

Mizuho Economic Outlook & Analysis

Changes in the Competitive Environment of the ASEAN Manufacturing Business

Mizuho Research & Technologies, Ltd.

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Issue to address, discussion points and conclusions

Issue to address

- Japanese manufacturers are becoming less interested in China as a sales market and production base, but their expectations for ASEAN are growing.
 - The change in perception of China reflects the current friction between the US and China, geopolitical tensions, population aging, and a maturing economy, among other factors.
 - ASEAN is originally a manufacturing hub for Japanese companies and is expected to continue to see both population and economic growth in a neutral position.
- But we hear more information that non-Japanese companies are also expanding into ASEAN and intensifying competition with Japanese companies.

Discussion points and conclusions

- Which countries and industries in ASEAN face increasing competition and with which counterparts?
 - Competition with Chinese firms is intensifying especially in the automotive sectors in Thailand and Indonesia, where Japanese companies have previously demonstrated strength.
 - Automobile exports from China to Thailand and Indonesia have surged in recent years. China is also expanding direct investment in the automotive sectors in the two countries, and competition with Chinese automakers is expected to escalate further in the future.
- What strategies can Japanese manufacturers adopt in light of the changing competitive environment?
 - Protecting the automotive sector requires an urgent response to electrification (hardware) and intelligence (software).
 - In addition, offensive strategies to develop new businesses are critical. For example, the use of hydrogen and ammonia as fuels for thermal power generation is expected to grow, and Japanese companies retain the technology and know-how to develop such businesses.

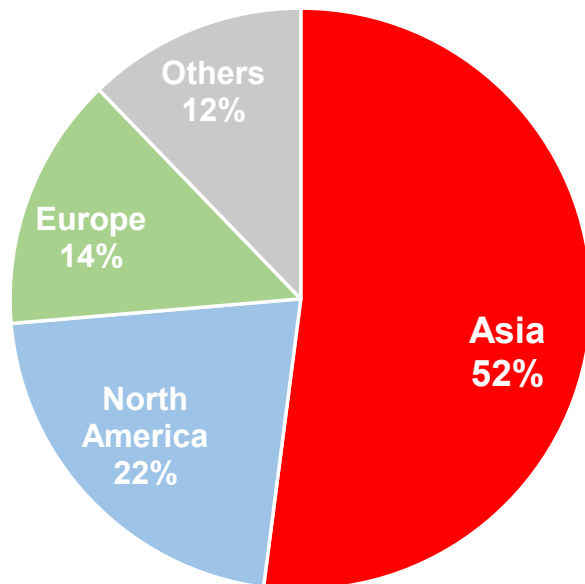
1. Changes in the ASEAN Competitive Environment from the Japanese Manufacturing Industry's Perspective

Visualization of the competitive environment through statistical data

ASEAN exports are the second most important market after China

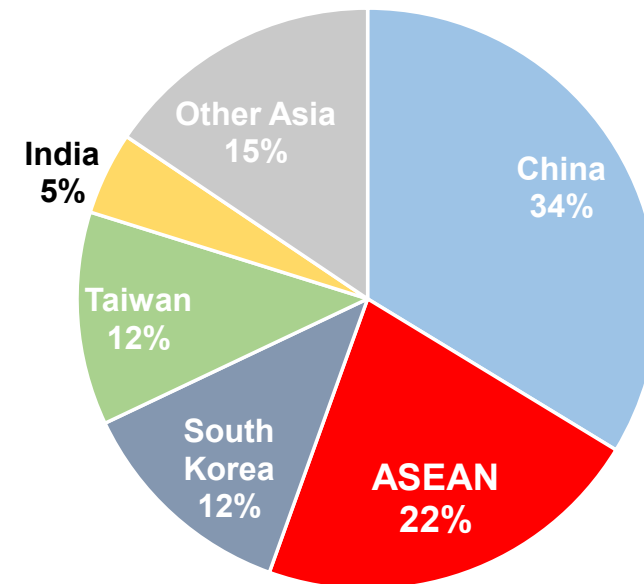
- Japan's exports to Asia (including China) are the largest, at 52 trillion yen, more than double the exports to North America (22 trillion yen).
- Within Asia, ASEAN is Japan's second largest export destination after China.
- Export growth to India has increased in recent years, but the volume remains low.

Japan: Breakdown of export destinations (2023)



Source: Made by MHRT based on the Ministry of Finance.

Japan: Breakdown of exports to Asia (2023)

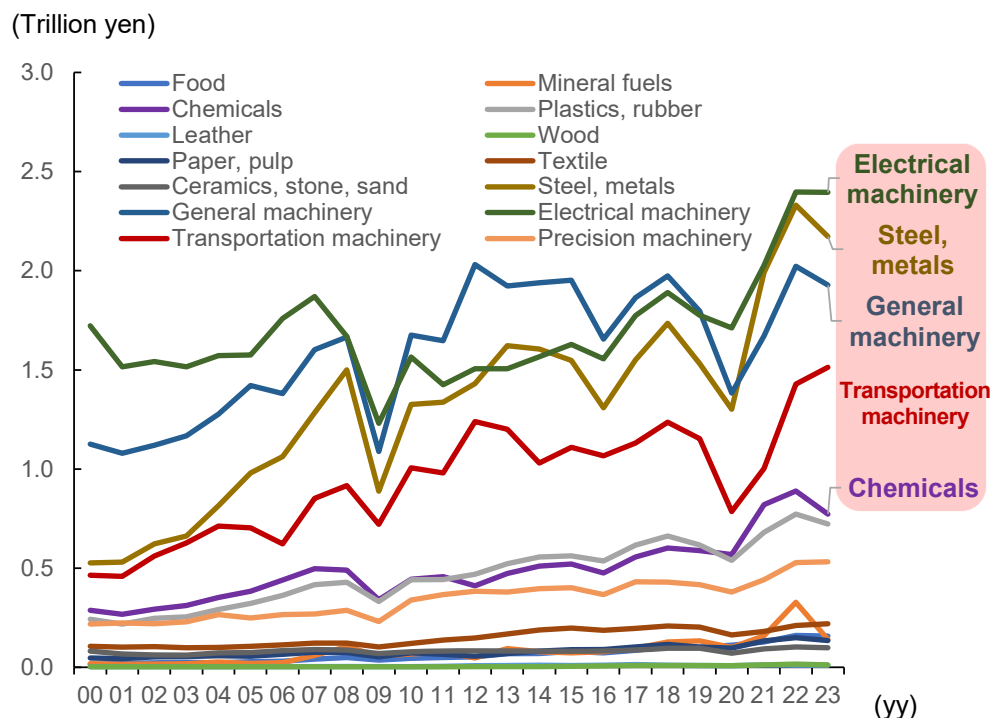


Note: ASEAN includes the five major countries of Indonesia, Thailand, Vietnam, Philippines, and Malaysia.
Source: Made by MHRT based on the Ministry of Finance.

The main pillars of exports to ASEAN are electrical machinery and steel by category, and Thailand and Vietnam by country

- Exports to ASEAN by product category are dominated by electrical machinery, steel and metals, and general machinery.
 - Exports of transportation machinery remain relatively small due to the progress of local production through direct investment, as described later in this report.
- By country, exports to Thailand and Vietnam are significant.
 - The major products for Thailand are steel, general machinery, and electrical machinery, all of which include materials and parts delivered to Japanese-affiliated automobile plants concentrated locally.
 - Electrical machinery is prominent in Vietnam-bound exports and includes semiconductors used as components, and control equipment and transformers used in factories.

Japan: Exports to ASEAN (by category)



Source: Made by MHRT based on UN Comtrade and CEIC.

Japan: Exports to ASEAN (by country, 2023)

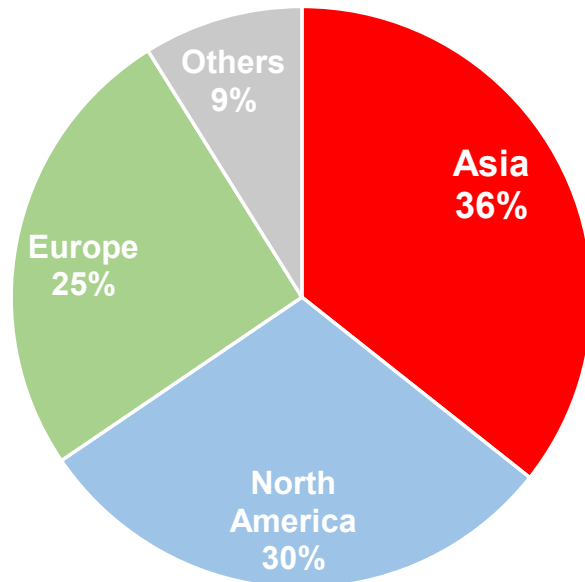
(Billion yen)	Thailand	Vietnam	Indonesia	Malaysia	Philippines
Total exports	4,115	2,417	2,025	1,958	1,423
Chemicals	283	156	144	105	86
Steel, metals	935	381	444	242	171
General machinery	723	294	458	250	202
Electrical machinery	683	691	177	499	345
Transportation machinery	492	103	399	311	208

Source: Made by MHRT based on the Ministry of Finance.

Direct investment in ASEAN has surpassed that in China and created a solid production base

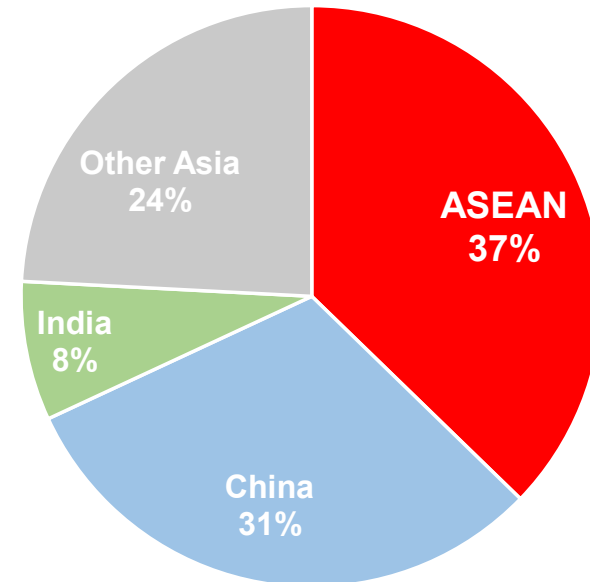
- Similar to exports, direct investment (manufacturing) in Asia accounts for the largest amount at 38 trillion yen, surpassing direct investment in North America at 32 trillion yen.
- ASEAN is the largest market in Asia, with the gap with China widening from the mid-2010s and the pace of increase accelerating in the 2020s.
- The level of direct investment in India remains low.
 - Interest in India by Japanese manufacturers is high, but actual business is just beginning.

Japan: Breakdown of the outward direct investment balance (manufacturing, 2023)



Source: Made by MHRT based on the Bank of Japan.

Japan: Breakdown of outstanding direct investment in Asia (manufacturing, 2023)

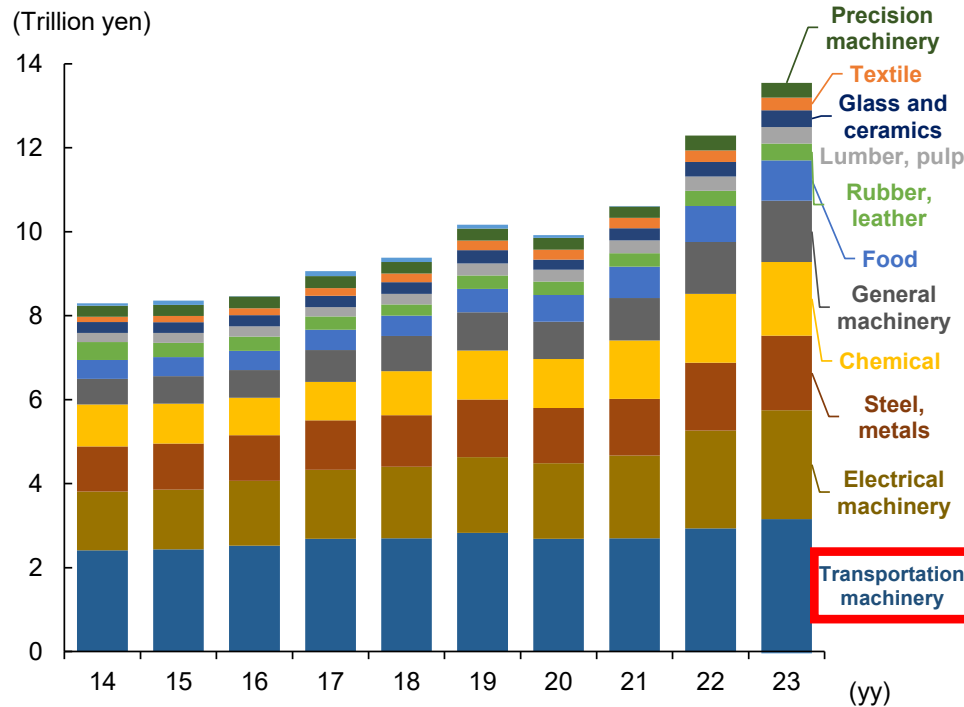


Note: ASEAN refers to the five major countries of Indonesia, Thailand, Vietnam, Philippines, and Malaysia.
Source: Made by MHRT based on the Bank of Japan.

The main pillars of direct investment in ASEAN are transportation machinery by industry, and Thailand and Indonesia by country

- By industry, transportation machinery accounts for the largest amount of direct investment in ASEAN.
 - Transportation machinery is followed by electrical machinery, steel and metals.
- By country, direct investment in Thailand is the greatest.
 - **Thailand has a high concentration of Japanese companies in transportation machinery.** Electrical machinery is the second largest sector, but it also includes automotive parts-related companies.
 - **Indonesia also has a concentration of Japanese companies in the automotive industry.**

Japan: Outstanding direct investment in ASEAN (manufacturing)



Source: Made by MHRT based on the Bank of Japan.

Japan: Outstanding direct investment in ASEAN (breakdown by country, 2023)

(Billion yen)	Thailand	Indonesia	Vietnam	Malaysia	Philippines
Manufacturing	6,242	2,803	1,966	1,712	1,569
Chemicals	674	411	210	398	65
Steel, metals	730	305	267	131	339
General machinery	647	258	345	152	60
Electrical machinery	1,276	168	275	366	505
Transportation machinery	1,525	1,050	229	201	153

Automotive clusters in Thailand and Indonesia

Thai electronics includes automotive parts

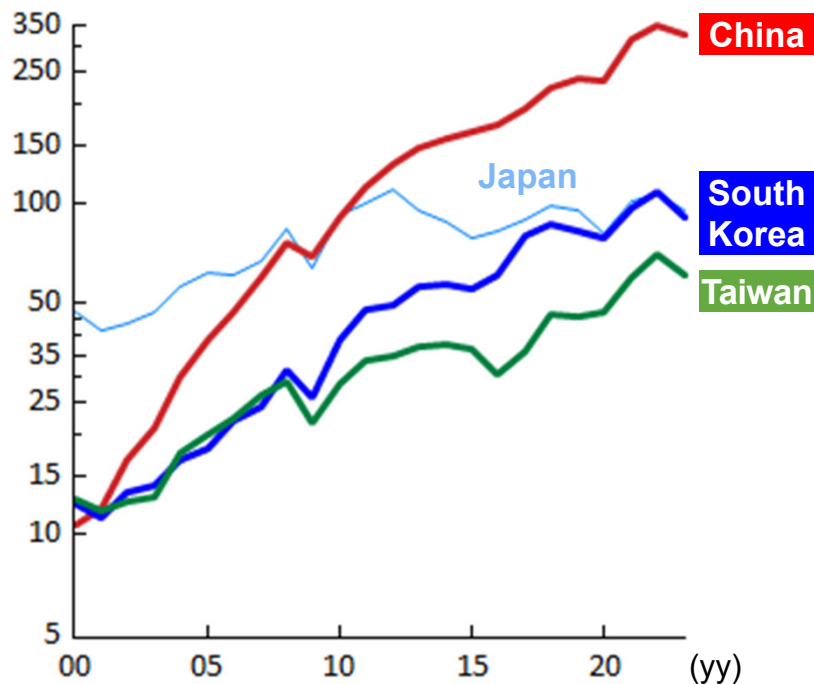
Source: Made by MHRT based on the Bank of Japan.

Exports to ASEAN have increased from China, South Korea, and Taiwan, with China particularly prominent

- China's exports to ASEAN have surged since the early 2000s, surpassing Japan in the 2010s and further expanding its lead.
 - South Korea and Taiwan are also rising at a relatively fast pace, with South Korea catching Japan and Taiwan growing closer.
- By major ASEAN countries, exports from Japan have generally declined over the past five years, while exports from China to ASEAN countries have increased.
 - Other than China, exports from Taiwan to Thailand and Vietnam are gaining momentum.

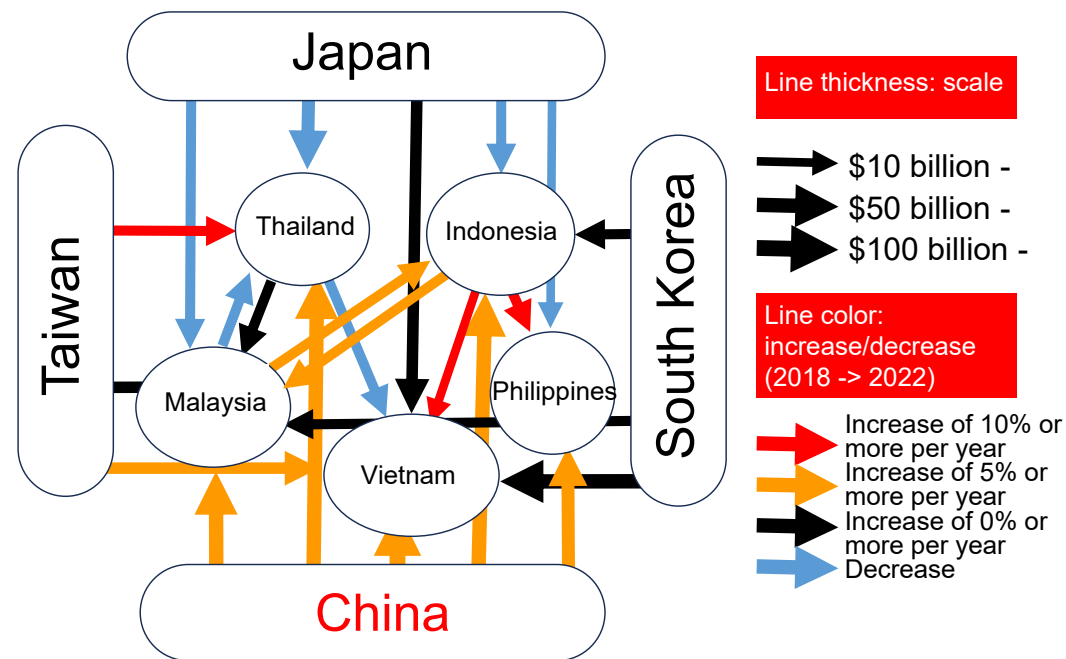
Exports to ASEAN

(USD 1 billion, log scale)



Note: ASEAN refers to the five major countries of Indonesia, Thailand, Vietnam, Philippines, and Malaysia.
 Source: Made by MHRT based on UN Comtrade and various countries' statistics.

Exports to ASEAN by country (2023, figures over USD 10 billion)



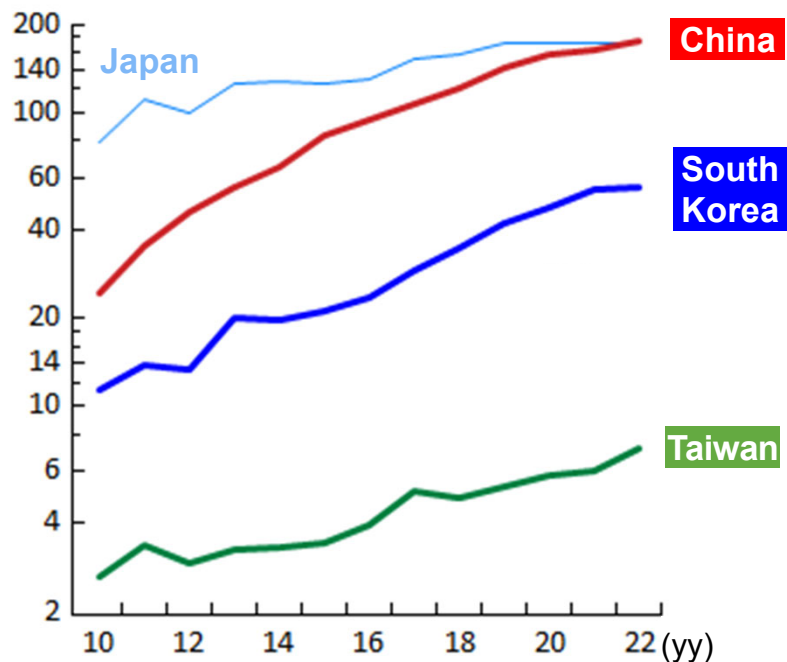
Source: Made by MHRT based on the IMF.

China's scale of direct investment in ASEAN has also expanded, with South Korea and Taiwan on the rise

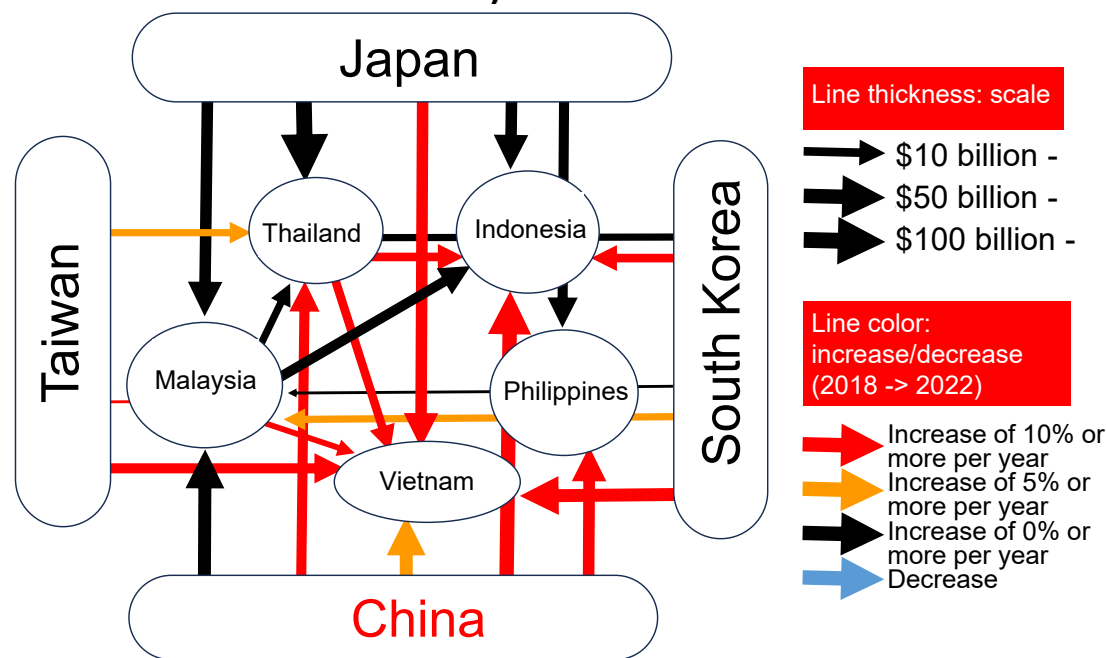
- China is also increasing its presence in the balance of direct investment in ASEAN and is catching up with Japan.
 - The balance of direct investment in South Korea and Taiwan is relatively low, but the increase is more pronounced than in Japan.
- By country, Japan's investment balance has remained flat over the past five years, with the exception of Vietnam. China's investment balance with each country has soared.
 - Other than China, direct investment growth is strong from South Korea to Vietnam (smartphones) and Indonesia (batteries), and from Taiwan to Vietnam (smartphone-related products).

Outstanding direct investment in ASEAN (manufacturing)

(USD 1 billion, log scale)



Outstanding direct investment in ASEAN (manufacturing) by country (end of 2022, figures over USD 10 billion)



Note: ASEAN refers to the five major countries of Indonesia, Thailand, Vietnam, Philippines, and Malaysia. Due to data constraints, for direct investment from Taiwan to Vietnam and from Indonesia to Vietnam, we used the cumulative authorized amount for 2013 to 22 as the balance for 2022, and the cumulative authorized amount for 2013 to 2018 as the balance for 2018. For direct investment from China, cumulative investment from 2005 to 2022 is used as the balance in 2022, and cumulative investment from 2005 to 2018 as the balance in 2018. Source: Made by MHRT based on the IMF, ASEANSTATS, Ministry of Planning and Investment of Vietnam, and AEI.

China has an overwhelming presence in electrical machinery and steel exports, Japan's mainstay products to ASEAN

- China leads Japan by far in electrical machinery and steel, Japan's main exports to ASEAN, as well as in a wide range of other items.
 - In transportation machinery, which is not a major export item for Japan due to its localization efforts, Japan is competing exceptionally well with China. However, in recent years, China has gained momentum in electric vehicle (BEV) exports.
- Other than China, South Korea exports to Vietnam intensively in the field of electrical equipment.
 - South Korea's exports to Vietnam are centered on smartphone-related parts, and we assume the degree of competition with Japan to be low compared with China's auto exports.

Comparison of exports by Japan, China, Taiwan, and South Korea to major ASEAN countries (2023)

(USD mn)	Thailand				Indonesia				Vietnam			
	Japan	China	Taiwan	South Korea	Japan	China	Taiwan	South Korea	Japan	China	Taiwan	South Korea
Total exports	29,288	75,733	10,823	7,535	14,414	65,196	2,991	9,113	17,205	137,607	11,675	53,473
Chemicals	2,011	6,298	476	977	1,028	5,430	357	833	1,114	8,021	1,190	2,116
Steel, metals	6,653	10,831	1,044	1,911	3,160	8,611	408	1,469	2,711	13,995	977	3,212
General machinery	5,145	10,543	4,531	627	3,259	13,181	433	1,569	2,092	14,574	723	3,180
Electrical machinery	4,863	16,081	3,326	1,405	1,262	11,934	552	1,075	4,920	45,654	4,069	31,752
Transportation machinery	3,501	5,190	122	253	2,839	3,238	67	654	736	2,541	145	968

China overwhelms Japan

Japan and China compete in transportation machinery, but China has the momentum

Mostly smartphone components

Even in direct investment, competition with China is evident in the transportation machinery sector in ASEAN

- Overlapping most with Japan's position is China's investment in the transportation machinery sector in various countries.
 - China is also making huge investments in steel and metals in Indonesia, with nearly 40% related to nickel, a raw material for electric vehicle (BEV) batteries.
- ASEAN also attracts BEV supply chains, including batteries.
 - ASEAN welcomes Chinese investment in BEV factories to upgrade its own industry.
 - Most of China's BEV factory investments in ASEAN are scheduled to begin operations after 2024.
- South Korea's investment in Vietnam seems mostly in electrical machinery (smartphone related), and direct overlap with Japan is minimal.

Direct investment by Japan, China, Taiwan, and South Korea in major ASEAN countries (cumulative flows from 2017 to 2023)

(USD mn)	Thailand				Indonesia				Vietnam			
	Japan	China	Taiwan	South Korea	Japan	China	Taiwan	South Korea	Japan	China	Taiwan	South Korea
Manufacturing	17,571	3,680	1,586	358	10,206	20,900	1,317	8,679	7,702	3,150	4,083	13,057
Chemicals	2,708	0	67		1,785	290	7	1,039	901	0	141	
Steel, metals	2,086	130	61		1,415	12,440	125	605	1,174	260	1,150	
General machinery	1,487	0	56		1,052	150	7	1,718	1,514	0	97	
Electrical machinery	3,998	200	1,018		931	100	277		1,322	970	1,484	
Transportation machinery	3,613	3,350	213		3,065	7,680	39	1,812	1,514	1,240	109	

Japan and China compete in transportation machinery

40% is related to nickel, a raw material for BEV batteries

Mostly electrical machinery (smartphone related)

Note: Chinese figures are partly classified by industry using ChatGPT based on company name.

Source: Made by MHRT based on the Bank of Japan, AEI, Taiwan Investment Commission, Export-Import Bank of Korea, and Indonesian Investment Coordinating Board.

(Reference) Japanese manufacturers expanding in ASEAN say “competition is intensifying”

- When considering business in ASEAN, Japanese companies are increasingly looking at market entry (targeting domestic demand) and reassessing supply chains for semiconductors/electronics.
- Meanwhile, there are concerns about the competitive environment deteriorating in some countries and industries due to the entry of new foreign firms and other factors (with some cases of withdrawal also observed).
- **In the automotive industry**, Chinese companies are aggressively entering the electric vehicle (BEV) market, which could lead to excessive competition, but Japanese companies are cautious about the future of BEVs at this stage.

Hearings with local Japanese companies (excerpts)

Thailand

- Amid worsening market conditions and intensifying competition, some businesses in several industries, **including the automotive industry**, are considering withdrawing from the market or transferring their operations to other countries.
- **Automobile** companies fear excessive competition with the entry of BEVs by Chinese companies. But Japanese companies are skeptical about the sustainability of BEVs, as they face such challenges as expanding the recharging infrastructure.
- There is a movement to seek business opportunities with non-Japanese companies, including Chinese companies, to develop new business areas. There are cases of rejection for price and delivery date reasons.

Indonesia

- New and additional investment activity is robust. Some cases of withdrawal due to business portfolio reviews are seen, but contraction is not a major movement [trend] at this time.
- Chinese companies are competing with Japanese firms in **automotive, heavy machinery, and other sectors**, but strict business conditions have not led to much business with Japanese firms.

Vietnam

- Vietnam faces the entry of Chinese companies **in OA, electronic components, steel, and logistics, among other areas.** In the **steel industry**, the influx of low-priced steel components from Chinese companies coupled with the anti-dumping movement may impact the industry.
- On the other hand, there is a move to develop sales networks for Chinese companies, and many Japanese companies are still considering new or additional investment.

Malaysia

- **In the automotive industry**, local companies hold a high market share, and the shift to EVs is lagging, so the competitive environment is not expected to change significantly.
- There are cases of withdrawal from **chemicals** (superabsorbent polymers) due to intensifying competition, but investment from various countries in the **semiconductor** field has been brisk recently.

Singapore

- There are cases of withdrawal as part of the Group's review of its management structure and allocation of management resources.
- Singapore faces a deteriorating business environment due to the entry of Chinese companies in **automotive, electrical/electronics, and steel-related industries.**

(Reference) Amid intensifying competition in ASEAN, Japanese manufacturers are currently adopting a wait-and-see approach

- Some local voices in ASEAN are positive about the entry of Chinese companies into the region, but the majority are negative.
 - Despite the movement to seek business with Chinese companies, such opportunities are not always successful due to differences in price competitiveness and technological capabilities.
- The most common response was (1) “maintain the current situation and assess,” while smaller numbers said (2) “withdraw” and (3) “seek new business.”

Real voices from local Japanese companies

[Sale/supply side]

< Negative >

- Quotation inquiries from Chinese companies are increasing (common to all regions and industries).
- Business with Chinese and South Korean automotive OEMs
 - Cannot keep up with business practices.
Commit before specifications are finalized (supply responsibility for large lots).
Delivery speed, price, collection terms, etc.
 - Even done deals will be lost to Chinese companies and others sooner or later.
Price competitiveness and technological capabilities will improve, and we will not be able to compete.
They will eventually bring in a Chinese supplier.
 - Concerns about technology leakage.
-> A particularly noticeable trend in the commodity area.
- Deterioration of the hiring environment with talented people pulled out at higher salaries.

< Positive >

- Hiring Chinese-speaking personnel with the expectation of transactions and sales with local Chinese companies (Vietnam, logistics, steel-related, service-related, etc.).

[Purchase/procurement side]

< Positive >

- The entry of Chinese suppliers has made it possible to procure materials and products of good quality at low cost (Vietnam).

(1) Maintain the current situation and assess

- Assess the competitive environment, particularly in the automotive sector.
Identify BEV penetration trends (Thailand/Indonesia, BYD sales prices, especially in pickup trucks, etc.).
- Revise production and sales strategies inside and outside ASEAN.
=> Revisit information gathering and regional business strategies.

(2) Withdraw

- Reexamine the global production system.
- Improve business efficiency through mergers of multiple existing companies, etc. (Thailand).
- Intensifying competitive environment, originally poor performance.
 - Product competitiveness, technology, sales network, etc.=> Quick and bold decision-making is necessary.

(3) Seek new business

- Seeking business with Chinese and South Korean companies entering the market.
- New business opportunities in business areas that cannot be substituted, new areas of technological superiority (**hydrogen**, etc.).
- Maintain the current status in this region while developing other regions.
=> Buy time in a foreign business and launch a new area of business.

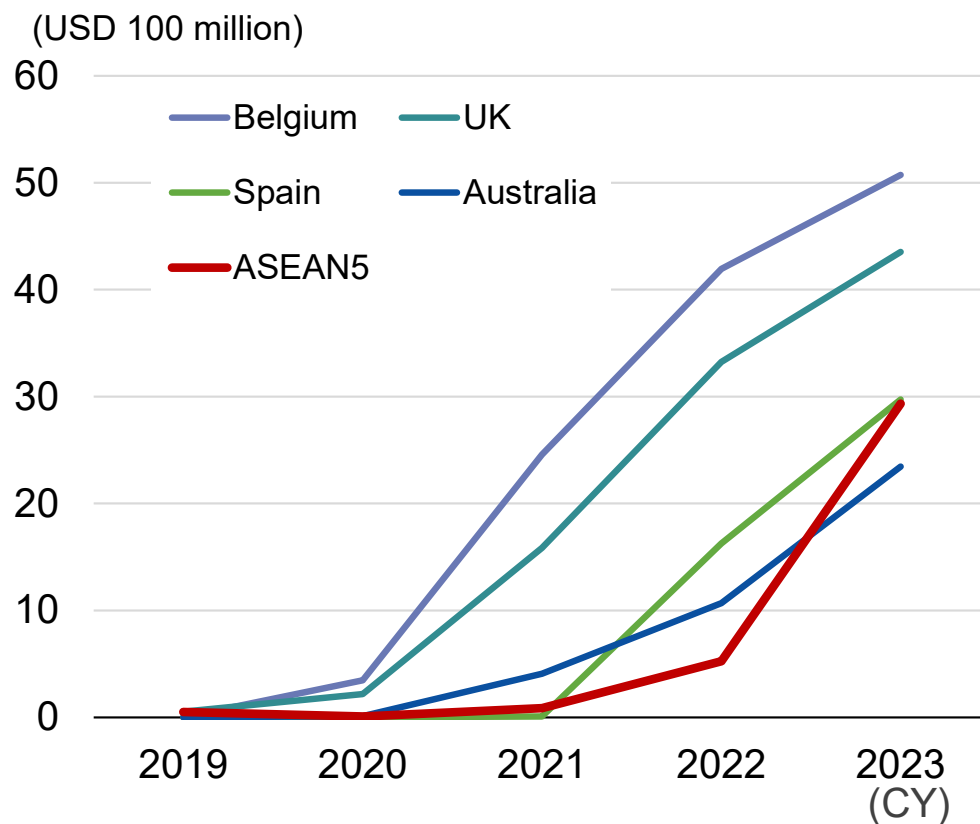
2. The Future of Japanese Manufacturing in ASEAN amid Intensifying Competition

Focusing on case studies of defensive strategies in existing fields (automotive) and offensive strategies in new fields (hydrogen and ammonia)

Competition in ASEAN will further intensify as Chinese automakers expand sales and production

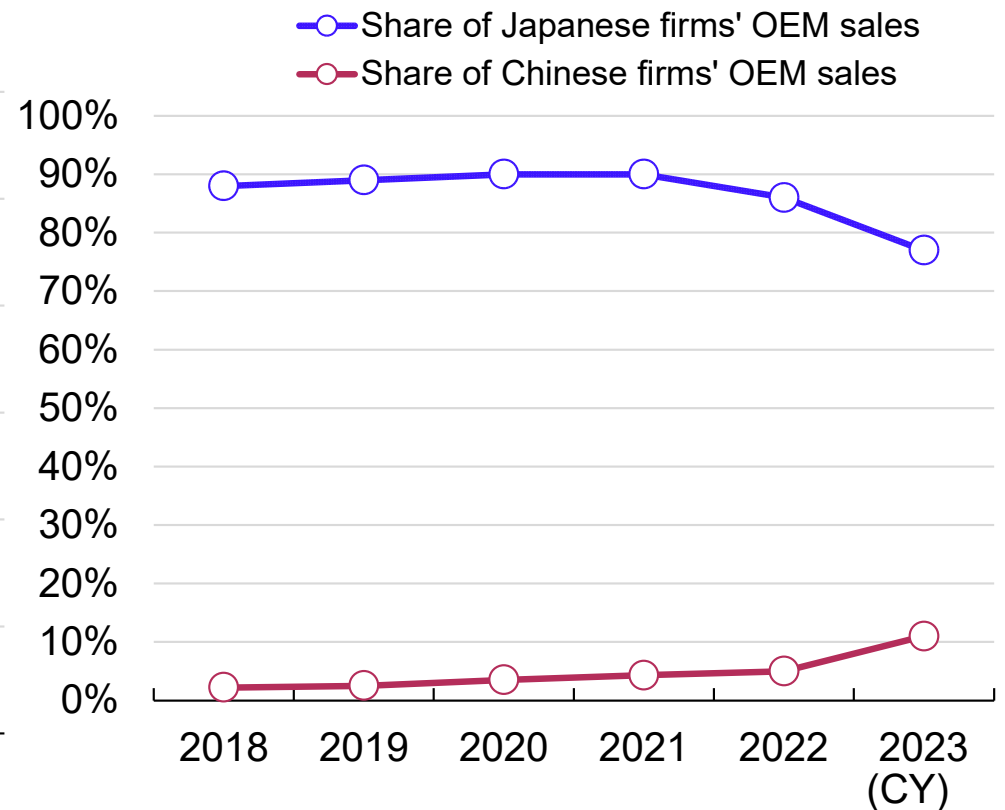
- The market growth rate of China’s New Energy Vehicle (NEV) is slowing. China aims to expand its overseas sales channels in a bid to raise factory utilization rates.
- Exports to ASEAN, especially Thailand, have expanded rapidly in recent years. Chinese manufacturers (OEMs) are expected to start full-scale local production of electric vehicles (BEV) in the future. Competition is expected to intensify further in ASEAN as local production is added to auto exports from China.

Value of BEV exports from China



Note: HS code: 870380
 Source: Made by Mizuho Bank Industry Research Department based on Global Trade Atlas.

Thailand: Share of Japan and China OEM sales



Source: Made by Mizuho Bank Industry Research Department based on Marklines.

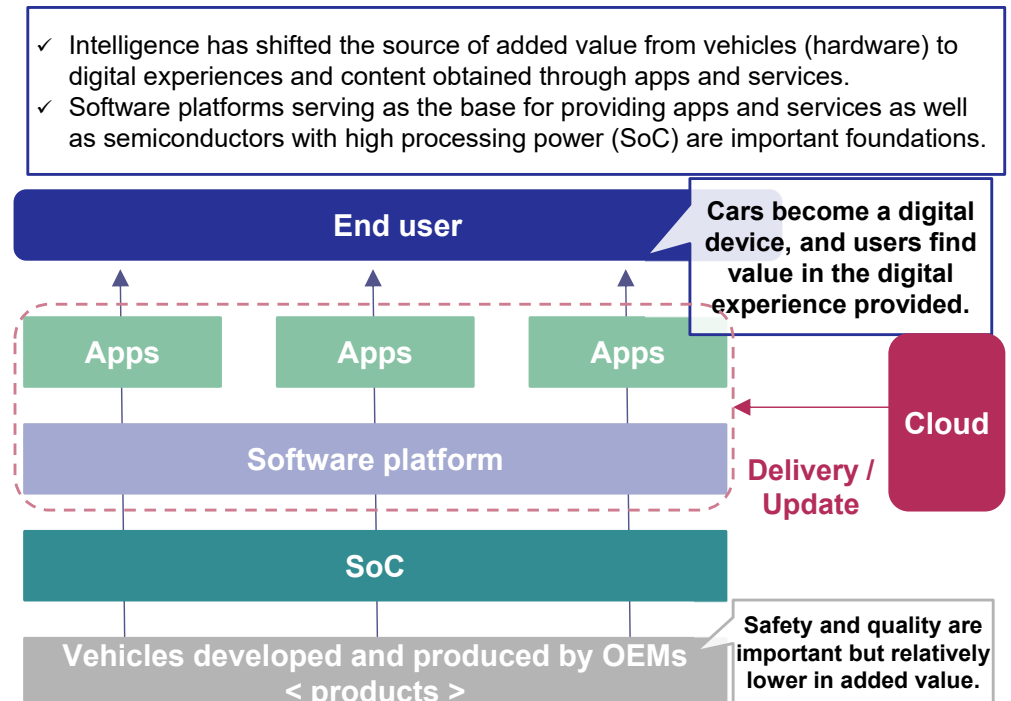
OEMs (ASEAN): Must deal with both electrification and intelligence brought in by Chinese companies

- Strategic options for Japanese OEMs in ASEAN exist in terms of both electrification (hardware) and intelligence (software).
- There are two options regarding electrification: (1) in-house production and (2) collaboration with other companies. Decisions are made according to each company's capability.
- Regarding intelligence, introducing SDVs (Software Defined Vehicle*) at an early stage is necessary to compete with Chinese companies. *An automobile installed with software that can be updated to control the vehicle using two-way communication between the vehicle and the outside world, allowing for more functions and improved performance even after the vehicle is sold.
 - Increased importance of software platforms and semiconductors with high processing power as the foundation for providing apps and other services.
 - Room for collaboration with Taiwanese and Indian companies in semiconductors and software; BMW and TATA have established a JV for SDV software development.

Electrification (hardware)

1	In-house production of BEVs	• Investment in BEVs with multi-pathway capabilities (installation of production-switchable lines) based on ICE/HEVs.
	Leverage partnerships with other companies	• The company focuses on ICE/HEV to “earn as much as it can.” Low-operating plants collaborate with other companies for an optimal production system across regions.
2	Partnerships with Japanese firms	• Build an optimal production system including ICE in the region. BEVs share parts that are jointly produced.
	Local partnerships	• Jointly develop and produce BEVs with new entrants in the BEV value chain.
	Partnerships with Chinese firms	• Establish a BEV manufacturing JV in the region (asset: Japanese firms, manufacturing: Chinese firms). • Leverage Japanese supply chain and sales network that have an advantage.

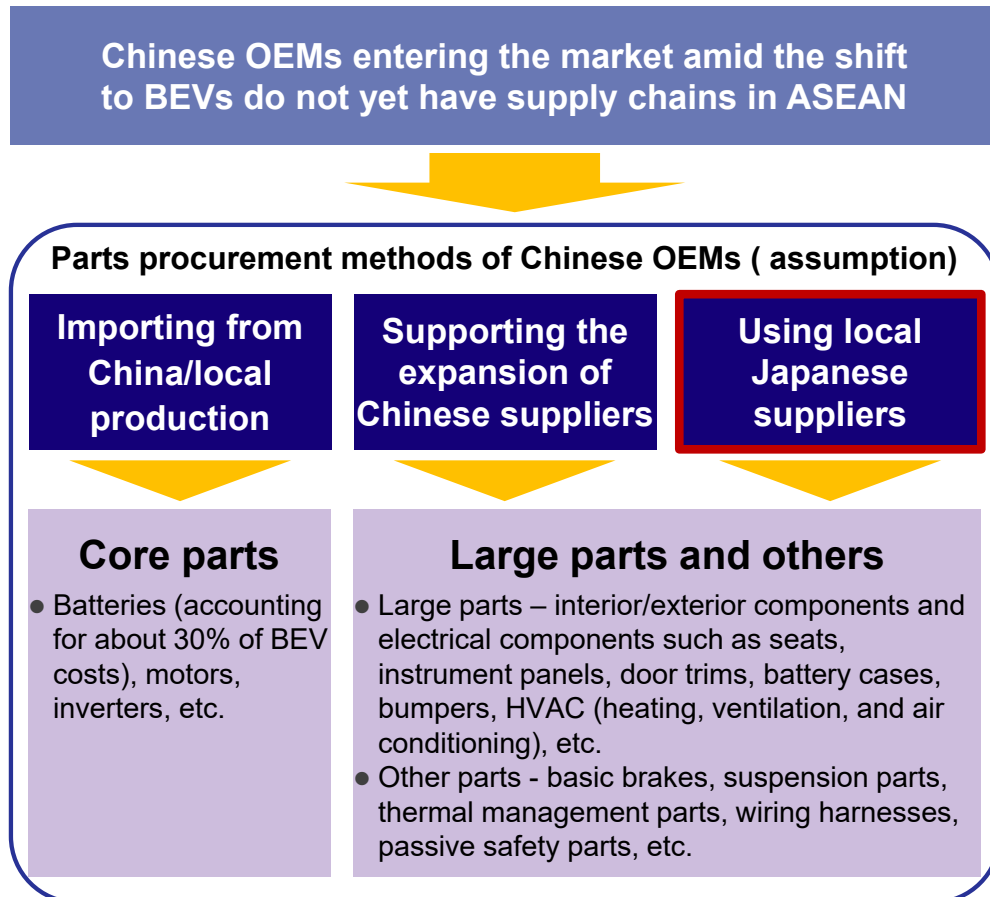
Intelligence (software)



Suppliers (ASEAN): Room for business with Chinese OEMs, but there is concern that conditions will become tougher

- Chinese companies are expected to import and locally produce core parts, but there is room for Japanese suppliers to leverage large parts that require transportation costs.
- The question is whether components other than large parts have price and delivery time advantages compared with imports from China.
- Possibilities exist for Japanese suppliers to do business with Chinese companies, but there are concerns about short delivery times, low margins, and other factors.

Parts procurement methods of Chinese OEMs (assumption) and room for Japanese suppliers to do business with them



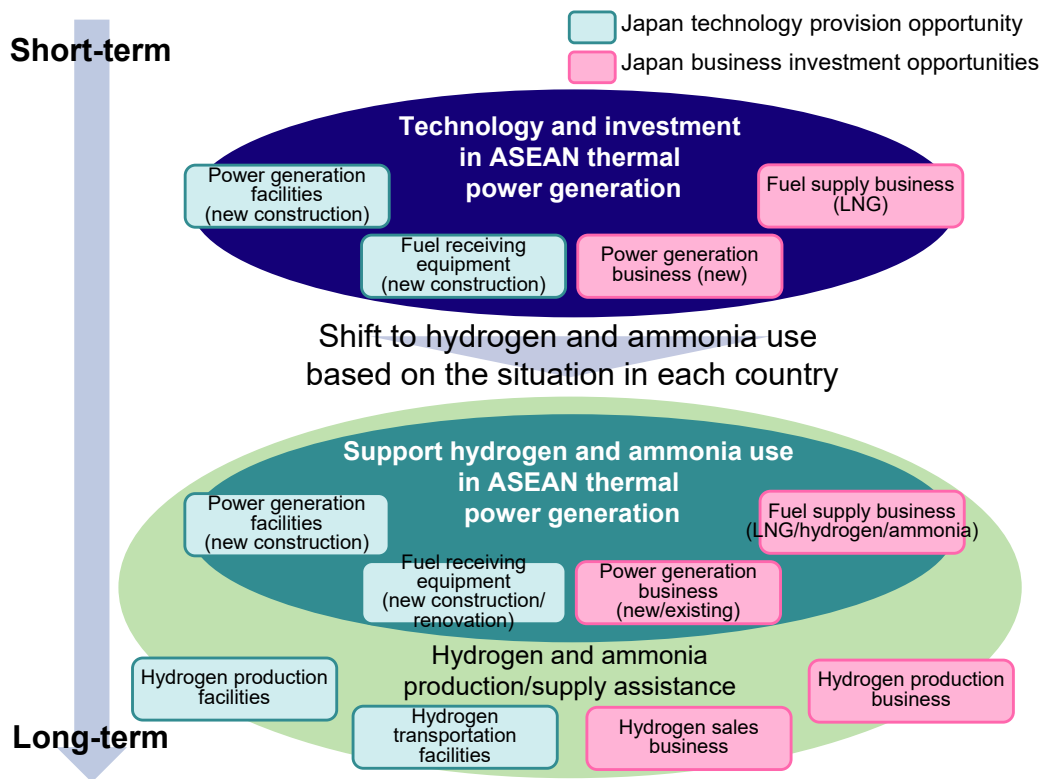
*Discussion points by components for using Japanese suppliers

Core parts	<ul style="list-style-type: none"> ■ Critical components that are the differentiating factor for Chinese companies. Some core parts require local production to receive subsidies. ■ It is assumed that <u>imports and local production are the baseline</u>.
Large parts	<ul style="list-style-type: none"> ■ In view of transportation costs, there is room for Japanese suppliers to leverage their <u>superiority in procurement from finished car factories nearby</u>. ■ Concerns are small lots, short delivery times, and low margins. The possibility of transactions for core components with large transaction values is low.
Others	<ul style="list-style-type: none"> ■ <u>There is a possibility of using Japanese suppliers after considering imports from China and the expansion of existing Chinese suppliers into ASEAN</u>. Japanese companies may be used if local procurement offers an advantage in terms of QCD (quality, price, delivery). ■ Concerns are small lots, short delivery times, and low margins. The possibility of transactions for core components with large transaction values is low.
Engine related	<ul style="list-style-type: none"> ■ Piston rings, fuel tank, muffler, etc.

Expansion of thermal power generation and the use of hydrogen and ammonia in ASEAN will provide opportunities for a wide range of Japanese companies

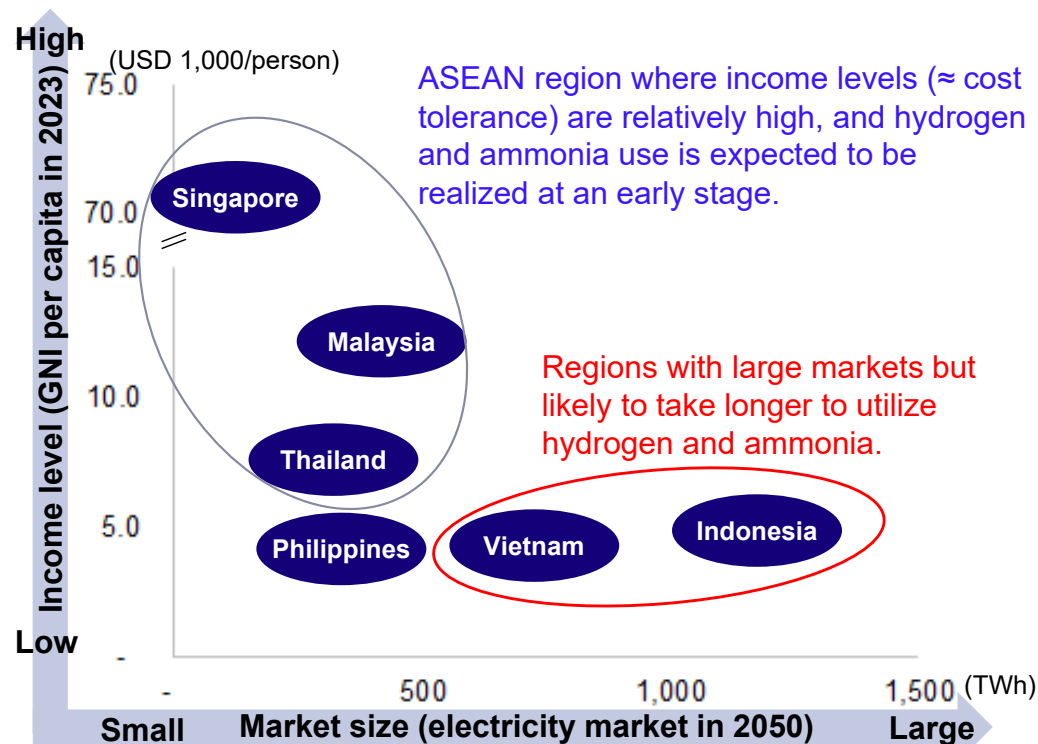
- In ASEAN, electricity demand will increase on the back of population and economic growth. For now, in addition to renewable energy, thermal power generation is essential to ensure stable power supplies. There is potential for Japanese companies to provide technology and capture business investment opportunities related not only to thermal power generation but also hydrogen and ammonia use, by supporting the expansion of thermal power generation in ASEAN and the transition to hydrogen and ammonia use in thermal power generation over the long term.
- However, given the high cost of hydrogen and ammonia compared to existing fuels, the timeframe for transitioning to hydrogen and ammonia use may differ within the ASEAN region depending on cost tolerance (≈ economic level). It is essential to formulate regional strategies based on a realistic time horizon that takes into account the market size, income level, etc. in each country.

Expansion of thermal power generation in ASEAN and opportunities for hydrogen and ammonia use



Source: Made by Mizuho Bank Industry Research Department.

Position of each country on hydrogen and ammonia use in thermal power generation



Source: Made by Mizuho Bank Industry Research Department based on data released by the World Bank Group, and the Reference Scenario of IEEJ Outlook 2024 by the Institute of Energy Economics, Japan.

[Contact for inquiries regarding this material]

Mizuho Research & Technologies, Ltd.

Yuta Egashira

Senior Economist, Research Division

TEL: 080-1069-4757

E-mail: yuta.egashira@mizuho-rt.co.jp

[Authors]

Mizuho Research & Technologies, Ltd.,

Research Division

Yuta Egashira Senior Economist

Mizuho Bank, Ltd.

Industry Research Department

Shinji Nonaka Asia Office

Naoki Okutani Asia Office

Kohei Hamada Automobile & Machinery Team

Yuta Kimura Hong Kong Research Team

Mizuho Bank, Ltd.

Global Strategic Advisory Department

Michio Shindo Managing Director, Global Advisory Team No.2

Yuta Matsui Director, Global Advisory Team No.2

Hiroki Higuchi Senior Analyst, International Affairs and Geopolitics, Global Intelligence and Coordination Team

Mizuho Research & Technologies, Ltd.

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