

**The Growth of China's Automotive Industry: A Challenging Process in the
Nexus between Localisation and Globalisation**

[First Draft]

Haiyan Zhang

University of Antwerp Management School

Paper submitted for

Conference on Globalisation of Chinese and Indian Enterprises

Organized by

Department of Humanities and Social Sciences, Indian Institute of Technology &

Forum for Global Knowledge Sharing

November 2-3, 2007, Mumbai, India

Contact

Haiyan Zhang
Euro-China Centre
University of Antwerp Management School - UAMS
St Jacobsmarkt 9-13
2000 Antwerpen - Belgium
phone : + 32 3 220 4697
GSM: +32 485 86 5250
fax : + 32 3 220 4734
E-mail: haiyan.zhang@ua.ac.be

The Growth of China's Automotive Industry: A Challenging Process in the Nexus between Localisation and Globalisation

[First Draft]

Introduction

Although there has been much attention to the development of China's automotive industry from the perspective of globalisation and multinational enterprises (MNEs), there have been few studies that have explored the rapid growth of Chinese indigenous automotive companies which started to emerge in the global market (Luo, 2005). The main aim of this paper is to explore how China's automotive industry has evaluated during the last decade as a challenging process in the nexus between localisation and globalisation, and how local firms have strengthened their position in the domestic and global market. Firstly, we propose an analytical framework for understanding the interdependence and interaction between localisation, internationalisation and globalisation, especially with regard to the development of the automotive industry as a challenging process in emerging markets. Secondly, we analyse the growing importance and specific characteristics of Chinese indigenous firms and their impact on the globalisation process of the Chinese automotive industry during the last decade. Thirdly, we discuss the interaction and interdependence between the localisation and globalisation of the Chinese automotive industry from the perspective of the government policy.

Analytical framework

While the globalisation can be considered as a process to integrate nations and regions into the global economy through the flow of goods, capital and technology, the localization is a way to reverses the trend of globalization by discriminating in favour the local¹ for providing goods and services reasonably (Colin Hines, 2000). As the development of the indigenous industries in emerging countries has been often determined by the infusion of foreign capital, technology and management

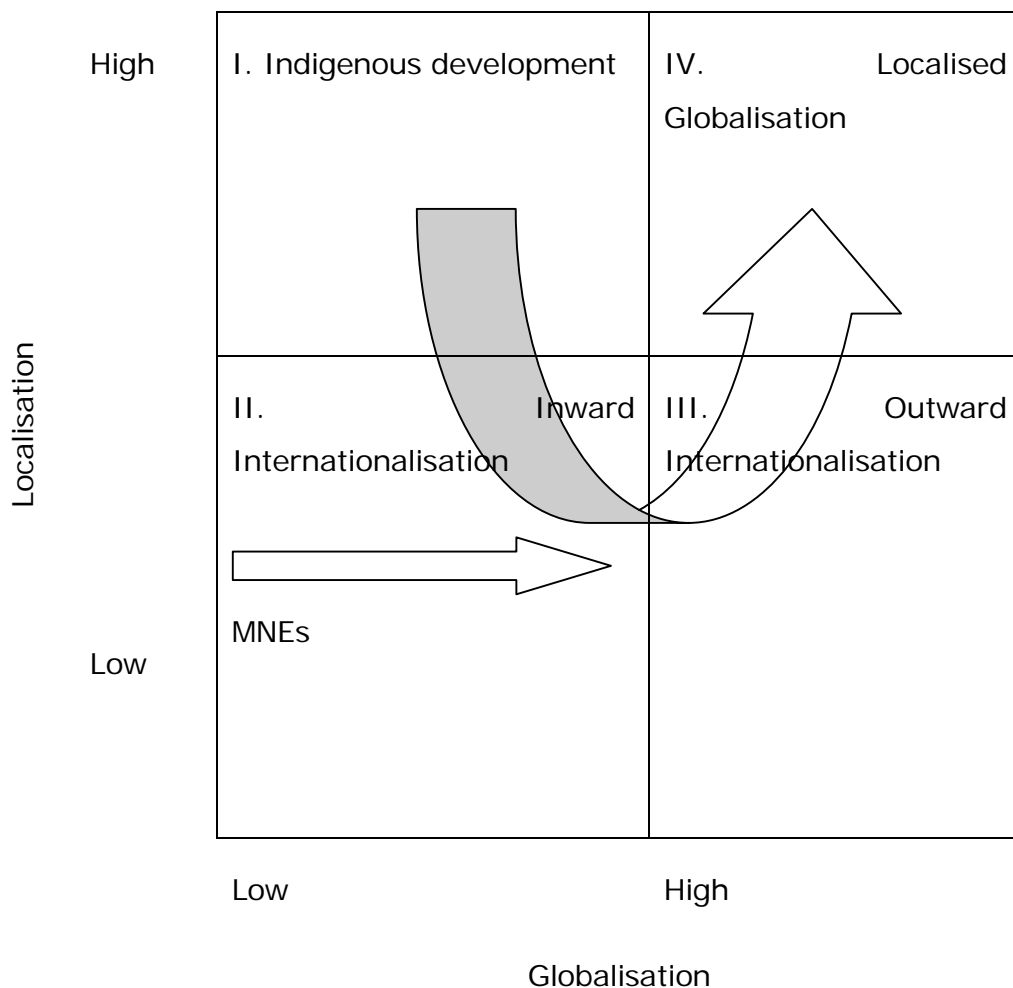
skills, MNEs are increasingly regarded as cross-border 'allocators' and 'upgraders' of resources and capabilities in the globalisation process (Cantwell, 1991, Tolentino, 1993, Dunning, 1997). Yet, The local institutional structures and their capacity to 'hold down' the global has been highly emphasised in this process to sustain the profitability of indigenous industries and to strengthen national/regional competitiveness (Coe *et al.*, 2004; MacLeod, 2001; Scott, 1998; Storper, 1997). In order to monitor the technology transfer process and its spill-over effects on indigenous industries, a large number of developing host governments try to influence the investment patterns and strategic setting of MNEs through regulations, such as entry conditions for a particular industry, competitive practice, profitability and exit barriers (Lall, 2003, Aggarwal and Agmon, 1990).

The automotive sector has been considered by most countries as a politically and economically strategic industry, of which the successful development has long been considered as a right balance between globalisation and localisation, i.e. the creation of high local added value combined with the achievement of strong world-wide competitiveness. In studies of the automotive industry in developing countries, such as Brazil, South Korea, India and Thailand, strong regulation and governance in the form of policies of direct economic intervention in favour of local economy and indigenous enterprises have been considered as important forces to interact with and counterbalance the global force, such as multinational enterprises (Sit and Liu, 2000, Dicken, 1988). The dynamic interaction between the localisation and globalisation in the development and restructuring of the automobile industry in emerging economies can be examined in the analytical framework presented in Figure 1 (Zhang and Van Den Bulcke, 2000).

The upper left quadrant (Quadrant I) represents the situation where the indigenous automotive industry has emerged in developing countries which are characterised by limited market size and minimal levels of demand due to the low income per capita. Assuming that this indigenous industry has been set up in the context of a country's import substitution policy, it will supposedly have relatively few financial, technological and managerial capabilities. During this stage, as the host government increases entry barriers to protect its 'infant industry', MNEs are prohibited to establish plants within the country and they have even few opportunities to export to these markets, except when their parts

or products are rather exclusive and are so specific that they are not readily available locally. Although the local added value of the industry may be relatively high as compared to imports, the competitiveness of the industry might be very low or even non-existing, as it totally depends on the protection provided by the government through tariff and non-tariff barriers. The industrial structure is likely to be fragmented and dispersed because of inappropriate sectoral policies, which are often resulted from the lack of administrative capabilities and experiences of the government and inefficient macro-economic system, especially in the case of centrally planned economies.

Figure 1. Interaction between localisation and globalisation



The lower left quadrant (Quadrant II) represents the situation where the government changes its development strategy in general and sectoral policy in particular. In order to speed up and strengthen its indigenous industry, foreign

product and process technology are introduced into existing enterprises by using foreign production licences, while foreign direct investment has been liberalised and MNEs are allowed to set up joint venture with local companies. The limited import of finished vehicles will be replaced by the domestic assembly of CKD and SKD kits (i.e. completely and semi knocked down vehicles) that are imported either from the foreign partners of the joint ventures or from foreign licensors of the production technology. Although the domestic industry gets an opportunity to catch up with the technological advances by using imported foreign assembly technology, the local added value in assembling CKD-kits is rather low and the infusion of assembling technology often results in increased imports of components and parts, because local suppliers are inefficient and not sufficiently competitive by world standards. Facing the limited local sourcing capability, the host government may impose local content regulations - which are often related to tax and tariff incentives - for assembly plants on the one hand and encourage MNEs to bring their suppliers of parts and components to the local market on the other hand. However, as long as the local market is too small the suppliers of parts and components are unlikely to invest into local production. As a result, foreign car producers react to these measures by introducing less sophisticated finished products to the local market that are less demanding of local inputs in terms of quality. Therefore, relying on less sophisticated product technology, local industry will not be up to international standards and cannot compete globally.

However, with the economic growth and increase of local demand in a later stage, the national automobile industry develops mass-production capabilities by mastering the imported production technology or by introducing innovative new production systems. Although product design remains rather simple, production becomes more efficient, and reaches a higher quality level and achieves lower costs, mainly as a result of technological upgrading and the improvements that occur in the sector of automotive parts and components. The traditional in-plant or vertically integrated supply system is changed into horizontal assembler-supplier linkages. The realisation of economies of scale leads to 'follow-up' investment by foreign component producers in the local industry. Production costs are reduced by localisation and management gains. Economies of scale also allow to lower costs and prices and lead to an expansion of the size of the domestic market. Trade barriers tend to be lowered in order to introduce competition in the local industry

and to strengthen the companies' global competitive position. At this stage, the industry in the emerging economy moves closer to the world production system that relies on subcontractors and related industries to achieve efficiency and reliability.

The lower right quadrant (Quadrant III): Facing the increasing manufacturing capabilities on the one hand and the market saturation on the other hand, the focus of the government policy moves from import substitution to export promotion. It also encourages and supports indigenous firms to develop products with own intellectual property in order to establish a strong and locally owned automotive industry. This policy will drive local companies to develop and consolidate their strength through outward internationalisation, such as international M&As for acquiring foreign technology and establishing overseas production facilities for market expansion.

The upper right quadrant (Quadrant IV): In this stage the industry reaches a mature phase of development, characterised by its capability to design and market its own products through strong brand names, well-managed distribution channels and efficient logistic systems. Product innovation becomes the key success factor. The industry has become competitive in the global market and does no longer require protection. Product quality reaches world standards and frequent model changes become necessary and possible as the automobile industry has to deal with increasingly sophisticated buyers. Marketing strategy therefore becomes an essential competitive tool. Yet, only a few economies have actually reached this stage in the automobile sector, such as the US, Japan, Germany and France, because this phase requires substantial creative capabilities in technology and product development.

Development of China's Automotive Industry

Indigenous development (1953-1983)

The establishment of the First Auto Works (FAW) in 1953 has traditionally been assumed to be the origin of the Chinese automotive industry². The FAW was one of the key manufacturing projects supported by the Soviet Union, which provided technology, equipment and management training. The FAW had a projected manufacturing capacity of 30,000 units of light trucks and included also several

vertically integrated plants for producing components and parts. The first truck rolled off the assembly line in July 1956 and in 1960 China's total vehicle production reached 23,574. By the end of the 1950s, the Chinese automotive industry consisted of about 100 plants, of which one vehicle assembler, one motor engine producer, sixteen automobile-refitting factories and eighteen motor and motorcycle parts producers (Zhang and Taylor, 2001).

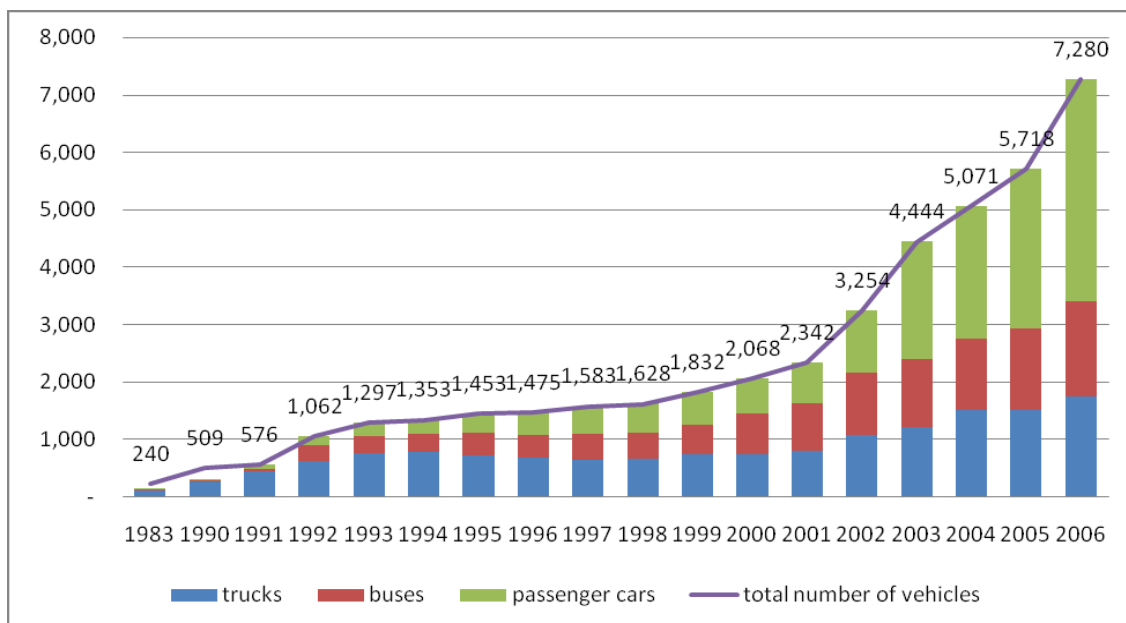
In the context of the "Third Line" development strategy, the Second Auto Works (SAW) was founded in Shiyan in 1965 - a remote area of Hubei Province - to produce medium-size trucks. The plant was designed to exclusively rely on Chinese indigenous technological capabilities, which were to be provided by FAW and other key manufacturers in Shanghai and Beijing. Yet, due to the lack of financial resources and local industrial supports, it took more than ten years before the first 'Dongfeng' (east wind) truck was produced. The lack of technological capabilities was also at the origin of the delay in production.

The expansion of China's automotive industry started in 1958 as part of the import-substitution industrialisation policy. While production plants of light trucks and heavy trucks were established in Nanjing and Jinan, manufacturing of passenger cars launched in Changchun, Beijing and Shanghai. In the late 1960s, all Chinese provinces and regions (excepting Tibet) established their own vehicle assembly factories with small production scale, limited range of products and low level of technology. Given the fact that Chinese provincial governments used to follow a self-reliance economic development policy, they had a tendency to establish their own industrial bases and were reluctant to transfer resources at the arbitrary prices set by central authorities. Consequently, with the absence of appropriate sectoral policy for the automotive industry at the central government level, the production facilities were scattered around the country and the economies of scale as well as locational advantages of different regions were not exploited efficiently. In addition, this spatial dispersion of capacity hampered the diffusion of technological knowledge among different regions (World Bank, 1993), shaped the industrial structure of China's automotive industry for long time and still remained as a major problem in its restructuring process.

By 1980, the number of automotive enterprises reached 2,379, of which 56 vehicle manufacturers, 192 automobile-refitting plants, 24 motorcycle makers, 33 motor

engine makers and 2,076 parts producers (China Automotive Industry Yearbook, 2003). These companies produced about 200 thousand vehicles a year (Figure 2). Until the end of the 1970s, the Chinese automotive industry predominantly produced trucks. At that time passenger cars that were produced with domestic technology, i.e. the models Shanghai, Beijing Jeep and Red Flag, accounted for less than 1% of the total vehicle production in the country. Imports of foreign passenger cars largely surpassed domestic production, i.e. between 1953-1980, about 35 thousand passenger cars were imported, while local companies produced less than 25 thousand units (Table 1). This was in line with the development objectives of the Chinese authorities who gave priority to the support of the road transport system by establishing a truck fleet (World Bank, 1993), while the production of passenger cars was mostly reserved for official government and military purposes and the private use of cars was strictly limited until the early 1990s.

Figure 2 China's vehicle production ('000 units), 1996-2005



Source: Year Book of China's Automotive Industry (2006)

Until the 1980s, the growth of the Chinese automotive industry was rather slow due to the high fragmentation and small scale of the industry on the one hand and the geographical dispersion of production facilities on the other hand. The competition in the industry was virtually absent and as a result, the industry was

operated at low levels of productivity, with high costs and low quality (Marukawa, 1995). The automotive component industry was also underdeveloped because the major vehicle manufacturers had their own production facilities for parts and components.

Inward internationalisation (1984-1993)

In the early 1980s, the Chinese government decided to make the automotive sector a mainstay of the economy. The restructuring process consisted of several aspects, such as the re-organisation of the industry in terms of the liberalisation of foreign direct investment (FDI), imports of foreign technologies, reforming organisational structure, diversification of products, creation of cross-region enterprise groups, development of horizontal linkages between vehicle manufacturers and assemblers, etc (Zhang and Van Den Bulcke, 2000). However, this restructuring process was driven by government initiatives, rather than by the economic aspirations of enterprises themselves.

Table 1 Local production and imports of passenger cars in China (1953-2006, units)

Year	Local production (1)	Imports of Finished cars (2)	Imports as % of local production (1)/(3)
1953-1957	0	4,067	-
1958-1962	272	3,048	1,120.59
1963-1965	244	4,266	1,748.36
1966-1970	1,084	949	87.55
1971-1975	5,680	2,317	40.79
1979-1980	17,151	20,292	118.31
1981-1985	24,739	135,734	548.66
1986-1990	147,810	152,205	102.97
1991-1995	1,049,271	169,969	16.20
1996-2000	2,559,450	149,550	5.84
2001-2005	8,922,930	412,605	4.62
2006	3,869,160	111,780	2.89

Source: Year Book of China's Automotive Industry (2000, 2006)

In 1982, the China National Automotive Industry Corporation (CNAIC) was established to co-ordinate the activities of different planning bureaucracies (central ministries, provincial governments and municipalities) by providing industrial focus to the planning system and to organise the industrial restructuring in a more efficient way. In 1983, 8 subsidiary companies were brought under control of

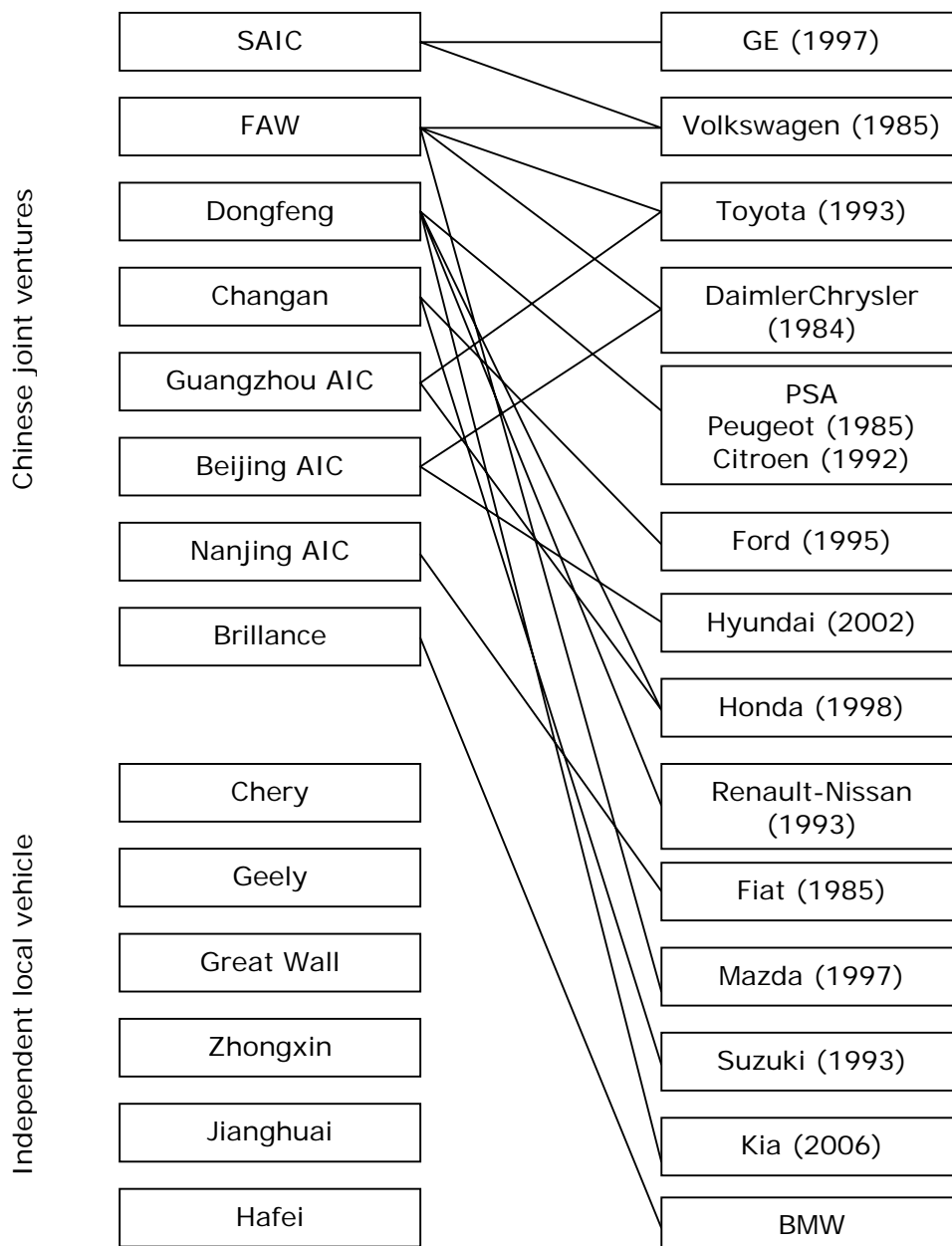
CNAIC, based on the product lines rather than the traditional administrative functions. Five of these companies produced finished vehicles, i.e. each in one product segment, while the three others specialised in the production of parts, marketing services and foreign trade. CNAIC regrouped 291 enterprises that were previously controlled by 10 different ministries and 27 provinces and contributed about 80% of the industry's total output. Yet, with the ongoing decentralisation of the Chinese economic system and the expansion of the market mechanism, the control by CNAIC over the industry was not all that strong expected. Therefore, CNAIC was reformed in 1987 into a federation of nation-wide automotive enterprises, while its monitoring and policy function was transferred to the newly created Automotive Industry Bureau (AIB) of the Ministry of Machinery Industry in 1993, which is responsible for supervising industry-related investment, project approval, production planning, and overall policy decision. However, the administration and management of the Chinese automobile industry at that is still under control of different ministries and different local governments³. Such a complicated organisational structure and dispersed spatial patterns, combined with the strong regional and sectoral protectionism, continue to be the key problems for restructuring China's automotive industry.

The major force that shaped the restructuring and development of the Chinese automotive industry during the last two decades was the liberalisation and expansion of FDI and its embodied technology. The introduction of foreign technology, capital and management know-how through international joint ventures, especially in the passenger car segment, was considered as a key strategy of the restructuring process of the Chinese automotive industry. The first Sino-foreign automotive joint venture was Beijing Jeep Corporation, established in 1983 between Beijing Automobile Industry Corporation (BAIC) and DaimlerChrysler, followed by Shanghai Volkswagen Automotive Co. Ltd., which was created in 1984 by Shanghai Automotive Industry Corporation (SAIC) and Volkswagen.

The commitment of the Chinese government to create strong partnership with foreign automotive manufacturers continued to be outlined in the Seventh Five-Year Plan (1986-1990) as well as in the Eight Plan (1991-1995). While three major state-owned automotive companies dominate the Chinese automotive

market, e.g. First Auto Works Group (FAW), Shanghai Automotive Industry Corp. (SAIC) and Dong Feng Motor Corporation, foreign automotive companies are obliged to create a Sino-foreign JV when entering the market. As a result, all major car manufacturers from Germany, the United States, France and Japan entered the Chinese automotive market through joint venture partnerships, such as FAW-Volkswagen Automotive Co. Ltd., Guangzhou Peugeot Automobile Co. Ltd. and Dongfeng-Citroën Automobile Co. Ltd., Shanghai GM Automobile Co. Ltd. (1997), Guangzhou Honda Automobile Co. Ltd (1998), Changan-Ford (2001) and Tianjin Toyota Motor Co. Ltd. (2002) (Figure 3).

Figure 3. Ownership structure of China's automotive industry



Source: Holweg *et al.*, 2005 and Report on the development of China's industries, 2007

Although the big three dominate the Chinese automotive industry, smaller players, such as Chongqing Changan Automobile, Beijing Automotive Industry Corp. (BAIC), Guangzhou Automobile Group, Yuejin Motor Group and Brilliance China Automotive have also established partnership with foreign car manufacturers to increase their market shares.

In 2006, these three players controlled, together with their partnerships with foreign automotive companies, about 56.6 percent of the passenger car market. FAW had with 22.73 per cent the largest market share. For SAIC the combined market share was 19.49 per cent and for Dongfeng 14.37 per cent.

Stage III. Consolidation (1994-2000)

In February 1994, the State Planning Commission issued the first real industrial policy for the automobile industry. With the ambitious objectives to produce 90% of domestic vehicle demand by the year 2000 and to make the Chinese automotive industry internationally competitive both in terms of exports and size by 2010, the industrial restructuring process was accelerated through a set of regulatory measures which took a radically different approach from the *de facto* policy of the 1980s in two main ways: 1) To consolidate the dozens of automobile companies into few powerhouse firms similar to the "Big Three" model in the United States. More precisely, the Chinese government was motivated for a 'Big Three and Little Three'⁴ arrangement, intending to concentrate its own investment on those six companies. The main objective of the Chinese government to take these consolidating and rationalising measures in the automotive industry is to achieve higher production efficiency on the basis of larger scaled operations and to gain ability to independently develop product technology. This rationalisation process is likely to foster the clustering of automotive and component industry in certain regions, especially in Shanghai and Changchun. Through the consolidation process, the Chinese government also tries to develop its capability in new product development and design, because the production of passenger cars in China has been become dominated by leading MNEs. 2) To protect all manufacturers located in China (including joint ventures) from international competition by establishing

import quotas and stiff tariffs on both vehicles and parts. While foreign ownership in joint ventures was limited to fifty percent to give the Chinese partners more control and bargaining power, other specific requirements were also imposed to foreign investors, for example, all joint ventures must localize their parts and components by at least forty percent within four years under the so-called local content policy. MNEs looking for new joint ventures were also asked to transfer more knowledge to their local partners by establishing R&D centre and providing training activities.

As a result of the high growth rate of passenger car investment in the mid-1980s and early 1990s, over-capacity occurred in the industry. By the end of 1997, the total production capacity of the leading car manufacturers reached 900,000 units, while the output for 1997 was only 450,000, i.e. only half of the existing capacity. Such disappointing figures have prompted the central government to reassess its ambitious growth plan for the automobile sector, and to promise that difficult measures will be taken to restructure the industry in the coming years. Since 1996, the automotive sector was no longer officially designated as a 'pillar' industry and in early 1997, the Chinese government announced that no new automobile plant projects would be approved until 2005, i.e. after the industry went through a serious consolidation and rationalisation process.

By 2000, the number of automotive enterprises was 2,326, consisting of 118 vehicle manufacturers, 542 automobile-refitting plants, 138 motorcycle makers, 48 motor engine makers and 1,480 automotive component manufacturers. Compared to 1980, the number of vehicle manufacturers increased by 107 per cent, while the automobile-refitting plants and motorcycle manufacturers grew by 173 per cent and 516 per cent, respectively, while automotive component manufacturers, though, saw a decline of 25 per cent (China Automotive Industry Yearbook, 2003).

Outward internationalisation (2001-)

China joined the WTO in 2001 and its membership entailed significant changes in tariffs, quotas, local content requirements and rules on foreign investment, which have substantial impacts on the Chinese automotive industry (Fan and Zheng, 2000, Zhai and Li, 2000, Wang, 2001, Ianchovichina and Martin, 2001 and Francois and Spinanger, 2004). The regulatory reform was considered as critical to

the impact of China's WTO accession on the automotive industry (Francois and Spinanger, 2004), while the industrial restructuring has favoured the consolidation and rationalization process which was focused to reduce costs to the global norms. As a result, domestic manufacturers have become globally competitive, while the automotive component manufacturers have trended to integrate further with the global industry through exports.

During this period, significant domestic investment was carried out by private investors and local governments instead of the central government. When the central government loosened its strict regulation on the car production license, completely new Chinese car assemblers were able to enter the automotive market. These companies, called 'China's Young Tigers', emerged without the assistance of foreign enterprises, such as Geely Automobile Holdings Ltd., Brilliance China Automotive Holdings, Ltd. and Shanghai Qirui Automobile Co. They entered the industry through vertical expansion or horizontal diversification. A number of these companies were transformed from motorcycle companies, e.g. Geely in Zhejiang province and Lifan in Chongqing. When the overcapacity has created strong competition in the Chinese motorcycle industry, the expansion of automotive market provided the motorcycle companies with new opportunities. On the other hand, a number of electronic companies, which have accumulated enough initial capital and faced the competition in China's mature consumer and household electronics market, diversified into the automotive industry by investing and reorganizing some small and weak entire auto companies and part companies. Yet, most of these companies have failed, such as Bird and Aux in Jiangsu province. They have quitted the automotive industry because of lack of the experience in the mechanical manufacturing industry. Also some automotive part companies, e.g. Chery in Anhui province, have extended their activities into car manufacturing because of their good understanding and experience for the automotive industry. The fast growth of China's economy and the rapidly growing domestic auto market provided those young companies with a good development environment. To some extent, the emergence of those young independent Chinese auto companies, their operation modes and performance are reflecting new trends in the restructuring process of China's automotive industry.

As compared to the state-owned automakers, such as FAW, Dongfeng and SAIC,

which have all joint ventures with foreign MNEs without own brands and independent product technologies, the 'young tigers' are taking a different development strategy. First, these companies all have their own brands and develop their own product technologies independently. They attracted engineers from the state-owned companies, developed car models under its own managerial control by ways of joint development, R&D outsourcing or reverse engineering. Most of them do not produce foreign models by paying royalties, because they want to build their own brands which can generate future value, develop their technical capabilities via reverse engineering or joint R&D with specialized automotive technology companies, and reduce the non-production costs⁵. There are several reasons for that these young tigers could succeed to penetrate the market with a low price strategy. On the one hand, the required capital investment for these companies is less as they are capable to optimize the combination of automated and manual processes. On the other hand, these new companies are able to negotiate for the best deals because they are not obliged to deal with captive suppliers, which is the case for state-owned enterprises and joint ventures. Furthermore, they do not have to pay licensing fees to foreign partners because they do not have any, and they choose to locate in second-tier cities where labour costs are much lower. Besides, these companies are led with an entrepreneurial spirit, minimizing bureaucratic overhead and costs (Gao, 2004).

Secondly, almost all these companies have used low pricing strategy to penetrate the market. They produce mostly economic cars priced very cheap and aimed at the low end market, which require less sophisticated technologies and are also more appropriate for the Chinese consumers' purchasing ability. In addition, these companies are dedicated to export and set up plants in other countries, because in order for surviving in the tough competition in the auto industry, they have to and also have the independence to seek any possible markets in a global range. Compared with the joint ventures which are managed in accordance with the international partners' global strategies, they have more flexibility and autonomy to explore overseas markets⁶.

As a result of low-price strategy, the market position of young tigers has been rapidly improved. In 2005, the market share of passenger cars with domestic brands is 17 percent, of which Chery accounted for 3.3 percent and Geely 2.63

percent (Table 2), while in 2006 their share increased to 7.12 and 5.34 percent respectively.

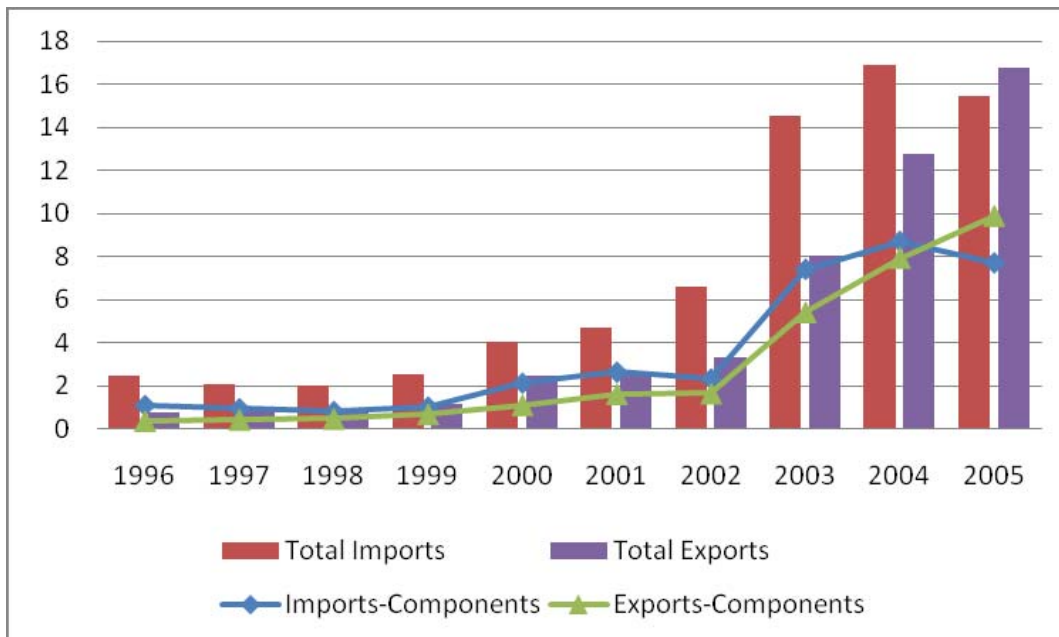
Table 2 Sales, market share and growth rate of passenger cars with Chinese brands (unit), 2005

Local brands	Sales	Market share	Growth rate
Chery	189,158	3.29	118.15
Hafei	230,051	4.00	12.16
Tianjin	190,019	3.30	46.13
Geely	151,366	2.63	56.54
JAC	154,340	2.68	18.00
Greatwall	64,569	1.12	17.20
Total	979,503	17.01	

Source: Year Book of China's Automotive Industry (2000, 2006)

This period is further characterized by the first exports of Chinese domestic motor vehicles to as well Europe as the United States. In 2005, 200 units of the SUV Landwind were delivered to the Netherlands, followed by the first shipment of the Zhonghua in Germany. In the US, the sales of Chinese cars are expected by 2007 when Chery Automobile Co. In October 2005, China's exports of vehicle products surpassed its imports for the first time. China exported 159,610 vehicles in 2005, of which 31,124 cars (19.5%) with a value of US\$271 million, a growth of 222% as compared to 2004 (MOFCOM, 2006) (Figure 4).

Figure 4 Imports and exports of Chinese automotive industry (billion US\$), 1996-2005



Source: Year Book of China's Automotive Industry (2006)

With the successful experience of other Chinese industries, such as including household electronics, computers, furniture, textiles and etc., in exporting to developed countries, the Chinese automotive enterprises, especially young tigers, have confidence to succeed. The exports of China's automotive industry are growing much more rapidly than imports and recorded a positive trade balance of US\$1.4 billion for the first time in 2005, while the exports of components already exceed the imports in 2004. The exports of China's automotive industry consist mostly of light trucks shipped to developing country markets in Asia, Africa and the Middle East. Yet, the auto parts exports targeted already industrial countries, such as the United States. For example, China accounted for about 6% of U.S. auto parts imports in 2005, which have quadrupled since 2000. The United States imported \$5.4 billion in parts from China, while it exported about one-tenth of that amount. Many of these imports are aimed at the aftermarket, as most of what China now exports to the U.S. market are standard products such as wheels, brake parts and electronics. But with high rates of investment in China by the leading U.S. manufacturers of both cars and parts, major companies such as GM look to increase sourcing from China.

Besides direct exports, young tigers are also setting up plants jointly with local partners in other countries, such as Zhongxing's investment to build assembly plants overseas in Egypt, Viet Nam and Turkey and other North African and South

American countries to assemble its own brand of pickups and sport utility vehicles. Chery has also set up CKD plants in Iran and Malaysia. Brilliance is going to build a CKD plant in an African country to assemble its self-developed Zhonghua sedan. The major motivation of these companies for assembling automobiles in developing countries is to skip import tariff and enjoy even cheaper land and labour costs than in China.

With the pressure from the exportation wave of the independent domestic automotive companies and the government policy promoting domestic brands and auto exports, the big state-owned auto companies also began to go abroad by operating their independent divisions⁷. Moreover, a few joint ventures including Shanghai GM, Shanghai VW, and Guangzhou Honda also began to export small amounts of autos. The young tigers also have driven the "Big Three" (FAW, SAIC and Dongfeng) and other big state-owned local automotive companies to change their development strategies. The fast development of young tigers and the corresponding favour from the public and the media have made the central government aware of the importance of self reliance for China's automotive industry. In the new "Automotive Industry Policy" released on July 1st 2004, the Chinese government promised to encourage and support companies with self-reliance operations and self-developed products with own intellectual property. The Chinese government has made clear that its long-term objective is the establishment of a strong, locally owned automotive industry (Ernest & Young, 2005). This policy has driven the big local state-owned automotive companies to develop and consolidate their strength of independent operations by various ways.

As compared to the growth of the previous stages, which was mainly related to the entry of new players in the Chinese automotive industry, the increase of production in this period is driven by the expansion of existing firms. Between 2000 and 2006, the total vehicle production in China increased from 2 to 7 million with an annual growth of 24% on average. The production of passenger cars exploded as *this* segment experienced a growth of 38% per year during the period of 2000-2006. For the first time, the production of passenger cars exceeded that of other vehicles, such as trucks and buses. By 2006, 6,395 automotive enterprises were in the market, of which 148 vehicle manufacturers, 528 automobile-refitting plants, 1007 motorcycle makers, 55 motor engine makers and 4,657 automotive

component manufacturers.

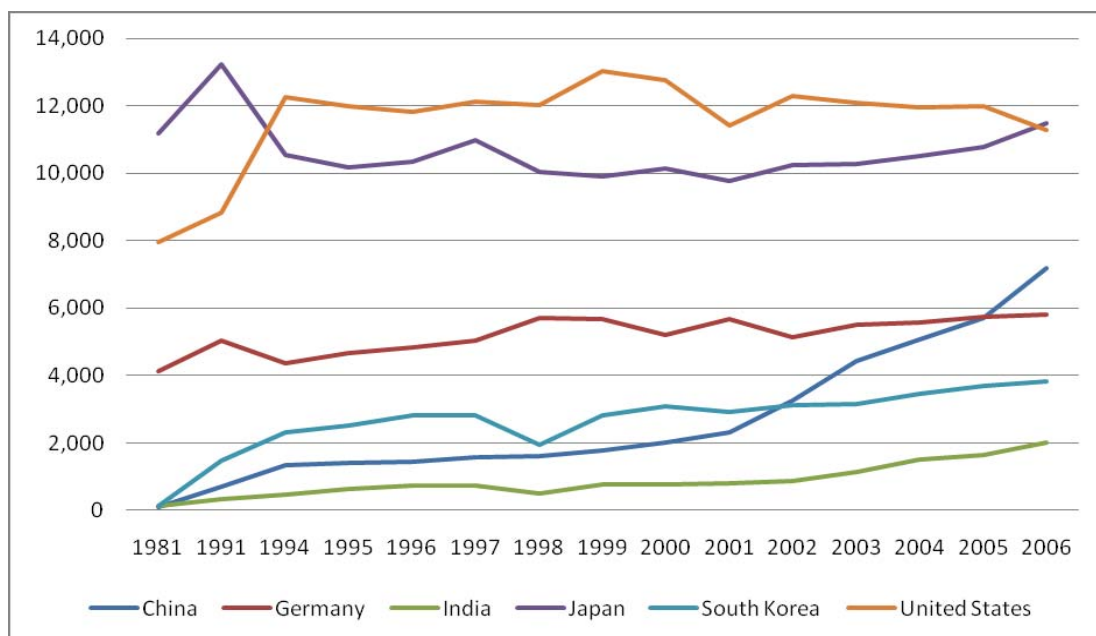
Conclusion

Development path of China's automotive industry

The government policy vs. the globalisation pressure

Independent indigenous auto makers vs. MNEs

Figure 1 Vehicle production in major and selected countries ('000 units), 1981-2006



Source: Ward's Motor Vehicle Facts and Figures (Southfield, MI: 2006), p. 14 and similar pages in previous editions.

Table Composition of added value of China's automotive industry

	2001				2005			
	Total (billion RMB)	Domestic (%)	HK,TW and MK (%)	FIEs (%)	Total (billion RMB)	Domestic (%)	HK,TW and MK (%)	FIEs (%)
Vehicle	60.07	59.20	1.73	39.07	113.63	56.76	1.07	42.17
Modified vehicle	8.08	92.85	2.38	4.78	11.86	94.37	0.46	5.18
Engines	2.05	73.51	-0.05	26.54	11.34	48.26	1.24	50.50
Components	25.78	57.81	7.60	34.60	69.42	49.55	5.38	45.07
Total	105.56	64.44	3.31	32.25	220.99	57.65	2.49	39.86

Source: Year Book of China's Automotive Industry (2001 and 2006)

References

- Arnold, W. (2003). The Japanese automobile industry in China. Japanese Policy Research Institute Working Paper No. 95. Retrieved May 3, 2005, from the World Wide Web: <http://www.jpri.org/publications/workingpapers/wp95.html>
- Automotive News (2005). Guide to China's automotive market. Retrieved May 20, 2005, from the World Wide Web: <http://www.autonews.com/chinaguide>.
- Bartlett, A., & Ghoshal, S. (1986). Tap your subsidiaries for global reach. *Harvard Business Review*, 64, pp. 87-94.
- Birkinshaw, J. (2000). Upgrading of industrial clusters and foreign direct investment. *International Studies of Manufacturing and Organisation*, 30, pp. 93-111.
- Birkinshaw, J., & Hood, N. (1998). Roles of foreign subsidiaries in industry clusters. Working Paper, Institute of International Business, Stockholm School of Economics.
- Birkinshaw, J., & Hood, N. (2000). Characteristics of foreign subsidiaries in industry clusters. *Journal of International Business studies*, 31, pp. 141-154.
- Business Week (2005). Here come Chinese cars: Detroit isn't looking in its rear-view mirror- yet. Retrieved August 11, 2005, from the World Wide Web: http://www.businessweek.com/magazine/content/05_23/b3936033_mz011.htm
- Caniëls, M.C.J., & Romijn, H.A. (2003). Dynamic Clusters in developing countries: collective efficiency and beyond. *Oxford Development Studies*, 31 (3), pp. 275-292.
- Cantwell, J. A., & Iammarino, S. (1997). *Regional Systems of Innovation in Europe and the Globalisation of Technology*. University of Reading, mimeo.
- Cantwell, J., & Santangelo, G. D. (1999). The frontier of international technology networks: sourcing abroad the most highly tacit capabilities. *Information Economics and Policy*, 11, pp. 103-123.
- Chakravorty, S., Koo, J., & Lall, S. (2005). Do localization economies matter in cluster formation? Questioning the conventional wisdom data from Indian metropolises. *Environment and Planning*, 37, pp. 331-353.
- China Internet Information Center (2002a). China's attracting foreign investment policy. Retrieved May 3, 2005, from the World Wide Web: <http://us.tom.com/english/435.htm>

- China Internet Information Center (2002b). China's restructuring of foreign trade. Retrieved May 3, 2005, from the World Wide Web: <http://us.tom.com/english/2132.htm>
- Chinese Academy of Engineering (2003). Personal cars and China. Washington, D.C.: The National Academies Press.
- Cooper, D.R., & Schindler, P.S. (2003). Business research methods (8th ed.). New York: McGraw-Hill.
- Depner, H., & Bathelt, H. (2005). Exporting the German model: the establishment of a new automobile industry cluster in Shanghai. *Economic Geography*, 81 (1), pp. 53-81.
- Dunning, J. H. (1998). Globalisation, technological change and spatial organisation of economic activities. In Chandler et al (eds), *The Dynamic Firm. The Role of Technology, Strategy, Organisation, and Regions*, Oxford: Oxford University Press.
- Dunning, J. H. (1998). Location and the multinational enterprise: a neglected factor. *Journal of International Business Studies*, 29, pp. 45-66.
- Dunning, J. H. (2000). Regions, globalisation, and the knowledge economy: the issues stated. In J. H. Dunning (ed), *Regions, Globalisation, and the Knowledge Economy*, Oxford: Oxford University Press.
- Enright, M. J. (1991). Geographical Concentration and Industrial Organisations, Ph. D dissertation, Harvard University.
- Enright, M. J. (1996). Regional clusters and economic development: A research agenda. in U. H. Staeber, N. V. Schaefer and B. Sharma, *Business Networks: Prospects for Regional Development*. Berlin: Walter de Gruyter.
- Enright, M. J. (1998). Regional clusters and firm strategy. In Chandler et al (eds), *The Dynamic Firm. The Role of Technology, Strategy, Organisation, and Regions*, Oxford: Oxford University Press.
- Enright, M. J. (2000). Regional clusters and multinational enterprises. *International Journal of Industrial Organization*, 30, pp. 114-138.
- Enright, M. J., A. Frances, et al. (1996). *Venezuela: The Challenge of Competitiveness*. New York: St. Martin's Press.
- Ernst & Young (2005) *China's automotive Sector – At the Crossroads*, EYGM and economist Intelligence Unit.
- Fan, C.C. (1992). Regional impacts of foreign trade in China, 1984-1989. *Growth & Change*, 23 (2).
- Francois, J.F. & Spinanger, D. (2004b). Regulated efficiency, world trade organization accession and the motor vehicle sector in China. Discussion paper. Amsterdam: Tinbergen Institute.

- François, J.F., & Spinanger, D. (2004a). WTO accession and the structure of China's motor vehicle sector. In *China and the WTO: accession, policy reform, and poverty reduction strategies* (Report No. 29897, pp. 191-210). Washington: World Bank and Oxford University Press.
- Freshfield Bruckhaus Deringer (2004). Automotive update. Retrieved April 12, 2005, from the World Wide Web: <http://www.freshfields.com/search/search.asp?pg=publications>
- Fulcheri, E. (2005). Overview of automotive industry in China and South Korea: market outlook, risks and opportunities. *Conjuncture*, pp. 22-29. Retrieved April 12, 2005, from the World Wide Web: economic-research.bnpparibas.com
- Goa, P. (2004). Shaping the future of China's auto industry. *McKinsey Quarterly*, 3
- Golley, J. (2002). Regional patterns of industrial development during China's economic transition. *Economics of Transition*, 10 (3), pp. 761-801.
- Holweg M., Luo J., Oliver N. (2005), The past, present and future of China's automotive industry, A value chain perspective, The Cambridge-MIT Institute.
- International Organization of Automobile Manufacturers (2004). Retrieved May 26, 2005, from the World Wide Web: <http://www.oica.net/htdocs/Main.htm>
- KPMG (2004a). China's automotive and components market 2004. Retrieved April 2, 2005, from the World Wide Web: <http://www.kpmg.com.au/Portals/0/ChinaAutoComponentReport04.pdf>
- KPMG (2004b). China's new automotive policy. Retrieved April 2, 2005, from the World Wide Web: <http://www.kpmg.ca/en/industries/cib/industrial/documents/china%27sNewAutomotivePolicy.pdf>
- Krugman, P. (1991a). History and industry location: the case of the manufacturing belt. *American Economic Review*, 81 (2), pp. 80-83.
- Krugman, P. (1991b). Increasing returns and economic geography. *Journal of Economic Geography*, 99 (3), pp. 483-499.
- Krugman, P., & Venables A. J. (1995). Globalization and the Inequality of Nations. *Quarterly Journal of Economics*, CX, pp. 857-880.
- Krugman, P.R. (1995). *Development, geography, and economic theory*. Cambridge, Mass., MIT Press.
- Lall, Sanjaya (2003) Reinventing industrial strategy: The role of government policy in building industrial competitiveness, Paper for the Intergovernmental Group on Monetary Affairs and Development (G-24), September.

- Luo, Jianxi (2005) *The Growth of Independent Chinese Automotive Companies*, IMVP Working Papers, May, International Motor Vehicle Program, MIT.
- Neil M Coe, Martin Hess, Henry Wai-chung Yeung, Peter Dicken and Jeffrey Henderson (2004) 'Globalizing' regional development: a global production networks perspective.
- Sit, V.F.S., & Liu, W. (2000). Restructuring and spatial change of China's auto industry under institutional reform and globalization. *Annals of the Association of American Geographers*, 90 (4), pp. 653-673.
- Ward's Communication (2006), *Ward's Motor Vehicle Facts and Figures*, Southfield, Michigan.
- Xing, W.W.J. (2002). Automakers in the fast lane. *The China Business Review*, 29 (4), pp. 8-16.
- Zhang, H. & Van Den Bulcke, D. (1999). The restructuring of the Chinese automotive industry: the role of foreign direct investment and impact of European multinational enterprises. Discussion paper. Antwerp: CIMDA.
- Zhang, Haiyan and Danny Van Den Bulcke (2000) *The Restructuring of the Chinese Automotive Industry, The Role of FDI and Impact of European Multinational Enterprises*, in C. Millar and Chong Choi (Eds.) *International Business: Emerging Issues and Emerging Markets*, MacMillan, London, p.290-312.
- Zhang, W. & Taylor, R. (2001). EU technology transfer to China: the automotive industry as a case study. *Journal of the Asia Pacific Economy*, 6 (2), pp. 261-274.

Notes

¹ Depending on the context, the 'local' is predominantly defined as part of the nation state, although it can be the nation state itself or occasionally a regional grouping of nation states (Colin Hines, 2000).

² Yet, American motor vehicles entered the Chinese market in the 1920s and dominated China's automotive stock until 1949 with various models of Ford, GMC, Chrysler and Studebaker. Nissan and Toyota Motor Company were also active in the Chinese automotive market during that period. Although these companies did not have a production base in China, they already engaged in motor vehicle repair and some small-scale motor vehicle assembly since the 1930s (Arnold, 2003).

³ For instance, among the seven leading passenger car manufacturers in China - i.e. FAW, SAIC, Beijing Automotive Industry Corp (BAIC), Shanghai Automotive Industry Corp (SAIC), Tianjin Automotive Industry Corp. (TAIC), Changan Machinery Corp. (CMC), Guizhou Aero Industry Corp. (GAIC) -, two are under the direct authority of the State Planning Commission (FAW and SAIC), three belong to the jurisdictions of their respective municipalities (BAIC, SAIC and TAIC) and two are under the control of ministry-level entities, i.e. China North Industries Corp (CMC) and China National Aviation Industry Corp (GAIC).

⁴ While the Big Three refer to FAW, Dongfeng and SAIC, the Little Three are Beijing AIC, Tianjin AIC and Guangzhou AIC.

⁵ For example, Geely and Chery developed their initial products by reverse engineering approaches in order to cut costs for the all-new product development. Brilliance Auto also has its independent car division and developed its Zhonghua sedan by outsourcing and cooperating with European design companies from the beginning.

⁶ Chery and Geely started their exports soon after their first product launch into the domestic market. The market downturn in 2004 also pressured them to explore new markets. In 2004, almost all of China's sedan exports, about 10,000 units, were from Chery and Geely.

⁷ For example, FAW exported more than 10,000 self-branded automobiles in 2004, including "Liberation" trucks and "Red Flag" sedans. Changan Motor, Ford and Suzuki's partner, has built CKD plants in Viet Nam and Pakistan to produce its own brand light-duty trucks.