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Policy Reforms and Foreign Direct Investment: The Case of the Chinese Automobile Industry

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Abstract.

This study assesses the link between policy regulation and the performance of foreign investors in the Chinese automobile industry. The key question we try to answer is: how can Chinese policymakers enhance the positive contribution that MNCs bring to the local automobile makers and avoid negative damaging consequences? The formulation of an open-up industrial policy concerning this sector in China, the role of FDI inflows in shaping it and the interaction between the Chinese authorities and foreign investors as the driving force of the policy reform are analysed.

KEYWORDS: FDI, Multinational Firm, Industrial Policy, China, Car industry, Regulation

JEL classification: F21, F23, L52, L62, P26.

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Introduction

Since the 1980s, during the period of economic reform and opening up, the emerging Chinese automobile industry has experienced an impressive growth. Even though it represents a relatively small direct contribution to the national economy (2.25% of the total industrial value-added and 2.48% of the total industrial output during the 1990s), the automobile industry is considered as a "pillar" sector, due to its extensive links with other industries as well as its contribution to job creation (in China, one out of every eight jobs is related to the automobile activity).[2] During the past two decades, the average annual growth rate has been of 15 per cent. In 2001, the total output of motor vehicles ranked 8th in the world with over 2 million production units. In the Asia region, China has been the second largest vehicle-producing nation after Japan and before Korea, since 1997.[3]

Until the mid-1990s, the auto industry was highly protected in China. When the government officially announced its "Industrial Policy for the Automobile Industry" in July 1994, it showed its intention to develop and to consolidate China's indigenous automobile industry. This approach was modelled on that of Korean industrial development in the 1970s, while at the same time, the need for funds, technology and management to upgrade the greatly lagging industry, urged the authorities to attract foreign direct investment (FDI). However, the operational practices involve a set of limitation measures, the most important of which are high tariff and non-tariff barriers, screening, foreign equity limits, and local content requirements.

Multi-national corporations (MNCs) incorporate the Chinese government's trade, investment and industrial policies into their location and production decisions. There is much overlap between the two, but there can also be differences. The unplanned results that neither match the economic theory nor meet the intention of the policymakers drive the Chinese authorities towards a more liberalised regime.

This study assesses the link between policy regulation and the performance of foreign investors in the changing Chinese automobile industry. We will begin

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[2] Nearly 26.7 million employees work in the automobile and directly related industries. Those directly related industries include raw material, fuels, energy, automobile sales, services, insurance, and governmental administration. This number of employees represents 12.7% of the total work force in the cities and towns of the country by the end of 1999 (CATARC, 1999, p. 1, SETCIPD, 2001, p. 42).

[3] Fourin, Vol. 9, No. 1, March 1999, p. 3; Lee 2000, p. 66.

with the formulation of open-up policy and the foundation of an automobile industrial policy in China (section I). In section II, is illustrated the FDI inflows in shaping the contemporary auto industry. Section III goes on to reveal the interaction between the Chinese authorities and foreign investors as the driving force of policy reform. We will end this paper by trying to answer one question: how can Chinese policymakers enhance the positive contribution that MNCs bring to the local automobile base and avoid negative damaging consequences (section IV)?

Background of open-up policy and the foundation of automobile industrial policy in China

Deregulation towards an open economy

Since the economic reform, started in 1978, China has pursued an opening-up policy. Concerning the trade regulations, there have been four rounds of significant tariff cuts since the adoption of the Harmonised System (HS) code in 1992. The average tariff rate was reduced from 43.2 per cent in 1992 to about 13 per cent in 1999 (He and Yang 1999). As for the foreign direct investment, the Chinese government is using a forceful combination of carrots and sticks - incitement and limitation of foreign investment in a number of regions and industries (Chen 1997). Since 1993, China has been the second largest FDI recipient in the world and the single largest host country among the developing countries. By mid-1997, about 200 of the world's 500 largest transnational corporations had established operation in China. The success of the open-up policy and the positive effects of FDI have been widely demonstrated (Wei 1995, Kwang and Harinder 1996, Husain and Wang 1996, Chen 1996, and Yang 1998).

However, government policies towards trade, investment and industrial development are faced with a number of significant challenges. Firstly, the regional pattern of FDI has created unbalanced development and disparity between the coastal and the inland areas of China (Sun and Chai 1998). The sectoral selection on foreign investment makes export-oriented industries more competitive than the import-substitution sectors directly under the control of the state (Lemoine 2000). Secondly, China's attractiveness to foreign investors has intensified competition for FDI in the developing countries, particularly in Asia (Oman 2000). The total FDI inflow received by ASEAN4 only represented 42 per cent of that in China between 1990 and 1997 (OECD Proceedings 1999a, p. 13). The perceived threat of investment diversion has begun to push ASEAN4 policies in a more liberal direction. Furthermore, in

order to stabilize the inflow of FDI, the Chinese government is obliged to react to the policy campaign. Most importantly, China's entry into the World Trade Organization (WTO) in the end of 2001 pushes the policymakers - being subjected to growing pressure for market access - to protect and restrict sectors. This process also imposes acceleration on policy reform. All these forces drive continuous deregulation.

1.2 Infant industry argument

There is a long tradition of government intervention in the Chinese automobile industry. The protective regime persisted in most of the sectors - despite the extensive trade and economic liberalisation - until the late 1990s. It is rooted in the "infant industry" concern.

Several arguments strongly support this idea. Developing countries always have a limited market. To explore economies of scale, domestic firms need an entry barrier placed on foreign counterparts. A certain protection period is necessary for the local carmakers to develop so as to later be able to compete with well-financed and technologically advanced MNCs in the future. Since the key carmakers are all state-owned enterprises (SOEs) in China, the government can provide the massive financing necessary to create domestic giants. In this system, the role of the components industry is crucial. The maintenance of car part tariffs high encourages the set up of domestic part supply networks; to increase inter-industry linkages and the technology spill over. Without the trade barrier, the risk of being crowded out by the MNCs is high. Chinese car companies might become foreign-part assembly plants. This pattern of industrialisation would neither be economically, nor politically desirable.

The protectionism in China's automobile industry has also been inspired by the pattern of development found in Japan and Korea. Both of those two countries demonstrated that active government interventions greatly contributed to the quick expansion of the export-oriented automobile industry (Rennard 1993; Aoki, Kim and Okuno 1996).

Therefore, the automobile industry is the first among Chinese industries to be backed up by a formal state industrial policy, first formulated in 1987 and modified in 1994. Concerning international trade, high tariffs on the finished-vehicle imports are imposed together with licences and quotas. Furthermore, in order to maintain indigenous control over the fledging industry, China regulates inward investment in various ways: screening, foreign equity limits, local content requirements to narrow the technology gap, etc.

FDI in Chinese automobile industry

From modest amounts in the 1980s, to around 20 joint ventures (JVs) at the end of 1989, FDI inflows in Chinese automobile industry started to accelerate sharply from 1992 onwards. The accumulated number of foreign invested enterprises was of 120 in 1993 and skyrocked to 604 in 1998 with the cumulated investment reaching $20.9 billion (MMI 1999).

Pattern of FDI

There are three main patterns of foreign investment in China: equity joint ventures (EJV), co-operative joint ventures (CJV) and wholly foreign-owned ventures (WFO). The EJV is the main pattern of foreign investment. Between 1981 and 1998, among 604 foreign investment companies, 531 (or 87.9 per cent) were EJVs. There were only 36 CJVs and 21 WFOs, which represented respectively 5.9 per cent and 3.4 per cent of the foreign investment.

Table 1: *Pattern of FDI inflows in China, national level and automotive (automobile) industry*

	National level 1996			**Automotive (automobile) industry 1981-98**	
	No. of projects	**% of total**		**No. of projects**	**% of total**
EJV	12 628	51.4		531	87.9
CJV	2 849	11.6		36	5.9
WFO	9 062	36.9		21	3.4
Others	17	0.0		16	2.6
Total	24 556	100.0		604	100.0

Sources: China Statistical Yearbook, 1997; CBU E-News, December 7, 2000.

The domination of equity joint venture (EJV) is explained by the mandatory equity share regulation, which we will discuss in detail in the third section. But, in short, the less regulated industries have a higher proportion of WFO. In the aggregated level of Chinese industries, the WFO reached nearly 37 per cent of

the total foreign investment inflows, a sharp contrast to that of the auto sector. For the latter, the proportion of WFO only represented 2.6 per cent of the total inflows. This implies that the degree of intervention in the automobile industry is much higher than in the other sectors (Table 1).

Geographical origin of FDI

A systematic study shows that 466 foreign firms from over 20 countries invested in China in 1981-1996, amounting to $15.43 billion of total investment (Richet, Wang and Wang 2000). JVs with Hong Kong and some other Asian countries accounted for 57.3 per cent of the total number of Jvs, but only 30 per cent of that in dollar volume. On the contrary, European countries representing only 10.5 per cent of JVs had the lion's share (30.5 per cent) in terms of dollar amount. Regarding the average scale of investment, Europe came in lead, with around $96.0 million of investment, while those with the USA and Japan ranged from $49.6 million to $36.0 million. Joint ventures with Hong Kong were by far the smallest, with an average of $11.4 million, 7 times smaller than the European counterparts. Since the bulk of foreign investments came from Asian countries (regions), the average size of projects at aggregate level remained modest, reaching $33.1 million during the last decade and a half (Table 2).

Table 2. *Aggregate JV activities in the Chinese automobile industry, 1981-1996*

	Europe	**USA**	**Japan**	**HK**	**Asian**	**Others**	**Total**
No. of JVs	49	72	59	174	93	19	466
Unit	(10.5%)	(15.5%)	(12.7%)	(37.3%)	(20.0%)	(4.1%)	(100.0%)
Volume of	4702.0	3571.4	2123.6	1976.6	2653.9	397.1	15430.1
investment Million US$	(30.5%)	(23.1%)	(13.8%)	(12.8%)	(17.2%)	(2.6%)	(100.0%)
Average scale of investment Million US$	96.0	49.6	36.0	11.4	28.6	20.9	33.1

Note : The number in parentheses is the percentage term of each item.
Source : Wang, Richet and Wang, 2000.

Hong Kong and the other Asian regions and countries (mainly Taiwan, Macao, Singapore, Thailand, and Malaysia) were the main investors in the early stages of the foreign direct investment in China's automobile industry. Their technology is more labour intensive and much easier to transfer for Chinese markets. Reviewing the investment by Asian countries, we find that they

mainly focus on simple components, motorcycle assembling, and special car refitment (like ambulance, police car, dumper, etc.) in small quantities.

The European and American MNCs focused on the passenger car industry. Thanks to industrial policy, they have taken an oligopolistic position in that field. To boast economies of scale, in the early 1990s, the number of manufacturers was restricted to six - the "big three plus small three".[4] The former referring to the three Sino-foreign joint ventures of Shanghai Volkswagen, First Auto Works Volkswagen (FAW-VW) and Dongfeng Motor Citroën (DFM-Citroën), the latter relating to the two joint ventures of Beijing Jeep (which involves Chrysler) and Guangzhou Peugeot (which was substituted by Guangzhou Honda in 1998) plus Tianjing Light Passenger Car which produces Daihatsu-designed cars under licence. In line with the principle of specialisation, "two mini" projects that produce Suzuki and Subaru-designed light passenger cars under Japanese licence have latterly been authorised. They are two SOEs named, respectively, Chang'an Automobile and Guizhou Aviation. These enterprises form the backbone of the car industry. In 1998, the of "big three, small three and mini two" represented 92 per cent of the market share, among which those joint ventures accounted for 69 per cent of the market share (MMI 1999, pp. 5-7). In short, the Chinese car industry is dominated by foreign direct investments.

The contribution of FDI to the industry

The contribution that foreign direct investment has made to the automobile industry, during the period from 1981 onwards, and especially since 1992, has been important.

First of all, MNCs have been a complementary (but not dominant) source of capital. The net FDI inflows have not been as high as expected. Between 1981 and 1998 the net foreign capital injected into the automobile industry was only of about $4.54 billion, equivalent to 22 per cent of the total investment in the FDI projects (Chinacars Enews 12th October 2000).

Secondly, joint ventures have had higher performances than domestic firms. These differences are embodied by the market share and productivity. In 1998, the joint ventures accounted for 57.1 per cent of the total output of vehicles even though the number of joint ventures only accounted for 33 per cent of the

[4] The classification of "big" and "small" mainly indicates the initial scale of production defined by the Chinese government. All the passenger cars in these two categories are equipped with over 1.3 litters engines. The "mini" category represents the cars with less than one litter engine.

total carmakers in China (Table 3). The productivity in those European, American and Japanese joint ventures were 4 times higher then the average industry level, more than five times higher then the SOEs. Concerning those financial indicators: the profit per employee, return on assets and return on sales, again, the performance of joint ventures was much better than the SOEs and collectively-owned Chinese firms (Table 4). This shows that, as the conventional FDI theory implies, MNCs possess a firm-specific advantage over local ones (Caves 1996, p. 4).

Table 3: *Position of joint ventures in the Chinese automotive (automobile) industry, 1998*

	Volume of production (unit)			**Number of firms**		
	JV	**Total**	**JV in %**	**JV**	**Total**	**JV in %**
Passenger car*	348 274	507 861	68.6	7	15	46.7
Commercial car Big and middle	17 381	22 977	75.6	8	19	42.1
Light	128 985	179 410	71.9	15	59	25.4
Compact	227 355	256 638	88.6	4	8	50.0
Rest	182 996	660 872	27.7	3	19	15.8
Total	929 000	1 627 000	57.1	38	115	33.0

*Note : * Data of passenger car comes from MMI, 1999, pp. 5-7.*
Source : Chinacars Enews, 12th October, 2000.

In general, we can observe that the performance varies differently between the JVs and the domestic firms. The property right, among others, is one of the crucial factors that show the advantage of the foreign invested firms; in terms of clear property right definition and control. Concerning the domestic firms, their productivity also varies, due to the different property right arrangement.

Evolving policies toward globalisation

The industrial, trade and investment policy of the automobile industry in China has one main objective: promoting indigenous industry with a harmonised industrial organisation. Early policies have had many side effects that lead to unplanned results. Consequently, since the end of 1990s, a certain degree of deregulation towards an open economy and globalisation has taken place.

Table 4. *Performance difference according to the nature of the firm, 1999*

	JV*	JV with HK Macao, and Taiwan	SOE	Collective	Holding	Average
Productivity (1.000 yuan/employee)	668.5	308.5	118.1	124.1	117.1	188.8
Profit/employee (1.000 yuan/employee)	52.6	14.2	-0.6	2.1	4.8	5.9
Return on assets (%)	20.9	12.9	-0.8	5.8	14.5	6.8
Return on sales (%)	8.6	5.3	-0.5	2.1	3.7	3.4

Notes: Return on assets = the ratio of profit before tax to the total equity for the year,
Return on sales = the ratio of profit before tax to the total sales of the year.
** Joint ventures with other foreign investors besides those from HK, Macao and Taiwan.*
Source: Richet, Wang and Wang, 2001, p. 40.

Trade barriers

The most important item of import substitution strategy for the industry is trade barrier. The tariff rate on automobiles was set, before 1986, at 180-220 per cent. Concerning the non-tariff barriers, China applies restrictive import licensing to a number of product categories including; motor vehicles, key parts for vehicles, crane lorries, vehicle tyres, motorcycles, and key parts for motorcycles. Moreover, licence procedures and criteria are not transparent. As for import quota, 89 items of automobile products are subject to quotas, which represent 60 per cent of Chinese machinery and electronic products (He and Yang 1999, p. 15). Other regulations are applied, including foreign exchange controls, monopoly of state trading companies, and domestic marketing, as well as standard and technical requirements. Furthermore, only 6 ports in China have been designated for complete car imports (MMI 1995, p. 327).

In contrast to the policy goal mentioned above, China's automobile industry has suffered serious consequences. The import binge lasted till the late 1990s. Between 1980 and 1995, 2.13 million vehicles were imported, of which 1.05 million were passenger cars (including 566 000 units of KD). The expenditure of currencies reached $7.48 billion, equivalent to 65.4 per cent of the total

national automobile investment during the same period.[5] At the same time, the high tariffs had led to widespread smuggling. These largely involve local officials, as is the case in the Hainan Island. According to Harwit (1995, p. 29), till 1984, 89 000 vehicles had entered via this island. A recent government crackdown on smuggling reflects the public pressure over widespread corruption and malfeasance.[6] When including import and smuggling of vehicles, domestic production only accounted for half of the car market (Table 5).

Table 5. *Structure of the Chinese automobile market, 1993-1997 (1, 000 units)*

	1993	**1994**	**1995**	**1996**	**1997**
Import	310 (57%)	283 (60%)	158 (44%)	76 (28%)	49 (16%)
Smuggling	100 (19%)	50 (11%)	60 (17%)	50 (18%)	100 (33%)
Domestic Production	130 (24%)	135 (29%)	145 (40%)	147 (54%)	158 (51%)
Total	540 (100%)	468 (100%)	363 (100%)	273 (100%)	307 (100%)

Note: The number in parentheses is the percentage term of each item.
Sources: Zhang 1997, p. 289; ZQMN, 1998, p. 15-16.

The rents created by the protection measures have ballooned car prices. Enterprises, both domestic and foreign investors, have tended to reap short-term profits. Since the passenger car industry is dominated by the joint ventures, it is evident that foreign investors share parts of the rents dispensed by the high protection measures. In the case of joint venture Shanghai VW, the domestic sales price in 1993 was around 200 000 yuan per car (and the production cost around 85 000 yuan), which doubled the world price at the official exchange rate (Dic 1997, p. 190). Indicators such as the ratio of the after-tax profits to book value assets also revealed the up-to-normal profit of this protected industry. This ratio was three times that of the manufacturing sector as a whole, in 1995. It is remarkable considering that the automobile

[5] *Calculated on the basis of Jiaoche Qingbao (Auto Info), September, 1997, p. 7 and MMI (1999, p. 9).*

[6] *Based in Xiamen, southern part of China in Fujian province, the Yuanhua group smuggled from Chinese cars, crude oil, petrochemicals and other goods worth more than 23 billion yuan (about US$2.67 billion), from 1994 to 1999. More than 200 people, many of them senior members of the city government, have been arrested and several executed (South China Morning Post, March 12, 2001).*

sector is amongst the most heavily taxed sectors, which should normally have reduced the profit rate (Huang 1997, p. 10).

The protectionist regime, in China, has incited the proliferation of shoddy car producers. The small-scale projects became profitable (mostly assembly plants that rely heavily on KD kits). Economies of scale were no more a necessary condition for the competition. By 2000, there were still 118 enterprises producing completely built up (CBU) vehicles, 542 factories refitting vehicles, and 1682 factories producing components and spare parts (including tyre and glass). However, the national output of cars in that year was only of 2.07 million vehicles, equivalent to the annual output of a moderate automobile company in an industrial country (ex. Renault's output was of 2.28 million in 1998).[7] For car production, counter to the "big three, small three and mini two" regulation, the number of carmakers had increased to, at least, 20 till the end of 2000. Most of those firms established themselves first, and later pressed the central government to grant approvals. This means that their products are outside the national auto catalogue, but can still be commercialised under the protected regional market (Jia 1997, p. 7).

These consequences have directly assessed the failure of the trade barrier measures. Accompanied by the gradual trade liberalisation in overall Chinese economies the policymakers have had to lower tariffs by four times (in 1994, 1996, 1997 and 2001 respectively). The tariff on passenger cars with over 1.3 litre engines was of 220 per cent before 1986 and is of 80 per cent in 2001. However this rate of tariff reduction in the auto sector is still lower than the average tariff reduction in China. In 1997, when tariffs were reduced by an average of 35 per cent, those on cars were cut by only 25 per cent (He and Yang 1999, p. 16).

Screening

The approbation of foreign investments goes through a screening agency, either on central or on provincial government level, depending on the nature and the size of the investment. The completely built up passenger car project, the key components project (like motor, ABS, Air bag) and all the investments reaching over $30 million in capitalisation are monitored by the central governmental organs, the State Planning Commission (SPC) and the Ministry of Foreign Trade and Economic Co-operation (MOFTEC). The latter, however, is authorised to review all projects, regardless of size. According to the

[7] *MMI, 1999, p. 261, 270; Renault, Atlas Economique, 1996.*

"Catalogue for the Guidance of Foreign Investment Industries", promulgated by the above organs in 1997, the agency favours, limits, restrains or prohibits certain industrial sectors. During the process of decentralisation, alongside the economic reform, the provincial governments also possess a significant authority to review and approve FDI projects below the thresholds of $30 million. The inter-jurisdictional competition for FDI among provinces (Oman 2000) and between the central and provincial government (He and Yang 1999) is one of the main features of the screening process in China. The present threshold of 30 million dollars and the different levels of hurdles between the central and local government have led to reinforcement of rent-seeking behaviour of world-class carmakers, on the one hand, and the miniaturisation of the FDI projects, on the other.

The larger the foreign investment is, the more rigorous the control and the more complicated the screening process will be. In the case of Guangzhou Peugeot and Shanghai VW, it took respectively 4 and 6 years to conclude the negotiation on the form of mandatory joint ventures. Once those MNCs entered the Chinese market, they reinforced the bargaining power on the government policies. As He and Yang put it (1999, p. 10), "recently, many FDI companies have joined SOEs in lobbying for protection. They have the incentives to request protection in order to gain an advantage over their competitors outside China, or simply to seek rents from protection. Initially they are free riders. When declining levels of protection begin to affect their profits, they become part of the force against trade liberalisation". Furthermore, cross-provincial protectionism is created under the combining force of MNCs and local government, both of which possess significant controls over the share of automobile joint ventures. For example, Shanghai Volkswagen has succeeded in making the Shanghai municipality forbid other cars from entering the Shanghai taxi market and government purchase plan. The same protection measures are taken by the other joint ventures over local regions. In consequences, the Chines passenger car market is highly fragmented.

For most foreign investments, the screening process at a provincial level is relatively simple and efficient thanks to the Chinese pattern of federalism. As studied by Qian and Weingast (1997), the decentralisation of control to the local governments, - federalism - in China is a successful governance structure that increases governmental efficiency and preserves market incentives. Jurisdictional competition among local governments can, firstly, increase efficiency through sorting and matching (Tiebout 1956). It is also a necessary condition to create thriving markets in the transition economies (Jin, Qian and Weingast 1999). Such an institutional arrangement has also reduced the level of

the overall regulatory hurdle against FDI inflows, through deregulation (for example, by permitting FDI in restricted sectors) or by circumventing the existing regulations when central supervision is lax (Huang 1999, p. 15). Table 6 implies that the vast majority of FDI projects are approved at the provincial level, with an investment of less than $30 million in capitalisation. This contrasts with the initial policy, which emphasises economies of scale. The situation of fragmentation and miniaturisation is therefore reinforced by foreign investment.

Table 6. *Investment scale of FDI, 1981-1995*

Number of projects	Europe	U.S.	Japan	HK	Asian	Other	Total
> **$30 million**	17 (34.7%)	13 (18.1%)	11 (18.6%)	8 (4.6 %)	15 (16.1%)	1 (5.3%)	65 (13.9%)
<= **$30 million**	32 (65.3%)	59 (81.9%)	48 (81.4%)	166 (95.4%)	78 (83.9%)	18 (94.7%)	401 (86.1%)
Total	49 (100%)	72 (100%)	59 (100%)	174 (100%)	93 (100%)	19 (100%)	466 (100%)

Note : The number in parentheses is the percentage term of each item.
Source : Wang, Richet and Wang, 2000.

Consequently, a restructuring of China's decision-making process on the central governmental level was started in early 1998. The Ministry of Machinery Industry (MMI), the government organ in charge of the country's auto industry, was dissolved in March 1998 by the 9th National People's Congress, along with 14 other State Council (China's cabinet) ministries or commissions. It was replaced by the State Administration of Machinery Industry (SAMI), which has only 95 staff instead of 400 in the old MMI. The simplification of bureaucracy created a somewhat loosened environment around the screening process. In place of SAMI, the other government organs now gradually gain control over investment decision. Together with MOFTEC, the State Economic and Trade Commission (SETC) is destined to become the industrial and trade policy and regulatory body of the State Council (CBU Enews, July-August, 1998). During this period of the Chinese 10th five-year plan (2001-2005), several measures are taken to lift restrictions on FDI so as to extend the scale of foreign investment in the component industry. This will also give more autonomy to Joint ventures, to decide on new products (CBU Enews, 17th August 2000). Furthermore, in the coming years, the power to approve FDI projects at higher dollar thresholds together with increasing authority might be granted to local governments.

Foreign equity limits

MNCs entering China's completely built up car project and the three key component projects (motors, air bags, and ABS) are limited to the maximum equal stakes of share holding. On the contrary, in the component industry foreign investors can have total equity control over subsidiaries.

Several reasons can make joint ventures preferable for foreign investors. They often find that, even without the institutional restraint, the joint venture is essential. So as to accomplish goals in the Chinese system, Chinese partners are essential to help understand the functioning of the local market and the business norms. Managing the cross-cultural aspects of relationships is difficult if foreign firms want to exploit the market independently. This pattern of investment can also reduce initial risks. A typical case to demonstrate this strategy is the formation of Shanghai Volkswagen (Jiang and Qiu 1998).[8] There is no evidence or at least no systematic studies to show that the joint venture requirement frustrated the MNCs investment in the Chinese automobile industry. However, such requirement does not enable the achievement of the objective of management control and technology enhancement set by the policymakers.

In reality, for a domestic partner majority ownership does not mean the control of the JV, as shown by some empirical results in developing countries (Beamish, 1988, p. 18). Nearly all the foreign investors have tremendous power on the operation of joint ventures, even though they only have minority equity shares. Citroën, with 25 per cent of share holding in the joint venture, controls important management activities such as sales, purchasing, finances, as well as technology transfer, production control, and quality control. The same case can be found in most of the joint ventures in this sector.

[8] *VW chose Shanghai Automobile Industrial Co. (SAIC) as partner, it having a complete industrial network for the key components. To ensure the foreign currency payment, the Bank of China was invited to become shareholder of the joint venture. Since the SAIC is under the jurisdiction of Shanghai municipality and not the Chinese State directly, VW thought the local support was not sufficient. To get more tangible and intangible support from the central government, the Chinese National Automobile Industry Co. (CNAIC) became the fourth partner in Shanghai VW. As it was the earliest passenger car project in China, started in the 1980s, it was risky to invest in a forward-integrated sales network by VW itself when the market demand was uncertain. Therefore, VW stated on the joint venture contract that the sales of assembled cars should be the responsibility of one subsidiary of SAIC. This was a risk-free solution for Volkswagen. Since 1990 the market has expanded quickly. Shanghai Volkswagen then developed its own sales network and put it under its own control.*

The behaviour of foreign firms in the host country is influenced by different arrangement of ownership structure (Gedajlovic 1993). According to Mansfield and Romero (1980), parent firms transfer technology to wholly-owned subsidiaries in developing countries one-third faster, on average, than to joint ventures or licensees. That is to say that the technology transfer is relatively limited under the pattern of joint venture. A firm possessing superior assets will opt for a strategy that enables them to retain tight control over foreign operations in order to protect the value of those assets (Teece 1981). Therefore, joint ventures will purchase more components from parent companies. The foreign investors' intent is to prolongate the purchasing period in order to maximise the profit generated from the transfer pricing. This is a big concern for the Chinese policymakers (Wu 1996, Gan 1997, Wan and Guo 1998). Such phenomenon is wide spread throughout China. The average level of technology transfer via FDI is about two years more advanced than the existing Chinese technology base, while the "technology gap" between investing countries and China is commonly perceived to be of 20 years (Yong and Lan 1997, Huang 1999).

Even though the foreign equity requirements have perverse effects, there is no evidence to show that the Chinese authority will lax the control over the CBU vehicle projects. The trade-off is between the concentration of the large local industrial groups and the up-to-date technology transfer. The first is crucial both economically and politically for the policymaker. The joint venture requirement can at least guarantee that domestic firms have half the stake of the market while the wholly-owned foreign firms will most probably eliminate the domestic counterparts. Hence technology transfer becomes a secondary consideration.

Local content requirement

The local content and technology transfer requirements are imposed to pursue two of its most important policy goals: a complex industrial development and self-reliance. These requirements were combined with varying tariff rates made to encourage increasing local contents in assembled vehicles. The tariff on KD kits would be reduced according to the increase in local contents. For example, for passenger cars whose local contents exceeded 80 per cent, the tariff rate on imported parts and components is 40 per cent, and for local contents of 60-80 per cent and below 60 per cent, the tariff is 60 per cent and 75 per cent, respectively (Zhang 1997, p. 287). This policy is designed to create technological linkages to the component industry and to ensure the indigenous capabilities on the entire car sector, in order to prevent the automobile industry

turning into an industry that only assembles foreign parts. There have been certain successes with this polic.

The beneficial spillover effects of local content application manifested itself one decade and a half later. In the early stage of localisation, the progress in assimilating imported technology, with the exception of Shanghai VW, was unsatisfactory. It took five years for the local contents to reach 50 per cent, and ten to reach 90 per cent. In the world market the product life cycle of a given model is normally of around 3 to 4 years. It is therefore, no wonder that, till the mid 1990s, most of the China produced cars were outdated models. After a long process of "learning by doing", a complete industrial organisation in China's automobile sector is emerging. Since 2000, most of the new CBU projects, in the first year of production, have 40 per cent of their components locally provisioned, as was the case of Shanghai General Motors and Guangzhou Honda (Table 7). Such a speeding up of local content procurement implicates a positive effect on the narrowing of the technology gap.

The success of local content requirement, on one side, fundamentally depends on the industrial infrastructure of the host country. In China, there are over 1 900 factories producing components and spare parts, double the number of Korean component enterprises. Most of the supply materials - such as resin, rubber and steel - can be supplied by domestic companies. And, a complete mechanical industry covering metalworking, machining, casting and forging, compared to other developing countries, provides a solid foundation for the automobile industry. In fact, in ASEAN4, the absence of such a supporting industry is a major barrier to the localisation of auto production (Fujita and Hill 1997).

On the other side, the different reactions of the MNCs towards the local content requirement can also make vary the performance of joint ventures. A case in point is the comparison between the success of Shanghai VW and the failure of Guangzhou Peugeot, which both started producing cars in the same year. While, to capture the short-term profitability, the latter preferred to import KD kits and assembly the car in China with little effort in developing local component suppliers, the Shanghai VW adopted a rigorous local content program together with the support from the local authority (Dic 1997, Lee 1997).

The establishment of industrial complexes by the MNCs in China generated follow-the-leader effects. Facing a promising market, a lot of world-class auto parts suppliers are now following the MNCs to the continent: Delphi

Automobile Systems, Bosch, Valeo, Siemens, Dana, Allied Signal, Lucas Varity, United Technologies, ITT, TRW, Rockwell, Tenneco, Cooper etc. They have found that it is necessary to invest in upstream and (or) downstream industries in order to supply the complementary services. The proportion of joint ventures in the component industry has therefore increased constantly during the end of the 1990s. Till 1996, 35 per cent of the local suppliers were joint ventures. The presence of foreign parts suppliers will profoundly recompose the Chinese auto component industry.

The achievement in local contents, or mastering production techniques, is just the first step towards the indigenisation of technology. The present spill over effect is still limited to the absorption of imported technology, leaving aside the promoting capability of independent R&D works. Most of domestic component and part suppliers today tend to rely on further imports of technology to the Chinese market. The local research capabilities and institutions are still too weak to hinder the creation of indigenous technology capacity.

Table 7. *Duration of local content development (years)*

Carmaker (Model)	**Initiate year**	**Local content rates (percentages)**				
		20	**40**	**60**	**80**	**90**
Beijing-Chrysler (Cherokee)	1984	3	6	7	12	NA
Guangzhou-Peugeot (Peugeot 505)	1986	3	4	6	10	NA
Tianjin-Daihatsu (Charade)	1987	NA	4	6	7	9
Shanghai-VW (Santana)	1985	4	5	5	7	11
FAW-VW (Jetta)	1991	3	3.5	4	5	NA
DAW-Citroën (Citroën AX)	1992	3	3.5	4	5	NA
Shanghai- GM (Buick)	1997	-	1	NA	-	-
Guangzhou-Honda (Accord)	1997	-	1	2*	-	-

*Note: * forecasting according to the carmaker Guangzhou Honda.*
Source: CATARC 1997, p. 115, 116; Harwit 1995, p. 159; CATARC, 1999, p. 196; CATARC 2000, p. 189.

Implications

The Chinese government is pulling all the levers to promote an indigenous pillar industry through spill over from foreign direct investment. However, the direct results of such policies have usually not matched the predictions of policymakers. Several features lead to the failure of these policies: the misleading industry orientation (infant status of the sector), the lack of coherence between the policies (between trade and investment, protection and competition, production-oriented and market-oriented policies). From a more general point of view, we can say that the Chinese federalism and property right reform are also two key issues that may orient the implementation of policies.

The infant industry consideration stagnate the development

Measures related to infant industry status should now be abandoned for they have led to serious consequences: higher protection yields higher profits from price distortion and hence greater political bargaining power. Furthermore, such bargaining power will be exploited to pursue further rents (He and Yang 1999, p. 12). Dic, in 1997, argues that the short-termism of the local authority leads to the fragmentation and miniaturisation of the Chinese automobile industry. More precisely, those consequences come from the rent-seeking behaviour of domestic firms and local authorities. In the same way, foreign investors in auto sectors are more likely to be interested in rent seeking behind high import barriers than in competing aggressively in the local market (OECD Proceedings 1999a, p. 42). Apart from China, there is similar evidence from contemporary Eastern Europe, where Suzuki, in Hungry, and Fiat, in Poland, have successfully lobbied to maintain, and even increase, trade restrictions. In order to safeguard their small domestic assembly operations, they even allied with local makers and suppliers to slow down the prospects for accession to the European Union (OECD Proceedings 1999b, p. 46).

In fact, the automobile industry in China has stepped out of the infant stage. The actual production of motor vehicles for 2000, when taking into account 2.9 million units of farm vehicles[9], can be considered of 4.9 million instead of the 2 million units indicated by official statistics. And this still does not take into

[9] *Farm vehicles are those three-wheel and four-wheel vehicles of 0.5 and 1 tone, excluding tractors. They are invariably purchased by individuals and private businesses. Within the 2.9 million units of farm vehicles, 469 thousand units are four-wheel trucks. Those farm vehicle makers are not listed in the national carmaker catalogue. Therefore, their outputs are not accounted for in the output of the automobile industry.*

account the 11.5 million units of motorcycles sold in the same year. Considering the volume of production, the Chinese automobile industry should have passed the incipient learning stage. The Chinese enterprises have undergone 50 years of manufacturing and over two decades of technology importation. If subjected to the rigours domestic and international competition, they would probably have been able to mature rapidly.

Certain products might potentially gain comparative advantage in the developing markets. The national carmakers on low-end products such as motorcycles and trucks have reached economies of scale and their price is in general half that of the international products. Furthermore, the Chinese carmakers in the passenger car industry have no risk of being crowded out if foreign equity requirement limit is maintained. With the intensification of competition, the exit barrier can be reduced so as to eliminate small local firms and reach the goal of industrial policy; restructuring the industry from its actual situation of fragmentation and miniaturisation.

The trade and investment policies need to be further adjusted

The trade and non-trade barriers need to be gradually removed. Where the trade distortions tend to be high, the FDI has less or a negative impact on growth in developing countries (World Bank 1991 p. 95, Fry 1993, FIAS 1997, p. 86 and Zhang 2001).

Increasing vehicle imports after trade liberalisation will put pressure on the existing joint ventures who assembly cars in China, and will improve their global competitiveness. The MNCs who have already invested heavily in the Chinese market will be confronted with intensified competition with late-comers, if the locally produced vehicles have no significant advantages as regards to models, price, sales networks, components supply and client services. Trade liberalisation will therefore speed up the technology transfer, model variety and price reduction. Vehicle imports and local production are two complementary measures and not alternative aspects of competition (Aussilloux 1998). What is more, the smuggling will vanish as the tariff barrier become much lower.

The liberalisation will not have a big bang effect on the existing carmakers in local market. The case of the opening up of the Brazilian automobile industry shows us more implications. In the early 1990s, even though the import duties have been reduced in a considerable way, there are still 5 foreign assemblers rivalling in the Brazilian market. The economies of scale are less critical than

we imagined. Realising economies of scale in a developed country with a high salary cost might be less profitable than assembling KDs in a developing country where the salary is ten times less than the first. Generally carmakers can economise $50 000-$100 000 per job by de-locating the activity to a developing country (OECD Proceedings 1999b, p. 48).

Market competition is more important than the protection

Without the market competition, the performance of FDI can be disappointing. Theoretically, one of the greatest benefits of FDI to the local firms is the injection of competition and technologies that lead to the exit of inefficient enterprises and the raising of efficiency in the industry. The precondition on this conclusion is the existence of a contestable market. If investors are located behind tariff barriers or given quasi-monopoly status in the host country, they tend only to transfer those technologies that are sufficient in order to produce on that un-competitive market (OECD 1998, p. 62). The Brazilian automobile industry in the days of import substitution is a perfect example of that. If foreign investors face intense competition either from importation or from other investors, they will be incited to transfer technology in order to be more effectively competitive (Kokko and Blomström 1995).

The difficulty for the policymakers is to draw the distinction between competition and concentration (Lall 2000, p. 12). Taking industrial promotion as the priority, competition becomes less important. This is so crucial that even domestic firms are not treated equally. State owned enterprises systematically receive preferential support while private firms are discriminated. However the performances of those SOEs are generally poor. This form of protectionism can only prop up less efficient firms, at heavy cost to domestic consumers and economic growth. In the case study on the allocation of motor vehicles to rural private consumers in the mid-1980s, Nee (2000) shows how the elimination of a free market creates speculation and the corruption of bureaucrats. To screen out speculators, a series of measures were then taken out. The regulation on both market force and malfeasance increased the regulatory burden of the states. Finally, such negative experiences contributed to the construction of a legal-rational bureaucratic discipline that is pro-market force.

At present, automobile industry in China still lacks an effective competition policy, which has become an absolute necessity. The collusion on the minimum selling price has been permitted till 2000. Shifting from selective protection to legitimate competition is one of the principle tasks in constructing the institutional framework of a free market. It requires however sustained

regulatory state intervention - the construction of an institutional framework for a market economy.

Towards the consumers welfare

The consumer welfare, under the central planning system in China, was traditionally the second objective of government policies. In most of the developing countries, however, the development of industries was the ultimate objective (Branstetter and Feenstra 1999). Such producer-oriented regulation is often established at the price of consumer welfare losses (OECD Proceedings 1998, p. 26). The Indonesian automobile industry is a typical, case among others, of this phenomenon (Fujita and Hill 1997, Okamoto and Sjöholm 1999).

In 1994, for the first time, auto industrial policy in China promulgated articles promoting domestic demand. Nevertheless, the policy exhibited some caution and only set up implicit guidelines. It simply indicated that measures would be formulated in the future, in accordance with changes in the market and development of the industry (MMI 1995, p. 15). In practice, at that time, the Chinese government still hindered the private purchase of cars.

The negligence, by policymakers, on the real consumer demands has created the co-existence of over-capacity production and high vehicle demand. Most of the automobile and passenger car production enhanced by the government is still beyond the means of the average consumer in China. The heavy taxes and charges on purchase and use of vehicles also greatly discourage the potential consumer. Therefore, it is no surprising that the market is limited while the over capacity, at the industrial level, was of as much as 50% percent for the year 2000.[10] In the mean time, a market of 900 million rural residents has been totally neglected by the government. Outside the highly regulated automobile industry over 2.9 million farm vehicles were made and sold in 2000 by 10 dominating new domestic companies (Wang 2002).

The changing focus on the consumer welfare is an important step. Such policy is necessary in order to encourage individual purchase and use of automobiles, to streamline taxes and fees, promote urban and rural transportation and auto financing. The combination of measures mentioned above with previous industry-development policies equilibrium between supply and demand – seems to be a decisive shift towards a market-driven industrial policy.

[10] *In Dongfeng Citroën, the capacity of production is of 150 000 units per year however the output was merely of 54 000 units in 2000 (Chinacars Enews Feb. 2001).*

The Chinese-style federalism and property right reform

The Chinese-style federalism, as an intermediate institutional arrangement, is not perfect. Nee (2000) documents how the State's capacity to implement market reform was frustrated by local government, whose opposition and malfeasance in the early period of the reform posed an incorrigible problem. To implement the trade investment and industrial policies, the central government needs not only to bargain with MNCs, but also with local governments. This makes the transaction costs considerably high and the implementation of policies less efficient. In the coming years, the challenge for the central government is to orchestrate the regional development in a harmonised way while diminishing the frictions with the local governments.

The arrangement of property rights is widely recognised as having an important impact on the Chinese economic performance (Jefferson and Rawski 1997, Che and Qian 1998). The further success of automobile industry in China will also depend on the reform of property rights. In the past several decades, the industrial policy was closely modelled after the Korean pattern (Huang 1997), neglecting the prominent difference between these two countries in their microeconomic foundation. The state-owned enterprises have a dominant position in China while in Korea government participation is absent.[11] Furthermore, in China, there is no clear delineation of public services and business. The ancient Ministry of Machinery Industry (MMI) was in charge of issuing industrial policies and the auto sector management. At the same time, it claimed the property rights on key vehicle plants, auto part suppliers and commercial companies. Naturally, the MMI regulations were in favour of the supervised enterprises. However, MMI only had partial enforcement power over the auto sector since nine other powerful ministries or agencies also manufacture and assemble vehicles.[12] Under such an institutional framework, conflicts of inter-ministerial rivalries are inevitable.[13] Rendering, therefore, the industrial policy hard to implement. The key issue is that various ministries have a residual property right control over the firms. All of those enterprises under their supervision are historically called state-owned enterprises. Therefore, how to reorganise those SOE and their various relations becomes one of the key issues of the policy reform at a macro and institutional level.

[11] *There is no government participation in Brazil either. As for India, state shares in the enterprises are pretty low (Mukherjee and Sastry 1996).*

[12] *They are the Ministries of Justice, Transportation, Construction, Chemical Industry, Light Industry, Domestic Trade, Forestry, Civil Administration and Defence (including two corporations with the ministerial rank, General Aviation Corporation and General Aeronautic Corporation and the Department of General Logistics under the Central Military Commission) (MMI 1998 p. 62).*

[13] *This kind of phenomenon can be found in ASEAN4 as well (OECD Proceedings 1999a, p. 28).*

Conclusion

The automobile industry in China has made remarkable progress. The trade, investment and industrial policies are undergoing gradual revision. The evolution from the previous version to the latter reflects the authorities' changing approach of regulation failure, the role of state intervention and the prospect for development of the automobile industry.

With the opening-up policy and the interaction between foreign investors and policymakers, deregulation has been forced on the central government. However, compared to other industries, the automobile sector still continuously receives high protection, which may perpetuate its inefficiencies. Starting the year 2002, after the accession of WTO, during the process of deregulation, the challenge to policy-making is to develop a policy environment which encourages and facilitates trade and FDI inflows, which ensures that the benefits flowing from the foreign investment are shared between the investor and the domestic economy in ways that are acceptable to the mutual advantage of both parties.

Liberalisation of trade and investment, and deregulation of industrial policy however are necessary but not sufficient conditions for the sustainable development progress of the automobile industry. Under a macro-economic vision of the reform, the success of the automobile industry also depends on the extent to which China will transform into a market economy and integrate the world economy. Good governance, effective institutions are fundamental. As Huang (1997) puts forward, "the Chinese government has attempted an Eastern Asian style of policy interventions without having the corresponding institutions to enforce these interventions effectively". Coherent economic policies matter as well. With a basket of policies, some may be inefficient and others may be contradictory to one another. The key to sustained progress is that governments adapt and adjust these policies all along the way.

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