

THE AUTOMOBILE INDUSTRY AND PERFORMANCE OF MALAYSIAN AUTO PRODUCTION*

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The success story of Malaysia in producing automobiles should be the pride of all Islamic nations. Since the first national car, the Proton Saga, rolled out of its plant in 1985, Malaysia has obtained much recognition regionally and internationally for its outstanding achievements in the automobile industry. This paper reveals the Malaysian experience in promoting the automobile industry and examines the overall performance of the sector, particularly the national auto production. It is demonstrated that the various protective measures, such as the tariff and non-tariff barriers and local content policy, were adopted by the Malaysian government to enable the automobile industry to survive and develop locally. As a result of this policy and coupled with the economic prosperity, the Malaysian automobile industry was able to achieve the highest production point in history when it produced almost half a million units of vehicles in 2002. A significant percentage of vehicle production is in the small and medium classes and contributed mostly by the two national auto manufacturers, namely PROTON and PERODUA. With the full implementation of the AFTA in 2005, the Malaysian automobile industry would face greater challenges from neighbouring countries, particularly Thailand. To mitigate the would-be challenges, some proactive measures have been taken by the two national automakers through collaboration with foreign automakers.

1. INTRODUCTION

Since the first national car, the Proton Saga, rolled out of its plant in 1985, Malaysia has obtained much recognition regionally and internationally for its outstanding achievements in the automobile industry. This national project has progressed even further with the

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acquisition of the United Kingdom's prominent automaker (Lotus International) in 1996 and the recent introduction of a new engine, the Campro. This engine was developed by the first national automaker, namely Perusahaan Otomobil Nasional Sdn. Bhd (PROTON) in collaboration with its affiliate, the Lotus International (United Kingdom). Various car models have been produced by PROTON to include the Proton Saga, Wira, Waja, Perdana, Arena and, most recently, the Gen-2. Proton cars have captured local markets for medium-car class and made its presence felt even in certain developed countries. Recently, the Gen-2 and Wira scored 7 and 13 points respectively in the rating undertaken by a consultant employed by insurance companies in the United Kingdom (U.K). It was reported that the Arena (known as the Jumbuck in the U.K) controls 70-80 per cent share of the light commercial vehicles in the U.K. (New Straits Times, 22 July 2004). In the latest development, the newly-enhanced Waja is the only car in its class earning a 4.5-star rating (out of a maximum of 5) from the Australian Government's Greenhouse office for being the most economical and greenest sedan in Australia (see New Straits Times, 3 November 2004).

Such favourable achievements of the Malaysian automobile industry would invite questions among interested parties worldwide: what secret has this Muslim-dominated country adopted to enable itself to change from a loyal importer of automobiles prior to 1985 to a significant producer in the later period? And how is the overall performance of the country's automobile industry? This paper reveals the Malaysian experience in promoting the automobile industry and examines the overall performance of the sector, particularly the national auto production.

2. THE IMPORTANCE OF THE AUTOMOBILE INDUSTRY

The continuous fascination with the automobile industry and its significant impact on the socio-economic life of mankind are illustrated in many studies (see for example Ueno and Muto, 1980; Mutoh, 1988; Smitka, 1991; Law, 1991; Wells and Rawlinson, 1994). Of significance is its impact on economic development, industrial organisations, technologies, managerial practices and the standard of living of producing countries. Lately, as a major contributor to environmental degradation worldwide, it has attracted even greater attention from the

community. Due to its prominence, the automobile industry is often viewed as the representative of modern industry (Law, 1991).

The automobile industry is considered the single largest manufacturing sector in the world (Turnbull *et al.*, 1992). More than 10 per cent of the Japanese and American output and employment are derived from this industry (Smitka, 1991). Its shares in the Japanese manufacturing value added, employment and exports in 1980 were 7.4 per cent, 6.2 per cent and 17.9 per cent respectively (Mutoh, 1988). In 1988, the output value and total number of employment of the industry of the European Union's 12 member countries were about ECU80 billion and 1 million workers respectively. The top five producing countries, in order, were Germany, France, Italy, Spain and the United Kingdom (Sadler, 1994). The automobile production of these 12 countries as a whole accounted for 10 per cent of the total manufacturing output; in Germany alone, the sector contributed about 20 per cent to its Gross Domestic Product (GDP). Its contribution to the region's trade surplus amounted to ECU22 billion in 1991 (Wells and Rawlinson, 1994).

The automobile industry is income-elastic where the automobile stock is expected to augment faster than the increase in income level. The income elasticity of the automobile stock was 1.31 and 1.03 in eight advanced countries and less-advanced countries respectively (Ueno and Muto, 1980). World demand elasticity for automobile exports is also high leading to the increase in the industrial productivity (Mutoh, 1988). More importantly, it links directly or indirectly to a wide range of other sectors from primary to secondary and services sectors. It also links many types of producing firms, from material producers to intermediate and capital manufacturers and final assemblers.

Efforts to develop the automobile industry would have significant impact on resource-based industries, such as iron and steel, chemical, nonferrous metal, rubber and plastic-related industries as well as petroleum-based industries; and on non-resource-based industries, namely electrical and electronics-related parts. In the tertiary sector, it provides service-related activities, such as stamping, repairing, designing and engineering, banking, shipping, storing, insurance and distributing and marketing channels. Of significance, the automobile industry requires a set of production systems linking a wide range of industrial organisations and technologies with great variations in size and sophistication (see Mohd. Rosli, 2004).

The ability of a country to develop this industry would furnish great opportunities for the emergence and development of its small and medium firms (SMFs). Such huge backward and forward inter-linkages justify one's arguments that the industry is the backbone of the economy. This cross-sector link is thus crucial in the development policy of developing countries for further growth.

3. MALAYSIAN EXPERIENCE IN THE PROMOTION OF AUTO PRODUCTION

In fact, Malaysia has long been involved in the development and promotion of the automobile industry with a different emphasis over time. During the first phase of the industrialisation drive (the Import Industrialisation Strategy) in the 1950s and 1960s, the emphasis was on the assembling activities of both passenger and commercial vehicles in order to provide employment and reduce import bills. Since the implementation of the National Economic Policy (NEP) in 1971, the government has played a coercive role in shaping the contour of the Malaysian automobile industry. All policy measures were directed towards protecting the overall industry and, more importantly, at preserving the interest of the Bumiputera¹.

A new emphasis came into effect in the 1980s when the government policy was geared towards building an advanced nation by emphasising heavy industrialisation. The major thrust of the Malaysian automobile industry is to develop its own automobile industry by upgrading local capability in making parts and components, particularly through small and medium firms (UNIDO, 1991). The ultimate policy direction of the government is to reshape the industry to resemble the Japanese. In this connection, the government has introduced various policy measures to promote the development of the automobile industry, particularly the national car project, which are, amongst others, as follows.

3.1. Investment Measures

The government has strongly promoted the participation of the Bumiputera in the automobile industry through direct investment. Torii

¹ The term Bumiputera denotes ethnic Malays of Muslim religion and indigenous inhabitants of East and West Malaysia.

(1991) reveals that this measure involves both existing and new automobile firms. Since the 1970s, through the licensing policy, the government has been ready to approve licences for new assemblers subject to the condition that the majority of shares are allocated to Bumiputera or the assembly plants are located in rural or gazetted areas. As a result, the investment of the State Economic Development Corporations (SEDCs)-the core government arms to promote economic development-particularly in Sabah and Sarawak formed a significant part of new assembly companies, namely Sarawak Motor Industries Sdn. Bhd. and Kinabalu Motor Assembly Sdn. Bhd. The government-linked Bumiputera firms also invested substantially in Tatab Industries Sdn. Bhd., a new auto-assembler in Pahang.

Another approach to investment was undertaken by Pernas Sime Darby Holdings (PSD Holdings), a holding company which was established in 1972 and controlled by two government-backed companies, namely Perbadanan Nasional Bhd. (PERNAS) and Sime Darby Berhad. By 1987, through its aggressive investment measures the company acquired a number of auto sales companies, including AMIM Holdings Sdn. Bhd., Land Rover (M) Sdn. Bhd., Ford Concessionaires Sdn. Bhd., Pernas Sime Darby Motors Sdn. Bhd. and Auto Bavaria Sdn. Bhd., mostly with 100 per cent equity. It also had a majority shareholding in Associated Motor Industries (M) Sdn. Bhd., an assembler of passenger and commercial vehicles, and a 100 per cent equity in IT International Sdn. Bhd., a manufacturer of car tyres.

In another move, the government trust agency, i.e. Permodalan Nasional Berhad (PNB) and individual Bumiputera acquired shares in two Chinese-dominated companies, namely UMW Toyota Motor Sdn. Bhd. which in turn owned a number of automobile assembling and parts manufacturing firms as well as sales arms; and Oriental Assemblers Sdn. Bhd., an assembler firm. But the Bumiputera's equity in each of the two companies was less than 50 per cent.

Of significance is the government investment in the first national automobile company, i.e. PROTON. The government-backed company, HICOM Sdn. Bhd., held 70 per cent of the company's total equity, whilst the remaining shares were taken up by the two Japanese subsidiaries, Mitsubishi Corporation (MC) and Mitsubishi Motor Corporation (MMC) with 15 per cent equity each. In 1992, the company

was listed on the Kuala Lumpur Stock Exchange (KLSE) and restructured as Perusahaan Otomobil Nasional Berhad (still using the same acronym, PROTON). As of December 1996, its shareholders were the HICOM Holdings Berhad (with 26.0 per cent shareholding), Khazanah Nasional Berhad (16.50 per cent), MC (8.06 per cent), MMC (8.06 per cent) and other local and foreign investors with 41.38 per cent shareholding (Malaysia 1998). The first two companies are owned and controlled by the government.

The proposed Bumiputera investment in the second national automobile company, i.e. Perusahaan Otomobil Kedua Sdn. Bhd. (PERODUA), in 1992 was undertaken by the two government-backed companies, namely PNB Equity Resource Corp. Sdn. Bhd. (with 10 per cent shareholding) and Med-Bumikar Mara (MBM) Sdn. Bhd. (20 per cent). The remaining shares were allocated to UMW Corp. Sdn. Bhd. (38 per cent), Daihatsu (M) Sdn. Bhd. (5 per cent), Daihatsu Motor Co. (Japan) Ltd (20 per cent) and Mitsui & Co. Ltd. with 7 per cent shareholding (Mohd. Rosli, 1994). The share structure of the company in the latest development has reportedly changed in which the Japanese (Toyota-owned) Daihatsu held a majority share for strategic reasons.

Aside from direct investment, the government also provides various generous incentives under the Promotion of Investment Act 1986. Among them, the Pioneer Status and Investment Tax Allowance are the two lucrative tax incentives granted to those firms which are involved in promoted activities or products that are, from time to time, determined by the Ministry of International Trade and Industry (MITI). As of November 2004, there were numerous activities and products included in the list of prioritized industries. For the automobile industry, its eligibility for incentives is listed under the transport equipment, components and accessories; there were 31 items listed in this category of industries (see www.mida.gov.my).

3.2. Protective Measures

It is crucial to protect the national automobile industry, given the fact that it is still at its infancy. Some protective measures have been introduced to protect not only automobile producers, but also local parts suppliers. It is hoped that the measures would enable producers and suppliers to prepare themselves as well as to reorganise their position and eventually compete internationally.

3.2.1. Tariff and Non-Tariff Barriers

Tariffs have been considered to be an effective measure and widely used to promote industrial activities in Malaysia since the 1960s (Malaysia, 1963). Severe competition confronting new industries, lack of experience in the industrial sector (Malaysia, 1963), high production cost in the country relative to other countries, lack of skills, limited domestic market, consumer preference for imported goods and the high cost of capital (Malaysia, 1969) added to the need for Malaysia to impose such a protective measure. In 1966, the first import duties were imposed on all completely-built-up imported cars.

While other industries were showing a decrease in protection in the 1980s vis-à-vis the 1970s, the transport equipment industry experienced an increase in the rate of protection; in 1987 alone, the nominal rate of protection (NRP) and effective rate of protection (ERP) for the motor vehicle industry were 44 and 177 respectively (Mohamed Aslam, 1993). This trend is related to the present industrial policy which is to promote the national automobile industry, both in auto production and the component-system manufacturing.

The 1998 Budget increased further the rates of import duty on imported vehicles, whether in the form of completely-built-up (CBU) or completely-knocked-down (CKD) vehicles to discourage their importation, while at the same time encourage the national automobile industry. Table 1 clearly reveals that the import duty on CBU and CKD for cars 2000cc and above increased significantly to promote auto-assemblers to source out parts locally. The counter-cyclical budget that was introduced during the economic crisis at the end of the 1990s meant a greater protection for the national automobile industry, a policy measure that goes against the spirit of regionalisation under the Asean Free Trade Area (AFTA).

In the latest development, Malaysia made an attempt to adjust itself with the agreement under the AFTA by reducing import duties on all types and variants of vehicles. As displayed in Tables 2 and 3, import duties on CBU and CKD vehicles are much higher in the past than the present rates across vehicles variants and regions (ASEAN and NON-ASEAN). However, the decrease in import duties is overwhelmed by the increase in excise duties. While the excise duties on CKD increased slightly, the charges on CBU vehicles augmented exorbitantly. More

interestingly, lower excise taxes are imposed on vehicles with the capacity of less than 1800cc in tandem with the concentration of Malaysia on the production of small and medium national cars.

Apart from the import duties, non-tariff barriers, such as licensing and import quotas (approved permits), are also enforced on the automobile industry. The first import licensing requirement for all distributors and dealers was introduced in 1966. In 1967, assembly licences were issued to several firms for the assembly of passenger and commercial vehicles. Import licensing at the early stage was confined to imported CBU vehicles, but it was extended to CKD vehicles in the later period. For the automobile industry, MITI is the authority responsible for approving licences.

Pertinent to the import quota, a 10 per cent import quota was imposed on CBU passenger cars and commercial vehicles from 1989 to 1990. The quota was reduced by 1 per cent a year from 1991 to remain at 5 per cent by 1995 (MACPMA, 1996). For commercial vehicles, the quota is equally separated between dual purpose vehicles (7-9 seater vehicles) and other types of commercial vehicles.

3.2.2. The Local Content Policy

A local content requirement policy was also introduced to protect the national automobile industry. The programme sets a minimum value of local parts that automobile producers have to source from local parts suppliers to be assembled in their end automobile units. In this line, the 1980 Mandatory Deletion Programme prohibits local car producers, or franchisors from importing all automobile parts and components listed as “mandatory deleted components” for use in local automobile assembly. As shown in Table 4, the minimum local content, as revised in 1991, is to increase progressively during 1992-1996.

The listed items comprise 13 components for motorcycles and 30 components for passenger and commercial vehicles (MIDA, unpublished). Among other deleted items for vehicles are air filter, battery, carpet and underlay, coil spring, exhaust system, fuel tank, radiator, seats, spark plug, tyres, wiper motor and wire harness (MACPMA 1996). In 2002, the local items constituted 50 to 80 per cent in the Proton cars, 35 to 65 per cent in the Perodua cars, and 35 to 65 per cent in other vehicles (MIDA, unpublished report 2004). The calculation

of the reported local content is based on gross value; the percentage would be much lower if the calculation is based on net value due to the fact that most materials to make parts are imported.

In cases where the assemblers purposely use such imported items, the cost of the imported parts will be deducted from the approved “net selling price” of the assembled automobiles (MACPMA 1996). Some exceptional cases to the regulation are provided only if the Joint Technical Committee or Local Content (JTCLC), chaired by the Chairman of Malaysian Automotive Components Parts Manufacturers’ Association (MACPMA), is satisfied that locally available components are not suitable for a particular auto model.

Concomitant with the spirit of the AFTA, the Local Content Policy was abolished taking effect on 1 January 2002 with the first removal of 11 items from the Mandatory Deleted Items List (MDIL). By the end of December 2003, the remaining 19 items contained in the MDIL were removed (MIDA, unpublished report 2004). This move would provide more room for automakers or assemblers to do multi-sourcing auto parts and components.

4. PERFORMANCE OF THE MALAYSIAN AUTO PRODUCTION

In the Malaysian case, the automobile industry is broadly classified into two major sectors, i.e. manufacture or assembly of motor vehicles, including motorcycles; and component and parts manufacture, including vehicle body. To date, there are four automobile manufacturers, nine assemblers, three composite body sports car makers, 23 franchise holders having the right to assemble various makes and models of passenger and commercial vehicles, nine motorcycles manufacturers or assemblers, and 350 component manufacturers (MIDA, unpublished report 2004). This paper, however, confines the discussion to end products of the automobile (motor vehicles) sub-sector concomitant with the study objectives and data constraints on auto parts production.

4.1. Overall Performance

In the early days of Independence, auto production in Malaysia was rather small, i.e. below 100,000 units a year contributed by several

assemblers producing continental and Japanese vehicles. In the early and mid-1980s, the total number of autos produced did not increase much due to the economic recession that hit the world economy. The automobile sector was badly affected in the period 1986-1988 when the production of both passenger and commercial vehicles was merely below 85,000 units (Table 5). The production gathered its momentum soon after the economy started to recover since 1987. It achieved the highest production level for the first time in history in 1991 when the total production reached more than 200,000 units before it declined again to slightly over 150,000 in 1992 and 1993.

Since 1994, a strong economic performance pushed the demand for and production of automobiles to its peak in 1997 with more than 400,000 units of auto production (see Table 5). Unfortunately, this achievement did not last long. The economic crisis hitting Malaysia in July 1997 resulted in a drastic contraction of the production of both passenger and commercial vehicles. A slowdown in the construction and general business activities, the tightening of hire-purchase agreements and the increase in interest rates were the major causes for the contraction of the demand and production of automobiles. A further impact was the contraction of the capacity utilisation of the automobile industry from 88.2 per cent in 1997 to 35 per cent in 1998 (MITI, 1999).

After 1998, auto production picked up again and increased consistently to reach the highest point with more than 450,000 units in 2002. This reverse trend occurred when the market demand for new vehicles augmented as a result of the various lucrative offers (including low down payments, low interest rates, and longer repayment periods) made by auto dealers and banks to attract potential consumers.

Table 5 clearly shows a significant difference in the production of passenger and commercial vehicles. Over the span of 23 years (1980-2003), only during six years the proportion of the passenger vehicles to the total vehicle production is less than 70 per cent; the rest are either over 70 per cent or 80 per cent. On average, about 76 per cent of the total production are passenger vehicles against 24 per cent for commercial vehicles. This is in contrast with Thailand, Indonesia and the Philippines in which production is dominated mainly by commercial rather than passenger vehicles (see Terai, 1999; Mohd. Rosli, 2004).

In line with the generally intermediate incomes earned by the Malaysians, a significant portion of the production of passenger vehicles is in the low and intermediate classes. In 2002 for example, passenger vehicles up to 1750cc took 95.4 per cent of the total production of passenger vehicles, contributed mostly by PERODUA and PROTON. The low variant vehicle (below 1000cc) alone represented 31.4 per cent of the total production of passenger vehicles. In the category of commercial automobiles, vans and four-wheel drive vehicles are the most popular among Malaysian consumers. In 2002, these two types of commercial vehicles took 77.8 per cent of the total production. Table 6 provides more details of the production of passenger and commercial vehicles by variants for the period 1998-2002.

4.2. Auto Producers and Production Performance

The four auto producers, i.e. PROTON, PERODUA, Industri Otomotif Komersial (M) Sdn. Bhd (INOKOM), and Malaysian Truck and Bus Sdn. Bhd. (MTB) are considered as the national automobile projects; whilst the remaining producers, amongst others, as listed in Table 7 are treated as assemblers (MIDA, unpublished report 2004).

One common characteristic of the auto producers in Malaysia is their production diversification into various auto utilities, makes and models. Apart from producing national vehicles, all the three national automakers also produce non-national automobiles²: PERODUA produces a Japanese make vehicle (Daihatsu); INOKOM produces Renault (European-based vehicles) and Suzuki (Japanese); and MTB produces non-national automobiles, namely Isuzu, Mitsubishi, Musso and Tata. Diversification of production can also be seen in all other non-national producers, except in UMW Dennis Specialist Vehicles Sdn. Bhd. Their production is performed in a small number of plants and production lines. For example, PROTON has two plants with four production lines, PERODUA has one plant with four production lines

² National vehicles refer to any automobiles which are produced by the Malaysian (national) auto companies/projects. All these projects are government-driven and established under the Heavy Industrial Policy which was launched in the early 1980s. Each project or company is dominated by the locals, particularly the Government, through their majority shareholding. Non-national automobiles refer to Japanese or non-Japanese-based (such as European, American and South Korean) vehicles which are produced by other companies, other than the national auto companies.

and INOKOM owns one plant with three production lines (Mohd. Rosli, 2004).

The largest producers of automobiles in Malaysia are the two national companies, i.e. PROTON and PERODUA. These two producers combined produced more than 79 per cent of the total number of vehicles over the years (see Table 8). Despite the domination of the four national firms in auto production, specialisation between the national and non-national producers still exists. Except for INOKOM and MTB, the national firms tend to produce more passenger automobiles compared to the non-national assemblers. For example, in 2002, the two national producers (PROTON and PERODUA) produced about 91.0 per cent of the total passenger vehicles compared to 9.0 per cent for non-national producers. In contrast, 58.7 per cent of the total commercial vehicles were produced by the non-national producers against 41.3 per cent produced by the national automakers (Table 8). This production takes into consideration all auto makes or brands, except PROTON which limits its production to the Proton make.

By and large, automakers in Malaysia operate in excess capacity. With the exception of PROTON and PERODUA which recently produced more than 200,000 and 100,000 units of vehicles respectively, the rest produce far below 50,000 units annually (MAA, unpublished data). During 2000-2002, the total production means of the national and non-national producers were below 100,000 and 7,000 units per annum respectively. When the national and non-national producers are combined, the total production mean is far below 50,000 units a year (see Table 8). Compared to the optimum level of production which is at least ranging from 200,000 to 250,000 units per year based on the experience of the auto producers in the developed countries (Darina, 2003), the auto production in Malaysia is running in excess capacity with a small number of units produced and high production costs.

4.3. National vs. Non-National Auto Production

Tables 9 and 10 present the details of auto production by makes. Apart from Table 8 which takes into account the total production of a particular firm irrespective of auto makes, these two tables only consider Malaysian-made automobiles as the national ones; the rest are treated as non-national-made automobiles.

The total production of passenger automobiles has achieved the highest level of 377,707 units in 2002 (Table 5). A large portion of the production is contributed by the two national-made automobiles, the Perodua and Proton. In 2002, these two national automobiles constituted 91.0 per cent of the total auto production; Proton alone contributed 62.7 per cent of this amount (Table 9).

In contrast, non-national-made automobiles contribute significantly to the total production of commercial vehicles. As displayed in Table 10, out of the 71,463 units of commercial vehicles produced in 2002, 72.7 per cent emanated from the non-national make; whilst the remaining 27.3 per cent stemmed from the national makes. Besides MTB and INOKOM, the other two national automakers, namely PROTON and PERODUA, just started their operation to produce commercial vehicles; the former produced the Arena whilst PERODUA, in a very recent period, began to produce the four-wheel drive (the Kembara) and the van (the Rusa). The most significant output of commercial vehicles was 4 x 4 (ATV), vans and trucks; the largest production of trucks is in the smallest category below 3 tonnes (MITI, 1999). In 2002, major producers of commercial vehicles in order were Toyota, PERODUA, Nissan, Mitsubishi and Ford (Table 10).

5. CONCLUSION AND SOME IMPLICATIONS

The success story of Malaysia in producing automobiles should be the pride of all Islamic nations. The automobile industry is a prestigious one and mostly dominated by non-Islamic countries, particularly the United States, Europe and Japan. Hence, the ability of Malaysia to start and develop the automobile industry proves that Islamic countries have the potential to participate and compete in any economic activity which is naturally controlled by non-Muslim countries.

Nonetheless, a lot of efforts and sacrifices have to be made before the Islamic countries could succeed in such a highly competitive and technology-intensive industry. With the rapid globalisation and regionalisation process knocking on the door, much more efforts and sacrifices have to be made by Malaysia to survive if not succeed in the future. In the Malaysian case, this paper reveals that various protective measures, such as tariff and non-tariff barriers and local content policy, were adopted by the Malaysian government since the inception of the

first national car project in 1983 to enable the automobile industry to survive and develop locally. As a result of this policy and coupled with economic prosperity, the Malaysian automobile industry was able to achieve the highest production point of 454,347 units in 2002. In line with the local demand, a large proportion of the production (76 per cent) is passenger vehicles, particularly the ones up to 1750cc. More than 90 per cent of the total passenger vehicles were contributed by the two national car manufacturers, i.e. PROTON and PERODUA.

A large portion of the local automobile production (more than 80 per cent) is catered for the domestic market, whilst the rest (less than 20 per cent of both passenger and commercial vehicles) is exported (calculated from MITI, 1999). To a certain extent, a small proportion of the domestic demands have to be met by the import of either used, reconditioned or new CBU vehicles. The export of Malaysian automobiles is mainly for passenger rather than commercial vehicles. Most exports of passenger cars were sourced from Proton, which constituted about 75 per cent of the 23,700 units exported in 1998 (MITI, 1999). The top three markets for the exports of passenger cars were the United Kingdom, Germany and France. For commercial vehicles, the top three markets for exports were the U.S.A., Taiwan and Singapore. Between 1997-1998, the export value of both passenger and commercial vehicles increased by about 61 per cent though the export volume decreased by about 3 per cent, mostly due to the favourable exchange rates that benefited this country (MITI, 1999).

The concentrated nature of the Malaysian auto production and market would pose some degree of challenge to the industry itself in the future. In the short-term, there would be little problem for the automobile industry, especially the national automakers, to compete in the local market since the close competitors, Thailand, Indonesia and the Philippines, concentrate on the production of commercial vehicles. Thailand, for instance, is currently the world's second largest auto producer and market for pick-up trucks after the United States (Clarence, 2003). In a longer term, however, with the full implementation of AFTA, stiffer competition would be faced by the national automakers. By 2005, Malaysia has to fully comply with minimum tariffs (0-5 per cent) requirements as agreed under the Common Effective Preferential Tariffs (CEPT) in the Asean Free Trade Area (AFTA). This means that the Malaysian automobile industry can no longer be heavily protected as it was in the past.

In another development, the neighbouring country, Thailand, has taken major steps since 1998 to open up its market, amongst others through the reduction of value-added taxes, removal of restrictions on foreign equity shareholding and elimination of the local-content policy. All these measures could be taken because Thailand has no national auto projects to protect. As a result of this market-oriented approach, more foreign auto-parts and automakers invested in the country. At present, there are already 14 international automakers, such as General Motors, BMW, Mercedes Benz, Ford, Toyota, Nissan, Honda and Mitsubishi, setting up their manufacturing plants in the country with their long-term plans to export vehicles including CBU. In 2000, about 36 per cent of its production was exported to many countries such as Asean, South Africa and the Americas (computed from Clarence, 2003). The recent half-a-million-unit production capacity is expected to hit almost one million units in 2005 (Soon, 2003). Of this capacity, 362,100 units are for passenger cars, 579,000 units for pick-ups and 50,900 units for trucks (Clarence, 2003). This outstanding capacity would provide ample room for Thailand to reposition itself in the production of passenger cars as well.

Probably recognising the would-be challenges, the national automakers have no choice but to cooperate with foreign automakers. The control of PERODUA has already been taken by the Japanese Daihatsu, whilst PROTON has just signed an agreement with the largest German automaker, i.e. Volkswagen AG (VW), on 26 October 2004 (New Straits Times, 28 October 2004). This pact does not involve any equity stake in PROTON. The national automaker, however, would get access to the counterpart's engines and components to be used in its automobiles as well as being able to assemble, import, export and sell the VW models. This would further increase the production and market of the national car company. Volkswagen AG, on the other hand, could use PROTON's resources (expertise and facilities) to jointly design and develop cars in Malaysia. More importantly for VW is to use Malaysia in general and PROTON in particular as a gateway to enter the lucrative Southeast Asian market under the AFTA.

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Table 1: Rates of Import Duty on Various Automobiles by Engine Capacity (Percentage)

Engine Capacity	Cars		4WD and MPV		Van	
	CBU	CKD	CBU	CKD	CBU	CKD
Pre-1998 Budget						
< 1,800 cc	140	42	50	5	35	5
1,800 - < 2,000 cc	170	42	50	5	35	5
2,000 - < 2,500 cc	170	42	50	5	35	5
2,500 - < 3,000 cc	200	42	50	5	35	5
3,000 cc and above	200	42	50	5	35	5
Post-1998 Budget						
< 1,800 cc	140	42	60	10	42	5
1,800 - < 2,000 cc	170	42	80	20	55	10
2,000 - < 2,500 cc	200	60	150	30	100	30
2,500 - < 3,000 cc	250	70	180	40	125	40
3,000 cc and above	300	80	200	40	140	40

Note: The rate of import duty for new CBU diesel cars is 120% whilst that for used/old imported diesel cars is similar to petrol driven cars.

Source: Readapted from the 1998 Budget.

Table 2: New Structure of Duties on CBU Vehicles (Per cent)

Type/Engine Capacity (cc)	ASEAN (CEPT)				NON-ASEAN (MFN)			
	Import Duty		Excise Duty		Import Duty		Excise Duty	
	Past	Present	Past	Present	Past	Present	Past	Present
Cars								
< 1,800	140	70	0	60	140	80	0	60
1,800 - < 2,000	170	90	0	70	170	100	0	70
2,000 - < 2,500	200	110	0	80	200	120	0	80
2,500 - < 3,000	250	150	0	90	250	160	0	90
3,000 and >	300	190	0	100	300	200	0	100
MPV/Van								
< 1,500	60	40	0	30	60	60	0	30
1,500 - < 1,800	60	40	0	30	60	60	0	30
1,800 - < 2,000	80	50	0	40	80	70	0	40
2,000 - < 2,500	150	90	0	70	150	100	0	70
2,500 - < 3,000	180	110	0	80	180	120	0	80
3,000 and >	200	120	0	90	200	130	0	90
4WD								
< 1,800	60	40	0	50	60	60	0	50
1,800 - < 2,000	80	50	0	60	80	70	0	60
2,000 - < 2,500	150	80	0	70	150	100	0	70
2,500 - < 3,000	180	100	0	80	180	120	0	80
3,000 and >	200	110	0	90	200	130	0	90

Note: MFN stands for Most-Favoured Nations.

Source: New Straits Times, 1 January 2004.

Table 3: New Structure of Duties on CKD Vehicles (Per cent)

Type/Engine Capacity (cc)	ASEAN (CEPT)				NON-ASEAN (MFN)			
	Import Duty		Excise Duty		Import Duty		Excise Duty	
	Past	Present	Past	Present	Past	Present	Past	Present
Cars								
< 1,800	42	25	55	60	42	35	55	60
1,800 - < 2,000	42	25	55	70	42	35	55	70
2,000 - < 2,500	60	25	55	80	60	35	55	80
2,500 - < 3,000	70	25	55	90	70	35	55	90
3,000 and >	80	25	55	100	80	35	55	100
MPV/Van								
< 1,500	5	0	30	30	5	5	30	30
1,500 - < 1,800	10	10	30	30	10	20	30	30
1,800 - < 2,000	20	10	30	40	20	20	30	40
2,000 - < 2,500	30	10	30	70	30	20	30	70
2,500 - < 3,000	40	10	30	80	40	20	30	80
3,000 and >	40	10	30	90	40	20	30	90
4WD								
< 1,800	10	10	45	50	10	20	45	50
1,800 - < 2,000	20	10	45	60	20	20	45	60
2,000 - < 2,500	30	10	45	70	30	20	45	70
2,500 - < 3,000	40	10	45	80	40	20	45	80
3,000 and >	40	10	45	90	40	20	45	90

Note: MFN stands for Most-Favoured Nations.

Source: New Straits Times, 1 January 2004.

**Table 4: Local Content Programme for Passenger
& Commercial Vehicles, 1992-1996**

Auto-Type	Local Content Target (%)				
	1992	1993	1994	1995	1996
<u>Category 1</u> Passenger vehicles up to 1,850cc	30	40	50	55	60
<u>Category 2</u> Passenger vehicles 1,851- 2,850cc Commercial vehicles up to 2,500 GVW	20	30	35	40	45
<u>Category 3</u> Passenger vehicles above 2,851cc Commercial vehicles above 2,500 GVW	Localisation of mandatory deletion items only				

Note: Efforts to trace down the local content targets after 1996 were trivial but according to the latest report of MIDA (unpublished report 2004), the local content policy was abolished, taking effect on 1 January 2002, and all the mandatory deleted items were phased out on 31 December 2003.

Source: MACPMA (1996), MIDA (unpublished).

Table 5: Production of Vehicles by Utilities, 1980-2003

Year	Passenger		Commercial		Grand Total		% of Total		
	Unit	% Change	Unit	% Change	Unit	% Change	Passenger	Commercial	Total
1980	81,065	-	25,187	-	106,252	-	76.3	23.7	100
1981	87,822	8.3	24,353	-3.3	112,175	5.6	78.3	21.7	100
1982	85,321	-2.9	14,043	-42.3	99,364	-11.4	85.9	14.1	100
1983	100,223	17.5	18,239	29.9	118,462	19.2	84.6	15.4	100
1984	96,361	-3.9	28,555	56.6	124,916	5.4	77.1	22.9	100
1985	69,769	-27.6	42,053	47.3	111,822	-10.5	62.4	37.6	100
1986	42,180	-39.5	19,814	-52.9	61,994	-44.6	68.0	32.0	100
1987	33,685	-20.1	15,295	-22.8	48,980	-21.0	68.8	31.2	100
1988	61,338	82.1	23,788	55.5	85,126	73.8	72.1	27.9	100
1989	81,873	33.5	48,772	105.0	130,645	53.5	62.7	37.3	100
1990	116,979	42.9	75,054	53.9	192,033	47.0	60.9	39.1	100
1991	136,184	16.4	81,099	8.1	217,283	13.1	62.7	37.3	100
1992	117,773	-13.5	34,750	-57.2	152,523	-29.8	77.2	22.8	100
1993	123,521	4.9	34,929	0.5	158,450	3.9	78.0	22.0	100
1994	157,536	27.5	43,834	25.5	201,370	27.1	78.2	21.8	100
1995	227,727	44.6	61,128	39.5	288,855	43.4	78.8	21.2	100
1996	280,944	23.4	92,733	51.7	373,677	29.4	75.2	24.8	100
1997	335,030	19.3	108,140	16.6	443,170	18.6	75.6	24.4	100
1998	128,979	-61.5	18,370	-83.0	147,349	-66.8	87.5	12.5	100
1999	260,000	101.6	40,714	121.6	300,714	104.1	86.5	13.5	100
2000	375,718	44.5	63,372	55.7	439,090	46.0	85.6	14.4	100
2001	375,700	0.0	72,956	15.1	448,656	2.2	83.7	16.3	100
2002	377,707	0.5	76,640	5.0	454,347	1.3	83.1	16.9	100
2003	324,911	-14.0	99,196	29.4	424,107	-6.7	76.6	23.4	100

Source: Calculated from the data provided by MIDA and MAA (unpublished).

Table 6: Production of Passenger and Commercial Vehicles by Variants, 1989-2002 (per cent)

Types and Variants of Vehicles	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	2000	2001	2002
Passenger (engine capacity- cc)													
Below 1000	2.5	3.3	4.1	1.6	1.0	7.2	18.2	17.6	19.1	30.9	23.1	26.3	31.4
1000-1350	31.4	22.7	23.5	24.8	22.3	32.2	30.6	32.1	35.6	46.9	21.4	29.1	20.9
1351-1550	49.5	52.3	51.2	54.0	51.2	33.3	21.1	21.1	23.8	14.8	40.5	19.2	22.6
1551-1750	5.1	7.9	8.5	9.7	16.3	16.3	15.6	16.4	11.8	4.1	7.0	19.6	20.5
1751-1950	1.8	2.8	2.3	1.6	1.8	1.7	2.6	3.0	1.6	0.6	1.7	1.0	0.8
1951-2150	6.5	7.5	8.5	5.7	5.7	3.4	7.0	5.0	5.1	1.0	4.7	4.1	3.3
2157-2350	2.7	2.7	1.3	2.0	0.8	4.4	3.7	3.9	2.3	0.9	0.7	0.2	0.2
Above 2350	0.4	0.8	0.7	0.5	0.9	1.3	1.1	0.9	1.4	0.7	0.8	0.5	0.2
Total PV	100.0 (81,873)	100.0 (116,979)	100.0 (136,184)	100.0 (117,773)	100.0 (123,521)	100.0 (157,536)	100.0 (227,727)	100.0 (280,944)	100.0 (335,030)	100.0 (128,979)	100.0 (375,718)	100.0 (375,700)	100.0 (377,707)
Commercial (GVW)													
Up to 3T	13.5	12.6	15.0	17.5	17.5	17.4	21.9	19.3	12.9	5.1	2.9	1.6	2.3
4-5T	1.5	1.3	1.6	1.5	1.6	1.1	1.3	1.6	6.6	2.1	4.9	4.5	6.4
6-8T	1.5	1.4	1.0	2.1	3.0	3.1	3.9	3.0	6.7	2.6	7.7	6.8	8.7
9-15T	3.7	3.3	2.5	2.3	1.9	1.9	1.9	2.1	1.6	2.6	0.9	0.4	0.5
Above 15T	1.1	1.6	2.4	3.5	3.1	3.9	4.7	5.2	4.1	2.7	1.4	1.3	1.9
Total Trucks	21.3	20.1	22.4	26.8	27.1	27.4	33.8	31.2	31.8	15.0	17.8	14.6	19.8
Pick up	7.7	8.0	8.9	15.3	14.3	12.7	14.3	9.9	9.2	4.2	4.9	2.8	1.0
Van	50.5	54.4	49.7	32.9	37.0	33.1	30.7	35.3	35.5	39.9	33.6	38.7	35.1
4 x 4 (ATV)	18.7	15.8	16.6	18.9	15.9	21.2	18.5	20.9	21.5	40.1	43.0	42.7	42.7
Bus	1.8	1.7	2.4	6.0	5.7	5.6	2.8	2.7	2.0	0.8	0.7	1.2	1.4
Total CV	100.0 (48,772)	100.0 (75,054)	100.0 (81,099)	100.0 (34,750)	100.0 (34,929)	100.0 (43,834)	100.0 (61,128)	100.0 (92,733)	100.0 (108,140)	100.0 (18,370)	100.0 (63,372)	100.0 (72,956)	100.0 (76,640)

Note: - PV: passenger vehicles, CV: commercial vehicles. Figures in parentheses are the total number of vehicles in each category.

- Percentage figures may not equal to 100 per cent due to rounding errors.

Source: The Malaysian Industrial Development Authority and Malaysian Automotive Association (unpublished).

Table 7: Malaysian Automobile Producers and Their Product Base

Automobile Producers	Product Base/Make	
	Passenger	Commercial
Industri Otomotif Komersial (M) Sdn. Bhd (INOKOM)	-	BMC, Inokom, Renault, Suzuki
1. Malaysian Truck and Bus Sdn. Bhd. (MTB)	-	Hicom, Isuzu, Mitsubishi, Musso, Tata
2. Perusahaan Otomobil Nasional Berhad (PROTON)	Proton	Proton
3. Perusahaan Otomobil Kedua Sdn. Bhd. (PERODUA)	Kancil, Kelisa, Daihatsu	Rusa, Kembara, Daihatsu
4. Automotive Manufacturer (M) Sdn. Bhd. (AMM)	Citreon, Proton, Kia	Isuzu, Mitsubishi, Proton
5. Associated Motor Ind. (M) Sdn. Bhd. (AMI)	Ford, BMW, Mazda, Proton	Ford, Mazda, Chrysler Jeep, Land Rover, Suzuki, Scania, Tata
6. Assembly Services Sdn. Bhd. (ASSB)	Toyota	Toyota, Daihatsu, Hino
7. Asia Automobile Industries Sdn. Bhd. (AAI)	Mercedes	Mercedes, Mazda
8. Oriental Assemblers Sdn. Bhd. (OASB)	Honda, Mercedes, Peugeot, Hyundai	Man, Honda
9. Tan Chong Motor Assemblies Sdn. Bhd. (TCMA)	Nissan, Audi, Peugeot	Nissan, Subaru
10. Kinabalu Motor Industries Sdn. Bhd. (KMI)	-	Isuzu, Suzuki
11. Swedish Motor Assemblies Sdn. Bhd. (SMA)	Volvo	Volvo, Daihatsu, Suzuki, Land Rover
12. UMW Dennis Specialist Vehicles Sdn. Bhd.	-	Dennis

Note: A new-established auto producer is Naza Automotive Manufacturing Sdn. Bhd, presently using AMM facilities in Pekan to assemble Korean makes, i.e. Spectra and Kia Carnival.

Source: Malaysian Industrial Development Authority (MIDA); Malaysian Automotive Association (MAA).

Table 8: Total Production of Passenger and Commercial Vehicles by Firms, 2000-2002 (per cent)

Firms/Companies	2000			2001			2002		
	PV	CV	Total	PV	CV	Total	PV	CV	Total
INOKOM	0.0	0.0	0.0	0.0	3.3	0.6	0.0	3.5	0.6
MTB	0.0	12.3	2.1	0.0	14.4	2.5	0.0	19.0	3.2
POKSB (PERODUA)	28.0	25.5	28.7	27.8	23.2	27.0	29.3	18.3	29.1
PONB (PROTON)	66.2	0.0	50.6	64.7	0.0	49.0	62.7	0.5	47.0
Sub-total (national companies)	94.2	37.8	81.4	92.5	40.9	79.1	91.0	41.3	79.9
AMM	2.1	0.7	2.3	3.3	4.7	5.7	4.9	0.1	4.9
AMI	0.5	11.5	2.7	0.7	11.9	2.6	0.3	9.1	2.0
ASSB	1.5	25.0	5.6	0.9	27.6	6.0	2.3	30.6	7.4
AAI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OASB	1.7	1.9	2.2	0.8	0.7	1.7	0.3	4.3	1.5
TCMA	1.0	17.2	4.1	1.5	11.5	3.7	1.1	13.0	3.5
KMI	0.0	2.5	0.4	0.0	1.5	0.3	0.0	0.6	0.1
SMA	0.5	2.6	0.9	0.5	0.9	0.5	0.1	0.6	0.2
Sub-total (non-national)	5.8	62.2	18.6	7.7	59.1	21.0	9.0	58.7	20.1
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean Production (Units)									
Per National Company*	66,964	5,898	72,862	77,244	7,442	84,686	83,218	7,911	91,129
Per Non-National Company*	3,433	4,845	8,278	5,861	5,384	11,245	5,897	5,613	11,511

Note: - PV stands for passenger vehicles, CV stands for commercial vehicles;

- * See Footnote 2, the definitions of the national and non-national companies/automobiles.

- Outputs of some other companies were not recorded in the original source, thus not taken into account in the calculation.

- Figures may not equal to 100 per cent due to rounding errors.

Source: Calculated from data provided by the Malaysian Automotive Association (MAA).

Table 9: Production of Passenger Vehicles by Makes, 1995-2002

Makes	1995		1997		1998		1999		2000		2001		2002	
	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%
Perodua	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	96,742	28.0	98,811	27.8	107,744	29.3
Proton	155,000	77.1	212,900	81.0	91,500	92.5	164,200	91.4	228,573	66.2	230,161	64.7	230,432	62.7
Sub-total	155,000	77.1	212,900	81.0	91,500	92.5	164,200	91.4	325,315	94.2	328,972	92.5	348,176	91.0
Audi	463	0.2	660	0.3	47	0.0	217	0.1	319	0.1	181	0.1	6	0.0
BMW	1,314	0.7	2,466	0.9	718	0.7	640	0.4	2,057	0.6	2,026	0.6	1,964	0.5
Citroen	1,683	0.8	857	0.3	98	0.1	334	0.2	87	0.0	0	0.0	0	0.0
Daihatsu	1,154	0.6	0	0.0	0	0.0	0	0.0	102	0.0	74	0.0	12	0.0
Ford	2,785	1.4	1,012	0.4	283	0.3	305	0.2	242	0.1	331	0.1	273	0.3
Honda	11,207	5.6	20,600	7.8	1,995	2.0	4,778	2.7	4,500	1.3	4,555	1.3	2,722	1.4
Hyundai	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1,274	0.4	282	0.1
Kia	0	0.0	1,052	0.4	50	0.05	51	0.03	0	0.0	959	0.3	4,843	1.3
Mazda	1,228	0.6	496	0.2	292	0.3	18	0.0	54	0.0	37	0.0	29	0.0
Mercedes Benz	4,064	2.0	3,999	1.5	1,089	1.1	805	0.4	2,322	0.7	2,512	0.7	2,397	0.7
Nissan	8,895	0.0	6,859	0.0	552	0.0	2,699	0.0	3,691	1.1	7,484	2.1	6,256	1.7
Peugeot	2,157	1.1	1,617	0.6	149	0.2	248	0.1	261	0.1	98	0.0	0	0.0
Toyota	8,583	4.3	8,338	3.2	1,558	1.6	4,779	2.7	4,564	1.3	5,756	1.6	10,162	2.8
Volvo	2,023	1.0	2,027	0.8	587	0.6	645	0.4	1,736	0.5	1,604	0.5	585	0.2
Sub-total	46,060	22.9	49,983	19.0	7,418	7.5	15,519	8.6	19,935	5.8	26,891	7.6	29,531	9.0
Grand Total*	201,060	100.0	262,883	100.0	98,918	100.0	179,719	100.0	345,250	100	355,863	100	367,707	100

Note: - * Slight discrepancies in grand total figures (compared to total figures in Tables 5 and 6) for the period 1995-1999 are due to the absence of data for Perodua and some other non-national auto makes. For 2000-2003, they are due to the absence of records for some makes in the original source.

- Figures may not equal to 100 per cent due to rounding errors.

Source: Malaysian Automotive Association; Proton (unpublished data).

Table 10: Production of Commercial Vehicles by Makes, 1995-2002

Makes	1995		1997		1998		1999		2000		2001		2002	
	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%
Perodua	0	0.0	0	0.0	0	0.0	0	0.0	14,876	23.9	16,866	23.5	14,019	19.6
Proton	0	0.0	0	0.0	0	0.0	0	0.0	31	0.05	3,136	4.4	406	0.6
Hicom	0	0.0	3,355	3.9	493	4.4	0	0.0	3,994	6.4	2,928	4.1	4,313	6.0
Inokom	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1,177	1.6	781	1.1
Sub-total	0	0.0	3,355	3.9	493	4.4	0	0.0	18,901	30.4	24,107	33.6	19,519	27.3
Daihatsu	4,754	8.6	2,089	2.4	0	0.0	457	1.7	3,201	5.1	3,370	4.7	4,999	7.0
Ford	3,668	6.6	7,496	8.6	1,198	10.7	3,007	11.2	5,745	9.2	6,965	9.7	5,594	7.8
Hino	1,866	3.4	2,232	2.6	40	0.4	276	1.0	518	0.8	588	0.8	974	1.4
Isuzu	9,169	16.5	13,690	15.8	1,404	12.6	2,013	7.5	2,160	3.5	2,169	3.0	1,510	2.1
Man	107	0.2	132	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mazda	2,128	3.8	2,467	2.8	222	2.0	341	1.3	1,245	2.0	1,072	1.5	788	1.1
Mercedes Benz	697	1.3	1,017	1.2	102	0.9	80	0.3	148	0.2	253	0.4	285	0.4
Mitsubishi	5,405	9.7	7,553	8.7	1,253	11.2	3,092	11.5	2,455	3.9	5,656	7.9	8,361	11.7
Nissan	10,146	18.3	19,925	22.9	1,656	14.8	7,144	26.7	10,731	17.2	8,371	11.7	9,917	13.9
Scania	81	0.1	366	0.4	31	0.3	95	0.4	99	0.2	184	0.3	131	0.2
Suzuki	3,276	5.9	4,157	4.8	570	5.1	746	2.8	1,025	1.6	1,264	1.8	518	0.7
Tata	90	0.2	519	0.6	9	0.1	184	0.7	473	0.8	1,064	1.5	807	1.1
Toyota	13,750	24.8	21,390	24.6	4,000	35.8	9,187	34.3	15,048	24.2	16,357	22.8	17,838	25.1
Volvo	377	0.7	468	0.5	82	0.7	105	0.4	505	0.8	246	0.3	222	0.3
Sub-total	55,552	100.0	83,536	96.1	10,675	95.6	26,780	100.0	43,324	69.6	47,559	66.4	51,944	72.7
Grand Total*	55,552	100.0	86,891	100.0	11,168	100.0	26,780	100.0	62,255	100.0	71,666	100.0	71,463	100.0

Note: - * Small discrepancies in grand total figures against Tables 5 and 6 are due to the absence of records for some other non-national auto makes.

- Figures may not equal to 100 per cent due to rounding errors.

Source: Malaysian Automotive Association; Proton (unpublished data).