

Section 4

THE INTERNATIONAL DIVISION OF LABOR IN EAST ASIA IN THE POST-PANDEMIC ERA

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1. Two Challenges

Since the late 1980s, East Asia, including Northeast Asia and Southeast Asia, has constructed Factory Asia by expanding and deepening International Production Networks (IPNs) (Ando and Kimura, 2005) or the second unbundling (Baldwin, 2016), i. e., the task-by-task international division of labor, mainly in the machinery industry, ahead of the world, leading to rapid economic growth and the eradication of poverty. Japan and Japanese companies have consistently contributed to the development of Factory Asia as major players and have made its development a source of their own international competitiveness. Factory Asia's presence in the global economy is particularly significant in the general machinery and electrical machinery sectors.

In the last few years, however, Factory Asia has been faced with two major challenges. The first is the emergence of COVID-19. The movement of people stopped due to infection control measures, imports of parts and finished products from China were interrupted, and the supply chain for personal protective equipment such as masks was disrupted, which fueled people's anxiety. At one time, it was even speculated that the emergence of COVID-19 would bring about the end of globalization. However, as will be discussed below, IPNs in the machinery industry, a particularly sophisticated part of the supply chain, provided an opportunity to demonstrate their robustness and resilience, contrary to most expectations.

The second is rising geopolitical tensions. The U.S.-China confrontation began as a relatively simple tariff war but has gradually turned into a technological competition between the superpowers and a fight for supremacy. As COVID-19 spread, Western countries' distrust of China has grown rather strong and geopolitical tensions have further intensified due to human rights issues. The Russian-Ukrainian war broke out in February 2022, which resulted in even more extensive trade controls. The era of tacit acceptance of the separation of politics and economics was over. However, as Lamy and Köhler-Suzuki (2022) point out, while the political dispute has escalated, economic activity continues to be vigorous. What is the future of Factory Asia?

This section below examines how Factory Asia is maintaining its vitality in

the face of these two challenges.

2. Factory Asia and the International Trade Order

Global Value Chains (GVCs) and Global Supply Chains (GSCs) are generic terms for international industrial linkages, among which IPNs, the international division of labor based on production processes and tasks, and the supply chain called the second unbundling, refer to those with a particularly high degree of sophistication. The difference between general GSCs and IPNs lies in the importance of service links between production blocks that are placed at a distance (Jones and Kierzkowski, 1990). International trade in the past was primarily concerned with raw materials or finished goods. Trade in these goods was usually not so strict in terms of time and reliability, and being held up at a port for a few days for some reason did not cause serious problems. However, as trade in components and intermediate goods brought about the international division of labor in production processes or task units, time-accurate and reliable service links became indispensable. The cost of service links is highly dependent on the transportation infrastructure and policy environment. Therefore, emerging and developing countries other than East Asian countries that can participate in IPNs are limited to only a few countries in Central and Eastern Europe and Mexico, even if there is a significant wage gap between them and developed countries.

Developing IPNs requires good location advantages and stable connectivity, and companies must also defray sunk costs to build their business networks. That is why companies try to retain IPNs even if they are hit by shocks in the upstream or downstream as long as the shocks are considered temporary. IPNs are robust to shocks brought about by natural disasters or economic crises. The fact that trade within IPNs, especially trade in machinery parts, is less likely to be disrupted (which means it is robust) and more likely to be restored (which means it is resilient) than other trade has been demonstrated through trade data during the Asian economic crisis, the global financial crisis, and the Great East Japan Earthquake (Obashi, 2010, Ando and Kimura, 2012, Okubo, Kimura, and Teshima, 2014).

IPNs in the machinery industry are concentrated in three regions of East Asia, North America, and Europe. [Table 1-4-1](#) shows the trade matrix for machinery (HS84-92) in the three regions and the rest of the world as of 2019 (Ando, Kimura, and Yamanouchi, 2022). The rows represent the export side and the columns represent the import side. In addition to the actual trade values, projected trade values based on the gravity model estimation using trade data

Table 1-4-1

Matrix of Machinery Trade in the Three Main Regions of the World:
Projected Values Based on the Gravity Model and Actual Values (2019)

| Exporting/ Importing Country | Amount (Million USD, %) | East Asia | North America | Europe | Rest of World | World Total |
|------------------------------------|-------------------------------|-----------|------------------|-----------|------------------|-------------|
| East Asia | Actual value (A) | 874,958 | 607,050 | 434,667 | 897,997 | 2,814,672 |
| | Projected value (B) | 564,700 | 284,701 | 298,778 | 567,605 | 1,715,783 |
| | (A)/(B) (%) | 155 | 213 | 145 | 158 | 164 |
| North America | Actual value (A) | 158,443 | 617,230 | 161,678 | 192,226 | 1,129,577 |
| | Projected value (B) | 233,376 | 591,802 | 291,501 | 362,368 | 1,479,047 |
| | (A)/(B) (%) | 68 | 104 | 55 | 53 | 76 |
| Europe | Actual value (A) | 277,206 | 286,773 | 1,517,637 | 461,516 | 2,543,132 |
| | Projected value (B) | 262,974 | 318,751 | 1,298,753 | 581,866 | 2,462,344 |
| | (A)/(B) (%) | 105 | 90 | 117 | 79 | 103 |
| Rest of World | Actual value (A) | 204,942 | 109,694 | 192,904 | 258,272 | 765,812 |
| | Projected value (B) | 375,111 | 268,660 | 431,686 | 520,561 | 1,596,019 |
| | (A)/(B) (%) | 55 | 41 | 45 | 50 | 48 |
| World Total | Actual value (A) | 1,515,549 | 1,620,747 | 2,306,885 | 1,810,011 | 7,253,193 |
| | Projected value (B) | 1,436,160 | 1,463,914 | 2,320,719 | 2,032,400 | 7,253,193 |
| | (A)/(B) (%) | 106 | 111 | 99 | 89 | 100 |

Note: East Asia includes China, Japan, Korea, and ASEAN countries.

Source: Ando, Kimura, and Yamanouchi (2022)

for 176 countries are also shown. The ratio of actual values to projected values indicates how much larger or smaller the actual trade value is compared to the “standard” trade value calculated by taking into account factors including the economic size of each country and the distance between the two countries. East Asia has a high ratio of actual values to projected values at 164% for exports to the world, 106% for imports, and 155% for intra-regional trade within East Asia, far ahead of that of North America and Europe. Although not shown in the chart, East Asia has a particular advantage in general and electrical machinery. A closer look within East Asia shows that the Association of Southeast Asian Nations (ASEAN) countries have particularly high ratios of actual values to projected values, reflecting their high level of commitment to IPNs.

The diffusion of digital technology is also expanding the third unbundling in the international division of labor, namely, the person-to-person international

division of labor (Baldwin, 2016), resulting in a clear increase in international trade in digitized services. However, it has yet to quantitatively account for a large part of the international division of labor between North and South so far. The importance of IPNs, especially in the manufacturing industry, will not be lost for a while.

The preconditions that made possible the expansion and deepening of IPNs in East Asia were the long-lasting peace and rules-based international trade order in the region. The question now is whether these preconditions can be maintained even in the post-corona era.

3. Overcoming COVID-19

The novel coronavirus pandemic that began in China in 2019 quickly spread throughout the world, and the lockdown and other measures to restrict people's activities introduced to fight against the disease have significantly impacted our production and consumption activities. Economic growth rates for most countries were negative in 2020, leading to a pessimistic view of the future of globalization. Among GSCs, however, particularly IPNs, which form the core of the East Asian economy, once again proved their robustness.

The impact of COVID-19 on GSCs can be divided into three types of shocks: negative supply shock, negative demand shock, and positive demand shock (Ando, Kimura, and Obashi, 2021). The first shock, negative supply shock, hit various countries in February and March 2020 when imports of components and finished goods from China stopped. However, this was resolved after only two months. As the infections spread to other countries since then, negative supply shocks have occurred in different places and at different times, but their impact was only temporary.

The second negative demand shock of a decline in economic activity that might hurt financial institutions and lead to a major recession was initially the most feared. However, the impact of the negative demand shock was limited due to the unprecedented scale of mitigating policies implemented by each country.

The third, the positive demand shock, has two aspects. Firstly, demand for personal protective equipment such as masks as anti-infection measures and, in some countries, food and other so-called essential goods suddenly increased. In addition, some exporting countries imposed export restrictions, leading to a temporary state of panic. However, this was also largely resolved within a few months, with the exception of the vaccines, as the production sites were quickly replaced. Secondly, demand for personal computers, displays, electric dishwashers, electric hand drills, etc., has increased because telecommuting and home

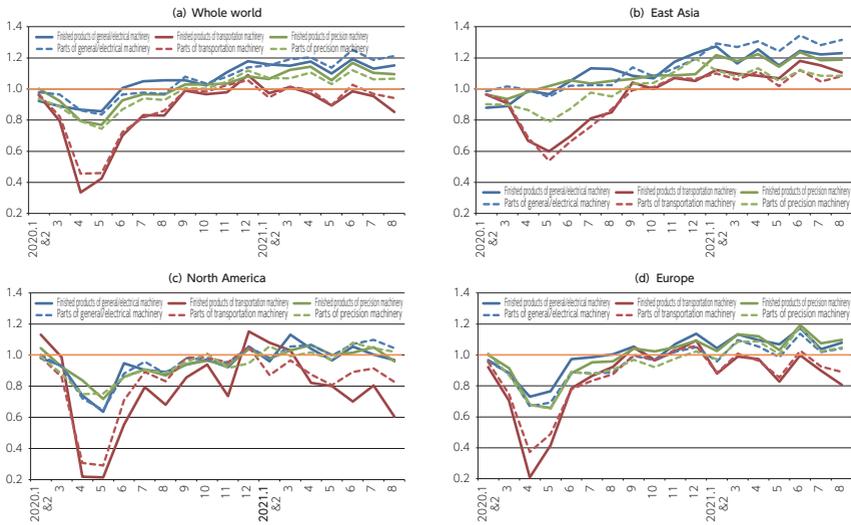


Figure 1-4-1

Machinery Exports to the World by Region (Index with Each Month of 2019 as 1)

Note: For the countries included here and detailed data compilation methods, refer to the source.
 Source: Ando and Hayakawa (2021)

isolation have become established in many countries around the world. The fact that East Asia is an exporter of these commodities, combined with the fact that the outbreak was relatively minor, helped the East Asian economies to recover quickly.

Figure 1-4-1 shows exports of finished goods and parts of general/electrical machinery, transport equipment, and precision machinery to the world by region, with the index set at 1 for each month in 2019 (Ando and Hayakawa, 2021). Looking at (a) Worldwide exports, we can see that exports have declined with the spread of the infection but bottomed out in April or May 2020. The decline was particularly large in transportation machinery, which dropped 60% year-on-year, while general/electrical machinery and precision machinery fell by more than 10% and 20%, respectively. After that, it returned to the level of the same month of the previous year by around September. (b) Export in East Asia shows that the decline in transportation machinery is obviously small. In February and March 2020, exports of general/electric machinery and precision machinery finished products decreased year-on-year, but subsequently quickly increased. The impact of the positive demand shock can be seen here.

The Economic Research Institute for ASEAN and East Asia (ERIA) conducted an internet-based questionnaire survey of companies located in 10 ASEAN countries and India and received responses from nearly 2,000 companies

(including local and foreign companies) (Oikawa, Todo, Ambashi, Kimura, and Urata, 2021, Todo, Oikawa, Ambashi, Kimura, and Urata, 2021). It was found there that many Asian companies fought against COVID-19 by reconfiguring their upstream and downstream supply chains. It also revealed that in more than half of the responding companies, profits increased even in 2020, despite some sampling bias. This may indicate the dynamism of Asian companies in contrast to the status quo-focused behavior of Japanese companies.

The COVID-19-related issues are not over yet. With the emergence of new mutant variants, East Asian countries, which had initially been the best at controlling the spread of infections, have been forced to respond, while China has implemented a lockdown based on its zero-corona policy. It will take time for the tourism industry and the industry providing face-to-face services, which were adversely affected by the restrictions on human mobility, to recover. However, it is clear that the GSCs, especially IPNs being developed in East Asia, have not suffered a major setback.

4. Rising Geopolitical Tensions

When the former US President Donald Trump and his administration abandoned its previous policy of engagement with China and embarked on a path of confrontation, the confrontation between the US and China took the form of a tariff war in which both sides imposed tariffs on each other. This alone was considered disruptive to the rules-based international trade order because it meant lifting tariffs above the most-favored-nation (MFN) tariffs promised by the World Trade Organization (WTO). The tariff system itself is a relatively transparent policy tool. Not only U.S. and Chinese companies but also companies in third countries have taken it into account in their actions. As the theory suggests, trade between the U.S. and China has shrunk. On the other hand, some third countries, such as Vietnam and Mexico, have enjoyed a certain degree of positive effects of trade diversion.

The U.S.-China confrontation gradually intensified into a struggle over technologies and hegemony between the superpowers. The U.S. strengthened its security trade controls, blocked Chinese companies from government procurement, and tightened its screening of inward foreign direct investment, among other measures. In particular, various measures targeting specific companies, such as Huawei, proved to be immediately effective. Export controls for specific companies require that not only exports from the U.S. but also exports of products manufactured outside the U.S. using U.S. technologies and software have to be approved by the U.S. authorities. This extra-regional application measure has

a direct impact on Japanese companies and others. The U.S. aims to decouple supply chains for strategic goods.

The first-stage agreement between the U.S. and China was signed in January 2020, promising to promote imports of U.S. products to China and structural reforms in various areas on the Chinese side. However, they could not agree on the reform of China's industrial policy and the issues of subsidies, and the agreement was characterized by a tone of managed trade. Afterwards, sentiment toward China worsened not only in the U.S. but also in Western countries as a whole as COVID-19 spread. Democracy and human rights issues have also emerged. In the U.S., customs began to suspend imports involving forced labor, and the Uyghur Forced Labor Prevention Act came into effect in June 2022. In both the U.S. and the EU, responses to human rights issues are becoming institutionalized.

The Chinese response was also very harsh. They introduced a series of trade and investment controls modeled after U.S. policies, making their confrontational stance clear. The high-pressure diplomatic stance known as “wolf warrior diplomacy” also caused friction here and there as well.

Even before the emergence of COVID-19, Japan had already proposed stricter export controls, a review of research integrity, and tighter regulations on inward investment. The Law for the Promotion of Economic Security was enacted in May 2022 to encompass these measures and is scheduled to go into effect in 2023. This law consists of the following four pillars: (i) A system to ensure the stable supply of critical goods, (ii) A system to ensure the stable provision of critical infrastructure services, (iii) A system to keep patent applications confidential, and (iv) A system to support the development of cutting-edge critical technologies. How the scope of specified critical goods will be defined will become an important issue in the future.¹⁾

The Russian-Ukrainian war that broke out in February 2022 has further intensified geopolitical tensions, forcing Western countries to strengthen their export and foreign direct investment control systems. So far, export and foreign direct investment controls have proven more effective in undermining Russia's ability to pursue war than macro-financial measures, such as restrictions on remittances abroad.

Only geopolitical tensions are being discussed on the political scene these days, but the real economy is still moving. We must not forget that there is a big gap between geopolitical tensions and the real economy. Hayakawa, Ito, Fukao,

1) Matsumoto (2022) clearly describes the security shift in trade policy under the COVID-19 crisis.

and Deseatnicov (2022) analyzed the impact of trade controls on Japan's exports using monthly trade data. The tentative conclusion indicates that there is no statistically observable impact of the Japanese government's tightening of export controls on trade, and that the U.S. government's Huawei-related restrictions have had a significant negative impact on Japan's exports to China and other countries. Todo (2022) showed that despite the tightening of export controls by both the U.S. and China, U.S.-China trade, including trade of semiconductors, has rather been expanding since 2020 and that Japan's export of high-tech products to China is also not shrinking. The supply chain decoupling between the U.S. and China, or between the West and China, is currently occurring only in relation to high-tech products and rare earths, which are particularly important for security, and it is not necessarily progressing in the economy as a whole.

Asian countries, for example, ASEAN countries, are also anxious about the rise of geopolitical tensions. However, the direct impact has so far been minor. The economies of Asian countries are running almost as usual and are closely connected to both the West and China. They also want to somehow avoid a situation in which they are under pressure of decoupling from both sides and forced to choose one side over the other. They are also becoming increasingly wary because they may have their own problems with regard to democracy and human rights.

5. How to Maintain Economic Vitality

Factory Asia has weathered the raging waves of COVID-19 and remains strong despite heightened geopolitical tensions. On the other hand, for the sake of security in the broad sense, it is anticipated that trade and investment controls will be further enhanced in the future. Close economic relations with Asian countries, especially ASEAN countries, will remain important for Japan. How to reconcile their responses to geopolitical risk with vigorous economic activity will be a major challenge for Japan and East Asia in the future.

I would like to emphasize the following three points. Firstly, the scope of trade and investment controls, etc., should be as clearly defined as possible to minimize uncertainty and keep compliance costs for companies as low as possible. The Japanese authorities need to be clearly aware of this point when designing the detailed system for the implementation of the Law for the Promotion of Economic Security, which the Japanese government is currently working on. In addition, Japanese companies will need to consider the intentions of the U.S. and other Western countries in their actions, including measures for the extraterritorial application of the decoupling implemented by the U.S. and

human rights. This part must rely largely on the efforts of individual companies. However, the Japanese government may be able to do something, such as collecting the necessary information and disseminating it to the public. The cost of complying with trade and investment controls is particularly burdensome for small and medium-sized companies and Asian local companies. Tailored treatment is required to ensure that economic vitality is not greatly reduced.

Secondly, trade, investment, and economic activities outside of strictly decoupled sectors should be kept under the rules-based international trade order. If decoupling remains partial, then vigorous economic activity should be allowed in other areas. This will require the restoration of the World Trade Organization (WTO) and the effective utilization of the Free Trade Agreements (FTAs). At the 12th WTO Ministerial Conference (MC12) held in June 2022, a ministerial declaration was adopted for the first time in six and a half years, confirming the importance of restoring WTO. In particular, it is urgent to restore confidence in the WTO for dispute settlement, and it was promised that discussions would be held to overcome the issues by 2024. The issue of so-called “appeal into the void” has arisen because the Appellate Body is no longer functioning. It is necessary for Japan to participate in the Multi-Party Interim Appeal Arbitration Arrangement (MPIA) for partial and temporary resolution of the issue. It is also desirable to use the Regional Comprehensive Economic Partnership (RCEP) Agreement, of which China is a member, and other agreements to mitigate policy risks (Kimura, 2022).

Thirdly, Japan should strategically develop a vision for the future of its economic relations with Asian countries, especially with ASEAN. There is no chance in the short term that the US will return to the Trans-Pacific Partnership Agreement (TPP). The Indo-Pacific Economic Framework (IPEF) was launched in May 2022 under the leadership of the United States with the participation of 14 countries, including Japan and the United States. It outlines four pillars: trade, supply chains, clean energy, decarbonization, and infrastructure, as well as tax and anti-corruption. If the logic of security is too much at the forefront, Asian countries will not be on board with it. What economic benefits can be delivered to Asian countries without market access to trade in goods, which the U.S. stubbornly rejects? Japan needs to be active in listing up well-accepted agenda items.

The Russian-Ukrainian war has accelerated food and energy price spikes that had begun even before then, and many countries are entering a phase of cost-push inflation for the first time in decades. It is highly likely that the global economy, which was expected to enter a post-corona boom period, will be slowed down by interest rate hikes by the major economies. This could have a negative impact on East Asia as a whole. Japan and East Asia must not forget the strength

of IPNs and continue to enhance their own international competitiveness.

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