INDUSTRIAL POLICY OPTIONS FOR DEVELOPING COUNTRIES

THE CASE OF THE AUTOMOTIVE SECTOR IN THAILAND & MALAYSIA

Master of Arts in Law and Diplomacy Thesis

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TABLE OF CONTENT

1. INTRODUCTION

Industrial policies are formulated in order to guide the course of economic development. In a country whose government has industrial policies, the market force is more or less distorted due to government intervention. It can also be the case that the government uses industrial policy to correct market distortion resulted from domestic monopoly. However, there is no uniformity in the essence or the extent of industrial policies. Different paths chosen by the governments lead to different patterns of industrial development. Even similar strategies could bring about different results when implemented under different environments.

The focus of this thesis is the extent of government intervention and the consequences on industrial development. It is based on a comparison between Thailand's and Malaysia's industrial policies towards their respective automotive sectors. The automotive industry is often viewed as playing a major role in industrialization in developing countries, due to a large number of its downstream and upstream businesses. Hence, these countries normally adopt protectionist measures as part of the import-substitution strategy to create local production capacity starting from mere assembly of imported parts and components and expanding to parts and components manufacturing.

The automotive industry in both Thailand and Malaysia started in the 1960s. During the early stage, these countries were merely assembly bases for the multinational vehicle manufacturers. Then the governments embarked on the import-substitution strategy in order to induce investment in local parts and components production. Their automotive

industrial policies seemed to have a lot in common during the first two decades, i.e. high protective tariffs, import ban on certain parts and components, and local content requirements.

Then in the mid-1980s, the Malaysian government dramatically changed its strategy. Instead of leaving the production and investment activities to private agents and focusing on creating conducive environment for the development of the industry, the Malaysian government decided to play the role of investor and producer itself. The national car manufacturing companies were established, taking away the market share that used to be in the hand of the multinational manufacturers. The national cars' domination of the domestic market has been made possible by extensive protection from the Malaysian government.

The Thai government, on the other hand, has never been directly involved in the industry's production activities, although its high level of protection granted to the industry continued well into the 1990s. As a result, the Thai vehicle market is dominated by foreign car-makers, primarily the Japanese. Foreign parts and components manufacturers also play an important role in the industry.

The comparison between the industrial policies in these two countries provides an example of how the extent of government intervention affects industrial development and economic welfare of a country. At the same time, as the study looks at the evolution of the industrial policies from the 1960s to present, it also shows us how important it is for states to adjust their industrial policies to changing international environment, particularly after the end of the Cold War and the conclusion of GATT's Uruguay Round,

which coincided with the beginning of escalating competition at both domestic and international levels.

This thesis explores the different tracks of industrial policies in Thailand and Malaysia in detail. The concept and variety of industrial policies are introduced in the following section. Sections 3 and 4 investigate industrial policies towards the industry in Thailand and Malaysia, and looks into their respective motivations. Sections 5 is dedicated to the industry's performance evaluation with respect to their competitiveness and welfare effect. Section 6 then provides an analysis of how the different policies pursued by the two governments affect the industry performance. Finally, conclusions are drawn and policy suggestions are given in Section 7.

2. THE CONCEPT OF INDUSTRIAL POLICY

2.1 Definition

In a broad sense, an industrial policy is devised to *manipulate the structure of an economy*. The formulation of industrial policy involves self-conscious level of economic planning, which is an infusion of goal-oriented strategic thinking.[1] It may, or may not, be systematic or consistent; the key lies in the motive of the policy.[2]

[1] Chalmers Johnson, "Preface," in *The Industrial Policy Debate* (San Francisco, Calif.: ICS Press, 1984), 8.
[2] William Diebold, *Industrial Policy as an International Issue*, (New York: McGraw Hill Book Company, 1980), 8.

2.2 Purposes

As mentioned above, industrial policies are used to manipulate the economic structure of a country. Diebold categorizes industrial policies into three groups according to their purposes, namely, to resist, to adapt to, and to induce, structural change.[3]

An example of the first category is the "re-industrialization" policy in many developed countries. As an economy evolves, it goes through three typical stages of development: agricultural-based, industrialized, and de-industrialized or services-based. The governments in developed countries, possibly for national security and/or domestic political reasons, have adopted industrial policies with a purpose of maintaining their industrial (and agricultural) bases, while their economies are becoming more services-oriented. A case in point is Japan's domestic agricultural support programs. As the country rapidly industrialized in the 1960s and 1970s, its agricultural sector has shrunk. The Japanese government, concerned about the country's declining rate of food self-sufficiency, heavily subsidized its farmers. The domestic food prices were a lot higher than the world prices.

Adaptive industrial policies are those shifting resources to new uses that do not need protection as well as those providing assistance to injured workers and communities in order to *facilitate* structural change.

The last category is industrial policies used when the governments want to encourage production in sectors that did not formerly exist at home. This type of policies can be found in many developing economies. The automotive sector in Thailand and Malaysia,

[3] Ibid., 6-8. .

the focus of this thesis, was, as a matter of fact, born out of such policies. Mostly they provide protection and/or subsidies to local producers so that domestic production capabilities are developed.

It should be noted that a government can use more than one type of industrial policies at the same time, as there normally are both declining and emerging sectors in an economy. All in all, when industrial policies are adopted, the countries' comparative advantages are altered, and so are the patterns of trade and investment flows. The power of the invisible hand of the market mechanism is more or less restrained by the visible hand of the state.

2.3 State & Industrial Policy

Industrial policies certainly imply state intervention in economic activities. Nevertheless, there is no uniformity in state roles. The extent of government intervention varies from one country to another. Here, the roles of state, as stipulated in its industrial policies, are divided into two major categories:

(1) Facilitator State—This type of role can be found in most countries. When the state plays the role of a facilitator, it merely sets conducive rules of the game so as to encourage economic development in a certain direction. The author considers this as "*horizontal*" intervention. There are a wide range of tools for the state to create "preferred" competitive environment. To limit import competition, a state may use import tariffs and quotas. At the same time, domestic producers' competitive advantage can be boosted by subsidies, both direct, such as tax rebates, and indirect, such as research and development funds. Investment incentives, such as tax breaks or cheap land, may be offered to promote production in certain sectors.

(2) Entrepreneurial State—The state in many developing countries often takes on the role of an entrepreneur. National, state-owned, enterprises are established, with production decisions planned or influenced by the governments. These enterprises can be wholly-owned by the state or joint-ventures between the state-local capital-multinational corporations. State entrepreneurship is a "*vertical*" expansion of government control on economic activities.[4] This type of state role was widespread in Latin America during its heyday of import-substitution industrialization. By 1980, there were more than 700 state firms in Mexico, while in Brazil, state firms controlled almost 80 per cent of total assets of the 200 largest corporations in the country.[5]

Industrial policies that stipulate such a pervasive role of the state normally have their origin in the condition of development dependency on multinational corporations, particularly in terms of capital and technology.[6] However, this is not to say that all developing countries in such condition adopt state entrepreneurship industrial policies. As will be discussed later in this thesis, in the case of Thailand's automotive industry, which relies on production technology from multinational corporations, the Thai government does not get involved in the production activities.

It should be noted that development dependency is hardly the only reason for state entrepreneurship. Domestic politics, particularly nationalism among the elites, in many

[4] John R. Freeman, "State Entrepreneurship and Dependent Development," *American Journal of Political Science* 26, no. 1 (1982), [journal on-line]; available from JSTOR; Internet; accessed February 10, 2006.
[5] Ibid.
[6] Ibid.

cases influences the state to take control of the production as a strategy for these countries to become technologically-independent.[7]

2.4 Concerns

Industrial policies have been practiced in many countries, some with success in creating competitive industries or keeping not-so-competitive ones alive, others with failures causing exorbitant public debts without raising industrial competitiveness. Whatever the overall outcome, industrial policies do have *"costs"*. Most of the time, these costs are downplayed or even completely ignored by the state for the sake of national economic development. In this sub-section, two major types of the costs of industrial policies, particularly defensive and offensive policies, are mentioned:

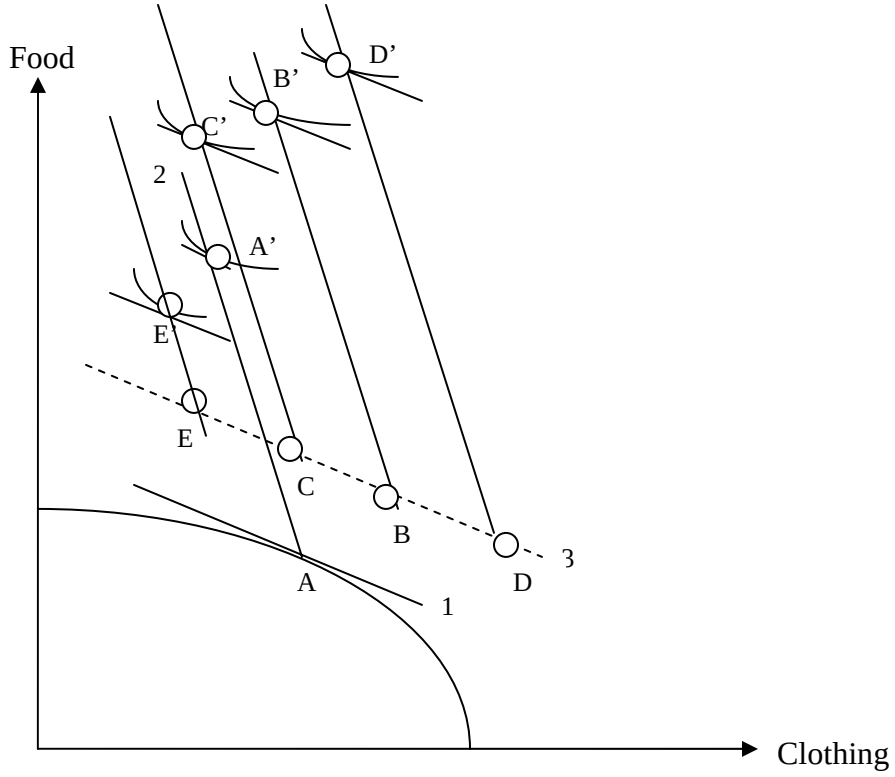
(1) **Rent-seeking Behaviors**—Industrial policies normally involve protection from competition. The government can provide protection to domestic producers by various means: tariffs, subsidies, quantitative restrictions, investment measures, etc. The protection itself, in turn, creates incentives for private agents to seek further protection or to gain access to protection. Spending resources in doing so is called *"rent-seeking"*.[8] According to the New Political Economy school of thought, the government is not independent from the politics of interest groups and, therefore, does not always act in the national interest.[9] As a result, rent-seeking behaviors tend to cause further problem: corruption. Ades and Di Tella use econometric models to show that industrial policies do lead to corruption, which, in turn, diminishes realized level of

[7] Ibid.
[8] Richard Caves, Jeffrey Frankel, and and Ronald Jones, *World Trade and Payments: An Introduction*, 9thd ed. (Boston, MA: Addison-Wesley, 2002), 199.
[9] Henry Bruton, "A Reconsideration of Import Substitution," *Journal of Economic Literature* 36, no. 2 (1998), [journal on-line]; available from JSTOR; Internet; accessed February 10, 2006.

investment.[10] In this sense, industrial policies incur opportunity costs: resources spent in rent-seeking, which could be put into better use, and unrealized investment.

(2) **Efficiency Loss**—When the government channels national resources into import-competing industries, be they declining or infant industries, it gives up the opportunity of using the resources in possibly more efficient ways, i.e. expanding export industries, building infrastructures, improving national education system, etc.

Figure 1: Growth with Protection



Source: Caves, Frankel and Jones, 2002.

[10] Ades, Alberto and Rafael Di Tello, "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic," *The Economic Journal* 107, no. 443 (1997), [journal on-line]; available from JSTOR; Internet; accessed February 10, 2006.

In case of a small country, defined as a country which cannot influence world prices on its own, economic growth led by import-competing industries results in less consumption gain compared to growth led by export industries or balanced growth. Figure 1 illustrates results of different types of economic growth in a small country with protection. The country faces world prices depicted by line 2 and exports clothing. But due to protection, its domestic prices line, line 1, is flatter than line 2. The country, thus, produces at point A and its optimal consumption is at point A'. Now, suppose this economy grows while world price and its domestic price remain constant. If the growth is skewed towards the export sector (clothing), with production at point D, the country can consume at point D'. A balanced growth, with production happens at point B, results in lower level of consumption, point B', which lies below point D'. If the growth is skewed towards the import-competing sector (food), the country's consumption level would be even lower: points C' and E'. Note that point E' is lower than point A', which is the initial consumption level, meaning that rapid expansion of the import-competing sector can result in national economic welfare loss compared to the status quo.[11]

2.5 Success Stories of Industrial Policies from Asia

In spite of their costs, industrial policies have been widely practiced in both developed and developing economies. As this thesis is targeted on developing countries, it is worth looking at some examples of industrial policies adopted to instigate or accelerate industrialization. Here, we look at the experience of Japan and South Korea, the two countries that are renowned for successful, rapid economic development.

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[11] Caves, Jeffrey Frankel, and and Ronald Jones, 203-205.

(1) Japan: Computer Industry

Japan's industrial policies are based on close coordination between the state and the private sector. They are characterized as *"market-conforming"* in the sense that the government anticipates where the markets will be and then uses industrial policies to facilitate and speed adjustment to the anticipated trends.[12] For example, in the late 1950s, the Japanese government viewed the computer and semiconductor industries as the sectors of the future and wanted Japan to develop its own production. The problem was the inability of the smaller Japanese firms to compete with IBM. The government thus imposed import tariffs to protect domestic producers from import competition. In addition, it allowed IBM to establish a subsidiary in Japan in exchange for its patent licensing to Japanese firms.[13] In order for the local producers to achieve economies of scale, in 1961, the Japanese government established Japan Electronic Computer Corporation (JECC), a joint venture between the government and the local industry, to purchase computers from the manufacturers then lease them to small businesses.[14] What is interesting about Japan's industrial policy in this industry is that while providing protection from import competition, the government promoted competition among several domestic firms, in order to encourage quality improvement.[15] Furthermore, in order to promote research and development, the government provided subsidies and preferential tax treatment to the local firms, as well as brought them together in cooperative R&D projects. By 1996, Toshiba held the world's number one position in

[12] Ellis S. Krauss, "Political Economy: Policymaking and Industrial Policy in Japan," *PS: Political Science and Politics* 25, no. 1 (1992), [journal on-line]; available from JSTOR; Internet; accessed February 21, 2006.
[13] Ibid.
[14] Ibid.
[15] Marie Anchodoguy, "Mastering the Market: Japanese Government Targeting the Computer Industry," *International Organization* 42, no. 3 (1988), [journal on-line]; available from JSTOR; Internet; accessed February 21, 2006.

the global laptop market.[16] The country's other manufacturers, such as Fujitsu, Sharp and NEC, have also become major global players.

(2) South Korea: Automotive Industry

Like Japan's, South Korea's industrial policies are marked by close state-business relationships. The Korean economy is dominated by the *chaebols*, or business conglomerates, which normally enjoy preferential treatment from the government. They also have played an important role in the country's automotive industry. The Korean automotive industry commenced in 1962 by the Automotive Industry Promotion Law. The South Korean government, by imposing an import ban on completely built-up (CBU) vehicles, protected the local market for the Korean chaebols chosen by the government to participate in the industry.[17] At first, the government allowed only one assembler in order to achieve economies of scale. The first assembler authorized was Saenara, then Shinjin. However, due to complaints from those left out, in 1967 the government licensed two more producers: Hyundai (a joint venture with Ford) and Asia Motors (a joint venture with Renault) and in 1971 Kia (a joint venture with Mazda).[18]

The Korean producers were supported by subsidies and preferential tax treatment from the government. The local parts and components production was also supported by the local content requirements. However, the government did not get involved in R&D activities in the industry, leaving the task to the producers. By 1997, Korea became the

[16] Ibid.
[17] "From National Champions to Global Partnerships: The Korean Auto Industry, Financial Crisis and Globalization," in MIT Japan Program [database online]. June 4 [cited 2006]. Available from http://mit.edu/mit-japan/outreach/working-papers/WP0104.pdf.
[18] Ibid.

world's fourth largest automobile producers.[19] Hyundai, its number one producer, has increasingly solidified it competitive position in the global market and achieved a significant degree of technological independence.

Without getting into details, the above two examples demonstrate that state guidance can facilitate rapid industrial development. It should be pointed out that despite of close state-business relationships in both Japan and South Korea, the governments restrained themselves from getting involved as entrepreneurs in the above examples. Yet the local producers, taking advantage of protection and subsidies provided by their governments, were able to successfully develop and improve their production capabilities. This characteristic of the state's role is of particular importance to the analysis of policy options below.

3. THAILAND'S INDUSTRIAL POLICIES IN ITS AUTOMOTIVE SECTOR

3.1 Thailand's Political Economy

To understand the formation of the Thai industrial policies as a whole and particularly in the automotive sector, one needs to understand the country's political economic background during the early period of its industrialization. Historically, the Chinese immigrants in Thailand have always played an important role in the country's economy. Prior to the commencement of the government's industrialization policies in the 1930s, the Chinese had dominated the country's services and foreign trade sectors. Thailand's foreign trade had been based on the exportation of primary products because the underdevelopment of its manufacturing sector.

[19] Ibid.

The country went through a radical change in its political system in 1932, when the absolute monarchy was replaced by democracy. The new government adopted a nationalist economic policy to improve the economic status of the indigenous Thais. State intervention in the economy was pervasive, with a number of state enterprises with an aim of import-substitution. Yet the "Thai-ification" of the economy did not materialize.[20] The only indigenous Thais became more engaged in economic activities were the bureaucrats. The Chinese were co-opted into, rather than ousted from, the economy, because the government needed their business expertise and connection with foreign capital. Thus, the state-business relations during this period were based on close patron-client ties.[21]

The economic role of the government decreased in the 1960s under the new administration of *Field Marshal Sarit Thanarat*, who took over in 1958.[22] The government shifted its policy to allow increasing participation of private capital. In 1961, it announced the country's first six-year National Economic Development Plan. According to the Plan, the role of the private sector in industrial development was to be promoted, while the government was to limit its involvement only to the development of infrastructure development and the facilitation of trade and industries.[23] From this point on, the Thai industrial policies have been relatively market-conforming.[24] As a matter of fact, in a World Bank report in 1983, Thailand was ranked number two among 31

[20] Nobuya Haraguchi, "Strategies, Policies and Characteristics: A Case of the Thai Automobile Industries," Survey for the United Nations Industrial Development Organization (UNIDO), p. 17, Hanoi, Vietnam.
[21] Ibid.
[22] Ibid,18.
[23] "Thailand in Brief," in Public Relations Department, Office of the Prime Minister [database online]. September [cited 2006]. Available from http://www.prd.go.th/ebook/inbrief/economy/economy_01.html.
[24] Haraguchi, 141.

developing countries with least price distortion.[25] At the same time, the patron-client ties between the state and business were gradually transformed into a more formal, institutionalized type of relationship, through the establishment of the Federation of Thai Industries, the Thai Chamber of Commerce, the Thai Bankers' Association, and the Public/Private Sector Joint Consultative Committee. Overall, the Thai industrial policies have been the government's response to, as much as economic guidance for, the local business sector. The ethnicity issue soon disappeared as the government was more focused on the economic development of the country as a whole rather than of an ethic group versus the other. By putting such a complicated issue in the background, the task of economic and industrial development has been less complicated for the Thai government.

3.2 Industrial Policies in the Automotive Sector

Trade and Investment

The industrial policies with respect to trade and investment in the sector can be divided into three phases:

Phase I: Creating Production Capacity (1961-1970)

The Thai automotive industry commenced in 1961, with the assembly of imported completely-knocked down (CKD) vehicles.[26] Under the Industrial Investment Promotion Act of 1960 and its subsequent revision in 1962, the Thai Board of Investment (BOI) provided investment incentives for vehicle assembly. The incentive package consisted of

[25] Anek Laothamatas, *Business Associations and the New Political Economy of Thailand: From Bureaucratic Polity to Liberal Corporatism*, (Boulder and Oxford: Westview Press, 1992), 166.
[26] Kamaruding Abdulsomad, *Building Technological Capabilities of Local Auto Parts Firms Under Contrasting Industrial Policies: A Comparative Study of Malaysia and Thailand 1960-2000,* (Stockholm: Almqvist&Wiksell International, 2003).

(1) a 50 per cent reduction of import duty on CKD kits for 5 years; (2) exemption of corporate income tax for 5 years; (3) permission to remit foreign exchange out of the country; and (4) permission to bring in foreign experts and technicians.[27] The investment incentives were supported by high import duties on CBU vehicles. The multinational car manufacturers, faced with import barriers and attracted by the privileges, formed joint ventures with local capital to operate CKD assembly in the country. The industry began with merely 525 vehicles assembled in 1961.[28] In the following 3 years, production rose rapidly due to the condition set by the government. In 1964, the country produced 7,267 vehicles.[29]

Phase II: Rationalization and Further Localization (1971-1989)

Because of the privileges to the assemblers to import CKD kits at lower tariff rates, the development of the parts and components sub-sector was ignored during phase I. Furthermore, increasing CKD imports resulted in a serious balance of payment deficit. As the problems became apparent towards the end of the 1960s, the government stopped granting the privileges to new firms in 1969 and began the process of reviewing the industrial policies towards the sector.[30]

The policy review process was based on consultation between the government and the private sector, led by the Federation of Thai Industries (FTI). The FTI called for a long-

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[27] Mai Fujita, "Industrial Policies and Trade Liberalization: The Automotive Industry in Thailand and Malaysia," in Japan External Trade Organization (JETRO), 1997. [database on-line]. [cited 2006] Available from http://www.ide.go.jp/English/Publish/Apec/apec09.html.

[28] Haraguchi, 24.

[29] Ibid.

[30] Richard F. Doner, *Driving a Bargain: Automobile Industrialization and Japanese Firms in Southeast Asia*, (Berkeley: University of California Press, 1991), 192.

term strategy on the government's part, protection of local producers against import competition, as well as rationalization of the industry by putting a limit on competition in the domestic market in order to achieve economies of scale, which, in turn, would encourage further localization. The Thai government, lacking expertise in the industry, in the end relied on input from the private sector. In 1971, the Ministry of Industry announced a comprehensive plan for reform of the automotive industry reflecting the FTI's views.[31] As part of the reform, locally assembled vehicles were required to meet certain local content ratios: 25 per cent for passenger cars; 20 per cent for commercial vehicles with windshields; and 15 per cent for commercial vehicles without windshields[32], effective in 1974. These measures were aimed at deepening the localization of the industry by inducing investment in the parts and components sub-sector.

The local content requirements and the termination of the incentives did achieve what they were meant to. The Japanese parts firms started to invest in Thailand, and so did the local entrepreneurs. By 1977, the range of components locally produced was becoming "increasingly comprehensive."[33] The number of parts firms also grew, totaling at 180 in the same year.[34]

The growing local parts and component sub-sector, represented by the Thai Auto-Parts Manufacturers Association (TAPMA), began to demand further protection against import competition. The government itself also saw it as necessary to reverse a deepening trade

[31] Ibid.
[32] Fujita, 152.
[33] Doner, 198.
[34] Ibid.

deficit.[35] Hence, in 1978, the government imposed a ban on CBU imports and raised the tariff rates for CKD imports from 50 per cent to 80 per cent.[36] In addition, it announced the mandatory deletion from imported CKD kits of parts that could be locally produced, e.g. radiators, exhaust systems, and safety glass. At the same time, the local content requirement was revised up to 50 per cent for both passenger cars and commercial vehicles by 1983. However, due to economic recession in the early 1980s and pressure from the multinational manufacturers and the country's economists who supported export-oriented industrialization, in 1982, the government decided to freeze the LC requirement at 45 per cent.[37] Another attempt by the government to foster rationalization in the industry also came in 1978: the prohibition on new assembly plants and new models or series (while existing plants were allowed to expand their capacity, though with certain ceiling[38]).

The relatively passive industrial policies had almost given way to a more nationalist and hands-on one in the mid-1980s, when the government announced a plan to manufacture *a national car* using primarily locally produced parts and components. The plan was supported by the Ministry of Industry and the Board of Investment.[39] In 1984, Peugeot and its Thai representative, Yontrakit, bid for the project to manufacture "Thai vehicles", with a local content of 95 per cent, for both the domestic market and export.[40] The project, however, was abandoned because of opposition from the National Economic and Social Development Board and the Ministry of Finance, which would have lost

[35] Ibid.
[36] Fujita, 152.
[37] Ibid. 153.
[38] Abdulsomad.
[39] Wiworn Kesavatana, "Political Economy of Direct Foreign Invesetment in Thailand: A Case Study of the Automobile Industry" (Ph.D. diss., University of Michigan, 1989),
[40] Doner, 207.

substantive tariff revenue from CKD imports had it come into being. Thus, the government continued to pursue industrial policies without differential treatment towards firms with different nationalities.[41] Such neutrality coupled with partial liberalization in the second half of the 1980s, first through the abolition of the import ban on CBU vehicles with engines over 2,300 cc in 1985 and then of the ceiling on production capacity of existing assembly plants in 1989[42], contributed to an investment-friendly environment for the multinational corporations and thereby resulted in rapid expansion of the industry in the late 1980s. In addition, the industry also benefited from the yen appreciation after the Plaza Accord in 1985, forcing the Japanese firms to relocate their production overseas where production costs were lower. Increasing foreign direction investment inflow, in turn, led to high economic growth rate averaging at 9.1 per cent annually during 1987-1995[43], boosting the purchasing power of the middle class and thereby raising domestic demand for vehicles.[44]

Phase III: Full Liberalization and Export Promotion (1990-Present)

Liberalization of the industry got into a full swing in during the 1990s. In 1990 the series limitation was nullified.[45] The new government under the leadership of Prime Minister Anand Panyarachun, who took office in 1991, lifted the import ban on CBU vehicles entirely and substantially reduced import tariffs on CBU vehicles and CKD kits.[46]

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[41] Although wholly-foreign owned firms were not allowed prior to 1998, the government policies did not discriminate between wholly-Thai owned firms and joint-ventures.
[42] Abdulsomad.
[43] "Thailand: Country Profile," in Economist Intelligence Unit [database online]. June 1 [cited 2006]. Available from www.eiu.com.
[44] Fujita, 153.
[45] "Trends and Developments in Thailand's Auto Market," in Thai Auto Parts Manufacturers Association [database online]. [cited 2006]. Available from http://www.thaiautoparts.or.th/fileupload/AutomotiveHistory.ppt.
[46] Fujita, 154.

Furthermore, the ban on new assembly plants, which had been imposed since 1978, was abrogated in 1993.[47]

Table 1: Thailand's Vehicle Import Duties, 1962-1992 (%)[48]

YEAR	PASSENGER CARS		VANS & PICK-UPS	
	CBU	CKD	CBU	CKD
1962	60	30	40	20
1978	150 (Ban)	80	80	40
1988	200 (Ban)	112	100	72
1991	60-100	20	60	20
1992	42-68.5	20	60	20

Source: Office of the Industrial Economics, Ministry of Industry

Prime Minister Panyarachun also initiated the ASEAN Free Trade Area (AFTA) in 1991.[49] Under this framework, import tariffs and non-tariff measures were to be reduced to between 0 – 5 per cent by 2003 for the old members (Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand). Thailand brought its automotive products into its Inclusion List for tariff reduction and met its obligation in time. Thus, beginning in 2003, automotive products imported into Thailand which satisfy the 40 per cent ASEAN local content rule under AFTA rules of origin are subject to import tariff of 5 per cent.[50]

In addition to the unilateral and regional liberalization, there also was international pressure at play. As a member of the GATT/WTO, Thailand is obliged to implement the provisions in the Agreement on Trade Related Investment Measures (TRIMs), which took effect at the conclusion of the Uruguay Round in 1994. The local content

[47] Abdulsomad.
[48] Pratana Vongpivat, "A National Innovation System Model: Industrial Development in Thailand" (Ph.D. diss., Tufts University, 2002), 154.
[49] "AFTA," in Thailand's Ministry of Commerce, Department of Trade Negotiation [database online]. October [cited 2006]. Available from http://www.dtn.moc.go.th/web/8/55/628/630/เขตการค้าเสรีอาเซียน.asp?G_id=630&f_id=4740.
[50] "Import Tariffs Database," in Thailand's Department of Customs [database online]. July 23 [cited 2006]. Available from http://www.customs.go.th/Tariff/Tariff.jsp.

requirement was subject to the TRIMs Agreement and thereby was to be eliminated within 5 years (for developing countries).[51] Thus, the local content requirement began to be lifted in 1997 and was completely eliminated by January 2000[52], within the timeframe under the TRIMs Agreement.

Increasing import competition was balanced by government incentives for export promotion. In 1993, the government announced the Automobile Industry Export Promotion Project, offering incentives for vehicle assembly for export. These include exemption from import duty for auto parts and corporate income tax for 8 years.[53]

The financial crisis in 1997 brought about yet another round of policy change in the sector. To alleviate the liquidity problem resulting from the crisis, the government, in 1998, relaxed the rules on foreign ownership by allowing foreign investors to hold up to 100 per cent stake in Thai firms.[54] This has led to the domination of the industry by foreign producers. At the same time, the import tariff rates for both CBU and CKD vehicles were revised up in 1999 and 2000 to mitigate the balance of payment crisis and, as some critics argue, the impact of the end of the LC requirements. Nevertheless, the financial crisis inflicted widespread pain in the entire industry. Declining domestic demand forced the producers to cut output and change to a more export-oriented strategy.

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[51] "Agreement on Trade Related Investment Measures," in World Trade Organization [database online]. [cited 2006]. Available from http://www.wto.org/english/docs_e/legal_e/18-trims.pdf.
[52] Vongpivat, 152.
[53] Fujita, 154.
[54] "Announcement of the Office of the Board of Investment, no. POR 15/2541 (Relaxation of the Joint Venture Criteria)," in Board of Investment, Thailand [database online]. December 30 [cited 2006]. Available from http://www.boi.go.th/english/download/law_regulations/100/Por15_2541.pdf.

Table 2: Thailand's Import Duty (MFN) and Excise Tax on Motor Vehicles, 2003

Vehicle Type	Import Duty (%)		Excise Tax (%)	
	CBU	CKD	CBU	CKD
Passenger Cars	80	33	12-48	0
Pick-up Trucks	60	33	3-18	0
Heavy-duty Trucks and Buses	40	33	0	0

Source: - Compilation of Foreign Motor Vehicle Import Requirements, Office of Automotive Affairs, International Trade Administration, US Department of Commerce, Dec 2003.

- Development of the Automotive Sector in Selected Countries of the ESCAP Region, United Nations Economic and Social Commission for Asia and the Pacific, 2002.

Technological Development

The Thai government has been relatively passive in area of technology development. In 1996, the peak of the Thai automotive industry before the financial crisis, the industry received only 5.3 million baht in public R&D investment, accounting for merely 0.83 per cent of total public R&D expenditure for that year.[55]

Table 3: Thailand's R&D Expenditure in Key Industrial Sectors, 1996[56]

SECTOR	R&D INVESTMENT			
	PUBLIC		PRIVATE	
	Baht	% of Total	Baht	% of Total
Electronics	340,978,516	52.69	71,769,871	12.04
Petrochemical	277,960,306	42.95	72,723,623	12.2
Transport equipment	5,386,600	0.83	1,013,362	0.17
Total R&D Investment	647,194,681	100	596,095,273	100

Source: Department of Research and Planning

Furthermore, the government technology policy in general has been focused on conducting R&D activities *for* the private sector, rather than encouraging the latter to

[55] Vongpivat, 201.
[56] Ibid.

engaging in the activities themselves.[57] Trade policy also affects R&D behavior in the private sector. The fact that technology can be acquired quite easily due to relatively open technology import policy makes it more practical for firms to buy technology from abroad rather than take a risk to develop it themselves.[58] In addition, the country's liberal investment regime does not require that inward FDI engages in technology transfer to the locals or to train or promote local employees.[59]

[57] "Thailand's National Innovation System in Transition," in Research and Information System for Developing Countries [database online]. [cited 2006]. Available from http://www.ris.org.in/NIS_PatarapongIntarakumnerd.pdf.
[58] Bell, M. and Scott-Kemmis D., *Report on a Study of Technology Transfer and Accumulation of Technological Capacity in Manufacturing Industry in Thailand* Sussex University,
[59] Haraguchi, p. 144.

4. MALAYSIA'S INDUSTRIAL POLICIES IN ITS AUTOMOTIVE SECTOR

4.1 Malaysia's Political Economy

Malaysia's ethnic issue is complicated and has significant impact on the government's development policies. The country consists of three major ethnic groups—Malays; Chinese; and Indians—a legacy of the British rule. Its ethnic situation can be characterized by close identification between race and economic function.[60] During the colonial period, most of the Chinese were involved in tin mines, some as labor, others as small operators. They, as well as the Indians, also expanded their economic activities into the wholesale and retail sectors, basic construction, engineering works and food production, while the majority of the Malays worked as civil servants or peasants.[61] Despite of smaller shares in total population (Table 4), total income of the Chinese and the Indians was comparable to the majority Malays' (Table 5).

Table 4: Malaysia' Ethnic Composition, 1957 [62]

Total Population (thousand)	Malays		Chinese		Indians	
	(thousand)	(%)	(thousand)	(%)	(thousand)	(%)
6,385	3,149	49	2,398	38	723	2

[60] Gomez, Edmund Terence and Jomo K.S., *Malaysia's Political Economy: Politics, Patronage and Profits,* (Cambridge, UK: Cambridge University Press, 1997), 10.
[61] Garry Rodan, Kevin Hewison, and Richard Robison, ed. *The Political Economy of South-East Asia: An Introduction,* (Melbourne: Oxford University Press, 1997), 123.
[62] Charles Hirschman, "Demographic Trends in Peninsular Malaysia: 1947-1975," *Population and Development Review* 6, no. 1 (1980), [journal on-line]; available from JSTOR; Internet; accessed March 5, 2006.

Table 5: Malaysia's Ethnic Income Shares by Income Cohort, 1957 (%) [63]

Income Cohort	Malays	Chinese	Indians
Top 5%	18.1	19.6	19.5
Next 5%	9.5	11.9	10.0
Next 10%	14.9	15.3	14.2
Next 40%	38.0	36.2	36.6
Bottom 40%	19.5	18.1	19.7

A Merdeka (Independence) compromise was achieved in 1957, the year Malaysia gained independence from Britain, among *the Alliance* among United Malays National Organization (UMNO), Malaysian Chinese Association (MCA) and Malaysian Indian Congress (MIC).[64] It protected foreign economic interests in Malaysia, preserved the position of the Chinese and ceded control of the government to the Malays.[65] At the same time, Malay capital was granted special privileges and assistance, such as quotas of business licenses, access to financial facilities and business training programs, in an attempt to create a *Malay middle class*.[66]

Achieving independence for the country, the Alliance then laid a foundation for economic development along the import-substituting industrialization (ISI) strategy. However, the government's involvement in the economy was minimal and non-strategic, using import tariffs on final goods and tax incentives as the major policy tools without giving greater importance to any particular sectors.[67] Unfortunately, Malaysia, from 1957 to the late-1960s, faced increasing unemployment, declining income and widening

[63] Tan Tat Wai, *Income Distribution and Determination in West Malaysia,* (Kualar Lumpur: Oxford University Press, 1982)
[64] Garry Rodan, Kevin Hewison, and Richard Robison, ed. *The Political Economy of South-East Asia: Conflicts, Crises and Change,* 2ndd ed. (Melbourne: Oxford University Press, 2001), 181.
[65] Ibid., 182.
[66] Gomez, Edmund Terence and Jomo K.S., 15.
[67] Rodan, Hewison, and Robison, "The Political Economy of South-East Asia: An Introduction," 124.

inequality. The deteriorating economy prompted the Malays to demand *concerted* economic assistance *vis-à-vis* the ethnic Chinese. The ethnic rift in the country led to violence in 1969 and the end of the relatively laissez faire government.

In 1971, the New Economic Policy (NEP) was announced, with an aim to promote nation-building through poverty eradication and economic restructuring so as to eliminate the identification of ethnicity with economic function.[68] Towards this end, the government set the targets for the increasing participation of the *Bumiputeras* (literally means "son of the soil", referring to the ethnic Malays) in the industrial and services sectors. At the same time, the number of government enterprises increased considerably during the 1970s.[69]

The government became even more involved in the economy in the 1980s. Inspired by the economic development of Japan and South Korea, Mahathir Mohamad, the new Prime Minister, who took office in 1981, introduced the *Look East Policy*, which was meant to adopt the development strategy in the two countries as a guide for Malaysia's economic development. As part of the policy, the government established the *Heavy Industry Corporation of Malaysia* (HICOM) in 1980, as a tool through which the government would get directly involved in the market. The government's intervention included direct ownership, subsidies, curbing competition in the domestic market, and controlling bids.[70] Besides the economic agenda, HICOM was also designed to provide training and business opportunities to the Bumiputera.

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[68] *Technology Action Plan* (Kualar Lumpur: Malaysia's Ministry of Science, Technology and Environment, 1991), 31,

[69] Gomez, Edmund Terence and Jomo K.S., 29.

[70] Rodan, Hewison, and Robison, "The Political Economy of South-East Asia: An Introduction," 132.

Ethnic diversity, as shown above, has had a major impact on the country's political economy. However, it is not within the scope of this thesis to decide whether it was inevitable that the Malaysian government's economic policy took into account and aimed to resolve the issue. The author merely wants to lay some background for further analysis of the country's industrial policies in the automotive sector, which have been developed against such ethnic background.

4.2 Industrial Policies in the Automotive Sector

Trade and Investment

Malaysia's industrial policies towards the automotive sector can be divided along the same line as Thailand's, but with differences in details.

Phase I: Creating Local Production Capacity (1964-1981)

In 1964, the Malaysian government announced a policy to promote local vehicle assembly and parts production. Towards this end, in 1966, it resorted to protective tariffs on CBU imports. In addition, import licenses, which had to be renewed every six months, were required.[71] However, it was not until 1967 that the assembly began, when the government approved the operation of six assembly plants. After the commencement of the assembly industry, CKD imports increased rapidly while CBU imports were curbed through higher tariff rates and the import licensing system.

To encourage further localization of the automotive industry, the *Investment Incentive Act* was passed in 1968 to promote local automotive parts and components production, which

[71] United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Automotive Sector in Selected Countries of the ESCAP Region*, (New York: United Nations Publications, 2002), 71.

was designated as a priority sector.[72] This was reinforced by the LC requirement, announced the following year. Local content of 20 per cent was to be achieved by 1977. In 1972, this was revised up to 35 per cent, to be realized by 1982.[73]

By 1980, there were about 15 assembly plants in Malaysia, producing a number of models and series.[74] Yet, the government never imposed model or factory expansion limits because the penalty of failing to meet the LC requirements and the costs of localization were presumed to be sufficient to get rid of small-volume producers and models and also because it wanted more Bumipuerta to enter the industry.[75] The resulting market fragmentation made it difficult for components producers to achieve economies of scales, thus, the locally produced parts and components were expensive. This hindered further localization: in 1979, the average local content achieved was merely 8 per cent.[76]

To support the local parts and components sector, the government introduced the *Mandatory Deletion Program* (MDP) in 1979.[77] Under this program, certain automotive components, following the recommendations from the local parts and components

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[72] Kamaruding Abdulsomad, *Building Technological Capabilities of Local Auto Parts Firms Under Contrasting Industrial Policies: A Comparative Study of Malaysia and Thailand 1960-2000,* (Stockholm: Almqvist&Wiksell International, 2003).
[73] Ibid.
[74] United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), 71.
[75] Richard F. Doner, *Driving a Bargain: Automobile Industrialization and Japanese Firms in Southeast Asia*, (Berkeley: University of California Press, 1991), 50 and 103.
[76] Abdulsomad.
[77] Mai Fujita, "Industrial Policies and Trade Liberalization: The Automotive Industry in Thailand and Malaysia," in Japan External Trade Organization (JETRO), 1997, p. 156 [database on-line]. [cited 2006] Available from http://www.ide.go.jp/English/Publish/Apec/apec09.html.

manufacturers, were to be excluded from the CKD imports. It managed to raise the local content achieved to 18 per cent in 1982.[78]

The expansion of the automotive sector was affected by Malaysia's ethnic situation. As mentioned in the previous sector, the government's New Economic Policy (NEP) was aimed to increase the Bumiputeras' participation the manufacturing and services sectors. In fact, some of Malaysia's vehicle assembly plants were granted operation licenses because they satisfied the NEP's requirement for the Bumiputeras' investment participation.[79]

Table 6: Ownership Structure of Major Assembly Firms in Malaysia, 1983 [80]

Firm	Equity Ownership (%)			Market Rank
	Foreign	Bumiputeras	Chinese and/or Indians	
Tan Chong	-	-	100	1
Assembly Services	15	33	52	2
Associated Motor	-	-	100	3
Oriental Assembly	-	-	100	4
Kelangg Pembena Kereta	-	-	100	5
Asia Automobiles	80	-	20	6
Swedish Motor	50	-	50	7
Sarawak Motor	-	82	18	8
Cycle and Carriage Bintang	49	15	36	9
Kinabalu Motor	-	68.5	31.5	10
Tatab Industries	29	60	11	11

Source: - "The ASEAN Motor Industry" in Economist Intelligence Unit (EIU), 1985
- "Submission of AFM on the Industrial Master Plan" by the Automotive Federation of Malaysia (AFM), 1984

Nevertheless, the local capital in the assembly sector was dominated by the Chinese and the Indians (Table 6). The local parts and components sector also experienced the same thing, while the Malays were active in the auto distribution and reconditioning business.[81]

[78] Doner, 50.
[79] Ibid.
[80] Ibid., 52.

Phase II: Rationalization and Further Localization
Through the National Car Projects (1982-2003)

Market fragmentation, slow localization and low participation of the Bumiputeras caused the Malaysian government to reconsider its automotive policies. This happened as part of the government's revision of its overall industrial policies in the early-1980s. The result was the country's first *national car project*, announced in 1982.

National cars, in the context of Malaysia, are Malaysia's own makes, produced by Malaysian manufacturers, using more local content compared to the foreign makes. The first national car project was designed to rationalize the automotive industry, raise the Bumiputera's participation and stimulate the stagnant economy. The project was expected to be the key to Malay-led, second-stage import substitution industrialization, and promised technological advance, the development of engineering skills, and the generation of supply industries with export potential. Besides the foregoing practical purposes, the Malaysian government also aimed for national cars to be, in Mahathir Mohammad's words, "another step towards enhancing the nation in the eyes of the world".[82]

Perusahaan Automobil Nasional (PROTON), the first national car project, was established in 1984.[83] It was a joint-venture between HICOM, holding 70 per cent share, and Mitsubishi Motor Corporation, a 30-per cent minority shareholder.[84] PROTON began its production of its first model—the Saga—in 1985. Its local content was 47 per

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[81] Lim, Chee Peng and Fong Chan Onn, "Ancillary Firm Development in the Malaysian Motor Vehicle Industry," in *The Motor Vehicle Industry in Asia* (Singapore: Singapore University Press, 1983), 112.
[82] Kit G. Machado, "Malaysia's Motor Vehicle Industry," in *The Evolving Pacific Basin in the Global Political Economy: Domestic and International Linkages* (Boulder: Lynne Rienner Publishers, Inc., 1992),
[83] United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), 72.
[84] Doner, 51.

cent of its total value, compared to 35 per cent for other vehicles.[85] The Saga was able to capture 45 per cent of the domestic passenger car market. This was fostered by the government's actions to moderate domestic competition. For example, it was announced that only a certain range of foreign makes would be licensed for assembly once the Saga was in full production. Some assemblers were told that their efforts to engage in serious price competition with the Saga would undermine the national interests. The assemblers, thus, moved to adapt: some reduced output and indicated plans to leave the market (Ford and Mazda), some shifted production to commercial vehicles, while others emphasized other product lines. The larger firms also sought to get a piece of the national car project (Nissan and Toyota).[86] In addition, PROTON benefited from a preferential import tariff and excise tax. It could import CKD kits at only 13-per cent tariff rate (compared to the 42-per cent rate for others) and was granted a 50-per cent excise tax exemption.[87] Malaysia's second national car project, Perusahaan Otomobil Kedua (PERODUA), also enjoyed similar privileges.

Table 7: Malaysia's Import Duty (MFN) and Excise Tax on Motor Vehicles, 2003[88]

Vehicle Type	Import Duty (%)		Excise Tax (%)
	CBU	CKD	
Passenger Cars	140-300	42-80	First RM 7,000 x 25% Next RM 3,000 x 30% Next RM 3,000 x 35% Next RM 7,000 x 50% Next RM 5,000 x 60% Balance x 65%
4-wheel Drive and Multipurpose Vehicles	60-200	10-40	45
Vans	42-140	5-40	30
Commercial Vehicles	30	0	0

Source: Compilation of Foreign Motor Vehicle Import Requirements, Office of Automotive Affairs, International Trade Administration, US Department of Commerce, Dec 2003.

[85] Doner, 110.
[86] Ibid., 110-111.
[87] Abdulsomad.
[88] Ibid.

Phase III: Liberalization (2004-Present)

Malaysia regards its automotive industry as a sensitive sector. Hence, the government has tried to delay the liberalization of the industry, under both the multilateral (WTO) and regional (AFTA) frameworks.

As a developing country, Malaysia was to eliminate any GATT inconsistent trade-related investment measures, including the local content requirements, among others, by the end of 2000. However, at the end of 1999, it requested an extension of the implementation period particularly for the local content requirement for automobiles.[89] It subsequently petitioned for further extension twice, in the mid- and the late- 2001. It was not until December 31, 2003 that the LC requirement for automobiles was completely phased-out.[90]

Import tariffs on CBU and CKD vehicles were reduced around the same time. Tariff reduction under both the WTO and AFTA and new excise tax rates took effect on January 1, 2004 (Table 8).[91] Nevertheless, national cars still enjoy tariff and tax privileges. PROTON and PERODUA receive a 50 per cent excise tax rebate and their component imports are subject to merely a 25-per cent duty.[92] Furthermore, Malaysia was initially supposed to cut its tariff rates under AFTA on all automotive products to

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[89] World Trade Organization, *Trade Policy Review (Secretariat Report)* (Geneva: World Trade Organization, 2001), 44, [database on-line]; available from http://www.wto.org/english/tratop_e/tpr_e/tpr_e.htm.

[90] World Trade Organization, *Trade Policy Review (Secretariat Report)* (Geneva: World Trade Organization, 2005), 49, [database on-line]; available from http://www.wto.org/english/tratop_e/tpr_e/tpr_e.htm.

[91] United States Trade Representative, Office of the, *2004 National Trade Estimate Report on Foreign Trade Barriers* (Office of the United States Trade Representative, 2004), 319, [database on-line]; available from http://www.ustr.gov/Document_Library/Reports_Publications/2004/2004_National_Trade_Estimate/2004_NTE_Report/Section_Index.html.

[92] World Trade Organization (2005), 92.

between 0 per cent and 5 per cent by 2003. However, in 2000, Malaysia requested and was granted an extension until 2005 to bring 218 automotive tariff lines under the AFTA tariff reduction scheme.[93] In addition, it was given until 2008 to cut the AFTA tariff rates on automotive products to between 0 per cent and 5 per cent.[94]

Table 8: Malaysia's Import Duty (MFN and AFTA) and Excise Tax on Motor Vehicles, 2004-2005

Vehicle Type	2004 (%)			2005 (%)		
	MFN	AFTA	Excise	MFN	AFTA	Excise
Passenger Cars						
CBU	80-200	70-190	60-100	50	20	90-250
CKD	35	25	60-100	10	0	90-250
Multipurpose Vehicles and Vans						
CBU	60-130	40-120	30-90	50	20	40-170
CKD	5-20	0-10	30-90	0-10	0	40-170
4-wheel Drive Vehicles						
CBU	60-130	40-110	50-90	50	20	60-170
CKD	20	10	50-90	10	0	60-170

Source: Malaysian Automotive Association

Technological Development

In 1988, PROTON was nominated as an anchor company in the government's *Vendor Development Program* (VDP), which was to boost local content and encourage the Bumiputeras in parts and components manufacturing.[95] As the anchor firm, PROTON provided technical support and guidance to the local suppliers in order that the latter were able to meet its technical standard. However, because of its technological inferiority, PROTON also played the role of a matchmaker between local vendors and foreign firms with the right technology, helping reduce the search costs. The local suppliers are also

[93] World Trade Organization (2001), 76.
[94] US Department of Commerce, International Trade Administration, *ASEAN Auto Market Overview* International Trade Administration, 2, [database on-line]; available from http://www.ita.doc.gov/td/auto/asean402.pdf.
[95] Abdulsomad.

assisted by a number of governmental agencies, such as the Small and Medium Industries Corporation (SMIDEC) and Standards Research Institute of Malaysia (SIRIM), in technology acquisition and development.

Like Thailand, Malaysia does not impose technology transfer requirements on FDI inflow. Instead, it encourages FDI in high-technology sectors by offering investment incentives, normally in the form of higher foreign ownership permission. Nevertheless, the foreign partners are required to declare to the government certain technology-related information, i.e. the technological content, the training of local personnel, and the royalty's sum and method of payment.[96] Furthermore, tax incentives are given to investment projects that engage in industrial technological development, productivity upgrade, and training of personnel.[97]

5. PERFORMANCE COMPARISON

5.1 Competitiveness

A major goal of industrial policies in developing countries is to create and enhance competitiveness of either the entire economy or of particular sectors. There certainly are a number of indicators of industry competitiveness. However, due to limited availability of data and information, the following indicators are used in this thesis:

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[96] Arumugam Rajenthran, *Malaysia: An Overview of the Legal Framework for Foreign Direct Investment* (Singapore: Institute of Southeast Asian Studies, 2002), 11, [database on-line]; available from http://www.iseas.edu.sg/ef52002.pdf.

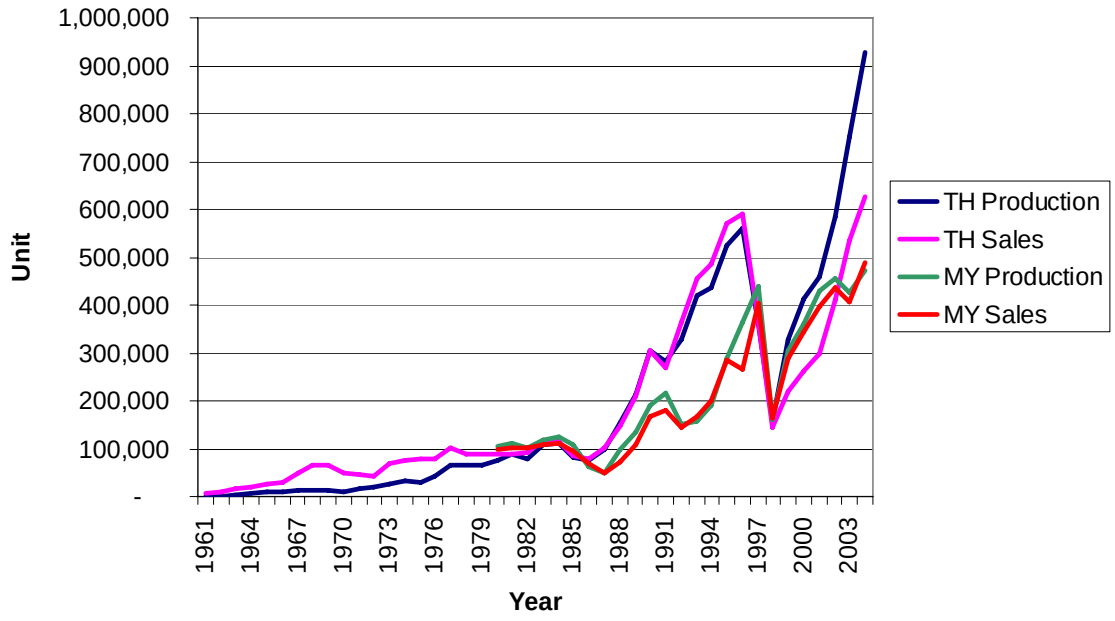
[97] "Investment Regime: Malaysia," in International Institute for Sustainable Development [database online]. May 28 [cited 2006]. Available from http://www.iisd.org/pdf/2004/investment_country_report_malaysia.pdf.

Table 9: Motor Vehicle Production in Malaysia and Thailand

YEAR	THAILAND		MALAYSIA	
	Production	Sales	Production	Sales
1961	525	6,860		
1962	1,184	8,338		
1963	3,445	15,399		
1964	7,267	21,069		
1965	10,095	24,698		
1966	10,647	30,819		
1967	12,818	49,431		
1968	13,988	64,086		
1969	12,140	65,445		
1970	10,667	49,266		
1971	15,014	44,603		
1972	19,385	44,183		
1973	27,434	70,018		
1974	32,463	73,855		
1975	30,991	78,117		
1976	41,062	78,341		
1977	65,874	101,323		
1978	66,069	88,267		
1979	66,739	88,859		
1980	73,985	89,201	104,227	97,262
1981	87,159	90,044	111,549	100,935
1982	77,284	91,186	100,971	102,447
1983	109,259	118,511	118,464	108,314
1984	111,037	113,549	124,037	109,915
1985	83,105	85,222	107,030	94,999
1986	74,162	78,454	61,838	67,847
1987	98,148	101,624	49,183	48,996
1988	154,183	146,480	97,931	71,592
1989	213,548	208,243	134,920	109,357
1990	304,843	304,062	191,580	165,861
1991	283,115	268,560	216,578	181,877
1992	327,958	362,987	152,019	145,084
1993	420,031	456,468	155,793	167,928
1994	435,061	485,678	191,185	200,435
1995	525,680	571,580	288,338	285,792
1996	559,428	589,126	365,121	264,788
1997	360,303	363,156	438,693	404,837
1998	158,130	144,065	161,456	163,851
1999	327,233	218,330	303,979	288,547
2000	411,721	262,189	360,105	343,173
2001	459,418	297,052	428,701	396,381
2002	584,951	409,362	456,822	434,954
2003	750,512	533,176	426,646	405,745
2004	928,081	625,345	471,975	487,605

Source: Thai Ministry of Industry; Thai Automotive Industry Association; Federation of Thai Industries; and Malaysian Automotive Association

Figure 1: Trends in Motor Vehicle Production and Sales in Malaysia and Thailand



(1) Industry Growth

Although neighbors, Malaysia's level of economic development is higher than Thailand's. Its gross national income (GNI) and GNI per capita for 2004 was $112.6 billion and $4,470[98], while those of Thailand were $158.8 billion and $2,550[99]. Malaysia's population is also a lot smaller than Thailand's: 25 million versus 62 million. The *level* comparisons of their production volumes and sales (which are normally used in works on the comparison between Thai and Malaysian automotive sectors), therefore, are not meaningful. Nevertheless, it is worth noting the relationship between domestic vehicle production and sales in each country. Figure 1 shows that, in general, production and sales volumes are quite close in both countries (refer to Table 9 for exact figures).

[98] "Malaysia at A Glance," in World Bank [database online]. [cited 2006]. Available from http://devdata.worldbank.org/AAG/mys_aag.pdf.
[99] "Thailand at A Glance," in World Bank [database online]. [cited 2006]. Available from http://devdata.worldbank.org/AAG/tha_aag.pdf.

This is in accordance to the *import-substituting* characteristic of the automotive industry in Thailand and Malaysia.

Neither is it meaningful to compare the *growth rates* of sales or production. The reason is both of them are affected by economic growth. Furthermore, Thailand's rate of motor vehicle ownership is much lower than Malaysia's. According to the United Nations Human Settlements Program (UNHABITAT), in 1995, Thailand had only 93 motor vehicles per 1,000 people, compared to 155 vehicles in Malaysia.[100] This implies that the Thai automotive market has more room to grow and it, thus, would not be surprising if Thailand's production and sales would grow faster.

What is interesting and, in my opinion, can be used as an indicator of competitiveness in this particular case is *production relative to sales* in each country. As pointed out above, the general trend is that domestic production and sales volumes are pretty close. Yet, we can observe a different phenomenon in Thailand since 1998. As illustrated in Figure 1, while Malaysia's production and sales volumes continue to follow the general trend after the peak of the Asian financial crisis in 1998, in Thailand, production has increasingly outpaced domestic sales. The Thai automotive sector has expanded more rapidly in this sense, positioning itself as the hub of automotive manufacturing in Southeast Asia. The financial crisis certainly forced the assemblers to shift their market-orientation, from depressed domestic markets to regional and international markets (more on exports below). But Malaysia was hit by the crisis, too. How can we explain the difference after

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[100] *Global Report on Human Settlements* (United Nations Human Settlements Program (UNHABITAT), 2001), [database on-line]; available from http://www.unhabitat.org/habrdd/Statannex_A-8.pdf.

1998? One possible explanation is the difference in excess capacity in the two countries. Thailand's production and sales dropped more sharply from 1996 to 1998 than Malaysia's: 71 per cent and 75 per cent versus 55 per cent and 38 per cent. This is not surprising considering that the Thai economy actually suffered from the financial crisis far more than the Malaysian economy did. Left with larger excess capacity, the Thai assemblers were under greater pressure to find alternative markets.

(2) Export Capability

The ultimate goal of *offensive* industrial policies, which are the case here, is to create local industries that are competitive and perhaps competitive enough to become export industries. The author, therefore, chooses *export capability* as another indicator of industry competitiveness.

Unlike in the case of production, the author sees a *level comparison* of exports as a meaningful indicator of export capability. This is because export volume depends in large part on competitiveness factors, such as marketing capability, product quality and cost/price competitiveness. Although demand for exports is another important factor, the author takes it as given in this particular case because Thailand and Malaysia share common export markets for their automotive products for the most part. The major export markets for Thai motor vehicles include United Kingdom, New Zealand, Australia, Indonesia, Singapore, and Philippines, while those for parts and components are Japan, United States, Malaysia, South Africa and Indonesia.[101] Most of Malaysia's

[101] Thailand Automotive Institute, *Sphawa Utsahagamyanyon Lae Chinsuanyanyon 2548 B.E. (January-December)* (Thailand Automotive Institute, 2006), [database on-line]; available from http://www.thaiauto.or.th/Research/document/status05/status0512.pdf.

vehicle exports go to the UK, the Middle East, Singapore, and Philippines.[102] As for parts and components exports, Malaysia's major markets are Europe, Japan and other ASEAN countries.[103] Hence, the author now turns to consider both countries' export values, as shown in Table 10. The Thai export value during 2000-2004 far exceeded the Malaysian.

Table 10: Malaysia's and Thailand's Exports of automotive products (US $ at current prices—million)

Year	Malaysia	% change	Thailand	% change
2000	307		2,401	
2001	254	**-17.2%**	2,658	**10.7%**
2002	328	**29.1%**	2,977	**12%**
2003	392	**19.5%**	3,972	**33.4%**
2004	554	**41.3%**	5,713	**43.8%**

Source: Trade Statistics, World Trade Organization.

Table 11: Thailand's automotive exports (million baht)

Year	CBUs	CBUs growth	Total parts	Parts growth	Total Amount	Total growth
1996	4,253.36		2,042.19		6,295.55	
1997	16,226.99	**282%**	4,495.85	**120%**	20,722.84	**229%**
1998	28,155.55	**74%**	5,984.78	**33%**	34,100.33	**65%**
1999	50,187.21	**78%**	9,918.32	**66%**	60,105.53	**76%**
2000	63,349.15	**26%**	19,896.31	**101%**	83,245.46	**38%**
2001	83,894.70	**32%**	23,215.90	**17%**	107,110.16	**29%**
2002	82,474.66	**-2%**	25,255.06	**9%**	107,729.72	**1%**
2003	102,208.06	**24%**	35,953.30	**42%**	138,161.39	**28%**
2004	149,232.80	**46%**	50,816.56	**41%**	202,079.90	**46%**

Source: Thai Automotive Institute

[102] Haryo Aswicahyono and Titik Anas, *Understanding the Patterns of Trade in the ASEAN Automotive Industry* (Jakarta: Center for Strategic and International Studies, 2004), 3, [database on-line]; available from http://www.csis.or.id/working_paper_file/18/wpe056.pdf, and United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), *Automotive Sector in Selected Countries of the ESCAP Region*, (New York: United Nations Publications, 2002), 77.

[103] Aswicahyono and Anas, 3.

Table 12: Malaysia's automotive exports (million ringgit)

Year	CBUs*	CBU growth	Component Parts	Parts growth	Total	Total growth
1996	498.8		192.9		691.7	
1997	849.8	**70.0%**	225.7	**17.0%**	1,075.5	**55.4%**
1998	1,246.3	**46.6%**	298.2	**32.1%**	1,544.5	**43.6%**
1999	626.7	**-49.7%**	396.6	**32.9%**	1,023.3	**-33.7%**
2000	378.3	**-39.6%**	465.9	**17.4%**	844.2	**-17.5%**

Note: CBUs include passenger cars and commercial vehicles.
Source: Malaysia's Department of Statistics

A look at growth rates is also useful. When comparing annual growth rates of the Thai and the Malaysian exports, as shown in Tables 10-12, we can observe a much stronger growth for Thailand, particularly at the time of the financial crisis and immediately afterwards. The Malaysian exports did not grow as fast and even shrank from 1998 to 2001. The author, hence, concludes that the Thai industry has more export capability than the Malaysian. This, in turn, helps answering the question about the difference in production relative to domestic sales posed earlier. And just to provide a sense of how export-oriented the Thai industry has become, Table 13 shows its export/production ratio during 2000-2004.

Table 13: Thailand's CBU exports and production (Unit)

Year	Export	Production	Export/Production
2000	152,836	411,721	37.1%
2001	175,299	459,418	38.1%
2002	181,471	584,951	31.0%
2003	235,022	750,512	31.3%
2004	332,053	928,081	35.7%

Source: Federation of Thai Industries

(3) Production Costs

A very important factor which contributes to industry growth and export capability is cost competitiveness. Table 14 shows the result of a study in the late 1990s conducted by Japan Automobile Manufacturers Association (JAMA), the Thai automotive industry

fared better than the Malaysian in terms of production costs, with the costs index of 85, compared to Malaysia's 87 and Japan's 100.[104]

Table 14: Cost Comparison of Automobile and other Supporting Industries

		Japan = 100
	Thailand	**Malaysia**
Auto parts	103	103
Presswork	68	71
Foundry	71	77
Forging	95	100
Die-casting	91	96
Die-making	66	73
Plastic	104	103
Rubber	83	74
Average	**85**	**87**

Source: Department of National Resources and Environment, Thailand

Cheaper labor cost in Thailand certainly accounts for such cost competitive advantage. According to data from the United Nations Industrial Development Organization (UNIDO), wages per employee in the motor vehicles sector was $4,680 in Thailand and $6,239 in Malaysia in 2000.[105] Nevertheless, labor cost is hardly the only determinant of production costs. Production capabilities also play a significant role, particularly in a technology-intensive industry like the automotive sector.

(4) Production Capabilities

Production capabilities can be said to be the most important indicator of competitiveness. It is by itself an indicator, and it also is an underpinning factor contributing to the other

[104] Pratana Vongpivat, "A National Innovation System Model: Industrial Development in Thailand" (Ph.D. diss., Tufts University, 2002), 212.

[105] "Malaysia Statistics," in United Nations Industrial Development Organization (UNIDO) [database online]. August 22 [cited 2006]. Available from http://www.unido.org/data/country/stats/statablee.cfm?c=MAL. and "Thailand: Statistics," in United Nations Industrial Development Organization (UNIDO) [database online]. August 22 [cited 2006]. Available from http://www.unido.org/data/country/stats/statablee.cfm?c=THA.

aspects of competitiveness mentioned earlier. The study by JAMA also found that the production capability of the Thai parts producers is higher than that of the Malaysian (Table 15).

Table 15: Relative Auto Parts Production Capability

	Thailand	Malaysia
Engine	High	Low
Engine parts	High	Low
Electronic parts	High	Standard
Gear system	Standard	Low
Decorative items	High	Low

Source: Department of National Resource and Environment, Thailand

A survey of technological capabilities of the Thai and Malaysian auto parts firms conducted by Abdulsomad in 1997 and 2001 found that unlike the leading Malaysian firms, the Thai firms have not relied on the original equipment system (OEM)[106]: the latter has developed minor change capability through product modification.[107] His sample consists of 42 Thai and 41 Malaysian firms. Table 16 summarizes his findings.

[106] In the OEM system, local auto parts firms receive assistance from foreign firms in building their investment and production capabilities. This assistance ranges from the installation and start-up of operations, purchasing and supplying of machinery and equipment, procurement, detailed engineering, basic engineering, manpower training, production management, production engineering and repair and maintenance. The system hinders local auto parts firms from building up their international brand images needed for high quality products. Under the system, local firms are confined to value-added related to assembly services, while the post-manufacturing value-added is limited.

[107] Kamaruding Abdulsomad, *Building Technological Capabilities of Local Auto Parts Firms Under Contrasting Industrial Policies: A Comparative Study of Malaysia and Thailand 1960-2000,* (Stockholm: Almqvist&Wiksell International, 2003).

Table 16: Summary of the Survey of Thai and Malaysian Parts Firms

Category	Malaysian Sample	Thai Sample
Progressive	• Consists of 1 medium-size wholly Bumiputera-owned, and 4 large and 5 medium-size owned by Bumi and non-Bumi. • Very strong technological capabilities under the OEM system.	• Consists of 9 large-size, wholly Thai-owned. • Very strong technological capabilities under the OEM system *and* very strong minor change capabilities through modification of new products.
Progressing	• Consists of 3 large, 9 medium and 1 small size Bumi-owned firms; 1 large Bumi+non-Bumi firm; and 5 large, 2 medium and 2 small size joint ventures (JVs). • The wholly Bumi-owned are very oriented towards domestic market, and thus have not built very strong marketing capabilities. • The JV firms have built very strong marketing capabilities. All have exported their products.	• Consists of 11 large and 4 medium wholly Thai-owned firms, and 7 large and 4 medium JVs. • Most have built very strong marketing capabilities; only 4/15 exclusively supply to domestic market. • The JV firms have built very strong marketing capabilities. All have exported their products.
Stagnant	• Consists of 3 medium and 1 small size Bumi-owned firms; 1 medium size Bumi+non-Bumi firm; and 2 medium size JVs. • All are domestic market-oriented.	• Consists of 3 medium size wholly Thai-owned firms and 2 large and 1 medium JVs. • 2 out of 3 Thai firms have built very strong marketing capabilities. • All JV firms are domestic market-oriented.
Declining	• Consists of 1 Bumi-owned small size firm • Has built investment and production capabilities without signing a technical assistance agreement with a foreign firm.	• Consists of one small wholly Thai-owned firm. • Has built investment and production capabilities without signing a technical assistance agreement with a foreign firm.

Source: Abdulsomad, 2003.

5.2 Welfare Effect

The automotive industry is often viewed as playing a major role in industrialization in developing countries, due to a large number of its related businesses. In other words, the governments expect the industry to be a driving force in enhancing economic welfare. Hence, the governments in these countries normally deploy *offensive* industrial policies to encourage production. The welfare effect of industrial development can be studied by using a number of proxies. Nevertheless, due to limited availability of facts and data, the author chooses to focus on the following aspects of the welfare effect:

(1) Employment

According to data from UNIDO (Table 17), the Thai motor vehicles sector employed 91,701 people in 2000, or 4 per cent of total manufacturing employment, while the Malaysian sector hired only 15,891 people, accounting for 1.2 per cent of its total manufacturing employment. Although a comparison of their employment on an absolute basis is not so meaningful because of the difference in the population and industry sizes, a comparison on a relative basis, i.e. the sector's employment as a share of total manufacturing employment, does provide a better picture.

Table 17: Employment in Motor Vehicles Sector, 2000

	# of employees	Share of total manufacturing employment (%)
THAILAND	91,701	4
MALAYSIA	15,891	1.2

Source: United Nations Industrial Development Organization (UNIDO)

(2) Vehicle Prices

Protective measures used as part of the industrial policies usually have a negative impact on consumers by raising the domestic prices of the targeted products. Both the Thai and Malaysian consumers have been affected in such a way. A comparison of the starting prices of certain models of vehicles in both countries reveals that the Malaysians face higher prices of the *non-national* cars (Table 18).

Table 18: Car Prices in Thailand and Malaysia, 2006

Model	Thailand		Malaysia
	Baht	Ringgit	Ringgit
Nissan X-Trail	1,330,000	120,909	136,030
Toyota Camry 2.0E	1,155,000	105,000	149,149
Honda Jazz i-DSI	539,000	49,000	94,563
Honda Civic 2.0E	1,020,000	92,727	127,465

Note: 1 Malaysian Ringgit = 11 Thai Baht (Approximate rate from the Bank of Thailand)
Source: Nissan, Toyota, and Honda corporate websites for Thailand and Malaysia.

Table 19: Car Prices in Malaysia, 1996

Manufacturer	Model	Displacement Volume (c.c.)	Price Range (Thousand Ringgit)
PROTON	Saturia	1298/1597	35.0 – 47.2
	Saga	1298	38.1 – 39.4
	Wira	1298/1800	46.0 – 73.0
	Perdana	1997	86.4 – 92.4
Toyota	Corolla	1332/1587	72.3 – 89.4
Honda	Civic	1493/1590	85.5 – 95.7
	Accord	1997/2156	108.7 – 141.9

Source: Daiwa Institute of Research

Although Malaysia's *national cars* have been priced lower than comparable foreign makes (Table 19), that does not necessarily translate into welfare gains. Industry analysts say that Malaysian consumers on average overpay by at least 15,000 ringgit per

PROTON car, partly because royalties paid to Mitsubishi, which is estimated to be around 16 billion ringgit over the past decade.[108]

6. STATE INTERVENTION & INDUSTRY PERFORMANCE

At this point, it has been established that the Malaysian government is more interventionist than the Thai government regarding the industrial policies towards the automotive sector in a sense that the former is engaged in the production activities while the latter merely plays the role of a facilitator. Further, the performance comparison in Section 5 shows that the Thai automotive sector is more competitive than the Malaysian, while the latter has a more negative impact on domestic consumers in terms of prices. Moreover, the industry's contribution to employment is greater in Thailand than in Malaysia. But why and how do the more interventionist industrial policies affect the industry performance?

First of all, automobile manufacturing is a very technology- and capital- intensive industry. To establish a national automobile manufacturer, the Malaysian government was required to make a large amount of investment outlay. The large financial involvement on the government's part increases its stake in the national car projects. This creates a motive for the government to assure the viability and profitability of the projects.

Besides the financial explanation, the government's ideology also played an important role. As pointed out earlier, the first national car project was born out of *nationalism*, of

[108] "Malaysia's PROTON Struggles on," in Asia Times [database online]. August 26 [cited 2006]. Available from http://www.atimes.com/atimes/Southeast_Asia/EH26Ae01.html.

the desire to escape the technological dependency on foreigners, and to raise income and living standards of the ethnic Malays. For the Malaysian government, *social benefits* are more important than the financial turnover of the projects. This is why, despite of their initial loss, the projects have always been supported by the Malaysian government.

The financial involvement and the ideological determination meant that the government's stake in the project is high. It is not surprising, therefore, that the Malaysian government wanted to assure the national cars a dominant market position. The *governmental entrepreneur*, unlike the private economic agents, has the power to tilt the competition to its advantage through the modification of laws and regulations. With subsidies and protection from the government, PROTON's and PERODUA's position in the domestic market became more solid and dominant. By 1998, the two companies together had about 80-per cent market share (Table 20).

Table 20: Malaysia's Motor Vehicles Market Share Distribution, 1998

Makes	Units	% Share
Audi	228	0.14
BMW	672	0.41
Citroen	329	0.20
Daihatsu	1,411	0.86
Ford	2,243	1.36
Honda	4,162	2.52
Isuzu	1,810	1.10
Mazda	415	0.25
M-Benz	1,481	0.90
Mitsubishi	1,394	0.85
Nissan	5,403	3.28
Perodua	**44,937**	**27.25**

Makes	Units	% Share
Peugeot	350	0.21
Proton	**87,489**	**53.06**
Suzuki	583	0.35
Toyota	9,214	5.59
Volvo	538	0.33
Others	2,243	1.36
TOTAL PASSENGER CARS	139,179	84.40
TOTAL COMMERCIAL VEHICLES	25,723	15.60
TOTAL	**164,902**	**100.00**

Source: AutoAsia

Such market share *crowding-out effect* of the national cars means that potentially profitable opportunities in the Malaysian market for *non-national* players are not as great as they would be otherwise. This is why Malaysia's domestic market is not as attractive as the Thai market and its auto industry relies mostly on the local capital.

Shielded from competition, the national cars have managed to survive even with their technological inferiority. The technological inferiority, in turn, means that the national cars need further protection from the government. This is precisely why liberalization of the automotive industry is very slow in Malaysia.

Less competition in the final products sector means less competition in the parts and components sector as well. The effect of the protection and privileges granted to the national cars are passed on to its suppliers. Not having to struggle and compete against advanced foreign makes on a level playing field, the Malaysian producers are under less pressure to develop their production capability. Malaysia' lower production capabilities,

in turn, raise the production costs and decrease the industry competitiveness. The results are low export capability and, thus, slow industry expansion.

The Thai government, on the contrary, does not have the stake in the industry because it merely plays the role of a facilitator. Even though the local producers are protected from import competition, they all compete on a level playing field in the domestic market. More domestic competition in the Thai market forces the local producers of both vehicles and parts/components to improve their production capabilities. Further, the Thai government, having no business and/or ideological interests in the industry, was able to start liberalize the automotive industry earlier than the Malaysian. This puts on even more pressure on the Thai producers even before the economy was hit by the financial crisis. The resulting higher production capabilities, in turn, decrease the production costs and raise the industry competitiveness. The rapid expansion of the industry that follows increasingly contributes to employment. At the same time, the robust competition in the domestic market means that consumers' welfare is less affected by the remaining measures of protection.

7. CONCLUSION

Although there are examples of successful industrial policies, leading to the emergence of world-class producers such as in Japan and South Korea, one should always be aware of the *costs* of industrial policies. That said, since industrial policies are still pursued by governments around the world, the author finds it necessary to study different *styles* of the policies and their impact on industry performance.

This thesis focuses on the policy options for developing countries in particular. The options studied here are the extent of the government's involvement in industrial development. The case study of the automotive sector in Thailand and Malaysia reveals that Malaysian state entrepreneurship, through the national car projects, hinders the development of the industry competitiveness. When the government gets involved in production, domestic competition is limited in order to protect its interests. Thus, the protected producers are not under pressure to upgrade their production capabilities. Further, it incurs greater burden on domestic consumers by raising domestic vehicle prices, yet creates less jobs than the Thai policy does.

On the contrary, by staying out of production activities, the Thai state is able to draw the line between public and private interests. It encourages competition in the domestic market and was able to introduce liberalization to the industry earlier than the Malaysian state. The local producers, hence, are forced to improve their products in order to survive and the industry thereby experiences rapid expansion, contributing greatly to employment in the country.

Some governments might argue that to escape the technological dependency, they have to take on the role of a producer because the governments are in the position to bargain with the multinational corporations. Yet, the thesis has shown that despite the government's pervasive intervention, the Malaysian automotive industry has not been able to break out of such dependency. Clearly, an enormous amount of national resources the Malaysian government has poured into the industry are not used in the most efficient way and thereby fail to produce the outcome the government has anticipated. Governments in

other developing countries can learn from the experience of the two countries and restrain themselves from getting *too* involved in industrial development.

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