Chapter 9

Viet Nam 2045: Automobile Industry

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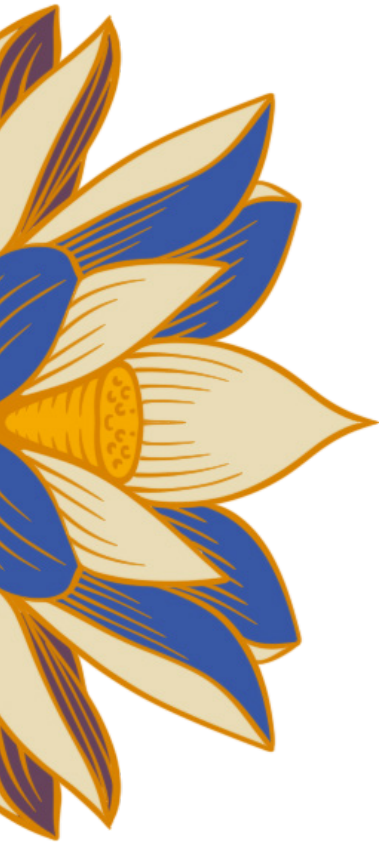
This chapter should be cited as:
Nakajima S., H. Kobayashi and Y. Ueki (2023), 'Viet Nam 2045: Automobile Industry', in Kimura, F. et al (eds.), *Viet Nam 2045: Development Issues and Challenges*, Jakarta: ERIA, pp. 253-280.

1. Introduction



Annual automobile sales in Viet Nam surpassed the 300,000 threshold in 2019, with a total of 306,073 units (MarkLines, n.d.-a). Due to the coronavirus disease (COVID-19), 2020 and 2021 have seen decreases, but 2022 has presented a swift recovery in sales figures. More specifically, sales between January and September 2022 were 296,403, a 56.9% increase compared to the same period in 2021 (MarkLines, 2022). In the short run, the Vietnamese automobile industry seems to be back on track toward a steady annual increase in sales figures. In the long run, however, the future success of the Vietnamese automobile industrial sector is still not guaranteed. As will be detailed below, Viet Nam faces several challenges, not the least of which is the relatively small size of the domestic market at present.

On the other hand, challenges may provide potential opportunities for developing the automobile industry. For example, the currently small market size can be interpreted as a potential for the industry's rapid development. How, then, can the Vietnamese automobile industry overcome various challenges and seize the opportunities provided by the nascent automobile industry development? This chapter offers possible answers to this question.

The structure of the chapter is as follows. The second section provides a brief history of the automobile industry in Viet Nam. The third section introduces the two key existing actors in the sector: THACO and Thanh Cong. The fourth section examines the case of VinFast, an emerging automobile manufacturer in Viet Nam. Before analysing the conditions of the automobile parts sector, we provide some background information on the broader international trade environment in the fifth section. Building on the observations presented in the previous sections, the sixth section highlights the possibility of developing an auto parts and components industry in Viet Nam. The seventh section overviews the current status of the Vietnamese automobile industry from a comparative perspective with advanced countries in Southeast Asia. The final, eighth section concludes the chapter with policy implications.

2. A Brief History of the Automobile Industry in Viet Nam

As is well known, Viet Nam started its *Doi Moi* – meaning 'renovation' or 'innovation' – policy in 1986, when the move toward a more industrially based 'socialist-oriented market economy' was adopted as the key goal of national development. Like the Chinese policy of 'Reform and Opening,' *Doi Moi*

first began in rural areas, attempting to give more autonomy to individual agricultural households, but gradually spread to urban areas where industrial activities – including manufacturing – were concentrated.

The earliest attempt at automobile production was Mekong Auto in 1991, founded and headquartered in Ho Chi Minh City. It was the first joint-venture automobile industrial firm in Viet Nam, with a 51% share owned by Japan's Saelio Machinery Company Inc. (Mekong Auto, 2022a). Other shareholders include Sae Young International Inc. (Republic of Korea [henceforth, 'Korea'], 19%), Veam (Viet Nam, 18%), and Sakyno (Viet Nam, 12%). Mekong Auto Corporation opened its Cuu Long Factory in Ho Chi Minh City in May 1992 and produced Viet Nam's first Complete Knock Down (CKD) vehicle (Mekong Auto, 2022b). The firm opened Co Loa Factory in Hanoi in 1993, and technical collaborators include IVECO and Fiat from Italy, SsangYong Motor Company and PMC from Korea.

Other early investments and participations in Vietnamese automobile production by foreign manufacturers include Mazda and Kia in 1992.

With the deepening of the *Doi Moi* policy, the trend toward automobile production took off in the mid-1990s, with the establishment of joint ventures with General Motors (1993), Mitsubishi (1994), Ford (1995), Isuzu (1995), Mercedes (1995), Toyota (1995), and Hino (1996), expanding the CKD production and sales for the Vietnamese domestic market. The trend continued into the 2000s and beyond, with similar joint venture projects with Honda (2006) (Le, 2019: 3).

Prompted by the increasingly active participation of foreign firms in the Vietnamese automobile industry, Vinaxuki, aka Xuan Kien Auto JSC, was established in 2004 in Hanoi (Vinaxuki, n.d.). The firm produced passenger vehicles and trucks under its brand name and also under select Chinese brand names, but it eventually ceased operation in 2015 due to both technical and managerial problems.

As a result of these vigorous market entries into car production, 20 makers of passenger and commercial vehicles, including 16 that organised the Vietnam Automobile Manufacturers' Association, have built assembly capacity for 987,900 vehicles to compete for the domestic market of 300,000 to 400,000 units annually (Table 9.1). In this intense competition, the following three private companies are active in investing in automobile production to dominate the promising market. The first is Vin Group (i.e. VinFast) that has developed the annual capacity of 250,000 units to produce mostly electronic vehicles, remaining the space for doubling the capacity to 500,000 units. The second is Hyundai Thanh Cong Viet Nam (i.e. Thanh Cong), a joint venture between the Vietnamese Thanh Cong and Korean Hyundai Motor, expanded by the assembly capacity of 100,000 in 2022 to produce 180,000 units of Hyundai passenger cars. The third is Truong Hai Auto (THACO) a Vietnamese company specialising in commercial vehicles and having the capacity of 160,000 units to not only produce its own brand of buses and trucks but also to make CDK production of international brand cars such as Kia and Peugeot. In addition, this company has the production line to assemble maximum 100,000 units of Mazda cars.

The following two sections highlight these three leading vehicle makers.

Table 9.1. Vehicle Assembly Capacity in Viet Nam

Vehicle Makers	Capacity
Vingroup	250,000
Hyundai Thanh Cong Vietnam	180,000
Truong Hai Auto	160,000
THACO Mazda Automobile Manufacturing	100,000
Toyota Motor Vietnam	70,000
Ford Vietnam	40,000
Vietnam Engine and Agricultural Machinery (VEAM)	33,000
Hino Motors Vietnam	30,000
Honda Vietnam	23,000
Daehan Motors Vietnam	20,000
Vietnam Motors	20,000
TCIE Vietnam	14,400
Isuzu Vietnam	12,000
Mitsubishi Motors Vietnam	10,000
Mekong Auto	7,000
Mercedes-Benz Vietnam	6,000
Vietnam Suzuki	5,000
Giai Phong Motor	5,000
Vinacomin Motor Industry	1,500
Vietnam Daewoo Bus	1,000
	987,900

Source: Authors, based on MarkLines (accessed on 26 December 2022).

3. Existing Key Actors: THACO and Thanh Cong

3.1. THACO

One of the key successful players amongst Vietnamese automobile firms is Truong Hai Auto Corporation (THACO) (Truong Hai Group Corporation, n.d.-a). THACO was founded on 29 April 1997 in Dong Nai in Southern Viet Nam and has now established its reputation as the leading automobile

producer and distributor in Viet Nam. THACO AUTO 'lead[s] with a market share of 51.4% and sold 10,837 vehicles in total, including 8,570 passenger cars and 2,267 commercial vehicles' as of February 2021 (Truong Hai Group Corporation, 2022). According to the company website:

> Its business model is built on a value chain from Manufacturing (in Chu Lai) to Trading (Distributing & Retailing) different types of vehicles, from passenger cars to buses, trucks, and specialised vehicles from global brands (KIA, Mazda, Peugeot, BMW, Foton, Mitsubishi Foton), or THACO brand (THACO Bus) and a network of over 383 branded showrooms/service centers across the country.
> (Truong Hai Group Corporation, n.d.-a)

In addition to four-wheel automobile production, in 2021, THACO entered the motorcycle production market (Nguyen, 2020).

One of the notable directions THACO is moving toward is its attempt at becoming a conglomerate, diversifying its activities in various industrial areas beyond automobile production. The substantial restructuring happened in 2021, and THACO AUTO now operates as a sub-holding of Truong Hai Group Corporation. According to the 'ABOUT US' section of the company website:

> After 25 years of development, from a company which traded and repaired second-hand vehicles, THACO has turned into a multi-industry holding corporation which has 2 sub-holdings, i.e. THACO AUTO (automobiles), THAGRICO (Agro-forestry production), and 4 subsidiaries – THACO INDUSTRIES (Mechanics & Supporting Industries), THADICO (Investment – Construction), THILOGI (Logistics) and THISO (Commerce – Service) in a highly integrated and complementary model.
> (Truong Hai Group Corporation, n.d.-b)

3.2. Thanh Cong

Another important existing player is Thanh Cong Company, established in 1999, producing buses, trucks, tractors, and industrial cranes (MarkLines, n.d.-b). Hyundai Thanh Cong Viet Nam (Hyundai Thanh Cong Viet Nam, n.d.), a joint venture between Thanh Cong and Hyundai, now produces passenger and commercial vehicles under Hyundai's brands. Hyundai Thanh Cong Commercial Vehicle produces commercial vehicles, including buses.

Like THACO, Thanh Cong is now moving toward conglomeration, diversifying its products across various industrial fields. According to the webpage of the Vietnam Chamber of Commerce and Industry, Thanh Cong Group now operates in hotel and leisure (including a golf course), luxury residences, transportation infrastructure, and banking and finance (Vietnam Chamber of Commerce and Industry, 2021).

THACO and Thanh Cong could be called successful cases of Vietnamese local firms' participation in the automobile industry. However, they rely on foreign automobile companies in terms of core technology and brand reputation, as they mainly assemble vehicles under foreign brand names. However, this situation has begun to change with the emergence of VinFast, as described below.

4. A Potential Game Changer?: VinFast

On 2 September 2017, VinFast, a private automobile manufacturing company founded by Viet Nam's largest conglomerate Vingroup, broke ground the 335-hectare automobile production factory in an industrial park on Cat Hai Island – a rural district of Hai Phong, the third-largest city in Viet Nam. With the help of Siemens, '[t]he first fully digital automotive factory in South East Asia' was built only in 21 months, about half the time compared to similar projects (Siemens, n.d.). The following accomplishments can corroborate the extraordinary expansion of VinFast into automobile manufacturing since its entrance to the market in 2017.

- In the 2018 Paris Motor Show, VinFast unveiled two prototype cars – LUX SA2.0 and LUX A2.0 – designed with the help of world-leading car design firm Pininfarina (AirCar, 2018).
- In November 2018, VinFast launched Klara, its first electric motorcycle (An, 2018).
- On 21 March 2019, less than 2 years after the ground-breaking of the Cat Hai Island factory, VinFast sent out the first batch of 155 cars to Europe, Asia, Australia, Africa, and Viet Nam for field testing and qualification for a 5-star Association of Southeast Asian Nations (ASEAN) New Car Assessment Program for Southeast Asian Countries rating (Viet Nam News, 2019).
- Within only 3 years of the company's establishment, VinFast was reported to be the fifth best-selling brand of automobile in Viet Nam for the first quarter of 2020 (Lee, 2020).
- On 25 December 2021, VinFast delivered the first batch of its electric vehicle – VF e34 – to Vietnamese consumers (Doll, 2021); VF e34 is the first-ever electric vehicle manufactured and sold in Viet Nam, and it signals VinFast's leapfrogging strategy of jumping into the most advanced technologies, i.e. electric vehicle and autonomous driving in the age of carbon neutrality.
- In July 2022, VinFast 'has…decided to go all electric and depreciated its costly BMW combustion engine technology completely….' (ZoZoGo, 2022).
- Simultaneously with developing electric vehicles, VinFast is expanding its production of electric motorbikes and scooters (ZoZoGo, 2022).

In sum, VinFast shows the great potential of making automobiles truly a national industry in Viet Nam, with the production of both four-wheelers and two-wheelers using its own brand names and leapfrogging to the cutting-edge of automotive powertrains, i.e., electric vehicles.

5. Vietnamese Policies for Automobile Industry Development

Before delving into more detailed empirical analyses of the current situation of the Vietnamese auto industry, let us briefly describe the current policies for the automobile industry and the status of the international business environment surrounding Viet Nam, particularly concerning the automobile trade.

5.1. Policies for the Automobile Industry

The current situation of the Vietnamese automobile industry is the result of various factors including government policies for developing the automobile industry in addition to *Doi Moi* and other national economic and social development policies. The recent Vietnamese automobile policies are based mainly on Decision No. 1168/QD-TTg on approval of a strategy to develop automobile industry in Viet Nam by 2025, orientation toward 2035 and Decision No. 1211/QD-TTg on approval for development planning of Viet Nam automobile industry by 2020 with a vision to 2030, which were issued on 16 and 24 July 2014, respectively. These decisions specified the policy targets toward 2030 and policy orientations to realise the targets. The Vietnamese government expects annual average growth of 14.26% during 2021–30 in automobile productions, accompanied by domestic market growth, the development of automobile and parts manufacturing, import substitutions of these products, increasing exports of spare parts and components, and improvement in local content ratios. Decision 229 dated 2 April 2016 on the development of Viet Nam's automobile industry regulates the mechanism and policy for implementation of the strategy (Decision No. 1168) and plan (Decision No. 1211) for automobile industry development.

Table 9.2. Viet Nam's Policy Targets for 2025 and 2030

	2020	2025	2030
Domestic production (% of the total demand):			
Cars with up to nine seats	60	65	70
Cars with ≥ 10 seats	90	92	92
Trucks	78	78	80
Special-use vehicles	15	18	2
Domestic production (units)			
Total	227,496	466,375	862,761
Cars with up to nine seats	114,053	237,900	451,512
Cars with ≥ 10 seats	14,154	29,102	51,288
Trucks	97,952	197,017	356,115
Special-use vehicles	1,336	2,356	3,846
Export of vehicles (units)			
Total	20,000		60,000
Cars with up to nine seats	5,000		30,000
Cars with ≥ 10 seats	5,000		10,000
Trucks	10,000		20,000
Export of spare parts and components (million $)	4,000		6,000
Domestic manufacturing value (%)			
Cars with up to nine seats	30–40	40–45	50–55
Cars with ≥ 10 seats	35–45	50–60	70–75
Trucks	30–40	45–55	65–70
Special-use vehicles	25–35	40–45	55–60

Source: Authors based on the Decision No. 1211.

5.2. International Trade Environment

These decisions to develop the automobile industry encouraged domestic companies to participate in the global supply chain in manufacturing and export of spare parts and vehicles, while reducing import taxes on automobiles from ASEAN members in accordance with the tariff reduction schedule of the ASEAN Trade in Goods Agreement committed to by the Government of Viet Nam. Viet Nam has also promoted a freer trade and investment system by signing other free trade agreements (FTAs) such as the Viet Nam–Japan Economic Partnership Agreement, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, the Viet Nam–European Union FTA, and the Regional Comprehensive Economic Partnership.

However, in parallel with these trade promotion measures, the Vietnamese government has enacted policies to protect the relatively weak local auto firms from international competition. For example, Decision No. 46/2001/QD-TTG, issued on 4 April 2001, prohibited the import of used parts and used under-16-seaters. New under-16-seaters could be imported only with special permission from the Ministry of Trade of the Socialist Republic of Vietnam (2001). The protective nature of Vietnamese government policy continued even after Viet Nam joined the World Trade Organisation in 2007. For example, import tariffs for automobiles remained high at an average of 70% in 2014 (Le, 2019: 4). With the accession of Viet Nam to the ASEAN Free Trade Agreement in 2015, import tariffs were removed, but the Vietnamese government took countermeasures such as Decree 116/2017, which 'has tightened controls for imported automobiles in terms of origin, types, technical safety, and environment protection requirements' (Vietnam Investment Review, 2018). More specifically, according to Decree 116/2017, 'automobile importers will have to submit a number of dossiers, such as the registration certificates of imported cars for technical safety and security, and environmental inspection, certified copies of the types of tires, rear-view mirrors, and front lights issued by competent agencies or organizations, and the original certificates of automobile quality inspection issued by foreign automakers or automobile-assembling enterprises for each type of car' (Vietnam Investment Review, 2018). According to a Japan External Trade Organization (JETRO) report, '[t]he Decree 116 lists strict conditions that are virtually impossible to meet' (JETRO, 2018). Although Decree 116 was modified in 2020 with the additional issuance of Decree No. 17/2020/ND-CP, which relaxed some of the measures presented in Decree 116, the Vietnamese government continues to protect the nurturing of the domestic automobile industry (MarkLines, 2019).[1]

In sum, the Vietnamese government and automobile firms are in the difficult position of increasing commitment to the general trend toward free trade and the need and desire to nurture a genuinely national automobile industry.

Given the above-described history of the Vietnamese automobile industry, how can Viet Nam develop a fully competitive automobile industry? Before providing policy suggestions, we will look at the auto parts industry in Viet Nam and the automobile industry in ASEAN in detail.

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[1] For more detailed discussion and examination of the Decree No. 116/2017/ND-CP and the Decree No. 17/2020/ND-CP, as well as other related policy measures and their impacts, see Schröder (2021), pp.229–36.

6. How Can Viet Nam Develop a Fully Competitive Auto Parts Industry?

6.1. Development of the Auto Parts and Components Industry

As stated in Decisions No. 1168 and N. 1211, the Government of Viet Nam had decided to promote the auto parts and components industry. To realise this, the government issued Decree No. 111/2015/ND-CP on 3 November 2015 regarding the development of supporting industry and Decision No. 68/QD-TTg dated 18 January 2017 regarding approving the development of supporting industries during 2016–25, while these policies focus on supporting industries in general, which manufactures materials, accessories, components, and spare parts used for assembling not only vehicles but other finished goods.

Although more studies will be necessary to assess impacts of these policies on the automotive industry, several statistics suggest their impact on the development of the auto parts and components industry. According to the Statistical Yearbook of Vietnam (2021), 639 enterprises were active in the manufacturing of motor vehicles, trailers, and semi-trailers, which employed 150,335 people and generated net turnover of D336.7 billion in 2020. All these figures increased significantly from 2015, recording 435 establishments, 118,465 employees, and net turnover of D219.5 billion.

The MarkLines supplier database presents the current situation of the auto parts supplier development, although it does not contain all suppliers in the industry, as opposed to the official statistics. The number of auto parts suppliers listed in the database is 444 for Viet Nam, as of 24 January 2023. This figure, which is larger than that of the Philippines (362) but smaller than Malaysia (650), indicates the development of auto parts industry in parallel with the development of automobile production in Viet Nam.

6.2. Characteristics of the Vietnamese Auto Parts Industry

The entry of foreign auto companies into Viet Nam, the establishment of Vietnamese companies THACO and Thang Cong, and the emergence of Vinfast since the 1990s, have improved the basis for the development of the Vietnamese auto parts industry[2] and created the five characteristics as follows.

The first characteristic is that component companies are concentrated geographically in the northern region, mainly Hanoi and Hai Phong, where assembly plants operate, and the southern region, mainly Ho Chi Minh (Kobayashi, Ishioka, and Schröder, 2021). The central region, however, is THACO's production centre and its component companies are concentrated mainly in Quang Nam Province and Da Nang. Nevertheless, the production scale is still small compared to both the Northern and Southern regions.

[2] Previous research on Viet Nam's motorcycle and auto parts industry has been conducted by Fujita (2006), Mishima (2010), Tran Van Tho (2010), Deloitte Tohmatsu (2013), Kobayashi, H. (2015, 2016), Kobayashi, T. (2015), Jin (2016), and Schröder (2017).

The second characteristic is that components companies (Tier 1 companies) with relatively advanced technology are largely owned by Japan and other countries, while Vietnamese companies have low technological capabilities and serve Tier 1 as Tier 2 or Tier 3 components suppliers.

The third characteristic is the specialisation of Vietnamese auto parts suppliers in single production process such as casting, forging, or plastic moulding, and painting. Local suppliers have not developed enough capabilities to integrate multiple production processes ranging from material processing to machining processes, painting, assembly, and final inspection, differently from Tier 1 that integrate these processes to supply components and modules to car makers. The coverage of quality assurance is also different between multinational Tier 1 and local Tier 2/Tier 3 suppliers. Local suppliers can provide a 'spec guarantee' that assures the product dimensions are consistent with the blueprints (Table 9.3). Nonetheless, they do not have test instruments and therefore cannot offer a 'functional guarantee' that guarantees strength, durability, and other physical requirements as Tier 1 companies can do for vehicle producers or automotive original equipment manufacturers (OEMs).

The fourth characteristic is a common entry pathway to the Tier 1 automotive parts market. Those who have overcome these hindrances and satisfied rigorous technical requirements to becoming Tier 1 companies have entered the automotive parts market from the production of two-wheeler components with relatively low entry barriers that still require the capability of handling large orders. They have honed their motorcycle production skills in global supply chains and succeeded in expanding their market beyond Viet Nam to Japan, the US, Europe, and Mexico. Finally, they are starting to produce four-wheel parts based on the technical and marketing skills they have gained from two-wheel parts production.

6.3. Overcoming Weaknesses in Viet Nam's Auto Parts Industry

What is required for Viet Nam's auto parts industry to expand? We suggest the following four challenges, based on the past experiences in Viet Nam and other ASEAN countries, on-going structural change in the automotive industry, and findings from the field research we conducted in Hanoi and Ho Chi Minh in September 2022.

The first is to improve the technological capabilities of Viet Nam's auto parts industry. To assess their capabilities, Kobayashi, Ishioka, and Schroeder (2021) classified the 192 companies across Viet Nam listed in the FY 2018 reports issued by JETRO Hanoi and JETRO Ho Chi Minh Office into Tier 1, Tier 2, and Tier 3, based on their level of technology and business relationships (See Table 9.3). In Viet Nam, Tier 1 companies, which are high in technology and deal directly with OEMs, account for only 11 companies or 5.7% of the total (See Table 9.4). For parts companies to enhance their technological capabilities, the Vietnamese government must urgently promote measures to support parts companies, such as tax incentives for capital investment, improved working conditions, expanded skill education for skilled workers, and promotion of advanced technology education through industry-academia collaboration. These policies had already been in place in Japan since the 1960s.

The second is market expansion. The auto parts industry did not expect the domestic market to expand until the 2010s. Instead, exports were promising. To understand the current situation, we can look at the top 32 auto parts companies in Viet Nam, consisting of 11 Tier 1 companies and 21 Tier 2 companies eligible to become Tier 1 (See Table 9.4) and their market position. A common characteristic of the 32 companies is that they have used their global supply chains to expand into Japanese and Western markets. Since around 2020, they have been focusing on the expansion of the domestic market in Viet Nam and trying to seize the market to grow.

The third is the utilisation of Viet Nam's two-wheel parts industry. Most of Viet Nam's auto parts industry was started by two-wheel parts companies, which have mastered mass production techniques to meet growing domestic demand and have experience in exporting to two-wheelers' global supply chain. These technological and market-penetrating motorcycle parts suppliers (including the previous 32 auto parts companies) have begun to enter the four-wheel parts market. Only a few of the 192 Vietnamese component companies mentioned above produce products for both two- and four-wheeled vehicles, while 148 companies, or 77.1% of the total, supply two-wheeled, four-wheeled, and other (See Table 9.5) components. In other words, these 148 companies will move from two-wheel to four-wheel component production if they can obtain appropriate government technical guidance and financial support, tax incentives, and access to the domestic and foreign markets.

The fourth is the improvement of the parts supply system for the production of electric two- and four-wheeled vehicles, which has been already undertaken in Viet Nam on the auspices of the government's income growth target for 2045. By 2045, electrification is expected to be accelerated as charging facilities expand. Already in 2022, electric buses made by VinFast are running in Hanoi. Along with the promotion of vehicle electrification and the development of charging facilities and other social infrastructure, it will be necessary to foster the component industry. The development of motors, inverters, and the combined e-Axle and battery industries will be targeted. To nurture and develop these technologies, it is essential to utilise and collaborate with information and communications technologies. The formation and expansion of industry-academia collaboration for electrification is essential.

Table 9.3. Criteria for Classification as Tier 1, Tier 2, and Tier 3

		Classification Criteria	Tier 1	Tier 1 Candidate	Tier 2	Tier 3
Business Relationships	1	Business relationships	Transact directly with automotive manufacturers	Transact with Tier 1 and some manufacturers	Transact with Tier 1	Transact with Tier 2
	2	Existence of products designed and developed in-house	Yes	No (outsourced production)	No (outsourced production)	No (outsourced production)
	3	Membership or participation in manufacturers' associations	Member	Member	Voluntary participation	Not eligible
Technical Level	1	Existence of design and development systems	Yes	No (but future establishment possible)	No	No
	2	Quality assessment systems (personnel, equipment)	Capable of guarantee of strength, defects and other functions	Capable of guarantee of strength, dimensional accuracy and other specifications	Capable of guarantee of dimensional accuracy and other specifications	Capable of guarantee of dimensional accuracy and other specifications
	3	Product form	Unit assembly integrated production	Sub-assembly and/or parts production	Parts production	Small lot parts production

Reference

Classification Criteria	Tier 1	Tier 1 Candidate	Tier 2	Tier 3
Annual sales	≥¥10bn	≥¥5bn	¥2–3bn	≤¥1bn
Number of employees	≥3,000	500–1,000	100–500	50–100

Source: Compiled by the authors based on various materials.

Table 9.4. Breakdown of Local, Foreign-affiliated, and Japan-affiliated Enterprises into Tier 1, Tier 2, and Tier 3

	Local Enterprises		Foreign-affiliated Enterprises		Japan-affiliated Enterprises		Total	
Tier 1	4	2%	3	2%	4	2%	11	6%
Tier 2	28	15%	28	'15%	13	7%	69	36%
(Tier 1 Candidates)	10	5%	7	4%	4	2%	21	11%
Tier 3	70	36%	23	12%	19	10%	112	58%
Total	**102**	**53%**	**54**	**28%**	**36**	**19%**	**192**	**100%**

Sources: JETRO Hanoi (September 2017, July 2018, October 2018), JETRO Ho Chi Minh (October 2018).

Table 9.5. Breakdown of Suppliers (Motorcycle and/or Automotive)

	Motorcycle		Motorcycle and Automotive		(Motorcycle, Automotive, and Other)		Automotive		Total	
Local Enterprises	17	9%	76	40%	(55)	(29%)	9	5%	102	53%
Foreign-affiliated Enterprises	6	3%	47	24%	(31)	(16%)	1	1%	54	28%
Japan-affiliated Enterprises	4	2%	25	13%	(19)	(10%)	7	4%	36	19%
Total	**27**	**14%**	**148**	**77%**	(105)	**(55%)**	**17**	**9%**	**192**	**100%**

Note: The 'motorcycle and automotive' category includes all enterprises in the 'motorcycle, automotive, and other' category.
Sources: JETRO Hanoi (September 2017, July 2018, October 2018), JETRO Ho Chi Minh (October 2018).

7. Vietnamese Automobile Industry in Southeast Asia

Although it is difficult to consider whether Viet Nam has an automobile market with growth potential only from an international comparison between Viet Nam and its competitors will aid understanding the Vietnamese automobile industry development potential. Table 9.6 presents that the vehicle market size in Viet Nam is moving toward that of the Philippines but still remains almost half that of Malaysia in 2019 before the COVID-19 outbreak. On the other hand, the estimated capacity of vehicle production that automotive OEMs have built in Viet Nam is almost six times larger than the Philippines and catching up to the vehicle assembly industry in Malaysia. These supply-size data, including Table 9.1, indicate that automotive OEMs, especially those owned by Vietnamese private firms, are so convinced of the potential of the domestic market that they have invested in vehicle assembly capacities ahead of their strong foreign-owned competitors, while Japanese major OEMs such as Toyota and Honda have placed Thailand and Indonesia as their main production sites in Southeast Asia.

Table 9.7 presents the potential of the Vietnamese automobile industry becoming a reality. The narrowly defined auto parts exports (classified as HS8708) in 2020 for Viet Nam surpassed the values for Malaysia and the Philippines, getting closer to the exports for Indonesia. When auto parts exports are defined more broadly, Viet Nam can be considered as a leading exporter of auto parts and components in Southeast Asia. The export value of auto parts defined according to the United States-Mexico-Canada Agreement for Viet Nam superseded that of Indonesia and Malaysia in 2020, reflecting Viet Nam's major role in wire harness production in the global automobile value chain.

Table 9.6. Sales and Production in 2019 and Estimated Annual Production Capacity (Units)

	Malaysia	Indonesia	Philippines	Thailand	Viet Nam
Sales (2019)	604,281	1,030,126	369,941	1,007,552	322,322
Production (2019)	571,632	1,286,848	95,094	2,013,710	176,203
Production capacity	1,291,265	2,106,840	158,200	3,099,200	987,900

Note: Production capacity does not include the capacities under planning.
Sources: Authors, based on MarkLines for production capacity and ASEAN Automotive Federation (https://www.asean-autofed.com/index.html) for production.

Table 9.7. Auto Parts and Components Export in 2020 (US$ million)

	Malaysia	Indonesia	Philippines	Thailand	Viet Nam
HS8708	962	1,500	851	6,698	1,311
USMCA	6,513	6,477	4,537	19,547	10,400

USMCA = United States-Mexico-Canada Agreement.
Notes: Auto parts and components here are those narrowly classified in HS code 8708 (parts and accessories of motor vehicles) and broadly defined by USMCA.
Sources: Authors, based on UN Comtrade and USMCA.

8. Conclusion

8.1. Vietnamese Automobile Industry Development Strategies

The current status and on-going strategies for developing the automobile industry suggest that Viet Nam will be able to take advantage of the following two approaches to automobile industry development.

The first approach is to prioritise automobile assembling to make Viet Nam one of the three leading vehicle-producing countries in Southeast Asia. This approach pursues industrial clustering, utilising a governance mechanism of global value chains ruled by multinational lead firms (Gereffi, Humphrey, and Sturgeon, 2005) and agglomeration forces (Fujita and Thisse, 1996). By providing infrastructure and incentives to foreign direct investment, this policy introduces productive activities by automobile OEMs, expecting suppliers (i.e. Tier 1 suppliers) and suppliers of suppliers (i.e. Tier 2 and lower-tier suppliers) to develop a domestically integrated automobile industry (Kuchiki and Tsuji, 2008).

This strategy used to be a standard industrial policy adopted by the advanced ASEAN member states who could move from import substitution to export promotion for developing a domestically integrated automobile industry gradually. Viet Nam also considers making strategic use of industrial clustering to develop the automobile and related supporting industries, as mentioned in Decision No.1211. However, differently from the advanced member states, Viet Nam can expect that not only

multinational OEMs but also locally owned firms such as THACO, Thanh Cong, and VinFast will be able to take the leading role in developing domestic value chains.

The second approach emphasises export promotion of auto parts and components to develop internationally competitive suppliers that are indispensable to assemblers of any types of cars in the international market. This prioritisation of the auto parts industry is a realistic approach to nurturing a competitive vehicle-assembling industry, considering the present size of the domestic vehicle market in Viet Nam. This approach is more feasible in the free and open international/regional economic order that allows the better use of benefits from production fragmentation (Kimura and Ando, 2005). Viet Nam can take advantage of the second approach by using FTAs strategically in the current international political situation with the increasing economic nationalism to become a hub of auto parts production and export. In the short term, this approach will encourage automobile OEMs to import completely built units of vehicles to Viet Nam from their well-developed production bases in the advanced Southeast. However, in the middle and long term, exporting will boost Vietnamese suppliers' international competitiveness, allowing them to support the development of automobile OEMs in Viet Nam and the domestically integrated automobile industry to which the first approach aims.

We suggest that Viet Nam does not need to choose between the two approaches but can adopt both to accelerate the catch-up with major vehicle-producing countries in Southeast Asia.

We consider that Viet Nam has a high potential to become four-wheeler parts suppliers in various industries (e.g., motorcycle, electronics) to adopt the second approach. Collaboration with Japanese auto parts suppliers will be a realistic approach to turn the potential into reality. Some Japanese suppliers are finding increasing business opportunities in Viet Nam, reflecting active investments in automobile assembling by indigenous OEMs. Collaboration between Vietnamese and Japanese suppliers will be mutually beneficial and contribute to the development of supporting industries in Viet Nam. The resulting increase in parts and components will allow Japanese OEMs to build and export completely built units to Viet Nam from their factories in Southeast Asia mainly outside Viet Nam (e.g., Thailand). A competitive Viet Nam auto parts industry will challenge automotive OEMs in Thailand for Viet Nam's and other ASEAN vehicle markets in the future.

Viet Nam–Japan cooperation for developing automobile and auto parts industries will create business opportunities for Vietnamese and Japanese suppliers, which will lead to developing Japanese automobile OEMs. One of the challenges for Viet Nam–Japan cooperation will be to increase the awareness and belief of Viet Nam's potential as a production site of automobiles and auto parts.

8.2 Industrial Policy Orientations

To make use of the two approaches, Viet Nam will need to develop policies that accommodate the advantages and challenges for the Vietnamese automobile industry, the current status and future perspectives of the international market, international political economy, and international competition. We suggest that Viet Nam should design strategies and policies that tackle the following issues.

(1) Vehicle electrification and digitalisation to facilitate motorisation

Viet Nam is entering the period of motorisation, entailing an accelerated growth period in the automobile market in line with the Socio-Economic Development Plan for 2021–25. This predicts an annual average gross domestic product growth rate of 6.5%–7% to reach $4,700–5,000 per capita by 2025, and the achievement of the government goal of making Viet Nam a high-income country by 2045. These business environments will be favourable to the development of automobile and parts manufacturing and related service industries. By identifying and bringing particular vehicle models attractive to Vietnamese consumers into the market, automobile OEMs will be the winners in the fast-growth market. On the other hand, the expected rapid increase of vehicle driving in daily life will also engender negative impacts on Viet Nam, such as air pollution, traffic jams, and traffic accidents. Electrified and digitalised vehicles will have more potential to mitigate these problems (Iwasaki and Ueki, 2022), and therefore be accepted by the Vietnamese societies.

Electrification and digitalisation of vehicles will provide Vietnamese suppliers with increasing opportunities for developing a broader scope of automobile-related businesses, including electric parts and components production and software development.

(2) Promotion of open trade and investment

Exports will help the Vietnamese auto parts industry increase production scale and decrease costs. This economy of scale will improve Vietnamese auto parts suppliers' competitiveness. The resulting closer linkages amongst automobile and parts producers will facilitate information and knowledge exchanges through the domestic and international value chains, further strengthening the basis of the Vietnamese automobile industry, and developing automobile assembling as an export industry. We consider open investment policies to be indispensable for Viet Nam to become an export-oriented auto parts production base.

(3) Digital opportunities

Digital technologies are an enabler of radical improvements in efficiency and flexibility in the entire ecosystem of automobile manufacturing. A direct impact of digital technologies, combined with electrification of automobile and parts manufacturing, will be the increased use of semiconductors, sensors, other electric parts and components, and software for cars. Automobile OEMs will allocate more budgets to the development of these elements. Traditional automobile suppliers can create more value-added products and services by focusing on these new opportunities, which also attract entrants into automobile-related businesses from different industries.

New opportunities for Viet Nam will also come from the digital transformation of the automobile industry, allowing it to become more customer-driven and service-oriented. Cars and services can be more customised and personalised by linking manufacturers and service providers, including car dealers, with drivers and other car users. Digital technologies allow car dealers to use physical and virtual spaces for receiving orders and feedback from customers and to provide more varieties of services, which can bring radical changes in the traditional car sales system based on dealer channels.

Digital technologies can be best used when high-speed, seamless, reliable communication and data exchanges are secured anytime and anywhere. Viet Nam needs to develop physical and institutional infrastructure to realise communications and freer data flows between vehicles and companies involved in any automobile-related activities along the value chains, including development, manufacturing, logistics, sales, and after-services. Connectivity will be one of the central policy concepts for making better use of digital technologies to address global, economic, political, social, and environmental challenges, entailing opportunities for developing new automobile hardware, software, system, engineering, and contents businesses.

(4) Capability building of local suppliers

Capable suppliers are indispensable to implement the policies for the above-described issues successfully. Although production of automobiles and exports of auto parts and components have been increasing, the development of competitive suppliers remains an important issue to increase and diversify auto parts and components production, improve their quality, and strengthen the automobile assembly sector in Viet Nam.

Human resource development (HRD) is always included as necessary actions in policy plans. Considering the current industrial development in Viet Nam, Vietnamese suppliers need to develop more skilled workers, engineers, and leaders to improve basic production and quality management to satisfy the high requirements for quality, cost, and delivery from the demanding automobile OEMs. In addition to these traditional HRD issues, urgent actions will be needed for the development of personnel specialised in computer sciences, robotics, statistics, and other scientific fields necessary for utilising artificial intelligence, simulation, and other digital technologies and techniques.

We should keep it in mind that the future automobile industry will require parts and components suppliers to make more investments in hardware including testing equipment, automated machines and sensors, and software to operate digital technologies. Firms should consider how to build a strong financial foundation in cooperation with the Government of Viet Nam and public and private financial institutions.

8.3. Viet Nam–Japan Cooperation

Viet Nam and Japan have developed closer cooperative relationships. To promote the bilateral cooperation for the industrial development issues, Viet Nam issued Decision 1043/QD-TTg dated 1 July 2013 on ratification of Viet Nam's industrialisation strategy within the framework of Viet Nam–Japan cooperation toward 2020 and an orientation toward 2030. This was followed by Decision 1829 dated 28 October 2015 on ratification of the action plan for development of automotive industry in the framework of Viet Nam–Japan cooperation. We consider these industrial cooperation frameworks still useful but they can be updated by considering the following cooperation fields.

(1) Human resource development

The ongoing digital transformation of automobile manufacturing involves the adoption of digital technologies and upgrading of traditional managerial techniques (e.g., Kaizen, lean manufacturing, total quality management) complementary to digital techniques. These requirements necessitate initiatives for upskilling and reskilling of high-skilled Vietnamese engineers and workers.

Japan has experience in developing public-private initiatives in cooperation with the automobile OEMs and their Tier 1 suppliers to assist the improvement in traditional managerial techniques of local firms in Viet Nam and other ASEAN Member States (AMS). Japan can continue to expand this cooperation with Viet Nam to strengthen the basis of supplier capability upgrading.

More sectors will participate in promoting digital skill development in the automobile and related industries. Not only automobile OEMs and major suppliers but also private companies in factory automation, system integration, tech and educational tech sectors can also contribute to HRD. Digitalisation will increase the role of universities, especially in science and technology in Viet Nam, in automobile HRD. To transfer science-based knowledge and digital engineering skills from universities to employees at automobile suppliers, academic and private sectors need to cooperate to develop curricula, teaching materials, and certification/degree systems to give Vietnamese engineers and workers opportunities to learn advanced knowledge in a flexible manner.

The Government of Japan, in cooperation with industrial and educational sectors, will be able to transfer knowledge and experiences to assist Vietnamese efforts for digital transformation. Japan will be able to obtain benefits from cooperation for HRD with Viet Nam that will provide Vietnamese digital personnel and services with Japanese industries that are digitalising.

(2) Promotion of collaborations between Vietnamese and Japanese companies

Industrial HRD will help develop a basic capability necessary for Vietnamese suppliers to enter automobile value chains, which will increase opportunities to develop collaborative relationships between Vietnamese and Japanese firms in different ways.

The inter-firm transactional linkages will be important knowledge transfer channels between Vietnamese and Japanese automobile industries and create continuous improvements in the capabilities of Vietnamese suppliers. This effect is a main aim of the international cooperation projects for HRD.

Suppliers in the advanced AMS received technical assistance from Japanese Tier 1 suppliers. However, some Vietnamese firms may learn from Japanese Tier 2 and Tier 3 suppliers in ways that differ from the past experiences in the advanced AMS. Japanese small and medium-sized enterprises (SMEs) that are entering international markets at present are smaller than the advanced AMS SMEs and do not have sufficient resources to invest abroad on their own account but prefer exporting from Japan. Thus, Japanese SMEs can serve the Vietnamese automobile industry as Tier 2 and Tier 3 suppliers in the future, contrary to the current situation where most of the Vietnamese suppliers support Japanese Tier 1 suppliers in Japan and other countries.

Joint ventures are another way of transferring knowledge and supplier development on a commercial basis. As some local firms in advanced AMS have succeeded in becoming Tier 1 suppliers of Japanese OEMs, Vietnamese firms can take advantage of this collaboration mode in Viet Nam.

The current lack of successors in Japanese SMEs will make mergers and acquisitions (M&As) as an alternative strategy for Vietnamese firms to enter the Japanese auto parts market. Even if Japanese owners of SMEs do not prefer M&As by foreign firms, some of them will seek Vietnamese and other foreign managers as their successors.

To realise these opportunities for developing diversified Viet Nam–Japan relationships, international marketing and business matching will be a key issue to be overcome by international cooperation. It is necessary to develop a closer relationship between Viet Nam's and Japan's export and investment promotion agencies to promote necessary policies in cooperation with private business facilitating agents.

(3) Development of a common digital basis for supply chain collaboration and resilience

Industries have adopted web technologies to manage supply chains more efficiently. Regulations that force firms to satisfy requirements for traceability, especially those set by the European Union, (e.g., registration, evaluation, authorisation and restriction of chemicals, restriction of hazardous substances directive, etc.) have increased the development of technological standards and a common platform for efficient compliance. The increasing demands for product safety, environmental friendliness, and sustainability strengthen this trend.

In addition to this kind of interaction to exchange relatively simple data, firms are moving more complex business-to-business collaborations online. The automobile industry is no exception, although face-to-face interactions have been emphasised in collaborative relationships. A driving factor of this transition is the increase in technological choice. In addition to traditional data exchange, the virtual-real fusion by the advancement in digital engineering, including virtual engineering, virtual reality, augmented reality, and mixed reality, which more firms started using during the COVID-19 pandemic, enables more complex interactions amongst people online that used to be face-to-face communication.

Common technological standards and digital platforms to realise freer data flow with trust will be necessary to make supply chains more collaborative and resilient. Viet Nam and Japan can cooperate to develop an East Asian and global collaboration platform.

(4) Infrastructure development for construction of sustainable mobility systems

In parallel with these efforts for automobile industry promotion, the Government of Viet Nam will need to pay attention to worsening traffic accidents, traffic jams, air pollution, noise, parking shortages, and other expected negative impacts of fast motorisation. V2X, i.e. vehicle-to-road or vehicle-to-vehicle, communication infrastructure will mitigate these problems, in addition to the traditional countermeasures such as road infrastructure, automobile taxes, vehicle emission standards, and public transportation system development. The Government of Viet Nam, in cooperation with Japan, will be able to develop necessary infrastructure.

(5) Development of a comprehensive vision on mobility

Digital technologies are transforming not only vehicles but also the entire transportation system. Increased technological alternatives suggest the importance of making choices consistent with other social and environmental challenges (e.g., decarbonisation). Developing a common vision on mobility with involvement of different social interest groups will help Viet Nam prioritise select technologies. A common vision between Viet Nam and Japan will facilitate the automobile industry and develop a common vision amongst AMS and East Asian countries.

(6) Development of an organisation for Viet Nam–Japan public–private dialogue and follow-up cooperation on automobile industry development

The strong involvement of automobile and parts manufacturers operating in Viet Nam is indispensable for the development of a competitive automobile industry. Sharing the Vietnamese government's strong will to develop and implement an automobile industrial policy consistent with the open economic policy will help realise public–private cooperation. Cooperation for developing electrified vehicle manufacturing will be important given the current situation of Viet Nam's reliance on a single private initiative, the risks of national car projects, uncertainties in technological changes and mineral supplies, etc. Japanese automobile OEMs and suppliers can play important roles in manufacturing of not only traditional internal combustion engine-based but also electrified vehicles in the competitive environment with Vietnamese and non-Japanese OEMs. An organisation for Viet Nam–Japan public-private dialogue to develop a mutual understanding will cultivate the involvement of more Japanese firms. If such an organisation induces cooperation, the Government of Viet Nam will achieve Japanese commitment to the development of automobile industry in Viet Nam. International organisations will be able to contribute to this dialogue and mutual understanding from the perspective of a third party.

We believe that Viet Nam–Japan cooperation for the automobile industry will be more successful for the two countries when Japanese automobile OEMs recognise the huge potential of the Vietnamese automobile industry and make a strong commitment to the growth of their business in Viet Nam. Our recommendations on Viet Nam–Japan cooperation will help the development of competitive automobile parts and components industry in Viet Nam and the Vietnamese automobile industry. However, the cooperation can benefit non-Japanese automobile OEMs and contribute the development of competitors in the Vietnamese and other ASEAN markets if investments by the latter in Viet Nam keep lagging behind foreign OEMs.

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