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Rethinking the Development of the Automobile Industry in China

A Thesis

Presented to
the Faculty of Arts and Humanities
University of Denver

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by

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ABSTRACT

Governmental industrial policies have significant influence on industrial performance. Many developing countries that lack capital and a good technology base use foreign direct investment (FDI)-dependent governmental policies to induce multinational corporations (MNCs) to invest in their indigenous immature industries. In this article, the Chinese automotive industry, which is regulated directly under the Chinese central government, is used to illustrate the interactions between the complex FDI-dependent governmental policies and the industrial development of developing countries. According to changes in Chinese automotive industry policy, the Chinese auto industry's development process is divided into four phases: extremely passive FDI-dependent policy phase, partial strategic FDI-dependent policy phase, ISI restructuring phase, and industrial upgrading phase. Considering those four phases, the overall industrial characteristics and policies of China's automotive industry are introduced and analyzed. Then, a systematic analysis is carried out to explore the key reasons for the policy failure and distortion. The results indicate the successful application of FDI-dependent industrial policies is subject to numerous conditions, such as the content of policies, policy implementation, and the economic environment of a country. In the end, a few policy recommendations, including reforming the ownership structure of state-owned enterprises, promoting mergers and acquisitions between inefficient firms in order to attract high-quality investment from MNCs, etc., are proposed.

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ACRONYMS AND ABBREVIATIONS

BAIC	Beijing Automotive Industry Holding Company
BMW	Bayerische Motoren Werke AG
BYD	Build Your Dreams
CAAM	China Association of Automobile Manufactures
CATARC	China Automotive Technology and Research Center
CKD	Completely Knocked Down
FAW	First Automobile Works (China)
FDI	Foreign Direct Investment
GAIG	Guangzhou Automotive Industry Group
GM	General Motors Company
IJV	International Joint Venture
LLC	Limited Liability Company
ISI	Import-substituting Industry
MNC	Multinational Corporation
NAC	Nanjing Automobile (Group) Corporation
NDRC	National Development and Reform Commission
NOI	Net Outward Investment
SPC	State Planning Committee of China
OICA	International Organization of Motor Vehicle Manufacturers
PATAC	Pan-Asia Technical Automotive Center
PSA	PSA Peugeot Citroën
R&D	Research and Development

SAIC	Shanghai Automotive Industry Corporation
SOE	State-Owned Enterprise
SUV	Sport Utility Vehicle
VW	Volkswagen
WTO	World Trade Organization

CHAPTER ONE: INTRODUCTION

Throughout the global economy, governments play a significant role in protecting their local economies and promoting industrial development. Multinational corporations (MNCs) and foreign direct investment (FDI) industrial policies are the main instruments governments use to intervene in industrial evolution.

Those governmental policies include: trade policies (e.g., tariffs, quotas, and other antidumping measures) that aim to protect the weak local market from foreign competition; support policies (e.g., tax incentives, subsidies, preferential loans, licenses, and government contracts) designed to promote the development of domestic companies; and foreign investment policies (e.g., joint venture regulations and local content rules) that seek to enhance production capacity, increase employment, and transfer technology know-how to foster linkages between indigenous markets and the global marketplace. The forms of industrial policies vary across countries, but they mainly focus on two purposes: protection and development.

MNC- and FDI-related industrial policies have been successfully used around the world, such as in Japan and Korea, which employed infant-industry protection in their automotive industries. Although the advocates of the “free-trade” principle criticized these policies, Japan and Korea were able to obtain fast economic growth and increased development capability in the 1950s. However, this type of success did not happen in every country. Many less developed countries in Latin America and Africa failed to

achieve their industrial goals using industrial policy patterns similar to those used in East Asian countries.

The Chinese automotive industry has been protected and regulated by the Chinese government through a comprehensive set of industrial policies for over 30 years. In this thesis, by examining the case of China's automotive industry since the 1980s, we try to demonstrate the internal relationships between government policy and industrial development as well as the interactions between government and industry. In line with changes in Chinese automotive industry policy as well as the characteristics of two related industrial development theories, the Chinese auto industry's development process has been divided into four phases. During the first phase, "extremely passive FDI-dependent policy" (1978–1994), China's economic opening and reforms stimulated a rapid growth of demand for vehicles while the production system that had been built largely for defense purposes was unable to satisfy the new demand. China had insufficient location advantages, so the government's role should be mainly providing basic infrastructure and the upgrade of the economy's human capital to attract MNCs and FDI. The second phase is "partial strategic FDI-dependent policy" (1994–2001). This phase is a natural development of the first one. There was a veritable flood of investment into the Chinese auto industry during this stage. It resulted in a rapid increase of cars in total vehicle production. The FDI was mainly in the primary commodities and natural resources sectors amid a lack of created assets¹ endowment. The third phase is "kind of

¹ They differ from natural assets because, while these refer to physical assets of a country, such as natural resources, climate, or geographical situation, created assets imply a previous use of resources for an improvement of the development degree of a country. They are intangible, gathering technological or human capital resources.

import-substituting industry (ISI) restructuring policy” (2001–2007). China entered the World Trade Organization (WTO) in 2001, and nearly all the major international carmakers entered the Chinese automotive market. Tariffs, quota, and importation limitations should be cancelled under WTO rules, but the Chinese didn’t want to practice free trade and still tried to protect inefficient SOEs and local carmakers with some industrial policies that were against WTO rules. On the other hand, with the trade benefit brought by WTO rules, car exports started growing in China. The main agents were domestic firms, and in other undeveloped or developing countries, they were MNCs. The last is the “industrial upgrading policy” (2008–present) phase, during which the WTO forced the Chinese central government to put auto industrial policies in line with its rules. Hence, China started to think about upgrading its industrial policies.

The key factors that determine the success or failure of the Chinese auto industry are the research focuses. The success of industrial policies highly depends not only on the content of policies, but also on the policy implementation and the economic and political environment in a specific country. Therefore, three aspects should be considered in this study: the Chinese government, the automotive industry, and the volatile global economic environment. An economic system that is totally controlled by the Chinese government gives the Chinese government greater power to intervene in industrial development processes of the Chinese automotive industry. From 1978 to 2001, research mainly focused on government policy and its effect on industrial development. In 2001, China joined the WTO, and an increasing number of MNCs invested in the auto industry. All those changes created a different economic environment for the Chinese automotive industry. During this period, besides the FDI-oriented government policy, the economic

and political environment in China is considered a key factor in industrial evolution.

Thus, in order to explore those key factors and gain a deep insight into the case study, the questions listed below will be answered in the research.

We start by exploring the Chinese automotive industry policy strategy and trying to figure out which part of the policy was successful and which part has failed in the real world. Then we explore the main reasons for the inefficiency of China's automobile industry policies. Does the failure imply the deficit of the theory of FDI? What are the key factors that determine the success and failures?

All those answers will provide information about the evolution and development of the auto industry in China, further shed some light on the possible role of the state in promoting the development of a particular industry, and illustrate how the process of industrialization may take place with aid from the state.

CHAPTER TWO: LITERATURE REVIEW

This chapter consists of two parts. The first part introduces the general effect of MNCs and foreign direct investment (FDI), which include multinationals and foreign trade, multinationals and domestic firms' productivity, multinationals and market structure, as well as FDI and economic growth. This part can help us have a general idea about the current research on MNCs and FDI. The second part is the introduction of Dunning's "eclectic paradigm," which includes five development phases, depending on the level of GDP and net outward investment (NOI). The third part is the introduction of Sanjaya Lall's "theory of FDI utilization," which includes four types of government policy interventions on MNCs: passive FDI-dependent policy, strategic FDI-dependent policy, ISI restructuring policy, and autonomous policy. Dunning and Lall both illustrate a dynamic framework in their theories. We will apply their theories to the case study and try to help the Chinese auto industry achieve progress step-by-step.

Empirical Literature Reviews on the Effects of MNCs and FDI

In order to find proper theories to help us analyze our case study (the Chinese automobile industry), a concise but comprehensive review and evaluation of the existing empirical literature will be discussed in this part. Generally speaking, literature that relates to MNCs and FDI is fragmented. Therefore, we summarize those empirical literatures in four categories: MNCs and foreign trade, MNCs and domestic firms' productivity, MNCs and market structure, as well as FDI and economic growth.

MNCs and Foreign Trade

It is difficult to find out whether MNCs tend to generate trade surpluses or trade deficits in the host economy. On the one hand, FDI inflows may reduce or increase imports received by the host country. There is evidence for both cases (Blomstrom and Kokko, 1997; Goldberg and Klein, 1999; Blonigen, 2001 and Swenson, 2003). Lipsey and Weiss (1981; 1984) find a positive relationship between FDI and imports but fail to think about endogeneity stemming from the characteristics of the host market. Bajo-Rubio and Montero-Munoz (2001), having corrected for endogeneity, also find a positive relationship, but Gruber and Mutti (1991), using similar data to Lipsey and Weiss (1981), find an insignificant negative relationship between FDI and imports. On the other hand, more evidence exists regarding the idea that FDI inflows increase exports of the host economy (Blomstrom and Kokko, 1997; Lipsey, 2002; Greenaway and Kneller, 2007).

The relationship between FDI and trade is related to the predominance of vertical or horizontal MNCs. Markusen (2002) states that the weight of empirical evidence suggests the dominance of horizontal motives for foreign production. He defends this idea for the world, because most FDI flows are among developed economies, which, according to his view, tend to be horizontal. However, Markusen also acknowledges that vertically integrated firms are important in some industries and surely important in some host countries. Hanson (2003) has obtained robust evidence for the importance of vertical MNCs and gives a reason they find strong evidence of vertical FDI. This is because they use microlevel data on foreign affiliates, whereas previous work uses data that aggregate not just across the activities of a given affiliate but also across all affiliates.

MNCs and Domestic Firms' Productivity

One of the most studied effects of FDI is that of spillovers. Many studies of spillovers have focused on whether this transference of new technologies from MNCs affects domestic firms' productivity. In this respect, the results are fairly ambiguous. On the one hand, some computable general equilibrium models report that FDI inflows raise welfare by increasing the number of varieties available for consumers (Behr et al., 2001 and Rutherford and Tarr, 2008). And there are advanced techniques and know-how that MNCs bring to host countries. This may be transferred to domestic firms voluntarily through the creation of linkages or licensing agreements with domestic firms, or involuntarily through imitation or labor mobility. Haskel (2002) obtains evidence of positive horizontal spillovers in the United Kingdom. But these positive spillovers do not seem to be large enough to justify the amount of money spent by the government to attract MNCs. Smarzynska (2004) finds positive spillovers through backward linkages and no evidence for horizontal spillover in Lithuania. This indicates that vertical spillovers may be more likely than horizontal ones. On the other hand, Djankov and Hoekman (2000) find a negative effect of the presence of MNCs on domestic firms in the Czech Republic. Aitken and Harrison (1999) find evidence for negative spillovers on domestic firms' productivity in Venezuela. FDI reduces the output of those firms, which makes them produce in less efficient points of their declining average cost curve, thus reducing their productivity. Grog and Greenaway (2004), Barba Navaretti and Venables (2004), and Crespo and Fontoura (2007) state a vague, and even negative evidence of MNCs effects on domestic firms' productivity.

MNCs and Market Structure

Theoretical predictions about the effect of FDI on market structure are consistent with both a pro-competitive effect and a more concentrated structure (Ferrett, 2004). Pro-competitive effect indicates that MNCs promote competition and reduce the price-cost markup, while a more concentrated structure indicates the MNCs crowd out (less efficient) domestic firms with the danger of turning the market into a more oligopolistic structure. Markusen and Venable (1998, 2000) show that the type of firm (MNCs versus domestic) that prevails will depend on the relative endowments and size of countries, the level of transport costs, and firm-level and plant-level economies of scale. Therefore, in the end, whether MNCs crowd out domestic firms is an empirical matter (Barba Navaretti and Venables, 2004).

FDI and Economic Growth

MNCs often possess higher skills and experience, exhibit more advanced techniques, have high levels of R&D expenditures, etc. These characteristics lead to thinking about the role of MNCs as promoters of technological innovation and progress and, therefore, economic growth. There are many empirical case studies to support that idea. Obadan (1992) discovered a positive, statistically significant relationship between economic growth and the FDI inflow. In his study of the Nigerian economy for the period 1973–1990, it was observed that the economy grows at an average rate of 1.85% per annum. Campos and Kinoshita (2002) examined the effects of FDI on growth for the period 1990–1998 for the 25 Central and Eastern Europe and former Soviet Union transition economies. In these countries, FDI was a pure technology transfer. The main

results indicate that FDI had a significant positive effect on economic growth of each selected country.

However, given the intangible nature of these assets it may be difficult to empirically grasp their effect on growth. The results of empirical studies indicate that FDI increases growth when host economy characteristics point to the existence of an “absorptive capacity.” What exactly constitutes that absorptive capacity varies. It may be related to high-income-level countries (Blomstrom, Lipsey and Zejan, 1994), an open trade regime (Balasubraanyam, 1996), a highly educated workforce (Borensztein, 1998, Campos and Kinoshita, 2002) or well-developed financial markets (Alfaro, 2004; 2006). An exception to this positive relationship is the study by Carkovic and Levine (2005). Using a panel for 72 economies over the period 1960–1995 they find no evidence that FDI flows have an impact on GDP growth. However, using the same methodology in an analysis for a group of developed and homogeneous economies, Bajo-Rubio (2008) found a clear positive impact of FDI on growth.

The study of MNCs and FDI has been a fertile research topic, and a number of authors have devoted their efforts to review the literature. We find that this is a very fragmented area of the literature, in which there are dispersed contributions and different strands according to the particular effect of MNCs analyzed. In this circumstance, the effects of MNCs have been very much debated, and there is still some controversy regarding their impact on host economies. Therefore, it seems difficult to obtain an economy-wide evaluation of their impact.

Also, empirical literature reviews are aimed to evaluate the effects of MNCs and FDI on host countries, while few studies analyze how countries use policies to influence

MNCs' investment activities and then achieve industrial development. In spite of that, few empirical studies are related to the effect of MNCs and FDI on those developing countries in Asia, which have different cultures and economic environments from European countries. Even though empirical literature analyzing how developing countries in Asia use policies to influence MNCs' investment activities is rather scarce, we find them. Dunning's (1997, 1979, 2000) "eclectic paradigm" and Sanjaya Lall's "theory of FDI utilization" are a good fit for our case study.

Eclectic Paradigm

In eclectic paradigm theory, Dunning provides a triad of conditions necessary for a firm to become a MNC. He points out ownership advantage, location advantage, and internalization advantage as three key determinants that a firm should look into upon entering the market. Ownership advantage suggests that a firm must possess specific advantages that make it strong enough to compete with local firms. This can also be regarded as competitive or monopolistic advantage. Location advantage is the idea that for a MNC to establish a new plant in a foreign country, this country must have some advantages compared to the home country of the MNC. These advantages may be cheaper factors of production, better access to natural resources, a bigger market, etc. Finally, internalization is the degree of control over foreign affiliate that is higher through FDI than licensing a local firm. So it suggests a firm exploit its ownership advantages within its subsidiaries rather than sell or license them to other local firms.

The central concepts of the eclectic or OLI paradigm have also been introduced in a dynamic framework known as the investment development path (IDP). IDP relates the inward and outward direct investment position of countries with their corresponding

stages of development (Dunning, 1981; Dunning and Narula, 1996). According to this theoretical framework, countries tend to go through five development phases. Each of the stages links the GDP level and the country's net outward investment (NOI) position, defined as the difference between outward direct investment stock and inward direct investment stock.

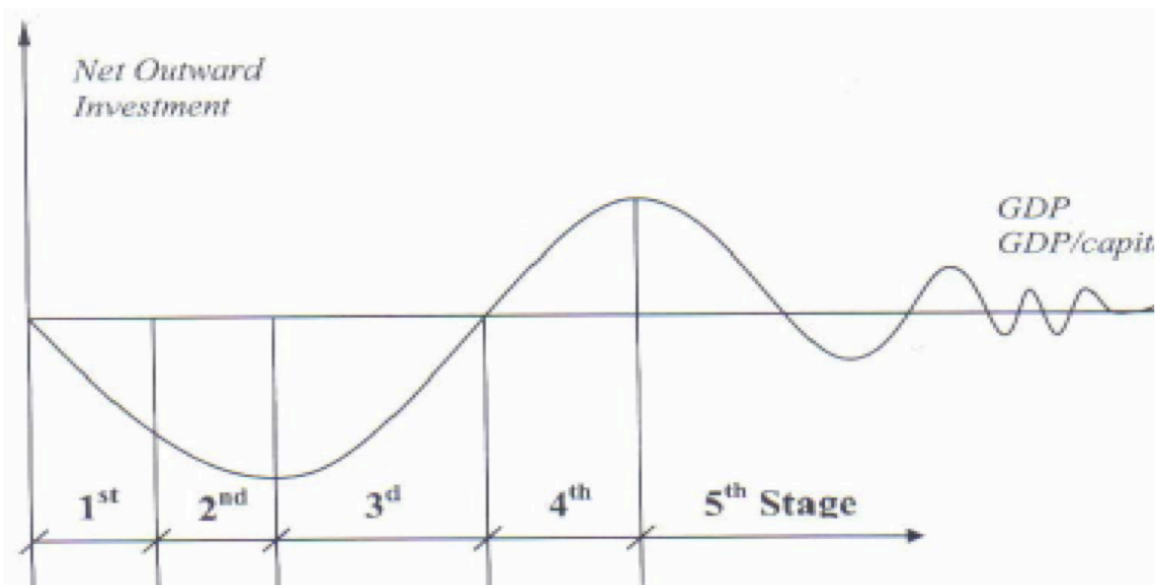


Figure 1. The pattern of the investment development path. Source: Dunning and Narula (1996).

According to the pattern of the IDP in Figure 1, the first phase of the IDP refers to the least-developed countries that face a negative NOI position; because they are net FDI receivers, they mostly take advantage of the country's natural resources. On the other hand, outward FDI is negligible or nonexistent. The second phase is a natural development of the first one. The NOI position decreases because of an increase inflow of FDI, even faster than the GDP growth, while outward investment remains low or negligible. The third phase includes the so-called emerging countries. They exhibit a

growing NOI position due to an increased rate of growth of outward FDI and a gradual slowdown of inward FDI. Phase four is distinguished by a shift to a positive NOI position, as outward FDI stock exceeds inward FDI stock. Finally, in the fifth phase, we find the most advanced countries, such as United States, Japan, or the United Kingdom, in which NOI position tends to fluctuate around zero while reflecting high levels of inward and outward FDI.

According to Dunning and Narula (1996), the investment development path can be framed as follows. During the first stage, countries have insufficient location advantages, thus both inward and outward investments are extremely limited and the MNCs prefer to access these countries through trade as well as through entering into nonequity relationships with local firms. Under this situation, the government's role should be mainly providing basic infrastructure and upgrading the economy's human capital, through educational and training programs, as well as implementing import-substitution and export-promotion policies that affect the structure of local markets and industries. During the second phase, as a country develops, the improvement of its locational advantages leads to a growth of inward FDI, especially in primary commodities and natural resources, as well as in industries that are intensive in physical capital and low-qualified work, i.e. sectors whose endowment of created assets are scarce. At this time, government policies may influence the process through incentives or tariffs, as the competitiveness of local firms at this stage is still very low and the outward FDI remains extremely low but larger than in the first stage. The third/intermediate phase shows an increase in the economy's income per capita, an acceleration of industrialization, and a greater specialization of demand oriented towards superior-quality

products. Competition in the domestic market rises as the ownership advantages of the inward investors diffuse through the local industry. As a result, the domestic firms start developing their own advantages. The ownership advantages of local firms become increasingly associated with the property of intangible assets—so they less dependent on government policies—but the role of the government is still relevant and oriented towards a reduction of market failures and inefficient industries, as well as towards promoting an increasing integration of local and foreign companies, which minimizes the delocalization risks. The incentives policy should aim to attract FDI through activities in which local companies do not have competitive advantages as well as to stimulate domestic firms to exploit their own advantages in new markets. At the fourth stage, the country's location advantages begin changing from cheap labor force and natural resources to created assets—sophisticated markets, qualified labor, technological capacity of the more dynamic sectors, and development of economies of agglomeration. The production processes are more capital-intensive, reflecting a lower cost of capital compared with the cost of labor. Concerning the role of the government, it has to ensure competition among national and foreign companies and suppress the existing market failures. In the fifth phase, the NOI stock becomes irrelevant as a result of the growing similarity between the most advanced countries. This means that the NOI will vary between a positive and a negative position, depending on the evolution of exchange rates and economic cycles, as well as on the firms' individual strategies. As a result, FDI depends less on the condition of the host countries and more on the localization strategies of MNCs. Regarding the government, the role of government takes on a strategic dimension, increasingly behaving as an oligopoly with MNCs and other governments.

In synthesis, we can say that location advantages, including appropriate government policies and basic infrastructure, are particularly relevant in the first three stages of the IDP. The existence of a favorable institutional framework—which helps the development of ownership advantages in local firms, the increasing international mobility of operations, and the accumulation of technological and knowledge-intensive assets—seems to constitute the acceleration factor of direct investment abroad and of the progression towards the fourth and fifth phases of development.

Regarding the empirical part, Dunning, Kim, and Lin (2001) had Korea and Taiwan as a case study where the IDP concept was extended. According to them, the growth of trade and FDI is positively correlated with gross national product *per capita* and with the created asset intensity of products.

Theory of FDI Utilization

Sanjaya Lall (2003) argued the “theory of FDI utilization” in his book, *Competitiveness, FDI and Technological Activity in East Asia*, after exploring a panel of nine developing countries (China, Korea, Taiwan, Singapore, Malaysia, Thailand, Philippines, Indonesia, and Hong Kong) in East Asia over the period 1985–1998. The theory advocates that MNCs have advantages over immature domestic firms in management, production, engineering, design, distribution, marketing, etc. So inducing MNCs to invest in immature domestic industries in the developing countries can be a highly effective means of transferring technologies and building production capabilities in immature domestic firms.

According to Lall’s argument, while MNCs can be a highly effective means of transferring technologies and building production capabilities, they may be less effective

in deepening and broadening them². For example, MNCs initially transfer equipment and technologies suited to existing skills and capabilities. At this stage, they do invest in upgrading local skills, technological capabilities, and supply chains, but only to the extent that it is profitable in commercial terms (to implement production technologies). MNCs will go beyond this, but only if the skill base is growing, local suppliers are improving their capabilities, technology institutions can provide more advanced services, etc.³ Moreover, the immature domestic firms in the developing countries have little chance to survive the competition of the MNCs, which offer high efficiency, high quality, and low price for similar products and services. All of these need active government policies. Thus, the key parts of the theory are to illustrate why and how to use government policies to induce and intervene in MNCs' investment activities in order to foster the development of an immature industry. Overall, Lall points out that government policy interventions in MNCs are mainly four types (Lall, 2003).

Passive FDI-dependent industrial policy is driven by FDI but relies largely on market forces to upgrade the structure. The main tools are a welcoming FDI regime, strong incentives for exports, good export infrastructure, and cheap, trainable labor. Skill upgrading and domestic technological activity are relatively neglected (although some countries have a relatively good base), and the domestic industrial sector tends to develop in isolation from the export sector.⁴

² Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 34, April 2003.

³ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 35, April 2003.

⁴ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 36, April 2003.

Passive strategies involve less industrial policy in export-oriented activities to start with (although there may be intervening in domestic-oriented activity). They need to evolve into more targeted strategies if countries are not to lose their competitive positions and momentum.

1. Strategic FDI-dependent industrial policy is driven by FDI and exports within integrated production networks. There is a strong effort to upgrade MNC activity according to strategic priorities, directing investments into higher-value-added activities and inducing existing affiliates to upgrade their technology and functions. This strategy involves extensive interventions in factor markets (skill creation, institution building, infrastructure development, and supplier support), encouraging R&D and technology institutions and attracting, targeting, and guiding investments.⁵ Strategic FDI-dependent strategies entail considerable industrial policy, but the intensity of government intervention is lower than with autonomous strategies that will be introduced below. The sources of technical change remain largely outside, in the hands of MNCs; there is less need to intervene to promote learning in infant industries for this reason. However, industrial policy is needed to ensure the development of the relevant skills, capabilities, and institutions required to ensure that MNCs keep transferring new technologies and higher-value functions.⁶

⁵ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 37, April 2003.

⁶ *Ibid.*

2. ISI restructuring involves exports growing from established import-substituting industries where competitive (or nearly competitive) capabilities have developed. The main policy tool is trade liberalization or strong export incentives (some, as in Latin America, within regional trade agreements). This leads to considerable upgrading, restructuring, and expansion of these industries along with their supplier networks. In some countries, the main agents are domestic enterprises, and in others, they are MNCs. The main difference from the “autonomous” strategy is the lack of clear and coordinated industrial policy to develop export competitiveness, with haphazard (and often weak) support for skills, technology, institutions, and infrastructure.⁷
3. Autonomous is based on the development of capabilities of domestic firms, starting with simple activities and deepening over time. This strategy uses extensive industrial policy, reaching in to trade, finance, education, training, technology, and industry structure. It involves selective restrictions on FDI and actively encourages technology imports in other forms. All these interventions are carried out in a strongly export-oriented setting, with favors granted in return for good export performance.⁸

Regarding the last type of strategy, Lall also points out that from the policy aspect, autonomous strategies entail a great deal of industrial policy and accompanying

⁷ *Ibid.*

⁸ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 47, April, 2003.

interventions in factor markets and institutions. Interventions, generally in the form of tariff, quota, etc., may result in an oligopoly and a higher domestic price in the protected domestic market than that in the international market. Then the high price may cover the higher production costs and help the inefficient immature firms remain in business. With the profits gained inefficiently during the protection period, the domestic firms would improve their experience and efficiency such that they improve quality and reduce operational costs. In the end, government interventions lead to massive development and deepening of indigenous skills and technological capabilities, with a national ability to keep abreast of new technologies and for domestic enterprises to become significant global players in their own right. However, such strategies are increasingly difficult and risky on economic grounds—the sheer pace of technical change and the growth of international production systems raises the costs of being left on the outside. They are also increasingly constricted by the new rules of the game being laid down by international agencies and developed countries.

Consequently, Lall (2003) also demonstrates that the utilization of those four types of strategies is not static. Those using passive FDI strategies are moving towards more targeted strategies. Strategic FDI-dependent countries are trying to strengthen capabilities in domestic firms and build up the institutional structure for innovation. Autonomous countries are becoming more integrated into MNC systems (and have many capable MNCs of their own). These changes are driven both by new technologies and globalization as well as by new rules of the game and are likely to persist into the foreseeable future.⁹ This does not mean that countries will converge technologically.

⁹ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 57, April, 2003.

There will remain significant differences in technology and competitive performance because of differences in endowments (size, location, resources, etc.) and in inherited structures of technological learning. National systems of technology development have elements of path dependence and stability and can change only as the institutional, technological, and human capital base evolves, so it is necessarily a slow process.¹⁰ Inherited structures also influence how flexibly and dynamically countries respond to new competitive challenges. This feedback process can let leaders maintain their advantage for very long periods. FDI can help to change national technological systems, but the real driver of change lies within each economy. Government policies and institutional structures together play a vital role here, and this role remains even as its form and content evolves.

On the other hand, according to Lall (2003), governments should use policy intervention on MNCs as well as support local firms' growth. With a completely passive policy, MNC exports can remain at low, technologically stagnant levels. Thus, an MNC-dependent export strategy needs a proactive element of dynamic competitiveness. More importantly, depending on FDI is not a substitute for strengthening domestic capabilities.¹¹ There are many activities that MNCs should not enter, including many localized ones that tend to be populated by SMEs (small and medium enterprises). They also need efficient local suppliers if they are going beyond the assembly of imported components. Capturing the spillover benefits of foreign presence needs capable local firms. More importantly, a strong base of national enterprises can lead to broader, deeper,

¹⁰ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p .59, April, 2003.

¹¹ Sanjaya Lall, *Competitiveness, FDI and Technological Activity in East Asia*, p. 63, April, 2003.

and more flexible capabilities because the technology development process with foreign affiliates may be curtailed as compared with local firms. The very fact that an affiliate can draw upon its parent company for technical information, skills, technological advances, etc. means that it needs to invest less in its own capabilities. This applies particularly to functions like advanced engineering, design, or R&D, which MNCs tend to centralize in industrial countries. As industries mature, it is imperative for developing countries to undertake these functions locally to support their future comparative advantage. This is why some countries choose to promote technology development in indigenous firms.

Besides the basic ideas, more important is the practical application of government interventions. There are three issues that should be addressed. First, intervention with MNCs needs an appropriate level. If the domestic firms have grown to be able to compete with the MNCs, the intervention is no longer needed and keeping the intervention in place would induce costs. If the intervention expected to be used for a long time, then the domestic firms would have less incentive to promote their production efficiency. All the interventions should be adjusted according to the relative competitiveness difference between domestic firms and MNCs. Second, learning effects should be generated during the government intervention. Without learning effects, the domestic firms are unlikely to improve and grow in R&D. Third, interventions should not be carried out in all the immature industries. The industries that have strong knowledge spillover function to other related industries, such as the automotive industry, should have the priorities of enjoying the government intervention with MNCs. Moreover, the intervention is

unnecessary for those industries that have rare competition in the global range, even if they are underdeveloped.

Theory Utilization in Case Study

When it comes to the case study of the Chinese automobile industry, those development processes are quite similar to Dunning’s “eclectic paradigm,” and policies are similar to Lall’s “theory of FDI utilization.”

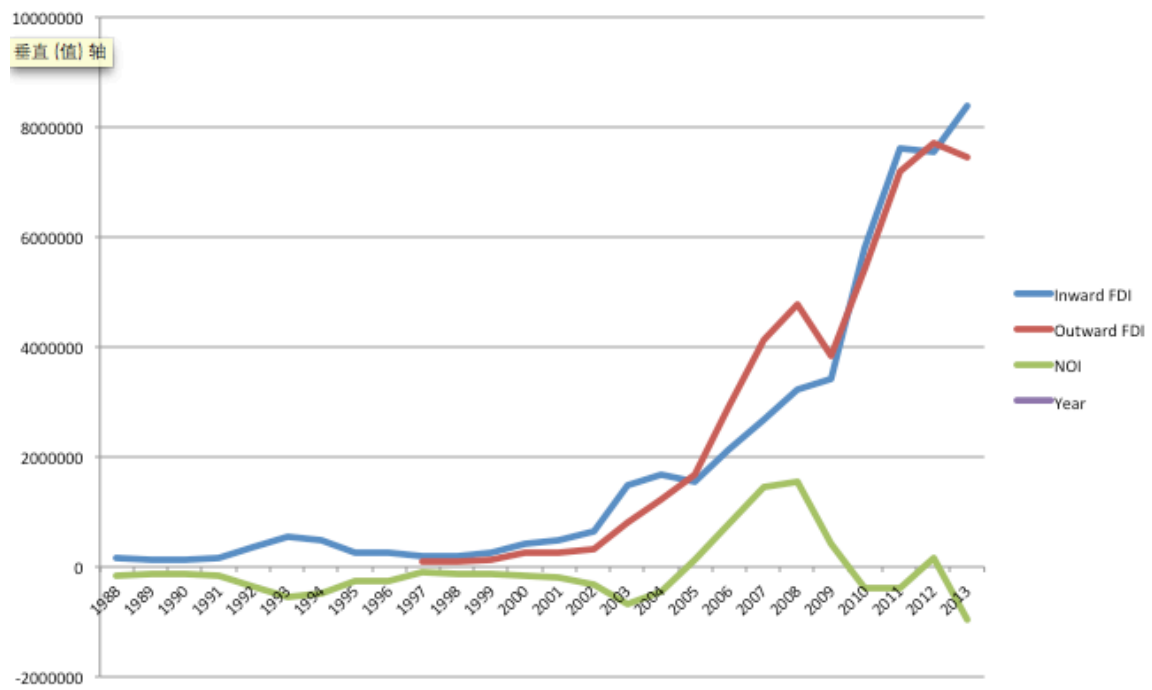


Figure 2. Outward and inward FDI in the Chinese automobile industry (1998–2013).
Source: Data from Chinese automobile Industry Yearbook 2014 and calculated by author.

According to Figure 2, from 1988 to 1994, China faced a negative NOI position. Because they were net FDI receivers, they mostly took advantage of the country’s natural resources. On the other hand, outward FDI was negligible or nonexistent. From 1994 to 2001, the NOI position decreases because of an increase inflow of FDI, while outward investment remains low or negligible. From 2001 to 2004, China exhibited a growing NOI position due to an increased rate of growth of outward FDI and a gradual slowdown

in inward FDI. 2004 to 2007 is distinguished by a shift to a positive NOI position as outward FDI stock exceeded inward FDI stock. Finally, from 2008 until today, we find the NOI position of the Chinese automobile industry reflects high levels of inward and outward FDI.

Regarding the industrial policies part, even though Lall's "theory of FDI utilization" is trying to talk about four types of industrial strategy, in the case of China's auto industry, it is also appropriate to associate those four types with four phases in the development of the auto industry. The first phase regarding Lall's theory of FDI in the thesis will be classified as the "extremely passive FDI-dependent strategy," and it could be illustrated by Chinese automotive industry policy from 1978 to 1994. The second phase incorporating Lall's theory of FDI in the thesis will be the "partial strategic FDI-dependent strategy," illustrated by the Chinese automotive industry policy from 1994 to 2001. The third phase incorporating Lall's theory of FDI in the thesis will be the "ISI restructuring strategy," illustrated by the Chinese automotive industry policy from 2001 to 2007. And the fourth phase incorporating Lall's theory of FDI in the thesis will be the "industrial upgrading strategy," demonstrated by the Chinese automotive industry policy from 2008 until today. Under each phase, industrial environment, industrial characteristics, and industrial policies at each period were analyzed.

Upon considering the four types of industrial strategies in the "theory of FDI utilization" as four phases, we can see it has something in common with Dunning's "eclectic paradigm." And in the policy part, it also could be seen as supplementary to Dunning's theory. According to Dunning (1996) and the real situation of the Chinese

automobile industry, during the first phase, China had insufficient location advantages,¹² thus both inward and outward investment were extremely limited and the MNCs preferred to access these countries through trade as well as enter into nonequity relationships with local firms. Under this situation, we could see the type of industrial policy used by the Chinese central government was relatively passive. It included providing basic infrastructure and a welcoming FDI policy regime. Skill upgrading and domestic technological activity were relatively neglected. During the second phase, China already had locational advantages in primary commodities and natural resources, and according to Dunning (1996), at this time government policies influenced the process through incentives or tariffs, as the competitiveness of local firms at this stage was still very low and the outward FDI remained extremely low. The policy explanation was quite similar to Lall's "strategic FDI-dependent industrial policy." Lall pointed out in this phase, there was a strong effort to upgrade MNC activity according to strategic priorities, directing investments into higher-value-added activities and inducing existing affiliates to upgrade their technology and functions. This strategy involved extensive intervention in factor markets (skill creation, institution building, infrastructure development, and supplier support), encouraging R&D and technology institutions, and attracting, targeting, and guiding investments. During the third phase, there was an increase in NOI position. Competition in the domestic market rose as the ownership advantages of the inward investors diffused through the local industry. As a result, the domestic firms started developing their own advantages. The ownership advantages of local firms were

¹² Location advantages are related to the host country (factor prices, factor endowments, and distance measured as transport costs).

increasingly associated with the property of intangible assets and less dependent on government *policies*; the role of the government was still relevant and oriented towards a reduction of market failures and inefficient industries as well as towards promoting an increasing integration of local and foreign companies, which minimized the delocalization risks. The incentives policy should aim to attract FDI in activities in which local companies do not have competitive advantages as well as to stimulate domestic firms to exploit their own advantages in new markets. And the country's location advantages began changing from cheap labor force and natural resources to created assets (sophisticated markets, qualified labor, technological capacity of the more dynamic sectors, *and development* of economies of agglomeration). The production processes were more capital-intensive, reflecting a lower cost of capital compared with the cost of labor. It is quite similar to Lall's ISI restructuring policy. At this time, exports were growing from established import-substituting industries where competitive (or nearly competitive) capabilities had developed. The main policy tool was strong export incentives (some, as in Latin America, within regional trade agreements). This led to considerable upgrading, restructuring, and expansion of these industries along with their supplier networks. In some countries, the main agents were domestic enterprises, and in others, they were MNCs.

During the fourth phase, according to Lall, China had a kind of autonomous strategic policy, which is quite similar to Dunning's fifth phase in investment development path. As a result, FDI depended less on the condition of the host country and more on the localization strategies of MNCs. Regarding the government, the role of

government took on a strategic dimension, increasingly behaving as an oligopoly with MNCs and with other governments.

CHAPTER THREE: FIRST PHASE (1978–1994)

Introduction of Extremely Passive FDI-Dependent Automobile

Industrial Strategies (1978–1994)

Automobile production in China was started in the early 1950s with the help of the Soviet Union. Since then, vehicle production kept rising. Initially, the vehicles were produced mainly for commercial and military use. After 1978, China's economic opening and reforms stimulated a rapid growth in demand for vehicles. According to statistical data from the China Association of Automobile Manufactures (CAAM), China's demand for automobiles (including trucks and buses) stood at fewer than 150,000 in the late 1970s. In the mid-1980s, growth in demand greatly exceeded domestic production capacity, leading to a massive influx of foreign vehicles, especially saloons. In the peak year, 1985, imports amounted to 44 percent of total domestic demand; by the mid-1990s, demand had risen to over 1.5 million vehicles (Table 1).

Table 1. Chinese Automobile Production, 1978–1998

Year	Production (000) (A)				Imports (units)	Demand (%)
	Total	Trucks	Saloons	Buses		
1978	149	96	3	–	–	–
1985	443	237	5	12	354	44.4
1990	509	269	42	23	65	11.3
1995	1453	572	325	247	158	9.8
1998	1629	483	508	367	40	2.4

Source: China Association of Automobile Manufactures (1999).

The rapid growth in demand for vehicles encouraged a proliferation of vehicle makers. In the meantime, a fundamental transformation of the country, from central planning toward economic development of the socialist market economy, also remarkably changed the structure of the automotive market in China. Under the socialist market economy, provincial and municipal governments and ministries had more autonomy to make decisions without the fear of being accused of embracing capitalism. Thus, many of them chose the automotive industry as a pillar industry to develop the economy of their regions. However, the production system that had been built largely for defense purposes was unable to satisfy the new demand. The industry suffered from poor economies of scale, narrow model range, low production capacity, and low technological levels. For instance, the number of automobile assembly plants rose from around 50 in the mid-1970s to over 120 in the early 1990s. But in 1990, only two vehicle manufacturers had an annual output of more than 50,000 units. The majority of manufacturers produced fewer than 10,000 units per annum (MMB, ZQGN, 1996:68). The shortage soon led to a growing number of imported vehicles. Throughout the 1980s, the number of imported cars was higher than the number of domestically produced cars. If illegally imported cars were included, the number would be much higher. This shocked the Chinese central government into more carefully considering its policy towards this hugely important sector.

The restructuring in the Chinese auto industry mainly took the form of joint ventures with foreign automobile companies, absorption of foreign direct investment, technology transfers, and making high trade barriers for automotive imports. The Chinese government strongly supported joint ventures, technology licensing, and other

comprehensive policies at that time. There are two main reasons: (1) Those policies are in accordance with the renewed faith of China in the working of the market economy, as demonstrated by the deregulation and liberalization of markets and the wholesale privatization of state-owned assets. At that time, China was approaching the “takeoff” stage in its economic development. Competition for the world’s scarce resources of capital, technology, and organizational skills was becoming increasingly intense. MNCs are at the forefront of innovation, and their presence provides an effective means of keeping up with technical progress. Their established brand names, global marketing presence, and international flows of information all added to their technological advantages. Therefore, the Chinese government believed that MNCs were among the most powerful means available for transferring modern technologies to China and overcoming obstacles to their utilization. Their presence could only benefit local productivity and competitiveness. (2) Those measures were feasible at that time. The increasing globalization of economic activity and the integration of international production and cross-border markets by MNCs made those policies feasible (UNCTAD 1993). The key ingredients of contemporary economic growth of created assets, such as technology, intellectual capital, learning experience, and organizational competence was not only becoming more mobile across national boundaries but was also becoming increasingly housed in MNC systems.

During this period, China expected to use policy tools to support state-owned enterprises (SOEs) in order to get technology transfer and spillover from the developed countries. In other words, all of these FDI policies used by China were the strategies of

“exchange market for technology,” which were kinds of passive FDI-dependent strategies.

We introduce the main auto policies, both on the supply side and on the demand side.

Supply-Side Policy

Joint venture regulation

The joint venture regulation was a strict central government requirement. Under this regulation, the Chinese central government only allowed international automotive manufactures to make engines and finish cars in joint ventures with local Chinese manufacturers—and to possess no more than 50 percent of share holdings. During this period, if foreign companies wished to operate in China, they would be forced to establish their operations as joint ventures with Chinese state-owned enterprises (Oliver and Holweg, 2006).

Initially, China asked the Japanese for help. The Japanese exported a large number of trucks and agreed to provide some technical assistance to the Chinese during the early 1970s (Harwit, 1995). But the Japanese were wary of generating potential competitors of their own automobile companies, so the extent and duration of their technology transfer were limited.

Then, in the mid-1980s, the international automakers—American Motors Corporation (AMC), Volkswagen, Chrysler, Citroen, Peugeot, etc.—were allowed to manufacture cars in China in the form of joint ventures with the SOEs as partners. The first automotive joint venture was the Beijing Jeep Corporation (BJC). It was signed between state-owned Beijing Automobile Industry Corporation (BAIC) and AMC in January 1984. In this joint venture, AMC was mandated to provide all the new technology for Beijing Jeep. At that time, according to the “joint venture regulation,”

AMC duly took a minority stake for automobile joint ventures. For this first joint venture, technology was transferred in the form of “complete knockdown” (CKD) kits. CKD kits are sets of automotive parts that are packaged in one country and then exported to another for assembly. For the Beijing Jeep joint venture, Jeep Cherokee CKD kits were packaged in the United States by AMC and then exported to China by selling to Beijing Jeep for assembly by the BJC Chinese workers. In 1987, because of marketplace changes and management changes in AMC, BJC was sold to Chrysler. Chrysler’s management and perception of technology transfer were totally different from those of AMC. From 1987 to 2005, Chrysler did not transfer any technology to Chinese partners. Thus, in 2005, BJC was sold to Daimler AG.

Shortly after the establishment of Beijing Jeep, a second joint venture was established between the Shanghai Automotive Industry Corporation (SAIC) and Volkswagen in October 1984. Volkswagen took a 50 percent stake of that venture. Shanghai Volkswagen began automobile production in 1985. As car imports fell to some 34,000 in 1990, Shanghai Volkswagen’s production of its Santana models reached nearly 19,000 vehicles that year, and Shanghai Volkswagen’s output had reached 100,000 vehicles by 1993. In the long run, Shanghai Volkswagen has proven to be more successful than Beijing Jeep, as it produced cars that could be used as taxis, government officials’ vehicles, or cars for the newly emerging business elite. By far, it is the largest annual producer of passenger cars since the mid-1980s. Volkswagen also encouraged its

foreign parts suppliers to create joint ventures in China, and their resulting products helped Shanghai Volkswagen achieve an 85 percent local content rate by 1993.¹³

Meanwhile, two new joint ventures were formed: one in 1990 between Volkswagen and First Auto Works to produce Jettas; and another between French Citroen and Second Auto Works (now Dongfeng Motor Corporation) to produce the Fukang compact in 1992.

During this period, joint venture regulation was a favored government instrument for achieving technology transfer and rapid industrial growth. Under this regulation, technology was transferred to Chinese partners through joint ventures. But we should also note that even though ownership of foreign carmakers was controlled by regulation, carmakers still had complete freedom to decide the kind of technology they transferred to Chinese partners. In the long run, foreign automotive companies would retain most of the control while the Chinese partners would have little real power.

Technology licensing

Chinese auto companies also licensed technology from foreign firms in these nascent years. Technology licensing involves an agreement whereby an owner of a technology intellectual property (the licensor) allows another party (the licensee) to use, modify, or resell that property in exchange for compensation (consideration). The compensation may take the form of a (1) lump sum royalty, (2) royalty based on volume of production (called running royalty), or (3) right to use the licensee's technology (called cross licensing).

¹³ Harwit, Eric (2001). "The Impact of WTO Membership on the Automobile Industry in China." *The China Quarterly*: 655-670. Retrieved 2010-09-16.

In the 1980s, the Chinese government encouraged auto companies to sign technology-licensing agreements with foreign firms in order to push the upgrade of the local auto industry. One prime example is the acquisition of technology for the ubiquitous compact cars used as taxis in many large cities. Tianjin Automotive Industry Corporation (TAIC) licensed technology from Daihatsu in 1986 to produce the Xiali (Charade) mini sedans, which were often used as red taxis in Beijing and Tianjin. In another example, Chang'An licensed technology from Suzuki in 1983 to produce its own mini car, which is also used as the yellow taxi in Chongqing (Chang'An Automobile Group, 2002).

Through licensing of proprietary technology, Chinese auto firms earned substantial income from markets they could not penetrate on their own, and foreign auto firms could have foreign affiliates without high financial and legal risks. The benefits brought by technology licensing in this brief period made profit-oriented Chinese automakers start to passively rely on foreign automakers.

Trade barriers

Traditional trade barriers, such as a high import tariff, a restrictive annual quota, and an importation license, were adopted in order to protect China's immature automobile industries. The import tariff had been historically high, in the range of 200 to 300 percent in the 1980s and 100 to 200 percent in the early to mid-1990s in the Chinese automotive industry (Huang, 2003), and the Chinese government tightly controlled legal vehicle imports at that time.

Japan and Korea commonly used trade barriers to protect their immature automotive industries, and the trade barriers helped them become famous carmaking nations. China wanted to learn from Japan and Korea by adopting trade barriers to protect

the supported SOEs with a relatively easy environment. However, things were contrary to China's desires and wishes, and trade barriers promoted foreign investment in China and put SOEs into a much more competitive environment.

Demand-Side Policy

As to the demand-side policy, during the central planning stage (1949–1978), volumes and variety were centrally planned rather than controlled by the market. Most vehicles were trucks, and the production of passenger cars was very limited. Sedans were only available to senior officials, and there were strict regulations on official car use. With the relaxation of planning after 1978, there were many more customers, and the market for sedans and other vehicles increased greatly. For example, there were no taxis during the central planning period, so as restrictions were relaxed, sedans and minivans were produced to supply the taxi market. Also, to help create a market for these new automobile joint ventures, the Chinese government officially permitted private ownership of automobiles starting in 1984.

The Effects of Passive FDI-Dependent Automobile

Industrial Policy (1978–1994)

On the one hand, we should note that China was in the first phase of development during this period. At this stage, China normally had insufficient locational advantages due to the limited domestic market (low *per capita* income), a poorly educated workforce, inappropriate infrastructure, and even political and/or economic instability. As a result, both inward and outward investments were extremely limited, and the MNCs preferred to access these countries through trade as well as to enter into nonequity relationships with local firms (Dunning and Narula, 1996).

Under these conditions, as Dunning and Narula (1996) suggest, a country owns few created assets and only high-natural-asset countries can attract a significant amount of FDI (natural-resource-seeking FDI). Thus, the government's role in this phase consists mainly of providing basic infrastructure and upgrading the economy's human capital, through educational and training programs, as well as implementing import-substitution and export-promotion policies, which affect the structure of local markets and industries.

During this period, Chinese automotive industry policies were extremely simple because the Chinese government at that time just learned to let in MNCs but did not know whether and how much FDI to allow in, that is, if one should exercise selectivity in letting in MNCs (Lall, 2003, p. 35). But China's "economic opening and reforms" policy helped China achieve the economic growth, including building up basic infrastructures, upgrading the economy's human capital, promoting educational and training programs, and so on.

On the other hand, we cannot deny that the Chinese automotive policies proved far from successful at this stage. First, the government ignored the real-world situations in which there was an important distinction between the transfer and utilization of production technologies and the transfer and development of more complex design, development, and innovative capabilities. By then, China had not gained much innovative ability or know-how from foreign firms. The only real requirement for foreign companies was to get the technology into production, and there were no specific stipulations on technology transfer. An authentic example is when Chinese auto companies licensed technology from foreign firms. After obtaining auto models, Chinese auto companies merely produced cars according to the original models—even after 17 years, these cars

remained virtually unchanged from their original model. A passive reliance on MNCs to upgrade and deepen technological capabilities may take a very long time to bear results.

Second,

The development of high-level capabilities in local firms may be more beneficial than a similar development within MNC affiliates. This would be the case where technological development by local firms leads to greater spillover benefits and linkages (to local suppliers and institutions) within the host economy. (Lall, 2003)

The Chinese government tried to make local firms strong, but things went in the wrong direction. All the policies used by the Chinese government during this period, including joint venture regulation and trade barriers, aimed to protect the supported SOEs. The Chinese government only gave the franchise of making cars to several SOEs, which kept the indigenous private firms out of the game. Lack of horizontal competition crushed the creative motivation of SOEs. Moreover, a strong MNC presence in the industry, while stimulating local competitors to be more efficient in their production, would inhibit them from deepening their technological capabilities. Because of the higher risks and the longer learning periods involved in creating a design and development capability, local firms exposed to full MNC competition may have preferred to import foreign technologies proven and “ready made” from overseas rather than invest in their own R&D capabilities (Lall, 2003). This is the so-called passive FDI-dependent, which means the industrial growth was not driven by FDI but relied largely on market forces to upgrade the structure.

To summarize, even though passive FDI-dependent strategies let China benefit from the jobs and tax revenues associated with those joint ventures, it could not help China model itself after Japan and Korea.

CHAPTER FOUR: SECOND PHASE (1994–2001)

Introduction of Partial Strategic FDI-dependent Automobile

Industrial Policy (1994–2001)

About 1994 and after, the criterion for judging the success of FDI by the Chinese government changed in a way that has made for a more cooperative stance between China and foreign investors. It changed from direct contribution of foreign affiliates to a model with a wider impact: upgrading the competitiveness of a host country's indigenous capability and promoting its dynamic comparative advantage. And the Chinese government started realizing that the learning experience of countries about what MNCs can and cannot do for host countries could enable its government better to understand and assess its consequences and to take action to ensure that it could more efficiently promote its economic and social goals. During this period, the Chinese government started thinking about the problem of having allowed in FDI and whether to intervene selectively in the operations of MNCs. Thus, in March 1994, the Partial Strategic FDI-Dependent Automobile Industrial Strategies—"Chinese Automotive Industry Policy 1994"—was enacted by the central government, as noted in Appendix A. All policies could mainly be divided into two parts: protection and development. The protection policy is quite similar to those in other developing countries. For example, the Chinese government continued to protect all manufacturers located in China (including joint ventures) from international competition by establishing import quotas and stiff tariffs (80 to 100 percent) on both

vehicles and parts. As to the development policy, it is quite unique. Compared to previous auto policies, the 1994 policy took a stricter development approach. Under this policy, the Chinese government continued to limit foreign ownership in joint ventures to 50 percent, to give the Chinese partners more control and bargaining power. Besides that, according to the new policy, foreign companies were limited to have at most two local partners. Moreover, the Chinese government also created more new restrictions on MNCs, such as “local content rule” and “entry limit.”

Supply-Side Policy

Local content rule

The local content rule is commonly used in developing countries to restrict imports as a nontariff barrier and stimulate the development of domestic industries. The Chinese government uses the local content rule in a strict way. For example, to complement the joint venture requirement, the international joint ventures were required to have a local content rate above 40 percent in the first year of production and to increase the rate to 60 percent and 80 percent in the second and third years (KPMG, 2004). This means all joint ventures must localize their parts and components by at least 40 percent (and powerful incentives were created to go beyond compliance). Foreign firms vying for new joint ventures were asked to transfer more knowledge to their partners, and they were told to establish joint technical centers with the aim of training Chinese workers.

In local content rules, government policy also prohibited knockdown kits and offered preferential tax rates for enterprises with high localization rates. The policy makers expected that the joint venture format would force in-house technology spillover

to take place. Affiliated requirements and encouragements include setting up R&D divisions within the joint venture, making products at the international technology levels, intending to export, and giving the indigenous suppliers equal privileges for sourcing contracts.

By 1998, officially recorded imports accounted for less than three percent of the Chinese total vehicle market. The leading vehicle makers had all achieved a higher degree of local content, sourcing a large fraction of their components from domestic producers. For example, at Beijing Jeep and Shanghai Volkswagen, the share of local components had risen from under 20 percent in 1987 to over 80 percent by 1995 (Lo, 1997)¹⁴. Every coin has two sides—under the local content rule, the policy makers regarded foreign cars produced in China with a high content rate of locally-produced parts as Chinese indigenous cars, and thus some SOEs at that time decided to give up indigenous brands and existing independent car making operations that were regarded as outdated and hopeless, and to focus on supporting and serving the international joint ventures (Luo, 2004).

Entry limit

In order to form the economy of scale among indigenous auto firms, the central government continued to limit industry entry and still only gave the franchise of making cars to several supported SOEs, particularly the Chinese “big three, small three and min two”¹⁵. That kind of entry limit also had been implemented on MNCs. International

¹⁴ Lo Dic. *Market and Institutional Regulation in Chinese Industrialization, 1978-94* (London: Macmillan, 1997).

¹⁵ The “big three” were First Automotive Works, Shanghai Automotive Industrial Corporation, and Dongfeng Motor Company; the “small three” were Beijing Automotive Industrial Corporation, Tianjin

automakers were allowed to manufacture cars only with those authorized SOEs in their joint ventures. Actually, only Volkswagen, PSA, Chrysler, and Daihatsu gained the right to produce cars because the policy makers decided China did not need too many passenger cars. Making cars with Volkswagen, Citroen, and Peugeot were already enough. They were worried that too many companies entering the industry would bring overcapacity like in the U.S. automotive industry. Meanwhile, indigenous private investment was forbidden in automobile production, although allowed in other businesses like textile, television, etc., because the government regarded the automotive industry as a pillar industry that needs government central planning the most.

To summarize, entry limit policy on foreign automakers limited the number of MNCs but did not achieve the goal of selectivity on FDI. Limiting the industry entry policy was aimed to reshuffle the top 20 auto manufacturers into just three or four SOE enterprise groups “in order to meet foreign competition;” however, the entry limit deprived some private Chinese automakers of their competing rights.

In order to push MNCs to transfer more complex design and innovative activities to their Chinese partners, the Chinese government made some new policies to improve and strengthen SOEs’ production ability. Those policies included “consolidation” and “comprehensive encouragement” on the supply side and “market creation” on the demand side.

Automotive Industrial Corporation, and Guangzhou Automotive Industrial Corporation; and the “mini two” were Changan and Guizhou Aviation (Xia, 2002).

Consolidation

In the mid-1990s, the Chinese automotive industry was highly fragmented in terms of the quantity of manufactures, geographical distribution, and the ownership of manufacturers. This fragmentation led to inefficiency of the scale-sensitive automotive production.

The Chinese automotive industry was highly fragmented in terms of the number of manufactures, its geographical distribution, and the ownership of manufacturers at that time. This fragmentation led to inefficiency in scale-sensitive automotive production. The fragmentation or diseconomy of scale took three patterns of manifestation: fragmentation by manufacturer, fragmentation by ownership, and fragmentation by region.

Fragmentation of manufacturers

In the 1980s, the Chinese government implemented industrial protectionism policies and regulations to protect its immature automotive industry. With the high price margin, many municipal governments started to produce cars within their affiliated enterprises. At the same time, a lot of military plants also tried to convert their manufacturing operations into automotive production. However, all those regulations made inefficient automotive enterprises highly survivable and profitable. The government's pursuit of a scale economy filled the Chinese automotive industry with various automotive firms with low production rates that were controlled by different regional governments and in different provinces. The profitable automotive business attracted a large number of state-owned entrants in the 1980s, and most of them still inefficiently remain in business, with the profits made due to market protection. This is the reason for the large number of manufacturers.

Fragmentation of ownership

Other reasons for the fragmentation are raveled together mainly by the governmental mechanism that affected the ownership structure in China. And the diversified ownership is the major reason associated with the large number of manufacturers and the fragmentation by region.

The ownerships of major indigenous automotive industry corporations in China are listed below in Table 2; in fact, the political ownership to some extent determined the geographical distribution of automotive corporations in China. All these facilities were spread over the country's territory and belong to different governmental bureaus or administrations.

Table 2. Ownership of Chinese Indigenous Automotive Industry Corporations in 2000

Indigenous automotive corporations	Ownership
First Automotive Works	Central government
Dongfeng Motor Corporation	Central government
ChangAn Automotive Corporation	China Weapon and Arming Group (central government)
Shanghai Automotive Industry Corp.	Shanghai municipal government
Beijing Automotive Industry Corp.	Beijing municipal government
Guangzhou Automotive Industry Group	Guangzhou municipal government
Hafei Motor Co. Ltd	China Second Group of Aeronautic Industry (central government)
Chery Automobile Co. Ltd	Wuhu municipal government

Source: Company websites and various sources.

Fragmentation of region

Because nonautomotive manufacturing enterprises were owned by different central government agencies and different regional governments—and were therefore originally dispersed—the automotive industry was inevitably scattered geographically

when these plants were turned into automotive operations. This is the reason for the fragmentation by region.

In 1998, The State Planning Committee (SPC), the nation's economic regulator, was renamed the National Development Commission (NDC). On behalf of the central government, the NDC was dedicated to regulating the big automotive groups in order to achieve industrial efficiency. Based on industry experience and technological capacity—as well as general regional balance considerations—the NDC determined to support eight Chinese car assemblers, which were later known as the “big three,” “small three,” and “two mini.” “Big three” refers to three major car assemblers, FAW, SAIC, and Shanghai-VW; “small three” refers to three small assemblers, Beijing-Cherokee, Tianjin-Charade, and Guangzhou-Peugeot (later Guangzhou-Honda); and “two mini” refers to two new firms with defense-industry background—their parent companies were the China Ordnance Industry Corporation and the Guizhou Aviation Industry Corporation, and through their strong bargaining power and close relationships with top government leaders, they obtained special permission from the NDC to produce mini cars. China intended to focus most of its own energy and investment on those eight companies. According to that policy, we should note that only a small number of firms, which we call SOEs (controlled by the central government), could enjoy the support from the central government. Other local firms did not have right to reap the benefits brought by the consolidation policy.

The Chinese government also tried to convert the myriad small vehicle plants to component suppliers for the giants of the industry (CDBW, 7 September 1997). Loss-making firms in the sector were to be declared bankrupt and sold their assets to large

firms or merged with them. The Ministry of Machine Building announced that each year it would withdraw the licenses from many small loss-making plants if they continued to make losses or were reluctant to merge with other plants. Promising enterprises were to receive priority for government endorsement in overseas listings and issuing industrial bonds abroad (China Economic Digest, Spring 1997:20).

The consolidation process was very slow. Based on the current ownership structure involved with fragmented but strong political power of various ambitious local governments and central government ministries, large-scale regrouping (merger and acquisition) was still difficult to achieve across different political administrations. At that time, very few mergers or acquisitions were observed, with only FAW acquiring Tianjin Automotive Industry Corporation, SAIC acquiring Liuzhou Wulin Motors with GM, and Changan controlling Jiangling Motors with Ford. If the political regulation system remained unchanged, it would take a long time for China to consolidate its automotive industry to the level of the U.S. counterpart (although deepening consolidation was predictable along with the general industrial maturation process).

Although the NDC tried to foster the formation of industrial efficiency in indigenous auto firms, the result was far from satisfactory. At that time, the rapid growth of output from the government's targeted key point plants produced an explosive process of concentration of market share in saloon vehicle production. Among saloon market share, Shanghai Volkswagen's joint venture with Volkswagen accounted for 47 percent of total domestic saloon vehicle production, and the Tianjin Charade joint venture accounted for 20 percent by 1996 (Table 3). We can see that joint ventures accounted for almost the entire output of saloons while the Chinese partners lacked the capability to

develop new vehicles independently. As to the technical disadvantages, a key problem lay in the shortage of funds. In the automobile industry, it costs at least US\$150 million and takes several years to develop a new product. None of the Chinese auto enterprises found this affordable (Beijing Review, 4 October 1999). The government wanted to offer some help, but it already earmarked a large fraction of its funds to support the auto industry in the emerging giants. It was bluntly recognized that China had failed comprehensively to catch up with the global giants of the industry (Peter Nolan, 2001:540).

Table 3. Saloon Vehicle Production in China, 1998

Producer name	Production (000)	%
Shanghai Auto/Volkswagen JW	236	46.5
Tianjin/Daihatsu JV	100	19.7
Yiqi/Volkswagen JW	66	13.0
Dongfeng/Citroen JV	36	7.1
Beijing Jeep/Daimler-Chrysler JV	8	1.6
Others	62	12.1
Total	508	100.0

Source: ZQJYZ, ZQGN (1999:5-7). Note: Total number of producers = 19.

Comprehensive encouragement policy

Encouragement policies were mainly used in three areas: (1) Enterprise Organization Policy, the formation of automotive industry groups to attain critical-mass state support for enterprises that exceeded certain production volumes and R&D effort; (2) Technology Policy, the encouragement of independent product development; and (3) Investment Policy, the encouragement of automotive enterprises to raise development funds from various sources and transregional and transdepartmental investment to support increased industry concentration.

Demand-Side Policy—Market Creation

To stimulate the market, the Chinese government reaffirmed its encouragement of private ownership of passenger cars. As noted, the Chinese government officially permitted the private ownership of vehicles in 1984. According to the consumption and pricing policy in “Chinese Automotive Industry Policy 1994,” the policy encouraged individual ownership of automobiles, and prices of civilian vehicles (except sedans) were to be decided by enterprises according to market demand.

However, many local governments used the consumption and pricing policy to make money. In other words, the slow progress in the development of mass auto assembly was largely due to local protectionism. Local governments used regulations and policies to favor the purchase of vehicles produced within their jurisdictions, which created protected local markets—resulting in a pattern of spatially dispersed small and inefficient indigenous assemblers. Local protectionism also operated in the favor of large assemblers, including joint ventures. For example, the Shanghai municipal government once required every city taxi to be Shanghai-Volkswagen’s Santana model. It still levied a lower license tax to Santana buyers who lived in its suburban areas. The central government also used protective measures to protect favored firms. In 1996 and 1997, Shanghai-Volkswagen initiated a price war by dropping the selling price of its Santana by 20 percent. This effort consolidated the car market, but that came to an end just a year later when the central government stepped in and set a floor for price reductions.

The Impacts of Partial Strategic FDI-Dependent Automobile Industrial Policy (1994–2001)

Promoting industrial development by using FDI was necessary to give birth to the 1994 automobile policies. In order to more clearly show the results of the new automobile policy, this analysis is divided into two parts: vehicles and components.

Vehicles

Since China had plenty of resources, cheap labor, and big markets—which met with MNCs expectations—the stricter requirements in 1994 automotive policy did not seem to deter the next foreign investors in China. After the 1994 policy was issued, almost every big multinational automobile firm bid on a project to establish a joint venture with Shanghai Auto Industry Corporation, considered by many to be the best Chinese passenger-car firm. In the end, General Motors made the largest single foreign investment ever in China as of 1997 when it established its joint venture. Also in 1997, Honda took over Peugeot's joint venture with Guangzhou Automotive Manufacturing Company, and then Ford entered into negotiations with Chang'an in 1999. There was a veritable flood of investment into the Chinese auto industry during the 1990s from both the Chinese government and foreign sources. The restructuring also resulted in a rapid increase the proportion of passenger cars in total vehicle production. The share of the car rose from 2.4 percent in 1980 to 31.2 percent in 1998, with light vehicles (trucks and buses) increasing from 19.5 percent to 29.3 percent, while mid-size trucks fell from 53 percent to 11.3 percent. Accordingly, major car and light vehicle assembly centers, like Shanghai, Tianjin, and Nanjing, had become new centers for vehicle production and important locations in the geography of China's auto industry.

Looking at the data, the new policy seems to have been hugely successful. But upon further exploration, we find that the rapid increase in light vehicle production, like saloons, was merely created by foreign firms or JVs (Table 3). The large decrease in mid-size trucks' share stems from the extent of foreign involvement in the medium-duty truck sector being much lower than in the saloon car sector (Table 4).

Table 4. Main Medium-Duty Truck Producers in China, 1998 (000)

Producer	Output
Yiqi Group Company	72.2
Dongfeng (Erqi) Auto Company	45.7
Dongfeng Liuzhou Auto Company	5.5
Hubei Special Vehicle Company	1.7
Dongfeng Lianying Company	1.5
Dongfeng Hangzhou Auto Company	1.4
Luoyang Auto Company	0.6
Dongfeng Nanjing Auto Company	0.5

Source: ZQJYZ, ZQGN (1999:340). Note: Share of output produced by the top producer = 55.6%; total number of producers = 13.

Components

From fragmentation to consolidation

Because the consolidation of the auto parts industry lagged behind vehicle assembly, lots of automakers used cheap and low-quality components manufactured by local firms. These local firms were typically township and village enterprises with small entry costs. According to official records, by the mid-1990s, it is estimated that there were around 4,800 components manufacturers across the country, most of which were tiny (FT, 5 March 1996). But in 1995, according to Chinese official statistics, there were 1,600 component makers (Table 5). Then in 1996, the Ministry of Machine Building released a list of 300 companies in the components sector that would be supported. They

were eligible for policy loans and other preferential policies (FT, 5 March 1996). In the late 1980s, there were at least 200 enterprises manufacturing internal combustion engines, but in the 1990s, even in the medium-duty truck diesel engine sector, there were around 10 main producers (Bear, Stearns, 1994:14) and several smaller manufacturers.

Table 5. Size Distributions of Chinese Component Makers, 1995

Plant size	Number of plants	Value of sales (million yuan)	Sales per plant (million yuan)
Total	1671	40213	24.1
Large	156	19534	125.2
Large middle	86	4677	54.3
Small middle	250	6782	27.1
Small	1179	9219	7.8

Source: MMB, ZQGN (1996:66).

Boom under local content rules

China's tough local content rules were a "boon to the components sector" as Chinese vehicle production rose (FT, 21 May 1996). These forced the expanding automobile industry to purchase an increasing share of its inputs from local component makers and push them to improve quality, provide timeliness of delivery, and reduce costs of production. Even in the absence of foreign investment or government policy towards consolidation of the sector, it is likely that the growth of automobile output and the increasing role for market forces would have produced a rapid change in the institutional structure of China's components industry (Nolan, 2001:543).

Foreign investment was encouraged in the components sector. By 1995, there were over 60 joint ventures in the automobile sector, mostly for the manufacture of components (MMB, ZQGN, 1996:352). In the mid-1990s, the pace of foreign investment in components accelerated sharply, with many of the global leaders and specialist

components industry investment companies entering the industry. Also, joint ventures with globally powerful firms in the components sector were a major element in the rapid institutional change of the engine-making sector (Table 6).

Table 6. FDI in Chinese Automobile Component Sector (1994–2001)

Company	Number of JVs built in China	Ownership in China JVs	Major products in China
Type1: Components industry investment company			
ITT Automotive Pacific	2	-	Auto electrical systems, auto-locking brake systems, fuel handling systems, sensors, switches, and after-sales products
Asimco	13	-	Auto components except engine
Type 2: Investments by specialized multinational components company			
Delphi	7	-	Produced 600,000 automotive generators per year
Robert Bosch	4	50%	Computer-controlled EMS (engine management systems), diesel engine fuel injection components
Valeo	6	Over 49 percent of the equity	Clutch, air-conditioning, automobile electrical systems, and electric motors
Denso	5	In the two JVs established in 1994-5, it held a minority share, but in the three established in 1996-7, it held a majority stake	Air-conditioners, alternators and starters, magnetos, CDI amplifiers and ignition coils, electronic control components
Type 3: Foreign investment in engine making			
Company	JV partner	Ownership in China JVs	Project
Volkswagen	First automobile works	40%	Produced around 500,000 passenger car engines
Mercedes-Benz	South China Motor Corporation	45%	Built 100,000 engines for minibuses (as well as 60,000 minibuses) annually

Toyota	Tianjin Auto	50%	Produced 150,000 1.3-liter car engines, mainly intended for use in the Charade mini-passenger vehicle produced by Tianjin Auto under license from Daihatsu
Hino (a truck-making affiliate of Toyota)	China National Heavy Duty Truck Corporation	-	Produced truck engines
Mitsubishi	China Aerospace Automotive Industry Group	-	Manufactured vehicle engines of 2.0 and 2.4 liters, produced 150,000 units per year
Lucas-Varity	Tianjin Engine Works	50%	Manufactured diesel engines for use in trucks, buses, and power-generating equipment, produced around 50,000 engines per year
Cummins	Dongfeng	50%	Manufactured truck diesel engines

Source: Summarized and compiled from various sources.

However, looking behind the boom in the Chinese component market, Chinese component makers should learn lessons from Brazil. The Brazilian components industry offered an important lesson to China. The Brazilian automobile industry was much further advanced than the Chinese automobile industry, with a total output of vehicles and components roughly three times that of the Chinese in the mid-1990s (Mukherjee and Sastry, 1996). Like China, it developed a proliferation of mainly small indigenous component makers totaling around 1,000 in 1997. For decades, indigenous firms had been able to charge high prices for often low-quality products (FT, 9 July 1997). The rapid institutional change in the global components industry and fast expansion of international investment by the global giants of the auto industry had accelerated foreign penetration of the Brazilian components industry (FT, 9 July 1997). Small indigenous makers found it hard to compete with JVs established by the multinational giants. The

only way to attain the technology and economies of scale needed to survive was to join forces with the big international groups. Thus, many manufacturers could only hope to survive in the second tier, supplying the motor industry's suppliers (FT, 9 July 1997). Chinese companies always wished to rely on others to help and teach them, which was a big mistake.

During the second phase, as a country develops, the improvement of its locational advantages leads to a growth of inward FDI, especially in primary commodities and natural resources as well as in industries that are intensive in physical capital and low-qualified work—sectors whose endowment of created assets are scarce. At this time, government policies may influence the process through incentives or tariffs, as the competitiveness of the local firms at this stage is still very low and the outward FDI remains extremely low but larger than in the first stage (Dunning and Narula, 1996).

After analyzing the vehicle and component part, it is partially true that intervention could be used to promote the upgrading of MNC activities from those that are simple, labor-intensive, and low technology to those that are more complex and demanding by guiding foreign entry or providing strong incentives to all investors. As Dunning (1981) states, this opening up of the home market to foreign investors allows the construction of more and better infrastructures—which are technologically beneficial for training and qualification of local work—and the emergence of a national industry more intensive in resources. There is also an increased integration of domestic firms in MNC's production chain, as well as a learning-by-doing and know-how transmission process to local firms. This allows these firms to create or upgrade their ownership advantages, which induces the emergence of outward FDI directed to adjacent countries in order to

find new markets (market-seeking FDI), and, to a lesser extent, strategic asset-seeking FDI in high-income countries.

During this period, government policies may influence this trend, through incentives or tariffs, because the competitiveness of the local firms at this stage is still very low and the outward FDI remains extremely low but larger than in the previous stage. However, in this case study, even with strict government policies, China still failed to completely establish independent technological capabilities of the indigenous SOEs and lost control of the Chinese passenger car market to international automakers. The main reason is intended routines of the 1994 policy were distorted. At the very beginning, the “joint venture regulation,” “trade barriers,” “entry limit,” as well as the “local content rule” were created in order to cultivate advanced international competitiveness of SOEs. But in the end, the four development policies worked together and created the oligopoly. The entry limit regulated many private investors out of the automotive production business. Also, many automotive groups that created international joint ventures gradually gave up their own brands and merged their independent plants into the joint ventures to supply parts—in order to solely pursue the local content rate of joint ventures. Thus, the pursuit of local content rate also indirectly contributed to the oligopoly of the international joint ventures. Given the market power of the oligopoly, both the local partners and their international joint venture partners made huge profits relying on the high price for cars sold in China. Oligopoly naturally hinders technology innovations. The foreign partners postponed the update of the product line and kept selling outdated models even in a fast growing market. The oligopoly market environment and the cross-holding joint venture structure reduced the international automakers’ incentive to conduct

R&D activities in the joint venture located in China. Moreover, because local firms also could become foreign firms' potential competitors in the future, international firms would never really help local Chinese firms understand their key product technologies. Meanwhile, when foreign partners did not transfer the product technological know-how actively, the indigenous SOEs also dramatically lost the motivation to conduct their independent product R&D and production activities. Because local private investors were regulated out of this game, with their franchise obtained from the government, the only important way to guarantee good profits for a Chinese SOE was to pick up a good foreign partner. By sharing the profits of the joint ventures, the SOEs earned a lot of money without making any significant cooperative or independent efforts. In this situation, the SOEs refused to risk investing in R&D and developing independent products. Step by step, the SOEs became weaker and weaker in technological capabilities and brand creation.

CHAPTER FIVE: THIRD PHASE (2001–2007)

Regulation Liberation and Impacts (2001–2004)

After China entered the World Trade Organization (WTO) in 2001, the Chinese government started to reform its automotive industry policies and loosen the industrial regulations in accordance with its WTO obligations. Consequently, some transformative changes occurred.

As illustrated in Table 7, the tariff rate for imported entire cars was lowered to 30% on January 1st, 2005, and scheduled to drop to 25% by July 1st, 2006. The tariff for automotive components and parts decreased to 30% first and was scheduled to lower to 10% after July 2006. The historical automotive import quota increased by 20% per year and was scheduled to phase out by 2006. Even though joint venture style cooperation was still mandatory for MNCs in the automotive industry, the local content rate was no longer required after 2002. More foreign and indigenous private investors were allowed to operate automotive businesses in China, especially in the passenger car market.

Table 7. Tariffs, Pre- and Post-WTO Membership

	Before WTO entry	After WTO entry
Tariffs	200% in 1980s, 80–100% in 1990s	25% for CBU importation and 10% for parts and components importation after July 2006.
Import quotas	30,000 vehicles per year allowed from foreign carmakers	Quota increased by 20% per year, phased out by 2006
Local content requirements	40% in first year of production, increasing to 60% and 80% in second and third years, respectively	No local content ratio requirement after 2002
Auto financing for Chinese domestic customers	Foreign, nonbank financial institutions prohibited from providing financing	Foreign, nonbank financing permitted in selected cities before gradual national rollout after 2002
Foreign participation in sales and distribution	Limited to wholesaling through JVs; prohibited from consolidating sales organizations of imports, JVs	By 2011 be allowed to own vehicle wholesale, retail organizations, integrated sales organizations

Source: Gao (2002) and materials from Chinese Automotive Yearbook 2008 and translated by author.

Because of the policy changes and the huge potential market in China, nearly all the major international carmakers entered the Chinese automotive market. More diversified car models were been introduced, in comparison with the oligopoly era before 2000, when there were only a few models available. And a complex partnership structure between local and international firms was established gradually in this period, as shown in Figure 3, below. All these transformations increased the competition in the domestic market and drove firms (including international joint ventures, the state-owned firms, and local private firms) to promote their product quality and design, decrease costs, and lower prices.

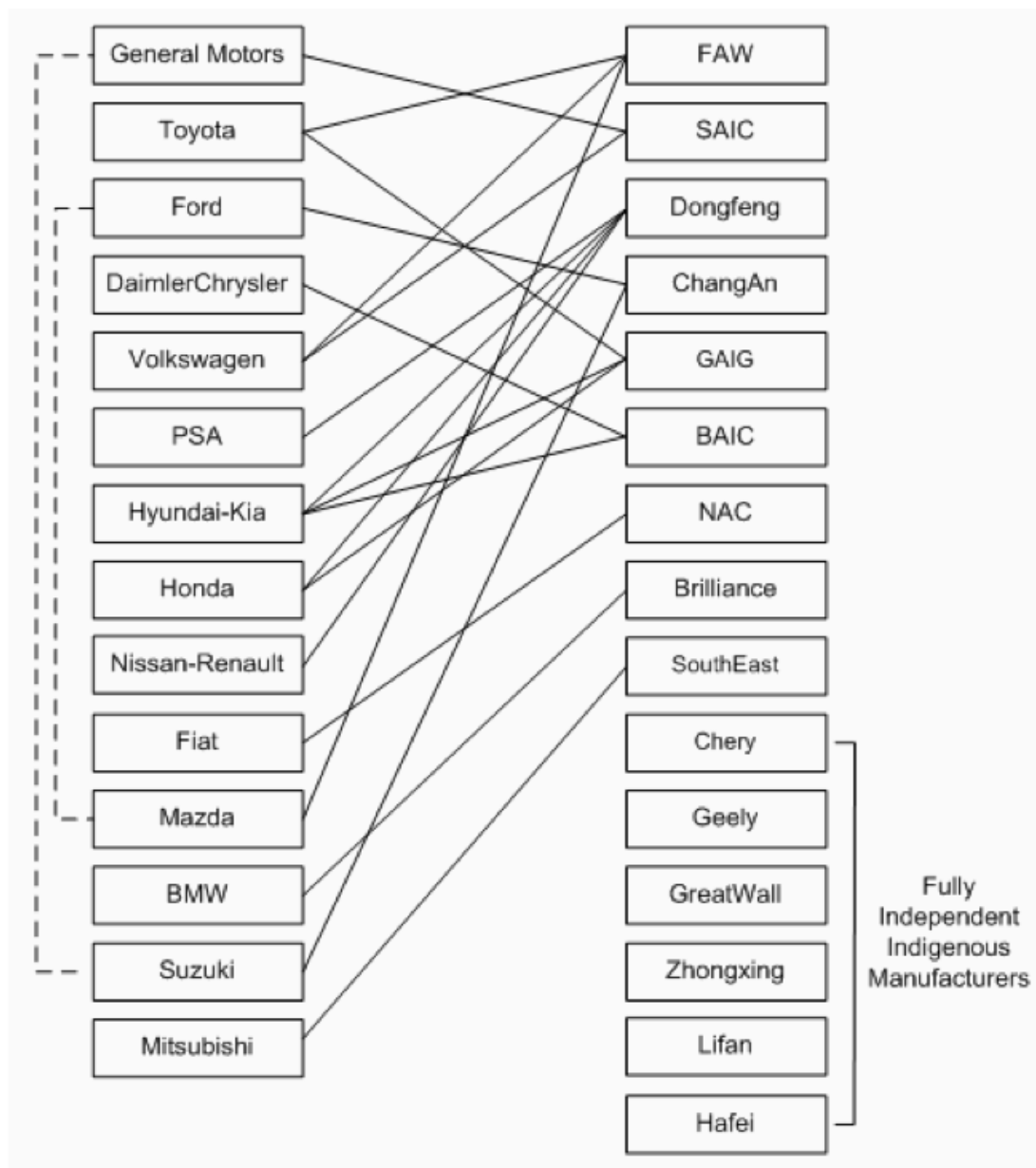


Figure 3. Partnership structure between local and international auto firms in China.
Source: Luo (2006) and 2004 Yearbook of China's Automotive Industry.

The Impact of the Reduction of Tariffs

Price differences have had an impact on the Chinese car industry. After tariffs on cars were reduced, foreign cars gained price advantages and the prices of domestic cars categorized in the same grade were significantly higher than the prices of foreign cars in

the same category. Overall, the higher the category and price of car, the larger the gap in price between foreign and domestic.

Comparing prices is also very complicated. The domestic car market had been regulated by the Chinese government over such a long term that it was insufficient where competition is concerned. Under these circumstances, domestic car profits were much higher than foreign car profits. Because of this, comparing the sales prices of the cars did not accurately reflect the changes that the tariffs had created.

It is found that price determines the competitiveness of a car model. If the average price differences between domestic and foreign cars are less than the tariff on foreign cars, the competitiveness of domestic cars is weakened, and vice versa. For example, after 2006, the tariff on cars was reduced to 25%; if the average difference between domestic and foreign cars in the same grade is less than 25%, the domestic cars will not be influenced in the price competition. It means the domestic cars' competitiveness depends on not only tariff but also the total cost of a car. Also, the impacts on domestic high-grade and low-grade cars were different. When the average tariff was reduced to 25% in 2006, it was possible that high-grade cars were at a disadvantage while low-grade cars were still competitive. The tendency may have been that the competitiveness of domestic low-grade cars would improve through intensive competition while the reduction of cost and price of high-grade cars would not be compatible with the reduction of tariff. Consequently, foreign cars dominate the high-grade car market and domestic cars dominated low-grade car market.

The Impact of the Change of Car Import Quota

After 2001, the quota of import cars and car parts increased yearly by 20%, based on a figure of \$6 billion. In 2006, the quota was cancelled, meaning that the import quota of 300,000 cars per year would no longer be in effect. “However, car production volume is just 605,000 in 2000. The import quota is about 50% of annual car production volume” (Guo, 2003). Because of this, the import quota on cars in China produced a strong challenge for the domestic automobile companies.

Because the average tariff on cars was still high before 2006, the prices of foreign cars were still higher in the Chinese domestic car market. Even though foreign cars were expensive, as a whole, foreign cars were superior to domestic cars in terms of performance and integral quality. However, domestic cars may have been at a disadvantage in the quality competition. Despite greater quality, foreign cars could not have a great impact on domestic cars even if the import quota were cancelled. Under that circumstance, because of the price advantage of domestic cars caused by the high tariff, the impact of quality advantage of foreign cars was limited. But things changed when the average tariff on foreign cars was reduced to 25%, and foreign cars had an impact on domestic ones in terms of both price and quality; domestic cars without protection from import quota were heavily pressured. Especially in the high-grade car market, the market share of foreign cars boosted. The influence of cancellation of quota appeared.

The Impact of Opening the Chinese Car Industry to Foreign Investment

Besides the positive changes on the supply side (manufacturer), the demand side (consumer) also served as a key driver for Chinese automotive market growth at that time. The increase in income in the metropolitan areas and the rise of an affluent middle

class made private purchasing become the mainstream of auto consumption. The upgraded products attracted the enthusiasm of potential car consumers and drove the auto market growth. From 2001 to 2004, the average annual growth rate of motor vehicle production in China was as high as 23.5 percent—much higher than that in the 1990s (12.6 percent). In 2004 alone, the output of motor vehicles in the country totaled 8.9 million units, more than four times that in 2000. The growth of passenger car production was even more astonishing after China entered the WTO in 2001. Total output had increased by nearly one million units in each year since 2002—an annual growth rate of 34.3 percent.

At the same time, side effects also emerged. Due to the fast market growth and rich profit in China, almost all the global carmakers as well as the domestic auto groups expanded their capacities in China. Hence, a rather low capacity utilization rate was induced in the Chinese automotive industry. Capacity utilization is a vital performance measure of the capital-intensive automotive industry and very sensitive for determining companies' financial turnouts (Holweg and Pil, 2004). As shown in Table 8, the capacity utilization in the auto industry is only 50% to 60%, far below the average utilization in the western automotive industry of around 80% (Holweg, Luo and Oliver, 2005). The capacity utilization of the indigenous firms is incredibly low, at 20%.

Table 8. Capacity Utilization Rate of the Chinese Automotive Industry

Type of automaker	Capacity utilization rate
International joint venture plants	70.1%
Independent plants of top five SOEs	50.4%
Indigenous local private firms	20.2%
Industry average	51.3%

Source: Matthias, Luo and Oliver (2005).

Even in this situation, most manufacturers were still expanding their facilities in China. Global automakers, including Volkswagen and GM, continued adding investment and tried to double their annual production capacity in China. Local private carmaker Geely also planned to increase its capacity from 210,000 to 650,000 by 2007 (KPMG, 2004). Perhaps it believed that sustainable growth in the future could help the company deal with this problem.

During this period, new policies were not made. Thus, the automotive market growth was driven merely by regulation liberation and country's overall economic growth. The trend in domestic automakers was to promote technology spillover and learning by doing. On the other hand, we should also note that severe overcapacity started to bring negative effects to the Chinese automotive market.

New Automotive Policy and Effects (2004–2007)

New Automotive Policy

In order to bring policy in line with China's World Trade Organization (WTO) membership obligations, China set out a roadmap for the industry's development in "Chinese Automotive Industry Policies 2004". It was released by China's State Development and Reform Commission (Appendix B is the summary of "Chinese Automotive Industry Policies 2004"). Consisting mainly of 12 chapters, the new policy superseded the previous policy that had been in place for about 10 years and which had become increasingly outmoded. The new auto policy was directed at achieving a degree of rationalization among the domestic manufacturers and cultivating a number of efficient export-led auto companies.

Encouragement policy

The 2004 China automotive industry policy offered encouragement and strategic direction, rather than just strict regulation. The new policy encouraged local private firms to join global competition and it was expected that global components would be produced in China not only for the domestic market, but also for exporting to North America, Europe, and Japan (Holweg, 2006). This indicates a significant change in the role of the government in economic matters, as it was now committed to using market forces to influence the industry's future rather than government-prescriptive policies.

Moreover, under the new policy, R&D expenses were tax deductible in order to encourage local R&D activities and the development of indigenous intellectual property. And there were also several measures that provided incentives for local component production and sourcing.

On the demand side, policy supported private car purchases by encouraging the development of various auto-related sectors such as financing and insurance. A fair and open market for both manufacturers and consumers would be strengthened by the application of standard nationwide administrative and registration fees in lieu of various local government levies. In developing the secondhand car market, related government units were required to cooperate on matters such as standardizing transaction charges.

FDI and importation policy

In the meantime, the new policy still retained some restrictions on foreign investment and some limitations on vehicle and parts imports. Under the new policy, foreign investment in vehicle assembly projects continued to be capped at a maximum of 50 percent. For vehicle assembly projects geared to export and located in an export-

processing zone, foreign investment of more than 50 percent was permitted, subject to the State Council's endorsement. This cap was not required to be reduced under China's WTO commitments and was an effective way for China to retain a significant stake in the sector and to assist the larger domestic manufacturers.

To curb overinvestment in the sector, existing dormant vehicle production companies could not transfer their manufacturing licenses to nonautomotive enterprises. At the same time, a higher entry barrier with a minimum investment size of RMB 2 billion (US\$241 million) was stipulated for nonauto companies to enter the industry in the new policy. The Chinese government also started to implement selected economic cooling-down policies, including discouraging bank lending and slowing approval for investments. In addition to these macroadjustments, consequent lower lending from the banks and frequent price cuts reduced demand—many price-sensitive Chinese consumers delayed buying cars as prices continued to fall. All of these policies (both foreign and local) would help China to reduce overinvestment that could result in overcapacity in the automotive sector.

Regarding the import limitation, beginning in 2005, imported vehicles could no longer be stored in bonded warehouses in China. That means import duties would be collected at the time vehicles landed in China, and imported parts would be charged the same level of import tariffs as complete vehicles. The policy demonstrates the government's desire to monitor and shape growth in this sector. Moreover, in 2005, in order to stem the tide of CKD imports by MNCs, the Chinese government announced a new regulation on the import of automotive parts and components. If 60 percent or more of the parts and components used in a vehicle assembled in China were imported, then

CKD imports were treated as CBUs (*i.e.*, a 25 percent tariff would be applied).

Furthermore, imports of the following items were also being treated as CBUs:

engine/chassis assemblies; assemblies consisting of transmission, steering, braking, front-axle, and rear-axle components; and assemblies consisting either of the engine or chassis in combination with three of the aforementioned five components (GACC, 2005).

The Effects of New Automotive Policy

During this phase, according to Dunning and Narula (1996), there should be an increased rate of growth of outward FDI and a gradual slowdown in inward FDI. The ownership advantages of local private firms are increasingly associated with the property of intangible assets and less dependent on government policies. But the role of the government is still relevant and oriented towards a reduction of market failures and inefficient industries—as well as towards promoting an increasing integration of local and foreign companies, which minimize the delocalization risks. The main objectives of the incentives are to attract FDI in activities in which local companies do not have competitive advantages, as well as to stimulate domestic firms to exploit their own advantages in new markets.

Due to the encouragement policy and the intense competition in the automotive industry, international carmakers started to consider conducting more local design and development jobs in China. For example, the new 2006 Buick LaCrosse Chinese version was a model completely designed by PATAC in Shanghai, the joint venture R&D center of GM and SAIC. The deeper technological spillover effect began to take place on indigenous carmakers, including SOEs and joint ventures.

By accumulating earnings during the golden years of the market boom from 2001 to 2004 and the under the support of new governmental encouragement policies, local carmakers began to develop or acquire car designs individually or by cooperating with international designers. For example, domestic automakers Geely and Chery were dedicated to joint product development with international technology companies like AVL, Pininfarina, Ricardo, and Bertone (Luo, 2005a). Finally, Chery jointly developed 18 up-to-date engine models from 0.8L to 4.2L with AVL, and all these engines met the Euro IV emission standard. Chery fully owned the intellectual property of these engines. But the ambitious policy is also a poison to indigenous carmakers; in order to rapidly capture market share, indigenous carmakers started to use other companies' technological skills without any authorization. Afterwards, intellectual property disputes arose, and many indigenous automakers were accused of copyright infringement.

New restrictions in the new automotive policy also helped China reduce overcapacity, reduce overinvestment, and protect the rationalization of the local auto market. Consequently, until 2007 China was the third-largest country in motor vehicle production, trailing only Japan and the United States. The number of passenger cars on the road in China had increased from about 6 million in 2000 to over 29 million in 2007 (China Automotive Industry Yearbook 2008). But it led to a trade dispute between China and the European Union, the United States, and Canada. The latter three jointly lodged a complaint against China with the WTO in September 2006 and demanded an investigation into China's new regulation on imports of parts and components. On the other side, the Chinese government made a concession, postponing the implementation of the new regulation by two years.

During this period, since joining the WTO and developing domestic carmakers' technological capability, the Chinese carmakers started to export cars to some undeveloped or developing countries. We can see China had already made some progress in the automotive industry from 2005 to 2007.

But that progress could not meet the extremely ambitious objectives of the new policy made by the central government. The Chinese government aimed to encourage self-reliant product development and local brand development, building up a few famous brands at world-level (top 500) automotive groups before 2010. The Chinese government also hoped China would become one of the major global automotive production countries, and exporting in large volumes. During this period, since joining the WTO and developing domestic carmakers' technological capabilities, the Chinese carmakers started to export cars to some undeveloped or developing countries, and vehicle production in China rose rapidly. Thus China had already made some progress in the automotive industry from 2005 to 2007. At this stage, we could see the policies were quite similar to Lall's ISI restructuring strategies. According to Lall, the main policy tool was trade liberalization or strong export incentives, and this led to considerable upgrading of these industries—the main agents in China were domestic enterprises, and in other countries, they were MNCs (Lall, 2003). On the other hand, we should note that production was still mainly to serve the expansion of the domestic market, and exports were still limited. In 2007, around 6 million vehicles were produced, but the vehicle export volume was only 614,412, as noted in Table 9. The main export destinations were Southeast Asia, Latin America, Africa, the Middle East, and some other developing countries, as noted in

Figure 4.¹⁶ Among the international automakers, Honda was the only one that largely exported vehicles manufactured in China to overseas markets. In 2005, 11,047 Jazz, which were produced in the joint venture owned by Honda, GAIG, and Dongfeng, were exported to Europe. We should also note that in this joint venture, Honda had 65 percent ownership. The foreign ownership cap of 50% did not apply to the exportation-oriented joint venture (Luo, 2005). Besides international carmakers, domestic carmakers Geely and Chery also exported overseas in low volume. Geely exported 29,067 cars in 2007 to some less developed countries. Chery sold only about 18,000 cars in overseas markets until 2007 (China Automotive Yearbook 2008). Low automobile export volume was mostly due to the limited quality and brand power of the Chinese products. Besides direct exports, the domestic automakers set up CKD plants jointly with other developing countries, including Egypt, Viet Nam, Iran, Russia, and Turkey. Assembling automobiles in developing countries could help China skip the import tariff and benefit from cheaper land and labor. But compared to the domestic market, the sales volume and profits were extremely low in those developing and undeveloped markets, and it partially quenched the exportation passion of domestic automakers.

¹⁶ According to data from CATARC, in 2005, 710,540 special vehicles (*e.g.*, forklifts, golf vehicles, and all-terrain vehicles) with an engine volume $\leq 1000\text{ml}$ were exported in 2005.

Table 9. Chinese Automotive Export Data in 2007

Company	Export volume	Export destination
FAW	28,823	The Middle East, Southeast Asia, Russia
SAIC	60	Chile
Dongfeng	9,172	The Middle East, Southeast Asia
ChangAn	2,001	Algeria, Thailand, Vietnam, Russia, Zambia, Peru, Morocco, Sri Lanka
GAIG	43,124	Hong Kong, Europe
BAIC	14,134	South Africa, Russia, Cuba
NAC	9,135	Russia, Algeria, Vietnam
SouthEast	9,478	The Middle East, Southeast Asia, Eastern Europe
Chery	119,891	Russia, Iran, Egypt
Geely	29,067	Russia, Ukraine, Venezuela, Syria
GreatWall	28,519	Cuba, Europe
Zhongxing	10,000	The Middle East, Africa, Russia
BYD	6,690	Russia, Algeria, Ecuador, Nigeria, Columbia, Egypt, Chile
Hafei	14,569	The Middle East

Source: Materials from Chinese Automotive Yearbook 2008 and translated by author.

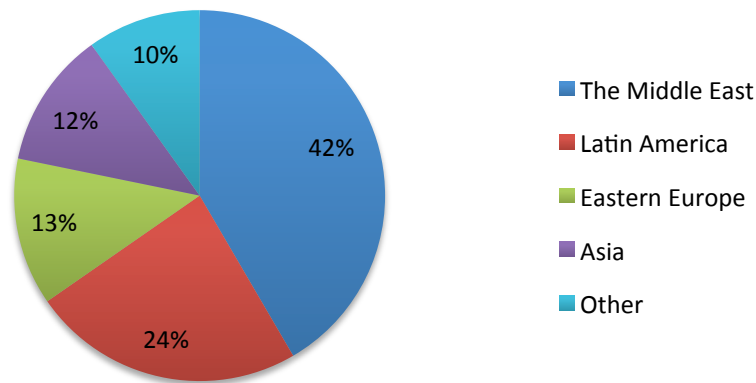


Figure 4. World distributions of Chinese automotive exports in 2007. Source: Organized and translated by author, materials from various Chinese auto magazines.

In summary, new policy brought both positive and negative effects to China. On the one hand, China gained a deeper technological spillover effect from international auto companies. And the regulations of the new auto policy to some extent encouraged

indigenous automakers to join severe global competition and help them made some kind of progress. On the other hand, the new policy still could not be totally in line with WTO rules and brought China much trouble. Under this situation, those strategies merely could put the industry in a boom period for a very short time, and the boom could not last very long. And we should also note that in spite of copying from MNCs, the local firms still failed in building their ownership advantages associated with the property of intangible assets.

CHAPTER SIX: FOURTH PHASE (2008–PRESENT)

Impacts of the Global Financial Crisis on China's

Automotive Industry (2008–2009)

From 2001 to 2007, China enjoyed the benefits brought by joining the WTO. However, starting in 2008, the global financial crisis let China experience the side effects of entering the WTO. According to export statistics offered by the Chinese General Administration of Customs, from January to July 2008, a consistent rapid growth trend was shown—but there was an obvious decline starting in August 2008. The decline in exports lasted for about five months. The general low export growth in the Chinese automotive industry became much worse than before. Especially in November 2008, only 35,800 cars were exported, which was the lowest export volume in the previous 20 months. During the whole year, only 681,008 automobiles were exported, and compared with the same period in the previous year, exports had declined by 68.1 percent. In addition, the \$9,633 billion of car exports declined by 53.09 percent when compared with the first half of the year; when compared with the same period in the previous year, it had been lowered by 101.3 percent. Car component exports, which took a large proportion of total export volume, had been lowered by 27.8 percent compared to the same period in the previous year, as noted in Table 10.

Table 10. Growth Rates of Exports in Chinese Automotive Industry (2001–2008)

Year	Growth rate of automotive products export	Automotive		Automotive component	
		Proportion share in total export volume	Export growth rate	Proportion share in total export volume	Export growth rate
2001	18.2	5.0	5.3	95.0	18.9
2002	19.9	5.0	20.9	95.0	19.8
2003	34.4	5.6	49.6	94.4	33.6
2004	68.7	5.4	64.6	94.6	68.9
2005	54.4	9.1	158.4	90.9	48.5
2006	43.2	12.6	98.2	87.4	37.7
2007	46.6	20.0	133.1	80.0	34.1
2008	11.4	23.6	31.8	76.4	6.3

Source: Materials from Chinese Automotive Yearbook 2008 and translated by author.

One reason for the export volume declining was the auto demand in the major auto market, including Europe and North America, decreased sharply; the decrease in those developed countries dragged some newborn markets, including Russia and Latin America, into depression. Another reason was almost all the countries were busy making policies to protect their own economies. Especially in Russia and some other developing countries in Latin America, which were the main auto export destination for China, governments set severe restrictions and commercial barriers to auto export. Besides that, some other factors, such as the appreciation of RMB for both the euro and dollar, led to a higher cost of production, and sales restrained the export of China's automobiles, as noted in Figure 5.

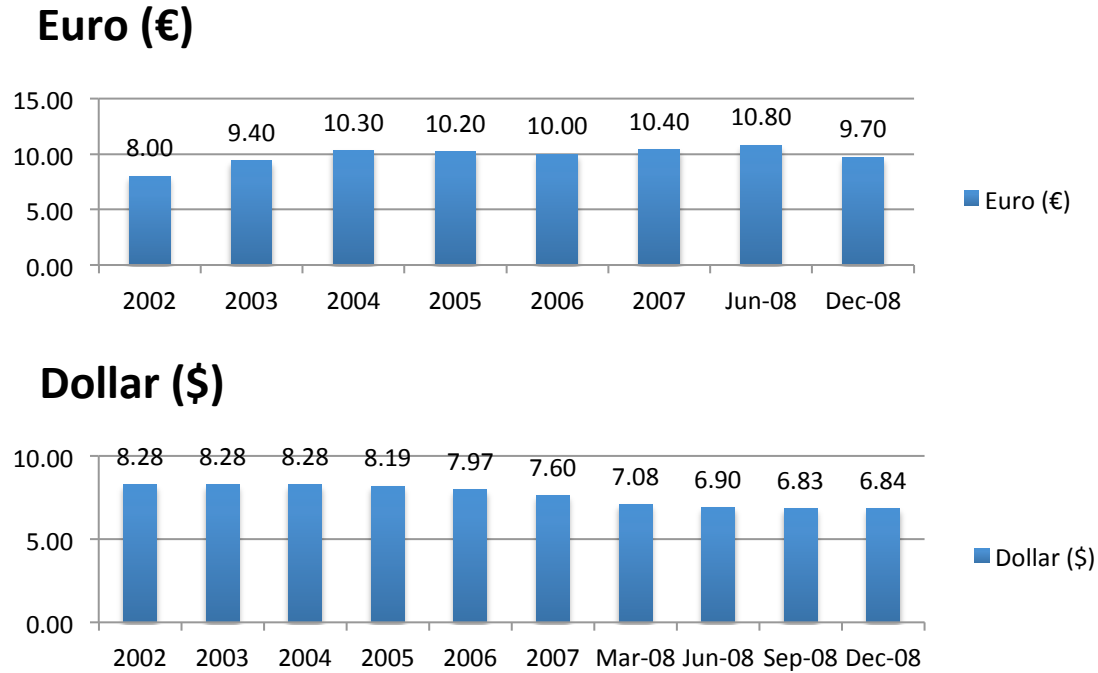


Figure 5. Exchange rates, RMB to euro/dollar (2002–2008). Source: Materials from People’s Bank of China and organized by author.

The global financial crisis can be both an opportunity and a challenge for the Chinese automobile industry. On the one hand, when those international automotive manufacturers are dealing with their bankruptcy risks in other automotive markets, Chinese indigenous automakers could take a breath from the formerly drastic automobile market and can make use of the favorable economic environment and financial support to facilitate their product innovation, as well as further develop new markets for their investment abroad. On the other hand, due to the dominance of the FDI investment pattern in the Chinese automobile industry, local auto companies faced great risks. Due to lack of relevant experience in international investment and M&A (mergers and acquisitions), local auto companies will suffer from even greater challenges after M&A; therefore, they should remain calm when dealing with all these. Besides the external

effect of the financial crisis, China was still faced with policy-related problems—Chinese new automotive industry regulations were against WTO rules. In July 2008, the WTO ruled that China had violated its WTO commitments in this case, and its new regulation on imports of automotive parts and components was illegal (Wall Street Journal, July 2008).

To summarize, the good thing is, even though the global financial crisis allowed the general low export rate in China to worsen, the auto sales in the domestic auto market still kept going up. The crisis created a favorable industrial atmosphere for indigenous auto companies. The bad thing is, China would meet with more challenges after the global financial crisis, including lack of experience in international investment and M&A (mergers and acquisitions), competing with stronger international rivals, as well as facing a much more free automobile market after the abolition of policy restrictions.

Policy Revision and its Effects (2009–Present)

To be in accordance with WTO rules, Chinese automobile policies were revised again. In September 2009, the Chinese National Development and Reform Commission (NDRC) was compelled to cancel all the policies regarding CKD import and localization of foreign products. Until now, a much more free automobile market had been built in China, and China decided to achieve progress in the automobile industry by using export-oriented policy and endeavoring to upgrade domestic automotive firms.

In 2009, due to the big changes in China's automotive industry environment, the NDRC announced a three-year plan. It contained eight development goals for the auto industry from 2009 through 2011. These five goals are summarized below.¹⁷

Export Policy and Goals

In order to enlarge the automotive component export market, the NDRC made the Chinese exports the first goal of the new policy. Accordingly, auto parts export volume was set to achieve a 10% average annual growth rate from 2009 to 2011. By 2015, total auto products' export value was expected to be up to \$85 billion and achieve a 20 percent average annual growth rate after that. By 2020, China's total automotive export value would constitute a 10 percent proportion of the world's total automotive trade value.

Goal of auto parts manufacture upgrade

Expand capacity of indigenous auto parts manufacturing through mergers and restructuring with other local automakers, while seeking technological independence in key auto parts and systems such as engine transmission, steering, braking, drive train, suspension, and vehicle control. Encourage Chinese auto parts companies to take a place in the world auto parts supply chain.

Goal of auto manufacture upgrade

Encourage the competitive indigenous auto manufacturers to improve automotive research and development through domestic cooperation. Call for the overall

¹⁷ China Automotive Review, "Automotive revitalization plan requires 10 percent growth in next three years," April 28, 2009, <http://www.chinaautomotivereview.com/pub/CARArticle.aspx?ID=3620>; "汽车产业调整和振兴规划" (March 20, 2009) on the official website of The Central People's Government of the People's Republic of China, http://www.gov.cn/zwggk/2009-03/20/content_1264324.htm#, as viewed on August 19, 2009. The US-China Business Council released a brief English-language summary, "USCBC Summary of the PRC Auto Industry Revitalization Plan." Translated by Rachel Tang.

improvement in automotive technologies, including greater fuel efficiency, development of new energy sources, and safety features. Develop a number of measures to reduce fuel consumption, including rising fuel prices and reducing taxes on smaller vehicles,¹⁸ and starting a pilot program to offer incentives to taxi and other fleet operators if they purchase alternative-energy vehicles.¹⁹ And encourage indigenous automakers participate in the world competition by acquiring foreign brands. Improve automotive development and try to build up a few world-famous Chinese automotive brands. The final goal is to increase the domestic market share of Chinese-brand vehicles to at least 40%, with about 10% of vehicle exports made by local Chinese automakers; emphasis would be on intellectual property protection.

Goal of auto industry restructuring

In order to achieve lower cost, promote efficient resource allocation and enhance the competitiveness of the indigenous automakers. Making progress on industry consolidation and restructuring is encouraged. This policy aims to consolidate the current 14 major auto manufacturing groups, which command more than 90% of market share, into 10 such groups; to form 2 to 3 large auto groups with an annual capacity of over 2 million units; and form 4 to 5 smaller groups with annual production capacity of over 1 million units.

¹⁸ *Economist Intelligence Unit*, "Industry Report: Automotive, July 2009."

¹⁹ *Automotive News*, "2009 Guide to China's Auto Market," April 27, 2009, p. 20. The incentives are reported to be a fixed amount of \$8,770 for an electric car and up to \$7,310 for a hybrid.

Goal of protecting the natural environment

Aiming to protect the natural environment in China, the new policy promotes optimizing the auto market demand structure so that small passenger cars with engine displacements of under 1.5 liters account for more than 40% of the market, while cars under 1.1 liters will comprise over 15% of the market. Increase production capacity of new-energy vehicles to 500,000 units, whose sales volume should account for 5% of total passenger cars, and create an infrastructure to support electric vehicles. Increase auto consumption with a reasonable system of taxes and fees. Offer subsidies and low shopping taxes (5%) to raise the enthusiasm of the potential consumer toward small passenger cars with engine displacements of under 1.6 liters. The traditional policy theme of “foreign investment” in automobile manufacturing was removed from the “encouraged” category. At the same time, alternative-energy vehicles had been moved up to the “encouraged” category.²⁰

China’s new automotive policies were mainly categorized in two parts: “promoting exports” and “upgrading China’s auto industry.” As noted above, “upgrading China’s auto industry” included an auto parts manufacture upgrade, an auto manufacture upgrade, and auto industry restructuring. Now, we will introduce the “promoting exports” policy.

Those policies are also in line with Dunning’s fourth phase of IDP theory. According the Dunning, stage four of IDP is distinguished by a shift to a positive NOI position, as outward FDI stock exceeds inward FDI stock. This happens because

²⁰ *The Wall Street Journal*, “China Downshifts on Autos, Boosts Energy in Foreign-Investment Review,” December 31, 2011.

domestic firms' ownership-advantages develop, which allows them not only to compete locally with foreign firms but also to expand their activity abroad. These increased investments abroad are motivated by the search for new markets and cheap labor forces in countries at lower stages of development. That part of the theory is in line with China's "promoting exports" policy. At this stage, the country location advantages, traditionally associated with a cheap labor force and natural resources, began to be based mainly on created assets (sophisticated markets, qualified labor, technological capacity of the more dynamic sectors, and development of economies of agglomeration). The production processes became more capital-intensive, reflecting a lower cost of capital compared with the cost of labor. That part of theory is in line with China's "upgrading China's auto industry" policy.

The implication of export policy

In 1989, China exported just six cars. Today, as noted in Table 11, the number of vehicles exported is almost one million, and the ratio of the number of vehicles exported to total vehicle production in China has increased in the past few years. And in general, the increase in total vehicle production as well as the increasing ratio indicates big development in Chinese auto exports.

Table 11. Ratio of Number of Vehicles Exported to Total Vehicle Production in China (2009–2013)

Year	Number of vehicles exported from China (A)	Total vehicle production in China (B)	A/B
2009	370,000	13,790,990	2.68%
2010	566,700	18,264,760	3.10%
2011	849,800	18,418,880	4.61%
2012	1,056,100	19,271,800	5.48%
2013	977,300	22,116,800	4.42%

Source: China Automotive Industry Year Book 2009 to 2013; OICA (International Organization of Motor Vehicle Manufacturers), World Motor Vehicle Production by Country 2009–2013; ratios calculated by author.

But all of this progress could not meet the Chinese government's ambitions.

According to the first Chinese export goal made by the NDRC in 2009, by 2015 total auto products' export value should be up to \$85 billion and achieve a 20 percent average annual growth rate after that. By 2020, China's total automotive export value should constitute 10 percent of the world's total automotive trade value; however, as noted in Table 12, until 2013 the export value of auto products from China was \$12.91 billion, and the ratio of export value of auto products in China to export value of auto products worldwide was merely 1.058 percent. Apparently, the export goal was too high for the Chinese auto industry.

Table 12. Ratio of Export Values of Auto Products in China to Export Values of Auto Products Worldwide (2009–2013)

Year	Export values of auto products from China (billion U.S. dollars) (E)	Export values of auto products worldwide (billion U.S. dollars) (F)	E/F
2009	5.19	846.681	0.613%
2010	6.98	1091.975	0.639%
2011	10.95	1286.614	0.851%
2012	13.71	1295.298	1.058%
2013	12.91	—	—

Source: WTO, International Trade Statistics 2013 and World and Regional Export Profiles 2009 to 2012. Ratios calculated by author.

The low export value of auto products from China was caused by the low average export price for both vehicles and auto parts. According to statistics from CAAM, the average export price for a passenger car from China was about \$7,300 in 2013, and for commercial vehicles, about \$22,252. The export price of brand new Chinese passenger cars was even lower than that of Japanese second-hand passenger cars. And the average export price of commercial cars in China was as little as one-tenth of those made in the United States. The rush to sell low-cost cars overseas brings quality concerns, and an earlier attempt to export Chinese-branded vehicles to Eastern Europe ended in disaster after a dismal failure in crash tests.²¹ After that, even though SAIC and Geely won high marks in crash tests by a European safety agency, changing foreign customers' perspectives toward China-branded cars and overhauling brand image will take time.

Moreover, export destinations for Chinese vehicle exports did not change much. In 2013, as noted in Figure 6, Algeria, Russia, and other developing or undeveloped countries were still the main export destinations of China-branded vehicles. Brazil, which is also a developing country and aimed to boost its car exports just like China, had exported a lot of cars to some developed countries in 2012, including 1,504,364 cars to the United States, 212,792 cars to Europe, and 160,086 cars to Canada.²²

²¹ The Economist, "Chinese carmakers still in second gear," May 5, 2012.

²² Data from PwC, AMIA Auto Research, 2012.

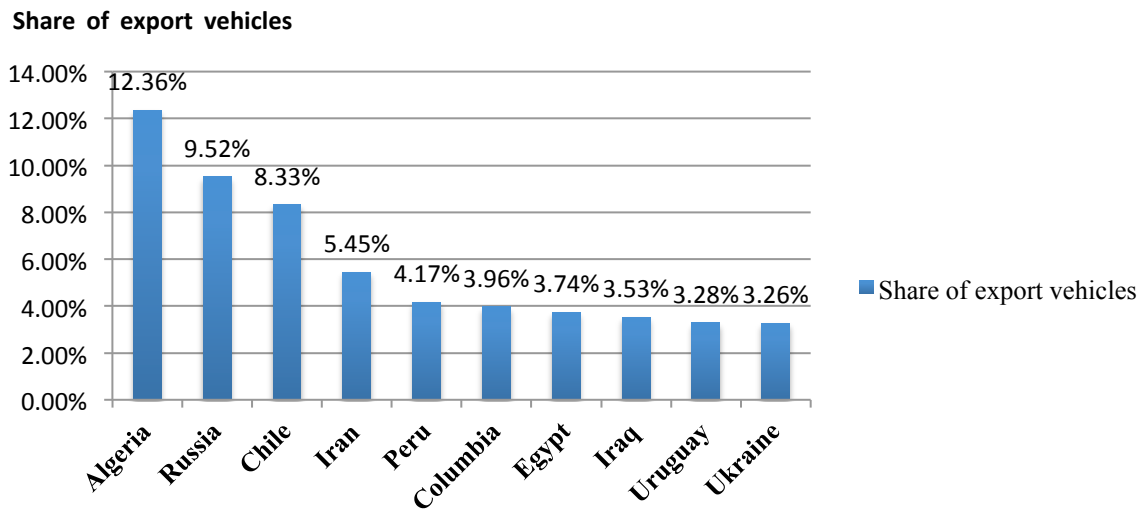


Figure 6. Distribution of Chinese vehicle exports in 2013, by country of destination.
Source: Data from China Automotive Yearbook 2013 and organized by author.

In spite of the low export vehicle volume, a higher number of vehicles that were imported into China sharply decreased the profit of China in international vehicle trade. As shown in Table 13, there was an apparent trade deficit in the Chinese auto industry. From 2009 to 2013, the gap was gradually increased. That was an abnormal phenomenon for the world's largest exporter.

Table 13. Ratio of Number of Vehicles Imported to Number of Vehicle Sales in China (2009–2013)

Year	Number of vehicles imported into China (C)	Number of vehicle sales in China (D)	C/D
2009	420,696	13,640,000	3.08%
2010	771,431	18,060,000	4.27%
2011	1,003,459	18,500,000	5.42%
2012	1,091,309	19,310,000	5.65%
2013	1,171,000	21,990,000	5.33%

Source: China Automotive Industry Year Book 2009 to 2013. Ratios calculated by author.

Although the Chinese government policies are quite similar to Dunning's fourth phase in IDP, in the case study of the Chinese automotive industry, due to the unreliable

brand image of some local Chinese manufacturers, low vehicle quality, and immediate-gratification culture in local governments and SOEs, the ambitious export goal will not be achieved by Chinese indigenous automakers by 2020.

Auto Industry Upgrade Policy and Effects

In order to achieve the upgrade of the Chinese auto industry, after 2009 indigenous auto firms and the Chinese government tried three measures, including M&A, building up local brands, and making an auto policy oriented to environmental protection. All those upgrading policies were quite similar to Lall's autonomous strategy; those strategies used extensive industrial policies, reaching into trade, finance, education, training, technology, and industry structure. These will be illustrated below.

Auto industry upgrade—M&A

Compared to previous auto policies, one transformative strategy that related to the auto industry upgrade in 2009 auto policies is the encouragement of domestic automakers to acquire foreign brands. To illustrate that policy, two iconic cases will be discussed. The first one is Geely buys Volvo and the second one is Chinese-Japanese Group acquires Saab. In March 2010, China's largest privately owned automaker, Zhejiang Geely Automobile Holdings Group (Geely), completed acquisition of Volvo from the Ford Motor Company. Geely paid \$1.8 billion, a fraction of the \$6.45 billion that Ford paid for Volvo in 1999.²³ Geely reportedly planned to retain the Volvo management, headquarters, and manufacturing facilities in Sweden and Belgium. Ford would continue to supply components to Volvo for an unspecified period. Ford's China joint venture,

²³ *The Economist*, "Devolving Volvo," March 28, 2010.

Chang'an Ford Mazda Automobile Co., still produces the Volvo S40 and S80 under contract with Volvo.²⁴

Even though Geely has completed the acquisition of Volvo, which is in line with the objective of the new Chinese auto policy, the Chinese central government still sees Volvo as a foreign entity. To follow China's investment rules, Volvo will establish a 50/50 joint venture with its Chinese parent company—Geely—to get government approval to produce cars in China. Volvo will also follow China's requirement that foreign automakers help Chinese partners develop an indigenous brand of cars and develop electric cars.²⁵ In March 2012, Geely and Volvo signed a technology transfer agreement, under which the two automakers would discuss specific ways Geely could take technology that Volvo planned to phase out over the next several years. This could help Geely, the Chinese maker of low-cost cars, to enrich its product portfolio and become more competitive in its home market.²⁶ However, in addition to the risks of brand dilution for Volvo, questions remain about whether Chinese auto companies like Geely would be able to build upon acquired technology, come up with its own design, and eventually move up the manufacturing value chain as a world-class car maker.²⁷

²⁴ *The Telegraph*, "Geely Completes Acquisition of Volvo," August 3, 2010; *The Wall Street Journal*, "Geely Sets Second Volvo China Plant," June 24, 2011.

²⁵ *Automotive News China*, "Volvo to Establish Joint Venture with Geely, Aims to Produce Vehicles in China," February 24, 2012.

²⁶ *Automotive News*, "Geely Signs Technology Transfer Deal with Volvo," March 9, 2012; Reuters, "China's Geely Hopes to Get Volvo JV Approval in H1," March 22, 2012; Reuters, "Volvo Technology Transfer a Lifeline for Geely," April 21, 2012.

²⁷ *Congressional Research Service*, "China's Auto Sector Development and Policies: Issues and Implications," by Rachel Tang, June 25, 2012. p.17.

In early 2010, after GM had gone through restructuring, it sold Saab to Spyker Cars NV, a Dutch boutique sports car maker, which then renamed itself Swedish Automotive NV. However, Saab remained vulnerable because of its small size, little access to credit, and dependence on others for key technology, especially at a time when the global auto industry was undergoing restructuring and a slow recovery.²⁸ As shown in Table 14, in September 2011, Saab filed for bankruptcy protection, under which it failed to reorganize afterwards. In December 2011, because of the failure of the acquisition, Saab filed for bankruptcy again and entered receivership, setting the stage for liquidation. The failure was mostly due to the disagreement with Saab's former owner, General Motors Co. GM stated its concerns that the key technology it had licensed to Saab would be transferred to China and could hurt GM's business there.²⁹

²⁸ The Wall Street Journal, "Saab Auto Will Restructure," September 8, 2011; Financial Times, "Saab Files for Bankruptcy as Fundraising is Blocked," December 20, 2011; The Wall Street Journal, "Saab Automobile, 1950-2011," December 20, 2011. These Chinese firms include Hawtai Motor Group, Zhejiang Youngman Lotus Automobile Co. (Zhejiang Youngman), and Pang Da Automobile Trade Co., a Chinese auto dealership network.

²⁹ *Ibid.*

Table 14. The Process of SAAB Acquisition

Date	Process
May 2011	Pangda Automobile Trade Co. Ltd planned to acquire a 24 percent share stake from Swedish Automotive NV.
June 2011	Pangda Automobile Trade Co. Ltd and Zhejiang Youngman Lotus Automobile Co. signed a memorandum of cooperation with SAAB, 245 million euros would be used to acquire 53.9% share stake from Swedish Automotive NV.
September 23, 2011	Saab filed for bankruptcy again and entered receivership.
October 28, 2011	Pangda Automobile Trade Co. Ltd, and Zhejiang Youngman Lotus Automobile Co. signed a memorandum of understanding with Swedish Automotive NV; those two Chinese auto companies decided to acquire a 100 percent share stake of SAAB with 100 million euros.
December 19, 2011	Sweden announced its approval of Saab's bankruptcy application. The acquisition of Saab failed.

Source: Materials from Chinese automotive industry Yearbook and auto websites. Process organized and translated by the author.

Finally, in June 2012, a Chinese-Japanese investment group agreed to buy Saab at an undisclosed price and to convert the bankrupt automaker into a maker of electric cars. The purchasing group consisted of Hong Kong-based renewable-energy power plant builder National Modern Energy Holdings Ltd., which owned 51%, and the Japanese investment firm, Sun Investment.³⁰

To summarize, besides feeling pleased with the acquisition success of Geely, China should pay more attention to the Saab acquisition case, which taught a lesson to the indigenous Chinese automotive companies. GM strong objection to making deals with potential Chinese investors means the intellectual property right issues have destroyed the Chinese auto companies' credit record. It also indicated there would be a lot of barriers to building a world-famous Chinese automotive brand as well as exporting "made in China"

³⁰ Bloomberg.com, "Saab Auto Sold to China-Japan Group in Electric-Car Push," June 13, 2012. Zhejiang Youngman had been in talks since February 2012 and made a revised bid of more than 4 billion Swedish kronor (\$567 million) in June 2012.

automobiles in some developed countries that emphasized protection of intellectual property rights.

Auto industry upgrade—build up local brands

It was not the first time that the central government endeavored to build local brands. As Ward's Automotive Yearbook 2008 states, "although China's 11th five-year plan (2006–2010) for the auto industry included an article requiring such development of indigenous brands, it was not officially promulgated in early 2007 as originally scheduled."³¹ The aim of the 12th five-year plan³² for the auto sector was stated as to "improve domestic automakers capability to produce complete vehicles, in addition to auto parts, and to develop indigenous capacity to produce key components."³³ Based on the rapid growth of the Chinese automotive industry and the apparent ambitions of domestic automakers, it could be a good time for the Chinese government to be more aggressive in promoting the creation of indigenous brands by domestic firms, especially through some Chinese partners in foreign joint ventures.

To build up local auto brands, the Chinese government applied two measures. One was promoting mergers and acquisitions among state-owned companies. From China's perspective, consolidation and restructuring could achieve the low-cost promotion and efficient resource allocation, improve the competitiveness of indigenous

³¹ *Ward's Automotive Yearbook 2008*, p. 38.

³² *Twelfth Five-Year Plan for National Economic and Social Development*, on the official website of The Central People's Government of the People's Republic of China; see http://www.gov.cn/2011lh/content_1825838.htm, as viewed on April 18, 2012. Five-year plans are a series of social and economic development plans issued by the central government as the overall principles directing the country.

³³ *Congressional Research Service*, "China's Auto Sector Development and Policies: Issues and Implications," by Rachel Tang, June 25, 2012. p. 25.

automakers, as well as strengthen technological cooperation. Consequently, it could help China to build up strong indigenous automotive brands. Under this encouragement, most mergers and acquisitions took place among state-owned auto companies. For example, Chang'an acquired two state-owned carmakers; and Jiangxi Changhe Automotive Co. and Hafei Automobile Industry Group Co. SAIC acquired Nanjing Automobile Group.³⁴

In contrast to Japan and Korea's autonomous strategies for building indigenous auto brands, which shut foreigners out of their domestic markets and gave domestic brands a captive audience to practice on, China let in the foreign carmakers and pinned hope on them to help China build up indigenous brands. Foreign auto companies wishing to build new plants or to add capacity have been advised by the government to develop a local car brand, establish R&D facilities for their Chinese joint ventures, and add electric vehicles to their product lineups.³⁵ For example, a local brand was "part of the deal" in Peugeot Citroen's new joint venture with Chinese carmaker Chang'an. That kind of deal also occurred with Volkswagen, Honda Motors, and General Motors. Under the pressure, Honda Motors launched the Everus S1, which is a previous model of the Honda Fit, for its Chinese partner, Guangqi Automobile Co. The car model was sold via the exact same dealership network for Honda vehicles, and reportedly merely 2,000 units are sold per month. Even though local brands were built in China, the indigenous car brands were created not to satisfy market demand, but to meet the central government's requirements. Another case is General Motors, which launched the Baojun 630 on the request of the

³⁴ Automotive News China, "Beijing expects 10 automakers to assemble 90% of China's vehicles by 2015," February 3, 2012

³⁵ Yang Jian, *Automotive News China*, "China Joint Ventures' Baby Brands Face Murky Prospects," April 24, 2012.

local government in Liuzhou. For its joint venture, SAIC-GM-Wuling Automobile Co., this car model was developed by Pan Asia Technical Automotive Center (PATAC) and was priced lower than GM cars. As a low-end, entry-level car, Baojun 630 cars were sold and marketed through a whole new dealership network. The Baojun 630 proved more successful than Everus S1. In the first three months in 2012, 22,000 units were sold in China. Baojun gets full support from international parent companies because the new brands are owned by the joint ventures.³⁶

Overall, the local brand policy failed. One reason is the bosses of state-owned Chinese firms treated their jobs as stepping stones to higher political office, moving on to a senior party role after five years or so. Thus, most SOEs in China lack motivation to foster research and development to lay the foundations for long-term success. Just encouraging M&A and consolidation cannot promote true reform among Chinese SOEs. Another reason is Chinese carmakers still rely on foreign automakers. Although offering subsidies or instituting policy restrictions on foreign partners could help China build local brands, none of the foreign manufacturers freely opted for having local brands added to a complex brand portfolio that they all already had.³⁷ From the domestic automakers' perspective, Chinese local brands are the low-end brands of international automakers. Thus, they also don't want to support the local Chinese brands.

³⁶ Yang Jian, *Automotive News China*, "China Joint Ventures' Baby Brands Face Murky Prospects," April 24, 2012.

³⁷ John Reed and Patti Waldmeir, *Financial Times*, "Foreign Groups Told to Make Chinese Cars," March 20, 2011.

Auto industry upgrade—environmental protection policy

Since 2009, the Chinese government not only cared about market growth in the auto industry, but it also started to think about how to deal with the bad effects, including increasingly paralyzing traffic conditions and severe air pollution in many cities, that were brought by the rapid development of the auto industry. Besides the environmental protection oriented policies noted in “Chinese Automotive Policy in 2009,” more will be introduced below.

Vehicle restriction policy

China overtook the United States as the world’s largest auto market in 2009, as the nation’s rising middle class shunned bicycles and public transport and embraced cars instead. But Chinese cities have been unable to adapt quickly enough to the rapid rise in car use.

Since 2010, in a bid to ease traffic chaos and curb air pollution, many cities in China have considered vehicle restriction policies. In December 2010, Beijing became the first city to allocate vehicle license plates using a lottery. Beijing’s municipal government limited the issuance of new car and microvan license plates in the city to 240,000 in 2011, about one-third of this year’s figure, and only registered Beijing residents were able to get one. Vehicles that don’t have Beijing license plates were banned from entering the main city area during rush hour. After implementing the policy, China’s total auto sales rose 26.9% in November 2010 from the same month in 2009, to 1.7 million units. The strong growth rate was partly due to the expectations of new traffic restrictions and the imminent expiration of some incentives for vehicle purchases. Total

auto sales in the January to November period in 2010 rose 34.1% from 2009, to 16.4 million units.

But in the long run, vehicle restriction policies that restricted vehicle consumption in China conflicted with the Chinese automobile industry policy in 2009. Beijing, as the capital city, became an example for other cities. Until 2014, four big cities—Guiyang, Guangzhou, Tianjin, and Hangzhou—have followed Beijing and implemented different kinds of vehicle restriction policies. Especially in Guangzhou, many local residents were shocked by the vehicle restriction policy. It was announced on June 30, 2012, and implemented on July 1, 2012. As more Chinese cities propose license-plate lotteries or other ways of limiting the number of cars on the road, it has become extremely difficult to actually get a car, and people sometimes wait years just to get a plate. And after obtaining the cherished plate, consumers are responding by buying more expensive automobiles with bigger engines. Major Chinese cities with policies designed to reduce car purchases to ease pollution and traffic congestion result in first-time car buyers skipping less expensive models—usually Chinese brands—starting to think, “putting the pricey plate on a more expensive car makes sense.” More and more first-time car buyers are buying big cars such as sport-utility vehicles and premium cars. Data from the semiofficial China Association of Automobile Manufacturers show that in Beijing, the average price per car has surged 88% since 2011, and the market share of cars with engines larger than 1.6 liters has grown 17% over the same period. (The Wall Street Journal, Aug. 7, 2013)

According to UBS research, every kilometer of road in China has about 200 cars—as many as in Los Angeles, which has the worst traffic in the United States. It

seems measures that curb car sales will be inevitable. However, Binyam Reja, the World Bank's transport sector coordinator for China, said that in the long run, "more comprehensive" policies are needed. This includes going beyond the current regulations to include charging people to bring cars to downtown areas during peak hours, improving subway lines, developing public transportation, and encouraging the use of energy-efficient cars (The Wall Street Journal, Aug. 7, 2013).

Under the vehicle restriction policy, foreign car brands are gaining at the expense of local rivals that don't enjoy the same reputation for quality. The share of Chinese brands in passenger vehicles including minivans fell to less than 39% in the first quarter, from 43% in 2013, according to the government-backed industry group, China Association of Automobile Manufacturers (The Wall Street Journal, Aug. 18, 2014). Also, according to UBS, China's overcapacity in the passenger car market by 2015 could total about 8 million cars, most of which would be on the books of domestic automakers. Excess capacity has led to a lower rate of capacity utilization and eroded profit margins. Unstable government policy as well as lack of a sales market and profit are the big hindrances for domestic vehicle companies.

Cut the quantity of governmental vehicle procurement

In order to cut vehicle consumption in some big cities, China issued new rules for vehicles purchased for official use in November 2011, which lowered the maximum amount of public funds that mid-level government officials can spend on vehicles from 200,000 to 180,000 yuan (about US\$28,400). The other reason that the central government lowered the maximum amount of public funds is that it wants to urge government agencies to buy domestic brands. These new rules also required officials to

purchase vehicles with engines smaller than 1.8 liters. The government also added new-energy vehicles to the list of cars that meet purchase requirements.³⁸ However, these rules did not have much effect on governmental vehicle procurement. For example, in order to stay in line with those requirements, many foreign automakers introduced new car models with a smaller engines and priced the cars a little bit lower. In 2001, the quantity of official cars did not decrease sharply, and foreign brands accounted for 80 percent of the official vehicle pool.

In a word, the vehicle restriction policy as well as the government vehicle procurement limitation was made to protect the environment, but the result was very disappointing. The air pollution and traffic chaos in China become much more severe. Especially, in order to defend their own record of achievement and step to higher political office, many local government officials started to consider using vehicle restriction policies in their cities, which did not have severe pollution and traffic problems. Consequently, that kind of lazy governance had extremely bad impacts on the demand market. It pushed people, who never thought about car consumption, to buy cars. It increased the total car volume in China. And reportedly, car types they bought were usually luxury-brand sedans or SUVs, like BMW and Mercedes-Benz. Finally, car sales of indigenous automakers dropped sharply.

³⁸ The Wall Street Journal, "China Targets Bureaucrats' Car Perks," November 26–27, 2011.

CHAPTER SEVEN: CONCLUSIONS AND POLICY RECOMMENDATIONS

Conclusions

Analysis of the Chinese automobile industry was conducted to illustrate the intrinsic dynamic linkages between government interventions on MNCs and industrial development as well as the influence of economic environments. The main features of the overall automobile industry are summarized below.

With too many manufacturers and poor control of quality, the Chinese automotive industry is highly fragmented in terms of the number of manufacturers, geographical distribution, and the ownership of manufacturers. This fragmentation led to inefficiency of the scale-sensitive automotive production; central or local governments determining the allocation of capital to SOEs; historical lack of technological capabilities remaining; Chinese SOEs still relying on their foreign partners in joint ventures; MNCs' brands dominating the Chinese car market; a lack of demand-side policies such as lack of transparency of information about consumers, especially credit ratings; no clear export strategy; and intellectual property concerns that limit the introduction of new technology to the market.

Until 2014, government policies failed to build up a mature domestic auto industry with competitiveness at the world level. The industrial policies were created in accordance with the theory of FDI, but the practice was unsuccessful in the Chinese

automotive industry. In order to explore the reasons for the policy failure and policy distortion, an analysis was conducted. The major findings include the following.

The theory of FDI is based on a dynamic view. Static FDI-dependent policies induce negative effects for the industry and the nation, but the policies may also generate the “technology spillover effects,” which could benefit the indigenous industry with efficiency improvement and capability development. The purpose of the theory is to induce the MNCs to help the development of indigenous industry, and the improvement of indigenous companies’ internal capabilities is the key to achieve this purpose.

In the Chinese automotive industry, the oligopoly of MNCs generated by the inflow of FDI weakened Chinese partners—and Chinese SOEs’ motivation to learn through the technology spillover process. Under this situation, the necessary spillover effects were limited, and the intervention policies, both on MNCs and indigenous firms, failed to achieve a successful catch-up of the immature industry.

The main reason for oligopoly and then limited spillover effects was that the government only protected SOEs, which were owned by the central government, and let the indigenous local firms out of the game. Lack of horizontal competition crushed the motivation of SOEs. The overprotection associated with governmental ownership of the market players is the main reason for the failure of industrial policies.

After China entered the WTO, regulation liberation had positive effects on market maturation and horizontal competition. But due to the industry fragmentation, the weakness of indigenous firms, and unchanged institutional features, establishing a world-class auto industry is still hard to achieve.

Generally speaking, the development phase of the Chinese automotive industry is in the ISI restructuring of Lall's theory and in the fourth phase of Dunning's theory. It still has a long way to go.

Policy Recommendations

Based on the failures of the industrial policies and policy distortion, several measures are proposed based on the findings. First, our study results pinpointed a number of serious challenges stemming from this rapid growth, including higher demand for oil, higher pollution levels, and severe traffic problems in cities. The Chinese government has to determine how to manage the auto economy without harming its domestic manufacturers and suppliers or its environment. Second, mergers and acquisitions between the small local efficient firms that belong to different governmental administrations should be promoted in order to deal with industry fragmentation and improve the efficiency of the scale-sensitive automotive production. Third, government policies should be adjusted to be fair to both the SOEs and the local private firms. Besides encouraging the indigenous firms to learn from "technology spillover effects," the government should support indigenous industrial innovations with concrete benefits, such as tax reductions, subsidies, or preferential loans. Thus, the state would still have an important role to play.

Overall, learning from MNCs and nurturing the capability development of indigenous firms (including both SOEs and local firms) are necessary for the development of the Chinese automotive industry. Merely relying on spillover effects from MNCs would generate harmful effects on the industry. It is also important to note that government policy cannot replace market power. It should be a complement to the

deficit of pure market mechanism in optimizing resource allocation and fostering the development of indigenous industry. The government should play a role in establishing a fair competitive environment and solving conflicts, rather than just acting as a regulator.

There are questions that remain to be answered through more research in the future. These include how government decisions will impact China's automobile industry market structure, joint venture relationships, automotive infrastructure, air quality, and oil supply. And there are questions related to policies that impact Chinese manufacturers, dealers, and suppliers, and foreign firms seeking market share.

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APPENDICES

Appendix A: Chinese Automotive Industry Policy 1994

1	Policy objectives	To open up domestic and foreign markets; promotion of large-scale production; concentration of the industry, eliminating small-scale, dispersed operations
2	Product approval	Automotive enterprises must submit future product plans for approval; products which are not approved cannot be sold, imported, or used
3	Enterprise organization	Formation of automotive industry groups to attain critical mass; state support for enterprises that exceed certain production volumes and R&D effort
4	Technology policy	Encouragement of independent product development
5	Investment policy	Encouragement of automotive enterprises to raise development funds from various sources; transregional and transdepartmental investment to support increased industry concentration
6	Foreign investment policy	Encouragement of joint ventures with foreign partners who meet certain conditions (<i>e.g.</i> technology must be 1990s standards; R&D facilities must be established; foreign partner must have independent product patents and trademarks and have a good capital-raising ability)
7	Import management policy	Restriction of imports; entry points limited to four seaports; prohibition of imports of used vehicles
8	Export management policy	Expansion of exports as production rises; priority loans for enterprises whose exports exceed 3–8% of annual sales volume for passenger cars
9	Localization policy	Prohibition of knock-down kits; preferential tax rates for enterprises with high localization rates
10	Consumption and pricing policy	Encouragement of individual ownership of automobiles; prices of civilian vehicles (except saloons) to be decided by enterprises according to market demand; prices of saloons to follow the state guide price
11	Policies on related industries and social insurance	Coordination and development of supporting industries (metals, materials, capital equipment, electronics, rubber, plastics, and glass); infrastructure development
12	Industry policy planning and project management	Localities and departments to support the Industry Policy; no new complete car facilities to be approved during 1994–95

Source: The State Planning Committee of China (1994), “Automotive Industry Policy.”

Appendix B: Chinese Automotive Industry Policy 2004

1	Policy objectives	Insisting on the principle of combining market theory and government macro planning; promotion of the harmonious development of the automotive and associated industries; driving industrial structural adjustment; enhancing economy of scale and concentration of the industry; encouragement of self-reliant product development and local brand development, aiming to build up a few famous brands and world-level (top 500) automotive groups before 2010; to become one of the major global automotive production countries and to export in large volumes; fostering the development of local suppliers and encouraging the participation of global competition.
2	Development planning management	The National Development and Reform Commission (NDRC) makes the mid- and long-term strategic plan for the industry in accordance with this policy; the big automotive enterprises (with > 15% market share) should make strategic plans of their own in accordance with the strategic plan of NDRC with the authorization of NDRC.
3	Technology policy	Insisting on the principle of combining technology transfer and self-reliant product development; encouragement of light-duty and fuel-efficient cars; promotion of the R&D and commercialization of battery-powered electrical vehicles, hybrids, and fuel cell vehicles; promotion of the use of alternative fuels including methanol, ethanol, natural gas, etc.
4	Industrial structure adjustment	Encouragement of formation of big automotive groups (with > 15% market share) or alliance; encouragement of global cooperation and operation of local automotive enterprises; encouragement of international acquisitions or mergers; separation of part divisions from assemblers; setting up regulations for withdrawing.
5	Entry management	To constitute “Bylaw of Motor Vehicle Management;” to constitute compelling automotive product standard criteria for safety, emission, fuel efficiency, etc.; to create uniform management systems for the entry of automotive enterprises and products.
6	Brand strategy	To encourage self-property products, emphasize intellectual property protection, and improve local brand reputation; encouragement of strategic planning on local brand development and protection; all the automotive parts and assemblies produced in China should be labeled with brands and production locations.
7	Product development	Encouragement and support of establishment of R&D centers in automotive enterprises for improving independent product innovation capabilities; encourage the involvement of assemblers and suppliers in national R&D projects.
8	Part industry	Encouraging suppliers into the product development activities within assemblers; to form advanced R&D and manufacturing capability and enter the international market; to encourage various sources of funds entering the parts industry.
9	Distribution and sales network development	Encouragement of learning mature international automotive sales modes; encouragement of the establishment of local brand product sales and service systems; passenger car sales and service should be licensed from manufactures and distributed by brands by 2005, all autos by 2006.

10	Investment	Chinese share holding in whole-car assembly enterprises must be no less than 50% except for exportation-targeted projects; investment on establishing new automotive assembly enterprises must be no less than 2 billion Yuan.
11	Import management	Support localization of foreign products; restriction of imports; entry points limited to four seaports and two land ports; prohibition of bonded service for imported automobiles in bonded areas of the import ports by 2005; prohibition of imports of used vehicles.
12	Automotive consumption and use	Encouragement of automobile credit consumption; improving automobile insurance policies; encouragement of well regulated used car circulation and transactions; encouragement of private car consumption; prohibition of extra administration fees and government foundation raising; encouragement of light-duty, low-emission, and efficient cars. Prohibition of discriminative policies on nonlocally produced automobile products; encouragement of private investments in parking lots and other infrastructure; constitute national uniform automotive emission standards; constitute a national uniform motor vehicle registration, inspection, and management system.

Source: China National Development and Reform Commission (2004), "New Automotive Industry Policy."