Chapter 2  Globalization: Past, Present and Future

Chapter 1 analyzed the structure of the global economy that has been revealed by the novel coronavirus disease (COVID-19) crisis from the viewpoints of the movement of people, goods, funds, and ideas (technological know-how and data) while taking into consideration the restrictions imposed on face-to-face communication due to the COVID-19 pandemic.

COVID-19 transmission through human-to-human interactions has largely spread due to the progress of globalization. However, until now, the world has achieved development thanks to globalization and the movement of people, goods and ideas (technological know-how and data).

This chapter explains the conceptual framework of “unbundling” that was proposed by Baldwin (2016) to change the way of thinking about globalization, and discusses the past, present and future of globalization. In addition, the role of government, which has been changing amid globalization, is under the spotlight once again, raising expectations that government will play a role adapted to the ongoing globalization.

Moreover, in the situation where the changing globalization and a network of economic partnership agreements (EPAs) showed combined effects, Japan has been transforming itself from a trading nation to an investment-oriented nation in recent years due to the development of supply chain networks, mainly in Asia, and an increase in outward foreign direct investment.

On the other hand, the importance of dealing with the challenge of global sustainability has become clear. Looking toward the future of globalization, it is expected that the coming era will require more investments in digitalization and human resources. During the process of globalization’s shift to the future, a crisis has occurred in the form of the COVID-19 pandemic. As this crisis has entailed restrictions on face-to-face communications, it is encouraging a review of how people should exchange with each other. Japan should also regard the COVID-19 crisis as an opportunity to make investments for the evolution of people-to-people interaction.

Section 1  The past, present and future of globalization seen from the viewpoint of the “three unbundlings”

1. “Three unbundlings”

First of all, this section will analyze the advance of globalization from the viewpoint of technological progress and will examine how the global economy has developed since the Industrial Revolution by looking at technological progress from the angle of the “unbundling” concept.60

In the pre-globalization era, the movement and transportation of goods involved sailing ships using wind power in the case of maritime transportation and domesticated animals in the case of land transportation. In that era, few items could be profitably transported except over the shortest distance. As a result, production and consumption locations were close to each other. In other words, because of the constraints of distance, the exchange of goods, ideas and people was completed mainly within single

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60 Richard Baldwin, 2016.
Globalization may be considered to be a solution that overcomes constraints such as distance. There are three constraints (costs), namely the cost of moving goods, ideas and people. Those constraints impeded the exchange of goods, ideas, and people, respectively.

The process of overcoming those three constraints represents the history of globalization, and the technological progress that has overcome the constraints has promoted unbundling. This process did not proceed all at once, but rather, the various constraints have been gradually overcome. First, the cost of transportation declined, and the constraint on the movement of goods was overcome. Next, the cost of communication fell steeply, and the constraint on the movement of ideas was overcome. Finally, the world is entering a new stage where the constraint on the movement of people is overcome as a result of the development of technology to reduce the cost of face-to-face interaction.

(1) First unbundling: from 1820 to 1990

In the pre-globalization world, the global economy was an aggregation of regional economies because of geographical distance as a constraint. This situation started to change when the cost of moving goods declined. This is the first unbundling. In the United States, for example, the cost of movement, particularly the railway freight cost, fell dramatically in the second half of the 19th century, as shown in Figure II-2-1-1. This transportation revolution promoted the first unbundling.

![Figure II-2-1-1 Changes in cost of moving goods in the United States](image)

Source: Federal Reserve Bank of St. Louis.

Notes: This cost shows the value representing the revenue of railway per ton-mile in the United States.

From the viewpoint of movement, the Industrial Revolution changed the means of movement. In the 19th century, steamships and railways led to a transportation revolution, reducing the time of transportation and increasing transportation volume. This made it possible to efficiently transport cargo and to separate production and consumption across national borders. When arbitrage activity enabled by this revolution is applied to goods, called trade. This is the first unbundling. The international division
of work based on comparative advantage started in earnest in a broad range of industries, from agriculture to textile and steel. As for international trade, trade in raw materials and finished products became brisk (Figure II-2-1-2).

**Figure II-2-1-2  First unbundling**

![Conceptual picture of the first unbundling](image)

- **Characteristics**
  - As the international division of work based on comparative advantage advanced in a broad range of industries from agriculture to textile and steel, international trade became brisk.
  - International trade in raw materials and finished products became brisk.
  - As the cost of moving ideas and people did not decline much, industries concentrated in developed countries.
  - This led to the present difference between the level of development between developed and developing countries.

- **Roles of countries**
  - Realization of free trade policy and welfare state
  - Establishment of global governance
  - Example: GATT regime


As international transportation became smoother, people started to purchase products made in faraway locations. As an example of this change, Richard Baldwin mentioned the fact that it became possible for middle-class English people to eat bread made of wheat grown in the United States on a tablecloth of Indian cotton while sipping tea brewed with tea leaves grown in China or tea sweetened with Jamaica-produced sugar. This process started around 1820.

While the cost of transporting goods declined steeply, the cost of moving ideas and people did not decline in the same way. The difference between the declines in the cost of moving goods and the cost of moving ideas and people has led to the present development gap between developed and developing countries.

In that era, although markets expanded across the world, industries were geographically concentrated in particular locations. This led to the industrial concentration in today’s developed countries. Industrialization promoted innovations in developed countries, but innovations remained within those countries due to the high cost of moving ideas. As a result, economic growth driven by modern innovations started earlier in today’s developed countries. This is the “Great Divergence,” under which the combination of the low cost of trade and the high cost of communication has created the present development gap between developed and developing countries.

**2) Second unbundling: from 1990 to 2015**

Due to the development of information and communication technology, a different kind of arbitrage activity from the abovementioned one became possible from around 1990. As it became possible to move ideas, globalization moved on to the next stage. That stage involves the international division of production, with production processes grouped into several different tasks. In this way, international division of work on a task-by-task basis has started. Companies in developed countries have come to
pursue and achieve efficient production by bringing production technology and management knowhow into emerging and developing countries, even from faraway locations.

What has made the easy movement of ideas possible is a decline in the cost of communication since 1990. The decline in the cost of communication has led to a fall in the cost of moving ideas (e.g., technological knowhow and data). This is the second bundling. As shown in Figure II-2-1-3, the cost of communication has fallen since the 1990s, and this triggered the second unbundling.

**Figure II-2-1-3  Changes in the cost of communication in the United States**

As a result of the fundamental improvement of the cost of communication, it has become possible to coordinate complicated activity over long distances. Consequently, like goods, production processes have come to be dispersed across national borders, and because of wage arbitrage, technologies in developed countries and labor in developing countries have become connected with each other. As a result of this production offshoring, the wage gap between developed and developing countries that arose during the first unbundling has shrunk. This represents the second unbundling, namely the geographical division of production stages. Therefore, parts and intermediate goods have come to account for a large portion of international trade (Figure II-2-1-4).
One change in globalization due to offshoring of production stages to low-wage countries is that developed-country companies have started to transfer not only jobs but marketing, management and technological know-how to developing countries, starting at the production stage. As a result, the global value chain has been created, leading to cross-border movement of ideas. Industrial competitiveness has come to be defined at the level of international production networks, rather than at the country level. However, it is developed-country companies that own ideas, and it is not usual for developed countries to share ideas with developing countries. In other words, offshored ideas remain mainly within production networks. That is why industrial development is limited to a small number of developing countries.

Baldwin assumes that the constraint on globalization at this stage lies in the cost of moving people, rather than the cost of moving goods or ideas. Although airfares have declined, the cost of moving people continues to rise. As operating international production networks requires the movement of people between facilities within the networks, offshoring companies tend to concentrate production at several particular locations. Given the need to save the cost of moving people, popular locations for production tend to be ones close to G7 industrial countries, particularly Germany, Japan and the United States. This tendency was also mentioned in Chapter 1, Section 2 in relation to regional production networks.

While the effects of the second unbundling on industrialization were geographically concentrated, the spillover effects of economic development were transmitted to all developing countries, becoming a widespread phenomenon known as the Great Convergence. As shown in Figure II-2-1-5, although the economic growth rate declined in developed countries, emerging and developing have achieved rapid growth since the 1990s, leading to the convergence in the economic development level between developed and developing countries.
As described above, the establishment of international production systems has contributed to the development of the world. However, supply chain networks created through the second unbundling involved the risk of immediately transmitting supply shocks in the event of an outbreak of an infectious disease, a financial crisis or a natural disaster. The suspension of the supply of even one item of component, disruptions in distribution networks, and slowdown in the movement of people led to supply chain disruptions in some cases.

(3) Third unbundling: from 2015 to the future

As a result of a further development of information and communication technology, the cost of moving people (face-to-face cost) is declining, and this means that the third unbundling is starting. Against the backdrop of the acceleration of the advance of digital technology, virtual cross-border movement of people has become possible, which leads to the division of tasks on an individual-by-individual basis. This indicates that the world is starting to witness the dawn of an era in which work is divided among people in remote locations, including in the services sector.

Traditionally, service industries and professional jobs have required face-to-face interaction, but digital technology is deepening cross-border connectedness in the services sector. Physically unbundling labor services from individuals is expected to become possible. Therefore, “virtual migration,” which remotely connects professionals in developed countries with workers in developing countries, is expected to occur in the services sector. Richard Baldwin coined the word “globotics,” which is a mix of globalization and robotics, and offered a prediction concerning how a new globalization will evolve.
According to his prediction, workers and professionals in developing countries will become able to perform most of the jobs performed in developed countries, from menial jobs to professional jobs. Conversely, professionals in developed countries will become able to apply their talents more widely. For example, in the future, an engineer in Tokyo may be able to repair Japanese-made capital equipment located in South Africa by remotely operating an advanced robot installed there (Figure II-2-1-6).

**Figure II-2-1-6  Third unbundling**

Conceptual picture of the third unbundling
(Along with advancing diversity of IT tools, individuals become able to share work as if they were in offices in other countries.)

<table>
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<th>Characteristics</th>
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<tr>
<td>Workers and professionals in developing countries will become able to perform various jobs of developed countries, from menial jobs to professional jobs. Conversely, professionals in developed countries will become able to do more applied researches.</td>
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<tr>
<td>In the future, a worker in one country may be able to provide services in another country. virtual work may be accelerated worldwide.</td>
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<td>Example: An engineer in Tokyo may be able to repair Japanese-made capital equipment located in South Africa by remotely operating an advanced robot installed there.</td>
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<th>Roles of countries</th>
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<td>Living security at the individual level, measures for supporting strengthening of human capital, and development of infrastructures and rules necessary for promoting digitalization</td>
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As described above, the third unbundling under globalization enables a worker in a country to provide service in another country while using digital technology. In this way, physically unbundling labor services from workers is expected to become possible. As the COVID-19 pandemic broke out during the process of the third unbundling, the digitalization of economic and social activities has accelerated. The shift to the third bundling at the global level will be analyzed in Section 5.

In short, the global economy has achieved development as technological progress has pushed forward globalization and promoted the exchange of people, goods, funds and ideas.

2. **History of globalization**

As described above, since ancient times, goods manufactured in remote locations have been traded between people living far away from each other thanks to the advance of technology and means of transportation. In particular, in the 19th century, following the Industrial Revolution, global integration started. As the first major globalization trend, the revolution of technology and transportation, including steamships, railways, and the telegraph, acted as the driving force of globalization. In addition, globalization was also driven by economic cooperation between countries and regions.

On the other hand, over the course of a succession of disastrous events, including World War I, the wave of protectionism thereafter, the Great Depression, and World War II, the trend of globalization gradually weakened. After the end of World War II, international trade and investment were reinvigorated under the Bretton-Woods regime. Later, although global interconnectedness has increased, the world has been frequently confronted with distrust in multilateral frameworks, particularly in recent
years. Below, we will look back at the history of globalization since the 19th century.61

19th century: Technological development and industrialization

The technological development and revolution of transportation, as exemplified by steam engines, railways, and the telegraph, accelerated not only industrialization and mass production but also global commerce. In addition, during this period, there was rapid population growth, which led to an increase in demand for goods and services.

In 1816, the United Kingdom became the first country to officially adopt the gold standard system. The gold standard system enabled the exchange of currency with a prescribed amount of gold. As a result, exchange rates became stable, promoting trade and investment. Other countries followed the United Kingdom in adopting the gold standard system.

From 1990 to 1950: New means of transportation

New means of transportation, such as aircraft and automobiles, were created, further strengthening economic and social connectedness.

From 1914 to 1918: World War I

World War I dealt a heavy blow to the global economy and trade. Germany, which was defeated in the war, was made to pay a huge amount of war reparations.

The 1920s: Gold standard system and economic booms

Some countries, including the United States, adopted a protectionist policy and also returned to the gold standard system. The U.S. economy enjoyed a boom propelled by mass production during this decade, which was called the “Roaring ’20s.” Germany, struggling to pay war reparations after World War I, issued currency to cover its war liabilities payment, touching off hyperinflation. The victor countries took retaliatory actions against Germany for failing to pay war reparations in time.

From 1929 to 1939: The Great Depression and protectionism

The U.S. stock market crash in 1929 and triggered the Great Depression. Many countries abandoned the gold standard system and devalued their currencies for trade purposes. In 1930, the United States adopted the Smoot-Hawley Tariff Act. As other countries imposed tariffs on U.S. products in retaliation, global recession deepened. Moreover, regional trade blocs were formed.

From 1939 to 1945: World War II

World War II, which was brought about by the division of the world, caused great damage worldwide.

1944: Bretton-Woods Conference

In the midst of World War II, the United States and other Allied countries set new rules and institutional frameworks in preparation for the post-war period in order to promote trade liberalization and economic recovery. The dollar-gold peg constituted a new global framework of currency exchange. The Soviet Union did not ratify the Bretton Woods Agreements, and the Cold War (from 1945 to 1991) created a division between the western trade regime and the Soviet Union.

1948: GATT regime (General Agreement on Tariffs and Trade)

The world’s first multilateral trade agreement supported the postwar period of free trade.

From the 1950s to the 1960s: Computers and the Kennedy Round

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61 Prepared in reference to Peterson Institute for International Economics, “What is globalization?.”
During this period, computers developed. Concerning a framework of economic cooperation, the GATT Kennedy Round accelerated trade liberalization.

The 1970s: End of the fixed exchange rate system

The inflation and trade imbalance in the United States forced the Nixon administration to take steps to prevent foreign governments from exchanging dollars for gold. As a result, countries around the world adopted a floating exchange rate system. In addition, energy price hikes by the Organization of Petroleum Exporting Countries (OPEC) and the ensuing two oil shocks brought high inflation and unemployment to the global economy.

The 1980s: Debt crises, free market economy, and the Plaza Accord

As debt crises occurred in Central and South America, the International Monetary Fund (IMF) and other international organizations applied strict fiscal austerity and free market principles to Central and South American countries, but this move invited a negative reaction. In the United States and Europe, U.S. President Ronald Reagan and British Prime Minister Margaret Thatcher upheld a free market economy. The U.S. trade deficit expanded, leading to the Plaza Accord, under which coordinated exchange interventions were conducted.

From 1989 to 1991: The end of the Cold War

The collapse of the Soviet Union expanded cooperation at international organizations, providing impetus for the integration of trade and finance.

The 1990s: The internet connected the world

The internet changed global commerce, while powerful multinational companies increased their influence over the global economy.

1993: Establishment of the EU

The establishment of the European Union (EU) strengthened the single market that started developing in the 1950s and led to the creation of the euro currency in 1999.

1995: Establishment of the WTO

The World Trade Organization (WTO) was established to replace GATT, marking the establishment of a rules-based modern trading system.

1997: The Asian financial crisis

The Asian financial crisis occurred, and dissatisfaction with international organizations grew.

2001: China’s accession to the WTO

China acceded to the WTO and became the largest developing country in the organization.

2008: The global financial crisis

The failure of banks in various countries and the European debt crisis developed into the worst global recession since the Great Depression. Shocks were transmitted through the global financial network, trade declined albeit temporarily, and concerns emerged over globalization.

From 2016 onward: Departure from multilateral frameworks

The United Kingdom held a referendum on whether or not to withdraw from the EU. At the end of January 2020, the United Kingdom’s exit from the EU formally came into force. The United States withdrew from the Trans-Pacific Partnership (TPP) and renegotiated NAFTA into USMCA. The United States also accused the WTO rules of being unfair to it. As the WTO has been unable to fill vacancies
on the Appellate Body since December 2019 due to the discord with the United States, the WTO panel has fallen into a state of paralysis. There is also trade friction between the United States and China (Figure II-2-1-7).

**Figure II-2-1-7  History of globalization**

Source: Peterson Institute for International Economics.

3. **Changes in the roles of nation states and multilateral frameworks**

   In the history of unbundling and globalization, the role of nation states has changed.

   Under the first unbundling, globalization provided opportunities to take advantage of comparative advantage. Countries earned profits from trade by exporting goods for which they had comparative advantage while importing goods for which they had a comparative disadvantage. Globalization mainly raised the industrial competitiveness of countries that became today’s developed countries. A drop in the cost of trading goods promoted the innovation and productivity improvement of manufacturing industries, and new technologies tended to remain within the countries that had developed them. In other words, globalization occurred on a nation state by nation state basis.

   Nation states played an important role in advance of the first unbundling. The United Kingdom started to lower tariffs in 1815, and ultimately, it accelerated free trade by repealing the Corn Laws in 1846. As continental European countries followed the example of the United Kingdom’s successful introduction of free trade, free trade policy flourished. Later, Bismarck, who established Germany as a unified country, revived high tariffs, and the tariff level in continental Europe rose two- to three-fold between 1879 and 1914. This represented the protection of nascent industries for the purpose of guarding continental European industries against industrial competition from the United Kingdom. The United States leaned toward a liberal tariff policy in the 1850s, but soon later, it, along with continental Europe, returned to a protectionist stance.
Globalization was impeded by the two world wars. During each of the two world wars, the cost of trade increased rapidly, with tariffs and import controls introduced. During the process of preparing for the Treaty of Versailles after World War I, U.S. President Woodrow Wilson upheld free trade as one of the 14 points that he emphasized. However, in the second half of the 1910s through the 1920s, protectionism became entrenched in Europe. In the meantime, the United Kingdom lost its hegemony, and in the global order, there was not an alternative hegemony. As a result of tariff hikes by the United States in 1930, trade shrank considerably, and in the second half of the 1930s, economic blocs were formed. In other words, while the United Kingdom, a liberal country, led free trade, that period marked the process of reviewing and changing the roles of globalization and nation states through the two world wars and the Great Depression that started at the end of the 1920s.

Based on the lesson of the severe recession during the Great Depression, the Beveridge Report was compiled in the United Kingdom in 1942, and the concept of the “welfare state” was introduced. As a result, the concept of the welfare state, which covers various matters, including the provision of social insurance and income compensation by the state, took root among developed countries. After the end of World War II, developed countries achieved high economic growth and were able to use tax revenue to enhance the welfare state functions.

Likewise, on the trade front, since before the end of World War II, there had been moves toward trade liberalization. The U.S. Congress passed the Reciprocal Tariff Act in 1934. This law changed the United States from a country unilaterally setting tariffs into one promoting mutual tariff reduction and created the concept of “most favored nation,” thereby forming the foundation of global trade governance after World War II. The concept of “most favored nation” refers to the idea that a country’s tariff reduction bilaterally agreed with any trade partner country must be automatically applied to all its partner countries. Another noteworthy point of the post-World War II period is that a global governance regime to support global trade was established. Before World War II, there was not an international institutional framework of global trade. However, in order to avoid an international governance void, the Bretton-Woods regime was established under the leadership of the Allied countries, and one of the institutional frameworks under that regime was the General Agreement on Tariffs and Trade (GATT). The IMF, the World Bank, a system of dollar-gold convertibility and the fixed exchange rate system were also established as frameworks of international cooperation under the Bretton-Woods regime in order to maintain the stability of the global economy, and Keynesian policy was adopted by various countries as their macroeconomic policy.

However, after the Nixon Shock in 1971, currency exchange shifted to the floating rate system, and following the oil shock in 1973, the United States and other countries experienced stagflation. During the process of transition from high growth to stable growth, tax revenue, which forms the basis for implementing welfare policy, declined, and the Keynesian macroeconomic policy was reviewed and revised. Under the administrations of U.K. Prime Minister Thatcher and U.S. President Reagan, “small government” was advocated.

62 Gøsta Esping-Andersen classifies the welfare state into three regimes: social democracy, liberalism, and conservatism (The Three Worlds Of Welfare Capitalism—Theories and Dynamics of Comparative Welfare State).
Amid the wave of the second unbundling, the role of nation states changed further. In the 1940s through the 1980s, developed countries lowered their tariffs to less than 5% on average. However, developing countries continued to impose high tariffs until the 1980s. Before the second unbundling, most two-way trade was conducted among developed countries, but after the unbundling started to connect developed and developing countries, developing countries started to promote free trade and investment, lowering cross-border barriers concerning goods, services and investment. Until then, high tariffs were harmonious with industrial activity. However, under a cross-border production system established through the second unbundling, when a country imported, processed and re-exported parts, tariffs imposed on the imported parts had the effect of lowering the competitiveness of the importing country. This situation acted as a restraint against high tariffs in developing countries.

On the other hand, while multinational companies increased their presence, the idea that companies choose countries became popular. In the meantime, among developed countries, promoting the facilitation of investment and supporting global companies in developing the most efficient production bases for their supply chains and in freely choosing locations of production came to be regarded as an important role of nation states. Following the establishment of the WTO in 1995, expectations grew for the highly transparent Dispute Settlement Procedures (DSP) of the WTO. As a result of China’s accession to the WTO in 2001, international division of work proceeded further. Economic partnership agreements (EPAs) and investment agreements played an important role in the establishment of international production networks. EPAs are comprehensive agreements covering not only liberalization of trade in goods and services but also non-trade sectors, including the movement of people, investment, government procurement, and bilateral cooperation.

Under the third unbundling, manufacturing industries are predicted to promote computerization and automation further as they are confronted with the trend of integration and automation of tasks amid the Fourth Industrial Revolution. That will go far beyond the use of robots at the manufacturing stage and lead to the computerization of new product design and testing, distribution of goods, and after-sales services. In that situation, competitiveness is expected to spring from differences in the level of corporate superiority, rather than arising from cost differences as was the case with offshoring.

In the meantime, job bipolarization exists as a risk. While there is domestic inequality in developed economies, the advance of IT has the effect of promoting work bipolarization into occupations that require advanced skills and high-tech machinery, and occupations that require routine work. As routine, low-skill, and repetitive work processes are becoming easier to be computerized and automated, the progress in the shift to IT leads to the widening of domestic inequality. At the same time, as the use of advanced production machinery grows, jobs that remain are skill-, capital-, and technology-intensive ones. This leads to the bipolarization of skills in terms of nature.63

With respect to services industries, until now, the simultaneity of provision and consumption of service has been a noteworthy characteristic. However, the third unbundling enables the provision of services from physically remote locations. As a result, there is the possibility that workers in developed

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63 David Autor et al., “The Polarization of the U.S. Labor Market” (2006) discusses a bipolarization that occurs when jobs are divided into those for which computers play a complementary role and those for which they substitute for human work.
countries may be exposed to competition with developing-country workers providing labor services from remote locations. In short, not only the effects of AI (artificial intelligence) but also the effects of RI (remote intelligence) must be taken into consideration.

At a time when the advance of digitalization is bringing opportunities and risks, including cross-border virtual movement of individual persons and workers’ competition with AI and machinery, the role of nation states also needs to change further.

Given the needs for investments for forming the foundation of digitalization, nation states have an important role to play with respect to infrastructure investments with the networking effect, which have economic externality. In other words, the role of nation states is not limited to nurturing location competitiveness, but regarding digitalization as a new source of competition, nation states may also be able to play a role in promoting the use of robots, automation, and an economic model that minimizes face-to-face contact under the Fourth Industrial Revolution. This suggests the possibility that the roles of nation states and companies may complement each other at a time when social implementation of “Corona Tech,” which was discussed in Chapter 1, Section 6, is making rapid progress amid the COVID-19 pandemic.

One of the implications of the COVID-19 crisis is the review and revision of the role of nation states, including systems for procuring and supplying goods as a way of providing living security. That role cannot be performed by companies alone. In addition, competition between individuals and AI/RI is intensifying. In this situation, the importance of the role of nation states that focuses on the people’s needs is being recognized anew. In short, creating innovations and new businesses and providing security for cross-border work will become more important as a role of nation states. In that respect, it is important to make efforts to improve productivity while strengthening digitalization regarding industries that can take advantage of it and providing living security at the individual level by avoiding a digital divide regarding industries not suited to digitalization.

In addition, securing institutional environments for e-commerce, e-settlement and free flow of data, and protecting consumers and personal information as the basis for those environments, are expected to become more important as roles of nation states.