Chapter 3

The Automotive Industry in Malaysia

Makoto Anazawa

May 2021

This chapter should be cited as

Anazawa, M. (2021), 'The Automotive Industry in Malaysia' , IN SCHRÖDER, M., F. IWASAKI AND H. KOBAYASHI **(EDS.)** *Promotion of Electromobility in ASEAN: States, Carmakers, and International Production Networks.* ERIA Research Project Report FY2021 no.03, Jakarta: ERIA, pp.61-86.

CHAPTER 3

THE AUTOMOTIVE INDUSTRY IN MALAYSIA

Makoto Anazawa

Introduction

Malaysia's national car project was planned since the early 1980s. It was a unique project compared to those in other developing countries, including the Association of Southeast Asian Nations (ASEAN) Member States. The project was to develop the automotive industry with a focus on national cars. However, there have been large changes in the circumstances of the automotive industry from the 1980s until present, such that the automotive industry in Malaysia currently standing at a crossroads.

We will review the development and present state of the automotive industry in Malaysia, followed by a description of the national car projects, mainly Proton and Perodua. In the third section, we will refer to industrial policies and the National Automotive Policies (NAP). The final section concludes.

1. The Automotive Industry in Malaysia

1.1. Brief history of the automotive industry in Malaysia

After Malaysia gained its independence in 1957, European companies started completely knocked down (CKD) automobile production in the 1960s. Japanese companies entered the market during the latter half of the same decade. All of them were joint ventures with local companies, and the automotive industry was developed as an import-substituting industry. However, due to the small domestic market in Malaysia, none of them could enjoy an economy of scale.

Japanese companies occupied more than 70% of the domestic market (including passenger cars and commercial vehicles) before the establishment of the national car company, Proton. Although the main parts were imported for CKD production, some parts were produced by local companies with joint ventures or alliances with foreign companies.

In the 1980s, the Malaysian government started import substitution for heavy industries, including the automotive sector. Manufacturing businesses in Malaysia were mainly run by foreign-owned and Malaysian Chinese (Chinese-ethnic Malaysian) companies. The government intended to expand the entry of Bumiputera[1] companies into the manufacturing sector in keeping with the New Economic Policy (NEP)[2], which started in 1971. As Bumiputera companies lacked much capital and experience,

[1] 'Bumiputera' means 'child of the land' in the Malay language, which represents ethnic Malays and the natives of Sabah and Sarawak.

[2] The policy included poverty eradication and the enhancement of Bumiputera participation in commerce and industrial sectors.

the government itself initiated industrialisation by establishing public companies (government-owned or linked companies). Public companies played significant roles in leading industrialisation after the 1970s. In particular, the Heavy Industry Corporation of Malaysia (HICOM) was established in 1980 to play the role of a promoter of heavy industries. HICOM set up joint ventures mainly with Japanese companies. As a conglomerate, it included in its portfolio not only the first national car manufacturer, Perusahaan Otomobil Nasional Bhd (Proton), but also joint ventures of cement, steel, and motorcycle manufacturing. The decision to have joint ventures with Japanese companies might have been influenced by the Look East Policy[3] and the increasing global presence of Japanese companies in heavy industries.

The government initiative for Proton was promoted under the strong leadership of Prime Minister Dr. Mahathir Mohamad. Due to the difficulty in integrating automotive production through a local company alone, Proton was established as a joint venture with Japanese companies in 1983. HICOM invested 70% and Mitsubishi Corporation and Mitsubishi Motors invested the remaining 30% of the total capital of RM150 million.

The national car project in Malaysia was referred to in the industrial master plan and its future plan was drawn up in the Medium- and Long-Term Industrial Master Plan Malaysia, 1986-1995 (IMP), which was announced in 1985. The IMP showed Proton's role in developing local parts manufacturers during the period, and some related policies were introduced.

In response to the IMP, which suggested another national car project, Perusahaan Otomobil Kedua Sdn. Bhd. (Perodua) was established in 1993. Perodua was the second national car manufacturer and was a joint venture with Daihatsu. From 1994, Perodua started to sell a compact car based on Daihatsu' Mira model. When Perodua entered the market, Proton no longer enjoyed its Gulliver-type oligopoly. Since then, both companies have continued to maintain an oligopoly by keeping the lion's share of the market from the early 2000s.

The number of national car manufacturers has increased in Malaysia. There are another three companies: Malaysian Truck and Bus (MTB), which produces trucks; Industri Otomotif Komersial Malaysia Sdn. Bhd. (Inokom), which produces commercial vehicles; and NAZA, which mainly produces passenger cars. In spite of the entrance of other national car manufacturers, the production volumes of both Proton and Perodua have been much larger than the other companies.

Trade liberalisation in ASEAN, which began in 1992, was a big turning point for the automotive industry in Malaysia, which had been protected up until then. The Second Industrial Master Plan, 1996-2005 (IMP2), which started in 1996, showed a way to strengthen the competitiveness of the automotive industry to face trade liberalisation. More specifically, it described the intensification of the automotive industry's research and development abilities, human resource development, and overseas expansion.

With the implementation of the Common Effective Preferential Tariff (CEPT) scheme in the ASEAN Free Trade Area (AFTA), Malaysia had to decrease its import duties to 0%–5% by 2002. However, the government designated automobiles as sensitive items in order to hold off trade liberalisation until 2005. In 2004, the government suddenly decreased its import duties for fully assembled vehicles and CKD parts. Following the formulation of the National Automotive Policy (NAP), further decreases in import duties were made in 2006. However, an excise tax was strategically imposed to offset the

[3] The policy endorses the importance of learning the work ethics of Japan and the Republic of Korea.

decrease in import duties. The import duties of general automobile parts in ASEAN decreased before those for fully assembled vehicles and CKD parts were reduced, and the rates for them were below 5% for almost all items by 2003.

The conclusion of the Economic Partnership Agreement (EPA) between Japan and Malaysia in 2007 further accelerated the liberalisation process. Under the EPA, automobile-related tariffs must be reduced gradually by category, and all import duties were abolished by 2015. For the purpose of strengthening the competitiveness of the automotive industry in Malaysia, Japan agreed to offer support in various ways. A total of 10 projects have been initiated, including the introduction of the Toyota production system and business-matching to automotive parts manufacturers in Malaysia.

The NAP, which was announced in 2006 also appeared in the Third Industrial Master Plan, 2006-2020 (IMP3). IMP3 pointed out the future direction of the automotive industry in Malaysia. The NAP was further revised in 2009 and implemented as NAP 2009. NAP 2009 included maintaining and expanding competitiveness amid progressing trade liberalisation and developing environmentally friendly technology. NAP 2009 retains the agenda of expanding Bumiputera business participation, which is a special yet important issue in Malaysia. In 2014, NAP 2014 was revealed. It emphasised investment, technology, human capital, and environmental issues. The details will be presented in Section 3.

Proton always gained attention as the first national car manufacturer and as a government-owned company. In 2012, it was bought by DRB-HICOM, a non-governmental company. Although DRB-HICOM has embarked on city development, its main business remains in transportation equipment such as automotive equipment. It collaborates with foreign companies to produce CKD, automotive parts, and motorcycles. DRB-HICOM agreed to sell 49.9% of Proton's equity to Geely in China at the end of 2017. Geely paved the first step for penetrating into the Malaysian market.

In 2018, Dr. Mahathir returned to the position of prime minister and announced the Third National Car Project. A Malaysian company, DreamEdge, was appointed to be the anchor company of this project.

1.2. Development of the automotive industry

The ownership of passenger cars in Malaysia has already surpassed 9 million units. The ownership ratio is 3.3 persons per 1 car. This is the largest ownership ratio in ASEAN. Since the domestic market in Malaysia is rather small and has already matured, we cannot expect further rapid expansion in the domestic market. Hence, there is a strong awareness of the need to export completed vehicles and parts and components. The future direction for both automotive manufacturers and parts manufacturers, as it was shown in the NAP, will be to penetrate foreign markets.

A feature of the automotive market in Malaysia is the predominance of passenger cars. This is quite different from the other ASEAN Member States, where commercial vehicles comprise rather high market shares. Figure 3.1 shows the changes in the production volumes of passenger cars and commercial vehicles from 1980 to 2018. It is observable from the figure that the passenger car production volume increased to more than 500,000 to 600,000 units from around 100,000 units in 30 years. On the other hand, the volume of commercial vehicles stayed below the production volume of passenger cars at only about 140,000 units, even at its peak period in 2005. After 2007, the production volume has been keeping stable at around 50,000 units.

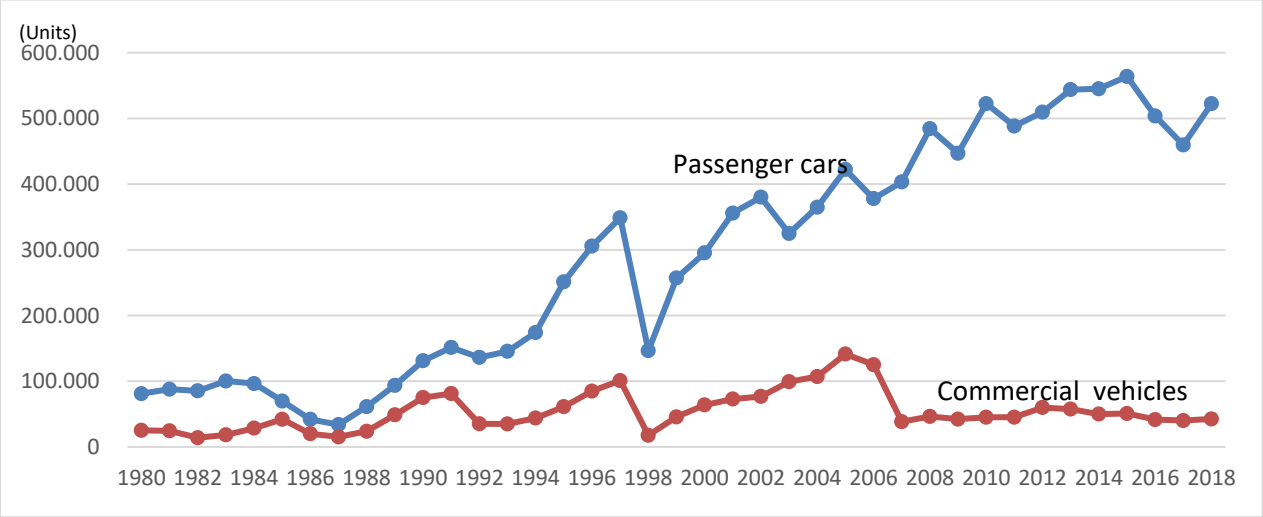
Even though the volume of passenger cars has increased exponentially, the production volume of

passenger cars has sharply decreased twice. The first decline occurred in the middle of the 1980s, with negative economic growth experienced for the first time after the country's independence. Due to the economic depression, both the production and sales volumes experienced significant drops. The second decline took place during the economic slump in 1998, immediately followed by the Asian financial crisis of 1997. The production of passenger cars decreased by 52% from 1997 to 1998.

A nearly parallel upward movement in the sales volume and production was observed. This suggests that sales of imported cars were relatively small. Recent trade liberalisation has caused an increase in imports of passenger cars. After 2007, commercial vehicles experienced sluggish growth in terms of production. On the other hand, sales of commercial vehicles grew slightly. This suggests the increasing sales volume of imported commercial vehicles.

Since there is preferential treatment for passenger cars in the automotive market in Malaysia, both production and sales mainly concern passenger cars. With the diversification in consumer needs and increasing incomes, the demand for vehicles other than passenger cars has shown an increase.

Figure 3.1. Automotive Production Volumes of Passenger Cars and Commercial Vehicles in Malaysia



Source: Data from 1980 to 1985 is from Malaysia Industrial Development Authority (MIDA). Data from 1986 to 2004 is from Fourin (2006). Data from 2004 onwards are from Fourin (2017) and the Malaysia Automotive Association (MAA) (2019).

Within the market segment of passenger cars, the demand for foreign luxury cars is expanding. This trend does not favour Proton, because its brand name is still weak compared to the strong brand names of foreign car manufacturers, and Proton is facing tough competition in the market.

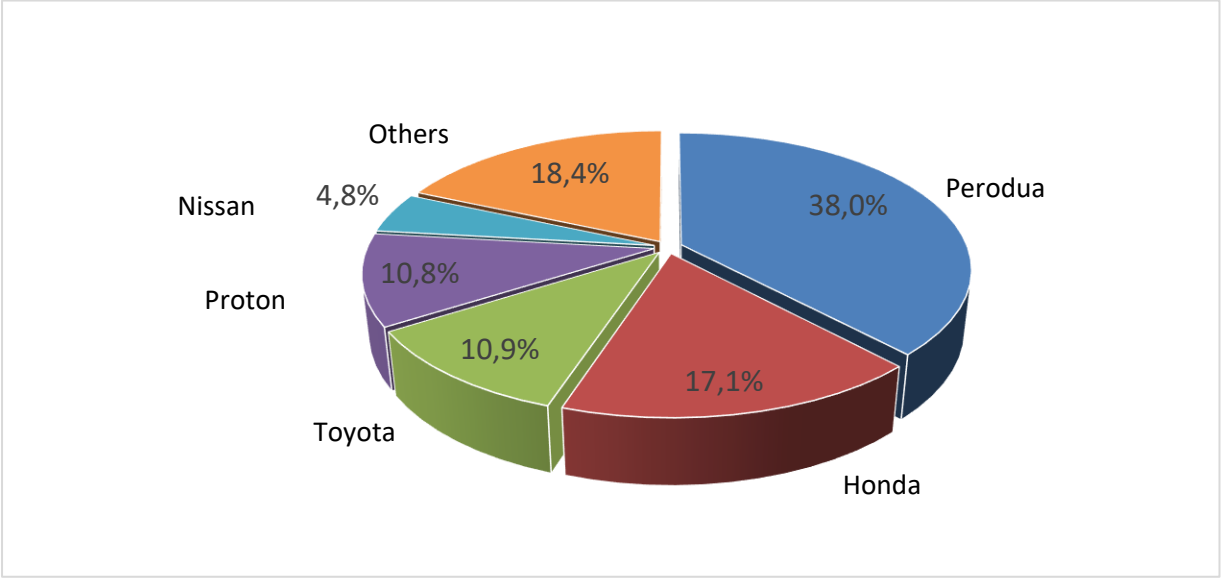
As mentioned above, Japanese automotive manufacturers enjoyed a large market share before Proton entered the market in 1985. Since Proton joined the market, the composition has changed, with Proton capturing nearly 60% of the market share during certain periods. The new entry of Perodua in 1994 caused a considerable reshaping of the market. Proton had been keeping around a 50% market share until 2001, but after 2003 it dropped sharply, and by 2006 it had fallen to less than 30%, only to drop again to its present market share of 10%. On the other hand, Perodua has kept its market share of 20%

since 1998. It managed to achieve a 30% market share after 2006 and overtook Proton to dominate the market. Besides these two national cars, the share of Japanese automotive manufacturers, such as Toyota and Honda, has increased since 2003. The general increasing trend in automotive production can be observed from 2000 in the figure, although there have been some ups and downs in production levels over the years.

1.3. Current state of the automotive industry in Malaysia

According to the latest manufacturing census in 2015, there are 33 passenger car manufacturers and 45 commercial vehicle manufacturers. The production value of passenger cars, RM29,651 million, is much larger than that of commercial vehicles, at RM2,156 million.4 The total number of employees amounts to 28,585 persons. There are 525 automotive parts companies with production totalling RM21,339 million and employing 49,677 persons. The production value of bodies for vehicles by 139 companies reached RM1,306 million with 4,654 employees.

Figure 3.2. Market Shares of Major Companies in 2018



Note: The chart shows the share of total sales of passenger cars and commercial vehicles.
Source: MAA (2019).

The total value of production for the abovementioned three sectors is RM 54,456 million, which is equivalent to 4.8% of the total production of all manufacturing industries in Malaysia. This figure is much smaller than that for electronics-related production (28.2%), oil products-related production (26.2%) and food-related production (17.5%). The employment share is even lower, accounting for only 3.9% of the total of all manufacturing industries in Malaysia.

Figure 3.2 shows the market shares (for passenger cars and commercial vehicles) of major companies

4 The US dollar–ringgit exchange rate was around RM4.0780 as of 1 December 2020.

in 2018. Currently, Perodua has the largest market share of 38%, and its share has been increasing in the last five years. Honda recently has the second-largest market share. Toyota has been supplying both passenger cars and commercial vehicles and is in the third-ranked position. Proton, which used to have the lion's share for many years has failed even to keep third position and has dropped to fourth. The Nissan brand produced by Tan Chong Motor is fifth by market share. The total share of national car producers has been decreasing because of the bad sales situation by Proton. On the other hand, Japanese car producers are increasing their market share gradually.

The national car producers Proton and Perodua will be discussed in the next section. The profile of the other major producers will be presented below.

In November 2000, Honda was established as a joint venture with three companies, namely, Honda, DRB-HICOM, and Oriental Holdings. The investment ratio was 51%, 34%, and 15%, respectively. Its production capacity for passenger cars is about 100,000 units per year, but it also has assembly for engine frames and constant velocity universal joints. Honda Malaysia is one of Honda's major production bases for constant velocity universal joints in the world, and it exports them to other subsidiaries.

The production of Toyota cars was conducted by a local company, Assembly Services, from 1968. Toyota was established in 1982 as a joint venture with a local company, UMW. The capital amounted to RM59 million with a shareholder structure of UMW at 51%, Toyota at 39%, and Toyota Tsusho at 10%. UMW Toyota has three subsidiaries. Two companies are in charge of production, whilst the other one produces parts for their group companies. UMW also invested in Perodua. Toyota also has three subsidiaries, including the Japanese parts manufacturer. The subsidiary, which produces parts, was established for the purpose of domestic sales as well as exports.

Toyota's sales in Malaysia increased from 2003 when 40,000 units in sales were recorded. In 2005, sales increased sharply to reach 91,000 units. The sales volume was in the range of 83,000 to 91,000 units after 2005, and around 60,000 units in 2018, amounting to 10.9% of the market share. After 2007, sales exceeded production due to the increasing sales of imported cars.

The production capacities of Toyota's subsidiaries in Thailand and Indonesia were exceeding those of Malaysia. Based on the specialisation strategy for the ASEAN market, the Hiace model was produced in Malaysia and exported to Thailand in the early 2000s. The parts-producing subsidiary in Malaysia contributes to the mutual complementation of parts within the subsidiaries of Toyota in ASEAN.

A local company, Tan Chong Motor produces passenger cars in cooperation with Nissan and Renault. The history of the company goes back to the first OEM production of the Nissan car that was manufactured from the 1970s.

1.3 Trading patterns

Figure 3.3 shows the trading pattern of passenger cars from 2000 to 2017. Under AFTA, and later the ASEAN Economic Community (AEC), trade was liberalised. However, in terms of the trade of passenger cars, imports surpassed exports, resulting in huge trade deficits. AFTA encouraged the import of passenger cars from Thailand and the EPA with Japan promoted to import of cars from Japan. These two countries have been major exporters of passenger cars. Germany maintained its third-ranked

position after Japan and Thailand until 2008 and surpassed Thailand in 2009 and Japan in 2017 to become the largest exporter of passenger cars to Malaysia with a share of imports of 45.0%.

As explained in Section 2, still, the domestic market in Malaysia is predominantly occupied by locally produced passenger cars. The exports of passenger cars are still limited and not contributing to the production enlargement of local producers. In 2017, Thailand was the major exporting destination, comprising more than 80% of the total exported Malaysian passenger cars.

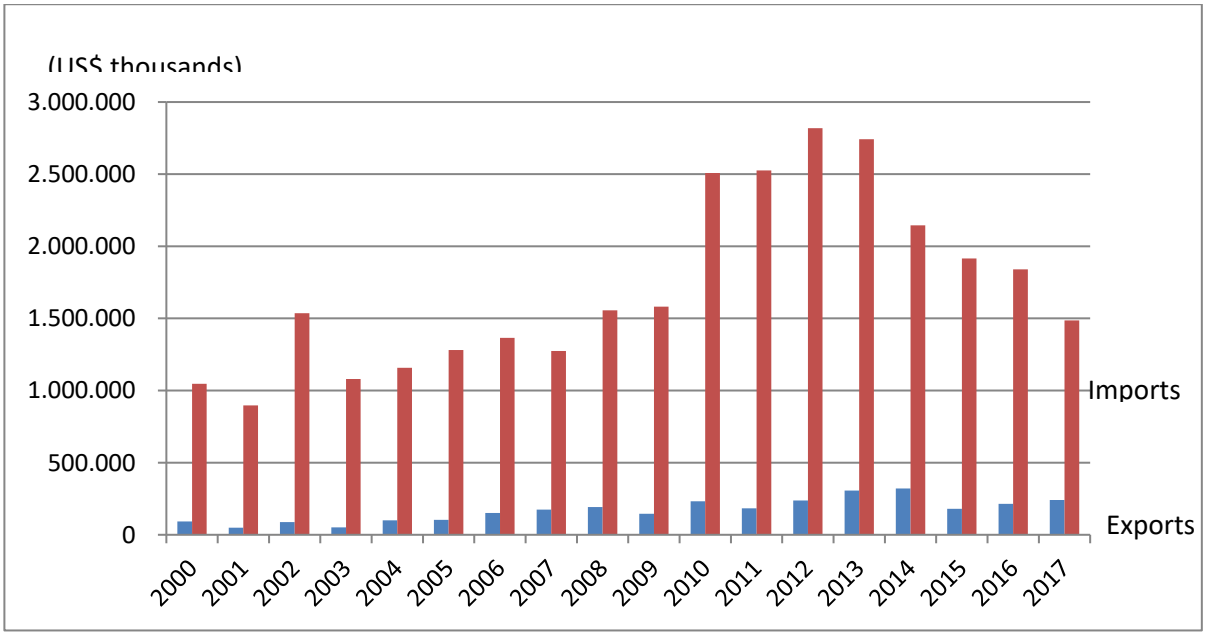
Exports and imports of passenger cars have fluctuated based on the strategies of the major foreign car producers in ASEAN. For many passenger car producers, Thailand is the largest production base followed by Indonesia. For instance, Perodua used to export small cars to Indonesia under the strategies of the Daihatsu group.

The census of the manufacturing sector in 2015 revealed that the export ratio (the percentage of exports in the total sales value) of motor vehicles (passenger cars and commercial vehicles) was 11.5%. Out of 78 manufacturers, 22 companies were involved in exports. However, if we compare with the figures for the export-oriented industries, such as electronics, we can see an export ratio of over 80%, so the figure for motor vehicles was much smaller.

The trade pattern of commercial vehicles is similar to that of passenger cars. We can observe again a huge trade deficit. The import amounts are, however, much smaller than those of passenger cars because of the rather limited domestic market, and exports of the commercial vehicles were negligible.

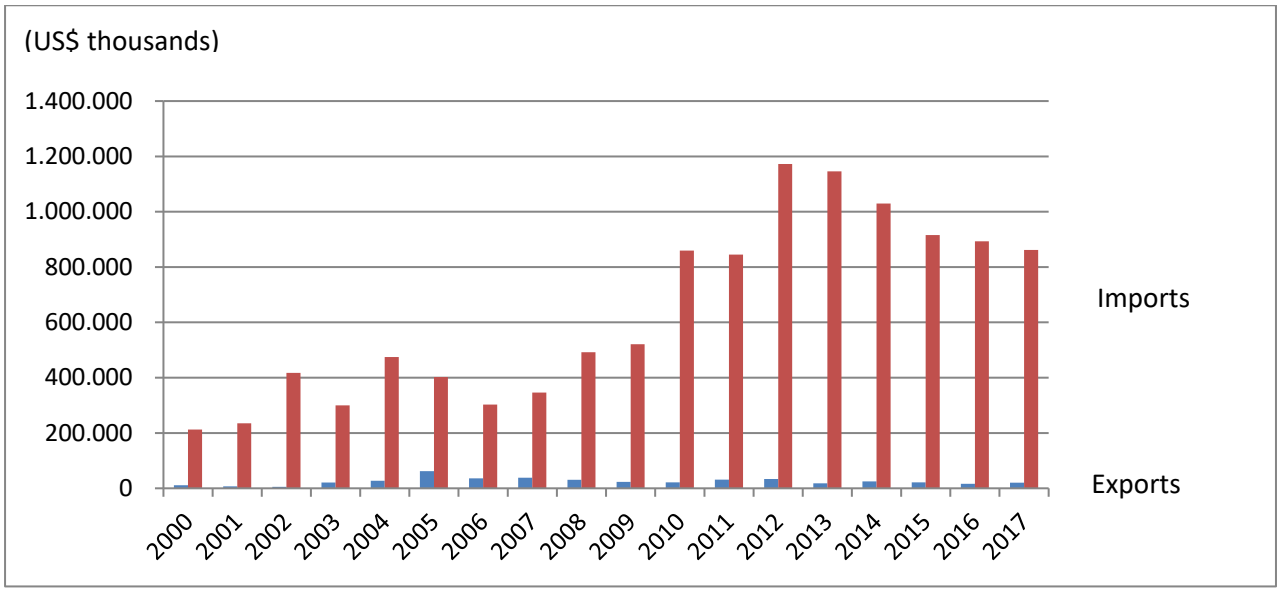
The major export markets for commercial vehicles have been Indonesia, Thailand, and Papua New Guinea. The export amounts to the former two countries have fluctuated year by year; on the other hand, exports to Papua New Guinea have been showing an increasing trend.

Figure 3.3. Exports and Imports of Passenger Cars



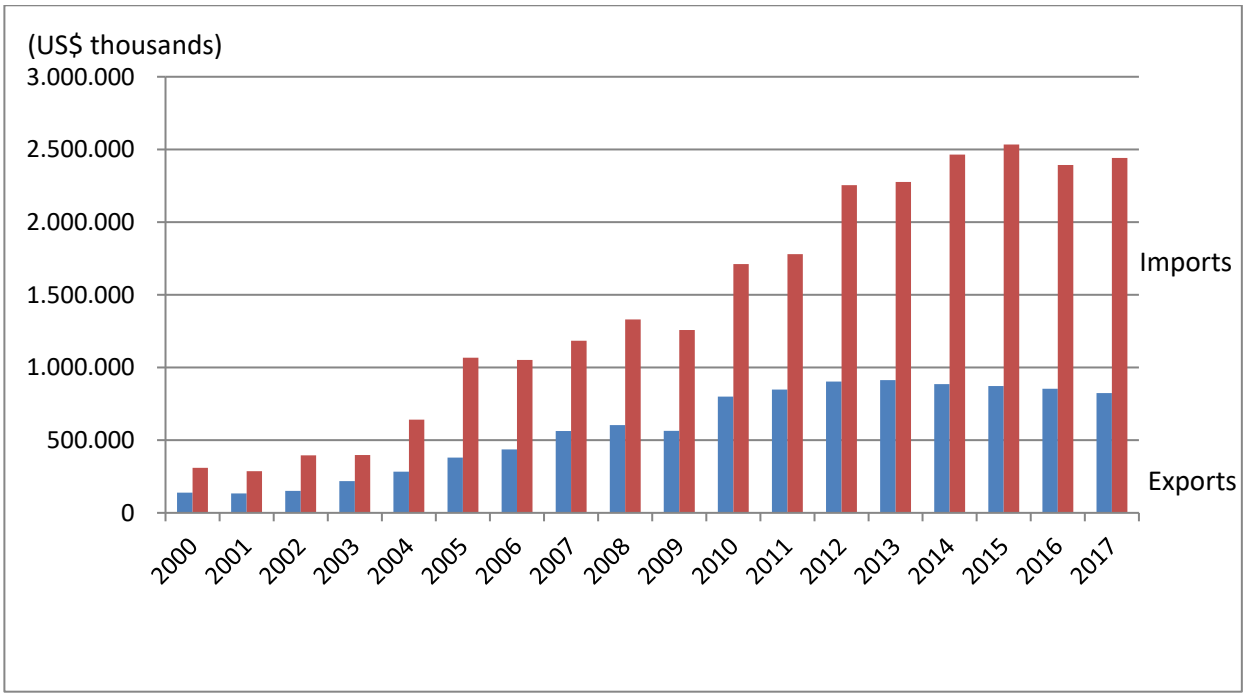
Source: United Nations, Comtrade Database (http://comtrade.un.org.; accessed 19 December 2019).

Figure 3.4. Exports and Imports of Commercial Vehicles



Source: United Nations, Comtrade Database (http://comtrade.un.org.; accessed 19 December 2019).

Figure 3.5. Exports and Imports of Parts and Components



Source: United Nations, Comtrade Database (http://comtrade.un.org.; accessed 19 December 2019).

For Malaysia, Japan has been the largest exporter of commercial vehicles for many years. Imports of commercial vehicles from Thailand increased from 2010, and Thailand became the largest exporter of commercial vehicles to Malaysia in 2012. In 2017, imports of commercial vehicles from Thailand

comprised 50.7% of total imports, followed by Japan at 36.0%. Since the domestic market for commercial vehicles is rather small in Malaysia, the major Japanese car producers preferred to supply from Japan and Thailand. Under AFTA and the AEC, some amount of exports from Japan were replaced by commercial vehicles produced by Japanese companies in Thailand.

The trade deficits for parts and components are not as large as those for passenger cars and commercial vehicles. The exporting markets for Malaysian auto parts manufacturers are diversified. For instance, the largest exporting market, China, comprised 10.7% of total exports in 2017, followed by Thailand at 9.8%, Singapore at 8.9%, Indonesia at 7.4%, and Japan at 7.0%. According to the census of the manufacturing sector in 2015, 167 companies out of 525 parts manufacturers were engaged in exports with a total export ratio for the sector of 27.7%.

Because of the small domestic market in Malaysia, some foreign parts producers, mainly from Japan and some from Germany, supply both domestic and foreign markets to enjoy the scale merits. In particular, Japanese companies, which have a long history of mutual trading in parts and components under the Brand to Brand Complementation (BBC) scheme within ASEAN since the 1980s, have already built up the supply chains in ASEAN. Free trade under AFTA and the AEC further accelerated mutual trade in parts and components in the ASEAN region.

As was explained in the previous section, subsidiaries of Toyota have been exporting steering wheel parts to other ASEAN countries. Denso has factories in ASEAN-4 and each subsidiary specialises in specific parts and exports them to each other. Honda has been producing constant velocity universal joints and exports to major Honda factories all over the world.

Imports of parts and components increased from 2004 when Malaysia decreased its import duties. Except for Proton and Perodua, other Malaysian car producers are involved in CKD production. Major parts and components are imported from other countries. In 2017, Thailand was the largest exporter to Malaysia, since Thailand is the largest production base in Asia for most of the Japanese car manufacturers. Imports from Thailand comprised 33.7% of total imports in 2017. However, its share in total imports had been decreasing. This was the same for the case of imports from Japan, which had a share of 21.0% in the same year. On the other hand, the figures for China and Germany have been increasing and reached 13.9% and 11.5%, respectively. The diversification of parts imports is related to the supply chain management of major manufacturers. Many Japanese parts manufacturers established subsidiaries in China and can produce some parts and components at lower prices. We cannot deny the possibility that Chinese products have been replacing Japanese products under the new Asian supply chain.

1.4. Research and development

The actual situation of research and development (R&D) in the automotive industry is different from company to company. Nevertheless, an overall picture can be gleaned from the census of manufacturing sector published by the Department of Statistics. Total R&D expenditure of automotive manufacturers in 2015 was RM134.5 million, which corresponded to 0.4% of the total sales value. Total R&D expenditure of automotive parts manufacturers amounted to RM190.4 million, comprising 0.9% of their total sales amount.

R&D expenditure depends on the individual company, and we must be careful when generalising a trend. For the automotive industry as a whole, total R&D expenditure is still not large. Most of the

automotive manufacturers in Malaysia that originate from developed countries tend to depend on their parent companies for their R&D functions. Hence, it is not usual for foreign automotive subsidiaries in Malaysia to have their own R&D facilities. As for national car manufacturers, the R&D of both Proton and Perodua is mainly undertaken in cooperation with foreign partners.

1.5. The automotive parts industry

As stated previously, there are 525 companies in the automotive parts in the automotive parts industry. According to the manufacturing census, production was valued at RM24,339 million with a workforce of 49,677 employees in 2015. In terms of exports, foreign-owned companies showed a higher export ratio, and local parts companies are less active in exporting their products. There are 167 exporting companies in total, and the export ratio in the industry as a whole is 27.78%. In some cases, automotive manufacturers, such as Perodua and Honda, have been exporting some auto parts. Toyota is also exporting parts produced by its parts manufacturing subsidiaries in the same group.

As mentioned in Section 1, all the automotive manufacturers employed CKD production systems during the 1960s and 1970s. Some local parts manufacturers complemented or supplied to the aftermarket. However, this situation changed with the establishment of Proton. Under the national car project, Proton not moved towards the integration of the production of passenger cars but also proceeded to the localisation of parts. Most of the members of the Malaysia Parts and Components Manufacturers Association (MAPCMA), some of which had formally produced parts before Proton's establishment, became major suppliers for Proton. Some foreign companies also set up new subsidiaries to correspond with the parts localisation in Malaysia. Also, some Bumiputera companies entered the auto parts industry to enjoy the new business opportunities for them under the NEP.

One of Proton's additional and unique roles as a national car manufacturer was to develop local parts manufacturers, especially Bumiputera vendors, it was actively involved in this direction from 1998. The government also provided financial support to Bumiputera vendors in order to develop the supporting industry. Proton provided various support, as mentioned before, and purchased parts from Bumiputera companies. As a result, many Bumiputera companies entered the parts industry, and some of them relied heavily on business with Proton.

According to a study of Proton vendors, vendors can be divided into three groups based on their need for support from Proton, their business size, running year, and local and foreign equity share (Anazawa, 1998). These groups are the foreign-owned companies, Malaysian Chinese companies, and Bumiputera companies. The Bumiputera companies were less competitive than the Malaysian Chinese companies, but they improved their technology levels with support from Proton or Perodua or through technical assistance from Japanese companies. Some Bumiputera companies with such improvement strategies became first-tier vendors, and some exported their products or entered into overseas production. In addition, there was a polarisation amongst Bumiputera vendors. Some grew larger and caught up to the level of the existing Malaysian Chinese vendors, but others remained small and continued to depend heavily on the national car manufacturers.

The polarisation was accelerated by introducing modularity from Proton. There was no differentiation amongst vendors in the beginning stages, in that the first- and second-tier vendors delivered directly to Proton from their respective companies. In the case of modularity, however, the delivery system then changed whereby only the first-tier vendors delivered directly to Proton, whilst the rest delivered

to the first-tier vendors. The selection of the first- and second-tier vendors was reflected in the capabilities of the vendors. Harder competition from AFTA and the EPA with Japan encouraged Proton to introduce this kind of selection. More detailed observation revealed that the first-tier vendors could also sometimes become second-tier vendors based on the car type and model.

In Malaysia, there are vendor associations that function like those in Japan, to organise activities for the vendors. The Proton Vendor Association, which was established in 1992 and is the oldest, started organising briefings for all the vendors. It implemented some programme for association members, such as company visits and training. Proton, Perodua, and Toyota have an institutionalised vendor association of their own, whilst Honda and NAZA also have similar kinds of associations but of an unofficial kind.

Currently, the members of the Proton Vendor Association number around 150 companies. The Perodua Vendor Association has 125 member companies[5] and Toyota has around 40–50 companies.[6] It is common for some parts manufacturers to have multiple memberships of various vendor associations. It is noted that about 60% of vendors are members of both the Proton and Perodua vendor associations. Besides these vendor associations, there are also industry-based associations, such as the MAPCMA. Originally, many foreign-owned companies and Malaysian Chinese companies were members of the MAPCMA, but Bumiputera companies have also increased in number and, currently, there are 97 companies to date that have joined the MAPCMA.

2. National Car Projects

2.1 Proton

Proton was established as the first national car manufacturer in 1983. It is closely related to industrial policies and government involvement in the automotive industry in Malaysia. Even though there are five national car manufacturers in Malaysia, people pay more attention to Proton than others since the government was the major shareholder of Proton until 2012. Details of the company's development to date are stated below, including the merger and acquisitions exercise by DRB-HICOM in 2012 and the merger by Geely in 2017.

Proton started commercial production in 1985 and introduced the Proton Saga, a prototype based on the Mitsubishi Lancer model. At that time, Malaysia was in an economic recession. Worse, the country also experienced a negative economic growth ratio for the first time after independence. Therefore, the sales volume of automobiles was also in a slump. It was a challenging time for Proton. Fortunately, together with the economic recovery, the sales volume increased and the company reached a 73% market share in 1988. Although the market share again experienced a drop to as low as 60%, it later took an upturn and grew to 74% in 1993.

Proton is a national company that was established under the strong leadership of Dr. Mahathir Mohamad, Malaysia's former prime minister. Proton's role was to assume the responsibilities of:

(1) The rational development of the automotive industry in Malaysia by obtaining and improving

[5] The number of Proton and Perodua members is according to the member lists of their associations.
[6] Interview with Perodua vendor association member company.

technology, skills, and know-how, as well as the development of the automotive-related or supporting industries;

(2) Providing cars with self-developed models that could fulfil the needs of the Malaysian market at a reasonable price; and

(3) Enabling the participation of the Bumiputera community in the automotive industry.[7]

There were multiple purposes for the birth of the national car project. It was not only to enhance the national reputation by producing national cars and realising the restructuring and concentration of the automotive industry documented in the IMP. Equally important was to also train and support the industry along with business facilitation for the Bumiputera. The first main shareholder of Proton was HICOM, which was a government-linked company that promoted heavy industrialisation and operated in line with the government. Therefore, the Malaysian government offered its full support to Proton.

In its early stage of establishment, Proton employed a large number of Bumiputera operators and trained Bumiputera engineers. It also developed parts manufacturers of Bumiputera origin. Many of the operators and engineers were sent to Japan for training before starting commercial production. Many Japanese employees of Mitsubishi Motors were sent to Malaysia in order to provide on-the-job training to engineers in Proton.

The enhancement of the national reputation may be achieved if national car manufacturers are able to produce cars with a high local content with self-developed designs. Therefore, vendor development was necessary so to respond to the government's targets for the localisation of parts (60% in passenger cars and 45% for commercial cars by 1996). This direction was in line with Malaysia's protectionism towards local automotive manufacturers whereby tariffs were imposed on imported parts that could have been produced or localised within the country. Coupled with the strong appreciation of the Japanese yen after 1985, Proton was pushed to assume the in-house production of parts through a subsidiary of Proton to reduce the production cost by replacing the parts imported from Japan.

Proton's vendor development programme, as a part of the government vendor development programme for small and medium-sized enterprises, started in 1988, and at that time it was called the Proton Component Scheme.[8] Proton sent its engineers to its vendors, also government subsidies were given to vendors through Proton. Besides these activities, Proton introduced the single sourcing of parts and components to maintain a high enough volume of orders to facilitate the vendors' production. It also tried to improve the competitiveness of vendors by promoting technical alliances through match-making with mainly Japanese companies.

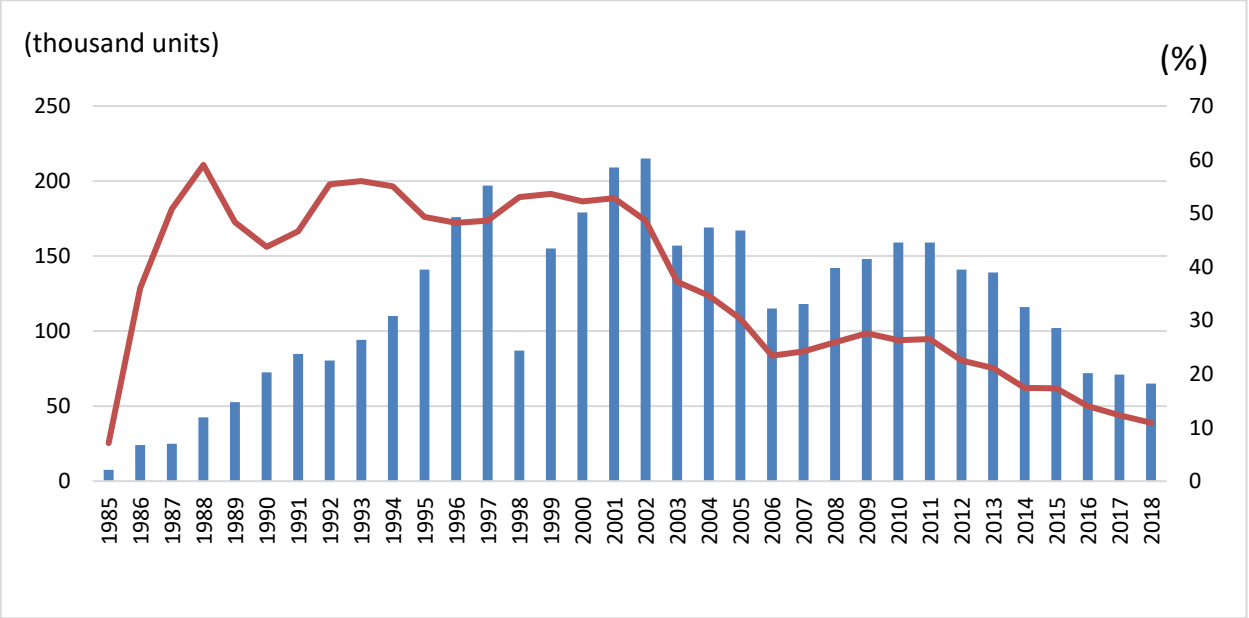
Figure 3.6 shows the sales volume and market share of Proton. At the beginning of its establishment, the economic recession created a slump in both production and sales. Following economic recovery, Proton expanded its market share rapidly to occupy the domestic market (including passenger cars and commercial cars) by up to 60% in 1988. Prior to the establishment of Perodua, the second national car project, Proton occupied more than half of the domestic market. With the improvement of consumers' income levels due to economic growth, their needs became diversified, thus causing stagnation in Proton's market share.

---

[7] According to corporate data by Proton.

8 Please refer to Kawabe (1995) regarding the vendor development programme.

Figure 3.6. Sales and Market Share of Proton



Note: Blue bars denote the number of units; red lines the percentage of market share.
Source: Proton company data obtained by the author.

When Perodua entered the market, the potential demand for cars was developed again in Malaysia. It increased Proton's production and sales to reach almost 200,000 units in 1997, just before the economic downturn hit Asia. The Asian financial crisis in 1998 temporarily slowed the consumption of automobiles. After 1999, the economy recovered and Proton hit record sales of 215,000 units in 2002. Unfortunately, this positive turn did not last for long, and Proton's market share later dropped. One of the main reasons could have been the rising market share of Perodua.

Circumstances completely changed with the announcement in 2003 that the import duties for fully assembled vehicles would be lowered from 2004 onwards. There was some restraint amongst consumers in buying new cars as they wanted to benefit from such a policy, which then affected Proton. In the same period, Proton also experienced a loss of customers. Increasingly, consumers started to consider other choices than Proton cars because Proton had not been able to introduce new cars that satisfied customers. Despite the plan to increase production capacity through the opening of a second factory in Tanjong Malim, Perak in March 2004, Proton's sales dropped and the company could not leverage the additional production capacity.

From the late 1990s, Proton shifted to in-house development. It gradually reduced its dependency on Mitsubishi Motors for R&D. Proton's gradual reduction in dependency on Mitsubishi Motors was deliberate since Proton made use of Lotus from the United Kingdom to remain active in R&D. Lotus was acquired by Proton in 1996 as a subsidiary and became a wholly owned subsidiary of Proton in 2002. New engines for selected car models were made available since the end of 2003. This was a result of co-development between Proton and Lotus. In terms of equity share, the role of the Mitsubishi group was getting smaller. Mitsubishi Motors sold Proton's equities in March 2004 to strengthen its financial position. In January 2005, Mitsubishi Corporation sold Proton's equities, which marked the end of the capital relationship of more than 20 years between Proton and the Mitsubishi

group.[9]

Currently, Proton has about 150 vendor companies that support its supply chains. It was identified that around 10 local vendors are competitive globally. There were no distinctions between first-tier and second-tier vendors in the past. However, in the process of producing the new models, second-tier vendors deliver parts and components to the first-tier vendors.

Although Proton is one of the member companies of DRB-HICOM and no longer has an equity shareholding by the government, Proton still pursues the government's policy as a national car manufacturer. Proton will follow the directions shown in NAPs.

In 2017, the Chinese car manufacturer Geely acquired a 49.9% equity share in Proton. Geely sent a managing director and other managers to control the management of Proton, and Proton started to import Geely's sport utility vehicles to cultivate the new domestic market.

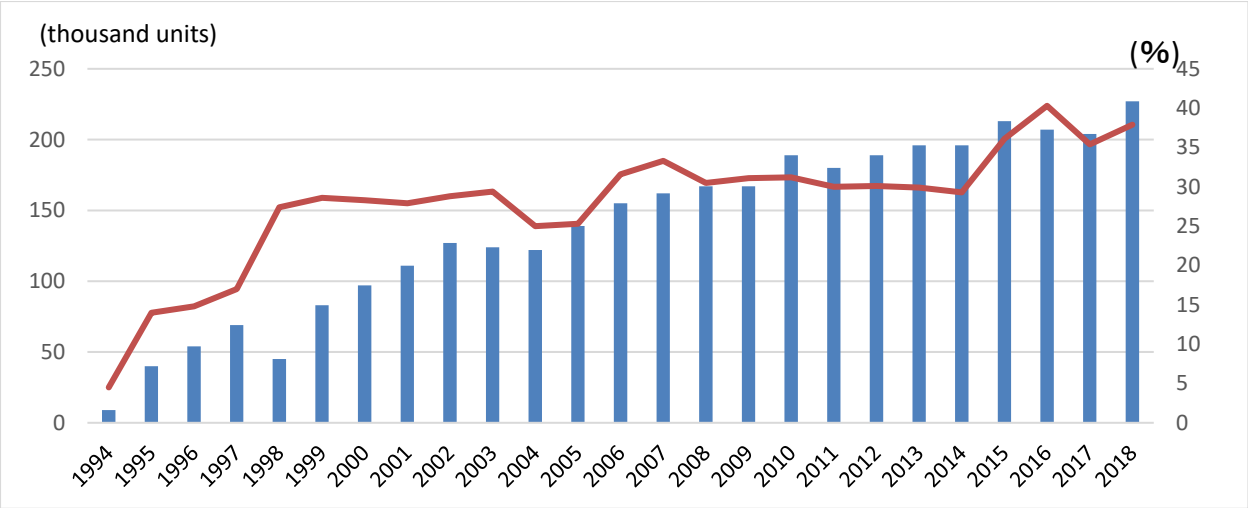
2.2. Perodua

Perodua is the second national car manufacturer and a joint venture with Daihatsu. It was established in 1993 and started its production in 1994. First, the company introduced the Kancil model to the market, which was based on the Mira, an old model of Daihatsu. Whilst Proton produced passenger cars for the over-1300 cylinder capacity class, Perodua produced smaller classes to accelerate motorisation in Malaysia. The introduction of the Kancil model gave people who usually used a motorcycle the opportunity to purchase a car.

Initially, Perodua was invested in by local companies together with Japanese companies. The local companies were UMV (38%), MBM (20%), and PNB (10%), respectively. The Japanese companies in this venture were Daihatsu (7%) and Mitsui Corporation (5%). Subsequently, in 2001, they established a subsidiary for production with shareholding by Perodua (49%), Daihatsu (41%) and Mitsui Corporation (10%) (Japanese Chamber of Commerce in Malaysia, 2011: 357). Furthermore, they also have other group companies.

[9] Please refer to Anazawa (2006) for more details.

Figure 3.7. Sales and Market Share or Perodua



Note: Blue bars denote the number of units; red lines the percentage of market share.
Source: Perodua company data obtained by the author.

Figure 3.7 shows Perodua's sales volume and market share over the years. From starting production in 1994, Perodua rapidly expanded its market share until 1997. As a result of the Asian economic crisis, the company's sales volume decreased in the overall shrinking market in 1998. However, by 2003, its market share expanded to over 25%. In 2004 and 2005, the market share temporarily dropped to around 25% due to the effect of the abolishment of import duties in ASEAN. After 2006, Perodua retained a market share of more than 30% and surged ahead of Proton to become number one in terms of market share. Perodua's competitiveness was based on having popular models, such as the Myvi and the Viva, which occupied the top ranks for each of their classes.

The current production capacity of Perodua is 230,000 units per year (two-shift system), leaving some space for an increase in production. Apart from increasing production, Perodua will focus on the expansion of exports of completed vehicles and engine parts. The in-house production of parts will be also accelerated (Fourin, 2011: 241).

In order to enhance competitiveness, Perodua has been paying more attention to production, products, R&D, and consumer satisfaction since 2011. With increasing production and sales, Perodua has been eager to invest to enlarge its production capacity, and in 2014, it built a new factory to produce energy-efficient vehicles (EEVs). A new engine factory was also built in the state of Negeri Sembilan, located to the south of Kuala Lumpur. Perodua established a subsidiary that produces plastic parts near the main factory.

Currently, Perodua has around 130 local vendors. As was explained, Proton was eager to develop local vendors in the past. However, once Mitsubishi withdrew its investment in Proton, it became difficult for Proton to continue special support to its vendors by itself. On the other hand, Perodua has been trying hard to upgrade the capabilities of its vendors, especially Bumiputera vendors. Perodua has been sending engineers to its vendors and sometimes Perodua engineers stay in those vendors to work to improve quality and productivity. Perodua also has its training centre, which is open to all the

vendors.

The productivity of Perodua's new factory is almost the same as that in Japan. Perodua sent some engineers to Japan for training. In the new factory, operators are required to be multi-skilled workers, and for this purpose, a special training programme was also introduced.

2.3. Other national car manufacturers

Other than Proton and Perodua, MTB is another national car manufacturer that was established in 1994 to produce trucks. Production commenced in 1997, with a production volume of trucks ranging from 3,000 to 5,000 units. Currently, MTB is under the DRB-HICOM group.

There is also Inokom, which was established in 1993. It formed a joint venture with the Berjaya group, a local company, Renault (French), and Hyundai (Korean) in 1996 to produce commercial vehicles. Currently, it is under the Sime Darby group and has a production volume of between 1,000 and 1,500 units, which is an indication of its lower competitiveness in comparison with other companies.

The NAZA Group, which was established in 1974, was appointed as another national car manufacturer in 2003. It started to produce multi-purpose vans in cooperation with KIA of the Republic of Korea. Fifteen companies exist within this automotive-related group company. They produce and sell KIA and Peugeot vehicles.

The production volumes and market shares of these three companies – MBT, Inokom, and the NAZA Group – are far below the levels of Proton and Perodua. These three companies have not had a significant influence on the overall automotive industry compared to Proton and Perodua.

2.4 The third national car project

In the national election of the Lower House in 2018, the opposition parties won by keeping majority seats in the Lower House. Former prime minister Dr. Mahathir returned to his role again to lead the Malaysian politics and the economy. He tried to establish a third national car project and gain access to some Japanese companies. Unfortunately, the project was not successful in finding a Japanese partner. In 2019, DreamEdge, a local engineering service provider, was appointed as an anchor company to be in charge of the third national car project. Since DreamEdge does not have any production facilities, it has to cooperate with existing car manufacturers for production. Currently, the project is still ongoing, and the details of the project have not been released yet. So far, it has been announced that production will start in 2023.

3. The Policy of the Automotive Industry in Malaysia

3.1 Industrialisation policy[10]

Malaysia's long-term economic policy has been shown in the Outline Perspective Plans (OPPs). Every five years, the government also publishes the Malaysia Plan. In the first OPP in 1971, the government

[10] Please refer to Anazawa (2010b) for more details.

introduced the NEP, which had some targets to be achieved by 1990. Thereafter, they implemented the National Development Policy, which regulated the Malaysian economy for 10 years from 1991 to 2000. It was then replaced by the National Vision Policy, which became the source of regulation for another 10 years, from 2001 to 2010. In 2011, the Economic Transformation Plan (2011–2020) was introduced, and the 11th Malaysia Plan (2016–2020) is ongoing. In addition, Malaysia plans to achieve the developed country status by 2020, which is known as Vision 2020.

Apart from these, Malaysia has industry master plans that regulate, in particular, the manufacturing industry. There was the IMP from 1986 to 1995, the IMP2 from 1996 to 2005, and the most recent IMP3, which provides direction from 2006 to 2020. The IMP issued separate volumes by industry, and there were independent chapters regarding the main industries in IMP2 and IMP3 that described the transportation equipment industry, including the automotive industry. The policies in the automotive industry have up to now been implemented in line with IMP, IMP2, and IMP3.

The IMP roughly divided the manufacturing industry into export-oriented sectors and domestic market-oriented sectors, and the automotive industry was regarded as a domestic-oriented market. Since Proton had just started its commercial production at the time of the first IMP, there was no quantitative target for the automotive industry. However, the general notion was to enhance the national reputation by having a national car. Proton was also established to restructure and integrate the automotive industry with a focus on a national car. The plan also included the establishment of other national car manufacturers in commercial vehicles. It was expected for Proton to develop Bumiputera vendors in the IMP.

The defining characteristic of the IMP2 was of its direction for developing a cluster-based industry. The manufacturing industry was divided into three categories: internationally linked, resource-based, and policy-driven. The automotive industry was policy-driven and it was a strategic industry for the government.

Looking back to the period of the IMP, it was analysed that Proton developed the parts industry, strengthened its competitiveness, introduced the latest technology, and conducted the in-house production of components. Moreover, the IMP2 also provided future direction for the automotive industry, including strengthening its R&D capabilities, manpower development, and overseas expansion, in conjunction with the CEPT scheme under AFTA, which had already been commenced.

In order to progress in the era of globalisation, IMP2 provided the direction that was needed to create high-quality technology and high value-added to become more effective. The IMP3 was implemented after NAP was completed. Hence, every policy related to the automotive industry was described under NAP. The main theme of IMP3 was international competitiveness.

3.2 National Automotive Policy

3-2-1 NAP 2006

IMP focused on the establishment of the national car. Meanwhile, the automotive industry was positioned as a policy-driven industry in IMP2. The IMP2 also showed plans to prepare for trade liberalisation under AFTA. With regard to the automotive industry, the IMP3 first analysed the current situation of the industry, then showed NAP, which was announced in March 2006.

In October 2005, the government announced the ‘framework of NAP’, due to a delay in the actual plan

that was supposed to be announced in June of the same year. However, its contents differed slightly from the NAP that was finally officially announced in March 2006.[11]

The purpose of NAP was summarised as follows:[12]

(1) Promoting a competitive and viable domestic automotive sector, in particular, the national car manufacturers;

(2) Promoting Malaysia as a regional automotive hub, focusing on niche areas;

(3) Promoting a sustainable level of economic value-added and enhancing domestic capabilities;

(4) Promoting a higher level of exports of vehicles, parts, and components that are competitive in the global market;

(5) Promoting competitive and broad-based Bumiputera participation in the automotive sector; and

(6) Safeguarding the interests of consumers.

In order to achieve these targets, the government has nine strategies:

(1) Providing government support based on sustainable economic contribution;

(2) Increasing the scale of operations through rationalisation to enhance the competitiveness of the automotive sector;

(3) Promoting strategic linkages with international partners;

(4) Developing Malaysia as a regional hub, focusing on niche areas;

(5) Promoting investments in growth areas, such as fuel-efficient engines;

(6) Intensifying skill upgrading through training;

(7) Strengthening institutional support for the automotive sector;

(8) Encouraging and promoting the participation of the automotive sector in regional and global supply chains, including new exports; and

(9) Enhancing the competitiveness of the manufacturers of parts and components through M&A and joint ventures and other measures.

3-2-2 NAP 2009

The Malaysian government reviewed the above NAP in October 2009 and announced NAP 2009, which has been implemented since January 2010. This was intended to make more effective use of the existing NAP within changing circumstances. The key term in the NAP Review is ‘People First’, and its

[11] Please refer to Anazawa (2007) for more details.
[12] See MITI (2006: 358–359).

objectives are summarised as follows:

(1) Ensuring the development and long-term competitiveness and capability of the automotive industry under market liberalisation;

(2) Creating a conducive environment to attract new investment and expand opportunities;

(3) Enhancing the competitiveness of the national car manufacturers through partnerships;

(4) Fostering the development of the latest technology;

(5) Developing high value-added manufacturing in niche areas;

(6) Enhancing Bumiputera participation;

(7) Improving safety standards and promoting environmentally friendly opportunities; and

(8) Enhancing the implementation of the current NAP.

NAP 2009 showed policies that might improve competitiveness in trade liberalisation. It also included the production of hybrid cars and electronics vehicles to address current concerns regarding environmental issues. On the other hand, the policy also continued to offer protection to national car manufacturers and Bumiputera companies. It noted strategic alliances with foreign companies for the survival of the national car manufacturers and the expansion in participation of Bumiputera companies. The details of the specific policies with the aim to achieve the abovementioned targets are summarised as follows:

A Manufacturing licence

・The new policy will lift the freeze of new manufacturing licences for luxury cars, pick-up trucks, and hybrid and electric cars.

・There will be no equity conditions imposed on manufacturing licences.

B Tax/Duties

・Tax will be exempted based on the value of the increased exports of cars and parts.

・Import duty will be removed or reduced in compliance with trade agreements.

・Import and excise duties for completed built-up and complete knocked-down vehicles will be maintained.

・Gazette price will be introduced for imported used cars.

C Technology (high-value and green technology)

・Better incentives will be provided for critical and high value-added parts and components.

・Incentives for hybrid cars, electronics cars, and related infrastructure improvement.

D Soft loans/grants

Soft loans and/or grants will be provided to improve the competitiveness of parts and component manufacturers.

E　Standards (increased safety)

・Full implementation of vehicle-type approval will be introduced by the Ministry of Transport.

・The Ministry of Science, Technology, and Innovation will introduce and enforce mandatory standards for parts and components.

・Gradually, imports of used parts and components will be prohibited.

・Gradually, imported used commercial vehicles will be prohibited.

・The Ministry of Natural Resources and Environment will establish a clear roadmap for fuel standards.

・Gradually, a vehicle end-of-life policy will be introduced by the Ministry of Transport.

F　Approved permit system

・Approved permit system of importing vehicles will be terminated.

G　A strategic partnership for Proton

A new strategic partnership between Proton and globally established manufacturers will enhance the competitiveness of Proton.

3-2-3 NAP 2014

In January 2014, MITI and the Malaysia Automotive Institute (MAI) published NAP 2014. The main purposes of NAP 2014 are as follows:

Development of a competitive local automotive industry;

Making Malaysia a hub for EEVs in the region;

Development of local capability with enhanced value-added;

Increased exports of vehicles and parts and components;

Enhancement of the participation of competitive Bumiputera companies in the auto industry and aftermarket; and

Enhancement of the benefit to consumers by supplying safe and high-quality products at competitive prices.

For these purposes, NAP 2014 contains three main directions – investment, technology and engineering, and market expansion – as well as three main strategies – human capital development, supply chain development, and safety, security, and environment.

Each of these directions and strategies includes many policy-related issues to establish a competitive automotive industry in Malaysia. The key issues are EEVs and the environment. We will review these directions and strategies.

Under NAP 2014, some fiscal incentives (exemptions from corporate tax), such as the Investment Tax Allowance and Pioneer Status were maintained.

Investment

The Malaysian government is aiming to be a regional hub for EEVs through strategic investments.

EEVs include fuel-efficient internal combustion engine (ICE) vehicles, hybrid vehicles, and electric vehicles.

So far, Proton and Perodua have been trying to upgrade the energy efficiency of ICE vehicles. The government has been providing fiscal incentives to attract strategic investments to develop EEVs and enhance the automotive ecosystem.

Technology and engineering

Key strategic sectors in this field include major parts, dies and moulds, materials, and design engineering. The introduction of green technology has been emphasised to enhance R&D and engineering capabilities and provide the relevant infrastructure.

Policies under technology and engineering include the exemption of import tax and excise duties for CKD hybrid vehicles and electric vehicles, as well as other fiscal incentives and soft loans provided for the development of infrastructure of hybrid and electric vehicles and new technology employed by parts suppliers.

Market expansion

It is expected to expand exports, especially parts and components to ASEAN and other countries, under the free trade agreements.

Policy issues are to organise the Automotive Parts and Components International Market Expansion programme and to establish the Distribution Infrastructure Network.

Supply chain development

NAP 2014 will focus on improvements in the quality management system, operational management system, business management system, and testing and validation capabilities.

Policies directed at soft loans for developing new tooling and developing capabilities through automation, consolidation, and so forth.

Human capital development

NAP 2014 will pay attention to enhancing skills and capability in the areas of leadership, management, engineering, quality, design, and cost management. It is also expected to reduce the number of foreign workers in the automotive industry.

Policies in this area include funding for dispatching experts to parts manufacturers, lean production systems, leadership skills, and so forth.

Safety, security, and environment

In order to reduce carbon intensity by 40% by 2020, the government will assist in reducing carbon emissions, increasing fuel efficiency, preserving the environment, and conversing natural resources. For this purpose, a voluntary vehicle inspection programme (VVIP) will be introduced.

Policies related to this area consist of the development of the Malaysian Standard for Safety, VVIP for passenger cars aged over five years, and the adoption of the 3Rs (reduce, reuse, recycle).

In addition to the abovementioned six directions and strategies, NAP 2014 refers to Bumiputera participation and national projects. The government's measures to create globally competitive Bumiputera entrepreneurs are stated in relation to Bumiputera participation. Funding for increasing the competitiveness of Bumiputera companies will be provided. The government will also encourage Bumiputera companies to enter the automotive industry.

The Malaysian government will provide incentives for the success of the national projects, recognising that Proton, Perodua, and Modenas (motorcycles) contributed to the development of the domestic automotive industry.

NAP 2014 was the first time for MITI and MAI to settle on targets, and the following targets for 2020 were introduced.

Production and exports

Total production volume of 1.35 million units of motor vehicles, including 1.15 million units of EEVs per year.

Total volume of 1 million passenger vehicles and 100,000 units of commercial vehicles per year.

Exports of 250,000 units vehicles per year.

Export value of more than RM10 billion for automotive components per year.

Employment opportunities

80,000 new job opportunities in manufacturing.

70,000 new job opportunities in the aftersales service sector.

Reduction of foreign workers

By 2020, local skilled and semi-skilled workers will replace 80% of the foreign workers.

Development of global standard vendors

To upgrade 180 vendors to achieve level five capability according to the global definition.

To upgrade 150 vendors to achieve level four capability according to the global definition.

To upgrade 100 vendors to achieve level three capability according to the global definition.

These targets seem too difficult to achieve if we review the data we discussed in Section 1. For instance, the total production of motor vehicles was less than 600,000 units in 2018. However, it is still meaningful to show these targets in relation to the policies.

3-2-4 NAP 2019

Currently, the MAI,[13] which was inaugurated by the Ministry of International Trade and Industry in June 2010, is in charge of preparing a policy regarding the automotive industry. MITI announced that NAP 2019 would be revealed by the end of 2019. However, unfortunately, so far NAP 2019 is not ready to be published.

Some news sources have reported that NAP 2019 will have three phases up to 2030. During the first phase up to 2023–2024, the main policies will be a continuation of NAP 2014, such as EEV production and the development of car batteries, management systems, and charging stations. The second and third phases will focus on technological improvements, such as 5G, next-generation vehicles, and mobility as a service.

NAP 2006 and NAP 2009 mainly showed the way forward for the automotive industry under the changing environment, especially the implementation of AFTA. Malaysia had to reduce its import duties and began to prepare for trade liberalisation. NAP 2014 had to react to the new trend of green technology. The introduction of EEVs and hybrid and electric vehicles are keen issues for Malaysia. However, technological dependency on foreign companies has made it difficult for Malaysian companies to develop green technology by themselves. Sometimes, foreign partners are reluctant to transfer the latest technology. On the other hand, Malaysian companies are not ready to receive the new technology.

All of the NAPs referred to the special treatment of national car producers. Bumiputera participation is also a key issue picked up in the NAPs, and the NAPs had to pay attention both to competitiveness and protection at the same time.

NAP 2019 will continue to pave the way for environmental issues and the changing circumstances of the automotive industry in the world. Malaysian car manufacturers will have a hard time coping with the next generation of vehicles and mobility as a service. Even in developed countries, large car producers have to invest a lot for new technology, infrastructure, and services. The national car producers will cooperate with their partners to gain the latest technologies.

4. Conclusion

During the 1980s, mainly Japanese companies were producing automobiles for CKD production as joint ventures with local companies in the ASEAN region. Hence, the announcement of the national car project by Malaysia in the early 1980s had a great impact on the industrial policies in neighbouring countries and other developing countries as well.

However, the automotive industry in Malaysia, which had been protected for many years, is facing many problems with trade liberalisation under AFTA and the EPA between Japan and Malaysia.[14] The issues described in the IMP3 are summarised as follows:

[13] Recently the MAI was re-organised as the Malaysia Automotive, Robotics & IoT Institute, which is in charge of not only of automotive policymaking but also robotics and IoT-related issues.
[14] MITI (2006: 355–58).

・Global and regional competition;

・Lack of economies of scale;

・Dependence on the domestic market;

・Technology development;

・Limited R&D;

・Testing capabilities;

・Compliance with global standards;

・Lack of skilled workers; and

・Poor linkages.

In order to overcome these issues, the Malaysian government has to enhance the competitiveness of the automotive and automotive parts industries, as outlined in the NAP 2006, 2009, and 2014. As can be seen in the current trade data, it seems difficult to strengthen the competitiveness of the automotive and parts industries within a short period, although it is expected by the government. Basically, the small domestic market does not allow car manufacturers to enjoy scale economies. Malaysia has been protecting the national car manufacturers and Bumiputera vendors for many years, and they are not only less competitive but also less outward-looking, even in the era of trade liberalisation. Some local parts manufacturers have already established their subsidiaries overseas to correspond with the economic integration and trade liberalisation in ASEAN.

Proton is now a part of the DRB-HICOM group and its new partner, Geely, has sent a managing director and other managers to Proton. Geely will try to control Proton and a new strategy will be introduced to catch up with Perodua and Honda. Perodua has been maintaining the largest market share and been involved in the exports of vehicles and parts under the regional strategy of Daihatsu and Toyota. A third national car project was revealed and local engineering company DreamEdge was appointed as an anchor company. The future vision of the third national car project is still not open to the public.

The changing environment for the automotive industry, such as green technology, electric vehicles, self-driving, and mobility as a service, will force all of the car manufacturers to be more active in adjusting to the changes. Strategic alliances and cooperation with partner companies will be necessary for Malaysian manufacturers, especially the national car producers, to survive.

References

(Japanese)

Anazawa, M. (1998), 'National Car Project and Forming of Supporting Industry in Malaysia: Vendor Development by Proton', *Asian Economies*, Institute of Developing Economies (IDE), 39(5), pp.92–114.

Anazawa, M. (2006), 'Automobile industry in Malaysia: With Special Reference to National Car Producers', in D. Hiratsuka (ed.), *Challenge of East Asia: Economic Integration, Reorganization, Construction of System*, Chapter 12, JETRO-IDE, pp.295–325.

Anazawa, M. (2007), 'Malaysia: Policy Making by Initiation of Cabinet', in S. Higashi (ed.), *Political Science and Economics of FTA-FTA Negotiation for Seven Countries in Asia and Latin America*. JETRO- IDE, Chapter 4, 135–63.

Anazawa, M. (2010a), 'The Trade Liberalization and Automotive Parts Manufacturers in Malaysia', *Economic Review*, Otaru University of Commerce, 60(4), pp.47–72.

Anazawa, M. (2010b), *Industrialization of Developing Countries and Multinational Corporations: Development of Linkages in Malaysia*. Bunshindo.

Anazawa, M. (2016) 'Automobile and Auto Components Industries in Malaysia', in H. Nishimura and H. Kobayashi (eds.), *The Automobile and Auto Components Industries in ASEAN*, Chapter 4, Keiso Shodo, pp.145–63.

Fourin (2006), *Automotive Industry in Asia 2006*. Fourin.

Fourin (2008), *Automotive Industry in Asia 2008*. Fourin.

Fourin (2011), *Automotive Industry in Asia 2011*. Fourin.

Fourin (2015), *Automotive Industry in ASEAN 2015*. Fourin.

Fourin (2017), *Automotive Industry in ASEAN 2017*. Fourin.

Japan External Trade Organization (JETRO) (1986), *Medium and Long Term Industrial Master Plan Malaysia 1986-1995 Executive Highlights*. JETRO.

Japanese Chamber of Commerce in Malaysia (JACTIM) (2011), *Malaysia Handbook 2011*. JACTIM.

Kamo, N. (2006), *Automotive Industry in East Asia and Japan*. Yuigaku Shobo.

Kawabe, N. (1995), 'The Current Condition and Issue of Development of Supporting Industry in Malaysia: Focusing on Vendor Development Program', *Waseda Commercial Review*, No. 362, pp.1–51.

Torii, T. (1989), 'The Process or Reorganization of Equity Share Capital Structure in Manufacturing Industry: the Case Study of Automotive Industry', in K. Horii (ed.), *Reorganization of Social in Malaysia and the Ethnic Issues-Conclusion of 20years of Bumiputera Policy*. IDE.

Yoshimatsu, H. (2005), 'Automotive industry in Malaysia and China and Role of Government', in S. Ichimura (ed), *Automotive Industry in Asia and Challenge of China*. Sobunsha.

(English)

Chu, K.S. (2001), 'Automotive Industry: Can Malaysia Compete in AFTA?', paper presented at the MIER National Economic Outlook 2002 Conference.

Heng, L.W. and S.L.M. Ling (2000), 'Automotive Industry', in S.L.M. Ling (ed.), *Taking on the World: Globalization Strategies in Malaysia*. Kuala Lumpur: McGraw-Hill.

Jomo K.S. (1994), 'The Proton Saga: Malaysian Car, Mitsubishi Gain', in Jomo K.S. (ed.), *Japan and Malaysian Development: In the Shadow of the Rising Sun*. London and New York: Routledge.

Lim, C.P. (1985), 'The Proton Saga－No Reverse Gear! The Economic Burden of Malaysia's Car Project', in Jomo K.S. (ed.), *The Sun Also Sets: Lessons in 'Looking East' (2nd edition)*. Petaling Jaya, Malaysia: Institute for Social Analysis.

Malaysian Automotive Association (MAA) (2019), 'Market Review for 2018 and Outlook for 2019', MAA Press Conference, 16 January, Kuala Lumpur.

Ministry of International Trade and Industry Malaysia (MITI) (1996), *Second Industrial Master Plan 1996-2005*. Kuala Lumpur: MITI.

MITI (2006), *Third Industrial Master Plan 2006–2020*. Kuala Lumpur: MITI.

MITI (2006), *National Automotive Policy*. Kuala Lumpur: MITI.

MITI (2009), *National Automotive Policy Review*. Kuala Lumpur: MITI.

MITI (2014), *National Automotive Policy 2014*. Kuala Lumpur: MITI.

UNIDO (1985), *Medium and Long Term Industrial Master Plan Malaysia 1986–1995 Executive Highlights*. Kuala Lumpur: UNIDO.