White Paper on International Economy & Trade 2022 – Outline

By Policy Planning & Research Office, Trade Policy Bureau, Ministry of Economy, Trade and Industry (METI)

Part I. Economic Risks Posed by Geopolitical Uncertainty, and Trends in the Global Economy

Chapter 1. Increasing Geopolitical Uncertainty & Economic Risks in Relation to the Global Economy

Section 1. The impact of Russia's aggression against Ukraine on the global economy

Russia's aggression against Ukraine is an act that undermines the very foundations of the international order, and one that Japan cannot tolerate under any circumstances. With the G7 leading the way, developed countries have expeditiously imposed unprecedentedly large-scale economic sanctions on Russia – including in the energy sector – and have been swiftly reviewing their economic and political relations with the country. This has led to a greater concern about economic fragmentation than at any other time since the Cold War, and may add further impetus to structural changes in the global economy, where multipolarity is already on the rise due to the growing emphasis on self-centrism and economic national security. It may thus prove to be a historic turning point for the current international economic order. On the other hand, many emerging and developing countries have been holding back on economic sanctions and other radical action, instead adopting a neutral stance regarding economic and political relations with Russia.

Although Russia's and Ukraine's economies do not constitute a large part of the global economy, they are among its leading producers and exporters of certain products, notably energy, food, and important minerals. Countries that rely on importing those products from them face the risk of supply disruptions. Furthermore, with little prospect that the Ukrainian situation will abate in the near term, the prices of international commodities including food and energy are soaring. Therefore, countries that are highly dependent on imports are particularly concerned about the impact on their citizens.

The Japanese government is examining the analysis of and responses to risks related to the secure supply of important goods not just in terms of the situation in Ukraine, but also from a medium- to long-term perspective and in terms of protecting citizens' daily lives and security. To this end, it has established a Task Force on Strategic Goods and Energy Supply Chains that, headed by the minister of economy, trade and industry, is establishing appropriate directions for measures *(Charts 1-4)*.

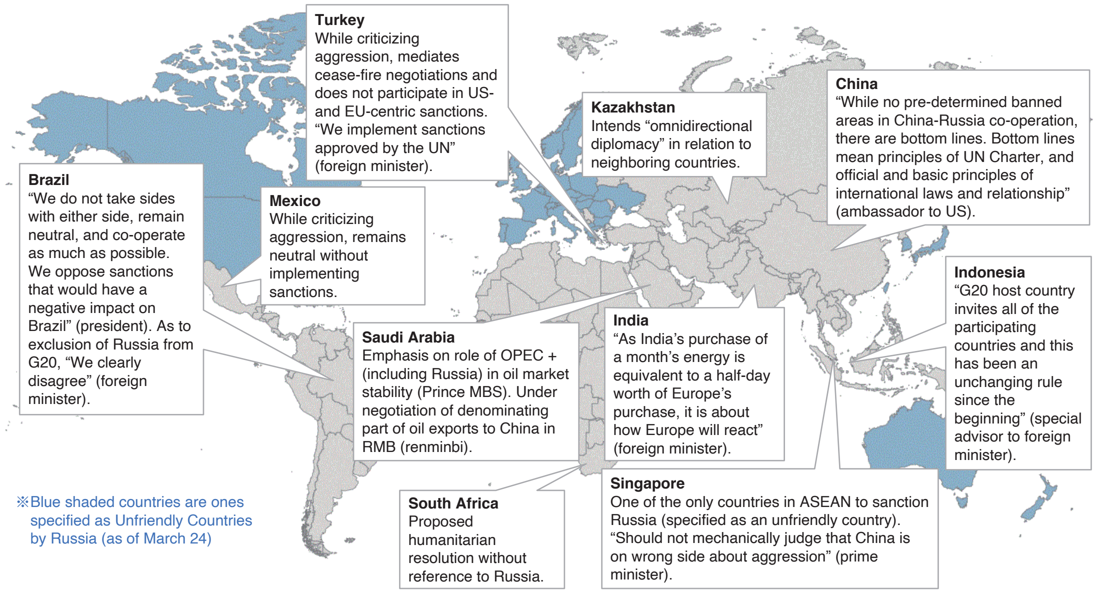
Section 2. Increasing global supply constraints

Supply chains are being disrupted by the asymmetrical recovery of the global economy from the Covid-19 pandemic, and by distortions of the supply-demand balance caused by rapid fiscal measures to address the crisis; on top of this, they are also being disrupted by the lockdowns in China and by Russia's invasion of Ukraine. Logistics costs are skyrocketing, with notable factors being a tight supply-demand balance with containers in marine transport, a shortage of workers in land transport, a tight situation with air cargo space due to the decrease in passenger flights, and rising fuel prices across the board. Crude oil prices were already rising sharply due to expectations of a recovery in oil demand as the global economy recovers from Covid-19, and to rising demand as an alternative resource in the face of soaring natural gas and coal prices. However, concerns that Russia's invasion of Ukraine will reduce the global supply have caused prices to soar even further. Highly dependent on overseas energy sources and with its currency weakened, Japan is experiencing ever worsening trade conditions. Amid all this, there is yet another trend affecting energy and food security: rising prices of commodities such as fertilizer and food, driven by factors such as crop failures due to abnormal weather, and a sharp shift in demand for energy and other resources as the world moves toward decarbonization *(Chart 5)*.

Section 3. Effects on emerging economies of the US's normalization of its monetary policy

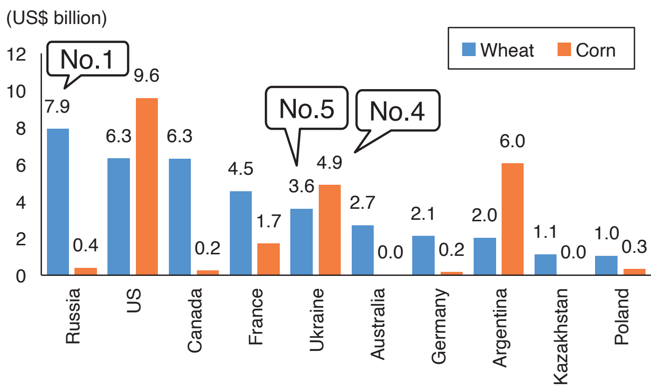
Around the fall of 2021, the United States and many other countries set about normalizing their monetary policies, with measures including slowing down asset purchasing and raising policy interest rates. The narrowing gap between their own and emerging countries' interest rates is accelerating the flow of funds to the US, and this is raising concerns that the flow of funds out of emerging countries will weaken their currencies. There are fears that weak currencies in emerging countries will adversely affect their economies by increasing the burden of repaying foreign currency debts issued in those currencies, and accelerating inflation through increased import prices. Emerging countries' central banks are raising their policy interest rates to defend their currencies and counter rising inflation, which is notably being driven by tight supply and demand conditions and high resource prices as well as by currency depreciation. The potential economic impact of these measures is the focus of considerable concern. In light of past

CHART 1
Stance on the aggression of some countries



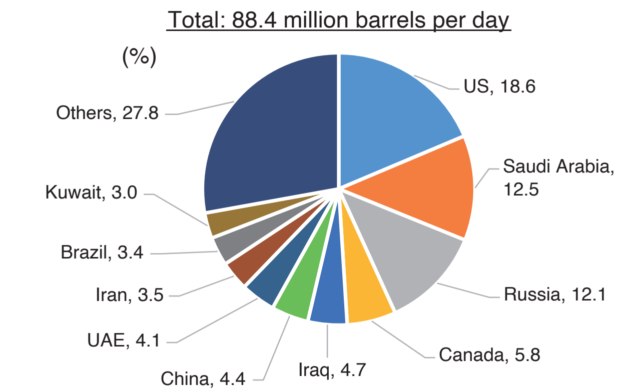
Note: Provisional English translation
Source: Media repots

CHART 2
Exports of wheat & corn (2020)



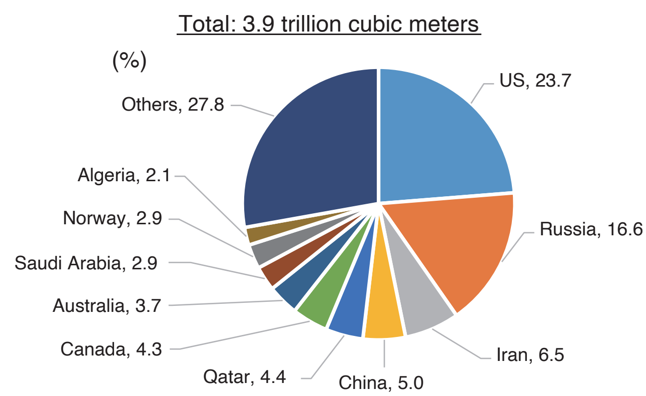
Source: UN Comtrade

CHART 3
Global crude oil production (2020)



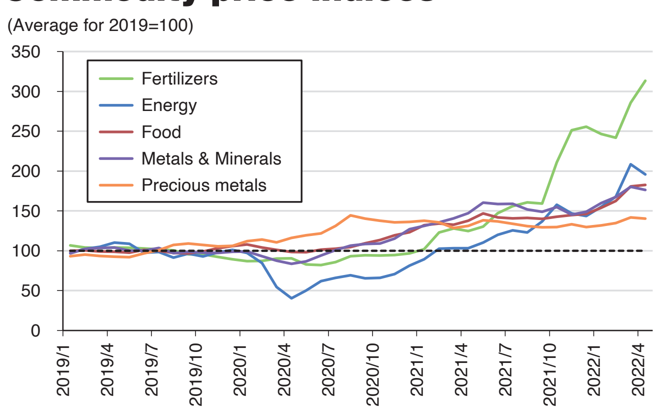
Source: BP Stat

CHART 4
Global natural gas production (2020)



Source: BP Stat

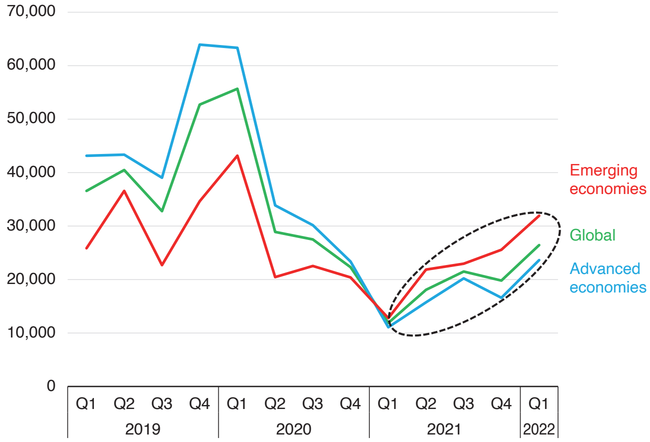
CHART 5
Commodity price indices



Note: Dashed line is average for 2019.
Source: World Bank

CHART 6

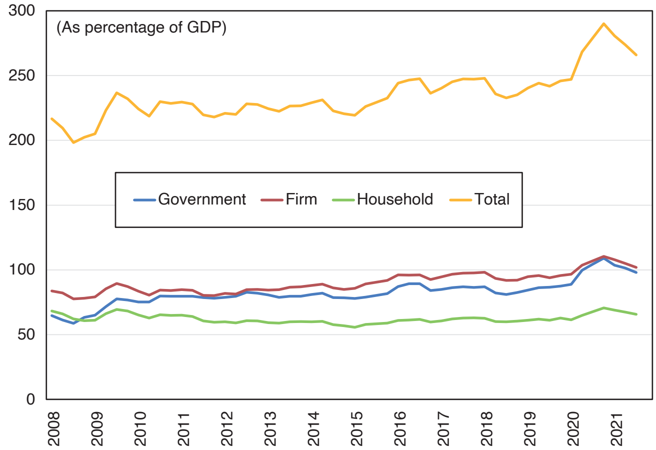
World Trade Uncertainty Index



Note: GDP weighted average
Source: World Uncertainty Index (WUI)

CHART 7

World debt outstanding



Source: BIS

financial crises and other experiences, many emerging countries have been increasing their foreign currency reserves and taking other steps, and the resulting improved economic fundamentals have eased the pressure of large cash outflows. Thanks to this, the impact remains limited for now. On the other hand, uncertainty is increasing due to the soaring food and energy prices triggered by Russia's aggression against Ukraine, and to concerns that they will lead to economic, social, and political instability *(Chart 6)*.

Section 4. Rapidly rising government and private-sector debt worldwide

The global debt balance was already increasing after the financial crisis, as a sustained decline in long-term interest rates acted in tandem with economic fluctuations. However, Covid-19 has pushed it up even further. The pandemic has caused government debt to increase significantly due to policy factors such as major economic measures to counter the crisis and has caused corporate debt to increase due to factors such as measures to secure financing. Household debt has also been increasing due to mortgage-related factors, on top of the economic difficulties of the pandemic. If national central banks' normalization of their monetary policies progresses rapidly to curb inflation, the debt burden could increase. The trends in inflation and interest rates will therefore need to be monitored closely going forward *(Chart 7)*.

Chapter 2. Global Economic Trends & Measures Taken for Mid- to Long-Term Growth

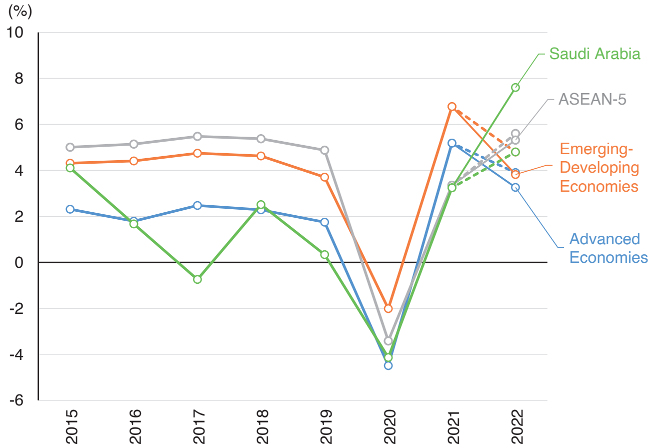
Section 1. Normalizing global economy to look beyond the Covid-19 impacts

While the global economy still faces uncertainty – with downside risks due to issues such as soaring inflation caused by supply constraints and rising international commodity prices brought about by the Ukraine situation – it is expected to continue to return to normal from the Covid-19 pandemic. As the global economy looks beyond the impacts of Covid-19, the following points are emerging from the process: the resilient demand for face-to-face interactions hand-in-hand has continued despite the rapid expansion of online business; trends in government debt, including contingent liabilities; trends in international investment to seize business opportunities, such as an increasing number of cross-border M&As in the pharmaceutical industry; the impact of fragmented trade due to regional differences in the pace of economic recovery; and the impact on demand for housing and offices in the real estate market created by the increasing diversity of working styles, as illustrated by the spread of teleworking. Other aspects include the gaps in employment rates between highly skilled and medium-to-low-skilled workers and in human capital caused by the digital divide; the impact on precious and strategic resource procurement of the shift to a green economy; and the importance of business dynamism *(Chart 8)*.

Section 2. Trends in the US economy

In the US, major fiscal measures have stimulated consumption, and the economic recovery from Covid-19 is progressing well as a result. The resumption of economic activities is improving the unemployment rate, and the skyrocketing demand for personnel in the wake of the Covid-19 recession has ushered in a major era of negotiations, with voluntary retirees on the increase as part of the trend of reviewing working conditions. There are also signs of structural changes in the labor market; for example, there are more applications to start a business than before Covid-19, especially in the non-store retail sector. Moreover, inflation is progressing at historic levels, and the FRB has made curbing it a top priority. The rise in inflation is now abating, and nominal wages have risen to reflect the staff shortages and higher prices. However real wages are falling, suggesting that future economic growth could be suppressed.

CHART 8
Real GDP forecast changes



Note: Numbers in parenthesis are changes from previous forecasts in January 2022. Dotted lines are forecasts as of January 2022 and real lines are forecasts as of April 2022.
Source: IMF World Economic Outlook April 2022

China will need to overcome many challenges if its growth is to continue in the medium to long term. The demographics indicate the seriousness of the situation: the 2020 population census showed a total fertility rate of 1.3, which was below the UN's low-variant projection (1.45). Some are pointing out that large amounts of resources are being invested in state-owned enterprises despite their inefficiency. Government subsidies are being provided to a wide range of companies – private enterprises as well as state-owned ones – with a particular focus on the 10 sectors of Made in China 2025. These are possibly being used to make up deficits, fund R&D, and invest in capital. Financial risk is also a source of concern: with non-financial corporate debt riding high and household debt rapidly joining it, local government finances are heavily dependent on real estate-related income. The real estate situation has also been getting cooler since the latter half of 2021 due in part to the regulations, and some have pointed out that related loans and other aspects are also at risk. Income gaps also remain, and although the government is championing a policy of "common prosperity", real estate taxes – which it hopes will effectively counter these issues – look likely to take a long time to materialize.

In light of these circumstances, and mindful of the National Congress of the Chinese Communist Party coming up in the fall, the March 2022 National People's Congress announced that economic stability is now the highest priority. It has set a target of around 5.5% for the economic growth rate in 2022 and cites an aggressive fiscal policy and a moderate monetary one as the keys to achieving it. However, the hurdle to success is high *(Charts 9-10)*.

Section 3. Trends in the European economy

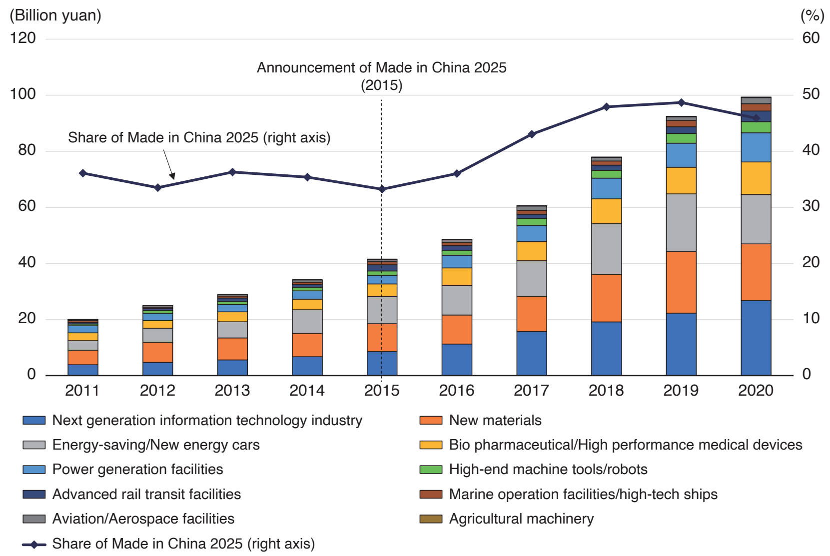
The European economy is on a recovery trend, supported by large-scale fiscal measures. However, the future looks increasingly uncertain, with the economy facing significant inflation particularly in the energy sector due to Russia's aggression against Ukraine.

Aiming to strengthen its industrial competitiveness and reduce its dependence on foreign countries, the EU is rolling out industrial policies that emphasize strategic autonomy, making "green" and "digital" the core pillars of its economic recovery. At the same time, it is leading the way in rulemaking in areas of shared values such as climate change and human rights and is also striving to establish new global standards.

Section 4. Trends in China's economy

The Chinese economy in 2021 achieved a high growth rate at the beginning of the year but slowed down from the middle onward due to various factors, notably floods, a resurgence in Covid-19 infections, semiconductor shortages, real estate regulations, and high resource prices. This trend continued for three consecutive quarters. There is concern that the slowdown will continue in 2022 as well, due not only to the resurgence in infections leading to the zero Covid-19 policy and the sluggish real estate market due to the aforementioned regulations, but also to factors such as the strict epidemic control in Shanghai and other major cities, and the skyrocketing resource prices and turmoil in the supply chains brought about by Russia's invasion of Ukraine.

CHART 9
Government subsidies related to Made in China 2025



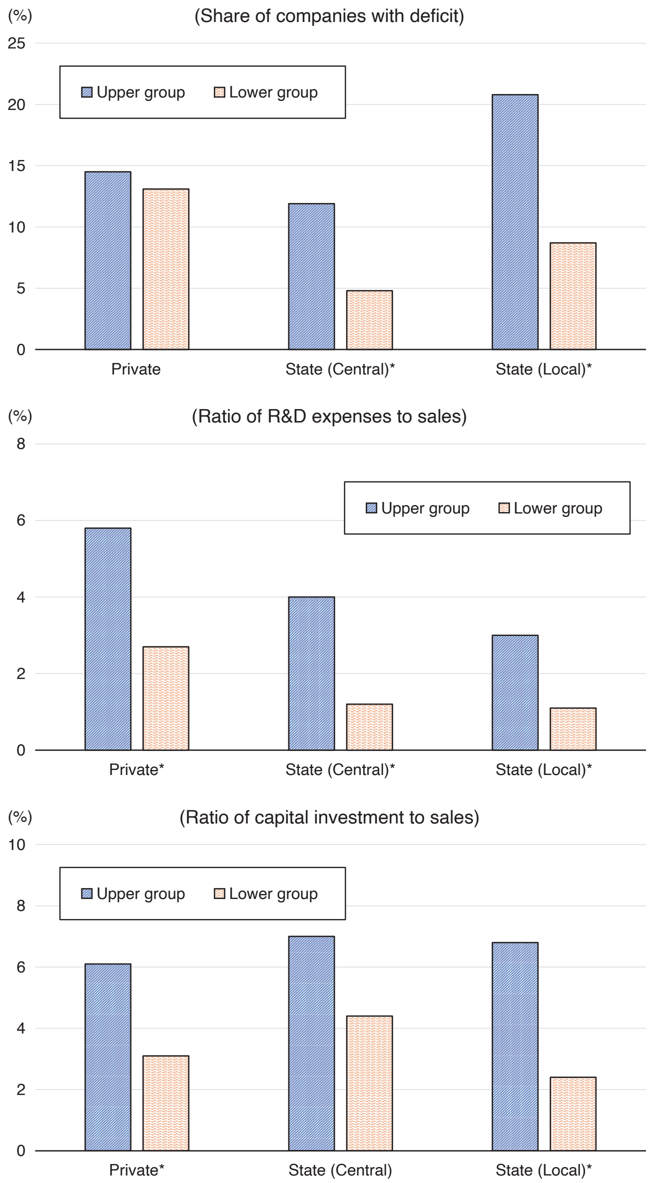
Notes: 1. The data of companies that are considered to fall under "Made in China 2025" are aggregated. The amount may be overestimated due to data restrictions. For example, detailed industrial sectors may be widely selected. The whole subsidies of the company may not be necessarily related to the initiative. On the other hand, there is a possibility that the companies may not be included if the activities are carried out across multiple sectors.
2. The share of the initiative declined in 2020, partly because some of the subsidies might be used for measures against Covid-19.
Source: Public information of each company

Section 5: Trends in India's and Southeast Asian economies

Countries in this region are shifting from a "zero Covid-19" stance to a "with Covid-19" one. Foreign immigration restrictions are also gradually being relaxed, and trade and investment activities are expected to liven up as tourism-related industries recover from their unavoidable recent sluggishness, and the flow of businesspeople gets back into full swing. Close attention will need to be paid to risk factors such as the increase in inflationary pressures due the Ukrainian situation and other causes, the effects of the US's normalization of its monetary policy, and the impact of China's resurgence of Covid-19 and the resulting measures to limit economic activity. As well as addressing the Covid-19 pandemic, it will also be important to take action with a view toward growth thereafter. Related to this, progress is expected on medium- to long-term issues, with a major focus on achieving sustainability that includes the following: responding to climate change; and adding value to the economy and increasing industrial sophistication by, for example, encouraging investment and promoting the fourth industrial revolution through the digital economy and digital technology. It is hoped that the nations of Asia will work as one toward sustainable growth, with Japan as a fellow partner in the region.

CHART 10

A comparison between the upper group & the lower group of subsidy receipt



Notes: 1. A comparison between the upper group and the lower group, in terms of intensity, the ratio of subsidies to sales.
2. The mark "" means a significant difference between the two groups statistically.*
Source: Public information for each company

Chapter 3: Long-Term Prospects for the Global Economy

Section 1. Long-term demographics and economic growth

A variety of factors affect nations' industrial structures and economic development, and while natural resources are a factor that cannot be changed, population is an important factor that, to some extent, can be influenced through policy measures such as immigration policies and benefits for childbirth and childcare. The UN's medium-variant projection predicts that the global population will continue to rise in the long term, but one estimate also has it peaking in 2065, and sustained declines in birthrates will play a decisive role. While the Covid-19 pandemic is not exacerbating the recent trend of declining birthrates at the moment, it could affect family planning by reducing incomes, employment rates, and opportunities to encounter between men and women.

The two main indicators of a population's composition are its labor force population and its aging rate. An increased labor force population is predicted to increase demand for durable goods, because it means a higher proportion of the population will belong to age groups that have a comparatively high marginal propensity to consume. Attention is also turning to how a rising aging rate leads to the formation of markets that revolve around elderly consumers (so-called "silver economy markets"), because it means a higher proportion of the population will belong to age groups that have ample financial assets, and therefore high purchasing power. The current population increase will lead to the formation of megacities in developing countries, and especially China and India, and the majority of new sub-megacities will also emerge in the developing countries. It is estimated that developing the infrastructure to support the sustainable development of these megalopolises will demand US$38 trillion from 2020 to 2030. Leveraging private-sector funding will therefore be particularly essential in order to finance them.

Section 2. Increasing global trends

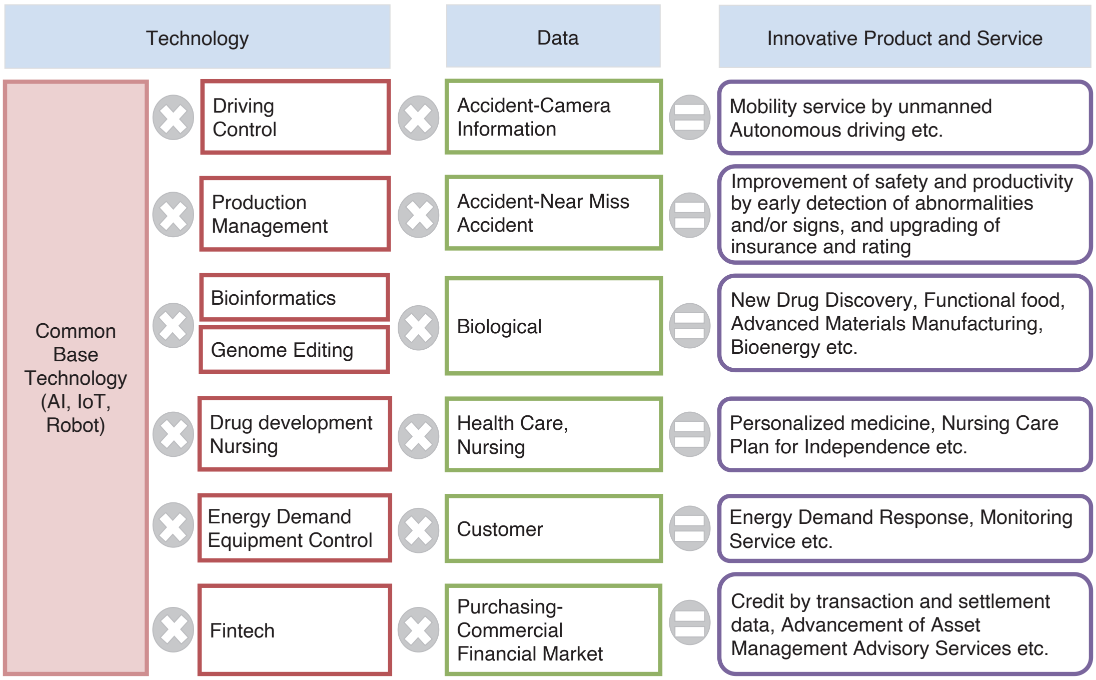
The Covid-19 crisis has caused four trends to accelerate globally: digital transformation, mounting geopolitical risks, growing emphasis on shared values, and an accelerating shift in industrial policy by governments. These will influence future international relations and global economic trends, and for companies give rise to significant business uncertainty and change their sources of value added.

In particular, with regard to geopolitical risks and shared values, differences between national governments' international rulemaking and policy positions are causing them to form into rule-defined blocs, and the affected markets are following suit. In addition, the movement among governments toward stronger industrial policies is driving the formation of large markets in specific sectors (for example, aerospace, semiconductors, and green-related industries) in the US, Europe, and other major countries and regions. This could give rise to differences between companies in terms of opportunities to seize these markets, determined by the policy positions in the countries where the companies are located.

Placed in this situation, it will be important for companies to increase their earning power by actively working to transform their business models and industrial structures to leave behind their traditional focus on reducing costs and offering cheap products, and instead prioritize differentiation, high added value, and efficient operations. In addition, in light of the four trends that Covid-19 has accelerated, they will need to create business models and industrial structures that create added value in the new capitalism, promoting a wide range of efforts, from corporate transformation by means of digital transformation, to incorporating government-created demand, to shifting to radically new business models that take economic security, social impacts, and common values, and convert them into added value in their core businesses *(Charts 11-14)*.

CHART 11

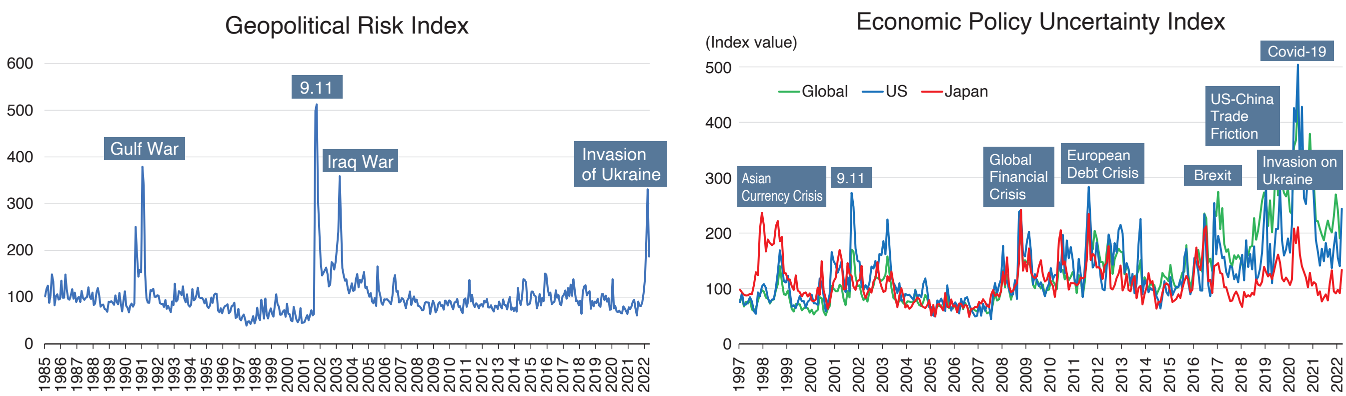
Products & services created by digital transformation



Source: METI

CHART 12

Increased uncertainty



Source: Economic Policy Uncertainty

CHART 13

Carbon neutral declaration by major countries

	CO2 Emissions Share (2018 Results)	2019•2020•2021 Timing of carbon neutral target declaration	2030	2035	2050	2060	2070
EU	10%	■ Declaration at the same time as the publication of the European Green Deal (December 2019).	■ 44% reduction (compared to 2013) ■ 50% reduction (compared to1990)	■ Zero gasoline and HV vehicle sales	CN		
US	16%	■ President Joe Biden declared along with rejoining the Paris Agreement on first day as president.	■ 50-52% reduction (compared to 2005) ■ Electric vehicle sales to 50% (excluding HV)		CN		
Japan	4%	■ Prime Minister Yoshihide Suga declared in his policy speech (October 2020).	■ 46% reduction (compared to 2013)	■ 100% electrification of new car sales by 2035	CN		
China	29%	■ President Xi Jinping declared at UN General Assembly (September 2020).	■ 65% reduction per unit of GDP (compared to 2005)	■ Limit new car sales to environmentally friendly vehicles (EV, HV, etc.)		CN	
Russia	5%	■ President Vladimir Putin declared at Russia Energy Week (September 2021).				CN	
India	7%	■ Prime Minister Narendra Modi declared at COP26 (November 2021).	■ 33-35% reduction (compared to 2005)	■ Zero gasoline vehicle sales			CN

Source: media reports

CHART 14

Industrial Policy Shifts in Countries and Regions

Supply chain resilience

■ **Executive Order on Ensuring the Future Is Made in All of America by All of America's Workers**

• Strengthening of US products in government procurement

■ **Executive Order on America's Supply Chains**

• Report on vulnerability and policy recommendations for four key products (semiconductors, storage batteries, critical minerals, pharmaceuticals) and six categories (including defense, telecommunications, energy, transportation)

■ **Creating helpful Incentives for the Production of Semiconductors (CHIPS) for America Act**

• Promotion of factory location, equipment installation support and R&D in US

Source: US Government publications

Updated Industrial Strategy (May 2021)

(1) Strengthen single market resilience

(2) Deal with the EU's strategic dependencies

(3) Accelerate twin transitions

European Industrial Alliance

■ European Battery Alliance (October 2017)

■ European Clean Hydrogen Alliance (July 2020)

■ European Raw Materials Alliance (September 2020)

■ Alliance on Processors and Semiconductor Technologies (July 2021)

■ European Alliance for Industrial Data, Edge and Cloud (July 2021)

Source: European Commission publications

Made in China 2025

■ **Established 10 focus areas and achieve 70% self-sufficiency by 2025**

⇒ Eliminate choke points in the supply chain

Step 1 (2025):
Become a major manufacturing power

Step 2 (2035):
Become a mid-tier global manufacturing power

Step 3 (2049):
Join the top class of global manufacturing powers through innovation leadership

Source: State Council of China publications

Part II. Trade That Accommodates Changes in the Economic Structure, Technology, Geopolitics, and Values: Challenges and Opportunities

Chapter 1. Resilient Global Value Chains That Reflect Common Values

Section 1. The reality and challenges of global value chains

In tandem with the trend of tariff reductions through economic partnership agreements, the development of global value chains is progressing worldwide, particularly with regard to trade in intermediate goods between neighboring regions, where transport costs are low. In Asia, a complex system of international division of production is being established. As part of this, Japan has expanded its forward participation in terms of supplying intermediate goods, and also its backward participation in terms of receiving intermediate goods from overseas. China's exports to the US also include Japanese value added, but their share of exports is declining due to factors such as expansion into the region by parts suppliers, and improved technology among local companies. Meanwhile, China's value-added inputs in Japan's exports to the US are increasing rapidly. Recent years have seen issues such as supply constraints due to geopolitical risks, pandemics, and natural disasters increase, affecting both forward and backward participation. To address these challenges, Japanese companies are reviewing their production bases and supply sources in anticipation of escalating confrontation between the US and China. Moreover, given that some countries hold a large share of intermediate goods supply, work is underway to build more resilient supply chains, including diversifying supply sources and shifting to using local ones *(Charts 15-16)*.

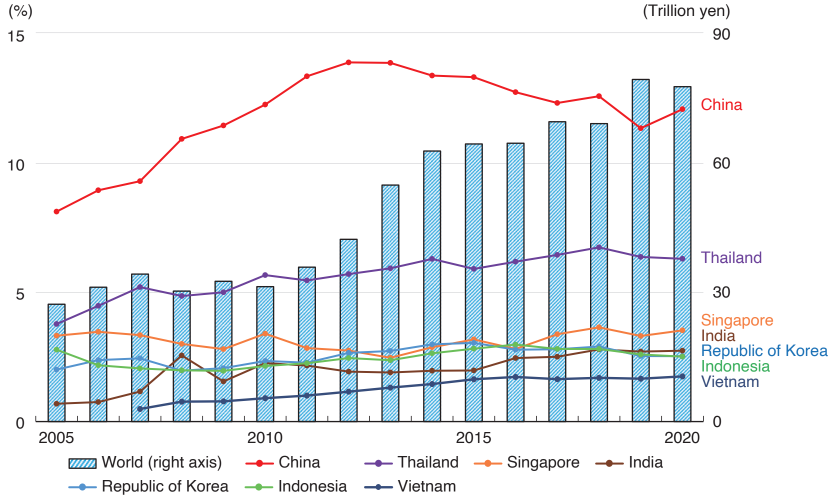
Section 2. Economic security and making supply chains resilient

The scope of security is rapidly expanding into the economic and technological fields, driven by rising global uncertainty caused by the Covid-19 pandemic, together with the escalating geopolitical risks posed by Russia's aggression against Ukraine, the US and China's battle for technological supremacy, and other major issues. Against this background, demands for economic security are increasing. Notably, supply chains are being made more resilient, particularly for essential items that are highly dependent on imports and face significant risks of supply chain disruption. This is being done both by establishing domestic production bases and by diversifying overseas ones. Also, in the fields of sensitive and emerging technologies, the speed of progress and diversification of owners are giving rise to increasingly varied and complex forms of outflows, and countries are responding by strengthening their controls on export and investment *(Chart 17)*.

Section 3. Toward visibility for shared values and the creation of sustainable global value chains

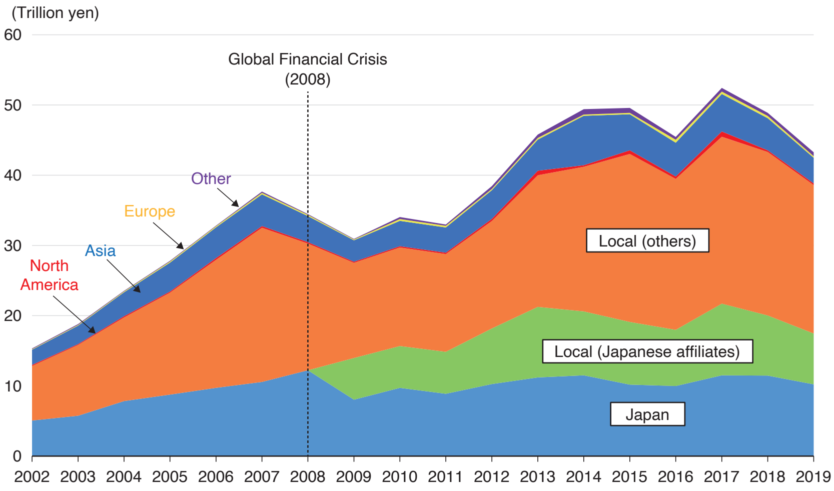
Recent years have seen rising interest in "shared values" related to sustainability and inclusion such as decarbonization and human

CHART 15
Country share in Japan's outstanding direct investment (manufacturing sector)



Source: Ministry of Finance "International Investment Position of Japan"

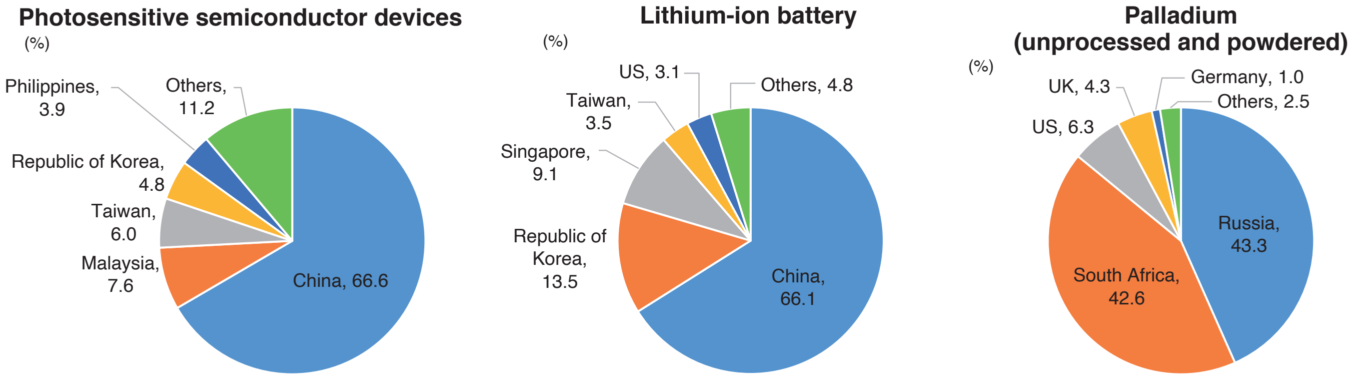
CHART 16
Procurement sources of Japanese overseas manufacturing affiliates in Asia



Source: Basic Survey on Overseas Business Activities (Ministry of Economy, Trade and Industry)

CHART 17

Share of import partners in 2020



Source: GTA etc.

rights, and supply chain management is being called on to address the challenges of ascertaining and disclosing information related to them. Therefore, the following are now becoming critical issues for companies: making their supply chains entirely visible, and preventing problems and responding to them in a timely and appropriate manner when they arise. Digital technology will be an effective tool here, and there are expectations that, using Europe's leading progress on data collaboration as a reference, Japan and the rest of Asia will come together to form an advanced supply chain management system, and create value by means of establishing an Asia-wide infrastructure for data sharing.

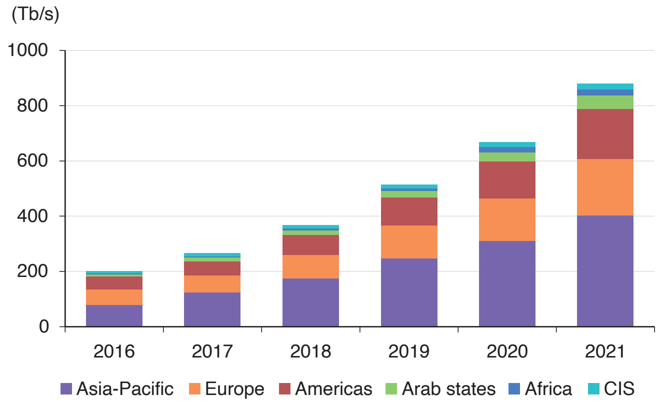
Chapter 2. Road Map to Economic Growth & a Global Trade Structure That Will Adapt Through Innovation

Section 1. Technology and trade

The rapid digitalization of various goods and services is expanding digital trade – including in data – and cross-border data flows are increasing rapidly, with Asia at the center of progress. While companies that collect data both domestically and internationally have been confirmed to be highly productive as a result of doing so, with digital protectionism intensifying in some countries, it is becoming increasingly important to understand the trends in digital-related regulations. While emerging technologies such as robots and AI are enabling streamlining and value creation, the need to address increasingly complex rules and have increasingly advanced technical literacy are emerging challenges. As disparities within countries grow wider than those between countries all around the world, using emerging technologies instead of labor could further polarize labor markets and skills gaps. It will therefore be important to invest in human capital and in R&D toward technologies that will complement labor, and also to review employment and education systems with a view toward changes in the times *(Chart 18)*.

CHART 18

Cross-border data flow (by regions)



Note: Number for 2021 is a forecast. Category of regions is referred from ITU.
Source: ITU

Section 2. Creating new economic opportunities via Asia-wide startups

With their own rapid growth fueling macroeconomic growth, startups have the potential to be a new driving force supporting future employment, incomes, and finances. In addition to procuring large amounts of funding and enjoying rapid growth in the US and China, startups are also doing so in emerging Asian countries, notably India and the nations of Southeast Asia. In particular, startups and platform businesses in emerging Asian countries do not just have advantages in terms of scale: they are also deploying various business strategies that both solve social issues through digital technology and that are tailored to the regional and customer characteristics of their target markets. As the digital economy in Asia continues to expand significantly, Japan will also be expected to create new economic opportunities through co-creation with the rest of the region, in order to capture the latter's growth potential. For example, the digital transformation (DX) support and other efforts should be utilized as opportunities to work with Asian startups and collaborate with them on data. In addition to securing the Data Free Flow with Trust (DFFT), Japan will need to tackle the issues surrounding globalization, digitalization, and domestic startups, to ensure that the rest of Asia will choose Japan as a co-creation partner *(Chart 19)*.

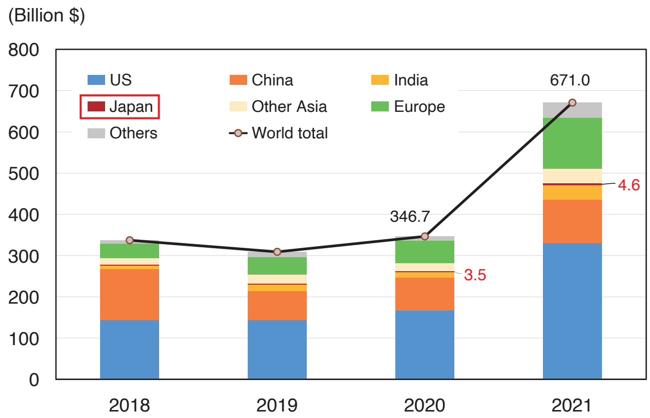
Section 3. Intangible assets and economic growth

The markets for industries related to frontier technologies such as the Internet of Things (IoT) and robots are expected to expand rapidly. In order for companies to play active roles in markets where high technological capability is required, it will become increasingly important for them to invest not only in tangible assets such as machinery and structures, but also in intangible assets, including R&D and human capital so as to increase the skills and productivity of their employees. Comparing the major developed countries' trends regarding investment in intangible assets, one of the characteristics of Japan is that R&D accounts for a high proportion of such investment, while the proportion directed into human capital and organizational capital is low. While directing a high proportion of intangible asset investment into R&D can be expected to help Japan's manufacturing industries remain diverse, strategic investment in human capital and other intangible assets will be important in order to increase labor productivity *(Chart 20)*.

Note: This is a reprint of the White Paper on International Economy and Trade 2022 (Outline) published on METI's website (https://www.meti.go.jp/english/report/data/gIT2022maine.html) on June 28, 2022. JS

CHART 19

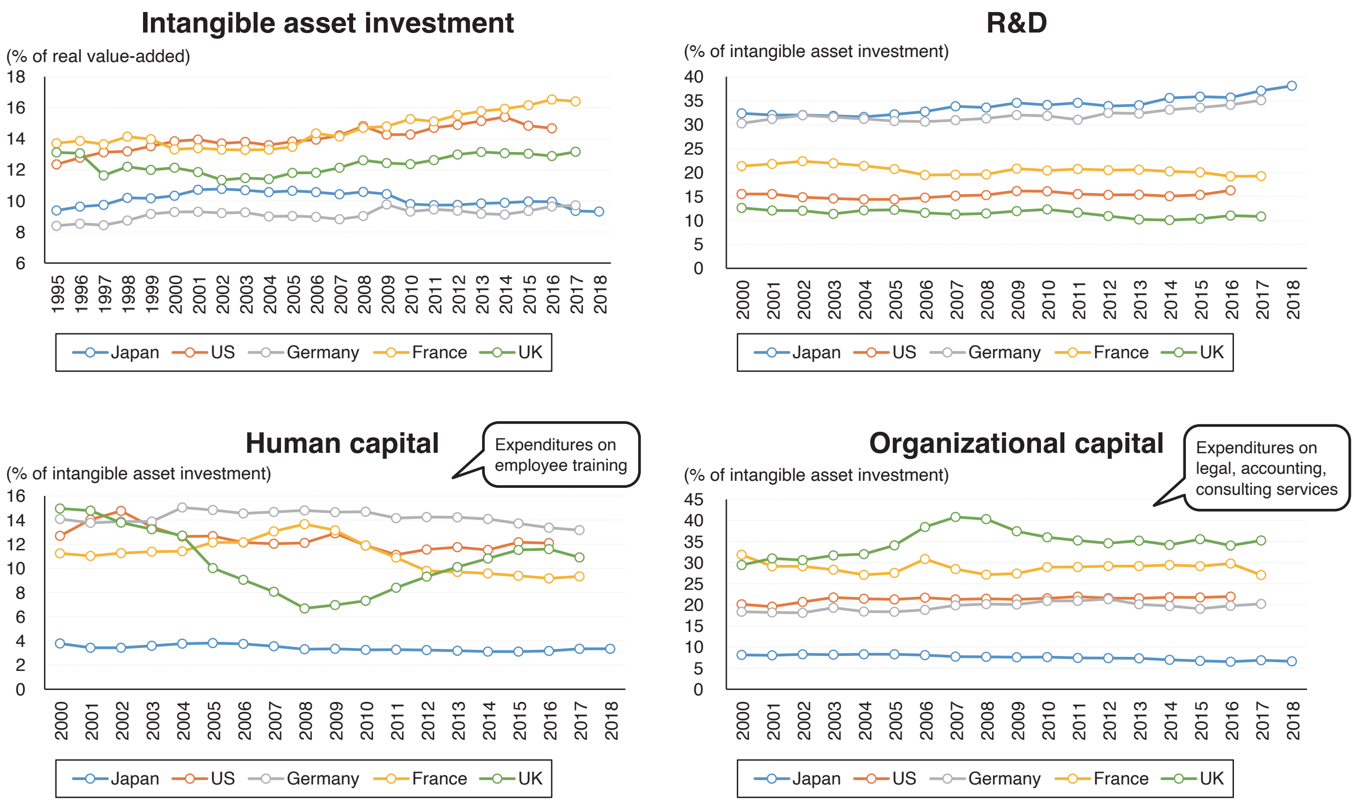
World venture capital investment



Source: KPMG "Venture Pulse 2021 Q4"

CHART 20

Components of intangible asset investment



Note 1: Organizational capital includes expenditures on legal, accounting, head office, and management consulting services, and a part of executives' remuneration.
Note 2: Human capital includes expenditures for on- and off-the-job training.
Source: RIETI and INTAN-Invest