour Productivity: The labour productivity in the country is low as compared to the developed countries. This is mainly because of huge unskilled labour force.

High Interest Costs: High interest costs and other overheads make the competition unproductive.

OPPORTUNITIES

Increasing Disposable Income: With the economy on a high growth path on a secured long-term basis and with the consequent increase in disposable incomes of the population at large, the Indian automotive industry is expected to provide significant growth opportunities.

Vehicle Switchovers: Passenger cars segment has a bright scope because people are switching from two wheelers to cars as a result of increased personal disposable income and rising standard of living.

Infrastructure Development Stirs Demand: The increased investments in infrastructure required for maintaining the high growth of the Indian economy-such as the national highway development programme with a huge budget- and the increased goods movement in a fast growing economy would result in a high demand for commercial vehicles.

Rising Rural Demand: There is a greater change in the rural consumer's spending pattern and demand levels because of increasing level of disposable income.

THREATS

Integration of Indian Economy with Global Economy: With the growing integration of the Indian economy with the global economy, events around the world have a direct or indirect impact on the Indian automobile industry. In particular, Indian financial markets are highly integrated to global financial markets. As a result, liquidity and availability of credit, which are the important facilitators for automobile and tractor sales in Indian market, will be impacted by conditions in the global market.

Pollution and Emission Controls: Stringent legislation on pollution and emission requirements will increase the cost of the company's products for the automobile sector. Holding the price line could have an impact on profitability. Price increase on the other hand could impact volumes.

Increased Competition: The entry of a new player will result in ever increasing level of competition in all the segments of the automobile industry, resulting in intense pressure on the profit margins of all participants.

BCG MATRIX

In an economy, different industries are present and different industries have different growth rates as compared to the growth of the economy. In an economy, there are a number of major industries and they all occupy different positions in the BCG matrix according to their growth and contribution towards the economy. In the Indian economy, some of the major sectors are FMCG, Automobiles, Banking and Insurance, Steel, Telecom, Software, Pharmacology and Retail sectors and these can be placed at different positions in the BCG matrix as shown below.

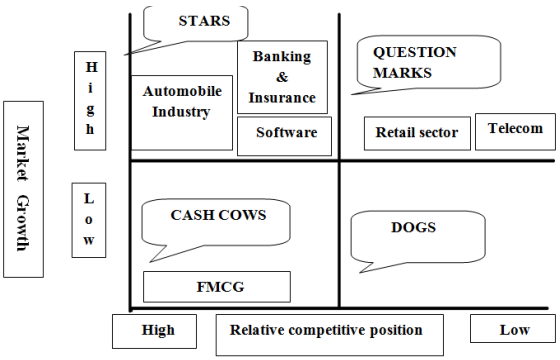


Figure 3. BCG Matrix of Indian Industry

STARS: In short term, these sectors require capital expenditure, in excess of the cash they generate, in order to maintain their market position, but promise high returns in the future.

CASH COW: In due course, however, stars will become cash cows, with a high share of a low-growth market. Cash cow need very little capital expenditure and generates high levels of cash income. The important strategic feature of cash cows is that they are already generating high cash returns, which can be used to finance the stars.

QUESTION MARKS: A decision needs to be taken about whether the product justify considerable capital expenditure in the hope of increasing their market share, or whether they should be allowed to 'die' quietly as they are squeezed out of the expanding market by rival products. Because considerable expenditure would be needed to turn question mark into a star by building up market share, Question mark will usually be poor cash generators and show a negative cash flow.

DOGS: They may be ex-cash that have now fallen on hard times. Dogs should be allowed to die, or should be killed off. Although they will show only a modest net cash outflow, or even a modest net cash inflow, they are 'cash traps' which tie up funds and provide a poor return on investment, which is not enough to achieve the organisation's target rate of return.

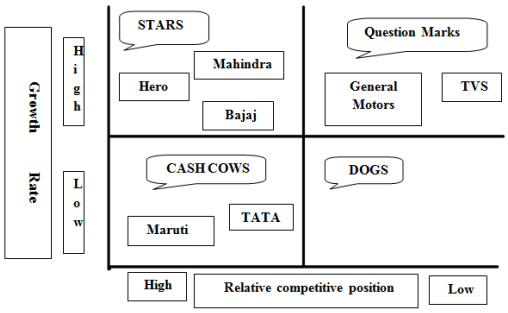


Figure 4. BCG Matrix of Indian Automobile Industry

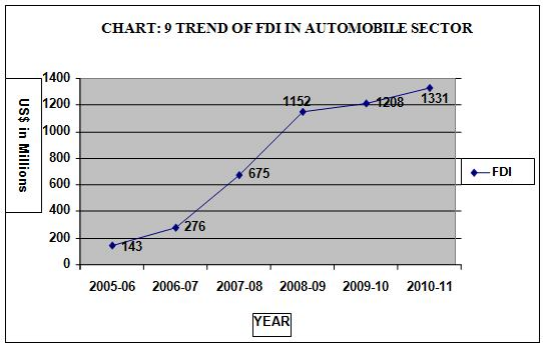
Figure: 4 above reveals that both Maruti Suzuki and Tata Motors are in the position of Cash Cows category in the BCG matrix, having low growth rate and operating in highly competitive environment. Hence they are generating high cash returns.

Foreign Direct Investment in Automobile Sector

Since 2002 when the equity caps for foreign investors had been lifted the automobile industry had witnessed a healthy growth in the inflow of foreign funds. As reported in the data the FDI flow in 2005-06 was approximately 143million US$ which became 1331million US$ in 2010-11. This shows the significant growth in FDI in the automobile sector and a continuously rising trend as shown in the chart below.

Table 4. FDI in Automobile Sector

Year	FDI In Automobile Sector	Total FDI in India	% of Total FDI in Automobile Sector
2005-06	1,43	5,540	2.6
2006-07	2,76	12,492	2.2
2007-08	6,75	24,575	2.7
2008-09	1,152	27,330	4.2
2009-10	1,208	25,834	4.7
2010-11	1,331	19,427	6.9



KEY STATISTICS

- The Society of Indian Automobile Manufacturers (SIAM) anticipates 11-13 per cent growth in car sales during 2012-13.
- The overall Indian automobile sector recorded a growth of 14.25 per cent (16.9 million units in 2011 from 14.8 million units in 2010). Passenger car sales increased by 4.24 per cent, from 1.867 million units in 2010 to 1.946 million units in 2011, two-wheeler sales of 13 million units in 2011 increased by 16.22 per cent and three-wheeler sales of 525,000 units increased by 4.74 per cent in 2011.
- For 2011-12, passenger cars sales are expected to grow at 0-2 per cent, two-wheelers at 13-15 per cent and commercial vehicles at 18-20 per cent.
- The cumulative production for April-December 2011 registered a growth of 14.94 per cent over same period in 2010. Production in December 2011 increased by 10.91 per cent year-on-year (Y-O-Y).
- Overall automobile exports registered a growth rate of 28.97 per cent during April-December 2011. Passenger Vehicles registered grew 18.14 per cent in this period while two-wheelers, commercial vehicles and three wheelers segments recorded growth of 29.75 per cent, 24.66 per cent and 42.63 per cent respectively.

Findings of Industry Analysis

From the analysis of automobile industry we can say that automobile industry is one of the growing industries of India which has a high growth potential. Automobile industry has also attracted a huge FDI, and hence easy finance is available. In India there is a huge potential demand for the car market. Taxation structure also provides the good opportunity for export or domestic sales. Increase in infrastructure facility also creates favourable opportunity for automobile industry in India.

Company Analysis

Company Analysis consists of measuring its performance and ascertaining the cause of this performance. When some companies have done well irrespective of economic or industry failures, it implies that there are certain unique characteristics for this particular company that had made it a success. The identification of these characteristics, whether quantitative or qualitative, is referred to as company analysis. Quantitative indicators of company analysis are the financial indicators and operational efficiency indicators. Financial indicators are the profitability indicators and financial position indicators, analysed through the income and balance sheet statement of the company. Besides these, an analysis of future prospects of the company should also be carried out. The budget and cash flow statement give the investors an insight in to future functioning of the company. Future profitability and operational efficiency can be worked out from these statements. Earnings per share (EPS) and Dividend per share (DPS) are also useful for analysis. Besides these quantitative factors, qualitative factors of a company also influence investment decision to a larger extent. Qualitative factors are the management reputation, name of the company, operational plans of the company for the future, and so on, as revealed in the director's/auditor's reports, and also the information revealed by the management to the media. Ratios for investment purposes can be classified into profitability ratios, turnover ratios, and leverage ratios. Profitability ratios are the most popular ratios since investors prefer to measure the present profit performance and use this information to forecast the future strength of the company. We have considered the following aspects for the Company Analysis of Maruti Suzuki and Tata Motors:

Analysis of Earning and Dividend Level

- Return on Equity
- Book Value per Share
- Earnings Per Share (EPS)
- Dividend Per Share (DPS)
- Dividend Payout Ratio
- Debt – Equity Ratio

Growth Performance

- Compound Annual Growth Rate
- Sustainable Growth Rate

Risk Exposure

- Beta
- Volatility

Estimation of Intrinsic Value

Finally, we have also compared their performance using various ratios for the period under consideration.

Company Analysis of Maruti Suzuki India Ltd. and Tata Motors Pvt. Ltd.

Analysis of Earnings and Dividend Level

Return on Equity (ROE) =*Profit After Tax (PAT) / Shareholder's Fund*

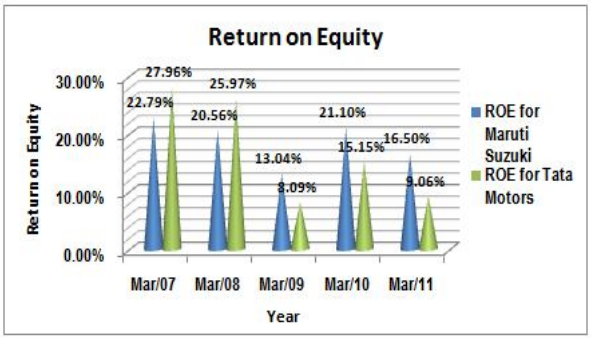
This ratio is also known as Return on Proprietor's Fund. This is an important ratio as it shows the amount of profit available to the shareholders, which determines the rate of dividend.

Table: 5 Calculations of ROE of MARUTI SUZUKI

Amount (in Crs.)

Year	PAT	Equity share capital	Reserve and Surplus	Shareholder's funds	ROE Ratio
Mar-07	1562.00	144.50	6,709.40	6,853.90	22.79%
Mar-08	1730.80	144.50	8,270.90	8,415.40	20.56%
Mar-09	1218.70	144.50	9,200.40	9,344.90	13.04%
Mar-10	2497.60	144.50	11,690.60	11,835.10	21.10%
Mar-11	2288.60	144.50	13,723.00	13,867.50	16.50%
ROE of TATA Motors					
Mar-07	1913.46	385.41	6458.39	6843.80	27.96%
Mar-08	2028.92	385.54	7428.45	7813.99	25.97%
Mar-09	1001.26	514.05	11855.15	12369.20	8.09%
Mar-10	2240.08	570.60	14208.55	14779.15	15.15%
Mar-11	1811.82	634.65	19351.40	19986.05	9.06%

Chart: 10 Trend of ROE

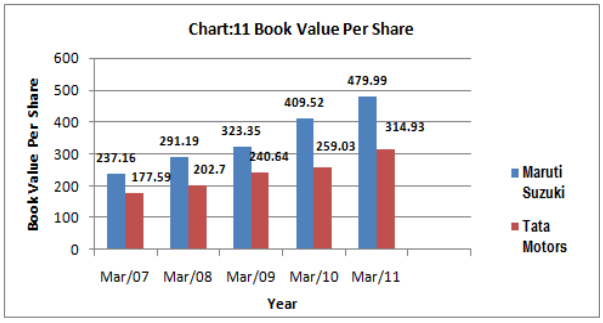


From the above graph, we can say that ROE for Maruti Suzuki was 20.56% in 2007-08. It has decreased to 13.04% in 2008-09. But in 2009-10 it has increased to 21.1%. This shows a significant growth in shareholder's equity and also shows the shareholder value created by the organisation. For Tata Motors we can see that ROE was 27.96% in March-2007. While in March-2008 ROE has reduced compared to March-07. Again in March-09 return it has reduced by 17.88%, which shows that there is significant reduction in return on equity during this period. In March-10 return has increased compared to March-09, but it has reduced to 9.06% in March-11.

Book Value per Share = $\frac{Paid\ up\ capital + Reserve\ \&\ surplus}{No.of\ share\ outstanding}$

Table 6. Calculation of Book Value per share MARUTI SUZUKI

Year	Paid Up Capital (In Rs. Cr.)	Reserve and Surplus (In Rs. Cr.)	Shareholder Fund (In Rs. Cr.)	No. Of Equity Shares (In Lakhs)	B.V Per Share (In Rs.)
Mar-07	144.50	6,709.40	6,853.90	2889.10	237.16
Mar-08	144.50	8,270.90	8,415.40	2889.10	291.19
Mar-09	144.50	9,200.40	9,344.90	2889.10	323.35
Mar-10	144.50	11,690.60	11,835.10	2889.10	409.52
Mar-11	144.50	13,723.00	13,867.50	2889.10	479.99
			TATA MOTORS		
Mar-07	385.41	6458.39	6843.80	3853.74	177.59
Mar-08	385.54	7428.45	7813.99	3855.04	202.70
Mar-09	514.05	11855.15	12369.20	5140.08	240.64
Mar-10	570.60	14208.55	14779.15	5705.58	259.03
Mar-11	634.65	19351.40	19986.05	6346.14	314.93



This ratio shows the value of shareholder equity. Higher ratio indicates the good position of the company. We can see that book value of the share of Maruti Suzuki of face value of Rs.5 each in March-07 was Rs.237.16, which has increased continuously. In March-11 Book value of share is Rs.479.99. This shows the significant growth rate within the time period of 4 years. Book value of the share of Tata Motors of face value of Rs.10 each in March-07 was Rs.177.59 which has increased continuously. In March-11 Book value of share was Rs.314.93. This shows the significant growth rate over the time period of 4 years.

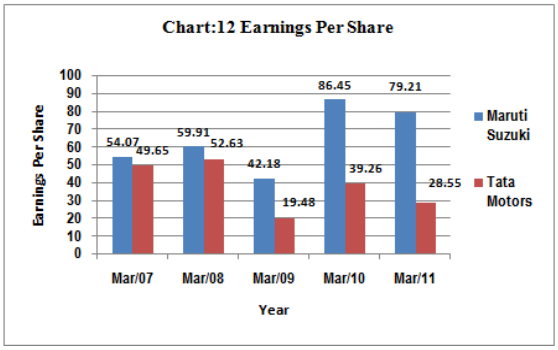
Earnings Per Share (EPS) = *PAT / No. of Outstanding Shares*

Table 7. Calculations of EPS for MARUTI SUZUKI

Year	PAT (In Rs. Cr.)	No .of Equity Shares (in lakhs)	EPS
Mar-07	1562.00	2889.10	54.07
Mar-08	1730.80	2889.10	59.91
Mar-09	1218.70	2889.10	42.18
Mar-10	2497.60	2889.10	86.45
Mar-11	2288.60	2889.10	79.21

TATA MOTORS

Year	PAT (In Rs. Cr.)	No. of Equity Shares (in lakhs)	EPS
Mar-07	1913.46	3853.74	49.65
Mar-08	2028.92	3855.04	52.63
Mar-09	1001.26	5140.08	19.48
Mar-10	2240.08	5705.58	39.26
Mar-11	1811.82	6346.14	28.55



EPS is one of the determinants of dividend. For Maruti Suzuki, in 2007-08 EPS of the company was Rs.59.91, but in 2008-09, EPS has reduced to Rs.42.18. This shows the reduction in the profit of the company. In 2009-10 EPS has increased to Rs.86.45. This indicates almost double growth in EPS against year 2008-09. In 2010-11 EPS has reduced by Rs.7.24 which shows overall reduction in the profit of the company. In case of Tata Motors, EPS was Rs.49.65 in March-07, which has increased to Rs.52.63 in March-09. Number of equity shares has increased compared to March-08 and profit has reduced. Due to this EPS was very low in March-09. But in March-10, there was a significant increase in profit of the company. Due to this, EPS reached to a level of Rs.39.26. It has further declined in March-11 due to an increase in number of shares and reduction in profit.

Dividend Per Share (DPS) = *Dividend / Number of Outstanding Share*

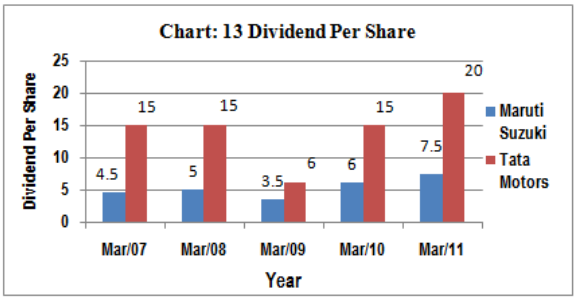
Table 8. Calculations of DPS

MARUTI SUZUKI

YEAR	DIVIDEND (In Rs. Cr.)	NO.OF EQUITY SHARES (in lakhs)	DPS
Mar-07	151.9	2889.10	4.5
Mar-08	169.3	2889.10	5.0
Mar-09	118.3	2889.10	3.5
Mar-10	202.1	2889.10	6.0
Mar-11	251.8	2889.10	7.5

TATA MOTORS

YEAR	DIVIDEND (In Rs. Cr.)	NO.OF EQUITY SHARES (in lakhs)	DPS
Mar-07	578.07	3853.74	15
Mar-08	578.43	3855.04	15
Mar-09	311.61	5140.08	6
Mar-10	859.05	5705.58	15
Mar-11	1274.23	6346.14	20



For Maruti Suzuki we can see that in March-2007 DPS was Rs.4.5, which has increased to Rs.5 in March-2008. In March-2009, DPS has reduced by Rs.1.5, but in March-10 & March-2011, it has increased to Rs.6 & Rs.7.5 respectively. From the above graph for Tata Motors we can say that DPS has remained the same in March-07 & March-08. But in March-09 it has reduced by Rs.9 as compared to March-10. Since March-09 DPS has continuously increased. In March-11, DPS was Rs.20, which was highest within the time period of 5 years.

Dividend Payout Ratio = *Equity Dividend / PAT OR DPS / EPS*

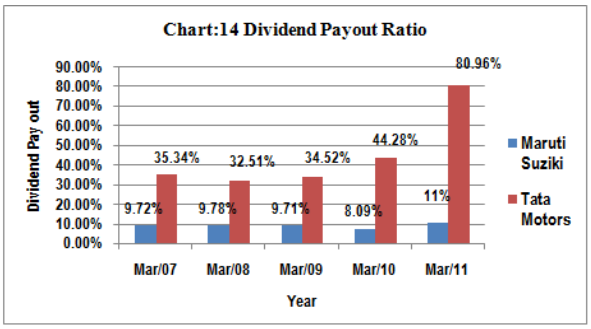
Table 9. Calculation of Dividend Payout Ratio

Maruti Suzuki

YEAR	DIVIDEND	PAT	RATIO
Mar-07	151.9	1562.00	9.72%
Mar-08	169.3	1730.80	9.78%
Mar-09	118.3	1218.70	9.71%
Mar-10	202.1	2497.60	8.09%
Mar-11	251.8	2288.60	11%

TATA MOTORS

YEAR	DIVIDEND	PAT	RATIO
Mar-07	676.32	1913.46	35.34%
Mar-08	659.68	2028.92	32.51%
Mar-09	345.7	1001.26	34.52%
Mar-10	991.94	2240.08	44.28%
Mar-11	1467.03	1811.82	80.96%



In general, if the firm is paying low dividends, it is resorting to high retentions to take care of the growth factor. Low dividends may affect the price of the share of the firm. On the other hand, a high payout ratio may lead to a rise in the market price of the share but it affects the future financing programme from internal sources. From the above graph, for Maruti Suzuki, we can say that in 2007-08 company has paid dividend of 9.78% of the profit, which has reduced to 9.71% in 2008-09. In 2009-10 company has paid the dividend of 8.09% of the profit, which has increased to 11% in 2010-11. For Tata Motors, we can say that in March-2007 company had paid 35.54% of the profit as a dividend. Compared to March-2008, company had paid fewer dividends. But from March-2009 dividend payout ratio has continuously increased. In March-2011 company has paid the highest percentage of earnings as dividend.

Debt – Equity Ratio = *Long Term Debt / Share Holder Equity*

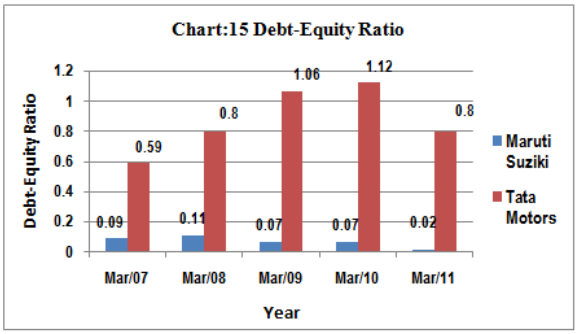
Table 10. Calculation of Debt-Equity Ratio

MARUTI SUZUKI

YEAR	DEBT (In Rs. Cr.)	EQUITY (In Rs. Cr.)	D/E RATIO
Mar-07	630.8	6,853.90	0.09
Mar-08	900.2	8,415.40	0.11
Mar-09	698.9	9,344.90	0.07
Mar-10	821.4	11,835.10	0.07
Mar-11	309.3	13,867.50	0.02

TATA MOTORS

YEAR	DEBT (In Rs. Cr.)	EQUITY (In Rs. Cr.)	D/E RATIO
Mar-07	4009.14	6843.8	0.59
Mar-08	6280.52	7813.99	0.80
Mar-09	13165.56	12369.20	1.06
Mar-10	16625.91	14779.15	1.12
Mar-11	15898.75	19986.05	0.80



For Maruti Suzuki we can see that Debt-Equity ratio in March-2007 was 0.09. It implies that for every Rs.100 of outside liabilities, the firm has Rs.1086 owner's capital. In March-2009 ratio has decreased to 0.07. In March-2010 there is no change in this ratio, but in March-2011 it reduces to 0.02. For Tata Motors we can see that the ratio in March-2007 was 0.59. It implies that for every Rs.100 of outside liabilities, the firm has Rs.171 owner's capital. In March-2009 ratio has increased to 1.06. This shows that portion of debt is more than equity. In March-2010 the portion of debt capital has also increased, but in March-2011 it has reduced to 0.8.

Growth Performance

Compound Annual Growth Rate for Maruti Suzuki

CAGR OF SALES = (Sales for 2011/Sales for 2007)^1/4 -1
= (36,561.50/14806.40)^1/4-1 = 0.2536
CAGR OF EPS = (EPS for 2011/ EPS for 2007) ^1/4 -1
= (79.21/54.07)^1/4 -1 = 0.1002
CAGR OF DPS = (DPS for 2011/ DPS for 2007) ^1/4 -1
= (7.5/4.5)^1/4 -1 = 0.1362

Compound Annual Growth Rate for Tata Motors

CAGR OF SALES = (Sales for 2011/Sales for 2007)^1/4 -1
= (47957.24/26664.25)^1/4-1 = 0.1581
CAGR OF EPS = (EPS for 2011/ EPS for 2007) ^1/4 -1
= (28.55/49.65)^1/4-1= - 0.1292
CAGR OF DPS = (DPS for 2011/ DPS for 2007) ^1/4 -1
= (20/15) ^1/4-1 = 0.0746

Sustainable Growth Rate =*Average Retention Ratio * Average Return on Equity*

where,

Average Retention Ratio **=** *Average of (1-Dividend Payout Ratio)*

MARUTI SUZUKI

Average Return on Equity = $\frac{22.79+20.56+13.04+21.10+16.5}{5}$ =18.798%

Table 11. Calculation of Retention ratio for Maruti Suzuki

Mar-07	1 – 0.0972	0.9028
Mar-08	1 – 0.0978	0.9022
Mar-09	1 - 0.0971	0.9029
Mar-10	1 - 0.0809	0.9191
Mar-11	1 – 0.1100	0.8900

Average Retention Ratio = $\frac{0.9028+0.9022+0.9029+0.9191+0.8900}{5}$ = 0.9034

Sustainable Growth Rate = 18.798* 0.9034 = 16.98%

TATA MOTORS

Average Return on Equity = $\frac{27.96+25.97+8.09+15.15+9.06}{5}$ = 17.2465%

Table: 12 Calculation of Retention ratio

Mar-07	1 – 0.3534	0.6466
Mar-08	1 – 0.3251	0.6749
Mar-09	1 - 0.3452	0.6548
Mar-10	1 - 0.4428	0.5572
Mar-11	1 – 0.8096	0.1904

Average Retention Ratio = $\frac{0.6466+0.6749+0.6548+0.5572+0.1904}{5}$ = 0.54478

Sustainable Growth Rate = 17.246* 0.54478 = 9.40%

RISK EXPOSURE

Beta

Beta is a measure of a stock's volatility in relation to the market. By definition, the market has a beta of 1 and individual stocks are ranked according to how much they deviate from the market. A stock that swings more than the market over time has a Beta above 1. If a stock move less than the market, the stock's Beta is less than 1. High Beta stocks are supposed to be riskier but provide a potential for higher returns, low Beta stocks pose less risk but also lower returns. Beta as per the Sharpe's Model can be computed as:

$$\beta = \frac{n\sum R_i R_m - (\sum R_i)(\sum R_m)}{n\sum R_m^2 - (\sum R_m)^2}$$

Beta for Maruti Suzuki

We have computed Beta for Maruti Suzuki based on month end closing prices of the company for two years April 2010 to March 2012 and the BSE SENSEX prices over the same period as the proxy for market index, which is as follows:

Beta = $\frac{24\times1016.02-16.81\times3.08}{24\times801.45-0.13^2}$ = 1.27

Beta for Tata Motors

We have computed Beta for Tata Motors based on month end closing prices of the company for two years April 2010 to March 2012 and the BSE SENSEX prices over the same period as the proxy for market index, which is as follows:

Beta= $\frac{24\times1444.52-65.91\times3.08}{24\times801.45-0.13^2}$ = 1.79

Volatility of Return on Equity= *Range of Return on Equity over n yrs/Average Return on Equity over n yrs*

MARUTI SUZUKI

Table 13. Calculations of Average ROE

Year	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11
ROE	0.2279	0.2056	0.1304	0.2110	0.165

where,

Range = *Higher observation – Lower observation*
= 0.2279 - 0.1304 = 0.0975

Average return = $\frac{0.2279+0.2056+0.13.4+0.2110+0.165}{5}$ = 0.18798

Volatility = 0.0975/ 0.18798 = 0.52

TATA MOTORS

Table 14. Calculations of Average ROE

Year	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11
ROE	0.2796	0.2597	0.0809	0.1515	0.0906

Where,

Range = *Higher observation – Lower observation* = 0.2796 - 0.0809 = 0.1987

Average return = $\frac{0.2796+0.2597+0.0809+0.1515+0.0906}{5}$ = 0.17246

Volatility = 0.1987/ 0.172 = 1.15

ESTIMATION OF INTRINSIC VALUE

Following steps are followed:

- Estimate the expected earnings per share.
- Establish a PE ratio.
- Develop a Value anchor and a Value range.

MARUTI SUZUKI: EPS Forecast

Table 15. Calculation of Estimated Intrinsic value of Maruti Suzuki

(Amount in Rs. Crore)

PARTICULARS	2010-11 (ACTUAL)	2011-12 (PROJECTED)	ASSUMPTION
Net Turnover	36,561.50	40,217.65	Increase by 10%
Other income	784.60	800.29	Increase by 2%
Cost of goods sold	31,670.00	35,153.70	Increase by 11%
Depreciation	1,013.50	1114.85	Increase by 10%
Selling & distribution Expenses	1,153.87	1269.26	Increase by 10%
Miscellaneous Expenses	264.03	290.43	Increase by 10%
EBIT	3,244.70	3189.70	
Interest	24.40	23.42	Decrease by 4%
Extra-ordinary items	18.90	18.90	No change
EAT	3,239.20	3185.18	
Tax	950.60	1045.66	Increase by 10%
PAT	2,288.60	2139.52	
No. of Equity Shares	28.9	28.90	
EPS	79.21	74.03	

Establish a PE Ratio: The PE Ratio may be derived from the constant growth dividend model, or cross-section analysis, or historical analysis. This ratio shows the price, the investors are willing to pay for every rupee of earnings per share.

Constant Growth Dividend Model

$$\textbf{PE Ratio} = \frac{\text{Dividend Payout Ratio}}{\text{Required Return on Equity} - \text{Expected Growth Rate in Dividends}}$$

Where,

Required ROE = *Risk-free return + (Beta of Equity)*(Expected market risk premium)* and
Expected growth rate in dividends = *Retention ratio * Return on Equity*

Average Dividend Payout Ratio = $\frac{0.0972+0.0978+0.0971+0.0809+0.1100}{5}$
= 0.0966

Required ROE

The following assumptions have been made

- The risk-free rate is 9%
- The Beta of stock is 1.27
- The expected market risk premium is 8%

ROE = 9% + 1.27(8%) = 19.16%
Expected growth rate = 0.9034*18.798 = 16.98%
Retention ratio = 1 – 0.0966 = 0.9034
Expected PE ratio = $\frac{0.0966}{0.1916-0.1698}$ = 4.43

Historical Analysis: PE ratio = Price/Earning

March-11 = 1263.55/79.21 = 15.95
March -10 = 1422.00/86.45 = 16.45
Average PE ratio= (15.95 + 16.45)/2 = 16.2

The Weighted PE Ratio

PE ratio based on the constant growth dividend model = 4.43
PE ratio based on historical analysis = 16.2
Weighted PE Ratio = (4.43 + 16.2)/2 = 10.315

Estimation of Intrinsic Value = Projected EPS * Appropriate PE Ratio
= 74.03*10.315 = 763.6

TATA MOTORS: EPS Forecast

Table: 16 Calculation of Estimated Intrinsic Value of Tata Motors

(Amount in Rs. Crore)

Particulars	2010-11 (Actual)	2011-12 (Projected)	Assumption
Net Turnover	47957.24	52752.96	Increase by 10%
Other income	341.53	341.53	
Cost of goods sold	39211.59	43132.75	Increase by 10%
Depreciation	1360.77	1496.85	Increase by 10%
Selling & distribution Expenses	2790.90	3070.00	Increase by 10%
Miscellaneous Expenses	1249.74	1374.71	Increase by 10%
EBIT	3686.48	4020.18	
Interest	1383.79	1439.14	increase by 4%
Other Written Off	106.17	106.17	No change
EAT	2196.52	2474.87	
Tax	384.70	403.94	Increase by 5%
PAT	1811.82	2070.93	
No. of equity shares	63.4614	63.4614	
EPS	28.55	32.63	

Establish a PE Ratio

The PE Ratio may be derived from the constant growth dividend model, or cross-section analysis, or historical analysis. This ratio shows the price, investors are willing to pay for every rupee of earnings per share.

Constant Growth Dividend Model

$$\textbf{PE Ratio} = \frac{\text{Dividend Payout Ratio}}{\text{Required Return on Equity} - \text{Expected Growth Rate in Dividends}}$$

Where,

Required ROE = *Risk-free return + (Beta of Equity) (Expected Market Risk premium)*

Expected growth rate in dividends = *Retention ratio * Return on Equity*

Average Dividend payout ratio = $\frac{0.3534+0.3251+0.3452+0.4428+0.8096}{5}$
= 0.45522

Required ROE

The following assumptions have been made

- The risk-free rate is 9%
- The Beta of stock is 1.79
- The expected market risk premium is 8%

ROE= 9% + 1.79(8%) = 23.32%
Expected growth rate = 0.54478*17.246% = 9.40%
Retention Ratio = 1 – 0.45522 = 0.54478
Expected PE Ratio = $\frac{0.45522}{0.2332-0.0940}$ = 3.27

Historical Analysis: PE ratio = Price/Earning

March-11 = 249.5 /28.55 = 8.74
March -10 = 151/39.26 = 3.85

Average PE Ratio = $\frac{8.74+3.85}{2}$ = 6.295

Weighted PE Ratio: PE ratio based on the Constant Growth Dividend Model = 3.27

PE ratio based on historical analysis = 6.295
Weighted PE Ratio = (3.27 + 6.295)/2 = 4.7825

Estimation of Intrinsic Value = Projected EPS * Appropriate PE Ratio
=32.63 *4.7825 = 156.05

COMPARISON OF MARUTI SUZUKI & TATA MOTORS

Table: 17 Comparisons between Maruti Suzuki & Tata Motors

PARTICULARS	MARUTI SUZUKI	TATA MOTORS
Return on equity	18.798%	17.246%
Book value of share	Rs.348.25	Rs.242.58
Earnings per share	Rs.64.36	Rs.37.91
Dividend per share	Rs.5.3	Rs.14.2
Debt-equity ratio	0.072	0.874
CAGR of sales	25.36%	15.81%
CAGR of EPS	10.02%	-12.92%
CAGR of DPS	13.62%	7.46%
Sustainable growth rate	16.98%	9.40%
Beta	1.27	1.79
Volatility	0.52	1.15
Estimated intrinsic value	Rs.763.62	Rs.156.05

From the above analysis we can say that compared to Tata Motors ROE is higher in Maruti Suzuki. Book value of the share of Maruti Suzuki is also relatively higher. EPS of Maruti Suzuki is 70% which is more than that of Tata Motors. This shows earning ability of the company to generate revenue. DPS of Tata Motors is more than that of Maruti Suzuki, this shows that Tata motors has less investment opportunity compared to Maruti Suzuki. Compound annual growth rate of sales is more in Maruti Suzuki. This shows that sales of Maruti

Suzuki have increased more than sales of Tata motors. EPS is also more in Maruti Suzuki. Return of Tata motors has deviated more than Maruti Suzuki, and volatility is also low in case of Maruti Suzuki which means that the risk is less in case of Maruti Suzuki. Thus we can say that overall performance of Maruti Suzuki is better than that of Tata motors. Therefore investment in Maruti Suzuki seems to be more profitable than in Tata Motors.

Value Range Estimation and Decision Rules for the Investors

As valuation is inherently an uncertain and imprecise exercise, it would be native to put great faith in a single point intrinsic value estimate because it is based on estimate and existence of some error is possible. So we feel that defining value range is more appropriate than the single point value.

Decision Rule for the Investor of Maruti Suzuki India Ltd.

In view of this, we feel that the value range for intrinsic value of the share of Maruti Suzuki is Rs.750 to Rs.800. (intrinsic value is Rs.763.62). Given this value range, decision rule may be as follows:

Value Range of Intrinsic Value of Maruti Suzuki

Market price	Decision
Less than Rs.750	Buy
Between Rs.750 and Rs.800	Hold
More than Rs.800	Sell

Market Value as on March-2012 = Rs.1349.1 It means intrinsic value of Maruti Suzuki is less than its market price.

Intrinsic Value		**Market Price**
Rs.763.62	<	Rs.1349.1

The market price of security should be equal to its fair value. But Market price here is higher than the intrinsic value in case of Maruti Suzuki. It shows that share is overvalued in market. Hence the market value is expected to decline in future. So it is better for the investor to sell the share at current price in the market.

Decision Rule for the Investor of Tata Motors

Value range for intrinsic value of the share of Tata Motors is Rs.145 to Rs.175. (intrinsic value is Rs.156.05). Given this value range, decision rule may be as follows:

Value Range of Intrinsic Value of Tata Motors

Market Price	Decision
Less than Rs.145	Buy
Between Rs.145 and Rs.175	Hold
More than Rs.175	Sell

Market value as on March-2012 = Rs.275.7. It shows that intrinsic value of Tata motors is less than its market price of share. This is shown as below:

Intrinsic Value		**Market Price**
Rs.156.05	<	Rs.275.7

The market price of security should be equal to its fair value. But Market price here is higher than the intrinsic value in case of Tata Motors. It shows that share is overvalued in market. Hence the market value is expected to decline in future. So it is better for the investor to sell the share of Tata Motors at current price in the market.

Conclusions & Suggestions

- From the analysis of Indian economy, we have found that Indian economy is one of the growing economies of the World. In India inflation rate has declined in last two years. Due to this up to some extent control on cost of raw-materials and other expenses is possible.
- GDP growth rate in India has also an overall increasing trend in the last decade except for the recessionary period. Due to this production of goods and services have increased in the economy, and the rate of unemployment has reduced in the economy.
- Unemployment rate in India has attended its peak during the recessionary period but it is declining after 2010. This shows that employment opportunities in India have begun to increase after 2010. Hence the economy has started to recover itself from the recessionary effects and high growth of economy is possible.
- In last ten years, FDI in India has also increased. This shows the willingness of the foreigners to invest in Indian economy. There is a huge FDI available in Indian economy, which is helps India to grow and to be more competitive in the world.
- On the basis of SWOT analysis, we conclude that Indian automobile industry has cost advantages because in India due to unemployment cheap labour is available.
- On the basis of the analysis of BCG matrix, we conclude that automobile sector has high market growth rate and is highly competitive indicating that this sector is in the Star category.
- On the basis of analysis of life cycle, we conclude that automobile industry is at the growth stage and high potential is available for growth in future.
- On the basis of analysis of export trend and domestic sales trend, we conclude that demand for automobiles is very high compared to its production. So we can say that automobile industry has a huge potential to grow in future.
- As per flow of FDI in automobile sector in India, we conclude that FDI in automobile sector has increased by 800% within the last five years period. This shows that huge capital is available to the automobile sector which is helpful to the automobile companies in their growth.
- Because of increase in infrastructural facilities in India, automobile industry has an opportunity to grow.
- But there is a great threat to the automobile industry in India that there are more than 20 MNCs operating in India. So the Indian automobile industry has to meet global competition.
- From the analysis of the two leading companies of automobile industry, we conclude that growth rate of sales of automobile company is high. Compare to Tata Motors, Maruti Suzuki earning more income per share and sustainable growth rate of Maruti Suzuki is also more which is 16.98%.
- Compared to Tata Motors, risk is also less in Maruti Suzuki.
- On the basis of debt-equity ratio, we conclude that interest burden is less in case of Maruti Suzuki. It means Maruti Suzuki India Ltd. can raise the capital through debt. While Tata Motors has a huge debt capital. So it is difficult for the Tata motors to raise the capital through debt.
- The results of fundamental analysis clearly indicate Maruti Suzuki to be fundamentally stronger than Tata Motors and hence it is seems to be more profitable for the investors to invest in Maruti Suzuki in order to earn higher returns in the long run.
- We have determined the intrinsic values of the shares of both the companies. Estimated intrinsic value of Maruti Suzuki is Rs.763.62, while estimated intrinsic value of Tata motors is Rs.156.05. The difference between the market price of March 2012 and the intrinsic value is less for Tata Motors as compared to that for Maruti Suzuki which indicates that the time required for Maruti Suzuki may be longer than that required by Tata Motors to attain their respective intrinsic values and hence the new buyers of the shares of Maruti Suzuki will have to hold the shares for a longer period in order to get the future higher returns than the buyers of the shares of Tata Motors.

Limitations

This analysis is fully based on secondary data and hence the accuracy of data is a major concern. Only two companies are selected for analysis because of time constraints. Since the annual reports for 2011-12 for the selected companies were not available at the time of study, fundamental analysis is done using the data available till March

2011. Analysis helps the investor in making investment decisions but not every investment is entirely dependent on the analysis alone. Results of Technical Analysis as well as other qualitative factors related to company's performance must also be considered while making an investment decision. A proper analysis helps in reducing the risks on investment in the share market and helps in choosing less risky and highly rewarding investment avenue.

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