

The Development of the Automobile Industry and the Road Ahead

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Abstract

This paper discusses the development of the automobile industry in Malaysia in terms of production and sales of motor vehicles. The Malaysian Automotive Policy has been the key impetus for the development of automobile industry leading to the dominance of the national car in the ASEAN motor vehicle market since 1998. However in 2003, Malaysia fell to second place after Thailand in the motor vehicle market of ASEAN. Therefore, a comparative study is undertaken to assess the development of automobile industry of both Malaysia and Thailand.

The development of the automobile industry in Malaysia

In the 1960s, the Malaysian government encouraged the setting up of automobile assembly plants in Malaysia. The main objectives were to reduce the imports of completely built-up units (CBU) that will help to stabilize balance of payments, to create employment and to provide the base for transfer of technology. In the 1970s, the “Local Content Policy” was promoted to enhance the development of local parts and components industry.

The historical moment for the automobile industry was in 1985 when the first national car, Proton Saga, made its debut. Proton's entry into the local automobile industry has restructured the industry from an assembly phase to manufacturing phase. In 1994, the second national car, Perodua Kancil made its debut.

The implementation of the national car projects was a step towards the development of an integrated motor vehicle

industry. The projects have contributed to the growth of the local component industry, as attested by the presence of 350 component manufacturers in Malaysia, of which 234 are Proton vendors and 135 are Perodua vendors. The national car projects had also attracted new car manufacturers to set up their manufacturing bases in Malaysia to penetrate the ASEAN markets, paving the way to support the nation's industrialization programme. Currently, there are four national car manufacturers, ten non-national vehicle assemblers and three composite body sports car makers in Malaysia. Renowned cars such as Mercedes, Honda, BMW, Ford, Volvo, Toyota and Hyundai are also being assembled locally.

So far the automobile industry has succeeded in fulfilling the government's industrialization efforts to enhance the country's economy. This is shown in Table 1. The electronic and transport equipment industries have been the main catalyst for the development of the manufacturing sector over the years in Malaysia. The table explains the percentage share of each of the 17 major groups of industries in the manufacturing sector at constant 1987 prices from 1995 to 2003.

Table 1 shows that from the year 1996 onwards, the transport equipment industry has been a prominent double-digit contributor to the manufacturing sector. However, there was a decline in the year 1998, as the economy was affected by the financial crisis. The production volume of the automobile industry was low in tandem with the economic situation. From 1999 onwards, the transport equipment industry resumed its double-digit contribution to the manufacturing sector. The transport equipment industry's achievement of higher value added over the years was due to a remarkable increase in the production volume of the automobile industry.

Table 1: Percentage share of manufacturing industries at constant 1987 prices, 1995–2003

Kind of Economic Activity	1995	1996	1997	1998	1999	2000	2001	2002 ^e	2003 ^p
Vegetable & animal oils & fats	2.7	2.3	2.8	3.1	4.4	3.8	4.3	4.3	4.5
Other food processing, beverages & tobacco	7.8	7.7	7.7	8.2	6.8	6.0	6.4	6.2	6.2
Textile, wearing apparel & leather products	5.1	4.4	4.4	4.5	3.8	3.5	3.4	3.1	2.9
Wood products including furniture	6.7	6.6	6.2	6.5	4.4	4.4	4.4	3.8	3.5
Paper & paper products, printing & publishing	4.2	3.8	3.7	4.0	3.5	3.4	3.4	3.4	3.5
Industrial chemicals including fertilizers	5.7	5.3	5.2	6.1	5.9	5.6	5.8	5.7	6.2
Other chemical & plastic products	5.8	5.0	5.2	5.6	4.7	4.4	4.7	4.7	5.3
Petroleum products including crude oil refineries & coal	5.5	6.5	6.3	6.9	7.3	6.7	7.7	6.9	6.6
Rubber processing & products	3.4	2.9	2.7	3.4	3.1	2.7	3.0	3.0	3.2
Non-metallic mineral products	6.6	7.1	6.9	6.4	5.1	5.0	5.2	5.1	5.1
Basic metal industry	1.1	2.1	1.9	1.4	1.0	0.9	1.0	0.9	1.0
Metal Products	3.4	3.7	4.3	4.3	4.3	4.3	3.9	3.7	3.9
Manufacture of machinery except electrical	5.9	6.4	5.9	5.3	3.8	4.6	5.1	5.2	5.1
Electronics	22.8	21.5	20.8	23.6	26.9	29.5	23.6	26.1	26.8
Electrical machinery	1.8	2.1	2.1	1.8	2.1	2.6	2.8	1.9	1.5
Transport equipment	9.2	10.4	11.6	6.6	11.1	11.0	13.5	14.2	12.7
Other manufacture	2.3	2.3	2.2	2.3	1.8	1.7	1.8	1.9	1.8

Source: Department of Statistics, Malaysia

Note: e - estimated
p - preliminary

Table 2: Percentage share of value-added of sub-industries in transport equipment industry at constant 1987 prices, 1991-2002

Year	Shipbuilding and boat-building repairing	Manufacture of motor vehicle bodies	Manufacture and assembly of motor vehicles	Manufacture of motor vehicle parts and accessories	Manufacture and assembly of bicycles, tricycles, trishaws and their parts and accessories	Manufacture and assembly of motorcycles and scooters
1991	18.0	3.0	46.2	18.9	1.5	9.7
1992	16.1	3.3	39.8	21.2	3.8	12.3
1993	19.6	3.8	36.7	20.3	6.0	10.7
1994	13.9	4.1	31.5	24.1	4.5	8.3
1995	15.9	3.2	34.8	28.5	5.0	10.2
1996	13.7	3.4	49.0	20.4	3.1	9.0
1997	7.1	3.0	55.7	20.1	2.2	10.5
1998	8.3	3.9	42.4	32.3	3.0	8.6
1999	11.7	2.6	37.1	28.3	6.9	9.9
2000	5.7	3.2	39.9	33.2	6.9	6.6
2001	6.6	1.7	49.8	32.3	2.5	3.6
2002 ^e	8.2	1.8	47.9	32.1	2.3	3.5

Source: Department of Statistics, Malaysia

Note: e - estimated

Table 2 shows the sub-industries within the transport equipment industry. The major industries are the ship and boat building and repairing, manufacture of motor vehicle bodies, manufacture of transport equipment, **manufacture and assembly of motor vehicle (automobile industry)**, manufacture of motor vehicles parts and accessories, manufacture and assembly of bicycles, tricycles, trishaws and their parts and accessories and manufacture and assembly of motorcycles and scooters.

From 1991 and thereafter, the manufacture and assembly of motor vehicle industry is the major contributor to the growth of the transport equipment industry, whereby Proton and Perodua are the major performers. It is noted that, the manufacture of motor parts and components industry played a key role in the development of the transport equipment industry. This is due to the high demand by the foreign markets. Among the 350 component manufacturers in Malaysia, 40 of them are presently exporting their components to foreign markets.

Table 3: Exports of manufacture of motor parts and components, 1999-2003

Year	RM Million
1999	440.1
2000	324.3
2001	533.5
2002	724.8
2003	864.1

Source: Department of Statistics,
Malaysia

Table 3 shows the export value of motor parts and components. The export value in 2003 doubled the value of 1999 to record an increase of 96.3%.

Malaysian Automotive Policy

The Malaysian Automotive Policy has been the key factor in making the national automobile industry a success. New policies were implemented to protect the national automobile industry. The protection by the government enabled the national cars dominate the local automobile market. The price of the first national car was 20 to 30 per cent cheaper than similar capacity cars manufactured by other assemblers. In 1987, the 1,300cc Proton Saga was priced at RM21,000; while similar cars in the 1,300cc cars ranged from RM28,000 to RM29,000. Proton's market share increased steadily from 47 per cent in 1986 to 65 per cent in 1987 and 73 per cent in 1988 (Jomo K.S., 2003). In 1995, the national cars accounted for 78.7 per cent of the total passenger car market in Malaysia, with Proton accounting 61.3 per cent and Perodua 17.4 per cent respectively.

Among the new policies implemented by the government were:

High import and excise duties were imposed on CBU vehicles, with the aim to decrease the number of imported CBU cars. Thus, some of the CBU vehicle prices skyrocketed to almost 300 per cent, which was not within the purchasing power of most Malaysians. Import and excise duties were also imposed on completely knocked down (CKD) units, which were assembled locally. The import and excise duties on CBUs and CKDs prior to 1st January 2004 are shown in Tables 4 and 5.

Table 4: Import and excise duties on automotive vehicles

Type/Engine capacity	CBU Vehicles			
	ASEAN (CEPT)		NON-ASEAN (MFN)	
	Import Duty (ID)	Excise Duty (ED)	Import Duty (ID)	Excise Duty (ED)
<u>Passenger Cars</u>				
<1800	140	0	140	0
1800 - <2000	170	0	170	0
2000 - <2500	200	0	200	0
2500 - <3000	250	0	250	0
=>3000	300	0	300	0
<u>MPV/Van</u>				
<1600	60	0	60	0
1600 - <1800	60	0	60	0
1800 - <2000	80	0	80	0
2000 - <2500	150	0	150	0
2800 - <3000	180	0	180	0
=>3000	200	0	200	0
<u>4WD</u>				
<1800	60	0	60	0
1800 - <2000	80	0	80	0
2000 - <2500	150	0	150	0
2800 - <3000	180	0	180	0
=>3000	200	0	200	0

Source: Malaysian Industrial Development Authority (MIDA)

Table 5: Import and excise duties on automotive vehicles

CKD VEHICLES				
Type/Engine capacity	ASEAN (CEPT)		NON-ASEAN (MFN)	
	Import Duty (ID)	Excise Duty (ED)	Import Duty (ID)	Excise Duty (ED)
<u>Passenger Cars</u>				
<1800	42	55*	42	55*
1800 - <2000	42	55*	42	55*
2000 - <2500	60	55*	60	55*
2500 - <3000	70	55*	70	55*
=>3000	80	55*	80	55*
<u>MPV/Van</u>				
<1600	5	30	5	30
1600 - <1800	10	30	10	30
1800 - <2000	20	30	20	30
2000 - <2500	30	30	30	30
2800 - <3000	40	30	40	30
=>3000	40	30	40	30
<u>4WD</u>				
<1800	10	45	10	45
1800 - <2000	20	45	20	45
2000 - <2500	30	45	30	45
2800 - <3000	40	45	40	45
=>3000	40	45	40	45

Source: Malaysian Industrial Development Authority (MIDA)

Notes: * Conversion from progressive to a flat rate

Table 5 shows the import and excise duties of CBU and CKD passenger cars and commercial vehicles. The main competitor for the national vehicles is the CBU passenger car with the engine capacity of below 1,800cc. The import duties on these cars are 140 per cent, which gives the national car the advantage of being more affordable than the imported CBU passenger cars.

The other policy implemented by the government was the Mandatory Deleted Item Programme. This policy prohibits car assemblers and franchise holders from importing all components listed as 'mandatory' for use in local assembly (Jean Teh, 2003). However, effective 1st January 2004, this policy was removed.

The government also introduced the Local Material Content Policy (LMCP) on 1st January 1992. The targeted percentage of local components for all range of motor vehicles was 45 to 60 per cent. The purpose of this policy was to increase the usage of locally manufactured components in the automobile industry and thus, expedites the development of the local motor component industry. This policy was removed effective 1st January 2004.

In order to curb extensive CBU imports, the government also implemented an Approval Permit policy. This permit was required for imports of motor vehicles. Thus, it limits the number of CBU units in the market (Jean Teh, 2003).

The advantages of high import duty on automobile industry in Malaysia

Implementation of these policies has contributed significantly in the development of local automobile industry. High import duty on non-national cars has increased the demand for national cars that led to higher production of national cars over the years.

Table 6: Production of motor vehicles in Malaysia (units), 1995-2003

Year	PROTON	PERODUA	* KIA	Total National Cars	Non-National Cars	Total Passenger Cars	Commercial Vehicles	Total Vehicle Production
1995	141,192	40,386	-	181,578		181,578	26,404	207,982
1996	177,016	49,313	-	226,329		226,329	34,641	260,970
1997	185,021	75,158	-	260,179		260,179	147,168	407,347
1998	85,897	44,119	-	130,017	1,299	131,316	29,554	160,870
1999	152,091	80,666	-	232,758	2,486	235,243	46,580	281,823
2000	188,604	101,618	-	290,222	20,002	311,224	48,881	360,105
2001	233,297	115,677	-	348,974	28,121	377,095	51,606	428,701
2002	232,181	132,763	-	364,944	31,665	396,609	60,213	456,822
2003	165,018	130,680	18,450	314,148	46,374	360,522	66,124	426,646

Source: Malaysia Automotive Association (MAA)

*KIA have been considered as national cars since 2003

Table 7: Annual change of production of motor vehicles in Malaysia (%), 1996-2003

Year	PROTON	PERODUA	* KIA	Total National Cars	Non-National Cars	Total Passenger Cars	Commercial Vehicles	Total Vehicle Production
1996	25.4	22.1	-	24.6	-	24.6	31.2	25.5
1997	4.5	52.4	-	15.0	-	15.0	324.8	56.1
1998	-53.6	-41.3	-	-50.0	-	-49.5	-79.9	-60.5
1999	77.1	82.8	-	79.0	91.4	79.1	57.6	75.2
2000	24.0	26.0	-	24.7	744.9	32.3	4.9	27.8
2001	23.7	13.8	-	20.2	33.9	21.2	5.6	19.0
2002	-0.5	14.8	-	4.6	12.6	5.2	16.7	6.6
2003	-28.9	-1.6	-	-13.9	46.5	-9.1	9.8	-6.6

Source: Malaysia Automotive Association (MAA)

*KIA have been considered as national cars since 2003

Table 6 shows the annual production of national cars, non-national cars and commercial vehicles and Table 7 explains the annual change in production of the motor vehicles in Malaysia. The production of passenger cars and the total vehicle production have been on an increasing trend, increasing from 207,982 in 1995 to 456,822 units in 2002. In 1998, however, total vehicle production in Malaysia dropped by 60.5 per cent, while production of national cars contracted by 50 per cent due to the economic recession. However, when the economy began to recover in 1999, total vehicle production increased to 75.2 per cent while production of national cars surged 79.0 per cent. The production volume in the market continued to grow in the subsequent years until 2003 when a sudden drop of 6.6 per cent was recorded. Proton's production decreased by 28.9 per cent and Perodua by 1.6 per cent. The reverse trend was attributed to consumers withholding their purchases due to imminent introduction of new models by Proton and in anticipation of lower prices with the coming of AFTA in 2005 (Bumiputra Commerce, 2003).

Higher import duty has also spurred the vehicle sales in Malaysia. Tables 8 and 9 show the sales of motor vehicles in Malaysia and their market share.

Passenger cars accounted for more than 80 per cent of the total vehicle sales in Malaysia. Passenger car sales have been on an increasing trend from 1995 to 1997. However in 1998, it recorded a contraction of 55 per cent whereby Proton's sales also declined by 56 per cent. The effect of the regional financial crisis in 1998 had led to consumers holding back their consumption. However, sales of motor vehicles bounced back in 1999 and the subsequent years due to the economic recovery and lower interest offered by local banks, thus boosting consumer sentiments (Bumiputra Commerce, 2003). In 2003, the sales of motor vehicles declined by 6.7 per cent whereby the national cars recorded negative sales of 17.3 per cent. In contrast the non-national cars recorded a positive sales of 35.7 per cent.

Table 8: Sales of motor vehicles in Malaysia (units), 1995-2003

Year	PROTON	PERODUA	* KIA	Total National Cars	Non-National Cars	Total Passenger Cars	Commercial Vehicles	Total Vehicle Sales
1995	140,647	39,906	-	180,553	49,073	229,626	56,166	285,792
1996	176,100	46,941	-	223,041	58,289	281,330	83,458	364,788
1997	196,806	58,255	-	255,061	59,338	314,399	90,438	404,837
1998	87,489	38,921	-	126,410	15,784	142,194	21,657	163,851
1999	155,720	66,499	-	222,219	33,659	255,878	32,669	288,547
2000	178,960	82,484	-	261,444	35,113	296,557	46,616	343,173
2001	208,746	94,476	-	303,222	40,012	343,234	53,147	396,381
2002	214,373	114,265	-	328,638	46,720	375,358	59,596	434,954
2003	155,420	111,798	4,492	271,710	63,383	335,093	70,652	405,745

Source: Malaysia Automotive Association (MAA)

*KIA have been considered as national cars since 2003

Table 9: Market share of sales of motor vehicles in Malaysia (%), 1995-2003

Year	PROTON	PERODUA	* KIA	Total National Cars	Non-National Cars	Total Passenger Cars	Commercial Vehicles
1995	49.2	14.0	0.0	63.2	17.2	80.3	19.7
1996	48.3	12.9	0.0	61.1	16.0	77.1	22.9
1997	48.6	14.4	0.0	63.0	14.7	77.7	22.3
1998	53.4	23.8	0.0	77.1	9.6	86.8	13.2
1999	54.0	23.0	0.0	77.0	11.7	88.7	11.3
2000	52.1	24.0	0.0	76.2	10.2	86.4	13.6
2001	52.7	23.8	0.0	76.5	10.1	86.6	13.4
2002	49.3	26.3	0.0	75.6	10.7	86.3	13.7
2003	38.3	27.6	1.1	67.0	15.6	82.6	17.4

Source: Malaysia Automotive Association (MAA)

*KIA have been considered as national cars since 2003

In terms of market share of motor vehicle sales in Malaysia, national cars' dominance has decreased to 67.0 per cent compared to non-national cars which managed to grab a higher percentage of 15.6 per cent. The decline in sales of national cars in 2003 is mainly attributed to consumers' expectation that prices of national cars will be lower as the opening of the domestic market under the AFTA agreement drew nearer. The absence of new models by Proton is also another reason for the decline in sales. At the same time, the non-national car producers had also begun to sell their new models at more attractive prices (Bumiputra Commerce, 2003). The main competitors for national vehicles are renowned brands such as Toyota, Honda and Hyundai. Other than their attractive prices, these vehicles have also won the hearts of consumers through their innovative and sophisticated models.

Malaysia's protectionist policies have created new players and have given component parts manufacturers the scale of production necessary to become viable. Some of these vendors have also ventured into original equipment manufacturing (OEM) activities for other automotive makers and started exporting their products. Another significant feature is the creation of second and third-tier subcontractors and suppliers (Tamar Gabilaia, 2001).

In terms of employment, in 2003, the automobile industry hired 16,851 employees in which total number of workers of Proton are 6,101 while Perodua employed 5,800. The total employment created by the manufacture of parts and accessories industry was 23,391. The national car has also contributed to human resource development in terms of training. The national car project required that all Proton staff be trained according to Japanese standards and procedures. The employees have received training in various aspects of car manufacturing such as production control, welding, painting, trim and final maintenance, tooling, stamping engineering and quality control. The Proton workforce has

been trained in Japan as well as in Malaysia to develop skilled and semi-skilled workers.

The disadvantages of high import duty on automotive industry in Malaysia

The automotive policies gave rise to obstacles to international trade because they distort markets and result in welfare losses to consumers. They deprive consumers of affordable cars from a wide variety of quality imported models. The local content programme and high import duty on CBUs and CKD units undoubtedly lead to high production costs which are transferred to consumers in the form of higher prices. Prices of motor vehicles have increased steadily since the launch of the first national car and are now beyond the reach of a sizeable proportion of the population. Therefore, consumers viewed that the loss in static welfare outweighs any dynamics gains to the industry (Tamar Gabilaia, 2001). Many consumers claim that protection forces them to accept poorer quality national cars while some complain of less choice as a consequence (Jomo K.S., 2003). By permitting the national carmakers to monopolize the local vehicle market, it has promoted inefficiencies among the local producers in terms of production, quality, insufficient research and development programme, diseconomy of scale, as they were more complacent of their performance in the local market than the global market.

The challenges of the Malaysian automobile industry

In 1992, members of the ASEAN countries signed an ASEAN Free Trade Area (AFTA) agreement. Under AFTA, the original members, that is Malaysia, Singapore, Brunei, Thailand, Indonesia and Philippines agreed to lower tariffs to a maximum of 5 per cent on products by the year of 2003. These products should have 40 per cent of ASEAN content. The objective of AFTA is to increase ASEAN's competitive edge as a production base geared for world market which will be realized through the elimination of intra-regional tariffs and

non-tariffs barriers, allowing manufacturing sectors to become more efficient and competitive. With the larger market size, investors can enjoy economies of scales in production. Foreign direct investment will be attracted into the region, which will in turn stimulate growth of supporting industries in the region.

Nevertheless, Malaysia requested an extension of two years in opening its auto industry market. The reasons given by Malaysia were that the national auto industry has not fully recovered from the economic crisis in 1998 and also the national auto industry is still at an infant stage, which need more time to compete globally. The government hopes that the delay in the enforcement of the AFTA from 2003 to 2005, amidst a rebounding economy and increasing demand for cars, will help the domestic auto industry boost its economies of scale, market share and profitability. It is also hoped that it would help enhance further the local content in the Malaysian made cars so that industry linkages are strengthened and auto parts manufacturers are more profitable. Moreover, industry players will also have more time to address future capital funding requirements and figure out what their market niche would be in the face of the impending liberalization (Bumiputra Commerce, 2003).

The issue to be considered here is whether the national automobile industry can sustain its impressive performance in the subsequent years especially with the implementation of AFTA trade liberalization in 2005? The main challenge for the Malaysia's automobile industry is the competition from the Thailand's automobile industry in the areas of production, sales, technology and product standards. Furthermore, in global market, Thailand ranks as the 15th largest vehicle manufacturer in the world (Michael Shain & David Edmonds, 2004). In 2003, Thailand ranked the top position of ASEAN motor vehicle markets capturing 41.3 per cent and Malaysia was in the second place with a share of 31.3 per cent.

A report on ASEAN automotive industry by Barclay Consultants commented that as far as the ASEAN automotive sector is concerned, AFTA would create a more competitive environment through the reduction and eventual elimination of intra-regional tariffs and non-tariff barriers. This has the effect of creating a regional market where consumers will source automotive products from the more efficient producers in ASEAN. Emerging/start-up/less competitive firms will face the crunch, as they can no longer operate under protective governmental policies. With the expertise, experience, brand acceptance and economies of scale, which the larger and more established players enjoy, the smaller/less competitive players may not only face depletion in market share, but also their survival.

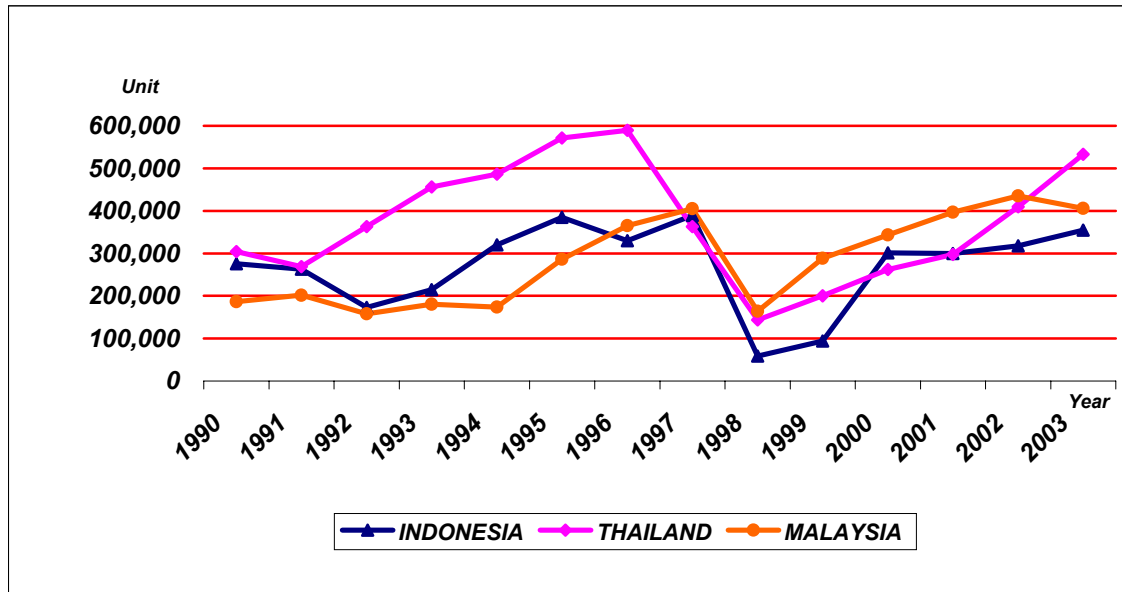
As illustrated in Table 10, prior to the 1997 financial crisis, Thailand's automobile industry dominated the ASEAN motor vehicle market. However, after the crisis the demand and supply for automobile plunged drastically due to the depreciation of the Baht currency in the world market. From 1997 to 2002, Malaysia was the largest vehicle market, followed by Thailand, Philippines and Indonesia. In 2002, Malaysia captured 32.1 per cent of ASEAN motor vehicle market. Meanwhile in 2003, Thailand automobile industry rebounded by recapturing the top place of the ASEAN vehicle market. The well-respected industry analyst, Automotive Resources Asia claims that by 2006 Thailand will have 48 per cent share of the total number of vehicles produced in ASEAN. They also predict domestic sales of some 440,000 units and exports of half a million.

Table 10: ASEAN top three largest vehicles market sales, 1990-2003

Year	Total Sales	Indonesia	Percentage Share	Thailand	Percentage Share	Malaysia	Percentage Share
1990	765,932	275,471	36.0	304,071	39.7	186,390	24.3
1991	733,114	263,073	35.9	268,560	36.6	201,481	27.5
1992	693,991	172,898	24.9	362,987	52.3	158,106	22.8
1993	851,120	214,295	25.2	456,458	53.6	180,367	21.2
1994	980,217	320,000	32.6	486,217	49.6	174,000	17.8
1995	1,242,372	385,000	31.0	571,580	46.0	285,792	23.0
1996	1,283,914	330,000	25.7	589,126	45.9	364,788	28.4
1997	1,156,717	388,880	33.6	363,000	31.4	404,837	35.0
1998	366,351	58,500	16.0	144,000	39.3	163,851	44.7
1999	582,570	94,023	16.1	200,000	34.3	288,547	49.5
2000	906,309	300,947	33.2	262,189	28.9	343,173	37.9
2001	993,104	299,671	30.2	297,052	29.9	396,381	39.9
2002	1,162,037	317,721	27.3	409,362	35.2	434,954	37.4
2003	1,292,539	354,353	27.4	533,176	41.3	405,745	31.3

Source: Malaysian Industrial Development Authority (MIDA)

Figure 1: ASEAN top three largest vehicles market sales, 1990-2003



Source: Malaysian Industrial Development Authority (MIDA)

The automobile industry in Thailand

Thailand's automobile industry is a targeted industry in the country's industrialization policy. It is the first industry that the Ministry of Industry has played an important role in stimulating its development since 1969. The industry has also become increasingly important to Thailand's economic performance. Currently the industry contributes approximately 16 per cent of the total value of manufactured goods and also it ranks as one of Thailand's top 10 exports. At present, the automobile industry is Thailand's third largest industry, employing an estimated total workforce of about 200,000 employees. Thailand is recognized as one of the countries with a comparative advantage in having a large pool of low cost labour given the relatively high level of labour skill.

The automobile industry has benefited from foreign capital. The pull factors are not only cheap labour and good infrastructure, but also the Thailand government's supporting policies. Thailand started out in the direction of free trade through tax exemptions on imports of raw materials and machinery to foreign companies since 1987. As a result, large amount of foreign direct investments flowed to Thailand, especially from Japanese investors. The Japanese investors that relocated their production sites to Thailand were Toyota, Isuzu, Nissan, Mitsubishi, Honda and Mazda (Sasiwimon Warunsiri, 2003).

The reduction of automotive tariffs to 0-5 per cent and the transfer of all products from the temporary exclusion list to the inclusion list on January 1, 2000, in accordance with the AFTA agreement, have increased Thailand's potential to become the auto production "regional hub" for both assembly and exports in Southeast Asia. Since the tariff reduction on car components and finished vehicles was introduced on January 1, 2002, it has attracted new investors such as the European investors, who see Thailand as a base for production and supply in the ASEAN market. In recent years, Daimler Chrysler (Mercedes-Benz), General Motors, Ford and BMW

have also increased their investments to gain control on local manufacturing and marketing operations.

Ten of the fifteen biggest auto manufacturers in the world have their operating plants in Thailand, making Thailand the “Detroit of Asia” due to its high production capacity. Thailand has the biggest automotive assembling capacity among the ASEAN countries, as presented in Table 11. This combined with viable internal market size, market growth potential, stable political conditions, liberal trade and investment policy, absence of ethnic conflict and “national car programme” has made Thailand as the one of the most attractive countries for automotive investments (Ministry of Industry, Thailand, 2002). In addition, the Thai government also promotes foreign investment through generous incentives including tax holidays, relaxation of foreign ownership rules and subsidies to export-oriented companies to entice foreign investment into the country.

To turn Thailand into the much hyped Detroit of Asia, the country needs to produce one million vehicles in 2006, of which 600,000 units will be sold domestically and the remaining 400,000 units are for export market. Nevertheless, analysts in the automotive industry are confident that with the current production trend, Thailand is capable of achieving the targeted production units. Implementation of AFTA has created new investments in the country and also increased the production volumes of the Thailand’s automotive industry.

Table 11: Thailand: Production capacity of automotive industry in 2002 (excluding motorcycles)

Rank	Assembly Plants	Units	Production Capacity Share (%)
1	Toyota Motor (Thailand) Co., Ltd.	240,000	22.4
2	MMC Sitipol Co., Ltd.	190,200	17.7
3	Isuzu Motors (Thailand) Co., Ltd.	180,000	16.8
4	Auto Alliance (Thailand) Co., Ltd.	135,000	12.6
5	Siam Nissan	124,000	11.5
6	Honda Automotive Co., Ltd.	60,000	5.6
7	General Motors (Thailand) Co., Ltd.	40,000	3.7
8	Hino Motors (Thailand) Co., Ltd.	28,800	2.7
9	Bangchan General Assembly Co., Ltd.	20,000	1.9
10	Thonburi Automotive Assembly Co., Ltd.	18,100	1.7
11	Y.M.C. Assembly Co., Ltd.	12,000	1.1
12	BMW Manufacturing (Thailand) Co., Ltd.	10,000	0.9
13	Thai Rung Union Car Public (Thailand) Co., Ltd.	9,600	0.9
14	Thai-Swedish Assembly Co., Ltd.	6,000	0.6
Total		1,073,700	100.0

Source: The Federation of Thai Industries

**Table 12: Vehicle production in Thailand
(units), 1993-2003**

Year	Total Production	Passenger Cars	Commercial Vehicles
1993	420,071	144,449	275,622
1994	434,001	109,830	324,171
1995	525,680	127,640	398,040
1996	559,428	138,579	420,849
1997	360,303	112,041	248,262
1998	158,130	32,007	126,122
1999	327,233	72,716	254,517
2000	411,721	97,129	314,592
2001	459,418	156,066	303,352
2002	584,951	169,321	415,630
2003	750,512	251,684	498,828

Source: The Thai Automotive Industry Association

Table 12 shows the total production of vehicles in Thailand from 1993 to 2003. It has been a positive trend of production volume from 1993 to 1996. In 1995, the industry recorded an increase of 21.1 per cent and in 1996 an increase of 6.4 per cent. On the other hand, in 1997 and 1998, production dropped by 35.6 per cent and 56.1 per cent respectively. This was due to the financial crisis that affected the entire region. By reason of economic improvement in addition to the government's effort and private sector business strategy adaptation (Ministry of Industry, Thailand, 2002), the automotive industry in 1999 had expanded noticeably when

compared to that of the crisis in 1998. Production in 1999 was 327,233 units, an increase of 106.9 per cent. A positive trend was also recorded for subsequent years.

Table 13: Sales volume of the Thailand's automotive industry (units), 1993-2003

Year	Total Sale	Passenger Cars	Commercial Vehicles
1993	456,461	174,162	282,299
1994	485,678	155,670	330,008
1995	571,580	163,371	408,209
1996	589,126	172,730	416,396
1997	363,156	132,060	231,096
1998	144,065	43,600	97,765
1999	218,330	66,858	151,472
2000	262,189	83,106	179,083
2001	296,985	104,502	192,483
2002	409,362	126,353	283,009
2003	533,176	179,005	354,171

Source: The Thai Automotive Industry Association

Table 13 shows the sales volume of Thailand's automotive industry. From 1993 to 1996, the sales volume showed an encouraging trend. In 1998, sales fell to their lowest level in decades recording a decline of 60.3 per cent. In 2002, the automotive industry staged a dramatic recovery with an upbeat sales performance of 37.8 per cent followed by 30.2 per cent in 2003.

International auto giants have established their Thai manufacturing plants as strategic regional bases for their

businesses in view of crucial advantages of Thailand being the largest source of quality auto parts in Southeast Asia. To reach the economies of scale, not only do they increase their production to serve domestic market, but also exports. Thai automotive exporters have also enjoyed advantages deriving from the devaluation of Baht currency. This has led to a strong increase in export values of vehicles. Major CBU car export markets were Belgium, Japan and Australia (Ministry of Industry, Thailand, 2002).

Table 14: CBU exports of Thailand's automotive industry, 1996-2003

Year	Total Amount (Million Baht)	CBU Unit
1996	4,253	14,020
1997	16,227	42,218
1998	28,126	67,857
1999	50,187	125,702
2000	63,349	152,835
2001	83,895	175,299
2002	82,475	180,554
2003	102,208	235,022

Source: The Thai Automotive Industry Association

Table 14 presents the CBU exports of Thailand's automotive industry. Exports in 1996 was 14,020 units only compared to 125,702 units in 1999. This is in line with the government's supportive incentives, which encouraged foreign car makers to participate actively in Thailand's automotive industry. Therefore, the export market had expanded by 1,150.3 per cent in 2001 compared to 1996.

The strength of Thailand's automobile industry

Despite the crisis in 1997, the automobile industry in Thailand has bounced back. In fact, the country is the largest auto assembler in Southeast Asia. With the overwhelming response from foreign investors who are interested to have a share of the 600,000 consumer market. The number of foreign assemblers in Thailand had increased. Currently, there are fourteen vehicle assemblers in Thailand with a total production capacity of 1.1 million units per year compared to 891,000 units per year in Malaysia.

Other than the higher production capacity, the annual total production of the automobile industry in Thailand is higher than Malaysia. In 2002, Thailand's production was higher by 128,129 units compared to Malaysia. In 2003, the production was even higher by 323,866 units in 2003 (Table 6 and Table 12). Higher production was supported by higher demand in the domestic and overseas market. In 2003, the sales volume of the domestic market in Thailand had increased by 30.2 per cent while the vehicle sales in Malaysia declined by 6.7 per cent. The sales in the regional market has also been proliferating whereby the total exports of CBU in 2002 and 2003 was 180,554 and 235,022 units respectively, while Malaysia's CBU exports was a meagre 12,153 units in 2002 and 6,082 units in 2003. Apart from that, in 2001, Thailand's revenue from exports of motor vehicles and automotive parts was RM9.6 billion (95,644 Baht) while Malaysia's exports was only RM730.1 million.

The automobile industry in Thailand has the benefit of economies of scale due to higher production and sales volume of passenger cars and automotive parts compared to Malaysia. Higher economies of scales enable the automotive industry to produce its products at a lower cost and market them at a cheaper price than Malaysia. There are approximately 1,700 automotive parts suppliers in Thailand whereby their production volume has always correlated to that of the automobile industry enabling them to enjoy economies

of scales (Ministry of Industry, Thailand, 2002). Hence, the price of auto parts are also much cheaper, thus facilitating the production of cheaper vehicles than their counterparts in the region. The industry is also provided with skilled workers with low wages, which in turn helps to lower cost of manufacturing automobile.

The Japan Automobile Manufacturers Association (JAMA) has rated the quality of automotive parts in Thailand as the best among the ASEAN countries and has been one of the key reasons for international assemblers to establish their ASEAN regional production hub in Thailand. Thus, renowned carmakers have invested in Thailand, which offers the advantage in terms of technology transfer from parent company to the joint venture company. The joint venture company also benefits in terms of financial support from the parent company as well as high technology machines, research activities and development programmes to continuously improve products and production quality (Ministry of Industry, Thailand, 2002). This assists the industry to produce stylish, classy, and groundbreaking products in the market. Therefore, it could maintain its soaring demand in the region. In addition, some local parts manufacturers had technical assistance agreement with foreign companies. Foreign companies offer technical support in which the agreement will be made on a product-by-product basis (Ministry of Industry, Thailand, 2002).

The tariff reduction programme has increased foreign investments in the automobile industry in Thailand. Ford intends to make Thailand its regional headquarters for Asia. In addition to Ford's proclamation, General Motors plans to triple its production volume and Mitsubishi indicates that they will double capacity of one-ton pickups from 90,000 to 200,000 per annum. This leads to an investment of US\$993 million, which will make Thailand its biggest pick-up truck production and export base in Asia. Honda has also shown interest in shifting its production from Indonesia and Philippines, while ISUZU is investing US\$40 million in logistics centre in

Thailand and Daimler Chrysler intends to make Thailand as its hub for E-Class Benz model (Board of Investment Thailand, 2003).

Thailand has a bright future in dominating the ASEAN motor vehicle market as it produces renowned vehicles such as Toyota, Honda, Mercedes Benz and Ford which do not require extensive advertisements to promote them among the ASEAN consumers. Furthermore, these brands are also well known for their quality and performance on the road and they are offered at reasonable prices compared to Malaysia's national cars that have not reached the pinnacle of ASEAN export market.

Conclusion

Malaysia's automobile industry has contributed to the economy in terms of employment, exports and revenue from taxes. It has also been the epitome of the manufacturing sector's growth. However based on the above analysis, Thailand's automobile industry has the comparative advantage compared to Malaysia. It would be difficult for the local automobile industry to compete with Thailand's automobile industry as Thailand has proved itself as a world-class exporter of cars and trucks. Furthermore, it has earned itself the third place in Asia in terms of exports, behind automobile powerhouses of Japan and Korea (Automotive Resources Asia Ltd, 2004).

On top of it, the emergence of unprecedented levels of choice and lower prices of cars in the market has affected the sales performance of Malaysia's national cars. In order to sustain their existence in the local and ASEAN motor vehicle market, the national car producers should stop relying on the government for protection. The carmakers should emphasize more on R&D to produce quality cars at par with Japan and as cheap as the Korean cars. The move by Proton to collaborate with Volkswagen should be applauded. By working together, we can gain in terms of technology and expertise, producing

quality cars at competitive prices and also be a catalyst to promote Proton in the regional market.

One of the key strategies in achieving Malaysia's Vision 2020 is the Malaysia Incorporated concept. Under this concept, Malaysian companies should assess the criteria of strategic intent, competitive marketing, quality products, competitive innovation, competitive human resource management, sense of national pride and professionalism (Otorio Peixoto, 1995). Hopefully, our national carmakers will work hard to achieve these criteria to enable them to have a niche in the ASEAN and global market in future amidst intense competition from Thailand and China's automobile industry.

It is a national pride when our national automobile industry attains success in the local and ASEAN motor vehicle markets. However, the success should not be at the expense of our local consumers. After 20 years of protection, the government has turned the wheels in favour of consumers by allowing the sales of a variety of cars at competitive prices. Therefore, the national carmakers should stop being complacent and move forward without the support of the government.

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References

- Aimorn Limsavarn. (2004). *Thailand's Way To Become "Detroit of Asia"*, Retrieved from the World Wide Web: <http://www.thailandoutlook.com>
- Barclay Consultants International. (2000). *ASEAN Automotive Industry*, Retrieved from the World Wide Web: <http://www.us-asean.org/Auto/barclayreport.htm>

- Bumiputra-Commerce Bank Bhd. (2003). *Special Industry Issue: Automobile Industry*, Economic Research Services, Vol. 2/2003, October
- Dilip Singh Mutum. (2000). *Overview of the Malaysia Automotive Industry*, Retrieved from the World Wide Web: <http://www.ah-ok.com/auto/overview.html>
- Jean Teh. (2003). *Automotive Sector: Opportunities in Malaysia*, Retrieved from the World Wide Web: <http://www.embassyofswedenmy.org/Documents/AUTOMOTIVEINMALAYSIA.pdf>
- Jomo K.S. (2003). *M Way, Mahathir's Economic Legacy*, Kuala Lumpur: Forum
- May Arthapan. (2001). *Thailand's Gamble Begins To Pay Dividends*. Automotive Resources Asia Ltd., Retrieved from the World Wide Web: <http://www.auto-resources-asia.com>
- Michael J. Dunne. (2004). *Ten years later, what's changed?* Automotive Resources Asia Ltd., Retrieved from the World Wide Web: <http://www.auto-resources-asia.com>
- Michael Shain & David Edmonds. (2004). *Thailand's Automotive Industry-Challenges and Opportunities*, World Law Group eNews, Issue #29, May 2004
- Malaysian Industrial Development Authority (MIDA). (2004). *The Automotive Industry in Malaysia*, MIDA Working Paper
- Ministry of Industry, Thailand. (2002). *Automotive Industry in Thailand*, Retrieved from the World Wide Web: http://www.203.127.220.112/content/apec/business_resources/industry_dialogues/automotive_dialogues.dowlink

Otavio Peixoto. (1995). *Long-Range Economic Planning In Malaysia: Adding A Key Ingredient To East Asia's Development Recipe*, Retrieved from the World Wide Web: http://www.erf.org.eg/nletter/oct95_02.asp

Prime Minister's Department, Malaysia. (2004). *New Rates For Import and Excise Duties On Motor Vehicles With Effect From 1.1.2004 – 31.12.2004*, Retrieved from the World Wide Web: <http://www.pmo.gov.my>

Sasiwimon Warunsiri. (2003). *What are the Trade Impacts of AFTA: Static Effects?*, Retrieved from the World Wide Web: <http://www.thailandoutlook.com>

Tamar Gabilaia. (2001). *Malaysia Proton and AFTA: Threat or advantage?*, Retrieved from the World Wide Web: <http://www.american.edu/TED/proton.htm>