

# The Role of Government in Jump-Starting Industrialization in East Asia: The Case of Automobile Development in China and Malaysia

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*Based on the statist perspective, this paper examines the role played by the government in nurturing both auto parts manufacturers and the parts-supply systems in developing countries. Undertaking a comparative case study of China's Shanghai-Volkswagen (SVW) and Malaysia's Proton, this paper argues that government interventionist policies were critical in supporting parts manufacturers, which were small and medium-sized enterprises (SMEs) with weak financial and technological bases. Government commitment was also key in encouraging the foreign partners in the joint ventures to commit themselves to localization and technology transfer. At the same time, this government-led industrialization was accompanied by negative side-effects including the rise of vehicle retail prices and the inadequate international competitiveness of parts suppliers.*

*This study also found that government policy orientation could influence the structure of the parts-supply system. SVW was able to develop vertical networks among its suppliers because the Shanghai government encouraged SVW to promote outsourcing and extend supplier networks across the entire country. In contrast, vertical networks did not develop substantially among Proton's suppliers because the Malaysian government limited the range of suppliers by favoring bumiputera (indigenous Malay) enterprises against relatively competitive Chinese enterprises.*

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Rapid industrialization has been a major objective of the economic policies of many states. The automobile industry has often been regarded as a main target for industrialization. Since the automobile industry includes broad manufacturing and service sectors, the employment effect is quite strong. In addition, the vehicle manufacturing, which consists of assembling an immense variety of parts and components, yields significant spillover effects on other industries, especially the machinery sector. Accordingly, many developing countries have adopted industrial and trade policies designed to initiate and develop the automobile industry.

In attempting to foster the automobile industry, however, the government needs also to stimulate the development of these very industries that provide auto parts and components. The auto parts industry has become increasingly important as vehicle functions have become more sophisticated and the outsourcing of parts has been increasingly common in vehicle production.

The parts/components industry is normally composed of small and medium-sized enterprises (SMEs), companies which often lack a financial basis, manufacturing know-how, and technological expertise. Accordingly, the government is expected to offer assistance designed to elevate the financial and technical competence of these SMEs. The production of vehicles and major auto parts requires high-level technology, huge initial capital, and mass production management skills. Developing countries, which have not accumulated such resources, are often forced to undertake intensive negotiations with foreign multinational corporations (MNCs) in order to acquire these resources. In so doing, the government needs to draw substantial commitment from MNCs to transfer technology and management skills in both assembly production and parts development.

The purpose of this article is to examine the role played by the government in nurturing both auto parts manufacturers and the parts-supply systems in developing countries. The paper seeks to address several questions: Is government intervention necessary for the development of parts

production and provision? If so, in what areas does the government play a significant role? How do interactions between the government and foreign MNCs affect the development of local auto parts supply and the promotion of localization? In order to address these questions, this study analyzes case studies in two Asian countries: China and Malaysia. The automobile sector has been regarded as a strategic industry in both countries, and the government has proactively involved itself in the development of the industry in various ways.

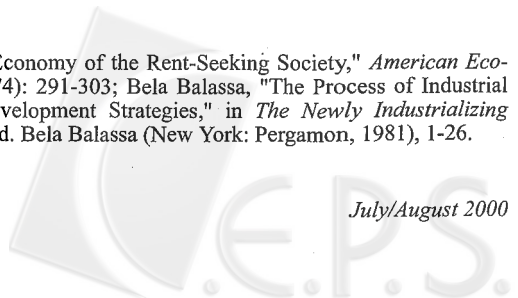
This article suggests that government intervention is necessary in order to create competent auto parts manufacturers and parts-supply systems in developing countries. The assumption is that such interventionist policies are critical in supporting weak SMEs that manufacture parts and components, while government commitment to bargaining with foreign MNCs is a key factor encouraging such corporations to promote localization and transfer technology. Before delving into the case studies, however, this paper begins with a brief review of the literature regarding the role of the government in developing the automobile industry.

### **The Role of the Government in the Development of the Automobile Industry**

The role of the government in economic development and industrialization has been one of the most controversial issues in the political economy of industrialization and development economics. The neoclassical economists, who regard economic and industrial development as a result of an efficient resource allocation responding to market incentives, give little credence to the role of the government.<sup>1</sup> Some political scientists with a statist perspective pay special attention to the role of the government in industrialization. In particular, they have explained impressive economic

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<sup>1</sup>Anne O. Krueger, "The Political Economy of the Rent-Seeking Society," *American Economic Review* 64, no. 3 (June 1974): 291-303; Bela Balassa, "The Process of Industrial Development and Alternative Development Strategies," in *The Newly Industrializing Countries in the World Economy*, ed. Bela Balassa (New York: Pergamon, 1981), 1-26.



growth in East Asian countries in terms of government intervention.<sup>2</sup> According to the statist perspective, the East Asian states have the autonomous power to formulate and implement economic policies, resisting the myopic interests of and the rent-seeking activities by societal groups. The highly educated and disciplined central bureaucrats, being motivated by a common objective, have formulated efficient and coherent policies. Furthermore, the states have developed close and collaborative linkages with the private sector.

In recent years, the statist perspective has been reexamined from two directions. The first is that the state has not always been the main actor in formulating and implementing economic policies. Recent empirical research on Japan and South Korea has demonstrated that private business has played a critical role in shaping economic policy.<sup>3</sup> Second, some scholars have refined the "strong state" concept by highlighting the institutional arrangements linking the state and society.<sup>4</sup> While the statist paradigm postulates that the state is insulated from the influence of societal groups, these scholars argue that the state is embedded into or interwoven with society through various formal and informal arrangements and networks.

The automobile industry has been taken up as a case study for examining the role of the government in industrialization in East Asia.

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<sup>2</sup>Chalmers Johnson, "Political Institutions and Economic Performance: The Government-Business Relationship in Japan, South Korea, and Taiwan," in *The Political Economy of the New Asian Industrialism*, ed. Frederic C. Deyo (Ithaca, N.Y.: Cornell University Press, 1987), 136-64; Alice H. Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989); Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization* (Princeton, N.J.: Princeton University Press, 1990).

<sup>3</sup>Frances M. Rosenbluth, *Financial Politics in Contemporary Japan* (Ithaca, N.Y.: Cornell University Press, 1989); Chung-in Moon, "Changing State-Business Relations in South Korea Since 1980," in *Business and Government in Industrializing East and Southeast Asia*, ed. Andrew MacIntyre (Ithaca, N.Y.: Cornell University Press, 1994), 142-66; Kent E. Calder, *Strategic Capitalism: Private Business and Public Purpose in Japanese Industrial Finance* (Princeton, N.J.: Princeton University Press, 1993).

<sup>4</sup>Peter B. Evans, *Embedded Autonomy: States and Industrial Transformation* (Princeton, N.J.: Princeton University Press, 1995); Linda Weiss and John M. Hobson, *States and Economic Development: A Comparative Historical Analysis* (Cambridge: Polity, 1995); Steve Chan and Cal Clark, *Beyond the Developmental State: East Asia's Political Economies Reconsidered* (London: Macmillan, 1998).

Andrew Green tests the state-led industrialization assumption in the development of the automobile industry in South Korea. He argues that active state intervention was the key to creating an efficient and technologically sophisticated industry, although such intervention could not guarantee success in the international market where the collective structure of the automobile industry provided opportunities for new entrants.<sup>5</sup> Yun-han Chu (朱雲漢) conducts a comparative study of the development of the automobile industry in South Korea and Taiwan, aiming to address why distinctive differences in terms of international competitiveness and production capacity emerged in the two countries despite similarities in government policy objectives and initial industrial settings.<sup>6</sup> He argues that while Korean economic officials retained an extreme array of policy instruments and utilized these instruments to pursue coherent, long-term development goals, their Taiwanese counterparts were lacking in effective policy instruments and channels of access to the private sector.<sup>7</sup> Yukihiro Sato explored the causes of the successful development of the motorcycle industry in Taiwan. He holds that government protection such as import bans and local content regulations constituted necessary conditions for fostering the industry, but further development was dependent on competitive pressure resulting from a new entry of local firms and market consolidation among three major manufacturers.<sup>8</sup>

A critical aspect to be considered in evaluating the development of the automobile industry in developing countries is the relationships with foreign MNCs in acquiring high initial capital as well as technological and management know-how. Studies of the relationship between MNCs and their host countries have more recently favored the bargaining model over

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<sup>5</sup>Andrew Green, "South Korea's Automobile Industry," *Asian Survey* 32, no. 5 (May 1992): 411-28.

<sup>6</sup>Yun-han Chu, "The State and the Development of the Automobile Industry in South Korea and Taiwan," in *The Role of the State in Taiwan's Development*, ed. Joel D. Aberbach, David Dollar, and Kenneth L. Sokoloff (Armonk, N.Y.: M.E. Sharpe, 1994), 125-69.

<sup>7</sup>For a similar argument based on a comparative study, see Rhys Jenkins, "The Political Economy of Industrial Policy: Automobile Manufacture in the Newly Industrialising Countries," *Cambridge Journal of Economics* 19 (1995): 625-45.

<sup>8</sup>Yukihiro Sato, "Taiwan's Motorcycle Industry: Protection Policy and Industrial Development," *Ajia keizai (Asian Economy)* 40, no. 4 (1999): 2-22.

the Marxist-oriented *dependencia* approach.<sup>9</sup> The latter asserted that the benefits of MNCs' foreign investment were poorly distributed to the host countries and foreign investment caused serious distortions in the local economies and political process in the host countries. The bargaining model has developed from Raymond Vernon's "obsolescing bargain" concept.<sup>10</sup> According to this concept, bargaining relationships evolve over time: investment agreements that were initially favorable to MNCs may be renegotiated after MNCs made substantial investment in the host country and the host government gained access to various resources. Scholars in this school have sought to identify conditions under which one party or the other gains power. Stephen Kobrin explored this issue through the analysis of the pattern of forced divestment and concluded that types of industrial activity, the level of technology, and the ownership structure were closely related to the degree of nationalization.<sup>11</sup> Joseph Grieco, who examined the international computer industry in India, concludes that the host governments could strengthen their bargaining position by taking advantage of competitive rivalry among foreign MNCs even in the high-tech industries.<sup>12</sup> Douglas Bennett and Kenneth Sharpe examined interactions between the Mexican state and MNCs in automobile development.<sup>13</sup> They hold that such developing states as Mexico could raise their bargaining power vis-à-vis MNCs when the latter needed investment opportunities in the face of rising competition. David Bartlett and Anna Seleny explored the impact of the spread of liberal trade and investment rules on bargains

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<sup>9</sup>For the *dependencia* approach, see Peter B. Evans, *Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil* (Princeton, N.J.: Princeton University Press, 1978) and Fernando E. Cardoso and Enzo Faletto, *Dependency and Development in Latin America* (Berkeley: University of California Press, 1979).

<sup>10</sup>Raymond Vernon, *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises* (New York: Basic Books, 1971).

<sup>11</sup>Stephen J. Kobrin, "Foreign Enterprise and Forced Divestment in LDCs," *International Organization* 34, no. 1 (1980): 65-88.

<sup>12</sup>Joseph M. Grieco, "Between Dependency and Autonomy: India's Experience with the International Computer Industry," *ibid.* 36, no. 3 (1982): 609-32.

<sup>13</sup>Douglas C. Bennett and Kenneth E. Sharpe, *Transnational Corporations Versus the State: The Political Economy of the Mexican Auto Industry* (Princeton, N.J.: Princeton University Press, 1985).

between auto MNCs and the Hungarian state.<sup>14</sup> They hold that unlike the argument that market liberalization bolsters MNCs' bargaining position against the host state, the Hungarian state utilized the European Union's local content rules to extract substantial concession from non-European automakers to dedicate revenues to develop the component industry.

Richard Doner examined the bargaining leverage of the Southeast Asian countries against foreign MNCs in developing the automobile industry.<sup>15</sup> He concludes that the concert between public and private sectors has enhanced the bargaining leverage of the host countries, and—under certain conditions—this coalition worked more effectively than an autonomous state. Kit Machado explores the influence of a Japanese MNC on the Malaysian government's policy to develop its own national car project.<sup>16</sup> He argues that although the initial setup of the project was achieved in exchange for substantial concessions to the MNC, the state's active commitment forced the company to accommodate state demands.

The aforementioned studies of the development of the automobile industry give credence to the statist perspective, identifying positive aspects of the government role in industrialization. The government's active involvement (including protection) constitutes a necessary condition for jump-starting the industry. Some scholars hold that government-led industrialization has little or no effect on further development, however. Studies of MNCs-host country bargaining have confirmed that the host governments' policies to utilize linkages with local business or evolving international environments (such as rising intercorporate competition or liberalization trends) constituted vital factors allowing for the extraction of favorable terms from MNCs.

A critical limitation to the previous research on the development of

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<sup>14</sup>David Bartlett and Anna Seleny, "The Political Enforcement of Liberalism: Bargaining, Institutions, and Auto Multinationals in Hungary," *International Studies Quarterly* 42 (1998): 319-38.

<sup>15</sup>Richard Doner, *Driving a Bargain: Automobile Industrialization and Japanese Firms in Southeast Asia* (Berkeley: University of California Press, 1991).

<sup>16</sup>Kit G. Machado, "ASEAN State Industrial Policies and Japanese Regional Production Strategies: The Case of Malaysia's Motor Vehicle Industry," in *The Evolving Pacific Basin in the Global Political Economy: Domestic and International Linkages*, ed. Cal Clarke and Steve Chan (Boulder, Colo.: Lynne Rienner, 1992), 169-202.

the automobile industry in developing countries is that most studies have focused mainly on automobile assembly. Indeed, the studies of the development of automobile assembly include examination of the fostering of parts suppliers and the promotion of parts localization since assembly operations and parts provision are closely linked. However, the development of parts manufacturing and parts-supply systems has become an increasingly important area of independent research for several reasons.

First, parts manufacturing has become critical in vehicle production and overall industrial development. The substantial development of automobile manufacturing—the production of passenger cars in particular—often depends on the extent to which developing countries can foster competent auto parts manufacturers. Not only do passenger vehicles consist of more than ten thousand parts and components but also the competitiveness of vehicles increasingly relies on the function of major parts, microelectronics-based functions in particular.

Second, the significance of parts provision has risen as the production system in automobile manufacturing has changed. Previously, most automobile assemblers (except in Japan) tended to manufacture major parts in-house. However, the assemblers have changed parts development strategies from in-house production to procurement from subcontracting suppliers. This shift served to meet the rising requirements for dynamic flexibility, integrating parts production more tightly for closer collaboration in production design and development.<sup>17</sup>

Third, the development of parts production is particularly important for developing countries in terms of trade balance. The Asian currency and economic crisis in 1997-98 renewed attention in this respect. The expansion of vehicle production in Asian countries expanded their trade deficits in auto parts because major parts were still imported from the developed countries. Between 1985 and 1995, deficits in auto parts trade soared from US\$49 million to US\$1,682 million in the newly industrialized economies (NIEs) and from US\$391 million to US\$4,995 million for the Association

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<sup>17</sup>Frederic C. Deyo, "Introduction: Social Reconstructions of the World Automobile Industry," in *Social Reconstructions of the World Automobile Industry: Competition, Power, and Industrial Flexibility*, ed. Frederic C. Deyo (New York: St. Martin's Press, 1996), 1-17.



of Southeast Asian Nations (ASEAN), including Thailand, Malaysia, Indonesia, and the Philippines.<sup>18</sup> The huge trade deficits led to massive inflow of short-term capital, constituting a major cause of the Asian currency and economic crisis. Given the rising significance of the supply of parts for the automobile industry, this article focuses narrowly on the development of auto parts suppliers affiliated with a particular assembler.

### The Case Studies

This article seeks to explore the role of the government in developing auto parts production for assembly and parts-supply systems in Asian countries. In order to accomplish this research objective, a company-based case study is adopted for several reasons. First, the government often regards the development of the automobile and auto parts industry as a national project and a particular company (companies) is selected and fostered under this project. Accordingly, a company-level focus better reveals the political and economic factors behind such industrial development. Second, this study assumes that a key to characterizing auto parts development is government policies designed to draw cooperation from the foreign joint venture partner. In order to examine this assumption, necessary is to clarify the preferences of the developing countries and the strategies of the MNC by exploring detailed interactions with the government over the support for the company.

Table 1 lists the major manufacturers of passenger cars in East Asia except Japan. The Korean big three automakers—Hyundai Motor, Dae-woo Motor, and Kia Motor—hold the preponderant position. The outstanding automakers in the table are China's Shanghai-Volkswagen (SVW, the fourth largest assembler) and Malaysia's Proton (the fifth). Although Thailand is the biggest automobile-producing country in Southeast Asia, quite a few foreign-affiliated producers segment the Thai market with rather small production volume. Proton, the pioneer national automaker in

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<sup>18</sup>Kenichi Takayasu, Junko Tooyama, and Minako Mori, "The Industrial Structure in ASEAN," *Kan taiheiyo bijinesu joho* (Pacific Business and Industries) 4, no. 39 (1997): 27.

**Table 1**  
**Production Volume of Major Passenger Carmakers in East Asia, 1997**

Carmaker	Country	Volume
Hyundai Motor	South Korea	975,626
Daewoo Motor	South Korea	603,631
Kia Motor	South Korea	465,738
Shanghai-VW	China	230,443
Proton	Malaysia	198,647
Tianjin Auto	China	96,672
Yulon Motor	Taiwan	78,843
Perodua	Malaysia	62,907
Kuozui Motor	Taiwan	58,223
Ford Lio Ho Motor	Taiwan	57,405
Sangyong	South Korea	56,329

**Sources:** Compiled by the author from Fourin, *The Automobile Industry in Asia* (Nagoya: Fourin, 1999) and Nikkan Jidosha Shumbunsha, *The Handbook of the Automobile Industry* (Tokyo: Nikkan Jidosha Shumbunsha, 1998), both in Japanese.

Malaysia, became the largest carmaker in Southeast Asia. SVW is the most successful passenger carmaker in China. SVW has been the second largest automobile producer in the Chinese market since 1995.

SVW and Proton share several common characteristics. Both companies began as a joint venture with a foreign auto MNC in the mid-1980s. The foreign partners—SVW's Volkswagen of Germany and Proton's Mitsubishi Motors Corporation of Japan—have committed themselves to the development of the joint ventures from the beginning. In addition, government commitment was strong in developing both companies. While SVW was under the influence of the Shanghai government, Proton was developed under intensive government protection as Prime Minister Mahathir Mohamad's pet project. Thus, China's SVW and Malaysia's Proton are well suited as cases to examine the government role in developing auto parts manufacturing under a particular assembler.

The independent variable in these case studies is government policy, including commitment to develop local parts production and parts-supply systems. Policy is closely related to the development of automobile assembly and negotiations with foreign MNCs to draw their cooperation to promote localization and develop auto parts suppliers. Accordingly, MNCs'

corporate strategies constitute critical bases for the independent variable.

The dependent variable is the extent to which local parts production was developed. This is normally evaluated in terms of the level of local content, but the substance of localization is also considered based on the competitiveness of local parts suppliers. Moreover, an examination of the degree of supplier network formation is also an important element for the dependent variable. This is because the formation of a viable subcontracting system and sufficient outsourcing are crucial to the evaluation of the overall competitiveness of parts supply.

### *Shanghai-Volkswagen in China*

Over the past two decades, the Chinese automobile industry has achieved impressive growth. In 1978 when the reform and opening-up policy began, production volume was only 149,000 vehicles. In 1997, the production volume expanded to 1,583,000 units including 488,000 passenger cars. However, vehicle production is still fragmented in China. In 1997, there were 115 assemblers, including 62 which each had an annual output of over 1,000 units.

One of the most representative automobile manufacturers in China is Shanghai Volkswagen Automotive Company (SVW). SVW was established in October 1984 as a joint venture between China and Germany. Volkswagen AG contributed half of the initial capital of 350 million *yuan* (US\$133.8 million), with the remainder offered by three Chinese partners: Shanghai Automotive Industry Group Corporation (SAIC, 25 percent), Bank of China Shanghai Branch (15 percent), and China National Automotive Industry Corporation (CNAIC, 10 percent). In September 1985, SVW began the production of the "Santana" in the Shanghai suburb of Anting (安亭), where SAIC earlier had manufactured "Shanghai" cars. The production volume steadily expanded from 11,000 units in 1987 to 65,000 in 1992 and to 230,443 in 1997 (see table 2). The share of the "Santana" in total domestically produced passenger cars rose from 44.9 percent in 1993 to 53.0 percent in 1996.<sup>19</sup>

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<sup>19</sup>State Information Center, *Zhongguo qiche shichang zhanwang* (Market prospects for the automobile industry in China) (Beijing: 1998), 225.

**Table 2**  
**SVW's Major Indicators 1985-97**

Year	Output (unit)	Sales (mil. yuan)	Accumulative Investment (mil. yuan)	Employees (person)	Local Content (%)
1985	1,733	62.5	48.7	1,752	2.7
1986	8,500	422.5	123.2	1,915	4.0
1987	11,000	714.3	279.3	2,082	5.7
1988	15,550	1,142.4	548.6	2,353	13.1
1989	15,688	1,222.3	825.4	2,684	31.0
1990	18,537	1,822.9	924.9	3,047	60.1
1991	35,005	3,575.5	1,103.3	4,368	70.4
1992	65,000	7,108.0	1,695.9	5,907	75.3
1993	100,001	10,528.9	2,596.1	6,410	82.2
1994	115,326	12,710.0	3,689.0	7,142	85.8
1995	160,070	18,430.7	4,577.4	9,318	88.6 (69.7)
1996	200,222	24,306.7	5,819.3	10,333	90.5 (81.0)
1997	230,443	26,316.3	6,662.6	10,009	92.9 (84.0)

**Note:** The figures in parentheses are local content ratio of Santana 2000.

**Source:** Shanghai-Volkswagen, *Annual Report* (1997).

In China, both the central and local governments exert strong influence on industrialization. In order to develop the automobile industry, the central government has imposed various protectionist measures. In 1996, passenger car imports incurred tariffs of between 100 and 230 percent, depending on engine size and country of origin, while duties on commercial vehicles varied between 15 and 230 percent.<sup>20</sup> The State Council's automobile industry policy announced in February 1994 stipulated that the share of the Chinese contracting party shall not be less than 50 percent for joint ventures producing complete vehicles or engines. This policy also regulated that all ventures shall begin production with 40 percent local content to qualify for 37.5 percent import duties on parts.

<sup>20</sup>Economist Intelligence Unit (EIU), *The Automotive Sectors of Asia-Pacific: After the Crisis* (London: EIU, 1998), 33.

SVW was given special status under the industrial policies of both the central and local governments from the beginning. The central government provided SVW with pioneer status in China's automobile industry, which enabled the company to receive preferential treatment in taxation, foreign loans, and procurement of materials.<sup>21</sup> In 1989, for instance, the State Council and the State Planning Commission (SPC) provided SVW with two thousand additional "complete knocked down" (CKD) import licenses, which enabled the company to double production volume in 1991.<sup>22</sup> The development of parts manufacturers and the promotion of localization were given a particular emphasis. In 1987, the State Economic Commission held a meeting on the promotion of "Santana" localization, and decided to accelerate the localization by providing preferential treatments and funds for parts manufacturers.<sup>23</sup>

Additional support for developing auto parts was offered by the Shanghai government. While the China First Automobile Group Corporation (FAGC) of Changchun in Jilin Province (吉林省長春市) and the Dongfeng Motor Corporation of Shiyan in Hubei Province (湖北省十堰市東風汽車公司)—two other representative automobile manufacturers in China—are under the direct jurisdiction of the SPC, SAIC has been under the jurisdiction of the local Shanghai government. The Shanghai government regarded automaking as the city's "first priority industry" and implemented various policies to support SVW in general and the development of parts manufacturing in particular.

In September 1986, the Shanghai government established a Shanghai Municipal Automotive Group comprised of representatives from the municipal planning, economic, international trade, and construction commissions. The head of the group was Lu Ji'an (陸吉安), a deputy chief of the

<sup>21</sup>Lee Chunli, *The Chinese Automobile Industry: Manufacturing System and Technological Strategy* (in Japanese) (Tokyo: Shinzansha, 1997), 230.

<sup>22</sup>Eric Harwit, *China's Automobile Industry: Policies, Problems, and Prospects* (Armonk, N.Y.: M.E. Sharpe, 1995), 108. The term "complete knocked down" (CKD) refers to the process where most parts for a vehicle are shipped from overseas (Germany) to the host country (China) and assembled into final form.

<sup>23</sup>Kaichi Ikeya, "The Development of the Automobile Industry in Shanghai," in *The Chinese Automobile Industry and Japan* (in Japanese), ed. Kaichi Ikeya and Mitsuhiro Seki (Tokyo: Shinhyoron, 1997), 158.

economic commission as well as the former president of SAIC. The group took the initiative in developing SVW by coordinating functions and roles of the city's various divisions. For instance, the international trade commission helped regulate the joint venture's foreign exchange, while the planning and economic commissions formulated the long-term localization programs.<sup>24</sup> The formation of the group was critical because parts manufacturers in Shanghai were under the strong administrative control of various municipal commissions, and as a result, coordination among these commissions was indispensable for the effective and systematic development of auto parts manufacturers. In February 1987, a Shanghai Localization Office was set up in order to consult with SVW managers on methods to accelerate localization. Later, vice-mayor Huang Ju (黄菊) became the head of the group, and Lu Ji'an was appointed as the head of the office.<sup>25</sup> Furthermore, the Santana Localization Community (SLC), SVW suppliers' association, was established in December 1987. The SLC included local research institutions and universities, which helped to coordinate municipal-wide efforts to improve parts production.<sup>26</sup> The institutional support has been critical for the smooth management of localization in China where bureaucratic structures are complicated and local political environments have a strong influence on business activities.

In addition to institutional support, the Shanghai government has provided various preferential incentives to parts manufacturers. For instance, parts manufacturers are exempted from commodity tax and value-added duties for certain years, and are given reductions in duties for imported machinery and materials.<sup>27</sup> A critical policy was the establishment of the localization fund in 1988. The government earmarked 28,000 *yuan* (16 percent of the total price) of the retail price of each car for the subsidization of local suppliers in order to promote localization. Based on this charge, 130 million *yuan* in loans was provided to major parts manufacturers every

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<sup>24</sup>Harwit, *China's Automobile Industry*, 110.

<sup>25</sup>Chen Cheng-chen, "The Industrial Policy and Localization in the Chinese Automobile Industry," *Shakai kagaku kenkyu* (Journal of Social Science Studies) 46, no. 2 (1994): 139.

<sup>26</sup>Harwit, *China's Automobile Industry*, 111.

<sup>27</sup>Chen, "The Industrial Policy and Localization," 153.

year in order to set up a "Santana special area" in their plants.<sup>28</sup> The parts production in this area was undertaken according to VW's standards. The localization fund was abolished in 1994 because a similar method was adopted by other automakers, an action which led to an overall increase in the retail prices of vehicles. After the abolition of the localization fund, the Shanghai government set up a technology development fund in 1994.<sup>29</sup> These funds played a catalytic role in encouraging parts suppliers to acquire foreign technology.

In 1988, the Shanghai government adopted a policy that critically influenced the structure of SVW's parts supply. The municipal government decided to transfer responsibility for the production and sales of Santana's one-third of planned localization items to the China National Automotive Parts Corporation (CNAPC), related departments of the ministries of Aeronautics and Astronautics Industry and Ordnance Industry, and others.<sup>30</sup> This policy aimed to make the "Santana" a national brand car, not merely a local one. The shift from local to national sourcing, which would reduce fiscal revenues and job opportunities, was an extraordinary policy option. Other vehicle manufacturers including FAGC and Dongfeng Motor promoted sourcing within their own groups or among their associated companies.<sup>31</sup> In addition, these vehicle manufacturers often yielded to political pressure from the local authorities to procure parts from suppliers located within the province.<sup>32</sup> The policy adopted by the Shanghai government in a sense abandoned short-term profits by regressing localization within the city, but contributed to the long-term development by introducing more competition among suppliers and broadening the basis for parts procurement. In recent years, major Chinese assemblers recognized the need to

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<sup>28</sup>Wang Jian, "Historical Analysis of Technology Transfer in the Chinese Automobile Industry," *Ritsumeikan kokusai chiiki kenkyu* (Ritsumeikan Journal of International Relations and Area Studies) 6 (1994): 55.

<sup>29</sup>Fourin, *Report on the Chinese Automotive Industry* (in Japanese) (Nagoya: Fourin, 1995), 43.

<sup>30</sup>Lee, *The Chinese Automobile Industry*, 235.

<sup>31</sup>Tomoo Marukawa, "The Chinese Automobile Industry towards the 21st Century," *Ajiken World Trend* 1 (April 1995): 49.

<sup>32</sup>EIU, *The Automotive Sector of China* (London: EIU, 1997), 109-10.

rely on more efficient independent suppliers from all over the country in order to procure parts with better quality and lower costs. SVW adopted this strategy, with government support, in the 1980s. The Shanghai government was also active in expanding linkages between SVW's parts suppliers and foreign parts manufacturers. In June 1993, the Shanghai Localization Office offered international biddings for technical agreements and joint ventures in order to promote localization.<sup>33</sup> Nearly seventy internationally competitive companies—including General Electric and General Motors of the United States, Toyota Motor and Mitsubishi Electric of Japan, and Iveco of Italy—participated in the biddings.

VW was selected as the joint venture partner because VW met the main criterion: the willingness to transfer technology. In general, the promotion of localization is a difficult task for a foreign partner. The foreign partner can gain greater profits when local content is low because this enables the partner to export more CKD parts and machinery to the host country. Moreover, in the joint venture agreement, responsibility for providing quality parts made in China rested squarely with the Chinese: VW had no obligation to hasten the localization process.<sup>34</sup>

Despite the above conditions, VW helped SVW to promote localization. SVW has implemented several measures to foster parts suppliers and promote localization according to VW's guidance. SVW adopted a distinctive parts approval system. A part manufactured in China had to obtain an approval from both VW and VW's parts supplier in Germany. The approval meant that the part met VW's requirements in terms of quality and function.<sup>35</sup> Moreover, SVW adopted the "product manager" system for the procurement of parts. SVW appointed a German engineer for each part, who was responsible for the whole process—from the selection of a supplier all the way to the final inspection of the part. In order to sustain these systems, VW dispatched a number of German engineers to China. The number of professional Germans who stayed in Shanghai annually has ex-

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<sup>33</sup>Fourin, *Monthly Report on the International Automotive Industry* (in Japanese), no. 101 (January 1994): 13.

<sup>34</sup>Harwit, *China's Automobile Industry*, 97.

<sup>35</sup>Chen, "The Industrial Policy and Localization," 144.



ceeded one hundred, and an additional two hundred have visited for a short time each year.<sup>36</sup> In particular, VW utilized retired engineers to help improve the technology level of the suppliers. Between 1987 and 1993, representatives from a retired professional organization in Germany made one hundred and thirty visits to SVW, one hundred of which were to parts manufacturers.<sup>37</sup>

VW's willingness to transfer technology and promote localization stemmed largely from the importance that VW attaches to companies in China that they do business with. With a population of more than 1.2 billion, China was and is the largest potential automobile market in the world. The Chinese market also had a strategic importance for VW, which had yet to establish a production base in East Asia. Martin Porth, who long served as deputy managing director of SVW, explained the strategic objective of participating in the joint venture as being to "engineer cars in Germany and produce them in China to compete in Southeast Asia with the Japanese and Koreans."<sup>38</sup>

At the same time, government pressure had much to do with VW's commitment to localization. Unlike the case with Japanese carmakers, VW was expected to promote localization. Accordingly, the central authorities (and CNAIC in particular) demanded that SVW swiftly raise local content. In 1988, for instance, Chen Zutao (陳祖濤), the chief of CNAIC, ordered SVW to achieve Santana's localization (up to 80 percent) quickly, suggesting that the volume of raw materials supplied to SVW might be linked to the localization rate.<sup>39</sup> In fact, SVW's local content ratio was quite low in the first few years: 2.7 percent in 1985, 4.0 percent in 1986, and 5.7 percent in 1987. However, the low ratio stemmed from the adherence of the German managers to high quality. The managers who were responsible for production and technical matters actively sought to raise Chinese manag-

<sup>36</sup>Xiao Wei, "Problems of Localization in the Chinese Automotive Industry: A Case Study of Shanghai VW," *Journal of Business Studies* (Ryukoku University, in Japanese) 36, no. 1 (1996): 72.

<sup>37</sup>Lee, *The Chinese Automobile Industry*, 231.

<sup>38</sup>Martin Porth, "Interview: Vision Is the Key," *The JAMA Forum* 13, no. 3 (March 1995): 16.

<sup>39</sup>Harwit, *China's Automobile Industry*, 99.

ers' awareness of quality.<sup>40</sup> There has been a strict division of labor within SVW's ten-member board of directors: the Chinese are responsible for personnel, internal affairs, and public relations, while the Germans are in charge of financial affairs, supply, project coordination, design, production plan, and quality control.<sup>41</sup> This division of labor has enabled the Germans to retain a relatively free hand for managing production technology and quality control, and as a result, SVW was able to introduce VW-style production and parts manufacturing rather smoothly.

In the 1990s, the Chinese raised their complaint that the Santana model was too "old-fashioned." The Santana model in China was the second-generation Santana series, while the production of the fourth generation was already under way in Germany by the early 1990s. Facing pressure from the government, VW, collaborating with its Brazilian subsidiary, modified the Santana model and launched the new "Santana 2000" in 1995. In order to change VW's unwilling attitude toward further technology transfer, the Shanghai government invited several foreign car-makers to participate in the technological upgrading of twenty-three main parts manufacturers.<sup>42</sup> The new model ran on VW's newest fuel-injected diesel motors, and Chinese engineers were involved in this development process—albeit in a minor role.

*The dependent variable:* Santana's success was partly attributable to its prestigious brand name, but competitive price resulting from high local content was also a critical factor. The local content ratio of Santana rose steadily from 5.7 percent in 1987 to 75.3 percent in 1992 and to 92.9 percent in 1997 (see table 2). The local content ratio of "Santana 2000" also rose from 69.7 percent in 1995 to 84.0 percent in 1997.<sup>43</sup> SVW's high local content was also apparent in comparison with other automobile manufacturers in China; Santana's local content, 85.8 percent in 1994, was higher

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<sup>40</sup>Xiao, "Problems of Localization," 69.

<sup>41</sup>Chen, "The Industrial Policy and Localization," 138.

<sup>42</sup>Dic Lo, *Market and Institutional Regulation in Chinese Industrialization, 1978-94* (Basingstoke: Macmillan, 1997), 192.

<sup>43</sup>In China, the local content ratio is calculated by the value of parts. The calculation formula is as follows: local content rate (percent) = [total parts values - (CKD values + tariffs)] / total parts values x 100.

than the 62.5 percent of Audi-100 (FAGC), 80.2 percent of Cherokee Jeep (Beijing Jeep), 62.1 percent of Pu-505 (Guangzhou Peugeot), and 83.8 percent of Charade (Tianjin Minibus).<sup>44</sup>

Although the quality of parts has not reached international standards, the level is steadily climbing. According to SVW's quality surveys of local parts suppliers, in 1990 only 2.6 percent of the two hundred suppliers met VW's quality requirements and an additional 23.0 percent barely met the requirements.<sup>45</sup> Five years later, the percentage of those meeting the requirements was still 4.4 percent; however, the percentage of those who barely met the requirements climbed to 70.7 percent.<sup>46</sup> Furthermore, SVW's suppliers have become major parts manufacturers in China. In 1995, the Chinese Ministry of Machinery Industry published a list of both state-supported projects for sixty key parts and components and representative local manufacturers for each part and component. The number of parts manufacturers from the Shanghai group was twenty-seven, followed by ten manufacturers from the Dongfeng Motor group.<sup>47</sup>

In addition to a relatively high local content ratio, there are several distinctive features of Santana's parts suppliers and supplier networks. The first is the high outsourcing ratio. The ratio climbed sharply from less than 10 percent in 1988 to 52 percent in 1991 and to 64 percent in 1993.<sup>48</sup> In the mid-1990s, the percentage rose to some 80 percent. This figure was quite high when compared with other manufacturers: 34 percent of FAGC in 1994, for instance.<sup>49</sup> The steady increase in local content was achieved by the expansion and improvement of parts suppliers, rather than by relying on in-house production.

The second feature is parts procurement from suppliers nationwide. The number of parts suppliers that signed parts development contracts with

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<sup>44</sup>Lo, *Market and Institutional Regulation*, 191.

<sup>45</sup>Lee, *The Chinese Automobile Industry*, 237.

<sup>46</sup>Ikeya, "The Development of the Automobile Industry in Shanghai," 157.

<sup>47</sup>EIU, *The Automotive Sector of China*, 112-15.

<sup>48</sup>Hironori Date, "The Technology Transfer and Intrafirm Division of Labor in the Chinese Automobile Industry," *Annual Bulletin of the Research Institute for Social Science* (Ryukoku University, in Japanese) 27 (1997): 30.

<sup>49</sup>*Ibid.*, 31.

SVW increased from 176 in 1989 to 281 in 1995. In 1995, 28 suppliers belonged to the SAIC group, and 139 were located in the Shanghai region. The remainder came from 20 provinces and cities including Beijing, Jilin, and Guizhou (貴州).<sup>50</sup> As explained earlier, the policy change of the municipal government that transferred responsibility for the production and sales of Santana's parts to CNAPC and others served to increase the sourcing of parts outside Shanghai. This nationwide sourcing has played a critical role in forming vertical networks among SVW's suppliers. Parts manufacturers belonging to SAIC and CNAPC, which provided engine parts and electronics parts, became the first-tier suppliers. Parts manufacturers in Shanghai and other provinces then became the second-tier suppliers.

The third feature is a relatively strong commitment from foreign parts manufacturers. By the first half of 1995, 183 out of 281 parts manufacturers attained a 100 percent localization ratio.<sup>51</sup> Sixty-four out of 183 manufacturers were joint ventures with foreign parts manufacturers from 15 countries, half of which were internationally competitive manufacturers including Robert Bosch and Siemens (Germany); Ford, Delco, and Motorola (the United States); and Koito Manufacturing (Japan). Moreover, an additional 45 parts manufacturers introduced foreign technology and facilities for inspection and 28 imported production facilities from abroad.<sup>52</sup> Thus, the SAIC group has actively forged alliances with internationally competitive companies based in various countries, not being dependent excessively on VW's suppliers in Germany.

### *The Malaysian Proton*

Malaysia has been a major automobile market in Southeast Asia since the early 1980s. In 1984, Malaysia had a person-to-car ratio of 1 to 20.8, second in Southeast Asia only to Singapore and much higher than either South Korea (1 to 146) or Taiwan (1 to 51).<sup>53</sup> However, the automobile in-

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<sup>50</sup>Ikeya, "The Development of the Automobile Industry in Shanghai," 156; Shanghai-Volkswagen, *Annual Report* (1997), 20.

<sup>51</sup>Ikeya, "The Development of the Automobile Industry in Shanghai," 157.

<sup>52</sup>Ibid.

<sup>53</sup>S. Jayasankaran, "Made-in-Malaysia: The Proton Project," in *Industrialising Malaysia: Policy, Performance, Prospects*, ed. K.S. Jomo (London: Routledge, 1993), 275.

dustry contributed little to the national economy because the industry relied excessively on CKD assembly, generating little or no value-added profit for Malaysia. In addition, the existence of many companies assembling a number of models kept the automobile industry from realizing economies of scale. In 1980, for instance, 11 assemblers manufactured 25 car brands, 122 models, and 212 variants of commercial and passenger vehicles with an average 8 percent local content.<sup>54</sup> This situation changed after the mid-1980s due to the development of Perusahaan Otomobil Nasional Berhad (Proton), the first national carmaker in Malaysia.<sup>55</sup>

Proton was established in May 1983 as a joint venture between Heavy Industries Corporation of Malaysia (HICOM), Mitsubishi Motors Corporation (MMC), and Mitsubishi Corporation (MC). While HICOM contributed 70 percent of the total initial capital of 150 billion ringgit (US\$80 million), MMC and MC each took up a 15 percent stake. The Proton project aimed to develop a competent automobile industry by promoting the rationalization of carmakers and to accelerate technology transfer and upgrade technology standards. At the same time, the project was positioned as a means to raise the economic position of *bumiputera* (the indigenous Malay people) through the localization of auto parts.<sup>56</sup> Proton began production of the 1,300 cc Saga in 1985, but sales slumped in 1986 and 1987 largely because of a recession. After 1988, Proton steadily expanded its production and sales, launching a second model—the "Wira"—in 1993 and the middle class model—the "Perdana"—in 1995. The sales volume increased from 103,000 units in 1992 to 199,000 in 1996 (see table 1). In

<sup>54</sup>Kamaruding Abdulsomad, "Promoting Industrial and Technological Development under Contrasting Industrial Policies: The Automobile Industries in Malaysia and Thailand," in *Industrial Technology Development in Malaysia: Industry and Firm Studies*, ed. K.S. Jomo, Felker Greg, and Rasiah Rajah (London: Routledge, 1999), 278.

<sup>55</sup>The Malaysian government launched additional national car projects later. Persahaan Otomobil Kedua (Perodua), the second national carmaker, began production in late 1994. The third national car project, Malaysia Truck and Bus, started up in late 1997.

<sup>56</sup>The support for economic development of *bumiputera* was set by the New Economic Policy (NEP), which began in 1971 after the racial riots of May 1969. The objective of the policy was to achieve national unity by "eradicating poverty" irrespective of race and by "restructuring society" to achieve interethnic economic parity between *bumiputera* and non-*bumiputera*. See Edmund Terence Gomes and K.S. Jomo, *Malaysia's Political Economy: Politics, Patronage, and Profits* (Cambridge: Cambridge University Press, 1999), 24.

1996, Proton accounted for 63.9 percent of the total passenger car market in Malaysia.

The Malaysian government has adopted local content regulations in order to foster the auto parts industry. The government has adopted the mandatory program in which some 25-30 important parts were listed as the compulsory items that must be procured locally. In 1991, the government adopted a new local content policy to accelerate localization. According to the new policy, cars of less than 1,850 cc were required to increase local content by 10 percent every year, reaching 60 percent in 1996.<sup>57</sup>

In addition to the above general policies, the government implemented specific policies designed to sustain the Proton and its parts suppliers. The government exempted the Saga model from the 40 percent import tariff and halved the 50 percent excise duty for 1,300 cc automobiles. As a consequence, the Saga gained an unbeatable price advantage over its rivals. In 1987, for instance, the price of a 1,300 cc Saga was 21,000 ringgit, while rival models were retailed at 28,000-29,000 ringgit.<sup>58</sup> Furthermore, civil servants who purchased a Saga were qualified to apply for a special loan with a 4 percent annual interest rate.

The Malaysian government introduced particular policies to foster Proton's parts suppliers. Under the Fifth Malaysia Plan (1986-90), Proton received a 7 million ringgit public grant designed to encourage SMEs to venture into auto parts production. Under the Sixth Malaysia Plan (1991-95), an additional 15 million ringgit was allocated to encourage SMEs to participate in high-tech component production and other supporting industries including forging, electrical planting, toolmaking, and machining.<sup>59</sup> The government grant was used to promote the Proton Component Scheme. Under this scheme, Proton selected potential SMEs whose initial capital was less than 2.5 million ringgit with a minimum *bumiputera* equity of 70 percent and a total *bumiputera* work force of more than 55 percent.

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<sup>57</sup>JETRO, *The Current State and Problems of the Supporting Industry in Malaysia* (in Japanese) (Tokyo: JETRO, 1997), 57-60.

<sup>58</sup>Jayasankaran, "Made-in-Malaysia," 278.

<sup>59</sup>Dato' Tharu T. Tharumagnanam, *The Making of the National Car: Not Just a Dream* (Kuala Lumpur: Tassmag, 1994), 97.

The selected SMEs were qualified to apply for a maximum 1 million ringgit government grant. Proton also supported these SMEs by securing a large market share by preferential orders and providing technical guidance and training.

The government grant and Proton's technical support played a catalytic role in encouraging the newly emerging *bumiputera* groups to enter into the auto parts business. For instance, the Sapura group, a representative *bumiputera* group established in 1975, set up four enterprises to provide metal parts while the Usura group included three companies to conduct plastic and metal processing for Proton.<sup>60</sup> At the same time, the grant policy discriminated against non-*bumiputera* enterprises. These non-*bumiputera* enterprises could not gain access to the grant even if they enjoyed a relatively high technical level and sufficient experience in parts production. There were also cases where a non-*bumiputera* enterprise could not renew the contract to provide parts that a *bumiputera* enterprise began to manufacture.<sup>61</sup>

In 1995, the Malaysian government took the lead in establishing the Premier Choice Company in order to promote technology transfer of parts production from foreign companies. The funds for this venture capital company were provided by twelve Malaysian enterprises including Proton and Diversified Resources Berhad. The company has encouraged foreign parts manufacturers with high technological capabilities to advance into Malaysia or forge an alliance with a local company. The major target of the company was auto parts manufacturers. In May 1995, Nichibei Seiki, a Japanese plastic maker, decided to advance into Malaysia after accepting equity participation from Premier Choice. This small enterprise transferred mold-making technology to Malaysia and set up a joint venture in plastic production.<sup>62</sup>

Proton needed MMC's cooperation in order to achieve the rationalized development of the auto parts industry through effective technology

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<sup>60</sup>Makoto Anazawa, "The National Car Project and the Formation of the Supporting Industry in Malaysia," *Ajia keizai* 39, no. 5 (May 1998): 107.

<sup>61</sup>*Ibid.*, 105.

<sup>62</sup>*Nihon keizai shimbun* (Japan Economic Journal), May 18, 1996.

transfer and steady elevation in local content. Just after the contract signature in May 1983, the first fourteen plant engineers were sent to Japan for between three months to one year of training. Over the following two years, more than three hundred trainees—including engineers, R&D designers, and managerial staff—left Malaysia.<sup>63</sup> MMC and MC also dispatched twenty-six engineers, technicians, and managers to Malaysia in 1984 in order to prepare for the production of the first model. When the first Saga rolled out, some one hundred Japanese engineers and other staff were in Malaysia.<sup>64</sup> Proton has implemented floor guidance to parts suppliers in such areas as QCD (quality control and delivery) and 4M (man, material, machine, and method) activities. Furthermore, MMC helped Proton's parts suppliers to improve technical expertise through corporate alliances. When local suppliers could not manufacture particular parts or reach the quality standard that Proton demanded, Proton and MMC encouraged these suppliers to forge technical assistance agreements with Japanese manufacturers. For instance, responding to MMC's request, six parts manufacturers in western Japan established an engineering company, K.E.I., in 1991. The objective of the company was to provide to the Sapura group technology related to parts production.<sup>65</sup>

Despite MMC's commitment to foster parts suppliers, the company was regarded by the Malaysian government as being reluctant to promote localization.<sup>66</sup> In the terms of the joint venture agreement, local content and technology transfer conditions were left vague, which "seemed to provide MMC with sufficient advantage."<sup>67</sup> MMC, like other joint venture partners, could obtain more profits by delaying the localization process because the continued imports of CKD, components, and machinery from Japan

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<sup>63</sup>Tharumaganam, *The Making of the National Car*, 79.

<sup>64</sup>Makoto Anazawa, "Technology Transfer in the Automobile Industry in Malaysia: Proton and Vendors," *Shogaku tokyu* (Economic Review) 47, no. 4 (March 1997): 129.

<sup>65</sup>*Nikkei sangyo shimbun* (Japan Economic and Industrial Journal), April 17, 1991.

<sup>66</sup>Friedemann Bartu, *The Ugly Japanese: Nippon's Economic Empire in Asia* (Singapore: Longman, 1992), chap. 6; K.S. Jomo, "The Proton Saga: Malaysian Car, Mitsubishi Gain," in *Japan and Malaysian Development: In the Shadow of the Rising Sun*, ed. K.S. Jomo (London: Routledge, 1994), 263-90.

<sup>67</sup>Machado, "ASEAN State Industrial Policies," 180.



were profitable. Moreover, imported parts had relatively higher quality standards.

More significantly, MMC positioned Proton in its overall Asian strategy. MMC, a new entrant into the automobile industry, held a weak position in the domestic and North American markets. Accordingly, MMC looked to the Asia-Pacific as a promising market, setting up production bases in eight major countries in the region. A critical constraint to auto manufacturing in the region was high production costs resulting from a small market size. MMC sought to overcome this constraint by forming the parts complementation system within Southeast Asia under which MMC could eliminate the duplication of investment in manufacturing and acquire cost advantage by increasing production volume. MMC successfully made this system institutionalized by proposing to the ASEAN governments the Brand-to-Brand Complementation (BBC) scheme, which was adopted at the ASEAN economic ministers' meeting in October 1988.<sup>68</sup>

MMC sought to locate Proton in the region-wide complementation system. Based on the complementation idea, Proton began to export door panels to MMC Sittopol Company, an MMC-affiliated firm in Thailand, while Proton imported aluminum materials for engine parts from Thailand. However, Proton and its parent company HICOM were reluctant to promote MMC-led cooperation further despite MMC's encouragement. This was because parts complementation would limit the scope of the national car concept, impeding effective localization.<sup>69</sup> Thus, the regional strategies made MMC less willing to promote Proton's localization and to pursue group-based parts supply. Standing in sharp contrast is Japanese automaker Suzuki in Hungary, which was forced to dedicate substantial resources to the local parts industry because the company had not established a regional sourcing system and, in part therefore, sourcing from Japan faced high transaction costs.<sup>70</sup>

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<sup>68</sup>The scheme grants a minimum 50 percent tariff preference and local content accreditation to auto parts that are a component for the manufacture of any product in the participating countries.

<sup>69</sup>Machado, "ASEAN State Industrial Policies," 193.

<sup>70</sup>See note 14 above.

The Malaysian government strengthened pressure on MMC to promote technology transfer. In 1991, Prime Minister Mahathir revealed a second national car project for small cars with an engine capacity of less than 1,000 cc. Although MMC manufactured vehicles in this segment in Japan, the Malaysian government selected Daihatsu Motor, a Toyota Motor-affiliated small car maker, as the partner of the second national car-maker Perodua. Soon thereafter, Mahathir charged MMC with raising royalty costs for MMC-designed parts and only slowly transferring technology. In March 1994, Mahathir criticized that MMC was reluctant to transfer technologies for engines and transmissions, hinting at the possibility that Proton may look to find a more suitable partner. In fact, in July 1994 Proton signed up with Citroen to acquire production technology for low-priced diesel engines with the expectation that "the French are more open about technology."<sup>71</sup>

The Malaysian government encouraged Proton to change from being an MMC-dependent assembly shop to a global player with export competence by allowing Yahaya Ahmad to obtain the share of HICOM Holdings, the Proton's parent company, in November 1995. MMC and MC, both of which preferred a less nationalistic Proton, were not happy with the shift of management to Yahaya, a businessman with close connections with Mahathir.<sup>72</sup> When visiting Japan in November 1995, Yahaya asked MMC to transfer technology related to automation and production expansion.<sup>73</sup> During his visit to Japan in June 1996, Mahathir also encouraged MMC to provide cooperation in human resources development and promote technology transfer in mold-making and key components.<sup>74</sup> The Malaysian government and Proton considered that several parts imported from Japan were assembled without any value being added in Malaysia.

Indeed, MMC responded selectively to various demands from the Malaysian government and Proton. For instance, in 1995, Proton's chief

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<sup>71</sup>*Far Eastern Economic Review*, October 13, 1994, 64.

<sup>72</sup>Kantaro Ishii, "A Road to Success in the National Car Project in Malaysia," *Ajia kenkyu* (Asian Studies) 43, no. 2 (1997): 137.

<sup>73</sup>*Nihon keizai shimbun*, November 22, 1995; *Far Eastern Economic Review*, May 2, 1996.

<sup>74</sup>*Nikkei sangyo shimbun*, June 13, 1996.

executive officer Datuk Nadzmi Salleh proposed that Proton manufacture MMC's low-priced models. However, MMC was passive about this idea, stating the production model division between Proton and MMC was a future matter.<sup>75</sup> Moreover, as far as parts production was concerned, Proton steadily localized the production of major parts, drawing concessions from MMC. In March 1991, Proton set up a parts plant that assembled manual transmissions and engines and six engine-related items. In July 1994, Proton established a crankshaft and fly wheel casting plant by investing 260 million ringgit. As a consequence of this plant, cylinder heads became the only part for 1,300 cc and 1,500 cc gasoline engines that Proton had to import from MMC. Thus, Proton gradually localized engines, the most critical auto part. Furthermore, MMC transferred a relatively high-level technology. In December 1997, MMC announced that it would provide GDI engines for Proton's Wira model in the year 2000. GDI engines cut CO<sub>2</sub> emission by 30 percent compared with previous engines and went into actual use in 1996. This technology transfer was implemented under strong pressure from the Malaysian government.<sup>76</sup>

*The dependent variable:* Proton achieved steady increases in the number of localization items and local parts suppliers especially after 1989 (see table 3). As of August 1996, Proton had transactions with 138 parts manufacturers over 3,716 items, 88 percent of which were supplied by local manufacturers. For the 1996 Wira model, the local content ratio was estimated to be 80 percent by local material control policy (LMCP) definition. This local content ratio is quite high compared with 63 percent of Perodua's Kancil in 1997, not to mention other assemblers. Of particular note in evaluating Proton's parts suppliers is a rise in the number of *bumiputera* enterprises. *Bumiputera* enterprises comprised 24 percent of Proton's suppliers (4 out of 17) in 1985, and decreased to 19 percent (13 out of 67) in 1989.<sup>77</sup> This decline sprang largely from the fact that non-*bumiputera* Chinese enterprises joined Proton's suppliers through joint

<sup>75</sup>*Nihon keizai shimbun*, April 5, 1995; *Nikkei bijinesu* (Nikkei Business), September 4, 1995, 38-42.

<sup>76</sup>*Nihon keizai shimbun*, December 4, 1997.

<sup>77</sup>*New Straits Times*, July 12, 1999.

**Table 3**  
**The Number of Parts Items by Sources, 1985-95**

Year	Sources				Number of Suppliers
	In-house	Local Supplied	Third Country Supplied	Total	
1985	176	52	1	229	17
1986	47	50	–	97	16
1987	14	59	–	73	7
1988	108	19	–	127	6
1989	174	190	12	376	21
1990	5	110	–2	113	11
1991	4	159	0	163	21
1992	–269	131	(+269)	139	7
1993	135	1,439	9	1,583	19
1994	–	532	13	545	9
1995	–	271	1	272	4
Total	394	3,281	41	3,716	138

**Note:** The figure of local suppliers in 1992 includes those transferred to PHN Industry, a Proton joint venture company.

**Source:** JETRO, *The Current State and Problems of the Supporting Industry in Malaysia* (in Japanese) (Tokyo: JETRO, 1997), 74.

ventures with foreign companies. However, the share rose steadily afterward to 35 percent (42 out of 128) in 1994 and to 50 percent (93 out of 188) in 1998.<sup>78</sup> In addition, Proton's suppliers were relatively large in terms of fixed asset size. In 1994, the share of companies in manufacturing industries with (1) less than 1 million ringgit, (2) between 1 to 5 million, and (3) more than 5 million was 52.4, 22.0, and 25.6 percent, respectively.<sup>79</sup> The corresponding figure for Proton was 27.1, 35.9, and 37.0 percent.<sup>80</sup> Thus, the Proton project has successfully achieved the objective to encourage *bumiputera* enterprises to enter into the auto parts industry.

Proton was superficially successful in fostering parts suppliers. Indeed, government officials have often singled out the development of

<sup>78</sup>Ibid.

<sup>79</sup>Malaysia Department of Statistics, *Annual Survey of Manufacturing Industries* (1997), 69.

<sup>80</sup>Proton Vendors' Association, *Proton Vendors' Directory* (1998/99).

Proton suppliers as a model for establishing internationally competitive manufacturing industries.<sup>81</sup> However, careful scrutiny reveals several problematic aspects in Proton's supplier system. First, Proton's parts suppliers are still not completely competitive in the international market. One anecdote illustrates this point. When Honda Car Manufacturing Thailand (HCMT) began to develop its Asian Car City in 1995, the company first contacted six manufacturers that offered to produce parts for Proton. Yet, these companies could not meet HCMT's requirements in terms of quality and cost. HCMT eventually persuaded fifteen Japanese suppliers to set up operations.<sup>82</sup>

The weak competitive edge of Proton's suppliers was also apparent in exports, a vital strategy for Proton in a small domestic market. Proton began exporting to Bangladesh in 1986 and the export volume expanded steadily from 11,854 units in 1989 to 15,110 in 1991 and to 20,269 in 1993. However, the export volume did not grow thereafter although Proton planned to increase the export share of total sales to 30 percent by the year 2000. Moreover, export prices to the United Kingdom—the major export market—were cheaper (by 15-20 percent for the Wira model) than those in the domestic market.<sup>83</sup> Proton was on the defensive against Korean automakers in the United Kingdom largely because Proton's parts did not meet the performance criteria necessary for viable exports.

This weak international competitiveness had much to do with the exclusion of competition owing to protectionist policies. According to interview surveys on foreign companies joining the *bumiputera* development programs, respondents contended that *bumiputera* enterprises that relied heavily on government support had little incentive to upgrade their technology and improve cost-efficiency.<sup>84</sup> President of HCMT Nobunari Matsushita also stated in evaluating Proton's suppliers that "competitiveness doesn't develop in a protected environment. I learned what you get

<sup>81</sup>Tharumagnanam, *The Making of the National Car*, 99.

<sup>82</sup>Atsushi Honda, "Everybody's Holding Their Own: My Fact-Finding Trip into the Southeast Asian Auto Industry," *The JAMA Forum* 15, no. 3 (February 1997): 34.

<sup>83</sup>EIU, *The Automotive Sectors of Asia-Pacific*, 97, 103.

<sup>84</sup>JETRO, *The Current State and Problems of the Supporting Industry in Malaysia*, 19.

when you have government-led projects."<sup>85</sup>

The second problem is that the viable vertical networks have not been formed among Proton suppliers. In the 1990s, the Malaysian government intensified demands that Proton raise local content. Proton responded by establishing subsidiaries to manufacture major parts. By 1998, Proton set up seven joint ventures to manufacture various parts and components, including engine components, manual clutches, transmission parts, and suspension systems. As a consequence, Proton did not have many independent first-tier suppliers that retained design capability for major parts. In 1997, Proton launched a strategy to select some 40 companies from the existing 180 suppliers as the first-tier suppliers.

Some aspects of government policies impeded the formation of vertical networks. Government grants were offered only to the suppliers that had direct transactions with assemblers.<sup>86</sup> Accordingly, the second-tier suppliers that had transactions with major parts manufacturers were unable to gain access to such government funding. Moreover, the government's preferential policies for *bumiputera* enterprises distorted the formation of vertical supplier networks. The Chinese enterprises, which retained relatively high technological capability and long experience for parts production, were likely to be first-tier suppliers. However, due to the *bumiputera* policy, these Chinese enterprises could not become the first-tier suppliers in Proton's parts-supply system.

The third problem was that foreign companies have not been deeply involved in Proton's supplier networks. As of September 1995, thirty-five joint ventures and forty-four technical assistance agreements were forged between Proton's suppliers and foreign companies. The Japanese were the main partners, accounting for sixteen joint ventures and thirty-nine technical assistance agreements. Most of the Japanese partners were members of Kashiwakai, MMC suppliers' association. The high dependence on MMC's suppliers sprang partly from MMC's reluctance to diversify Proton's parts suppliers away from Japanese firms. For instance, in 1990 a

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<sup>85</sup> See note 82 above.

<sup>86</sup> See note 84 above.

German maker of car brakes proposed to set up a joint venture to produce high quality ABS brakes. Proton's Japanese management was opposed to this proposal despite great interest by the Malaysian side.<sup>87</sup> At the same time, strong government intervention dissuaded foreign manufacturers from advancing into Malaysia through either joint ventures or technical agreements. According to a survey by the Japan Auto Parts Industries Association, as of April 1999 the number of Japanese parts manufacturers that advanced into Malaysia was forty-two compared with seventy-three in Indonesia, although overall Malaysia hosted 2.3 times as many parts manufacturers as Indonesia.<sup>88</sup> The foreign manufacturers were less likely to advance into the Malaysian automobile industry given such strict government regulations.

### Conclusions

This article examined the role of the government in fostering auto parts manufacturers and parts-supply systems in two developing countries in Asia. The starting hypothesis of this study was that government policies and intervention may contribute to the sound development of the auto parts industry. In particular, the author hypothesized that government support was critical in sustaining weak SMEs and that government involvement was indispensable for drawing concessions from foreign MNCs over localization. However, the preceding examination of the joint ventures in China and Malaysia has shown the complexity of the relationship between the dependent and independent variables.

In the two case studies, the Malaysian and Shanghai governments, despite difference in authority between the central and local levels, have intervened in fostering parts manufacturers and promoting localization. Their initiatives were superficially successful because Proton and SVW achieved a relatively high local content compared with other manufacturers

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<sup>87</sup>Jomo, "The Proton Saga," 279.

<sup>88</sup>Japan Auto Parts Industries Association, *Report on Overseas Activities* (1999, in Japanese), 1.

in each market. Government intervention helped to develop SMEs that provided auto parts and components. The provision of government grants was particularly important for undercapitalized SMEs, which could introduce new equipment and foreign technology with these grants. In the SVW case, government initiative in formulating an institutional system designed to sustain localization also helped SVW to avoid the bureaucratic rigidity that has been common in China and to implement persistent and coherent strategies.

At the same time, however, such government-led development was accompanied by negative side-effects. The localization fund introduced by the Shanghai government stimulated high retail prices and imposed additional costs for consumers. In Malaysia, tariff protection for Proton raised retail prices for other models. For instance, in September 1993, customers in the United States, Australia, and Malaysia paid 45,000, 50,000, and 115,000 ringgit respectively for a Toyota Camry.<sup>89</sup> The government's undue support for *bumiputera* SMEs produced several unfavorable side-effects on Proton's suppliers and Malaysia's auto parts industry in general. The protection reduced competitive pressure and robbed the parts manufacturers of incentives to reduce costs and improve management. The preferential treatment given to *bumiputera* and the exclusion of competitive non-*bumiputera* enterprises also discouraged foreign parts manufacturers from advancing into Malaysia. Government intervention indeed led to the successful achievement of the *bumiputera* policy; however, problematic is whether this policy contributed to the overall development of the auto parts industry. The Malaysian government appears to have paid a considerable cost for subordinating economic principles to political goals.

Despite similar results in local content between SVW and Proton, different orientations in fostering parts manufacturers between the Shanghai and Malaysian governments yielded distinctive differences in the supplier network system. The Shanghai government encouraged SVW to promote outsourcing and extend the supplier networks to the entire country. This policy orientation contributed to the formation of vertical networks among

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<sup>89</sup>Rasihah Rajah, "Rent Management in Proton," *IKMAS Working Papers* 8 (1998): 18.



SVW's suppliers. In contrast, the Malaysian government lessened the scope of Proton's supplier networks by discriminating against relatively competitive Chinese enterprises in order to foster *bumiputera* enterprises. As a consequence, vertical networks did not develop substantially among Proton's suppliers.

As far as relations with foreign MNCs are concerned, such MNCs considered commitment to localization from the perspective of their overall corporate strategies. Differences in such strategies constituted a major reason why VW and MMC showed different approaches to localization. MMC made efforts to assist the development of Proton and to ensure the localization of parts production. At the same time, MMC, which had several production plants in the Asia-Pacific region, considered commitment to localization in Malaysia based on a strategy to establish a parts complementation system in the region. Accordingly, MMC sought to promote localization selectively and carefully by seeking coordination with its overall regional strategies. In contrast, VW, which did not establish any production chains in Asia, regarded the vast and rapidly growing Chinese market as a strategic bastion from which to compete against its East Asian rivals in the Asian market. The importance of the Chinese market for VW was a critical factor for that company's persistent commitment to auto parts development.

As long as the process and speed of localization is dependent on the corporate strategies of a foreign partner, government commitment was critical in encouraging the foreign partner to commit itself to localization and technology transfer. Persistent pressure from the government led MMC and VW to accelerate the transfer of new technology. In particular, the Malaysian government, in concert with Proton and HICOM, utilized possible alliances with other foreign partners as a leverage to encourage MMC to promote technology transfer.

As the automobile industry has been more integrated into the world market in the form of exports and complicated corporate alliances, the government finds guaranteeing the continuous development of the industry much more difficult. The Malaysian automobile industry is approaching this stage, facing tariff reductions of 0-5 percent under moves to create the ASEAN Free Trade Area (AFTA) in 2002. The liberalization movement is

likely to reveal the limits of government-led development in the automobile and auto parts industry. SVW will also face a similar problem as China's accession to the World Trade Organization (WTO) is approaching. Given the increasing integration of the developing economies with the world market and the inevitable liberalization of trade and investment, the government is required to promote the harmonization of domestic rules and systems, goals which will include the retreat from market intervention.