International Journal of Economics and Business Modeling
ISSN:0976–531X & E-ISSN:0976–5352, Vol. 1, Issue 2, 2010, PP-01-11

Indian Auto Component Industry: Challenges Ahead

Sachin Borgave* and Chaudhari J.S.
*Commerce & Management Research Unit, Shivaji University, Kolhapur, MS, India
sachinborgave@gmail.com, jayawantchaudhari@gmail.com

Abstract- Indian Automobile industry is flourishing its twigs worldwide and is close to a fruition of triumph in the global competition. The spine of the industry is its suppliers of auto components and accessories which is also an exclusive industrial segment. Today auto industry is enjoying the benefits while the auto component sector is in its gloom despite of hard efforts of survival. The factors making the differences are unavailability of resources like skilled labour and technology, high cost of production due to inflation and Government policies of indirect taxes such as customs and excise. The paper highlights the challenges faced by Indian auto component industry in domestic and global market.
Keywords- Auto Components, Accessories, International Trade, Exports, Imports, Automobiles

1.1 Introduction

The later globalization period enhanced the trade in all sectors which includes automobile and auto components in top trading commodities. The new auto policy helped to promote the auto sector worldwide. The cheap labour and resources in India has captivated the attention of developed countries from long years back. Only on the globalization the trade benefits came into clear picture and also India realized the potential of the world market. Despite of free trade agreement, the preferential and regional trade agreements brought the higher potential markets closer to India to develop the international trade and flourish the Indian presence. Today the international markets are so saturated and the cut throat competition is spread all over the globe as the whole world has become a single market. The rule of 'survival of the fittest' is applied at every stage and in all the sectors. This enabled Indian auto industry to grow at certain extent. The threat of other competitive countries and the internal country policies affecting the sector directly or indirectly, the loop holes are stretching the limbs behind and withdrawing its roots of development. On one side the automobile industry is flourishing while on the other side the Indian auto component/ parts which is a spine of Indian automobile industry is shrinking. The study envisages the real problems faced by Indian auto component sector in international trade and the challenges to meet ahead.

1.2 Research Methodology

The industrial area of Pune selected for study is a major hub of Indian auto component industry, the study focused on micro as well as macro level analyses and hence the primary data is collected from exporters situated in Pune region and secondary data from international and national databases.

1.2.1 Objectives of the Study

a. To study the SWOT analysis of Indian Auto Component Industry
b. To review the international trade and assess the status of Indian auto component industry.
c. To identify the barriers and the challenges for Indian auto component industry in international trade.

1.2.2 Scope of the Study

a. Geographical Scope:

The Area selected for the research is Pune as the maximum auto component Industries, Foundries, Forging Industries lie in Pune the newly established R& D for Auto Cluster located at Chinchwad Pune (Promoted by Gov. of India, MCCIA & PCMC), provides the facilities of designing, tooling and validation testing for SSI.

b. Conceptual Scope:

The auto component sector having a higher potentiality to develop its roots, while due to several reasons and forged application the industry is shrinking. The study emphasis to overcome the barriers and triumph over the challenges nailed in developing international trade.

1.2.3 Data collection and Sampling

The primary and secondary data required for the study is collected systematically. Primary data is collected through a questionnaire and a census of auto component exporters from Pune is considered. According to the information obtained through District Industrial Centre and Maratha Chamber of Commerce, Industries and Agriculture Pune there are 2031 working units in Pune & Pune periphery. Out of these 2031 units only 199 units are registered under the heading- "Vehicle, Parts and accessories" and out of these 199 units only **61** units are regular exporters. Hence the universe for the research study is 61 industries and it is decided to study all the 61 industries considering it as a sample size. Secondary data playing a prominent role in the study is collected through various departments like Directorate General of Foreign Trade, Ministry of Commerce, Engineering Export

Promotional Council, MVRDC, Maratha Chamber of Commerce, Industries and Agriculture etc.

2. An Overview of Indian Auto Component Industry

2.1 A progression of Indian Auto Industry

The Auto Industry comprising of Automobile manufacturers and Auto component manufacturers, the industry is a prime driver to boost up the Indian economy contributing 4.7% of country's GDP in the year 2003-04.The industry has sustained a longer struggle behind its admirable way of detonating success. Presently we see the Joint ventures or own foreign subsidiaries in automobile as well as auto component industry, the foundation for Indian Automobile industry laid by Hindustan Motors and Premier Automobiles Ltd in 1942 and 1944 and further various manufacturers clustered the industry such as Automobile Products of India Ltd (APL), Mahindra & Mahindra, Tata Motors, Ashok Leyland in 1970's till then the policy framework for the industry was very stringent, and there was very limited scope for expansion, the Research and Development was also far behind, the Industry was less complicated in technology, hence there was low investment in Research and development, the Joint venture of Maruti and Suzuki initiated a substantial growth in the industry and after the liberalization policy adopted by India in 1990, the scenario of industry went on changing, the industry gained a up-thrust impetus. The liberalization allowed MNC's such as Ford, Toyota, and Hyundai to set up facilities in India. However the arrival of MNC auto manufacturers revealed the incapability of local auto component suppliers to the global players, due to lack of technology and change in requisites. On other side the import of auto components were highly price sensitive and the huge import tariffs, this intended the MNCs to convey their traditional suppliers to set up in India. As Delphi followed General Motors in 1995 and set up the facility in Gujarat, Visteon followed Ford, further many of the local players auto and auto component manufacturers seek assistance from the global manufacturers especially for complicated and higher technical jobs, many of the automotive companies managing there own subsidiaries without any such collaborations, manufacturing low end products such as casting and forging, Brake linings, Sheet metals, pistons, piston rings etc. The industry is fragmented in the several levels of supplying categories, from Tier 4 to tier 1, the larger companies moving the value chain as tier1 companies, while SME's are identifying in tier 2 and tier 3 slots. The Indian auto components industry has over 420 players in the organized sector and over 10000 players in the unorganized sector. Around 390 auto component manufacturers have ISO 9000 certification, 223 companies with QS-9000 certification, and 83 companies with TS 16949. In the past years, this industry has contributed 10 - 12 percent to the total auto production. By the end of the third quarter in 2005, exports accounted for 15 percent of the total volumes in the auto components industry. In 2004-05, the value of auto component exports is estimated to be Rs. 56,475 million.

2.2 Classification and Structure of Auto Component Industry

An auto component industry can be segmented on the basis of the production of component types as below

- Engine Parts
- Drive Transmission and Steering Parts
- Suspension and Brake Parts
- Electrical Parts
- Equipments
- Other Parts

In India the auto component industry is structured in three basic categories.

- Indian companies without any collaboration or having very minimal collaboration with any foreign companies for e.g. Sundram Brake Lining, Sundram Fastners.
- Indian companies with foreign collaboration, such as Indian Nippon Electricals, Hinoday etc.
- MNCs completely owned subsidiaries or the units in which they have major control. For e.g. Delphi, Visteon, Denso, MICO etc.

2.3 Evolution of Auto Components industry

The Auto component Industry is directly dependent on Auto industry; the industry was of very small size in the period of 1970s, the growth initiated after the entry of Maruti Udyog Ltd. Many new auto component manufacturers emerged in 1980s. The Indian auto industry has evolved around three major clusters geographically West, North & South of India Major automotive clusters – West- Mumbai, Pune, Nasik, and Aurangabad. South - Chennai Bangalore, Hosur and North-Delhi, Gurgaon, Faridabad. The set up of Tata motors, Bajaj, Mahindra & Mahindra, Skoda, General Motors etc. and auto component manufacturers like Bharat Forge, DGP Hinoday, Kirloskar Brothers, SKF Bearings, Kalyani Brakes etc. in the west region. Maruti Suzuki during 1990s created a base in the North accordingly the other auto industry like Honda, Eicher etc., and auto component companies like Delphi, Denso India, Lumax, Minda, Sona Koyo, Shriram Pistons etc., setup a hub in the central North. In the South region the auto & auto component industries are Ashok Leyland, Ford, Toyota Kirloskar, Hyundai, TVS Motors, Brakes India, MICO, Lucas-TVS, Rane Brakes, Sundram Fasteners etc. constituting a major hub. The

quality consciousness, value chain inherited through the automobile companies towards the suppliers. Further the entry of more MNC's & giant domestic auto manufacturers prompted supply chain developments to enhance the productivity and responsiveness towards both the ends suppliers as well as automobile companies. The auto component industry can also be segmented through the supply chain tierization like first tier, second tier, third tier and fourth tier as the levels of supply category and involvement in the supply chain of automobile company. The fourth tier suppliers supplies raw material as a small jobs while a second tier suppliers produces a full auto components further the first tier suppliers identified as a OEMS/ Assemblers (Original equipment manufacturers). There are new direct suppliers, who design systems and coordinate almost the entire chain encompassing the manufacturing and assembly process and these are the Tier 1 and 0.5 who have major involvement as a supplier in manufacturing of automobiles, they provide semi – assembled modules of automobiles like steering system, rear axle system etc. which can be directly fixed on the final assembly of the cars. The risks and challenges are being transferred to the tier 1 & 0.5 suppliers.

2.4 Supply Side Scenario

The total turnover of the Indian auto component industry is estimated at US$9 billion in 2006. The industry has the resources to manufacture the entire range of auto products required for vehicle manufacturing, approximately 20,000 components. The entry of global manufacturers into India during the 1990s enabled initiation of new technologies, new products, improved quality and better efficiencies in operations. This obviously acted as a catalyst to the local development of the auto component industry. The Indian auto component industry is widespread and highly fragmented. Estimates by the Department of Heavy Industries, Government of India, indicate that there are over 400 large firms who are part of the organized sector and cater largely to the Original Equipment Manufacturers (OEMs). Approximately 10,000 firms exist in the unorganized sector that operates in a tier-format. The firms in this segment operate in low technology products and cater to Tier I and Tier II suppliers and also serve the replacement market. Around 4% of the companies operating in the auto component segment cater to 80% of the demand emanating from OEMs. Within the unorganized segment, apart from supplying in the aftermarket, a number of players are also involved in job work and contract manufacturing. The Auto Component Manufacturers Association (ACMA) asserted the sector is working towards the open market, a large number of joint ventures with leading global manufacturers have already set up. The sector will grow at 15 percent CAGR till the year 2012 and will achieve the position among the top five auto component economies by 2025. The Industry is perceived tremendous potential for foreign direct investments. The exports of auto components in 2006-07 soared to the US$ 3 billion, which is remarkable, & the investments continuing the rise. The ACMA estimates the global sourcing of components from the country to double from US$ 2.95 to U.S$ 5.9 billion in 2008-09, and touch US$ 20 billion within next seven years with the expansion of operations domestically and overseas. The ACMA-Mckinsey tie-up vision anticipates the potential for the Indian auto component industry to grow at US$ 40- 45 billion by 2015. The global auto manufacturers look India as a salient manufacturing hub for auto components and which rapidly gaining up the values of component they source from India.

2.5 The SWOT Analysis can be made as below

2.5.1 STRENGTHS

The major strengths of the Indian auto component sector to grow globally are

1. Cost competitiveness in terms of Labour and Raw material
2. Established manufacturing base
3. Qualified and skilled man power
4. Growing domestic automotive industry
5. Manufacturing capabilities with international quality standards
6. High operational efficiency

2.5.2 OPPORTUNITIES

1. The growing need to outsource
2. Huge opportunity in the tier- 1 and tier 0.5
3. Continuous pressure on global OEMs and Tier 1s to reduce cost and source from low cost countries
4. Higher frequency of introducing of newer models by automakers
5. Global market opportunity itself is the ultimate opportunity provided by auto industry.
6. Leverage on product engineering expertise to improve the worthiness and exports of auto component.
7. Acquisition in foreign markets.

The strengths & opportunities above enabled the growth of Indian auto component industry in extent of global outsourcing; the following are the positive indications.

- The fine quality of components manufactured in India is used as original components for vehicles made by General Motors, Mercedes, IVECO, etc.
- The Japanese and British component manufacturers are seeking joint ventures in India.

International Journal of Economics and Business Modeling
ISSN:0976–531X & E-ISSN:0976–5352, Vol. 1, Issue 2, 2010

- Robert Bosch, auto parts maker of Germany has relocated manufacture of certain products to MICO, India.
- Crosslink International Wheels, Malaysia's leading automobile security provider has set up its unit at Baddi, Himachal Pradesh, India to make India as export hub for the SAARC region.

Some of the key outsourcing deals announced by the major players is as follows

- Ford – Plan - to outsource engines worth US$ 100 million in 2004, which may further be scaled up to US$ 500 million.
- Delphi – Plan- to outsource components worth US$ 410 million
- Volvo – Plan- to increase its outsourcing to US$ 150 million
- Fiat – Plan- to outsource components worth US$ 200 million, to its international operations which is exporting cars to Sri Lanka, Bangladesh and Nepal.

The foreign automakers like General Motors, Toyota Motor Co., Ford Motor Co., Honda Motor Co., Diamler Chrysler AG and Hyundai Motor Co., seem to make India as export hub by expanding their operations here.

India as a International Manufacturing Hub

- Ford Exporting CKDs (Completely Knockdown Vehicles) to South Africa and other countries
- Hyundai – Exports Base for Small Cars
- HMSI – Hub for Two Wheeler Export
- Skoda – Hub for exporting cars to neighbouring countries
- Visteon exporting India worldwide
- Toyota Motors- global Hub for Transmission
- Daimler Chrysler sourcing more than 100 million Euro
- Delphi, USA- International Purchase Office located

2.5.3 WEAKNESSES

1. Low investment in Research and Development
2. Limited knowledge of product liability and offshore warranty handling
3. Limited domestic market for various components inhibiting capacity creations.
4. Comparatively poor infrastructure for supply chain and exports
5. Lack of experience in system integration

2.5.4 THREATS

1. Competition from other low cost countries like China, Taiwan, Thailand etc.
2. Free Trade Agreements / Preferential Trade Agreements (FTA's)
3. Expansion of the European Union- inclusion of Hungary, Czech Republic Poland etc which are major exporting countries to western Europe.
4. Appreciation of Rupee
5. Developments of new technologies like fuel cell, hydrogen powered vehicles, which may affect the auto component industry.
6. Large number of OEMs entering in Indian market may result into migration of talents from supplier to OEMs

To overcome the weaknesses & threats the best way the manufacturers to remain competitive and improve growth prospects. The manufacturers are to be innovative with appropriate R & D budgets. The product specialization and their ability to integrate operations across several related areas of specialization could be an eventual key of progress. Domestic manufacturers need to increase their investments in companies in the US and Europe to go closer to global markets.

2.6 Developmental Prognosis

The industry globally is taking over a rapid expansion of automotive component investment worldwide especially in developing countries like Brazil and India, the large first tier auto component industries are setting up their owned subsidiary operations next to the OEM customer so as to secure the global supply of their products. A pressure is on OEMs and first tier auto component suppliers to improve on their competitiveness in order to survive in domestic as well as international markets with the improved and compatible products in changing patterns with respect to the requirements.

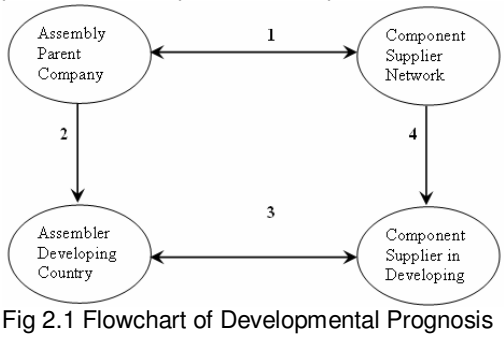


Fig 2.1 Flowchart of Developmental Prognosis

Presently top 100 companies contribute over 40 percent of the industry revenue, the OEMs focusing on designing, assembly, outsourcing for increasing competitiveness and marketing. The component industry is globally going in a phase of consolidation and tierization, on the basis of global purchases by leading automobile companies worldwide in 2002, it has been projected that the very few tier 1 companies may

survive in future and most of the work as nearly 50% of vehicle development would take over by the vendors. The stiff competition amongst the OEMs world wide led to focus on cost rationalization despite of rise in the input costs and quality improvements, component prices have declined three to five percent every year. However it is believed that the industry efforts on volume growth, increase in exports and cutting the costs through value engineering will place the health growth. Companies with superior technologies and intensive research and developments like Bharat Forge, MICO may enjoy bargaining power with OEMs.

2.7 Global Trends in Outsourcing

The global trends in outsourcing amongst the auto & auto component industries can be divided into three phases

2.7.1 Phase- I:

The OEMs and Tier 1 companies in developed countries like U.S, Japan and in Europe, seek out neighboring countries to set up a low cost manufacturing base, this led US companies like G.M, Ford, Chrysler along with its suppliers in Tier -1 companies like Delphi, Visteon, Dana look out for tier 2 and tier 3 suppliers in South America and Mexico, similarly European companies looked at Spain and East Europe. The Japanese pulled at ASEAN free trade zone to establish the set ups in Thailand and Malaysia. The phase was up to the year 2000.

2.7.2 Phase II:

After the phase I, In the time ahead the costs in the LDC,s like Mexico, Spain and brazil were continuously went on increasing and were unable to match the costs with other developing countries like China and India, the wages in such countries were very low while the costs of inputs were also ate the lower ends, this shifted the focus of global OEMs and Tier1 companies of developed market towards exploring the outsourcing, especially from these regions to take advantage of low cost manufacturing facilities through mobilizing the purchase offices in India and china.

2.7.3 Phase III:

In the third phase it is expected to grow the foreign owned subsidiaries and joint ventures of established automotive companies and OEMs along with their Tier 1 suppliers with the companies from the place of outsourcing and other low cost countries, the focus is to shift the manufacturing base to the low cost manufacturing destinations and making it as a export hub. We believe that India is in the third phase as many of the global players like Suzuki, Hyundai, Ford, Toyota , Honda etc., already have made India as an export hub, this benefited the Indian auto component industry, the effect of this phase may be for longer period as up to minimum next five years.

3. International Trade of Indian Auto Components

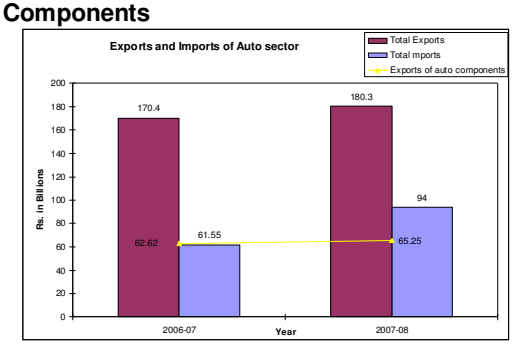


Fig 3.1 Exports and Imports of Auto **Components**
(Source: Ministry of Commerce, http://commerce.nic.in/eidb/default.asp)

It is observed that the total exports of auto sector are dominating over the imports which is almost double of the imports and is growing at the growth rate of 6 percent. However the auto components share in the total exports of auto sector is only one third part while its growth rate is of 4 % over a year. This indicates that the automobile sector is doing very well in international market while the auto components are still lagging behind in export market. On the other side the overall growth rate of imports of auto sector is 52 percent which is very high as compare to the growth in exports. However considering the deemed exports of auto components in addition to the physical exports to various destinations the exports figure is reached to $ 3 billion which is equivalent to approx. Rs. 125 billions

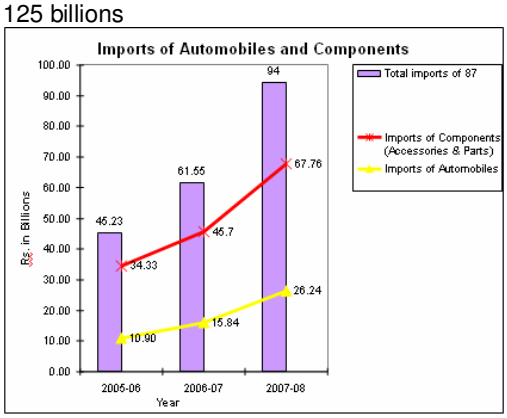


Fig 3.2 Imports of Automobiles and Auto components

The imports of Auto sector have risen from 36 percent in 2006 to 53 percent in 2007.the total share of automobiles and auto components is in the ratio of 1:3 parts. This indicates that an import of auto components by Indian automobile companies is increased substantially while the import of automobile has been forbidden. There can be various aspects to be studied to see the

cause of the increased imports of auto components.

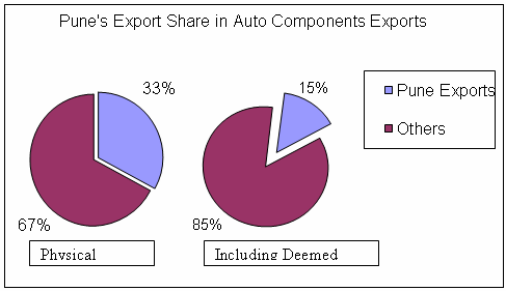


Fig 3.3 Pune's Share in Exports of Auto Components

The exports of auto components from Pune has reached to 20 Billion INR in 2006, which is 33 percent of total direct exports of components from the country and 15 % of the total exports of auto component (direct & deemed exports) which is 135 Billion INR ($ 3 bln). The total exports of auto components are expected to reach 180 Billion INR while the exports of components from Pune are expected to reach 40 billion INR in 2009. Pune being a major hub of auto industry is attracting the new investors in both, automobile as well as components. The tier 1 suppliers are increasing significantly and are contributing the exports as well as local sales enormously. The above listed are the companies contributing surplus to the exports of auto components from Pune sector. Kirloskar oil engines Ltd is a dominant exporter of engines while Bharat Forge Ltd is outstanding performer in achieving higher exports of components and castings.

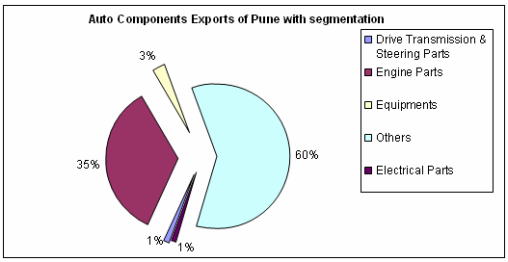


Fig 3.4 Exports of Auto Component from Pune with Segmentation

It has been observed that the Pune hub is a dominating in the exports of engine parts this may be due to the existence of Tier 2 and Tier 1 companies involved in producing engines and engine parts in Pune region. However the maximum exports that is 60 percent of total exports of Pune falls in the category of other parts and equipments, this suggests that yet the industry is scattered and not organized in a suitable comportment. The over all exports of auto components from Pune hub considered in mapping above figure are direct exports, the deemed exports are not considered for further convenience. Very les suppliers are in organized sector but contributing 80 percent of exports of auto components, the unorganized sector is widely spread which contribute very less to the exports while have more focus on after market services. The maximum exports are towards US, Germany, UAE, U.K and Italy. The European countries are been attracted to import from India due to the availability of cheap labour and the quality products. The other competitive countries like China, Thailand, and Brazil are also importing/ sourcing countries from India, this is not only because of the Indian competitiveness but the unique quality of the components which may not have substitutes. The new markets like Spain, Belgium, Costa Rica, Ireland, Finland and France are been tapped by Pune exporters and find more potentiality in those markets in future. The overall exports of auto components is presently marked to US $ 3 billions and is expected to increase to US $ 20- 25 Billions by 2020 this can be only possible if the Indian companies become more sustained to reduce their costs and develop their competitiveness than other low cost counties like China, Thailand and Brazil. If we compare these countries competitiveness with India in terms of production costs and other determinants like power, Fuel, labour and other variables like taxes and economies of scale etc. India needs to develop strategically. Undoubtedly India is more reliable for cheap labour than that of Brazil. However it is very less competitive in offering lower labour costs as compared with China and Thailand. The labour cost of Thailand is actually more than Indian labour cost though it is considered cheaper in Thailand because of the productivity index which is on a higher side. The total productivity adjusted labour cost of Thailand is less than that of India and china. The Indian labour cost is similar to the china's one. In comparison of power cost with other low cost countries, India stands for the highest cost of power as Rs. 7 per kWh, the power rates are varying state wise in India from Rs. 5 to Rs. 7 the lowest are in Maharashtra state. China and Brazil are more competitive in providing power to the manufacturers, also Thailand offers slight less cost of power than of India. The interest rates in India are very high however less than that of Brazil. These rates are expected to soften in near future by looking over the RBI's action plans. The china and Thailand are more efficient in lending low interest rates to their manufacturers. Thailand has gained most competitive advantage in auto components as compare to India, Brazil and China. India has a most awful situation in tax structure especially for auto component

industries declared in the union budget of 2009, the cascading effect of tax has hit to a height, so peak that the cost of item is not only doubled but may raise to 2.5 times of its original cost while china may provide the same component in half price of Indian component and Thailand even less than that. The components if manufactured by using indigenous raw material may not give that much variation in the prices but despite of this if we compare the indigenous manufacturing with other given countries' international buying practices and manufacturing, china and Thailand are more competitive than that of India.

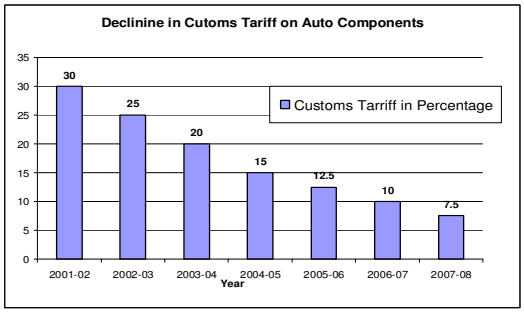
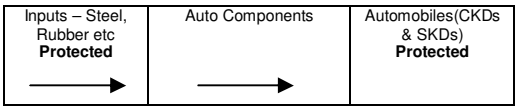


Fig 3.5 Decline in Import Tariff (Import Duty) in Percentage

To align with the world trade organization and altogether preferential trade agreements while taking the benefits of potential exports of auto components, the tariffs on auto components are continuously slashed down from 30 percent in 2001 to 7.5 percent in 2007-08. While an across-the-board lower tariff regime is beneficial to country's competitiveness, however there must be in place an effective and fast-responsive trade defense mechanism to provide protection to the domestic industry, as and when it faces unfair trade practices. The cost of inputs for auto sector and automobile sector varies through the economies of scale, the advantage is inclined towards the automobile sector due to bulk requirement, even though the import duties on inputs are on a higher side the advantages can be taken by automobile sectors and fewer auto components sector by availing Advanced Authorisation scheme and a Duty Free Import Authorisation Scheme (DFIA). Undoubtedly the custom duties on inputs for making auto parts are on a slight higher range so as to protect the steel and rubber industry. However these duties are unstable and may likely to come down. Similarly the automobile industry is also well protected, the range of custom duty on automobiles is 65 % to 100 % while on auto components, and it is reduced from 30 percent to the range of 12.5 to10 percent. This makes a major difference and gives an immense setback to the auto component sector.



On one side inputs which are becoming costlier due to the cascading effects of taxes and duties, similarly duty exemption schemes are being under utilized so as export obligation may not be fulfilled due to the intermittent demand. On the other hand, fulfillment of orders towards automobile companies has become very competitive. This may divert or loose the orders towards foreign suppliers from low cost countries like china, and Thailand due to the lower custom duty on auto components. Both the links forward and backward are well protected while an auto component sector is in jeopardy.

4. Conclusion

The auto component industry was growing gradually and was making significant developments in domestic as well as in international market till 2006-07. The internal barriers in the country and constraints at international level had sluggish down the industry growth, these barriers predominantly are hindrances like – Tax structure especially the disparity in custom and excise duties on the raw material of auto components, and automobiles. The unavailability of resources at reasonable cost for example- Power, Skilled Labour, Technology etc is also a major constraint. The challenges are mainly to overcome with these hindrances and sustain into international competition with other low cost countries. Adding up the extra values to the products and seeking government active participation in the meager resources may help to break the barriers. The active participation is also needed in making the goods cost effective by considering various parameters like providing extended help to bring overall sector under organized platform, liberalized policies, SEZ assistance and marketing assistance.

References

[1] Ruddar Datt and Sundharam K.P.M., 'Indian Economy', S. Chand & Company Ltd. 55th Revised edition.

[2] Datey V.S., 'CUSTOMS Law Practice and Procedures', Taxman Allied Services (P) Ltd. 4th Edition.

[3] Vibha Mathur. 'Foreign Trade of India 1947 to 2007', New Central.

[4] 'A Review of the Top 20 Automotive OEM Suppliers' Product Development', Scope Knowledge, Published by Aroq Limited, United Kingdom. September 2006. www.jus-auto.com

[5] 'Auto Components- Market and Opportunities', A report by IMaCS (ICRA

Management Consulting Services Limited) for Indian Brand Equity Foundation, Gurgaon, www.ibef.org

[6] Annual Supplement to Foreign Trade Policy 2004-09'. DGFT and Ministry of Commerce.

[7] Ashish Jagnani and Kushal Doshi (2004) *HDFC Securities - Invest Right India Research, HDFC Securities Limited Mumbai*.

[8] Dave Leggett (2007) *Aroq Limited, United Kingdom*, www.jus-auto.com.

[9] Dave Leggett (2008) *Aroq Limited, United Kingdom*,. www.jus-auto.com.

[10] 'Export Import Data' ministry of Commerce-

a. www.commerce.nic.in,

b. http://commerce.nic.in/medium_term/contents.htm.

[11] Visvesvaraya M. *Industrial Research & Development Centre (MVIRDC) World Trade Centre, Mumbai. in association with Scope Marketing & Information Solutions Pvt. Ltd., Chennai.*

[12] Export Statistics from the website of Engineering Export Promotional Council - http://www.eepcindia.org/export-statistics.asp.

[13] *'Foreign Trade Policy'* 1st September 2004 – 31st March 2009, w.e.f 1.4.2007 DGFT and Ministry of Commerce.

[14] *'Foreign Trade Policy'* 1st September 2004 – 31st March 2009, w.e.f 1.4.2008. DGFT and Ministry of Commerce.

[15] Global Competitiveness of Indian Auto Component Industry & Its Sustainability' Auto Component Manufacturer's Association (ACMA) supplier's meet 15.4.2008.

[16] *Handbook of Procedures* Vol I and Vol II September 2004 – 31st March 2009, w.e.f 1.4.2007. DGFT and Ministry of Commerce.

[17] *Handbook of Procedures* Vol I and Vol II September 2004 – 31st March 2009, w.e.f 1.4.2008. DGFT and Ministry of Commerce.

[18] Ramaswamy K. V. (2008) *Institute of South Asian Studies Singapore (ISAS) Breif No. 44*.

[19] Manish Mathur, Jian Sun, Ram Kidambi and Stephen Dyer. *A.T. Kearney, Inc, Chicago, Illinois, USA*. www.atkearney.com.

[20] Markus Bergmann, Ramesh Mangaleswaran, and Glenn A. Mercer (2004) *The Mickinsey Quarterly, 2004 Special Edition: China Today*.

[21] Neelam Singh (2004) Discussion Paper RIS-DP # 82/2004, September 2004 *RIS- Research and Information System for the Non-Aligned and Other Developing Countries, New Delhi*.

[22] Paul Gao (2004) *The Mickinsey Quarterly, 2004 Special Edition: China Today.*

[23] Sanja S. Pattnayak and Thangavelu S.M, Working Paper No. 0307, *Department of Economics, National University of Singapore*.

[24] Shashank Luthra, Ramesh Mangaleswaran, and Asutosh Padhi (2005) *The Mickinsey Quarterly 2005 Special Edition: Fulfilling India's promise*.

[25] Task Force on Indirect Taxes (2002) Consultation paper, *Ministry of Finance & Company Affairs*.

[26] 'Vision 2015' for the Indian supplier industry: how achievable is it?' A *Report of ACMA-McKinsey*.

[27] Viswanathan Krishnan. *The University of Texas at Austin*.

[28] Website of Society of Indian Automobile Manufacturers-

a. http://www.siamindia.com/scripts/industrystatistics.aspx,

b. http://www.siamindia.com/scripts/economicaffairs.aspx,

c. http://www.siamindia.com/scripts/periodicals.aspx.

Table 1.1

S.No.	Area	No. of Working Units
1.	Bhosari & Chinchwad MIDC	1586
2.	Chakan MIDC	12
3.	Talegaon MIDC	33
5.	Ranjangaon MIDC	4
6.	Jejuri MIDC	40
7.	Baramati MIDC	110
8.	Kurkumbh MIDC	34
9.	Other than MIDC area	212
	Total	2031

Table 3.1 Imports of Automobiles and Auto Components (Figs in Rs. Lakhs)

Imports	**2005-2006**	**2006-2007**	**2007-2008**
Total imports of Auto Sector (Chapter 87)	**452,333.95**	**615,494.09**	**940046.23**
Imports of Components (Accessories & Parts)	343252.71	457047.91	677619.96
Imports of Automobiles	109081.24	158446.18	262426.27
Total share of imports of Components	75.88 %	74.26 %	72.08 %
Total share of imports Automobiles	24.12 %	25.74 %	27.92 %

(Source: Ministry of Commerce- http://commerce.nic.in/eidb/default.asp)

Table – 3.2 Exports Share of Pune's Auto Component Industry (Figures in INR Billions)

S.No	Export Nodes	Physical Exports
1.	Pune Exports	20.155
2.	Others (Bangalore, Chennai, Delhi and other Areas)	41.394
3.	Others (inclusive of deemed exports)	114.845

Table 3.3 Major players in exports of Auto Components from Pune (Values in INR Millions)

Company	**Exports**	**Imports**
Kirloskar Oil Engines Ltd.	1285.85	2833.00
Bharat Forge Ltd.	6555.00	2822.00
Cummins India Ltd.	5312.50	2368.40
John Deere Equipment Pvt. Ltd.	4602.00	494.00
DGP Hinoday Industries Ltd	630.00	140.00
Kalyani Lemmerz Ltd.	500.00	unknown

Table 3.4 Pune Exports - Percentage Share of Classified Auto Parts

S.N	**Items**	**Percentage Share of Exports**
1.	Drive Transmission & Steering Parts	1.0
2.	Engine Parts	35.0
3.	Equipments	3.0
4.	Electrical Parts	1.0
5.	Others	60.0
	Total	100.0

Table 3.5 Exports of Pune Auto Component Industry to Various Countries

S.No.	Countries of trade	No. of Respondents Export
1.	United States of America	24
2.	Germany	18
3.	United Arab Emirates	16
4.	United Kingdom	16
5.	Italy	14
6.	Egypt	9
7.	Sri Lanka	9
8.	Bangladesh	8
9.	Australia	7
10.	China	5
11.	Indonesia	5
12.	Kenya	5
13.	Africa	4
14.	Canada	4
15.	France	4
16.	Malaysia	4
17.	Singapore	4
18.	South Africa	4
19.	Thailand	4

Table 3.6a Labour and labour productivity in comparison with other low cost countries.(Figures in INR)

Particulars	India	Brazil	China	Thailand
Labour Cost(INR. Per day)	35.00	205.00	35.00	36.00
Labour Cost * (INR. Per day)	280.00	1640.00	280.00	288.00
Productivity Index**	1.0	2.0	1.00	1.2
Productivity adjusted labour cost (INR. per day)	280.0	820.00	280.00	240.00

** Assumed 8hrs per shift per day*

*** Gross value added per person employed as compared to India; Source: IMaCS Report, www.ibef.org*

Table 3.6b Power Cost in comparison with other low cost countries (Figures in INR)

Country	Cost per KWh in INR
India	7.00
Brazil	2.50
China	1.50
Thailand	5.50

Source: IMaCS Report, www.ibef.org

Table 3.6c Annual Lending Rate in comparison with other low cost countries (Figures in INR)

Country	Annual Lending interest rate
India	10 – 14 %
Brazil	14 - 16 %
China	5 – 6 %
Thailand	7 – 8 %

Source: IMaCS Report, , www.ibef.org

Table 3.6d Tax Structure of India in comparison with other low cost countries

Particulars	India	Brazil	China	Thailand
Excise	14.00 %	--	--	--
VAT	12.50 %	15.00 %	17.00 %	10.00%
Other Taxes		18.00 %		
Corporate Taxes	34.00 %	28.00 %	33.00 %	30.00%
Total for Indigenous Mfg	60.50 %	61.00 %	50.00 %	40.00%
Import Duty on Rubber	25.00 %	16.00 %	8.00 %	Free
Import Duty on Steel	35.00 %	4.00 %	2.00%	10.00%
Total	120.50 %	81.00 %	60.00 %	50.00 %

Source: IMaCS Report, , www.ibef.org

Table 3.7 Comparison of Import Duty Structures on Inputs for Auto Components and Automobile Industry

S.No.	Inputs for Auto Components	Inputs for Automobiles	Custom Duty on Imports %	Preference of Buying
1.	Steel	Steel	10% to35%	Indigenous
2.	Rubber	Rubber	10% to 25%	Indigenous
3.		Auto components	7.5% to 10%	Indigenous as well as International Buying

Source: IMaCS Report, www.ibef.org

International Journal of Economics and Business Modeling
ISSN:0976–531X & E-ISSN:0976–5352, Vol. 1, Issue 2, 2010