PART I. HOW WILL CHINA BE AFFECTED BY THE ACCESSION ? : Chapter 3 WTO, Industrial Policy and China's Industrial Development

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CHAPTER 3

WTO, INDUSTRIAL POLICY AND CHINA'S INDUSTRIAL DEVELOPMENT

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The countdown has at last started for China's accession to the World Trade Organization. It was in 1986 when China filed an application to join (or "return" to) the General Agreement on Tariffs and Trade (GATT), the precursor of the WTO. But membership negotiations began seriously only since the 10th meeting of the working group on China in February 1992 (Li Lanqing [1993]).

It was also around that time that ministries of the Chinese government and industry circles became serious about entering GATT. In those years, the Chinese government and industry alike were in trepidation that joining GATT would give an "unprecedented shock" (Tao Jisheng [1993]) to the Chinese economy and the focus of the GATT debate within China was how to mitigate the expected shock.

How to make a frail domestic industry capable to bear the shock of trade liberalization was the very problem Japan also had to tackle right after it acceded to GATT in 1955. When Japan joined GATT, the rate of liberalization of Japan's external trade was just under 20%, and the removal of quantitative import restrictions demanded by GATT was regarded as a major challenge to domestic industries. In 1963, the Ministry of International Trade and Industry (MITI) submitted "Bill for Extraordinary Measures for the Promotion of Specific Industries" to the Diet in a bid to strengthen international competitiveness of automobile, petrochemical and specialty steel industries through mergers and rationalization. To foster large and competitive companies owned by Japanese capital through powerful government intervention was a policy which MITI pursued obstinately throughout the 1960s, including the aforementioned Bill, the scheme to consolidate automakers into three groups (1961), the consolidation of shipping companies into six groups (1964), and the merger of two steel makers Yawata Steel and Fuji Steel (Komiya, Okuno, and Suzumura eds. [1984]).

The Chinese government in the 1990s tried to adopt similar policies out of much the same sense of crisis as Japan had in the 1960s. This paper examines the Chinese government's industrial policy implemented in the 1990s with a view to its membership in GATT and the WTO by focusing particularly on the automotive and motorcycle sectors as well as the electronics industry and analyze the policy's consequences that have become evident today. The thorough examination of the experiences of the 1990s should help us have a glimpse of which direction Chinese industries are heading after China's entry into the WTO.

1. AUTOMOTIVE AND MOTORCYCLE INDUSTRIES

1.1 Automotive Industry Policy

When negotiations on China's membership in GATT got into full swing in 1992, strong expectations were placed on the automotive industry as an industry sector with a great potential for development. In the two years from 1990 to 1992, automobile production in China expanded 2.1 times and automobile sales 2.2 times. At the 14th Plenum of the Communist Party of China in 1992, the automotive industry was positioned as one of the "leading industries" to pace the future of the Chinese economy, along with the machinery and electronics, petrochemical and construction sectors.

Recognizing that the automotive industry has a great potential but that domestic automakers are still too weak to meet the post-GATT international competition head-on, the Chinese government laid out a policy of strengthening the Chinese automotive industry's international competitiveness through powerful government intervention. Hence came the "Industrial Policy for the Automotive Industry" of 1994 (hereafter, the "automotive policy") (Marukawa [2000]).

China's "automotive policy" was similar to a plan adopted by Japan's MITI for the automotive industry in the 1960s. The particular resemblance can be found in the plan for consolidation of the automotive industry. China's "automotive policy" called for the consolidation of a little over 120 domestic automakers into eight to 10 groups by the year 2000, and into three to four large corporate groups by 2010. Toward that goal, the government was to provide support to automakers that achieved annual output of at least 100,000 units, 150,000 units or 300,000 units by the end of 1995 so that they could double production levels by 2000. Compared with MITI's scheme for consolidating Japanese automakers into three groups that fell through, China's consolidation plan was put into print as an official government policy paper, and there actually were movements

toward realizing that policy.

The "automotive policy" was designed also to cover the motorcycle industry, setting forth a plan to consolidate more than 70 motorcycle makers that existed then into eight to 10 firms by 2000 and into three to four by 2010.

1.2 Administrative Organization-Turned Corporate Groups

The consolidation plan drew immediate responses from enterprises and local governments. First, Beijing Automobile Group, Shanghai Automobile Group, Tianjin Automotive Group came into being in 1995. These "corporate groups" had something in common: they all were formed by automotive divisions of local governments by putting together automakers under their jurisdiction. For example, the Beijing City government set up Beijing Automobile Group in 1995 by consolidating 37 automakers and auto parts makers under its supervision. Shanghai Automobile Group was formed in 1995 through the reorganization of Shanghai Automobile Industry Corporation, a division of the Shanghai city government charged with automotive industry supervision, with a strengthened function as a holding company for over 40 firms under its wing. The establishment of Shanghai Automobile Group had another side as a part of the Shanghai government's administrative reform drive. Shanghai city government, starting in 1994, abolished nearly all government divisions supervising industry sectors and replaced them with holding companies as entities that hold state shares in state-owned enterprises in each industry sector. Shanghai Automobile Group is one of these holding companies. Likewise, Tianjin Automobile Group was created in 1995 by reorganizing Tianjin Automobile Industry Corporation, a division of the Tianjin city government, as a corporation with a strengthened character as a holding company.

These three "corporate groups" all had the annual production capacity of over 150,000 units as a result of the grouping of automakers under the jurisdiction of the local governments, and each of them, from the outset of the establishment, made it an important corporate policy to at least double production capacity (China Automotive Industry Yearbook, 1996), a clear indication that the groups were created in order to benefit from the support measures to large-scale corporations pledged under the Chinese government's "automotive policy."

In Hebei Province, Hubei Province, Sichuan Province, and the Guangzhou city, local governments also created "corporate groups" by calling together enterprises under their jurisdiction. But production levels of these groups are very small.

Also, China Automobile Industry Corporation, an organization within China's central government to oversee the nation's automotive industry

until 1993, was reorganized in that year into a corporate group without administrative functions by integrating 11 automakers and auto parts manufacturers, including Nanjing Automobile Works (Yueijn Automobile Group). This is one of the corporate groups born out of the conversion of administrative organizations, just like previously described corporate groups created by local governments.

However, it is hard to say that the establishment of these "corporate groups" has helped realize the reorganization or consolidation of automobile industry as the Chinese government had expected. The creation of such groups simply altered in name only the relationship between the government sectors and enterprises under their jurisdiction from the "relationship between government authorities and enterprises" to the "relationship between holding companies and subsidiaries." It only meant, so to speak, the replacement of a signboard hung up at the government authorities with one reading "XX Group Corporation," and was just a far cry from the realization of industry consolidation. Certainly, it is still possible that the change of status from "government authorities" to the "holding company" will eventually lead to a change in the pattern of their behaviors to those of business corporations. In the long run, the possibility cannot be entirely ruled out of the new groupings giving birth to a competitive corporate group. Whether these corporate groups converted from administrative organizations succeeded in molting into genuine corporate groups can be judged by looking at the following points.

The first point is whether all member firms in a group are sharing the common trademark or a logo. In this respect, there is a big difference between First Automobile Group and Dongfeng Automobile Group (these two groups are to be described later), both of which were formed with state-owned enterprises as the core, and the Shanghai, Beijing and Tianjin groups created with the administrative authorities of local governments as the core, although they both were corporate groups born out of the state-owned sectors. The former have logos in common use by the entire groups, while the latter have yet to own such a common mark at present.

The second test is whether significant restructuring is being carried out within a group under a strategy mapped out for the whole group. Generally speaking, government authorities have few incentives for the optimum allocation of management resources under their control (subordinate enterprises and research institutions as well as their personnel and machinery and equipment, etc.) for the maximization of profits. And their limited authority over the acquisition, sale or closure of enterprises makes them difficult to allocate resources at their will. Government authorities do not consider it a serious problem if there is little cooperation among enterprises under their jurisdiction or even fierce competition among them. On the other hand, a genuine corporate group would see it desirable to

own management resources in a manner that would generate a synergetic effect, and for that, would prefer to have mutually complementary management resources to those that are mutually substitutable. Needless to say, there could be a corporate policy to intentionally have management resources with a certain degree of substitutability in order to encourage competition within the group. At any rate, the makeup of management resources and their combination should be an important component of management strategies. As a general rule, the former planned economies had line ministries responsible for respective individual industries and management resources under control of a specific government authority tended to have a high degree of substitutability. A corporate group taking over such management resources should find it necessary to reshuffle management resources substantially or carry out a scrap-and-build program. Comparison between First Automobile Group/Dongfeng Automobile Group and the Shanghai, Beijing and Tianjin group corporations reveals that the former apparently shifted the operational weight, to a certain extent, from medium-size trucks to small trucks and passenger cars and from gasoline-engine vehicles to diesel-engine ones. For the latter, there has been little switchover of operations, with few changes in the lineup of products turned out by group enterprises.

The third point to be examined is whether the performance, such as production volume, production value and profits, is improving after the establishment of corporate group. If the formation of a corporate group is really helping improve the state of management, that should translate into a better performance. The impact of the formation of a corporate group, however, is difficult to distinguish from other factors that influence the group's performance, such as demand for the specific types of vehicle being produced by member firms. But I will try to measure the impact later in this paper.

1.3 Development of Existing Corporate Groups

The corporate grouping in China's automotive industry preceded the promulgation of the "automotive policy." Movements toward the grouping were already launched in the early 1980s. First Automobile Group and Dongfeng Automobile Group started their primitive formation in the early 1980s. The prototypes of Shanghai, Beijing and Tianjin groups, referred to in the previous section, were founded in 1982. Among such corporate groups, those that have shown most remarkable growth by the time of the announcement of the "automotive policy" are First Automobile Group and Dongfeng Automobile Group, respectively led by China First Automobile Group Corporation and Dongfeng Automobile Corporation, both automakers directly controlled by the central government. As of 1992, the

former had 155 automakers, auto parts makers, trading firms, research and development institutions and other entities organized under it, while the latter had as many as 298 such companies under its wing. It must, however, be added that most affiliated firms are sort of members of cooperative societies with no official capital ties with group leaders China First Automobile Group Corporation or Dongfeng Automobile Corporation. The number of affiliates with formal capital relations was just 12 for China First Automobile Group Corporation and 26 for Dongfeng Automobile Corporation (Marukawa [1994]).

These corporate groups, too, tried to become qualified for government support measures by aggressively expanding their groups after the announcement of the "automotive policy." China First Automobile Group Corporation was particularly aggressive. As a first step, the corporation in 1995 purchased a stake of 51% in Jinbei Automobile Co., Ltd., a small truck maker in Shenyang, from the city of Shenyang to make it a subsidiary. In the following year, it absorbed two troubled small truck makers, Chengdu Automobile Works and Lanjian Automobile Works, for free. China First Automobile Group Corporation had since 1986 started a project for joint production of small trucks with four small truck makers controlled by local governments, including Changchun Light Automobile Works and Jilin Light Automobile Works. It purchased the four companies from respective local governments in 1991. In 1993, it absorbed Harbin Light Automobile Works (formerly, Xingguang Machinery Works), a small truck maker affiliated with the Ministry of Space Industry, again without paying anything for the acquisition. First Automobile Group thus integrated six small truck manufacturers by 1996. China First Automobile Group Corporation had the six firms produce small trucks developed by the company, sent executives and provided financial support to them, and supplied them with engines, cabs and axles produced within the group. By entering the small truck market via mergers and acquisitions, First Automobile Group managed to raise the market share to 29% by 1997 from zero in 1992. Apart from the small truck sector, First Automobile Group has been active in other areas, including a joint venture with Volkswagen, passenger car production with technology transferred from Audi, and long-established medium-size and large-size truck production. First Automobile Group's corporate target as of 1994 was to raise vehicle output to 700,000 units by 2000 and to one million units by 2005 (Marukawa [1995] [1999a] [1999b]).

Dongfeng Automobile Corporation, meanwhile, had been exploring the formation of a corporate group since the 1980s and built the group more than double the size of First Automobile Group. After the announcement of the "automotive policy," however, it sought to purchase few domestic automakers, and instead set up auto parts joint ventures with for-

eign automakers and parts makers, such as Honda Motor Co., Nissan Diesel Motor Co., Cummins and Siemens. It also spun off six factories under the direct control of the head office as separate wholly owned subsidiaries. Dongfeng Automobile Corporation also hoisted the ambitious target of increasing production to 700,000 units in 2000 and to one million units in the early part of the 21st century.

1.4 Results of Industrial Policy

The target year of China's "automotive policy" was 2000, but developments until 1999 made extremely slim the possibility of the goals spelled out under the "automotive policy" being realized. First of all, in the area of the corporate grouping, the automotive industry has yet to be reorganized into eight to 10 groups as of 2000, despite some progress in the consolidation after the announcement of the "automotive policy." The combined share of the total output for the seven largest groups listed in Table 3-1 rose only marginally from 43% in 1993, one year before the announcement of the "automotive policy," to 46% in 1999. In terms of units of vehicle output, their combined share actually inched down from 64% in 1993 to 62% in 1999. First Automobile Group and Dongfeng Automobile Group produced 340,000 units and 210,000 units, respectively, in 1999, both falling far short of the 2000 output target of 700,000 units. Yet, First Automobile Group almost doubled the production level from 1993, while Dongfeng Automobile Group, far from increasing production, actually saw an output drop. Looking at other corporate groups' output for the same period, Heavy Automobile Group and Beijing Automobile Group had declines in output and Tianjin Automobile Group had a limited increase of 20%. Only Shanghai Automobile Group was able to raise production by 2.5 times.

The impact of the corporate grouping was not so pronounced in terms of production increase, apparently affected by the expansion of China's overall automobile market that fell short of the 1994 prediction. The Ministry of Machinery Industry in that year estimated the automobile market at three million units in 2000. But automobile sales reached only 1.86 million units in 1999 and are estimated at two million units for 2000. If the market fails to expand, the expansion of production by corporate groups would naturally face limitations.

Then, was another objective of the corporate grouping, rationalization and greater efficiency, fulfilled? As for efficiency, labor productivity (units of output per worker), the simplest indicator of efficiency (see Table 3-1), grew significantly for First Automobile Group, Shanghai Automobile Group and Beijing Automobile Group, but stagnated or declined for other corporate groups. By profit rate (see Table 3-1), all corporate groups were oper-

Table 3-1 The Performance of Major Automotive Groups

	First Auto Group (FAW)	Dongfeng Auto Group	Shanghai Auto Group	China Auto Industry Corp	Heavy Auto Group	Beijing Auto Group	Tianjin Auto Group
				Sales (Million Yuan)			
1987	2,669	3,480	1,939	744	915	2,764	1,080
1990	3,192	4,671	3,605	1,295	1,493	4,121	1,352
1992	12,009	10,045	10,761	3,193	4,023	8,206	4,863
1993	17,453	19,440	15,803	3,284	5,846	6,827	7,210
1994	23,950	21,185	23,778	4,634	6,686	9,070	9,764
1995	28,328	18,355	34,312	5,622	5,628	12,234	10,779
1996	27,233	13,781	37,804	5,218	5,981	9,736	12,165
1997	31,588	17,817	40,209	6,187	5,332	8,275	12,666
1998	33.340	20,267	39,290	6,055	4,806	6,364	11,396
1999	41,924	22,837	48,518	5,550	4,574	7,155	10,713
				Profit (Million Yuan)			
1987	239	730	234	89	36	384	124
1990	60	436	345	32	41	293	90
1992	775	1,167	1,252	211	147	615	528
1993	983	1,689	1,827	41	261	142	360
1994	521	1,184	2,251	–5	118	367	570
1995	502	375	3,760	–3	–162	313	642
1996	488	–97	5,110	–33	21	229	650
1997	570	–75	5,546	229	31	–193	521
1998	753	–48	4,933	358	–1,084	–261	284
1999	1,414	160	6,016	161	—	8	–63
				Number of Employees			
1993	118,187	128,260	44,814	27,425	71,866	43,166	43,977
1999	124,073	105,235	61,995	30,022	63,466	35,864	51,639
				Production Volume (units)			
1993	177,796	231,155	102,342	71,286	18,240	125,084	107,652
1999	342,364	205,732	255,841	72,248	9,121	121,308	128,786
				Labor Productivity (Units /Employees)			
1993	1.50	1.80	2.28	2.60	0.25	2.90	2.45
1999	2.76	1.95	4.13	2.41	0.14	3.38	2.49

Source: *China Automotive Industry Yearbook*, various issues.

ating in the black until 1993, but many started slipping into the red from 1994, the very year when the "automotive policy" was launched. These results cannot but call into question the effectiveness of the corporate grouping in rationalizing and bringing more efficiency to the automotive industry.

1.5 Did Corporate Grouping Make the Industry More Efficient?

The author raised the question in the previous section that the corporate grouping propelled by the "automotive policy" may have failed in bringing the benefit of greater efficiency to the automotive industry. But it cannot be denied that the environment has not been favorable to automakers since 1994. In fact, the sudden slowdown in the expansion of China's automobile market since 1994 was something the "automotive policy" had not anticipated (Marukawa [2000]). The profit rates of corporate groups declined maybe because the drops in automobile prices due to the market weakening canceled out whatever fruits of management rationalization brought about by the corporate groupings.

Moreover, the group profits listed in Table 3-1 show the clear gap between the groups with larger passenger car production (Shanghai Automobile Group, First Automobile Group and Tianjin Automobile Group) and the groups with more trucks and less passenger cars (Dongfeng Automobile Group, Heavy Automobile Group and China Automobile Industry Corporation). It is highly possible that the production volume of passenger cars, rather than the success or failure of the corporate grouping strategy, decidedly affected the profits of the corporate groups. In fact, sales of passenger cars expanded 44% between 1993 and 1999, but those of other vehicles showed a meager rise of 7%. Prices of passenger cars declined in the 1990s because of intense competition, but they still offered high profit margins. Since the Chinese government strictly restricted the new entry into the passenger car market since the 1980s and one of the primary objectives of the "automotive policy" was to further strengthen the restriction, failure to enter the passenger car market cannot necessarily be blamed on misjudgment on the part of corporate managers. Since the government imposed thorough regulations covering from production capacity to types of vehicles to be produced, automakers authorized to produce good-selling passenger car models were able to reap almost monopolistic profits[1].

Given the need to take the above-mentioned factors into account, the decline in profits at many corporate groups does not immediately warrant the conclusion that the formation of corporate groups made no contribution whatsoever to the enhancement of efficiency. The effect of the formation of corporate groups needs to be verified by excluding the effects of the growth of the overall automobile market and the possession or

non-possession of licenses for passenger car production by each group. Accordingly, using Table 3-1 as panel data, I conducted a regression analysis with each corporate group's rate of profit to sales for each year calculated from Table 3-1 as a dependent variable. The independent variables are the growth of China's overall automobile production (as a representation of the expansion of the domestic market for domestic automakers), production volume of trucks and passenger cars by each corporate group, a dummy variable showing the aggressive group expansion strategies since 1993 by Dongfeng Automobile Group and First Automobile Group (1 for the two groups only from 1993, 0 for all others), a dummy variable showing that the municipal governments of Shanghai, Tianjin and Beijing as well as China Automobile Industry Corporation set up corporate groups with the function of holding companies by converting administrative organizations (1 for Shanghai, Tianjin and Beijing from 1996, 1 for China Automobile Industry General Corporation from 1994, 0 for all others), a dummy variable showing that the planned allocation of automobiles was totally abolished around 1993 and competition intensified among automakers since then (1 for all groups since 1993, 0 for years before 1993), and a dummy variable presenting each corporate group.

Table 3-2 Regression Analysis of Auto Group's Profitability

	Coefficient	t-Value
Intercept	0.21	0.05
Production	5.85 *	1.79
Units of Trucks produced by the Group	0.00001	0.22
Units of Passenger Cars produced by the Group	0.00004 **	2.28
Active Grouping by FAW and Dongfeng (Since 1993, 1, otherwise 0)	−3.04	−1.05
Setup of government-turned group (For Shanghai, Tianjin, Beijing, 1 after 1996, for China auto Industry Corp 1 after 1994, otherwise 0)	−1.86	−1.07
Deepening of Marketization (Since 1993, 1, otherwise 0)	−5.09 **	−3.09
First Auto Group	0.02	0.01
Dongfeng Auto Group	3.64	1.34
Shanghai Auto Group	3.95	1.25
China Auto Industry Corp	1.00	0.53
Heavy Auto Group	−4.29 *	−1.81
Tianjin Auto Group	0.82	0.40
Adjusted R^2	0.54	
N	69	

Source: Calculated from the data of *China Automotive Industry Yearbook*.

The results of the analysis are shown in Table 3-2. As expected, the outcome confirmed that the growth of the overall Chinese automobile market and the quantity of passenger cars produced determined the profit rate of each corporate group and that China's shift to a market-based economy since 1993 brought about a decline in profit rates. As for the crucial issue of the impact of the corporate grouping, however, no positive effect on the profit rate was verified. The outcome of the analysis was not significant, and there exists even a possibility that the corporate grouping in fact had a negative effect. At any rate, the analysis did not reject the hypothesis that the formation of corporate groups did not contribute to improving the efficiency of China's automotive industry.

1.6 Increased Debts Resulting from Corporate Groupings

The enlargement of corporate groups that went forward under the "automotive policy" also brought large burdens upon these groups. For example, the six small truck makers First Automobile Group absorbed by 1996 had a combined workforce of as many as some 60,000. But these six companies turned out only 84,000 small trucks in 1996, with their production efficiency falling short of the average efficiency for the entire First Automobile Group. The capacity utilization rate of the six firms stood at only 48%. In addition, each of the six firms was burdened with heavy debts. After all, the acquisition of the six firms by First Automobile Group resulted from their business slump. For example, when First Automobile Group absorbed Lanjian Automobile Works (now, FAW Hongta Yunnan Automobile Manufacturing Limited Corporation), First Automobile Group took over state capital of 160 million yuan without compensation but at the same time inherited debts of as much as 700 million yuan. Of those debts, 170 million yuan worth was converted into state equity shares. But First Automobile Group still had to shoulder the remaining debt of 530 million yuan. In the case of Harbin Light Automobile Works, First Automobile Group had been supplying auto parts to the factory on credit since before the merger and cumulative receivables amounted to 240 million yuan, in addition to the factories' 350 million yuan in long-term debt to banks. As for Jinbei Automobile Co. Ltd., First Automobile Group's payment of some 500 million yuan to the city of Shenyang for the 51% stake in the company was first placed with Shenyang State Asset Management Company, but then lent out to Jinbei Automobile.

As reviewed above, First Automobile Group has taken over a large amount of debt each time it expanded its corporate group. But Jilin Light Automobile Works, which is supposed to have become just one of factories owned by China First Automobile Group Corporation, and Harbin Light Automobile Works, which is a fully owned subsidiary, are still shoul-

dering the burden of debts themselves, with their debts not appearing in the balance sheet of China First Automobile Group Corporation. Table 3-3 shows the changes in assets and debts at First Automobile Group and Dongfeng Automobile Group. But it is questionable whether all debts like those described above found their way into the figures listed in the table.

Table 3-3 Assets and Liabilities of First Auto Group and Dongfeng Auto Group

Unit: 10 Thousand Yuan

First Auto Group	1996	1997	1998	1999
Asset	4,682,540	5,982,420	6,491,894	6,615,066
Liability	3,446,953	4,306,877	4,611,846	4,382,613
Net Asset	1,235,587	1,675,543	1,880,048	2,232,453
Asset-liability ratio (%)	73.6	72.0	71.0	66.3
Dongfeng Auto Group	1996	1997	1998	1999
Asset	3,065,008	3,233,236	3,608,416	5,341,136
Liability	1,941,667	2,034,939	2,351,355	3,761,666
Net Asset	1,123,341	1,198,297	1,257,061	1,579,470
Asset-liability ratio (%)	63.3	62.9	65.2	70.4

Note: Data are for the end of each year.
Source: *China Automotive Industry Yearbook*, various issues

The cost of the ambitious group expansion proved to be too much for corporations themselves to bear on their own. China First Automobile Group Corporation and Dongfeng Automobile Corporation, in view of the huge burden of interest payments on large debts they assumed, were chosen as recipients of support from the debt-equity swap program launched in 1999 for state-owned enterprises. In December 1999, they signed agreements with asset management companies of state-owned banks for the conversion of part of their debts into equities. First Automobile had 7.9 billion yuan owed to the four largest state-owned banks and State Development Bank swapped for equities. Dongfeng Automobile converted 4.61 billion yuan of its own debt and 2.34 billion yuan of Shenlong Automobile Corporation's debt into equities. In May 2000, Wuhu FAW Yangzi Automobile Factory, another subsidiary of First Automobile, had 521.7 million of debt swapped for equities. The debt-equity swap program allows enterprises to do away with interest payments on a portion of debts to banks that are converted into equities. Though the enterprise's performance after the debt-equity swap determines whether the asset management company holding the converted equities may or may not make losses, chances of

making losses are very high. In that event, the state coffers are called upon to compensate for part of the losses (Watanabe [2000]).

The corporate grouping the Chinese government pushed forward under its "automotive policy" consequently increased debts owed by state-owned corporations, forcing the state to pay dearly for its own policy.

1.7 Motorcycle Industry

Moves toward the corporate grouping were not new in China's motorcycle industry. In 1980, for example, Jialing Machinery Works of Chongqing formed a corporate group, Jialing Motorcycle Economic Cooperation Group, with four parts makers in neighboring areas for the purpose of introducing motorcycle-manufacturing technology. But the Jialing group was virtually disintegrated by 1992, and the corporate grouping did not make much of headway in the industry (Marukawa [1994]). The "automotive policy" called for the promotion of consolidation of the motorcycle industry, just as for the automotive industry. The first response to that call came in the establishment of China Jialing Jianshe Motor Group in 1997, with the participation of eight motorcycle and parts makers based in Chongqing, including China Jialing Industry Co., Ltd. and Jianshe Industry Limited Company. Jialing was China's second biggest motorcycle maker then and Jianshe the fourth largest, both affiliated to the Ministry of Armament Industry. Judging from the members that joined the group, it seems that it was formed under the guidance of the Ministry and the municipal government of Chongqing. The group was to become the giant motorcycle maker with an annual production capacity of four million motorcycles, five million motorcycle engines and a domestic market share of nearly 40% (*China Automotive Industry Yearbook*, 1998). However, this group disbanded soon afterward without leaving any trace of its existence. Why it was dissolved is not necessarily clear, but it can be assumed that the government-led group formation was perhaps doomed to failure from the very beginning. Probably, the group did not last long also because there was little benefit in expanding the scale of production given the relatively low technical barriers to the entry of China's motorcycle market. In recent years, the market shares held by established major manufacturers like Jialing and Jianshe have been eroded by emerging privately-owned makers and township and village enterprises. As Table 3-4 indicates, the concentration ratio of motorcycle production has been declining steadily throughout the 1990s (Ohara, Marukawa [2000]). Thus, the "automotive policy" has brought no benefits or left no marks on China's motorcycle industry.

Table 3-4 Concentration of Motorcycle Industry

	Production share of largest firms (%)			Herfindahl's Index
	Largest 4	Largest 10	Largest 20	
1981	64	88	98	0.175
1982	55	69	76	0.133
1983	71	84	95	0.177
1984	67	81	92	0.164
1985	57	70	80	0.112
1986	65	83	91	0.151
1987	53	74	85	0.099
1988	54	75	87	0.095
1989	58	76	87	0.099
1990	62	81	93	0.114
1991	58	81	93	0.102
1992	54	77	91	0.089
1993	53	77	89	0.089
1994	52	75	90	0.084
1995	49	76	91	0.079
1996	42	66	85	0.064
1997	39	64	83	0.054
1998	36	60	77	0.054

Source: Ohara, Marukawa (2000)

2. ELECTRONICS INDUSTRY

2.1 Industrial Policy That Was Never Publicized

There have been repeated attempts to formulate an industrial policy for the electronics industry since 1983 in China. Up until now, however, no industrial policy so systematic as that for the automotive industry has ever been announced for the electronics sector. The first such attempt was made in 1983 when Jiang Zemin, now China's president, assumed the post of minister of electronics industry and proposed enacting a "Law for the Promotion of the Electronics Industry." After the effort to write the "promotion law" was considered infeasible, the Ministry of Electronics Industry in 1986 began the work of drafting an "Ordinance for the Promotion of the Electronics Industry." But the drafting did not come to an end even after eight years of work. After the "machinery and electronics industries" were designated as China's "leading industries" at the 14th Plenum of the Com-

munist Party of China in 1992, the Ministry of Electronics Industry resumed ardent efforts to formulate the "Ordinance," and also began drafting an "Industrial Policy for the Electronics Industry" and an "Outline of a Program for the Leading Electronics Industry." The draft proposals were put together by around 1994 for submission to the State Council. But they failed to win the State Council's endorsement and were never promulgated as an official policy (*Zhongguo Dianzibao* [China Electronic News], March 4, April 22, 1994). The concrete contents the Ministry of Electronics Industry incorporated into the policy drafts were never disclosed. But the goals of the contemplated industrial policy can be guessed from a contribution made by a then vice minister of electronics industry to *Renmin Ribao* [People's Daily], June 10, 1994. The vice minister wrote: "The major problems in China's electronics industry are that manufacturers are small in size, dispersed and overlapping and that the industry has not yet realized intensive large-scale production or economies of scale. At present, the world's electronics industries are becoming increasingly globalized and the market shares held by multinational corporations are rising incessantly. As China goes ahead with market opening, and particularly as it is faced with the issue of GATT membership, the Chinese electronics industry is poised to get engulfed in fierce competition on the domestic as well as global markets. Unless China calls together small companies to form a 'combined fleet' and establish several viable large companies, it would find it difficult not only to participate in global competition but also simply to survive and develop itself on the domestic market."

As this contribution makes it evident, the industrial policy the Ministry of Electronics Industry was working on was designed to boost competitiveness by consolidating and grouping Chinese enterprises, just as the "automotive policy," in order to deal with potential shocks from China's accession to GATT.

2.2 "Large Enterprise Strategy"

Though its industrial policy had never materialized, the Ministry of Electronics Industry tried to seize every opportunity possible to realize the plans and goals contained in the unannounced industrial policy. One of them is the "Large Enterprise Strategy" that the ministry began implementing in November 1994. The strategy was designed to select candidate large enterprises in the electronics industry and help them become even larger through mergers, equity participation and other measures (*Zhongguo Dianzibao* [China Electronic News], November 7, 1994). Chosen for the Large Enterprise Strategy were the following six companies: Changhong Electronic Group Corporation, Legend Group Corporation, Shanghai Video and Audio Electronics Co., IRICO CRT Corporation (Caihong), Panda

Electronic Group Corporation, and China Hualu Electronic Limited Company. The Ministry of Electronics Industry had previously stated that enterprises selected for the Large Enterprise Strategy would be given priority benefits of preferential policy measures listed in the "industrial policy for the electronics industry." Since the "industrial policy for the electronics industry" had never been enacted, however, it is assumed that the companies chosen for the Large Enterprise Strategy received little preferential treatment actually after all. Nevertheless, some of the six firms selected sought to expand the scale of operations or form their own corporate groups as if to respond to the expectations placed by the Ministry of Electronics Industry.

2.3 Outcome of "Large Enterprise Strategy"

Changhong Electronic Group Corporation followed a strategy of single-mindedly seeking to expand production of television sets. Its production volume rose to 4.8 million units in 1996 and to 6.7 million in 1997 from 2.9 million in 1995. In 1998, Changhong raised output to 9.3 million units with the aim of capturing over 50% of China's TV market. But the unnatural expansion policy began to tell on the corporation, which became burdened with massive inventories in that year and was forced to reduce production sharply thereafter.

IRICO CRT Corporation, a cathode-ray tube maker, from 1994 to 1995 absorbed three troubled state-owned TV makers and also took under its wing research institutes and electronics parts makers affiliated to the Ministry of Electronics Industry. Being an enterprise under direct control of the ministry, it went for a corporate grouping that closely reflected the ministry's intentions. As long as TVs are concerned, however, it is hard to find products by makers under the aegis of IRICO CRT Corporation on the market, an indication that the absorption of three TV makers has yet to produce fruits for the group.

Shanghai Video and Audio Electronics Co. was created in 1990 through the integration of three TV makers affiliated to the municipal government of Shanghai at the city's initiative. But the three firms continued to turn out own-brand TVs, putting substantive integration on hold. Ironically, the integration of the three brands became a reality after two of the three companies were forced to halt TV production in 1995-1996 and went bankrupt (Shen Chongying [1999]). At present, Shanghai Video and Audio Electronics Co. is staying afloat principally as a partner in joint ventures with Sony Corp., Sharp Corp. and Victor Co. of Japan.

China Hualu Electronic Limited Company is a maker of parts and components of videocassette recorders (chassis, cylinder heads), created as a priority technology introduction project under the Eighth Five-year Plan

(1991-1995). The company was established as a joint venture of 11 state-owned videocassette recorder (VCR) makers designated as VCR production sites by the Ministry of Electronics Industry in 1991. Its establishment stemmed from a deep sense of crisis within the Chinese government over the Japanese dominance of China's VCR market that began expanding rapidly in the early 1990s. Individual state-owned VCR makers were not capable, both financially and technologically, of domestic production of core VCR parts requiring precision machining. It was feared that domestic VCR production might completely depend on core parts imported from Japan, even if China managed to substitute imports by setting up domestic VCR production. So, the Ministry of Electronics Industry took the lead in creating the joint company for production of parts for three million VCRs a year, with the capital participation and technological assistance by Matsushita Electric Industrial Co. of Japan.

When the Ministry of Electronics Industry announced the Large Enterprise Strategy in 1994, China Hualu just completed construction of a factory with only a minor presence in China's electronics industry.

Yet, it was selected for the strategy apparently because the ministry regarded the company, the joint venture of 11 VCR makers, as a model for the industry's reorganization and consolidation. VCR parts produced by China Hualu were to be distributed to the 11 companies in accordance with the ratio of capital contributed. The arrangement was made on the assumption that Chinese VCR makers would be eager to buy as many VCR parts as possible to turn out VCRs to meet robust domestic demand. However, that assumption proved to be wrong two years after the establishment of China Hualu. China's VCR market contracted rapidly after reaching three million units around 1993, and dwindled to only about 800,000 units in 1996. VCR sales tumbled because video CDs (VCDs) began to expand its market in place of VCRs. VCDs do not have the recording function, but Chinese people liked them because of lower hardware prices and a rich supply of cheap pirated versions of software. As China Hualu acquired a capacity to turn out parts for 1.5 million VCRs a year, it had to start producing VCR sets by itself and export a part of its products, both not planned in the initial planning, in order to secure markets for VCR parts, thereby managing to barely maintain the capacity utilization rate.

Panda Electronic Group Corporation (formerly, Nanjing Radio Works) is a leader of China's electronics industry with a long history dating back to the Republican Era, chalking up the largest figure for sales in the industry in 1991. The company took part in the establishment of China Hualu as the biggest investor and also cooperated by sending executives for management. Panda Electronic was also an early active player in the electronic industry's reorganization, forming "Panda Electronic Group," a cor-

porate group of 162 electronics equipment and parts makers in 1987. But its corporate power began to wane just as the "Large Enterprise Strategy" began to take its shape, and started to cede its market share in the mainstay TV business in competition with rival companies (see Table 3-5). It also halted VCR production amid the overall market slump. The corporate group organized by Panda Electronic Group Corporation vanished like smoke as the company gradually lost its strength to spare for small TV makers in the group, which it had been helping by consigning production on an original equipment manufacturer (OEM) basis. In 1999, Jiangsu Province and the municipal government of Nanjing came to the rescue of Panda Electronic that has fallen into financial difficulties with an infusion of 250 million yuan. Panda Electronic also signed accords with four banks on the swapping of 1,327 million yuan of debts for equities.

Personal computer maker Legend Group Corporation is the only company to have maintained the smooth growth until now among the six firms selected for the "Large Enterprise Strategy." For 1998, Legend Group Corporation reported the largest sales not only in the PC industry but also in the overall electronics industry. In recent years, with Legend as the sole exception, enterprises that were left out of the "Large Enterprise Strategy" have been more spirited in China's electronics industry.

Table 3-5 Market Shares of Various Color TV Brands

(%)

Brand	Maker	1993	1994	1996	1997	1998	1999
Changhong	Changhong Electronics	4.2	5.0	20.5	25.0	33.7	13.2
Konka	Konka Group	13.4	11.0	12.2	15.1	13.7	15.9
Haier	Haier Group	–	–	–	–	7.9	7.8
TCL	TCL Group	–	–	6.2	9.5	7.8	11.0
Panda	Panda Electronics	11.2	11.0	4.6	3.9	5.6	2.9
Hisense	Qingdao Hisense Electric	1.9	–	–	3.1	5.6	8.5
Chuangwei	Shenzhen Chuangwei RGB	–	–	–	4.4	2.6	4.5
Suzhou Philips	Suzhou Philips	–	–	–	4.5	2.4	–
Matsushita	Shangdong Matsushita	10.7	14.7	13.3	6.7	2.3	–
Sony	Shanghai Sony	–	3.5	5.5	–	2.3	3.6
Toshiba	Dalian Toshiba TV	2.1	–	4.2	–	2.1	–
Jinxing	Shanghai Video and Audio	4.2	3.7	2.7	4.5	2.0	2.8
Xodeco	Xiamen Huaqiao Electronics	3.3	–	2.7	3.8	2.0	6.5
Beijing	Tianjin Tongguang	5.4	4.0	7.1	–	–	–
Market share of Largest 10		56.5	52.8	79.0	80.5	85.2	76.7

Source: *China Market Statistics Yearbook* for 1993, 94. *Zhongguo Dianzzi Bao* for 96, 97, 98, 99.

2.4 Rise of Local Enterprises

As Table 3-5 shows, for example, Konka Group, TCL and Qingdao Hisense have expanded their shares of the TV market. In the field of information and telecommunications equipment as well, including telephone switches, mobile phones and PCs that have displayed remarkable growth in recent years, leading players emerged from among enterprises utterly disregarded by the government, not from corporate groups the government had tried to nurture.

Let us look at telephone switches as a good example.

Telephone switches in China switched over in the 1980s from cross-bar switches (mechanical) to digital switches (electronic), and the market for electronic switches was at first dominated by imported products. Domestic production of electronic switches started in 1984 by Shanghai Bell Telephone Equipment Manufacturing Limited Company, a joint venture between China Posts and Telecommunications Industry Corporation, an affiliate of the Ministry of Posts and Telecommunications, and Alcatel. Shanghai Bell commanded the market share of 50% around 1990 as the sole domestic maker of electronic switches. Later, NEC Corp., Fujitsu Ltd., Siemens and other makers set up joint ventures to enter China's rapidly expanding electronic switch market.

Meanwhile, enterprises under the Ministry of Posts and Telecommunications undertook independent development of electronic switches. In 1991, China Posts and Telecommunications Industry General Corporation and the Institute of Information Engineering of the People's Liberation Army completed the jointly developed electronic switch for public telephone, called HJD04. The technology for the switch was then transferred to a total of nine makers under the ministry's wing for mass production, and cumulative sales expanded to 17 million circuits by 1998 from just 50,000 circuits in 1992. In 1995, the ministry-affiliated eight state-owned makers that received the HJD04 technology formed Julong Telecommunication Equipment Limited Company (this company was reorganized into Julong Information Technology Limited Company in 1999), the allied forces of companies under the aegis of the Ministry of Posts and Telecommunications poised to fight against imports as well as foreign-owned firms operating in China.

As for the domestic market shares as of 1995, of the 22.18 million circuits of newly installed public telephone switches in the year, joint-venture companies in China captured 38% (19% for Shanghai Bell, 11% for Beijing International Switch System Limited Company, a joint venture with Siemens), local Chinese makers took 23% (14% for HJD04 of the "Julong" allied forces), and imports[2] accounted for 39%. Caught between imported products and foreign-affiliated companies, the "Julong" allied

forces won only a small portion of the market.

Local companies that expanded the market shares in later years in competition with foreign-affiliated firms and imports were not the "Julong" allied forces but a third force.

Currently, privately-owned Huawei Technology Limited Company has the biggest share in China's production of telephone switches (25% in 1998) (see Table 3-6). Huawei Technology is a Chinese version of a venture firm created in Shenzhen in 1988 by seven to eight founders with an initial fund of only 2,400 yuan. In the initial years, the company imported small Hong Kong-made switches for sale to rural districts of China. In those years, Shenzhen was home to over 200 telecommunications-related ventures, and Huawei was one of them. Huawei later started own production of switches for rural areas and eventually advanced in the market for switches for urban use. In 1994, the company had a share of less than 5% in the domestic market for public telephone switches and was never men-

Table 3-6 Major Makers of Electronic Switch

Name of Enterprise	Ownership/Type	Production Volume (circuits)	
		1997	1998
Huawei Technology	Privately owned	3,943,324	9,374,104
Shanghai Bell Ltd.	Foreign-affiliated/JV with Alcatel	5,954,000	7,800,000
Beijing International Switch System Ltd.	Foreign-affiliated/JV with Siemens	3,200,000	6,620,000
ZTE Corporation	SOE/Ministry of Space Industry	1,910,000	5,116,700
Qingdao Hisense Group	SOE/Qingdao City	1,628,136	2,394,394
Jiangsu Fujitsu	Foreign-affiliated/JV with Fujitsu	1,434,000	1,601,000
Xi'an Datang Telecommunications	SOE/Ministry of Post and Telecommunications	760,000	1,480,000
Panda Electronics Group	SOE/Ministry of Electronics Industry and Nanjing city	659,456	1,022,488
Luoyang P & T Equipment Works	SOE/Ministry of Post and Telecommunications	–	1,015,792
Tianjin NEC Telecommunications	Foreign-affiliated/JV with NEC	784,000	814,600
Changchun P & T Equipment Works	SOE/Ministry of Post and Telecommunications	–	487,056
Total of China		26,075,082	33,331,123

Notes: 1 Luoyang P & T and Changchun P & T seem to be members of the Julong Information Technology Limited Company. The total production of Julong group was 3.5 million circuits in 1998.

2 The yearbook data didn't contain the figure for Shanghai Bell. I added them based on other sources. Therefore, "Total of China" is smaller than the total of the companies listed above.

Source: *Zhongguo Dianzi Bao*, April 28, 1998, *China Electronics Industry Yearbook*, 1999, and others.

tioned as a candidate for the spotlight of the "Large Enterprise Strategy." Since around that time, however, Huawei doubled sales each year and has grown into the leading maker of telephone switches in China.

Next in line to follow Huawei is ZTE Corporation (Zhongxing), a local enterprise also located in Shenzhen, with no relation to the "Julong" allied forces. ZTE, a state-owned firm affiliated with the Ministry of Space Industry, started early as a producer of telecommunications equipment in 1985, but made an abrupt emergence as a major manufacturer only in the late 1990s.

In China, where the use of telephones and mobile phones is spreading rapidly, the telephone switch market is also expanding at a double-digit annual growth rate. In this market climate, the key to staying competitive is how quickly to catch up with newest technologies. Of importance is not to accumulate technologies and know-how within a company, but to call up and gather as many people in the know about new technologies as possible. The scale of operations of enterprises in 1994, before the telephone switch market exploded, had little influence on their subsequent growth. Instead, the rapid growth of Huawei and ZTE was supported by a large inflow of highly qualified people from both within China and overseas because these growing companies offered big opportunities for young talent fresh out of universities or graduate schools. The city where they are located, Shenzhen, also offered favorable living conditions for talented immigrants.

4. CONCLUSION

In either of the automotive/motorcycle and electronics industries, the Chinese government tried to implement industrial policy to get them prepared for an era of real international competition since 1992 when China's membership in GATT came ever closer to a reality. For both industries, the Chinese policy was to expand corporate groups formed around large state-owned enterprises in order to enhance the international competitiveness of domestic industries. In retrospect, however, it is hard to say that China's industrial policy has been successful in either of the industries. Apart from the practical difficulty the government had in steering state-owned enterprises to follow the line of its intentions, China's industrial policy failed to materialize because the policy itself was problematic.

What the Chinese government intended to carry out in the automotive/motorcycle and electronics industries was the "contest-based competition" advocated by the World Bank in *The East Asian Miracle* (World Bank [1993]). In short, it was the contest designed to reward enterprises achieving a certain level of production capacity with policy support measures. In

the automotive/ motorcycle sector in particular, rules of the contest were publicized in the form of the "automotive policy," making the Chinese policy fully passable in terms of the clarity of rules and rewards listed by the World Bank as a primary condition to make the contest-based competition successful.

Then, why did China's industrial policy fail to succeed?

First, it was wrong to adopt the scale of production capacity as a yardstick to gauge the performance of participants in the contest. The Chinese industrial policy appears to have assumed simply that the larger an enterprise's production capacity is, the stronger its competitiveness. In a natural reaction to that kind of assumption, enterprises were banded together to form a corporate group by the use of administrative guidance just to make the group's production capacity look large. Needless to say, however, economies of scale result not from the mere size of corporate assets but from the combination of those assets.

The contest-based competition is for the selection of enterprises that have potential to become an industry winner in the future. If inappropriate yardsticks are used to assess the performance of participants, however, the contest may end up choosing a winner that cannot necessarily be an industry winner. In fact, in China's automotive/motorcycle and electronics industries, there existed little correlation between winning the contest and winning the subsequent competition. As discussed in this paper, some industrial policy contest winners later ended up being rescued by the government under the debt-equity swap program. Instead, enterprises that were considered not worthy of any attention in the contest have now emerged as winners of the competition.

The development noted in the previous sentence, aside from the inappropriateness of the performance yardsticks adopted in China's industrial policy, brings into question the very effectiveness of the contest-based competition for the rapidly growing and ever-changing market such as China's. TV maker TCL and telephone switch maker Huawei were among those enterprises that had absolutely no chance of being caught in a net under any performance yardstick in 1994 when the Chinese government carried out the contest called the "Large Enterprise Strategy." Had the Chinese government sponsored a more rigorous contest-based competition for the electronics industry, it would have nipped future growth companies like TCL and Huawei in the bud.

China's industrial policy for automotive/motorcycle and electronics industries since 1994 has failed to produce any significant results. After entering the WTO, the Chinese government should find it no longer possible to conduct industrial policy like the "automotive policy" that could well be deemed as a violation of WTO trade rules. However, the powerful growth of TCL and Huawei tells us that there is no need for pessimism

over the future of local Chinese enterprises just because the Chinese government has failed in its industrial policies.

Notes

[1] For example, Table 3-1 shows Dongfeng Automobile Group's abrupt shift from the loss in 1998 to the profit in 1999. This is simply because the 1999 results of Dongfeng Automobile Group include revenue and profits from Shenlong Automobile Corporation, a passenger car joint venture between Dongfeng Automobile Corporation and Citroen of France, boosting its profit substantially. They were not included in 1998.

[2] Presumably, the import of switches was allowed if foreign governments provided credits for the deals.

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