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Department of Marketing and Strategy

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Government Policy and Competitive Advantages

A Study of the Indian Automotive Industry

Abstract

This study aims to determine the pertinence of industrial organization and the resource-based view relative to regulatory changes in India, and the impact of these changes on passenger car producers' strategies. The predictions of the former theorem are valid for gaining an understanding of the impact of policy changes on the market, while the latter theory provides a more detailed understanding of how firms benefit from different resources and capabilities under varying regulatory circumstances. Our research thus takes an inductive approach, based on secondary sources. Specifically, the study shows that institutional ties provided a competitive advantage for Maruti-Suzuki during the period of heavy regulation in India. Another key factor of success for this company, as well as the subsequent entrants Hyundai and Tata, was the efficient transfer of technology and know-how to its Indian operations and suppliers. This also impacted positively on the overall market performance in India. The establishment of high levels of indigenous production allowed for economies of scale in production, as well as the avoidance of costly import duties and tariffs. However, high capacity utilization in domestic production was possible only by targeting a large share of the highly price sensitive Indian consumers. This meant that offering a car within the low-cost, small car segment became pivotal in order for auto manufacturers to gain market shares and achieve economies of scale in production.

Keywords

India, Automotive industry, Government Policy, Deregulation, Competitive Advantage

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“A car with a \$3,000 list price could attract 300 million buyers in India by 2020.”

A.T Kearney, global management consulting firm

Thank you to:

Assistant Professor, Peter Hagström. For your insightful, to the point comments and enthusiastic teaching.

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The good folks at 7-eleven. For keeping our sugar levels high in times of need.

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Introduction

This chapter begins by presenting the background to the thesis subject, before stating the purpose of the thesis as well as the research question. Next, certain definitions and clarifications are provided in order create a better understanding of the thesis among its readers. The delimitations of the paper are then stated and a description of its expected contributions is presented.

1.1 Background

Only ten years ago, the idea of an Indian company taking over British luxury brands such as Jaguar and Land Rover seemed unthinkable to most people, yet in 2008 Tata Motors' acquisition of these firms became a fact and this after entering the passenger car segment in 1994 (Kumar et al, 2009). Another fourteen years back in time, in the 1980's, the Indian auto market consisted of only three producers, operating in a highly restricted environment that severely limited growth and technological development. Government regulations spanned from licensing requirements for production capacity increases to import barriers such as tariffs and limited availability of foreign exchange (Abrenica, 1998; Dangayach & Deshmukh, 2001). With the new industrial policy of 1991, followed by further liberalization policies in the early 2000's, the government opened up for foreign investors and entrants, leading to a radical change in the market structure with a flora of new competitors establishing production in India (LaRue et al, 1997; Becker-Ritterspach, 2009).

Accordingly, the Indian automobile industry has seen rapid development and growth since the mid 1980's, when the Indian government began deregulating the economy. From there having been only three automotive manufacturing firms in India in the beginning of the 1980's, today's market comprises most international car producers, where Hyundai has proven most successful in the passenger car segment, together with the domestic producer Tata Motors. There were additionally a number of successful joint ventures between Indian firms and foreign manufacturers, with Maruti-Suzuki being the most prominent example (Becker-Ritterspach, 2009).

In fact, the growth of the Indian automobile industry can be said to have started with the Japanese firm Suzuki entering the market through a joint venture with Maruti Udyog Ltd. in 1983 (Ishigami, 2005). The economic reforms that took place a few years later quickly led to

that more international firms entering the market, mainly through joint ventures, since the government required domestic firms to have the majority stakes in such configurations (Becker-Ritterspach, 2009). Despite these deregulatory initiatives, the Indian government continued to use protective measures such as local content requirements until the World Trade Organization ruled against this behavior in 2001 (Abrenica, 1998; WTO, 2002).

1.2 Purpose and Research Questions

The purpose of this thesis is to determine how economic theory can explain the strategies adopted by automobile manufacturers in India and the overall market performance, due to regulatory changes that have taken place during the past three decades. More specifically, we aim to determine which theories are the most relevant in relation to deregulation and the Indian automobile industry, as well as what elements of these theories best explain these events. Our fundamental research question is:

How have the competitive advantages of automobile manufacturers
in India changed due to economic deregulation?

Given the answer to this question, conclusions can be drawn as to the pertinence of the applied theories can be determined. This will allow for suggestions on further research, potentially of a deductive kind, where our conclusions are tested on cases similar to that of the Indian auto industry.

1.3 Definitions and Clarifications

In order to ensure that the reader perceives the information presented in this thesis as correctly as possible, the meaning of certain frequently used terms should be clarified. Hence,

- **Auto, automobile, automotive** and **car industry** as well as all similar terms refer to the passenger car industry, unless stated otherwise.
- By **passenger car** we refer to a four wheel, engine-powered vehicle. Two-wheelers, three-wheelers, motorcycles, commercial vehicles, construction vehicles or other machinery are thus not included in the term.

Furthermore, it should be noted that the calendar system used in India is not the same as in Western countries. This means that production and sales values are often presented in split years, e.g. 1991/1992.

1.4 Delimitations

Government policies vary from country to country and affect almost all aspects of a nation's economy, either directly or indirectly (Carlton & Perloff, 2005). The changes in the Indian government's economic stance during the last three decades are no exception and have certainly had an impact on most industries and enterprises within the country. As the Indian economy has become increasingly liberalized, the number of Indian multinationals has proliferated, and some of them now count to the largest conglomerates in the world, such as Tata Inc. Different industries have, however, been affected differently by the economic policy changes, and the focus of this thesis is on Indian automobile producers.

Accordingly, the specific types of deregulation that we will consider for the purpose of this thesis generally include licensing requirements, capacity constraints, restrictions on foreign direct investment, import and foreign exchange controls, as well as local content requirements of production. These regulations were key obstacles to the development of the domestic car manufacturers, and changes in them hence spawned great market restructurings.

Although many of the auto manufacturers in India are joint ventures with foreign producers, and the economic policies hence affect the economic results of parent firms outside of India, this thesis looks only at the effect on the Indian subsidiaries. Taking into account how Indian policy variations affect the strategies of foreign parent corporations and their ancillary firms is a too complex task for the nature of this thesis. It should be clear, however, that decisions made by the Indian government that affect manufacturers present in India may have an effect also on parent companies outside of India, as well as the strategies of other firms belonging to the same corporate group.

Moreover, because of differences in legislation and utilization, this study does not take into account vehicles other than passenger cars. Many of the Indian car producers that are mentioned in this thesis also manufacture two-wheelers, such as scooters and motorcycles, or commercial vehicles. There are, however, in certain instances differences in how and when governmental policies affect these vehicle segments. This is also why the focal point of this work is narrowed down to four-wheel passenger cars. Lastly, given that several sources make the distinction between utility vehicles and other cars, we have chosen not to include utility vehicles in our definition of passenger cars.

Ultimately, the time span of the thesis will be restricted to between the early 1980's and the mid 2000's. The reason for this is that the greatest policy reforms affecting the auto industry took place in the beginning of the 1990's and the early 2000's. By broadening the period to include the years before and after these regulatory changes, it can be determined whether the auto producers took preemptive actions towards them, or whether they subsequently adapted to the deregulations.

1.5 Contributions

As previously mentioned, much academic research has been done around the topic of India's liberalization and its fast-growing automobile industry. A number of such studies have also been made upon the Indian government's different economic policies and the strategy and growth of its domestic passenger car producers. The majority of these studies have taken a resource-based approach to strategy formulation among Indian auto manufacturers. We thus aim to complete the picture of how government policies have impacted upon the car producers, by also comparing the applicability of the economic theories of industrial organization and the resource-based view on the observations from the Indian passenger car market.

2. Methodology

This chapter aims to provide the reader with a better understanding of how the research has been carried out as well as why the thesis is structured the way it is. Moreover, the reliability and validity of the thesis are examined in order to determine the relevance of the findings.

2.1 Choice of Subject and Initial Work

With Tata Motors' acquisition of Jaguar Land Rover from Ford Motor Co. in 2008 and the subsequent introduction of the Tata Nano, the Indian automotive industry has established itself as a force to count on, not only locally but also on a global scale. With the precipitous attention to Indian car producers displayed by media, as well as the financial strength demonstrated by many of these manufacturers, we began to wonder what had led to this swift uprising of this Indian giant in an industry distinguished by harsh competition and high barriers to entry. Further, with its relatively recent deregulation, the Indian automobile market presents an outstanding opportunity to analyze the effects of policy change on firm strategy and growth, as documentation on both government policy and auto manufacturer's strategic decisions and results are readily available. The automobile industry is highly suitable to this purpose, as it often plays a key role in economic and industrial development and can thus be seen as an indicator of the economic advancement of a nation (Dangayach & Deshmukh, 2001).

We began our research by looking at literature from the library at the Stockholm School of Economics (SSE). This allowed us to gain a general understanding of the Indian economy and its automotive market. Further, we used databases available through the SSE library web to find articles pertinent to our topic. References from both literature and articles were then used to gain deeper knowledge of the Indian auto industry. While studying literature and articles on the subject, we discovered that although much research on the issue has been carried out, no one has tested whether or not economic theories on the relationship between government policy and firm strategy are applicable on the Indian automotive industry.

In our thesis, we will examine the Indian automobile market through different theoretical frameworks in order to determine which perspective, or which parts of the different perspectives, best describe the relationship between governmental decisions and auto producers' strategy. Bryman and Bell (2011) state that an inductive approach to research

starts with the observations and findings of a study, which is then used to draw theoretical conclusions relevant to the findings. In our case, we will more specifically test the applicability of a set of theories on the observations made from the Indian auto industry. While a majority of these observations are qualitative, also quantitative data in the form of sales figures and market shares will be considered relevant for our purpose. In conclusion, the study will deal more with words than with numbers, and will thus be considered qualitative and inductive in its nature.

2.2 Theoretical Framework

After initial discussions with our advisor, Assistant Professor Peter Hagström at the Stockholm School of Economics, we decided that the most relevant economic theories to use in such a test were likely to be industrial organization, and resource-based theories. These theories have been studied by the authors in a variety of courses at the Stockholm School of Economics, including *International Business Strategy* and *Market Systems*. Literature from the courses have been used as a basis in the search for further sources within the areas, which have mainly been found via the university library and well-known databases accessed via its website, such as Business Source Premier.

These theories are broad spanning and take into account both the external environment of the firms, i.e. exogenous factors influencing firm strategy, and their internal environment, i.e. endogenous elements impacting on strategy. Industrial organization deals with the former set of factors, while the resource-based view pertain to the latter. Both theories take into account the effects of government policy and its impact upon firm strategies and performance.

The authors have also considered other theories, including supply chain management, and knowledge transfer theorems. However, the width of industrial organization allows for the inclusion of factors such as supplier relationships, whereas the acquiring of technological know-how can be discussed under the resource-based perspective. It should be noted that this decision might limit the scope of our analytical findings, but it also allows for greater depth in the theoretical evaluations.

2.3 Empirical Data

The thesis will be based on secondary sources, following from the fact that both theoretical and data sources are widely available through literature and other publications. Data providers include governmental and academic institutions, local organizations, such as SIAM

and ACMA, as well as international consultants, for example Datamonitor. This data is generally broad spanning, accurate, and precise and thus requires no further direct research to be conducted for the purpose of this thesis to be achieved. It should be noted that the majority of our secondary sources have used figures and data from ACMA and SIAM as the basis of their analysis. Although these sources provide general statistics about the market to the public, yearly reports must be purchased, why we often refer to these sources indirectly.

We will compare different sources to one another in order to discover potential discrepancies between figures. If such differences occur, further sources will be collected in order to triangulate which data hold the highest reliability. Given that our data collection will be based on secondary sources, Silverman (2010, p. 133) points out that such “triangulation may improve the reliability of a single method.” Ultimately, questionable data that cannot be verified will not be included in our research.

Industry data is also available through research papers and articles in journals, where a wide variety of material regarding government policies and the Indian automotive industry have been published. Although any single such publication cannot be expected to contribute with sufficient data to draw relevant conclusions for our purpose, a comprehensive understanding of the market and its various actors can be gained by cross-comparing and referencing a wider selection of papers and journals. As is customary, recognized and well-known publications will be considered reliable, given that their data match other sources, while less known publications will require further scrutiny with regard to their sources and collected data.

Moreover, a number of journals and newspapers have conducted insightful interviews with top managers and company officials at Indian automobile companies, something that would not have been possible for us as students working in Sweden. Enough of the results of these interviews are available for us to gain insight into different organizations and to draw conclusions relevant to the purpose of the thesis. In any such instances, it must be considered that both interviewers and interview subjects may be biased. Consequently, we will avoid the usage of claimed facts and figures from such publications to as a great extent as possible.

2.4 Research Quality

2.4.1 Reliability

Yin (2003) states that high reliability means that the results of a study will be identical, were another researcher to conduct the same investigation under equivalent conditions, while Solvang & Holme (1997) emphasize precision during data collection as related to high reliability. Since our research is done through written secondary sources, rather than interviews or direct observations, the findings and observations made in the sources can be considered static. This eliminates the risk of other researchers being unable to access the same data that we retrieved, given that they have access to the same databases and literature that we have had. As databases such as Business Source Premier are well known and accessed throughout the world, finding the same articles that we have used in our research should not constitute an issue for other researchers. Given that we used several different, often generic, keywords while searching for articles, it should be possible to find the same articles that we used even for a researcher who does not use the exact same keywords as we have in his or her search.

2.4.2 Internal Validity

As pointed out by Malhotra (2004), the internal validity of a study is related to the causal relationship of the factors of analysis, here meaning that the actions taken by auto manufacturers in India are related to the changing government policies within the country, and that these observations can be related to the selected theoretical frameworks. Our selection of sources has been based on their presupposed knowledge and expertise within each theoretical field. We have generally used articles and literature from well-known journals and publishers, which can be assumed to have an interest in depicting observations that correspond with actual events. The reliability of certain sources, notably newspapers, interviews and Internet sites, can be questioned, why we have tried to avoid the usage of such material. Where such references have been made, the decision has been taken after careful comparison of data with other sources. However, such sources have been used to such a very limited extent, in order to ensure as high internal validity as possible. Furthermore, the qualitative method provides us with the advantage of observing the Indian market over a longer period of time, hence facilitating “a high level of congruence between concepts and observations” in our research (Bryman & Bell, 2011, p. 395).

An issue that could easily have arisen considering the nature of our study and its dependency on secondary sources is that of “sampling on success.” The concept suggests that it is easier to find data on successful ventures than on companies that have failed and are no longer present on the market. We have thus been careful to consider all entrants into the Indian automotive industry, also firms that have exited, in order to take into account any contrary cases to our observations (Silverman, 2010). It should be noted, however, that our focus would remain on competitive advantages that have allowed certain firms to become domestic market share leaders.

2.4.3 External Validity

According to Bryman and Bell (2011, p. 43), external validity “is concerned with the question of whether the results of a study can be generalized beyond the specific research context.” Given the specific nature of the Indian market and its gradual deregulation, it becomes difficult to broadly generalize upon our findings. The importance of establishing high levels of indigenous production in order to achieve economies of scale, under conditions of high protective barriers may be applicable also to other industries in India. However, the significance of developing very low-priced small cars seems greater in India than in other markets that have been subject to deregulation. There are thus two ways of looking at the external validity of our findings, where they are likely to be more generalizable regarding other industries in India rather than auto manufacturers in other markets in deregulation.

3. Empirics

This chapter aims at explaining the market for passenger vehicles in India throughout the period. It starts with a general outlook, followed by explaining the deregulation that has taken place in India. It ends with a market overview as well as brings forward the main competitors in the market.

3.1 General outlook

The Indian automobile industry is one of the fastest growing automobile industries in the world today. The penetration level of passenger cars is still very low with 7 cars per thousand inhabitants implying a huge potential for future growth (Auto Motive Mission Plan; Gupta & Shekhar, 2010).

Starting in the early 1950's, an import substitution strategy for industrialization was adopted, essentially meaning that India would produce their own products, instead of importing them. The cars produced were at first manufactured on a licensing basis, and when the licensing agreements expired the domestic producers continued production based on these car models. The result was three main car models, the Ambassador, a car based on a 1948 Morris Oxford; the Padmini, based on the 1954 Fiat Millicento; and the Standard Herald, based on the British 1961 model Triumph Herald. These cars were produced and sold in India without any significant modifications until the 1990's, and even into the 2000's regarding the Ambassador. In the 1980's the automobile industry in India took off after slumbering for over 30 years. Producing small quantities of old, fuel inefficient cars using outdated technology (Ishigami, 2004; Narayanan, 1998). Starting in the 1980's with the entrance of Maruti-Suzuki, the market gradually opened up. Modern cars that were adapted to Indian consumer needs entered the market. These cars were fuel-efficient and of superior quality compared to existing models. Also, these new cars were not higher priced than the incumbents' models, leading to the incumbents' immediate decline (Becker-Ritterspach, 2009; Ishigami, 2004).

Between the 1980's and 2000's production of passenger cars as well as sales have exploded. In the early 1980's around 50 000 passenger cars were produced in India (Becker-Ritterspach & Becker-Ritterspach, 2009), during the mid-1990's around 300 000 cars and in the mid 00's, 1 100 000 cars. Sales have followed this approximately development reaching 1 062 000 passenger cars sold in 2005 (Ghosh, Ray, & Dewan, 2011).

3.2 Deregulation and the passenger car market in India

The deregulation in India is generally seen to have taken place in four phases: the license phase, from the 1950's to the mid 1980's; the deregulation phase, from the mid 1980's to the early 1990's; the phase of emerging liberalization, from the early 1990's until the early 2000's; and the phase of full liberalization from 2000 and onward (Becker-Ritterspach F. A., 2009).

1947-1984 The license phase: *Protectionism and state-led economic development*

During this period, cars were considered a luxury product subject to government price control. Products were sold through licensing agreements that came to place in 1951, clearly restricting market entry. Regulation was put in place to control imports and foreign exchange, through tariffs and duties, in order to protect domestic producers from foreign players. Furthermore, the Phased Manufacturing Program (PMP), under which original equipment manufacturers (OEMs) had to increase the proportion of domestic inputs over a specific time period, was introduced. The program also stipulated that 95% of every car sold in India had to be produced locally, thereby forcing car companies to establish the whole production process locally, instead of importing knocked down kits. The program thus laid the foundation for the Indian auto-component sector, protecting it from foreign competition (Nag, 2011). After its initiation, the American carmakers General Motors and Ford, who had been active in India since before 1947, left the country and did not return until the late 1990's. Lastly, national production capacity enhancement was subject to governmental approval and production quantities were set by the government (Becker-Ritterspach, 2009; Sinharay, 2010). In the 1970's, the Monopolies and Restrictive Trade Practice act (MRTP) regulated activities of large business houses, including those in the automobile industry. This was followed by the 1973 Foreign Exchange Regulation Act (FERA), which introduced heavy restrictions on FDI in India - mainly through a 40% equity restriction for foreign investors (Becker-Ritterspach, 2009).

1985-1992 The phase of deregulation: *First deregulation measures introduced*

During these seven years, the first signs of market deregulation were seen in India. It started with Rajiv Gandhi coming into office and relieving 32 industries from the requirement of obtaining licenses for new investments, which also lifted regulation on capacity of production. The introduction of "broad branding" systems in 1985 allowed automobile and

automotive parts manufacturers with existing licenses to produce new, different product ranges with their existing facilities (Becker-Ritterspach, 2009). Moreover, the government opened up for the possibility of entry for foreign players in the auto industry, but under restricted forms and with approval on a case-to-case basis. A few selected players were allowed entry, however only with minority stakes in joint ventures with government-owned firms. Japanese Suzuki was selected by the government to enter into a joint venture with government-owned Maruti for passenger cars. Honda was selected for two wheelers, and Mazda and Mitsubishi for light commercial vehicles. The reason for choosing Suzuki was the benefits seen in their low cost focus on small passenger vehicles, as well as their willingness to share coveted Japanese manufacturing practices also with local Indian firms (Sinharay, 2010; Becker-Ritterspach, 2009). A 40% equity stake restriction was still in place, as were license requirements and qualitative restrictions. Companies still had to follow the PMP, forcing them to achieve local contents¹ of 95 percent. However, import tariffs were lowered and the MRTP act was loosened, further illustrating the start of a liberalization of the market (Becker-Ritterspach, 2009).

1993-2000 The phase of emerging liberalization: *Shift towards internal and external market liberalization*

1993 set an important landmark in the history of the Indian automobile industry as the licensing system, restricting foreign activity and interest in the Indian market, was abolished. The equity cap was increased to over 51%, but only equity arrangements up to 51% were subject to fast track approval, and from 1997 even automatic approval (Sinharay, 2010). In 1991, the government reformulated the PMP, import tariffs were further reduced, and there was a reduction of excise duty for passenger cars. However, these changes did not come into effect for the car industry until 1993 (Sinharay, 2010). FDI was still regulated, however mainly through the requirement of the signing of a Memorandum of Understanding. This memorandum stipulated export requirements and a local content schedule, in which prerequisites were set at 50% local content production during the 3rd year and 70% during the 5th year. As a consequence of these changes, India saw a large amount of foreign carmakers enter the market (Becker-Ritterspach, 2009).

¹ Local content refers to what percentage of a final product, in this instance a car, is produced indigenously

Since 2000 The phase of full liberalization: *New liberalization push*

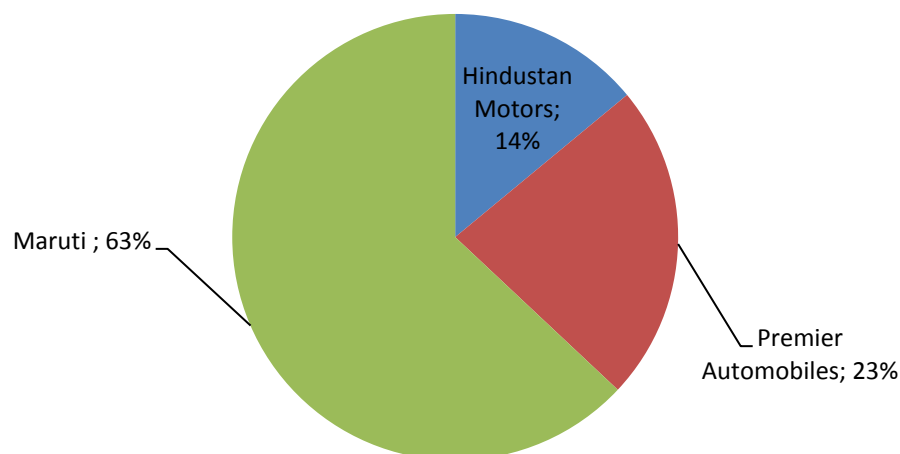
The equity cap on foreign direct investments (FDI) was completely abolished, and an automatic route of FDI approval was established. Import tariffs and excise duties were further reduced and quantitative restrictions on imports were removed. The memorandum of understanding, including the local content requirements, was abolished and minimum levels for investments were lowered.

3.3 Market Overview

In the 1980's, Premier Automobile and Hindustan Motors lost significant market shares to Maruti-Suzuki. Their car models were outdated and fuel inefficient, yet still priced in the same range as Maruti Suzuki's modern 800 model (Mukherjee & Sastry, 1996). Beside their inferior products, the plants of both companies also had low capacities, capped at around 20 000 units per year. This can be compared to Maruti Suzuki, who was producing 100 000 units within three years of its production start (Tharyan, 2001; Becker-Ritterspach, 2009). The dominating players in the passenger vehicle segment by the end of the 1980's were Maruti Suzuki with a 63% market share, Premier Automobiles with a 23% market share and Hindustan Motors with a 14% market share (see figure 1).

Figure 1 Market share in the passenger segment 1990-1991

Source: Becker-Ritterspach, 2009



As a deregulation wave swept over several key industries in India, a manufacturing boom and consequently higher industrial output was witnessed during the 1990's and 2000's. This resulted in significant increases in GDP per capita and consequently higher purchasing power, especially among the middleclass. Also the agricultural industry increased its output,

thus raising disposable incomes in rural areas. These developments increased the general demand for cars (Sinharay, 2010). As the middle class becomes more prosperous, the mini car segment lost ground, while the compact and medium segments gained (Sinharay, 2010). The production of passenger vehicles consequently increased from 300 000 units in 1995, to 700 000 units in 2000, and 1 100 000 units in 2005 (Ghosh, Ray, & Dewan, 2011). Despite the improved living standards and purchasing power of the middle class, price sensitivity was still significant. A car's price in India translated into between 18 to 24 months of salary during the 1990's, compared to approximately 6 months' salary in the western world (Mukherjee & Sastry, 1996). Further, as illustrated in table 1, only a fraction of the households in India could actually afford a car in the 90's and early 00's. Most consumers thus still chose more affordable two wheelers as transportation vehicles.

Next, local content requirements and low prices of cars made it crucial for manufacturers to achieve scale in production. Tata Motors concluded that it needed to produce and sell 60 000 cars per year to break even on the Indian market with its low priced models (Panda, 2000). Hyundai aimed at producing 100 000 cars when entering the market in 1996, while Maruti Suzuki was already producing and selling between 100 000 and 200 000 cars per year during the 1990's. The Maruti 800 had a 95 percent local content level by the end of the 1990's (Ishigami, 2004). The level of local content for cars in India was negatively correlated with the level of costs of production, since higher local content meant avoidance of import duties and tariffs. Additionally, producers benefited from the low cost labor in India (Panda, 2000; Ishigami, 2004; Mukherjee & Sastry, 1996). Even if FDI regulation was loosened and excise duty levels were lowered, most foreign car makers had problems succeeding in the Indian market. First, models launched by foreign car makers were too expensive, ranging between \$11 000 to \$33000 USD (Ishigami, 2004; Mukherjee & Sastry, 1996). This was in part due to the Semi Knocked Down (SKD) and Completely Knocked Down (CDK) techniques that foreign car makers initially adopted in assembling the cars, where whole parts were imported into India and then assembled. This made them subject to a 68 percent and 103 percent duty fees, respectively, making any car too expensive for the greater share of the market (Panda, 2000; Mukherjee & Sastry, 1996). It further put pressure on suppliers to not only facilitate local content production, but make sure that this rendered in a low cost for the car. The dominating players in the passenger car segment by the end of the 1990's were Maruti Suzuki, Tata Motors and Hyundai Motors with 54%, 12,3% and 16,9% market shares, respectively (see figure 2).

Table 1. Income structure and Buying Power²*Source: (Becker-Ritterspach, 2009)*

<i>Incomestructure</i>	<i>1994-95</i>	<i>1999-00</i>	<i>2005-06</i>
<i>Rich</i> (above INR 215,000) Owns cars, PCs, luxury items	1 million households	3 million households	6 million households
<i>Consumers</i> (INR 45,000 – 215,000) Owns bulk of branded consumer goods, 70% percent of two-wheelers, refrigerators	29 million households	66 million households	75 million households
<i>Climbers</i> (INR 22,000 – 45,000) Have at least one many, durable (TV, mixer, sewing machine)	48 million households	66 million households	78 million households
<i>Aspirants</i> (INR 16,000 – 22,000) Have bicycles, radios, fans	48 million households	32 million households	33 million households
<i>Destitutes</i> (Less than INR 16,000)	32 million households	24 million households	17 million households

3.3.1 Car segments

The Indian car market is officially segmented as follows: A mini segment (up to 3400mm; <5000Euro), B compact car segment (3401mm-4000mm; 5000-8000 Euro), C mid-size segment (4001-4500mm; 8000-13000 Euro), D executive segment (4501-4700mm, 13000-22000 Euro), E premium segment (4701-5000mm; 22000 Euro) and F luxury segment (more than 5000mm). The main segments throughout 1980-2010 are A and B with B being largest segment since the 1990's. The B (compact car) and C (medium sized segments) attracted most attention from entrants during the 1990's (Becker-Ritterspach, 2009; Mukherjee & Sastry, 1996; Ishigami, 2005; Nag, 2011).

Maruti Suzuki offered their Maruti 800 car, which belongs to the mini car segment (A-segment) and priced it at \$4500 USD. Hyundai launched their compact car, the Santro, in the B-Segment in 1998 and priced it at \$5400-\$7700 depending on equipment level. The final main player, Tata Motors, launched their contender in the compact car segment, the Tata Indica in the compact car segment and priced it close to the Maruti 800. These three car models together with Marui Suzuki's compact car contribution, the Maruti Zen (440 000 Rs), were the main competitors in the largest car segments in India being the B-segment and A-segment (Ishigami, 2005). A few examples outside of Maruti-Suzuki, Hyundai and Tata exist of car models launched by other players aiming at the mini & compact car segments. These were the Daewoo Cielo priced at \$12 400 USD and Fiat Uno priced at \$10 000 USD as well as the Fiat Paalio priced at 5000\$ USD (Mukherjee & Sastry, 1996). The majority of foreign

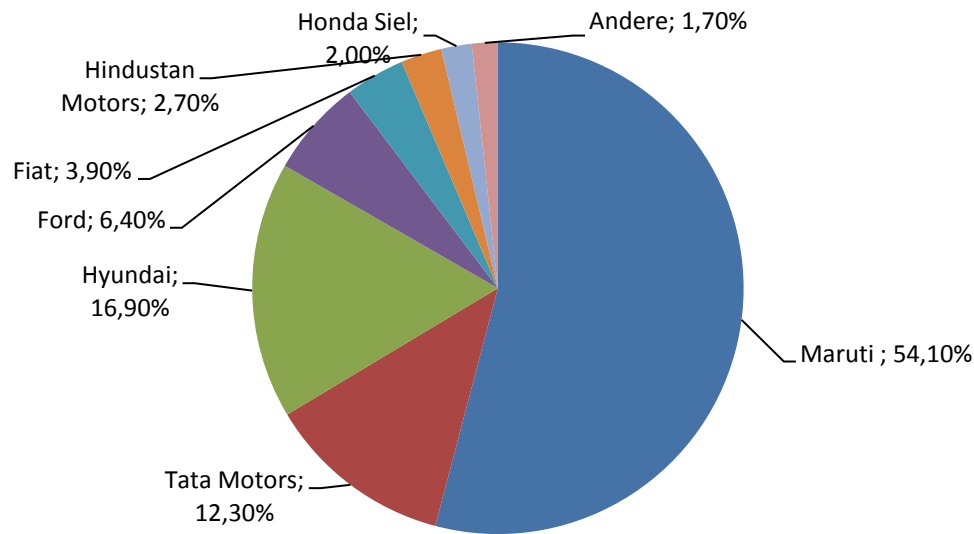
² Buyer power presented in Indian Rupees. 1 Rupee=\$0,02 USD

car models were launched in the mid- & executive segments (C- & D-segments) priced at \$10 000 USD and higher. Examples were the Hyundai Accent, Ford Ikon, Honda City and Opel Corsa (Ishigami, 2005). Cars launched by Ford, General Motors, Mitsubishi and Mercedes-Benz and others were priced in higher price segments above 13 500\$ USD (Panda, 1999-2000; Mukherjee & Sastry, 1996). In general, European manufacturers focus on higher margin premium/luxury segments in not only India but other emerging economies in Asia (Abrenica, 1998).

3.3.2 Supplier industry

The Indian supplier industry was small and underdeveloped during the 1990's (this is the case in the 1980's as well) and could not provide all foreign car makers with proper supplies. Other obvious entry barriers faced by automobile companies were product modifications required for relatively poor road conditions and high levels of heat and dust (Mukherjee&Sastry, 1996). In 1995 the Automotive Component Manufacturers Association of India described the supply industry as follows: First, the industry was small scaled with around 6400 firms in total. 6000 of these firms (94 percent) are labeled as unorganized and account for 40 percent of the output. Among the organized sector, accounting for the rest of the output, average sales were around \$4 million USD. The fragmentation and small scale of the industry limited its ability to capture scale benefits and find funds for R&D and development (Becker-Ritterspach F. A., 2009). Second, the extensive protection of the supply industry due to the licensing act and the 95% local content demands is continued during the 1990's through, while relieved still significant, local content demands (Becker-Ritterspach F. A., 2009). This has limited the competitive pressure and consequently improvement of suppliers. Fourth, wage-based low costs were the main source of competitiveness for the industry (Ishigami, 2005). The relationship between the suppliers and the car companies was best described as obligational contracting (as opposed to arm's length). However, among suppliers further upstream, contracting is less long-term based and more insecure (Becker-Ritterspach F. A., 2009). Suppliers and car companies are mutually dependent and there is intense communication between them (Ishigami, 2005). Before the start of deregulation in the 1980's, Indian suppliers could not live up to international standards based on price, quality and quantity. This gradually changed as Suzuki and later other international players entered and took their suppliers with them to India, forging local linkages (Becker-Ritterspach F. A., 2009).

Figure 2 Market share in passenger segment 1999-2000,
Source (Becker-Ritterspach, 2009)

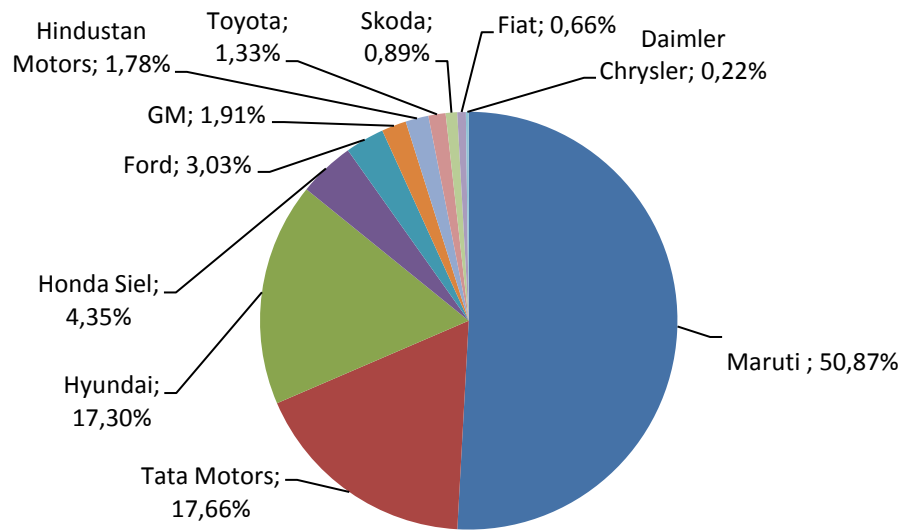


3.3.3 Distribution & Ancillary services

Panda (2000) states that it takes at least five years to build a strong distribution network in India implying the difficulty in establishing and facilitating sales in India on a broad base. Dealer penetration and after-sale service stations grew in importance as consumers were scattered all over India and were still a small share of the total population. As prices on cars were pushed to low levels for the majority share of the market, these services also provided an important revenue stream (Panda, 2000; Ishigami, 2005). In addition financial add-on services such as financing and insurance grew in importance. Over 60 percent of Indian consumers opted for a financing purchase (Panda, 2000). Price sensitive customers were highly conscious of after sale costs incurred through maintenance and alike, making an affordable and easy insurance service important (Sinharay, 2010). As a response to competitiveness in the 1990's, Daewoo offered interest free car finance and Ford Motor and General Motors slashed interest rate on their financing schemes. Other foreign entrants also offered attractive financing offers. Maruti-Suzuki was offering car financing at 10-15 percent, which was still lower than prevailing lending rates in India at the time at 15-20 percent (Panda, 2000).

Figure 3 Market share in passenger segment 2004-2005

Source: (Becker-Ritterspach, 2009)



3.4 Main players, 1983-2005

3.4.1 Tata Motors

Starting off as an engineering company Tata Engineering and Locomotive Co. (TELCO) was founded in 1945, mainly producing locomotives and other engineering products. The first cars produced were commercial ones in 1954. This was also the time Tata partnered up with its future partner Daimler Benz AG for the manufacture of medium sized commercial vehicles. Dominant in the 1950's in the commercial vehicle segment Tata did not enter the passenger vehicle market until 1991 when the Tata Sierra was launched which was a passenger re-modification of a light commercial vehicle launched in the 1980's. Tata Motors springs from the previous company TELCO. Engineering is its main business area. It produced the first ever indigenous Indian car models through Tata Sierra, which was a remake of a LCV from the 1980's launched in 1991 and the Tata Indica, launched in 1998, being the first completely indigenously developed small passenger car in India (Becker-Ritterspach, 2009).

Today Tata Motors Limited is India's largest automobile company (including all automobile vehicles), with consolidated revenues of Rs.1,23,133 crores (USD 27 billion) in 2010-11. It is the leader in commercial vehicles in each segment, and among the top three in passenger vehicles with products in the compact, midsize car and utility vehicle segments. The

company is the world's fourth largest truck manufacturer, and the world's third largest bus manufacturer.

In 1954 Tata Motors was already dominant in the commercial vehicle (CV) market in India. When Tata entered the passenger car market, Maruti-Suzuki was the dominant player in India, using Japanese technology and know-how as well as a 10 year head start to sell, mainly small A-segment cars, and service them all over India. Tata realized they were behind and needed to catch up in order to be able to compete. The company now looked to accelerate its capability creation process and search for learning and upgrading opportunities (Bruche & Becker-Ritterspach, 2010).

As Tata Motors entered the passenger market, they relied both on the support from the Tata group as such and on the internal and external relational assets build during its history as a pure CV manufacturer. Foreign technology together with own research had already progressed the company's CV's in terms of manufacturing and design for low cost CV's. Establishing an engineering research center near its motor division HQ in Pune was crucial in order to facilitate the formation of an internal engineering force which would later increase Tata Motor's absorptive capacity for external technologies and provide an initial starting point for the later indigenous development efforts in passenger cars. The first step towards and facilitation of the development and production of passenger cars was the development and manufacture of *light* commercial vehicles, the first one launched in 1986 and the first pickup launched in 1988. This provided a platform, engine technology and manufacturing as well as tooling capabilities for the entry into passenger cars (Bruche & Becker-Ritterspach, 2010).

The Sierra, Tata's first car when entering the passenger car market was more of a remade light commercial vehicle (pickup) than a small car. In 1994 Tata started its first attempt to build a small car, the Indica, which could compete on the important small car market in India (Becker-Ritterspach/Becker-Ritterspach, 2009). It was finally launched onto the market in 1998. The Indica was supposed to challenge Maruti Suzuki's dominant small car model at the time the Maruti 800 as well as Hyundai's Santro model launched in 1997. Tata Motors made the Indica using internal competence and established components and technologies, simply outsourcing the design of the car. Whatever critical capabilities that were missing were sourced through international contracts or joint ventures with an emphasis on an inherent learning process for TML. Some more learning can be assumed to have taken place during

the failed JV with DaimlerChrysler from 1995-2001, assembling the E220 Mercedes (Bruche & Becker-Ritterspach, 2010). In the Tata Group the Tata Consulting Engineers Ltd company was found with its 2400 highly qualified and experienced technical professionals. This had together with other expertise in the group been used to achieve excellence in the “project execution capability” of Tata Motors when launching projects such as The Indica or Nano project. The group also had advantages in recruiting and staffing projects by hiring internally (Becker-Ritterspach & Bruche, 2010) and its brand reputation making negotiations with local authorities, governments and external companies an easier task. It also ensured customers that potential bugs of its passenger cars would be taken care of. Tata Motors also put effort into creating superior after sales services and longer warranty periods. Tata was the first company to offer an 18-month warranty period on engine parts in India during the 90’s among its main competitors Hyundai and Maruti-Suzuki.

3.4.2 Maruti Suzuki³

In 1982 Suzuki Motor Company (SMC) entered India through a joint venture (JV) with Maruti Udyog Limited. SMC got to own 26 percent (with the possibility of extending that percentage to 40 percent which is exercised in 1989) of the new company while government owned Maruti gets the rest, 74 percent. The agreement was based on ten years. When the agreement is expired, in 1992, a new JV was signed giving SMC 50% of the ownership. It was not until 2002 when SMC got hold of the majority of equity and in 2007 it finally received 54,21 percent of the equity. A wave of international moves came after this during the 1980’s with establishments through JV’s in Spain (Santana Motors), an assembly site in New Zealand (1984), Columbia (1987) and Egypt (1989) (Becker-Ritterspach, 2009).

Government owned Maruti, at the time of the JV agreement, offered little more than a piece of land and the actual rights to conduct business in the passenger car segment in India. SMC was provided with a foothold in a potentially huge car market where there was no foreign presence allowed in terms of FDI. The Indian government looked for an international companion because it lacked the capabilities itself to build a large modern production facility (Becker-Ritterspach, 2009). Finally the government decided on SMC whose small car portfolio and focus was attractive as well as the much sought after Japanese manufacturing

³ Until Suzuki gained a majority share and consequent complete managerial control in 2003, the joint venture company was called Maruti Udyog Ltd before it changed its name to Maruti Suzuki Ltd. Maruti Udyog Limited was established in 1981 by the Indian government, two years before the joint venture with Suzuki Motors Company (Becker-Ritterspach F. A., 2009)

culture. In addition, SMC's equity participation offer was higher than that of all other contenders (Becker-Ritterspach, 2009).

Suzuki implemented their way of conducting production in India very distinctively having the same level of ambition for its plant in India as for its Japanese counterparts with reference to productivity, quality, equipment, education and know how as well as organization of the work force (Ishigami, 2005). From an international perspective SMC focused on populated and less wealthy parts of the world such as China, India and Eastern Europe (Becker-Ritterspach, 2009). The company relied on high volumes and stressed constant cost reduction. In the past SMC have been reluctant to offer its latest range of products in developing country markets. This was reflected in a lag between the products offered by Maruti-Suzuki and the range offered in more developed markets (Becker-Ritterspach, 2009). This gap narrows in the 2000s. The main reason for this was the intensified competition on the Indian automobile market and Maruti Suzuki's increasing international production mandate.

Enjoying first mover advantage thanks to restrictive licensing policies not deregulated until 1993 and better treatment than its competitors by the government in the first years Maruti Suzuki becomes the undisputed market leader with a 63 percent market share in 1990-1991 (see figure 1). In the 2000s Maruti-Suzuki still enjoys a market share around 50 percent (see figure 2). Until 2008, the company dominates the mini car market with a 100 market share in the A segment (Becker-Ritterspach, 2009; Ishigami, 2005; Panda, 2000). One of the main reasons behind its success was that it had developed since it started operations in 1983, a network of sophisticated service centers spread across the country. These centers had specialized equipment, repairmen who were trained by the company and detailed manuals containing step-by-step instructions on how to locate and repair faults in a Maruti-Suzuki car (Rahman & Bhattacharyya, 2003) and service stations were setup every 25km on a highway to strengthen after sales services Maruti also increased its authorized service stations in the 1990's to 1567 in 1036 cities in order to catch a growing market of after sales services. The company also invested heavily in dealer networks during the 1990's, going from 150 to 300 dealers.. A car financing and insurance business was also started gathering different insurance companies under one service in order to make it easier for the customer.

Due to intensified competition in the 1990's from foreign entrants and Tata Motors a cost reduction program was put in place. It aimed at increasing the local content level to 85-90

percent to cut costs, as opposed to importing a significant portion of the components from Suzuki's abroad suppliers and plants. The company also aimed at increasing productivity (and capacity), quality, and at upgrading its technology. These were initiatives not only taken at the assembly level, but throughout the supply chain. At that time less than 20 percent of a car was manufactured by Maruti Suzuki, the rest was produced by suppliers upstream in the supply chain. As a result of these actions Maruti Suzuki increased its profits significantly by the early 2000's (Sinharay, 2010; Panda, 2000).

3.4.3 Hyundai

Hyundai Motors entered India in 1996 by establishing a fully owned subsidiary named Hyundai Motor India Ltd (Hyundai). In a couple of years India had transformed into one of Hyundai's most important markets both when looking at production with about 120 000 cars produced annually, as well as in terms of sales where India came in second in terms of cars sold after the US (Park, 2004). Unlike many other foreign investors in India in the automobile industry, Hyundai invested heavily upstream in its own supply chain in India to increase local content levels and avoid import tariffs and excise duty in order to cut costs. Among other investments the company invested in an aluminum foundry and a transmission line. As a result, Hyundai achieved indigenization levels of over 85 per cent. Hyundai also brought several suppliers with them from Korea. Under the umbrella of Hyundai, suppliers of the company in Korea had invested in joint ventures with Indian companies facilitating stable technology transfers between partners in the whole supply chain. As a result of this initiative Hyundai was the first self-sufficient manufacturing unit and greenfield investment of an overseas automobile company in the Indian car industry. This transfer of knowledge to the Hyundai's Indian supply chain as well as the investment in a completely new plant in India were crucial factors to reach productivity and quality in India for Hyundai (Park, 2004).

Hyundai also launched a, for the Indian market very important, low priced compact car, the Santro in 1997, which was a version of the already existing Atos model yet adapted to Indian conditions including poor road condition, extremely high temperature, tough weather, heavy traffic and difficult driving conditions (Panda, 2000). The Santro was later exported in parts to Korea where it was assembled and sold under the name Visto. This was the first time in the history of the Indian passenger car industry that an international product that has made its debut in the Indian market and then taken to the parent company's domestic market. In order to complement the Santro, Hyundai placed a rapidly expanding and well-structured after sale

network across the country (Panda, 2000). Building a dealer and service network proved challenging for Hyundai as an entrant. Instead of going simply for distribution width, the company considered factors such as convenient locations so each dealer would be able to reach a critical mass before a new dealer was appointed in an adjoining market. This was especially important since dealers were unlikely to make much money on spares in the early stages of market development. In the 1990's Hyundai started 70 dealers in 55 cities. Hyundai tried to build one-stop-shops, calling it 'customer care centers'. It had also looked at the possibility of company-owned dealer-cum-service centers. Three are already operational, named Hyundai Motor Plaza.

3.5 Minor players, 1983-2005

Minor players who entered the Indian market during this period were Daewoo (1994), Fiat (1995), Ford (1995), General Motors (1994), Peugeot (1995), Skoda (2000), Toyota (1997) and Honda (1995). Except for Daewoo and Fiat they all launched car models in the upper price segments of \$10 000 USD and above. Only Fiat launches a car which is priced in the same range as Maruti-Suzuki's 800 model, Tata's Indica model and Hyundai's Santro model. All companies except Skoda, Toyota and Honda entered the market through a manufacturer of passenger cars or commercial vehicles. Skoda makes a greenfield entry much like Hyundai while Toyota and Honda enter through a joint venture with two automotive suppliers. None of these entrants reach production quantities of more than 12 197 units in 1998 (Fiat). Toyota produce the most in 2000 and 2003 with 21 514 and 37 481. This could be compared to 470 680 units being produced by Maruti-Suzuki, Hyundai and Tata Motors together in 1998. The corresponding figures for 2000 as well as 2003 are 618 000 and 879 000 units respectively. Among these entrants Ford has the largest market share in 1999-2000 with 6,4 percent and Honda in 2005-2006 with 4,35 percent.

4. Theoretical Background

This chapter firstly provides an introduction to the economic fields of industrial organization and a resource-based view of the firm, followed by an overview of previous research on the Indian automobile industry relevant for the purpose of this thesis.

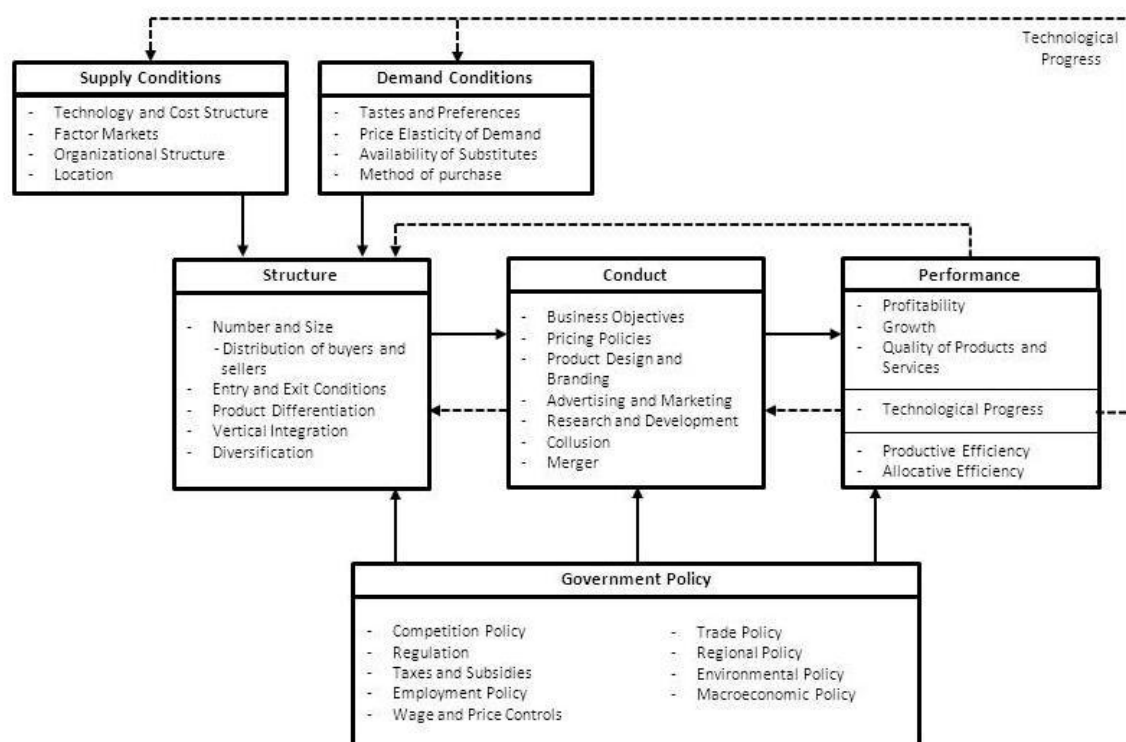
4.1 Industrial Organization

The concept of industrial organization relates to how the performance of an industry is dependent on the conduct of the sellers in that industry as well as on the market's structure. The industry can be defined as the sellers of a certain product, together forming one side of the market in which transactions are carried out with buyers. Consequently, it is important that industry boundaries are clarified when industrial organization theories are applied, as has been done for the passenger car industry in section 1.4 in this thesis (Caves, 1992). What distinguishes industrial organization from microeconomic studies is its focus on firm strategies and their effect on market interaction, especially in oligopolistic markets where a few large firms compete with each other (Cabral, 2000).

4.1.1 Structure, Conduct and Performance

Figure 4 The Structure-Conduct-Performance Paradigm

Source: Lipczynski et al, 2009, p.7



Market structure is determined by several rather steady factors that affect the manner in which buyers and sellers interact. According to Caves (1992), the main features influencing the market structure include seller concentration, product differentiation, entry barriers to new firms, buyer concentration, import competition, the growth rate of market demand, and the height of sunk costs and barriers to exit. Economic theory suggests that highly concentrated markets tend to perform poorly, as both prices and firm profits are higher than in competitive industries. Product differentiation occurs when consumers have different brand preferences of a product, and barriers to entry determine the number of potential rivals to a firm within an industry (Carlton & Perloff, 2005).

Next, market conduct is best defined as the behavior of the firms in an industry, both towards their competitors and towards their product market. The three most obvious areas of market conduct involve setting prices, determining product quality and other non-price policies, as well as striving for strategic advantages and preventing other firms from entering the market. In general, industries tend to be more collusive in their pricing policies than in their product policies (Caves, 1992). Hence advertising is often considered an important non-price stratagem.

The performance of an industry is normally measured in terms of its profitability, efficiency, progressiveness, growth and, finally, its equitability (Caves, 1992; Lipczynski et al, 2009). Resources must be allocated carefully in order for an industry to maximize its returns, and large scales of production are often necessary to achieve cost advantages, especially so in the globally competitive automobile industry. Moreover, high levels of innovation benefits from an industry structure that includes firms of various sizes, where some are large enough to spend heavily on research, while being pressured by tough competition.

Another important aspect affecting the performance of an industry is government policy and regulation. The levels of government involvement vary a great deal between different countries, but the global trend is towards more liberal markets. The reasons behind regulation of industries can generally be categorized into three factors: counteracting market failure, settling political conflicts, and yielding political benefits (Caves, 1992). The measures of intervention taken by a government can be directly related to the structure, conduct and performance paradigms. First, a government may want to promote competition by prohibiting the merger of two dominant firms, which would have direct effects on market structure. Second, price controls may be imposed in order to prevent monopoly prices to occur, which

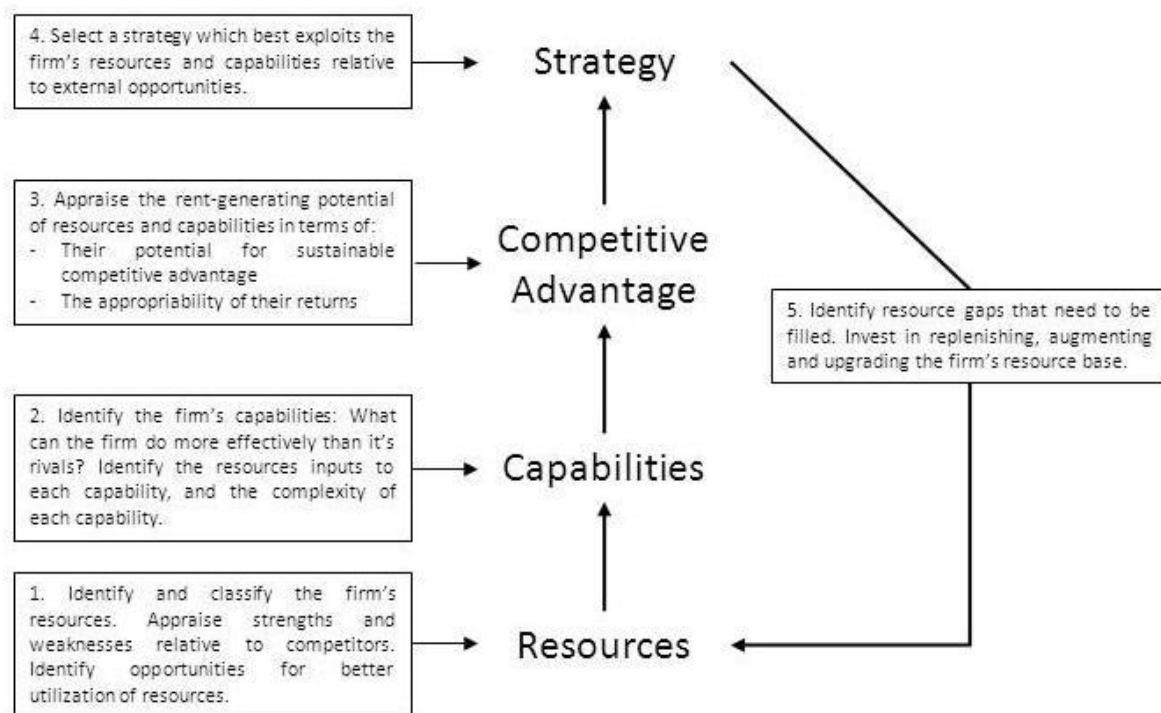
would affect the conduct of firms. Third, for example fiscal policy has a direct effect on the profits of a firm, and thus affects industry performance (Lipczynski et al, 2009). However, most economists agree on the negative impacts of direct regulation, especially concerning the high costs of technical inefficiency that tend to arise in heavily regulated industries (Caves, 1992).

4.2 Resource-Based View

While industrial organization theorizes around the links between strategy and the external environment of the firm, the resource-based view investigates the link between strategy and the firm's internal skills and resources.

Figure 5 A Resource-Based Approach to Strategy Analysis

Source: Grant, 1991



Grant (2010), points out the importance of distinguishing between resources and capabilities. Inputs into the manufacturing process, such as capital equipment and individual employees, can normally be considered as resources. Further, three distinctive kinds of resources can be distinguished: tangible, intangible and human resources. Capabilities, on the other hand, are related to the coordination and organization of groups of resources. Accordingly, capabilities are often harder to identify in comparison to resources, but the most common methods used for such identification are functional analyses, and value-chain analyses.

In his article from 1991, Grant also states that the main objective of a resource-based view on strategy is to maximize rents in the long run. The link between resources and profitability can thus be determined by investigating what possibilities there are for economizing on resources, and whether existing resources may be used more exhaustively or for more profitable purposes. In short, both resources and capabilities must be both scarce and relevant in order to constitute a competitive advantage for firms (Grant, 2010).

Next, capabilities are created over time, as they often require repetition in order to become beneficial for a firm. When a firm has gained significant experience in the coordination of various types of resources, this may lead to a competitive advantage in that area. Economies of experience are thus an important factor in the forming of capabilities as competitive advantages. In turn, this implies that there may be a tradeoff between flexibility and efficiency within a firm, as routines can create greater efficiency in the performance of tasks (Grant, 2001).

Lastly, the returns from competitive advantages are eroded over time, as resources tend to depreciate and competitors imitate capabilities. If resources or capabilities are easily transferable or replicable, competitors are likely to emulate them more quickly. How profitable competitive advantages are thus also depends on how well they are sustained, with more durable resources and capabilities being a more secure source of competitive advantage (Grant, 2011).

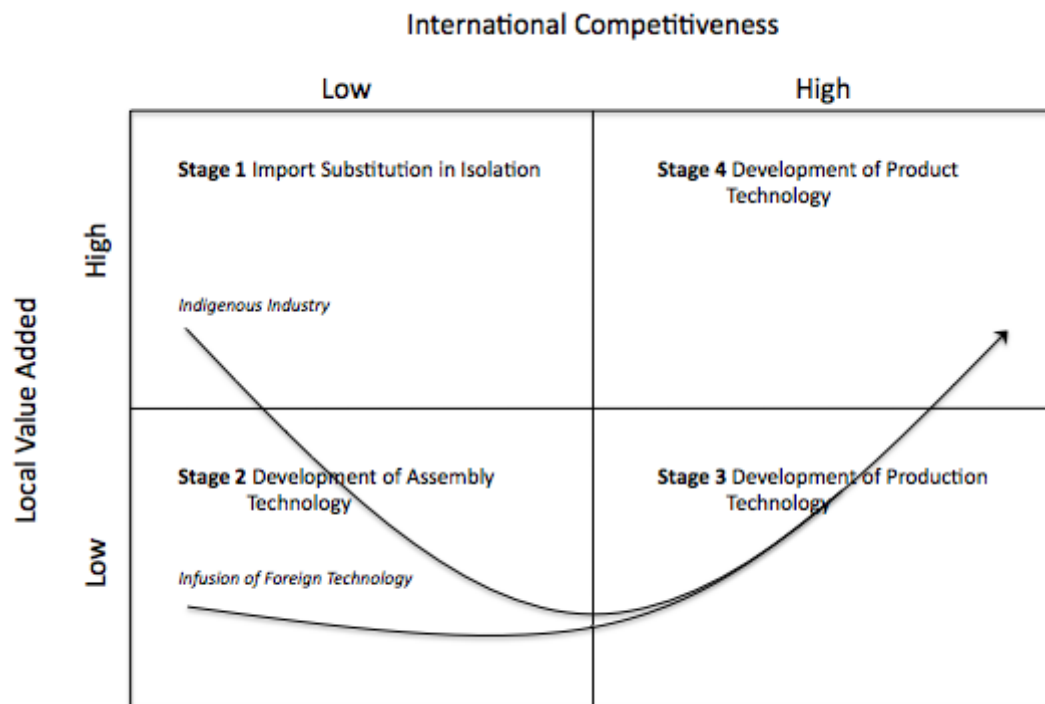
4.3 Previous Research on Public Policy and the Automotive Industry

According to Hai-Yan and van den Bulcke (Millar et al, 2000, p. 290), "[t]he successful development of any industry in today's global economic system depends on two basic objectives; the creation of high local added value and the achievement of strong worldwide competitiveness." In order to achieve these objectives, governments in emerging economies have used different policies during the different development stages of their countries. With the increasing importance of technology transfer to industries in developing nations, multinational enterprises are increasingly viewed as cross-border conveyors of capabilities and resources. Governments use a variety of regulations to monitor and influence such transfers and investments, and this interaction between public policy and business strategy in

the automobile industries of developing nations evolves through different stages, as illustrated below.

Figure 6 International Competitiveness and Local Value Added

Source: Millar et al, 2000



In the first stage, developing markets tend to be of limit size and with very low levels of demand due to low per capita incomes. The technological knowledge and capabilities within the automotive industry is limited and thus competitiveness is low. Local added value is normally high, because government protection through various trade barriers protects domestic producers from foreign competition. Inappropriate government measures of this type often lead to industry structures that are fragmented and inefficient.

During the second stage, changes in sectorial policies are initiated as governments aim to restructure and reinforce their automobile industries. Using foreign production licenses and greenfield plants that are set up together with foreign firms, new technologies and production possibilities are introduced. CKD and SKD kits (i.e. completely and semi-knocked down vehicles) are imported from foreign licensors or joint venture partners and assembled domestically. The technological gap between indigenous and foreign firms is still great at this point, and thus component imports tend to increase since local manufacturers do not live up to qualitative targets. This often causes local governments to impose local content requirements, which are many times linked to tax and tariff incentives, in order to create

greater local benefits from the foreign investments. However, this normally leads to foreign partners introducing less sophisticated products with lower quality requirements on local suppliers. If this is the case, host country production rarely become internationally competitive, but is forced to focus on the domestic market.

When local auto manufacturers have mastered the imported production technology or new innovative production systems have allowed them to develop mass-production capabilities, the third stage has been reached. At this point, early foreign entrants have gained dominant market positions, while the government still limits complete vehicle production using high entry barriers. Joint ventures are more common than licensing agreements and the advancement of local component manufacturers has led to lower costs, better quality and greater efficiency in domestic production, although product design is still relatively uncomplicated. In order to achieve economies of scale, foreign investments have increased and reduced costs have led to an expansion of the domestic market. The government usually lowers trade barriers to promote competition and to strengthen the global position of domestic producers.

In the fourth and final stage, the industry has matured and is fully able to design and market products from its own well-known brands, using efficient supply chain management. Competition takes place on a global scale, where product innovation is crucial for success and quality standards are high. Accordingly, protective measures from the government are no longer required. Domestic consumers are becoming increasingly sophisticated in their taste, and marketing thus becomes an essential competitive instrument.

This model can be compared to that of Hayes and Wheelwright (1984), in which manufacturing organizations in general are categorized into four stages depending on the strategic role of manufacturing within the firm. Here, companies in stage I have no strategic production practices and simply follow orders from top management. In stage II, the organization operates in accordance with industry praxis. Their level of pro-activeness distinguishes the stage III and IV companies, but three features characterize stage IV firms:

- Manufacturing is closely integrated into marketing and engineering decisions.
- The organization strives to foresee the potential in future advancements in technology and production.
- The company employs long-term plans in order to consistently have production capabilities before any needs arise.

Furthermore, Grant (2010) points out that successful organizations have what he terms *strategic fit*, meaning that the strategy is consistent with both the internal and the external environment of the firm. Four distinctive factors characterize successful strategies: simple, consistent and long-term goals; a profound understanding of the competitive environment; objective assessment of resources; and effective implementation. Strategy can thus be seen as the link between the internal values of the firm: its goals and values, responsibilities and capabilities, structure and systems; and the industry environment, including competitors, customers and suppliers. The author moreover stresses that this notion of strategic fit extends even further, and involves also contingency theory and the idea of the firm as “a system of interlinked activities”.

4.4 Previous Research on the Indian Automotive Industry

Much research has already been done on the Asian auto manufacturers, their development and the role of the governments in their growth. This is also the case for India and its domestic car producers. However, the preponderance of the research has taken a capability-based perspective, rather than analyzing the evolution from an industrial organization point of view. In order to differentiate between the two perspectives and their conclusions about the developments in the Indian automotive industry, a reiteration of the theoretical findings from a capability-based perspective is provided below.

Technological development was, as stated in section 3.4, one of the main reasons behind the initial deregulations that took place in India in the mid 1980's and early 1990's. By allowing cooperation between domestic producers and foreign, often more evolved, firms, the Indian government aspired for new knowledge and technology to be gained by local manufacturers. The foreign partner, on the other hand, was thus granted access to an otherwise unavailable market and could furthermore benefit from increasing economies of scale and scope (Abrenica, 1998).

According to Abrenica (1998), industrial learning through joint ventures and equity tie-ins is common practice in the automobile industry, and the Indian government's deregulatory policy followed the successful examples of several other Asian countries. Also de Surie (2008, p. 13) points out that for firms in developing countries, a useful solution to environmental changes is “to emulate high-performing firms.” Collaborations between Indian and foreign firms have traditionally been concentrated to technically intensive industries,

suggesting that certain skills with regard to knowledge transfer between organizations already existed within the country. Moreover, the imported technology's part of the production value is relatively high in India, implying that the cost of the derived technology is small as compared to the benefits it brings (LaRue et al, 1997).

However, Narayanan (1998) points out that it is important to follow up imported technology with domestic R&D efforts, in order for the new technologies to better suit the local market conditions. This is in accordance with de Surie's (2008, pp. 13) 'evolutionary model of knowledge transfer, innovation and internationalization', in which she proposes three stages towards globalization for firms from developing countries: I. knowledge transfer, II. institutionalizing learning, and III: cross-border innovation. According to Surie, the first two stages are closely interrelated, as stage II essentially is a transition period following stage I. This was also the case for the Indian automobile industry, and during the last years of the 1990's many firms were already managing their own research and development, although very few were working with cutting-edge technology (Singh, 2007).

Kumar identified four key reforms that were implemented by firms that were successfully able to adapt to the post-1991 market conditions: 'cleaning the balance sheet'; 'improving competitiveness'; 'focusing on core business'; and 'strengthening management' (Kumar et al, 2009, pp. 37). Naturally, there were great variations in the implementation schedules of such corporate restructurings between different organizations, and what determined the acceptance of the processes among the employees was oftentimes the role of the company owners. Those embracing the changes were generally successful, while many family-owned corporations declined due to indecisive owners and management. Furthermore, from institutional linkages between different business units having been an important success factor during the licensing period, groups with high product relatedness and weak institutional ties became the top performers of the 1990's (Kumar et al, 2009). Indian auto manufacturers thus moved from an opportunistic *modus operandi* to a more capability-based approach to strategy (Dangayach & Deshmukh, 2001).

On the other hand, Dangayach and Deshmukh (2001) argue that rather than investing in advanced management systems, Indian car producers would have benefitted more from investments in advanced manufacturing techniques and other infrastructural areas, such as IT and corporate culture. Especially as product quality is becoming an increasingly important competitive factor in the automobile industry

5. Analysis

In this chapter we apply industrial organization and resource-based theory to analyze our empirical findings. The chapter begins with an analysis of the period 1983-1991 and continues with the years 1991-2005.

5.1 Market Structure, Conduct and Performance 1983-1991

During the first half of the 1980's, protective government legislation led to passenger car sellers in India having relatively low market power, despite the fact that the industry could be considered an oligopoly. As the government influenced prices of cars, profits among producers depended on their ability to minimize production costs and achieve economies of scale. Yet with stagnated production techniques, rigid license requirements, and low consumer purchasing power, there was little room for producers to improve on such aspects.

Government restrictions on imports and foreign direct investments, combined with local content requirements of 95 per cent led to a lack of new entrants into the domestic auto industry (Becker-Ritterspach, 2009). The automobile industry generally has high barriers to entry, with production sites requiring great capital investments, and economies of scale being an advantage for incumbent producers. However, with the low disposable income in India at the time, few people could afford a passenger car and thus total production was limited to approximately 40,000 cars per annum (Narayanan, 1998). Historically low demand growth was also the reason for why the government had established licensing requirements on investments and capacity increases, initially to avoid overcapacity in production (Dangayach & Deshmukh, 2001). With no imports and only three manufacturers in the Indian passenger car industry in the early 1980's, seller concentration was high and the market could be considered to be oligopolistic (Singh, 2004).

Given that buyer concentration in India at the point in time was low, and with price controls imposed by the government, buyers had little ability to influence the profitability of the Indian car producers. Dealerships acted on pre-determined prices and sold relatively low volumes. Even consumers who could afford a car were often highly price sensitive and were forced to choose from a limited selection of outdated models available in their vicinity (Becker-Ritterspach, 2009). Consequently, both buyer power and product differentiation in

the automobile segment could be considered low. Moreover, the underdeveloped supplier industry in India had led to high vertical integration in the automobile manufacturing process, thus eliminating threats of supplier power (D'Costa, 1998; Narayanan, 1998). Vertical integration also worked to avoid what Helfat and Teese (1987) refer to as primary uncertainties, here mainly in the form of government policies and the bureaucratic constraints on Indian manufacturers.

Government licensing stipulations led to the fact that the incumbent firms did not have any advantages in terms of “proprietary technology, preferential access to the best raw material sources,” or plant sites (Porter, 2008). With labor unions generally opposing potential new production systems, outdated manufacturing tools and techniques from the 1950's were being used. This applied to all incumbents and thus did not significantly impact upon competition (D'Costa, 1998). The only advantage the incumbents had was their distribution channels, but also these were highly fragmented and typically offered poor service (Panda, 2000). Accordingly, government policies prevented the Indian auto producers from gaining any notable incumbency advantages, leaving them poorly prepared for increased competition from potential new entrants.

After Maruti-Suzuki's market entry in 1983 the incumbent producers lost market shares, and when Standard Motor Products of India Ltd. went bankrupt in 1988 there were, again, only three producers on the Indian market. Seller concentration thus remained high, with Maruti-Suzuki being in a dominant position with a market share of 63% by 1990-1991 (see Figure 1).

Despite the strict regulations on foreign investments, Suzuki managed to surpass the high entry barriers to the Indian automobile market through a joint venture with the government-owned Maruti. The government collaboration permitted Maruti-Suzuki to buy land for production sites at subsidized prices, and to receive import clearances for manufacturing tools.⁴ Using the imported production technology, Maruti-Suzuki released the 800 model, a product that was technology-wise superior to its nearly 25-year-old competitors (Becker-Ritterspach, 2009). Its fuel efficiency and low price suited the Indian consumers' needs well.⁵

D'Costa (1998) also points out “institutionalized co-operation among firms and between management and labour” as an advantage following the government's involvement in the

⁴ Interview with <http://www.hindu.com/biz/2003/11/24/stories/2003112400221500.htm> (2011-12-29 13.45)

⁵ Ministry of Heavy Industries & Public Enterprises (2006), *Automotive Mission Plan 2006-2016*, p. 26

company. Despite trade unions being fragmented, one of their common traits was their resistance towards technological change within manufacturing. Maruti's administrative influence allowed such issues to be more easily resolved (D'Costa, 1998). Additionally, Maruti-Suzuki managed to attain a highly skilled workforce by transferring know-how from Japanese employees directly to the newly employed Indian staff (Kumar et al, 2009). Entry barriers that would have made it difficult for privately owned auto manufacturers were thus avoided, and the company gained important competitive advantages over its competitors, both in terms of cost and differentiation. In accordance with Barney (1991), these competitive advantages were rare, inimitable and non-substitutable and were consequently of high value to the company.

It has thus far been concluded that the performance of Maruti-Suzuki in terms of growth was outstanding during the late 1980's, but we have yet to discuss whether or not the company's entrance impacted on market performance. Caves (1992) lists four goals that an economy should strive for to maximize economic welfare of its subjects, namely that a market should be efficient, progressive, fully employed, and equitable.

First, as Maruti-Suzuki entered the market with a product that consumers considered a better fit for their needs compared to its competitors. The quick gain in market share combined with a demand for automobiles that five doubled between 1980 and 1990, allowed Maruti-Suzuki to benefit from greater economies of scale than had previously been possible for incumbent firms (Becker-Ritterspach, 2009). While the licensing system for manufacturing expansions existed in order to minimize excess capacity, this had, as previously stated, the effect of restricting technological improvements among incumbents. Maruti-Suzuki's modern production technology combined with the demand growth allowed them to minimize surplus capacities while also achieving lower production costs. Consequently, technical inefficiencies in the Indian auto industry were lowered after Maruti-Suzuki's entry. While the company made profits, the authors of this thesis will agree with the Chicago school rather than the neoclassical one in that such profits were the result of superior productive efficiency, rather than market power abuse (Lipczynski et al, 2009).

Second, Maruti-Suzuki's entrance for obvious reasons increased the variation in available goods, but it also raised the quality of products in the market. In turn, this impacted on the taste and preferences of consumers, as they could now buy a modern product at the same price as the competitors' outdated ones (Becker-Ritterspach, 2009). However, despite Maruti-

Suzuki's imports of new technology from Japan, the high entry barriers and limited competition meant that technology diffusion to other firms was slow. This is also illustrated in the fact that Maruti-Suzuki also helped develop their local suppliers through knowledge transfers from Japanese suppliers (D'Costa, 1998).

Lastly, Maruti-Suzuki managed to exploit its product superiority and the growing market demand in order to minimize its waste in terms of factors of production. Before the company's entrance, producers such as Hindustan had highly inefficient factories, with output per worker ratios as low as two cars per annum (Tharyan, 2001). Further, the high level of previously unsatisfied demand that could now be met, led to an increase in general demand for cars during the period. This also allowed the incumbent firms to increase their output and thus reduce excess capacity, relative to before Maruti-Suzuki's entrance. This is in line with Caves' (1992) supposition that in oligopolistic markets, one firm's expansion is followed by growth also in other firms.

5.2 A Resource-Based Perspective on the Period

The abovementioned success factors of Maruti-Suzuki can also be viewed from a resource and capability-based perspective, where superior tangible, intangible, and human resources were effectively combined in the creation and production of the 800 car. First, both Japanese Suzuki and government-supported Maruti contributed with financial strength to the company, for example by ensuring borrowing capacity. As previously mentioned, the company was also able to access land and production equipment at favorable rates via its owners. Second, Suzuki's contributions in the form of technological transfers and inter-firm supply chain support were critical factors in the engineering of their first model. Other intangible resources, such as brand reputation, customer service, and culture, were established during the first years, and later proved to be valuable strategic assets as new competitors entered the market. Third, both Suzuki and the governmental connection provided the company with human resources in the form of technical know-how and an understanding of how to organize well-functioning internal and external communications, as previously exemplified with the labor unions. Given that these resources were all scarce and relevant in the languished Indian auto industry, Maruti-Suzuki had advantages over incumbent firms on virtually all of these points.

However, it was also the manner in which the resources were coordinated and utilized that differentiated the company from its competitors. The modern manufacturing equipment

combined with technical know-how and motivated personnel allowed for the establishment of strong capabilities in both primary activities, focused on operations, and support activities, mainly regarding technology development (Porter, 1986). Naturally, Maruti-Suzuki's liaison with the government made it possible for the company to quickly adapt to regulations, but it also provided it with the opportunity to influence policies in a manner that incumbent firms could not. This capability would, as will be further discussed later in this thesis, help drastically change the market environment and allow for other firms to gain entrance into the industry.

As pointed out by Grant (2010), the profitability made from a firm's resources and capabilities also depends on how the competitive advantages based on these factors are sustained over time. Technology changes rather quickly, and in order ensure their continued leadership, Maruti-Suzuki not only imported high-tech capital goods but also invested in in-house research and development. These investments were of sufficient magnitude to ensure company growth before the liberalization reforms of 1991 (Narayanan, 2004). Given the restricted economic environment in India in the 1980's, the competitors were not able to transfer or replicate the distinctive technological advantages of Maruti-Suzuki, indicating that these capabilities were durable at least in the short run.

5.3 Market Structure, Conduct and Performance 1991-2005

The second phase of deregulation that took place in India in the early 1990's drastically changed the structure of the automobile market, which, in turn, impacted on both the conduct of firms and the market performance during the following years. The ability to adapt to the reshaped external environment and establish suitable competitive advantages became a key factor of success on the Indian car market, as will be illustrated below.

The main factors in terms of structural change in India in the 1990's were the changed entry and exit conditions to the passenger car market. As the deregulations of 1991 were challenged by trade unions as well as political opponents to the government, it took until 1993 for the new regulations to also apply to the car industry (Bhalla, 1995; Sinharay, 2010). Further, even after the reforms had taken place, entry barriers related to governmental policies remained. These included excise duties, import tariffs and local content production demands (Becker-Ritterspach, 2009). In spite of these remaining obstacles, the deregulations had significantly facilitated market entry, as proven by the successful newcomers Tata and Hyundai as well as several other entrants, such as Fiat, GM, Daewoo and Ford.

In accordance with Caves (1992), as the number of sellers relative to buyers increased, the market power of car companies diminished. While Maruti-Suzuki was the strongest player in the small low-priced car segment in the beginning of the 1990's, the company faced two new competitors with products in the pivotal \$5000-8000 price range at the end of the decade: Hyundai and Tata Motors. It was thus in the compact division that both Hyundai and Tata had launched their lowest priced and most successful models, a strategy that had already been adopted by Maruti-Suzuki with the launch of their Zen model. Furthermore, a number of more expensive models were available in the mid, premium and luxury segments, both from domestic and international competitors.

The typical Indian car consumer's disposable income was higher than in the 1980's. Following the deregulations of the early 1990's, between 1995 and 2005 the Indian passenger car market grew with a CAGR of about 14% in production and about 12% in sales of vehicles (SIAM, ICRA estimates). This reduced the intensity of competition, as companies did not need to rely on taking market shares from competitors, but could succeed by capturing new consumers. Tata and Hyundai both wanted to challenge Maruti-Suzuki by offering cars that were priced closely to the Maruti 800. Yet both the Indica (Tata Motors) and the Santro (Hyundai) were in the larger compact car segment, which was now preferred by consumers. Other car manufacturers had contenders in the compact car segment, but these were priced higher. The low price combined with the compact size gave Maruti Suzuki, Tata, and Hyundai a unique position in which they had virtually created a new segment that matched the needs of a majority of Indian car consumers.

In order to deliver a competitively priced car, meaning that it was priced within the range of \$5000-8000 USD, in the compact car segment, low cost production needed to be put in place within Indian borders throughout the supply chain (Nag, 2011). For producers, this meant increasing local content levels to 85 percent or more and thereby taking advantage of low cost labor while avoiding excise duties and tariffs. Several points can be made on how incumbents and entrants conducted themselves due to new regulation and its effect on the industry.

First, in order to establish local production, successful entrants needed to invest in at least one plant, in order to reach scale benefits on the supply side. Second, successful entrants during the 1990's avoided duties and import tariffs on SKD or CKD parts by producing most content locally. Hyundai used Korean suppliers to help bring their Indian counterparts up to date with

regards to technology and know-how, while Tata used existing competencies from within the group to develop their production system. Next, all successful entrants and incumbents invested in ancillary services, such as car insurance and finance, after sales services, and established distribution networks to serve the market. These factors all translated into high sunk costs for market entrants, which also raised the barriers to exit. On the other hand, these investments gave advantages in terms of brand image, understanding of geographical biases in demand, and cumulative experience in low cost production within India.

Porter (2008) states that demand-side scale benefits arise “in industries where a buyer’s willingness to pay for a company’s product increases with the number of other buyers who also patronize the company.” This is true for Tata, who benefited from their high quality reputation from other group businesses, leading to them being trusted both by consumers and institutions. Similarly, foreign entrants had the advantage of their established international brands.

Lipczynski et al. (2009) state that vertical integration refers to the extent to which a firm is involved in different stages of the same production process. While this had meant that the production process to a great extent was managed internally during the 1980’s, vertical integration still existed during the 1990’s, but through close relationships with selected suppliers rather than through wholly owned subsidiaries. These relationships were often long term and characterized by obligational contracts that facilitated the transfer of knowledge and technology. For several reasons, Hyundai, Tata and Maruti all worked closely with their suppliers.

First, they needed to update Indian suppliers in order to increase efficiency, capacity and technology within their respective supply chains. Second, they wanted to ensure stability in deliveries, as the supply market for auto components in India during the 1990’s was still underdeveloped and small-scaled, especially during the first half of the decade. Hyundai even invested in an aluminum foundry and a transmission line, in order to increase indigenization levels and cut costs. As a result of this initiative, Hyundai established the first self-sufficient manufacturing unit and greenfield investment of an overseas automobile company in the Indian car industry (Park, 2004). Third, ancillary business areas progressively increased in importance. This was something that each entrant, as well as Maruti-Suzuki, had to develop from scratch. Vertical integration, both upstream and downstream, was therefore a crucial part in creating competitive advantages during this period.

In line with managerial theories of firms, Indian companies in the low cost segment focused on growth in sales volumes rather than neoclassical profit maximization (Lipczynski et al, 2009). This strategic choice to prioritize growth was a response to structural changes in the Indian car industry during the 90's and early 00's. First, scale was needed in order to meet the decreased seller concentration and counterbalance the low margins in the major low-priced segment. This was thus especially important for Maruti-Suzuki, Hyundai and Tata. The significance of growth can most easily be seen in the capacity targets of car production plants of Hyundai, Tata, and Maruti, as well as smaller entrants, including Daewoo and Fiat, where targeted production quantities at launch were aggressive compared to overall production in India in the 90's (Ghosh et al, 2011). In 1995-96, 300 000-400 000 passenger vehicles were produced in total in India, with more than 90% being sold domestically (Ghosh et al, 2011).

The key to success for the new competitors Hyundai and Tata lay in the fact that they were able to deliver a competitively priced car of high quality, in the price range between \$5000-8000 USD (Nag, 2011). This meant that heavy investments in research and development had to be made, in order to compete on factors other than price. This can also be seen in several entry failures, where companies such as Daewoo and Fiat entered the compact car/medium-sized car segments with their Cielo and Uno models, respectively. Yet these companies did not succeed in reaching any significant market shares, as prices were set too high at \$10 000-12 000, approximately twice the price of the major competitors' car models. Also other low cost cars taken in from abroad, such as the Ford Escort, Mitsubishi Lancer and Honda Civic, were priced above \$10 000 and failed to reach their production targets (Mukherjee & Sastry, 1996). However, well within the lower price range of \$5000-8000, competition was increasingly based on product differentiation and other factors, such as distribution, rather than price. Despite the fact that a great number of new entrants had accessed the market, the structure still showed oligopolistic features, as the three largest players controlled more than 80 per cent of the market in 1999-00 and well into the 2000's (Becker-Ritterspach & Becker-Ritterspach, 2009).

Ultimately, the performance of an industry can be determined using indicators such as profitability, growth, quality of products and services, technological progress, as well as productive and allocative efficiency (Lipczynski et al. 2009). During the 1990's and the 2000's, the performance increased within the auto industry in several ways. First and foremost, the indigenous industry was quickly able to develop cars of higher quality than before. By the end of the 1990's, low-priced and fuel efficient cars were available to most

Indian who could afford one. Second, technological progress and productivity were boosted as deregulation took place. Several players invested heavily in India during the 1990's, making research and development a prerequisite rather than a luxury in order for car companies to gain market shares. This showed in increased production capacities in plants, as well as in prices. Third, the large unsatisfied demand for cars in India was not fully met until the 1990's, when the market was provided with affordable cars on a broad scale.

5.4 A Resource-Based Perspective on the Period

Similar to Maruti-Suzuki's entrance in the 1980's, the new entrants during the 1990's and the 2000's were all part of either larger Indian conglomerates or multinational auto companies, allowing for financial backup to fund the extensive capital investments required to set up production in India. In contrast to the new entrants, Maruti-Suzuki did, however, have an advantage in their financial strength. Instead of borrowing for investments in production facilities and research and development, they were able to fund such investments internally. Oppositely, Hyundai, for example, expected negative profitability during the first years after its entry, due to the high sunk costs associated with such expenditures (Panda, 2000). As the credit market matured, increasing borrowing possibilities at lower interest rates, combined with the introduction of a market based exchange rate in 1993, facilitated the access to financial resources for both incumbents and new market entrants. Acquiring physical equipment, such as land and production equipment, nevertheless became less of an obstacle after the policy reforms of 1993. It should be noted, however, that the financial sector was still underdeveloped in comparison to for example the ASEAN countries during the 1990's, and remained so well into the 2000's (Basu, 2004).

The lowered import restrictions and the elimination of licensing requirements also facilitated both intra and inter firm transfer of technology and knowledge. Following the steps of Maruti-Suzuki, Hyundai brought with it a number of South Korean suppliers entering into joint ventures with Indian firms, thus further increasing the spread of imported technology and related know-how among Indian component manufacturers (Nag, 2011). As previously stated, also Tata used its existing domestic supplier base from the commercial vehicle segment to develop and spread knowledge across its passenger car supply chain. What differentiated the efforts of these successful newcomers from the majority of other market entrants in the 1990's was their immediate commitment to full domestic production throughout the value chain. This allowed for a quicker establishment of economies of scale in

production, and lower costs, as tariffs on imported components and knocked down kits were avoided. Clearly, the high levels of capacity utilization in their indigenous production was also one of Maruti-Suzuki's most significant competitive advantages, especially during the first half of the 1990's (Sinharay, 2010). On the other hand, local content requirements still meant that three and five years after their entry, all foreign producers were required to have at least 50% and 70% indigenization levels, respectively (Singh, 2004). With the high number of international firms entering in the 1990's, technology and knowledge rapidly spread across an increasing number of Indian component suppliers.

Next, Maruti-Suzuki benefitted from a number of first mover advantages as new entrants tried to threaten its dominance in the 1990's. Besides their aforementioned financial strength, these assets included a well-known brand and an established distribution system. The latter constituted a significant barrier to entry for newcomers, as dealerships were exclusive and it took time to set up new sales points. Another advantage that had served the company well since its start, but declined in importance as the market opened up, was its institutional knowledge. Still, the close ties with the government had allowed the firm to take certain preemptive actions towards the increased competition of the 1990's. Most notably this involved increased research and development efforts, in order to meet the standards of more technologically advanced international manufacturers. The fact that strong institutional ties became less important after the deregulations in 1991 is supported by the fact that the foreign entrant Hyundai quickly became one of the major competitors, despite not having the long-established understanding of the institutional environment that Tata and Maruti-Suzuki shared. Facing a harsher competitive environment at the end of the 1990's, despite its initially important first mover advantages Maruti-Suzuki was forced to review its strategy, emphasizing cost reduction and further increases in the proportion of domestic production (Sinharay, 2010).

As international firms were able to import technology and rapidly transfer know-how to their domestic suppliers, Maruti-Suzuki's research and development capabilities and their operational capabilities provided less of a competitive advantage, compared to when the company first entered the market. Maruti-Suzuki's advantages in terms of distribution and service capabilities thus became more relevant, as the creation of such capabilities required both time and an understanding of the local market from competitor.

5.5 Summary

Relating our findings to the theoretical frameworks thus shows that industrial organization and the resource-based view complement each other well, and together take into account all changes in strategies of automobile producers as well as market performance due to regulatory changes. More specifically, the variety of factors related to the external environment in the structure-conduct-performance paradigm allows for a thorough understanding of how restrictive government policies impacted on the general operations and strategies of firms. The resource-based view, on the other hand, helps explain why certain firms, notably Maruti-Suzuki, Tata, and Hyundai, were able to gain large market shares more rapidly as compared to their competitors.

6. Conclusions & Further Research

This chapter starts with a discussion on the theoretical pertinence of the selected economic theorems relative to the Indian auto industry. Based on this discussion, hypotheses will be presented on how competitive advantages within the Indian auto industry can be achieved.

In our thesis, we have used general theoretical frameworks, being industrial organization and the resource-based view to determine how Indian automobile producers have adapted their strategies according to government deregulation and the impact that these changes have had on the Indian passenger car market. Given the results from our analysis, we have decided to summarize our conclusions in the form of hypotheses. This is because we believe that further testing, preferably of a deductive type and with even more precise data, would be required to test whether our conclusions are true in other cases, making them general as the theories on which they are founded.

6.1 Industrial Organization and Competitive Advantages

The theoretical predictions of the Structure-Conduct-Performance paradigm are well aligned with the observations made in the Indian automobile industry. The components of the model that have the highest congruency with our findings are the following:

Entry and exit barriers and their effect on the conduct of firms and performance of the market were clearly of high explanatory value for our study. The auto industry generally has high barriers to entry, both in terms of scale-economy, absolute-cost and product differentiation. However, in the Indian market in the 1980's, the most important barriers were related to government policy, and its restrictive impact on market dynamics. With the deregulation of the market during the 1990's and the 2000's, the significance of scale in local production and sunk costs increased.

Hypothesis 1: Economies of scale in indigenous production constituted a competitive advantage as the Indian automobile industry was deregulated.

Further, the underdeveloped supplier industry in the country meant that vertical integration became a key determinant of success for car producers. Facilitating knowledge transfer from existing suppliers of the entrants, to their Indian counterparts was necessary in order to

establish indigenous production. Trade barriers made imports of components and cars too expensive, given the price sensitivity of the market.

Hypothesis 2: Securing knowledge transfer to key suppliers was a source of competitive advantage in the Indian auto industry as the automobile industry was deregulated.

Seller concentration in the Indian car industry remained high throughout the analyzed period, despite the deregulatory policies instigated by the government. During the 1980's, the regulated market environment led to low market power among firms. As the deregulation took place, new contestants entered the market. Due to the fact that only a few firms offered cars within the dominant low-price segment, seller concentration remained high. However, market power remained low.

Hypothesis 3: High seller concentration did not imply high market power among Indian auto producers when consumers were price sensitive as the automobile industry was deregulated.

Next, the positioning of a firm in terms of price was detrimental to its ability to penetrate the market. The high price sensitivity of the majority of Indian car consumers made it essential for companies that aimed to gain significant market shares to offer car models within the lowest price range of small cars.

Hypothesis 4: Offering a product within the lowest price segment impacted positively on the individual market share of auto manufacturers in India as the automobile industry was deregulated.

Investments in research and development were essential for firms that aimed to offer competitively priced products in the lower priced small car segment. This was important in order to be able to compete on value rather than price in this segment.

Hypothesis 5: Investments in research and development were crucial in order for manufacturers to successfully develop sufficiently low priced cars for the Indian car market automobile industry as it was deregulated.

The performance of the Indian automotive industry increases in the 1980's with the entry of Japanese Suzuki. This increase is further significantly amplified significantly in terms

of growth, quality of products and service, technological progress and productivity as foreign entrants are allowed to enter the Indian market.

Hypothesis 6a: When the Indian automotive market opened up due to deregulation, and technologically superior foreign companies entered, the growth of said market increased significantly.

Hypothesis 6b: When the Indian automotive market opened up due to deregulation and technologically superior foreign companies entered, the technological progress of said market increased significantly.

Hypothesis 6c: When the Indian automotive market opened up due to deregulation and technologically superior foreign companies entered, the quality of products and services of said market increased significantly.

Hypothesis 6d: When the Indian automotive market opened up due to deregulation and technologically superior foreign companies entered, the productivity of said market increased significantly.

6.2 Competitive Advantages from a Resource-Based View

Given the high regulatory restrictions of the Indian auto market during the 1980's, institutional ties facilitated the acquiring of financial and physical resources for auto manufactures in India. As the market was liberalized and international players entered, such institutional linkages decreased in importance.

Hypothesis 7: The importance of institutional connections decreased with the deregulation of the Indian auto market.

Inter and intra-firm transfer of knowledge and technology were key strategic components of successful entrants into the Indian auto industry, both during the 1980's and the 1990's. This was necessary both in the supply chain as well as at the car plant in order to domestically produce competitively priced and qualitative products adapted for Indian consumer needs.

Hypothesis 8: Efficient and effective transfer of technical know-how from the technologically superior parent company constituted a competitive advantage for auto producers in India.

6.3 Discussion and possible critique

Both the industrial organization perspective and the resource-based view have allowed us to distinguish several competitive advantages amongst successful Indian car producers during the period of economic deregulation in India. However, the authors recognize several possible critiques to this thesis. In determining which companies have had competitive advantages, the manufacturers present in the low-priced small car segment have received the majority of our attention. This can be misjudged, as there is also competition within the higher priced large car segments in India. Nevertheless, these segments remain small in relation to the investigated one, both in terms of value and volumes. Next, the time span between 2005 and 2011 has not been included for two main reasons. First, the authors have not found broad enough empirical material to describe this period on the same basis as the early 2000's, especially the most recent years. Second, the authors have concluded that the greatest market changes due to deregulation happened during the 1990's. However, adding this later time period, possibly in a few years, could put light on aspects missed within this thesis.

6.4 Further research

In light of our conclusions we find several sources for competitive advantages when monitoring the deregulation of the Indian car industry and how this affects the market, both from the industrial organization perspective and the resource-based perspective. These have been presented in the form of hypotheses. The authors of this thesis would recommend to further investigate and attempt to falsify these hypotheses. Moreover the authors would want to encourage further research into the future of these Indian based car manufacturers and test whether these last five or six years have been successful from a internationalization perspective. Also the authors would like to encourage a deeper analysis on the pre-entry market due diligence made by foreign entrants as the positioning in terms of price was so important to not only gain market shares, but in several cases, to even stay in the race.

7. References

Articles

- Abrenica, Joy V. (1998). "The Asian Automotive Industry: Assessing the Roles of State and Market in the Age of Global Competition", *Asian-Pacific Economic Literature*, Vol. 12:1, p. 12-26
- Barney, Jay B. (1991). "Firm Resources and Sustained Competitive Advantage", *Advances in Strategic Management*, Vol. 17:1, p. 203-227
- Dangayach, G. S. and Deshmukh, S. G. (2001). "Practice of Manufacturing Strategy: Evidence From Select Indian Companies", *International Journal of Production Research*, Vol. 39:11, p. 2353-2393
- D'Costa, Anthony P. (1998). "An Alternative Model of Development? Co-Operation and Flexible Industrial Practices in India", *Journal of International Development*, Vol. 10:3, p. 301-321
- Feinberg, Robert M. (1979). "Market Structure and Employment Instability", *Review of Economics and Statistics*, Vol. 61:4, p. 497-505
- Grant, Robert M. (1991) "The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation", *California Management Review*, Vol. 33:3, p. 114-135
- Garg, R. K., Singh, T. P. (2005). "Status of Socio-technical Change in Indian Automobile Industry – A Longitudinal Study", *Global Journal of Flexible Systems Management*, Vol. 6:3-4, p. 25-37
- Helfat, C. E. and Teese, D. J. (1987). "Vertical Integration and Risk Reduction", *Journal of Law, Economics and Organisation*, Vol. 3:1, p. 47-68
- Humphrey, John. (2003). "Globalization and Supply Chain Networks: the Auto Industry in Brazil and India", *Global Networks*, Vol. 3:2, p. 121-141
- Ishigami, Etsuro. (2005). "Competition and Corporate Strategy in the Indian Automobile Industry with Special Reference to Maruti Udyog Limited and Suzuki Motor Corporation", *Bulletin of Universities and Institutes*, Vol. 49:3, p. 291-314
- Jensen, Paul E. and Krishna, Kala. (1999). "Free Entry in the Indian Automobile Industry: a Calibration Model", *Journal of International Trade & Economic Development*, Vol. 8:4, p. 437-455
- Kale, Prashant; Singh, Harbir and Raman, Anand P. (2009). "Don't Integrate Your Acquisitions, Partner With Them", *Harvard Business Review*, Dec 2009, p. 109-115

- Narayanan, K. (1998). "Technology Acquisition, De-Regulation and Competitiveness: a Study of Indian Automobile Industry", *Research Policy*, Vol. 27:2, p. 215-228
- Narayanan, K. (2004). "Technology Acquisition and Growth of Firms: Indian Automobile Sector Under Changing Policy Regimes", *Economic and Political Weekly*, Vol. 39:5, p. 461-470
- Park, Jongsoo. (2004). "Korean perspective on FDI in India: Hyundai Motors' Industrial Cluster", *Economic and Political Weekly*, Vol. 39, No. 31, pp. 3551-3555
- Porter, Michael E. (1986). "Changing Patterns of International Competition", *California Management Review*, Vol. 28:2, p. 9-40
- Porter, Michael E. (2008), "The Five Competitive Forces that Shape Strategy", *Harvard Business Review*, Vol. 86:1, p. 78-93
- Rahman, Z. and Bhattacharyya, S. (2003). "First mover advantages in emergin economies: a discussion", *Management Decision*, Vol. 41:2, p. 141-147
- Rasiah, Rajah. (2011). "Foreign Equity and Technological Capabilities: A Comparison of Joint-Venture and National Automotive Suppliers in India", *Transnational Corporations Review*, Vol. 3:2, p. 87-103
- Sinharay, Soumyadeep. (2010). "Attuned to Changes: Maruti-Suzuki in India", *SCMS Journal of Indian Management*,

Literature

- Basu, Kaushik (editor). *India's Emerging Economy*, 1st edition. Cambridge and London, The MIT Press, 2004.
- Baumol, William J. *Growth, Industrial Organization and Economic Generalities*, 1st edition. Cheltenham and Northampton, Edward Elgar, 2003.
- Becker-Ritterspach, Florian A. A. *Hybridization of MNE Subsidiaries*, 1st edition. Houndmills and New York, Palgrave Macmillan, 2009.
- Bhagwati, Jagdish N. and Calomiris, Charles W (editors). *Sustaining India's Growth Miracle*, 1st edition. New York, Columbia Univ. Press, 2008.
- Bhalla, A. S. *Uneven Development in the Third World*, 2nd edition. London and New York, St. Martin's Press, 1995.
- Bryman, Alan and Bell, Emma. *Business Research Methods*, 3rd edition. Oxford and New York, Oxford University Press, 2011.
- Cabral, Luis M. B. *Introduction to Industrial Organization*, 1st edition. Cambridge and London, The MIT Press, 2000.

- Carlton, Dennis W. and Perloff, Jeffrey M. *Modern Industrial Organization*, 4th edition. Boston, Pearson and Addison-Weasly, 2005.
- Caves, Richard. *American Industry: Structure, Conduct, Performance*, 7th edition. Upper Saddle River, Prentice Hall, 1992.
- George, Kenneth D; Joll, Caroline and Lynk, E. L. *Industrial Organization - Competition, Growth and Structural Change*, 4th edition. London and New York, Routledge, 1992.
- Grant, Robert M. *Contemporary Strategy Analysis*, 7th edition. Chichester, John Wiley & Sons Ltd, 2010.
- Hayes, R. H. and Wheelwright, S. C. *Restoring Our Competitive Edge*, 1st edition. New York, Wiley, 1984.
- Kumar, Nagesh, and Joseph, K. J. *International Competitiveness & Knowledge-based Industries in India*, 1st edition. New Dehli, Oxford University Press, 2007.
- Kumar, Nirmalya; Mohapatra, Pradipta K. and Chandrasekhar, Suj. *India's Global Powerhouses*, 1st edition. Boston, Harvard Business Press, 2009.
- LaRue, Steven C; Hoeber Rudolph, Susanne; Rudolph, Lloyd I. and Oldenburg, Philip (editors). *The India Handbook*, 1st edition. Chicago and London, Fitzroy Dearborn Publishers, 1997.
- Lipczynski, John; Wilson, John O.S. and John Goddard. *Industrial Organization – Competition, Strategy, Policy*, 3rd edition. Essex, Pearson Education Limited, 2009.
- Millar, Carla; Grant, Robert M. and Choi, Chong Ju (editors). *International Business: Emerging Issues and Emerging Markets*, 1st edition. London, MacMillan Press Limited, 2000.
- Silverman, David. *Doing Qualitative Research*, 3rd edition. London, SAGE Publications Ltd, 2010.
- Singh, Neelam. *International Competitiveness & Knowledge-based Industries in India*, 1st edition. New Dehli, Oxford University Press, 2007.
- Sud de Surie, Gita. *Knowledge, Organizational Evolution, and Market Creation*, 1st edition. Cheltenham and Northampton, Edward Elgar, 2008.

Other publications

- Becker-Ritterspach, Florian A. A. and Becker-Ritterspach, Jutta C. E. *The Development of India's Small Car Path*, Management Online Review, 2009.

Bruche, Gert and Becker-Ritterspach, Florian A.A. *Accelerated Capability Creation and Internationalization with Business Group Embeddedness – The Case of Tata Motors in Passenger Cars*, 2010.

Ghosh, A; Ray, S. and Dewan, S. *Indian Passenger Vehicle Industry: Growth Momentum to Continue*, ICRA Rating Feature, 2011.

Ministry of Heavy Industries & Public Enterprises. *Automotive Mission Plan 2006-2016*, 2006.

Mukherjee, A. and Sastry, T. *Entry Strategies in Emerging Economies: The Case of the Indian Automobile Industry*, Indian Institute of Management, 1996.

Nag, B. *Trade Liberalisation and International Production Networks in Asia: Experience of Indian Automotive Sector*, Indian Institute of Foreign Trade, 2011.

Panda, Tapan. *A Case Study on the Indian Small Car Industry*, Indian Institute of Management Lucknow, 2000.

Singh, Neelam. *Strategic Approach to Strengthening the International Competitiveness in Knowledge Based Industries: The Case of Indian Automotive Industry*, The Research and Information System for the Non-Aligned and Other Developing Countries (RIS), 2004.

Tharyan, Punnoose. (2001). "Obsolete Cars, Ancient Plants Plague Indian Carmaker", *Automotive News*, Vol. 76:5964, p. 25

Internet addresses

Datamonitor. New Cars in India - Industry Profile. Datamonitor, 2009.
<http://www.datamonitor.com> (Accessed: 2011-12-17 14.25)

WTO, 2002. Dispute Settlement DS146.
http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds146_e.htm (Accessed: 2011-11-05 at 16.00)

<http://www.hindu.com/biz/2003/11/24/stories/2003112400221500.htm> (Accessed: 2011-12-29 at 13.45)

Indian government policys for the car industry in 2002
<http://www.dhi.nic.in/autopolicy.htm> (Accessed: 2001-12-25 at 18.00)

Mahindra&Mahindra webiste
<http://www.mahindra.com/What-We-Do/Automotive>
(Accessed: 2011-12-20 at 09.00)