



# World Economic Trends I

## <The 2022 Spring/Summer Report>

— Increasing Uncertainties of the World Economy and inflation —

(Summary)

July 2022

Cabinet Office Government of Japan

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Section 1: New Technologies including Digitalization, and the Labor Market

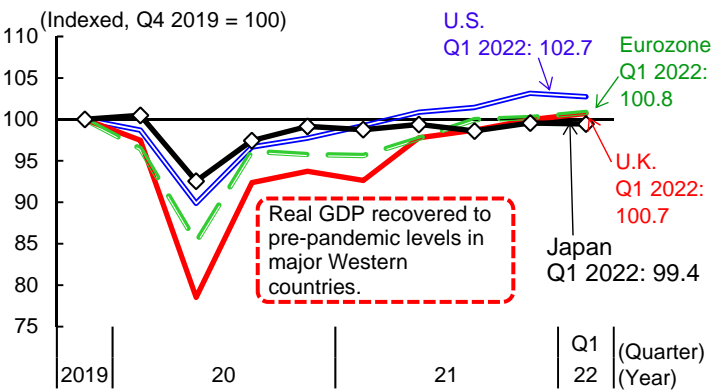
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About “World Economic Trends”: This report, published since 2002, surveys and analyzes the trends of the world economy. This is the 40th issue.

# 1-1 Trends of the World Economy (1) (Economic Recovery and the Russia-Ukraine Crisis)

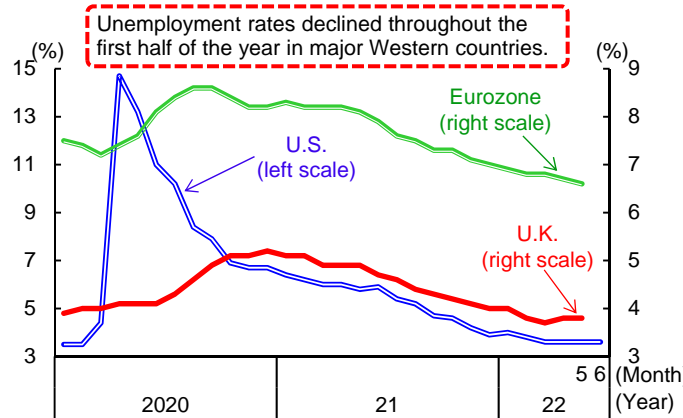
- The recovery of the world economy continued in the first half of 2022. In major Western countries, GDP recovered to pre-pandemic levels, and the unemployment rates are also declining.
- Since February, tensions between Russia and Ukraine have escalated. Both countries hold large shares in the global supply of energy and food. The rest of the world has been facing challenges such as further inflation, securing alternative supply sources, and concerns about food shortages.

(1) Real GDP in major countries



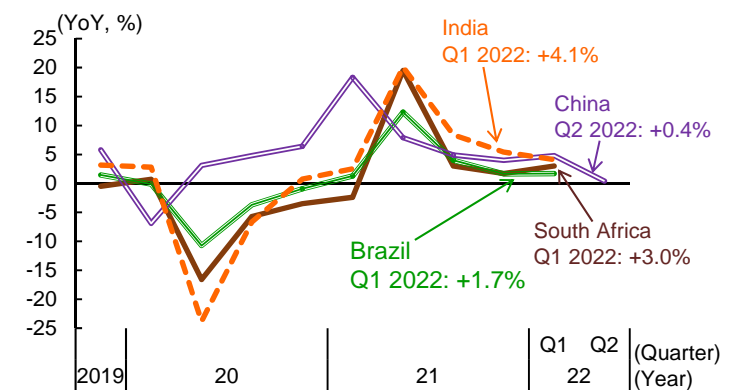
(Note) Adapted from "National Accounts of Japan" by Cabinet Office, U.S. Department of Commerce, Eurostat, and U.K. Office for National Statistics.

(2) Unemployment rates in Western countries



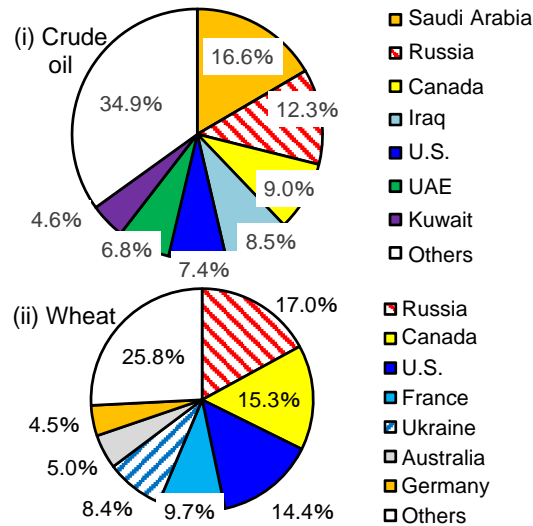
(Note) Adapted from U.S. Department of Labor, Eurostat, and U.K. Office for National Statistics.

(3) Real GDP growth rates in emerging countries



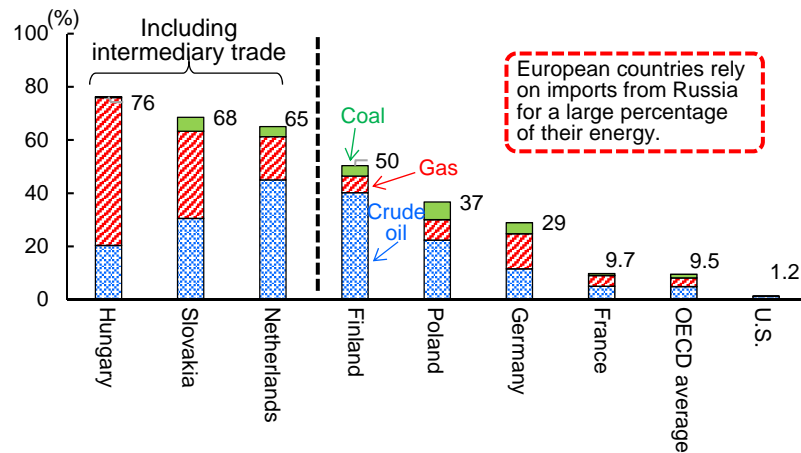
(Note) Prepared from the statistics of each country.

(4) Export value shares of international commodities (2020)



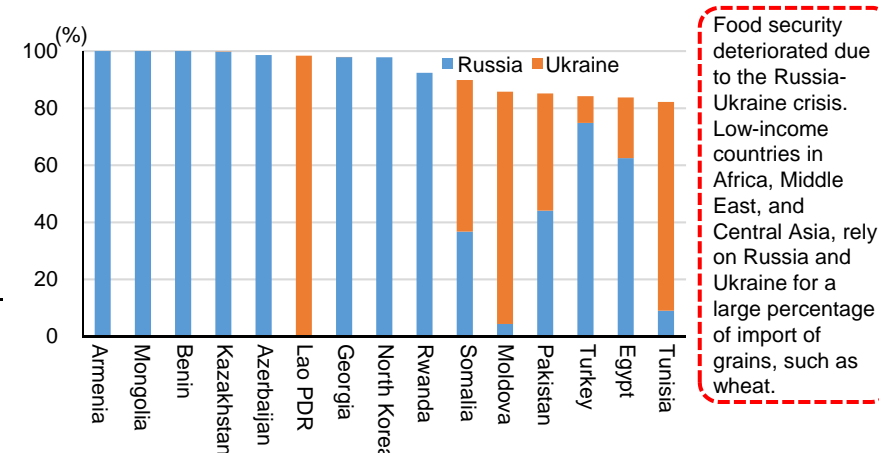
(Note) Adapted from Centre d'études prospectives et d'informations internationales.

(5) Ratio of energy imports from Russia to the total energy supply in each country (2019)



(Note) 1. Adapted from OECD. 2. Hungary, Slovakia, and the Netherlands also include intermediary trade.

(6) Ratio of import from Russia/Ukraine to the total import of each country (2020) (wheat)

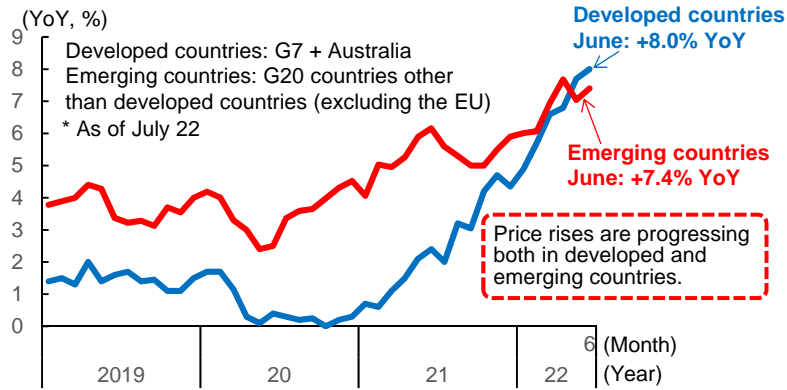


(Note) Adapted from Economic Outlook (June 2022) by OECD.

# 1-1 Trends of the World Economy (2) (Further Inflation, Progress of Monetary Tightening)

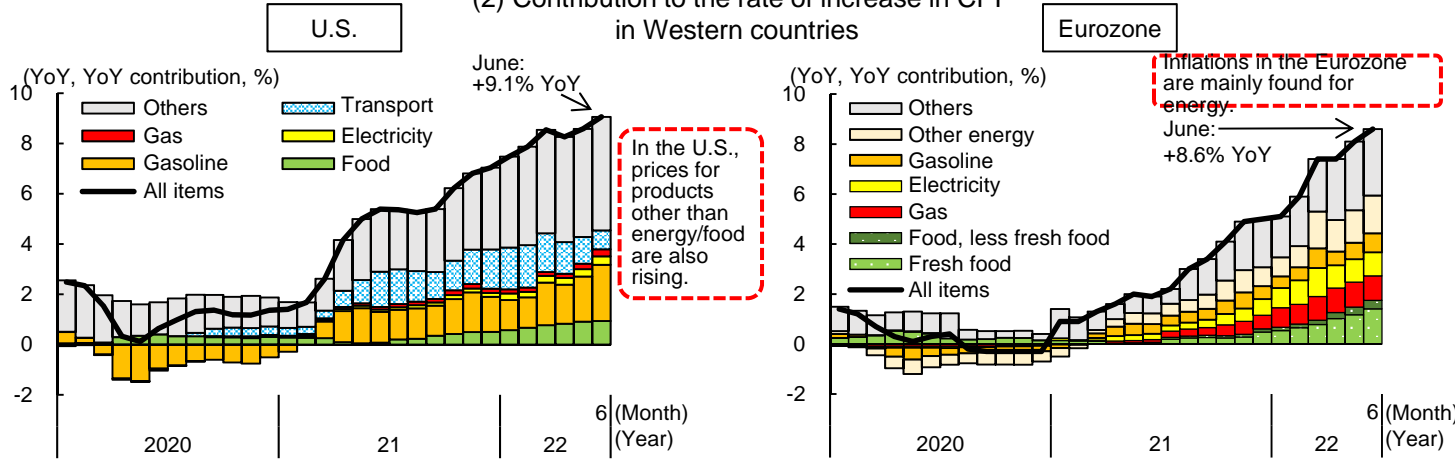
- The global trend of the tightening supply-demand conditions with the progress of economic recovery, in combination with the price hikes in the international commodity market following the Russia-Ukraine crisis, inflation progressed even further around the world. In the U.S., inflation progressed also for products other than energy/food, and the rate of increase in CPI exceeded 9% for the first time in over 40 years.
- Under such circumstances, monetary tightening progressed not only in emerging countries but also in developed countries in 2022. In the U.S., monetary tightening has been progressing at a faster pace than the last time (in late 2010s).

(1) Rate of increase in CPI in G20 countries (median)



(Note) 1. Prepared from the statistics of each country.  
2. Shows the monthly median of the rate of increase in CPI of the covered countries.

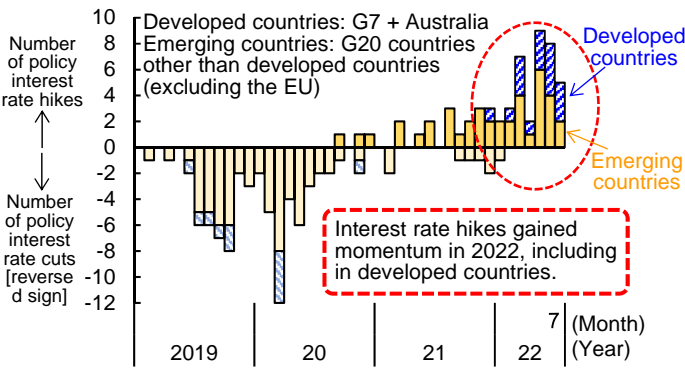
(2) Contribution to the rate of increase in CPI in Western countries



(Note) Adapted from U.S. Department of Commerce.

(Note) Adapted from Eurostat.

(3) Number of changes in the policy interest rates of G20 countries



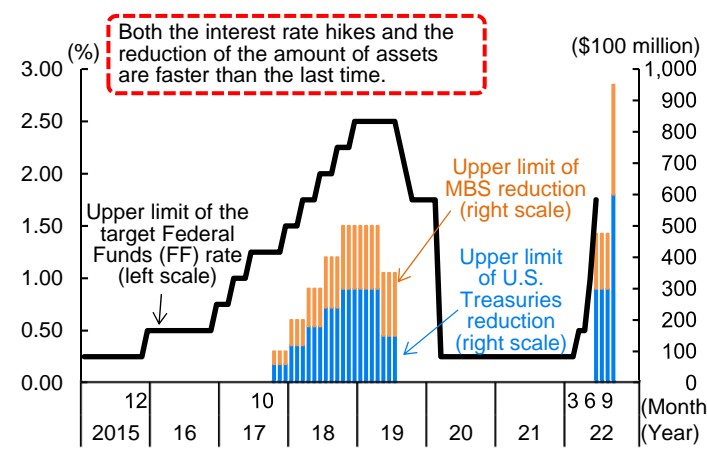
(Note) 1. Adapted from BIS, and each Central Bank.  
2. The change in policy interest rate by the central bank of G20 countries, excluding Russia and Argentina, is counted every time for each month (as of 22 July 2022).

(Reference) Economic trends and the number of changes in the policy interest rate in developed countries in 2022

	Real GDP level (2019 = 100)		GDP gap (%)		CPI (YoY, %)		Total number of interest rate hikes in 2022
	2021	2022 (forecast)	2021	2022 (forecast)	2021	June 2022	
U.S.	102.1	105.9	0.3	1.6	4.7	9.1	Three rate hikes
Eurozone	98.6	101.4	-2.4	-1.0	2.6	8.6	One rate hike
Germany	98.1	100.2	-2.1	-1.1	3.2	8.2	
France	98.4	101.3	-1.8	-0.5	2.1	6.5	
Italy	97.0	99.2	-4.1	-1.2	1.9	8.5	Four rate hikes
U.K.	97.5	101.1	-0.1	0.4	2.6	9.4	
Japan	97.1	99.4	-2.6	-1.7	-0.3	2.4	0 times

(Note) Adapted from "World Economic Outlook" (April 2022) by IMF, the statistics of each country, and each Central Bank. The total number of interest rate hikes in 2022 is the number of the decisions on interest rate hikes up to July 22.

(4) Pace of monetary tightening by FRB (comparison with that in late 2010s)

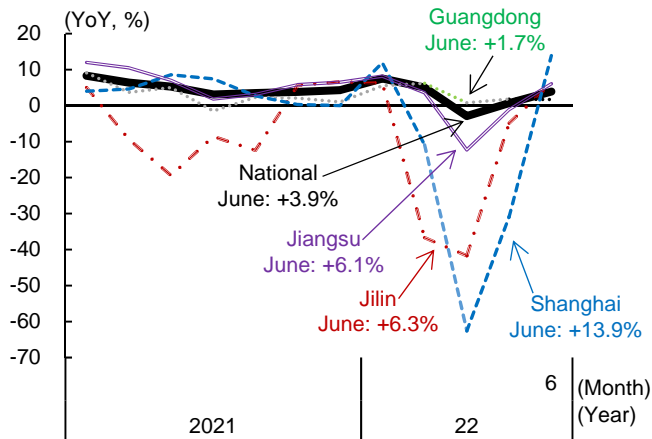


(Note) Adapted from FRB.

# 1-1 Trends of the World Economy (3) (Impact of strict containment measures in China)

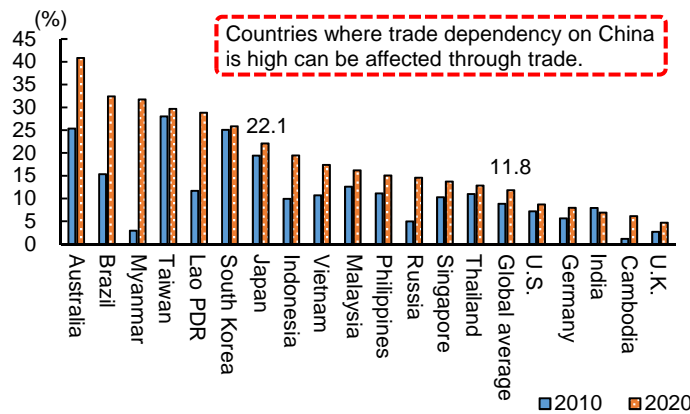
- Following a resurgence in infections, China implemented lockdowns in urban areas (Shanghai, etc.) from March to May. Production, logistics, and trade stagnated. Exports to China and imports from China (parts and finished products) were affected in many countries. In China, employment deteriorated and the unemployment rate remained at a high level. The unemployment rate among youths was 19.3% in June, which was the highest level since records began.
- With the impact of containment measures in China, international transportation cost has been showing unsteadiness since March. The growth of goods trade and industrial production in entire world has slowed down since March, and picked up recently. Global PMI, which has a strong correlation with the global economy, has been at a standstill.

(1) Industrial production (by region)



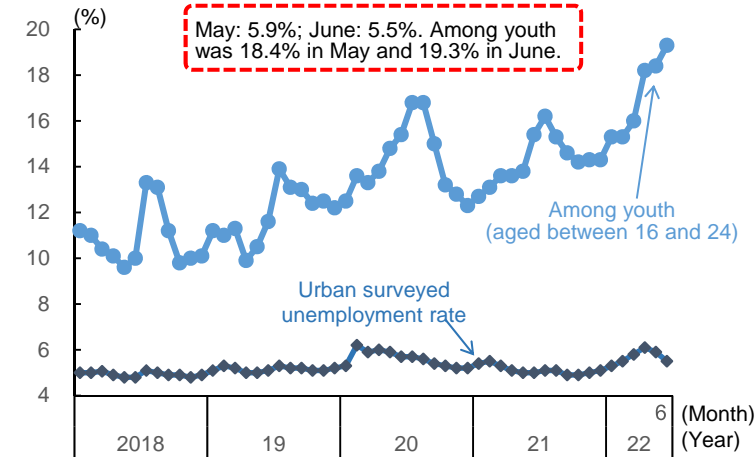
(Note) Adapted from National Bureau of Statistics of China.

(2) Trade dependency on China (export)



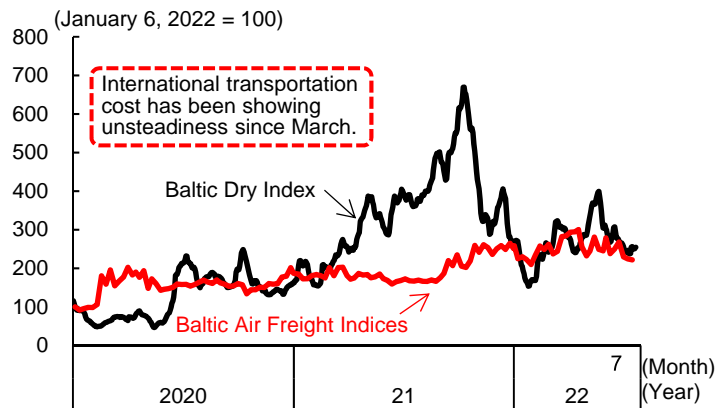
(Note) Adapted from UN Comtrade database. China is excluded from the global average.

(3) Unemployment rate



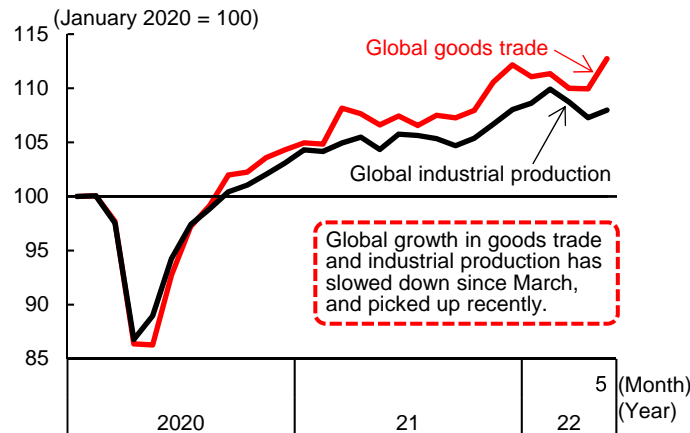
(Note) Adapted from National Bureau of Statistics of China.

(4) International transportation cost (maritime, air)



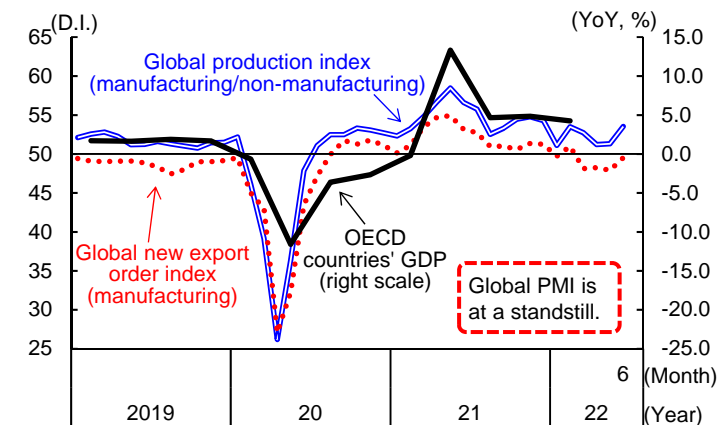
(Note) The maritime transportation index is adapted from Bloomberg (daily), and the air transportation index from Baltic/TAC data (weekly, from Frankfurt).

(5) Global goods trade and industrial production



(Note) Adapted from Netherlands Bureau for Economic Policy Analysis (CPB).

(6) Global PMI

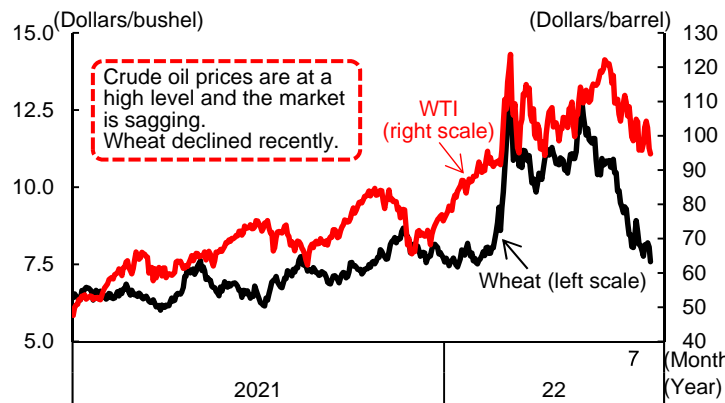


(Note) Adapted from OECD Stat, and J.P. Morgan, S&P Global.

# 1-1 Uncertainties about the Future of the World Economy

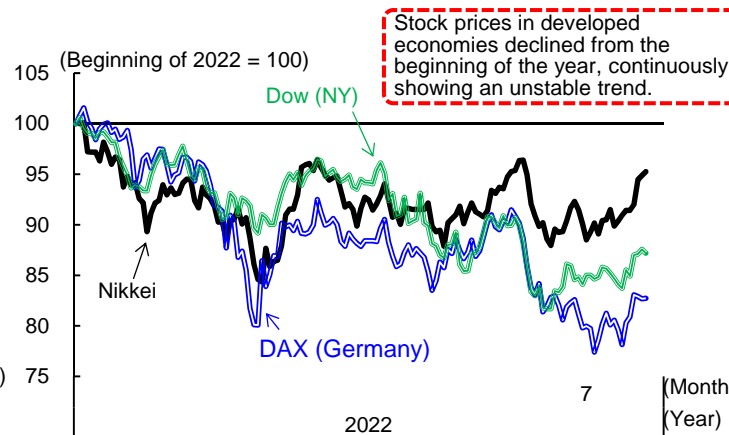
- Trends in the international commodities market and stock prices in major countries are currently showing instability amid the highly uncertain forecast for the world economy.
- Growth forecasts by international organizations for 2022 were revised downward, though they are nearly on par with pre-pandemic levels. The outlook on price was revised upward. Both for developed and emerging countries, it is expected that price hikes will be significant in 2022.
- Although it is expected that the world economy after the latter half of 2022 will continue to recover, downward risks, including the prolongation of the Russia-Ukraine crisis, impact of monetary tightening, and containment measures in China, require attention.

(1) International commodities market trend



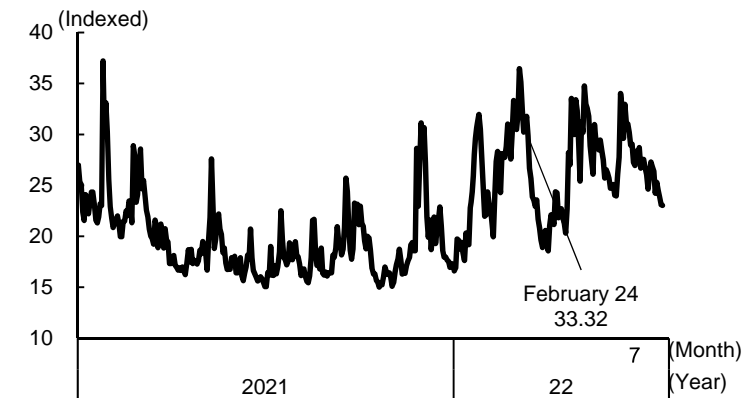
(Note) Adapted from Bloomberg.

(2) Stock prices in major countries



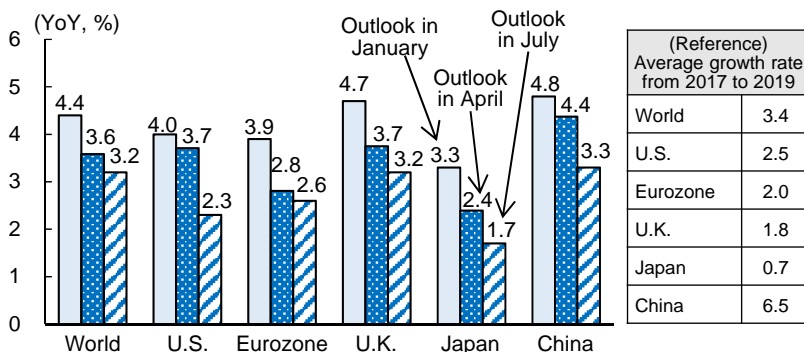
(Note) Adapted from Bloomberg.

(3) VIX Index



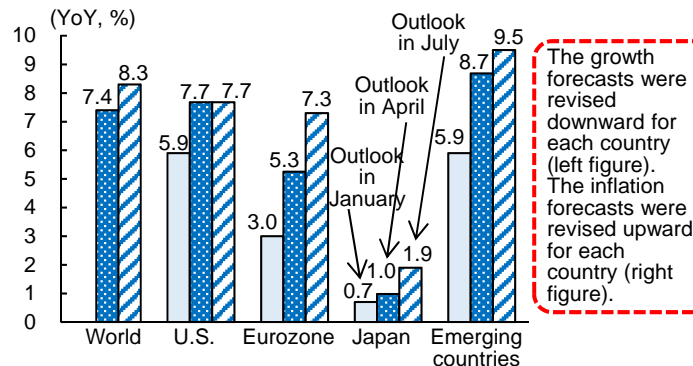
(Note) Adapted from Bloomberg.

(4) Real economic growth rate forecasts in 2022  
[IMF: published in July]



(Note) Adapted from "World Economic Outlook" (April & July 2022) by IMF.

(5) CPI inflation forecasts in 2022  
[IMF: published in July]



(Note) Adapted from "World Economic Outlook" (January, April & July 2022) by IMF. The value of the world outlook for January has not been released.

(6) Major downward risks on the world economy

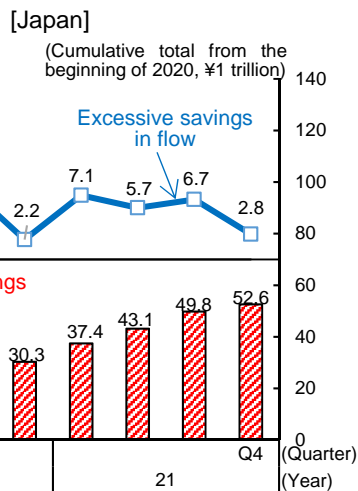
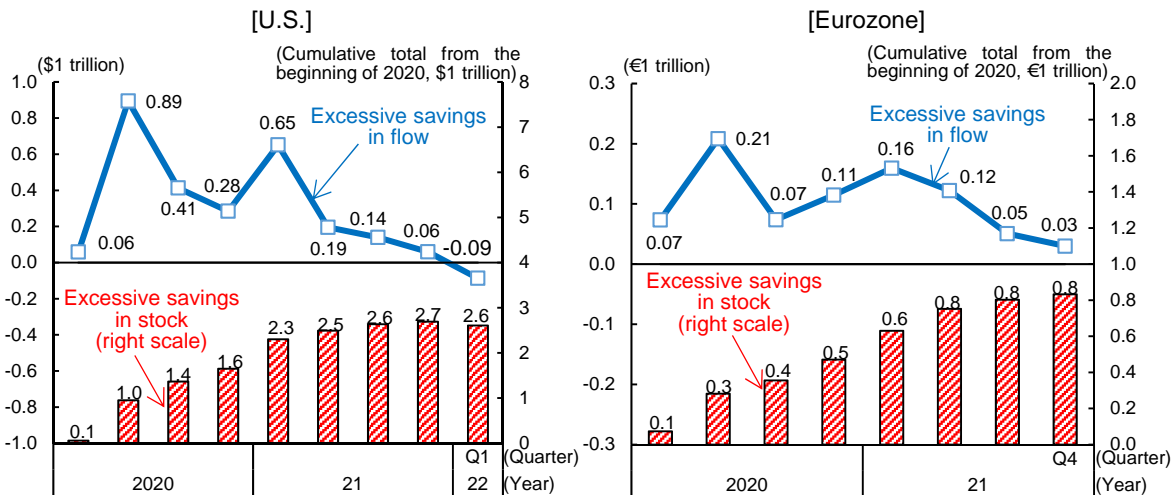
- ✓ Prolongation of Russia-Ukraine crisis  
Further inflation in raw materials and products through trends in the international commodities market, etc.
- ✓ Impacts of monetary tightening in each country  
Impacts on the demand side of each country, and on emerging countries through financial and capital markets
- ✓ Containment measures in China  
Delays of logistics in industrial districts and port cities, etc.

# 1-1 World Economy Topics [major Western countries and emerging countries]

## [Topic (1): Trend of household savings higher than the level seen before the pandemic]

➤ The sharp rise in household savings observed during the pandemic has been receding in each country, which may be a shift from savings to consumption under the economic recovery and price rises.

(1) Trend of excessive household savings (savings higher than the level of the same quarter in 2019)



(Reference) Excessive savings in stock Latest amount and percentage to GDP

\* Converted to yen based on the average exchange rate in May 2022

	Excessive savings in stock	% of GDP
U.S. (Q1 2022)	\$2.6 trillion (¥335.9 trillion)	11.3%
Eurozone (Q4 2021)	€0.8 trillion (¥115.0 trillion)	6.8%
Japan (Q4 2021)	¥52.6 trillion	9.7%

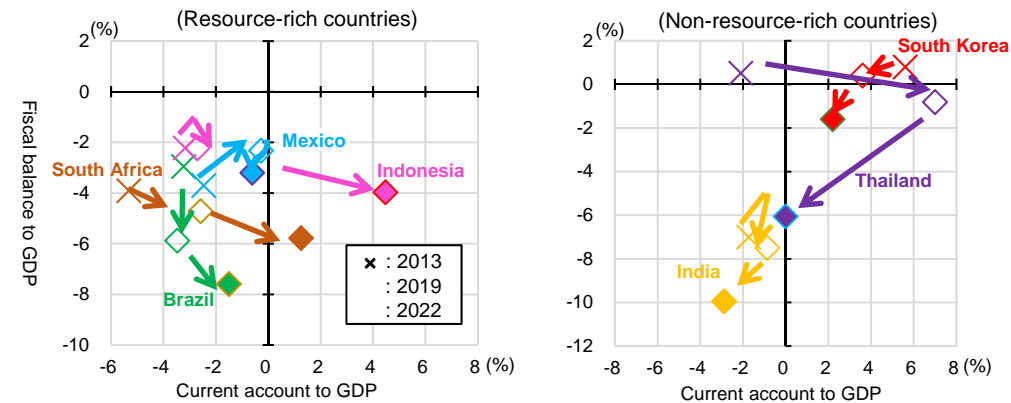
The excessive savings in stock in the U.S. have been decreasing recently. The increase has been slowing down also in the Eurozone.

(Note) Adapted from "National Accounts of Japan" by Cabinet Office, U.S. Department of Commerce, and Eurostat.

## [Topic (2): International financial environment in emerging countries]

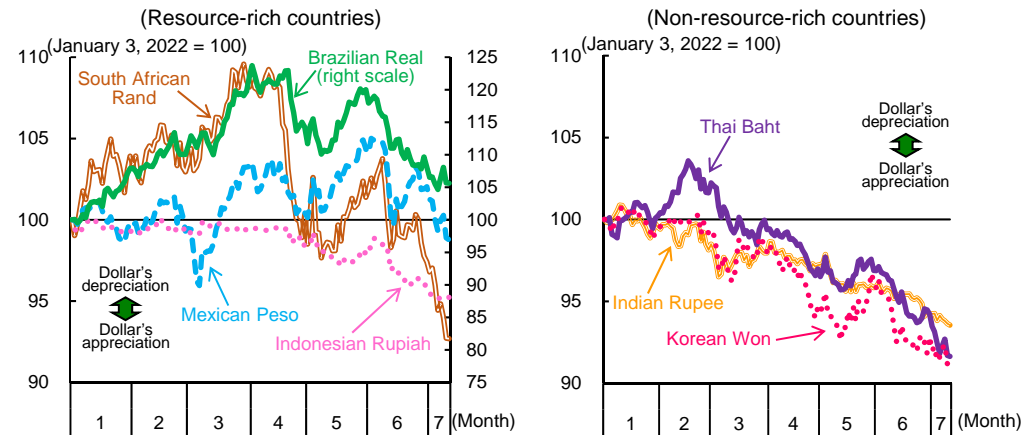
➤ As for the international financial environment in emerging countries, the current account is improving in resource-rich countries, and fiscal balance is deteriorating in both resource-rich countries and non-resource-rich countries. As for exchange rates, while there was a stage after Russia's invasion of Ukraine where currencies appreciated in resource-rich countries and depreciated in non-resource-rich countries, both trends currently lack stability, so the situation is highly uncertain.

(1) Changes in fiscal balance and current account



(Note) Adapted from "World Economic Outlook" (April 2022) by IMF.

(2) Changes in exchange rate (against dollar)

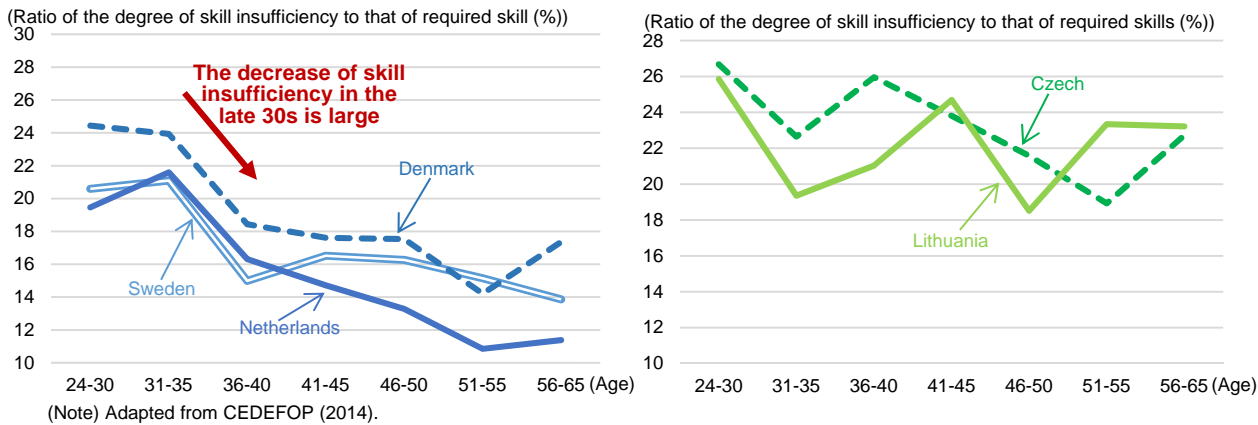


(Note) Adapted from Bloomberg.

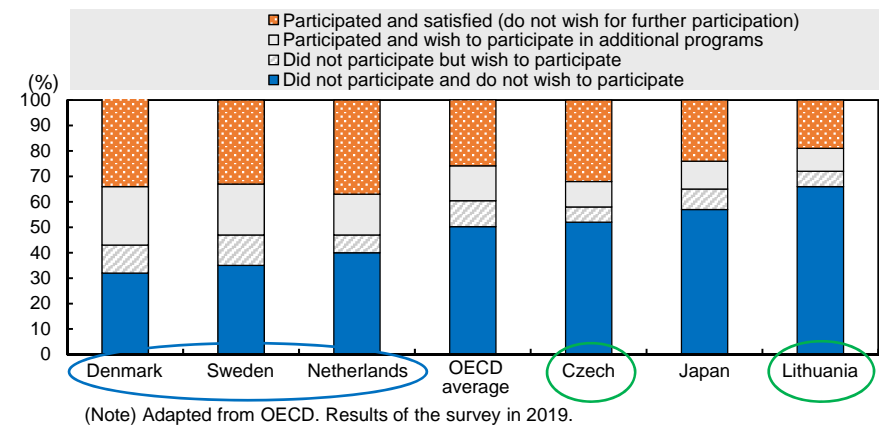
# 2-1 New Technologies, including Digitalization, and the Labor Market (1)

- There is a mismatch of skills due to the emergence of new technologies. While the gap between workers' skills and the skills required for a certain job position (degree of skill insufficiency) differs by country, in the countries with active participation and willingness in educational and training programs to improve work skills, the gap generally decreases in accordance with age (e.g. Swedish males resolve in their 30s approximately 90% of the entire gap from their 20s to 60s). Several Nordic countries have ample governmental support concerning the education or training for working population.
- In European countries, the degree of skill insufficiency and labor productivity are negatively related in general (when the degree of skill insufficiency decreases by 1% point, value added per person increases by about 4,000 dollars). Human investment and labor market liquidity is important as measures against the mismatch.
- As those who lose their job may try to get another job, many Nordic countries realize the workers' transition to job categories with higher wages.

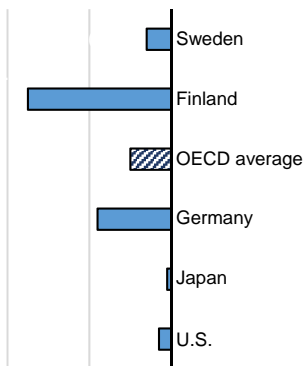
(1) The degree of skill insufficiency by age bracket (male)



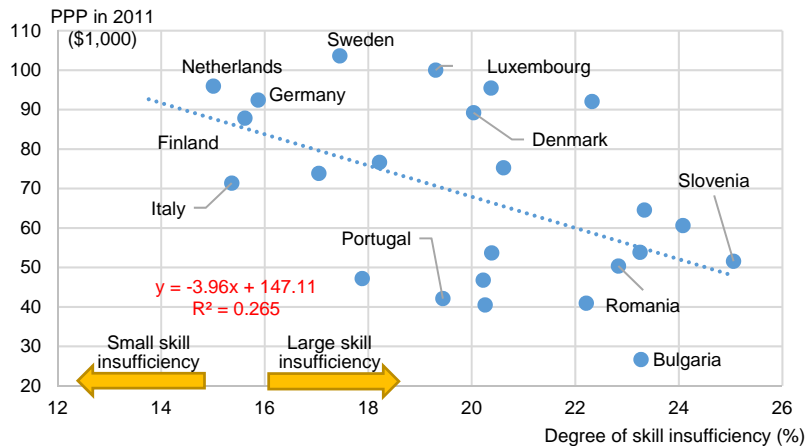
(2) Participation in education or training program (adults)



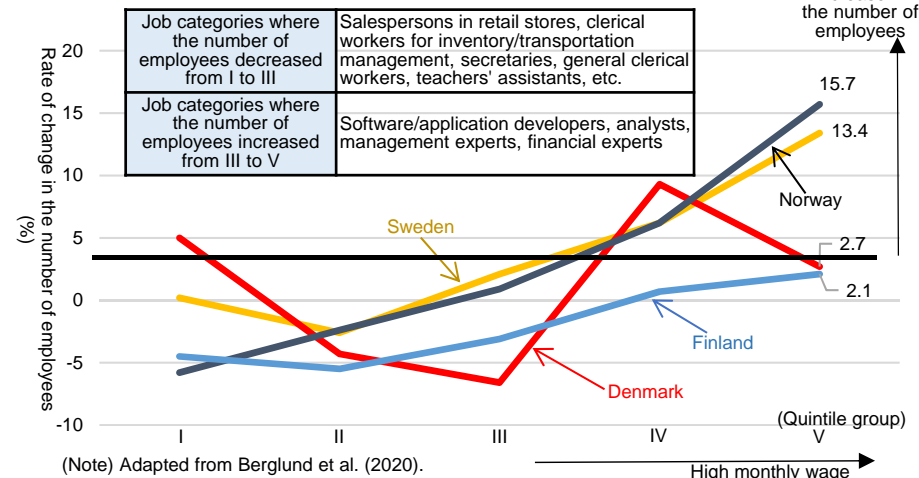
(3) Government expenditure for vocational training (% of GDP, 2019)



(4) The degree of skill insufficiency and labor productivity (manufacturing, 2014)



(5) Rate of change in the number of employees by job category in Nordic countries (from 2011 to 2015)

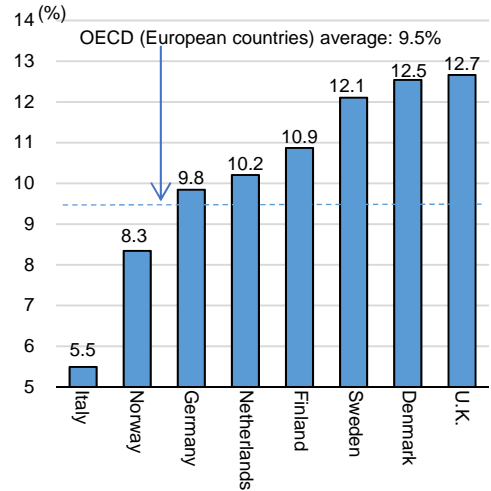




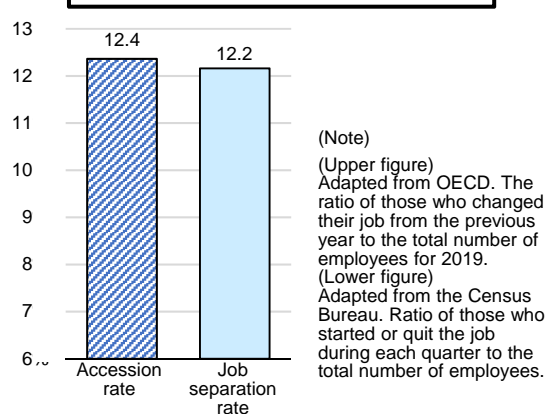
## 2-1 Technologies, including Digitalization, and Labor Market (2)

- In European countries, about 10% of people change their job annually. The job turnover rate is particularly high in the U.K. and Nordic countries. In the U.S., about one-eighth of all employees have been newly hired or left a job during a quarter (a rate about five times higher than the average of European countries).
- By confirming the wage increase through job-hopping from the perspective of wage trends by job category in the U.S., you can see below:
- ✓ Regarding the highly professional job category including technical jobs, in the situation that job stayers or job switchers within the same job category earn high levels of income, it is observed that accumulated skills are appreciated and wage increases through job-hopping.
- ✓ Regarding eating and drinking services, where the level of expertise is considered to be lower than that of technical jobs, while job stayers earn high levels of income, it is also observed that they try to increase their wages through job-hopping.
- ✓ Now after the coronavirus pandemic, the balance of labor market has tightened rapidly, and immediately effective job switchers within the same job category have experienced an increasing wage growth rate.

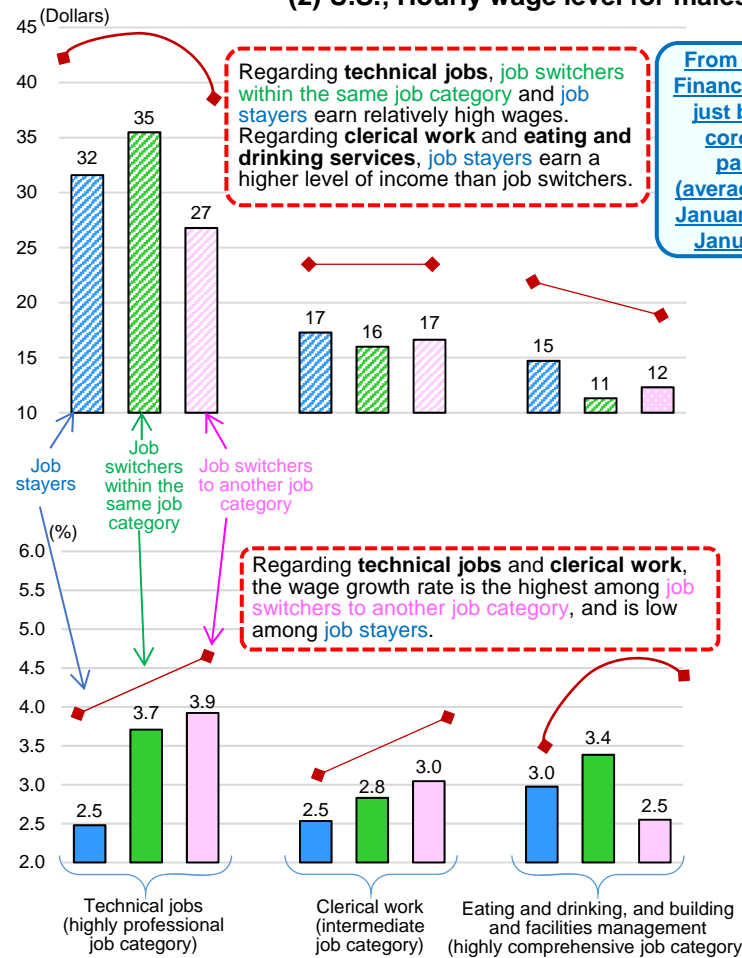
(1) Job turnover rate in European countries (above) and the U.S. (below)



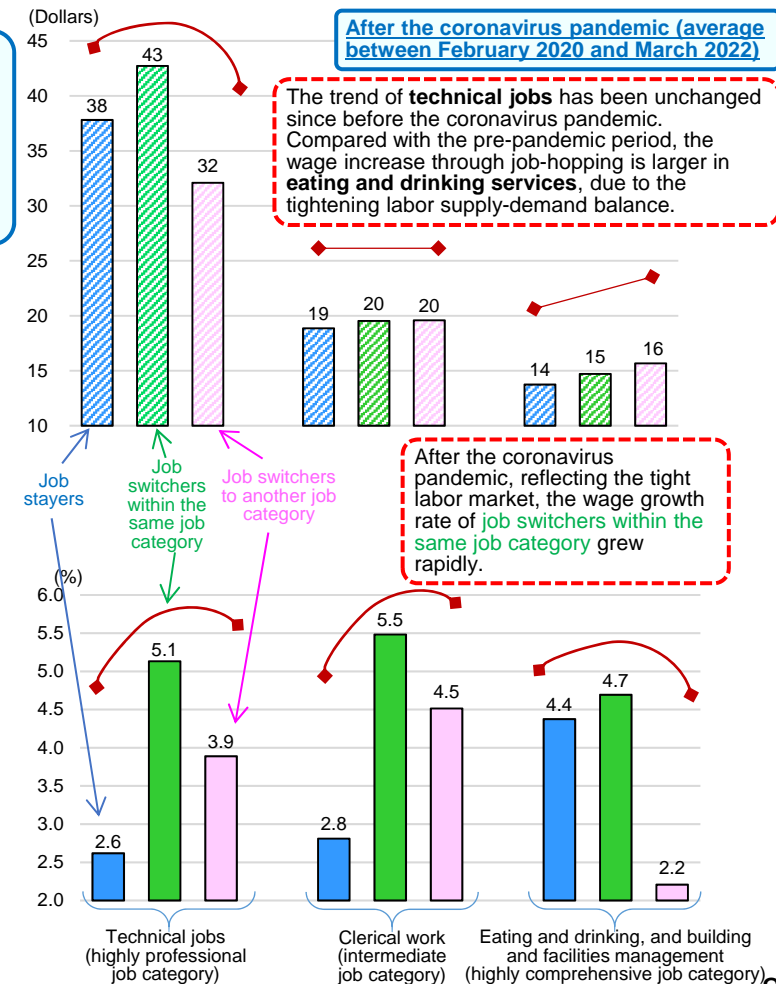
U.S. (average between 2008 and 2019)



(2) U.S.; Hourly wage level for males (above) and its growth rate (below, YoY)



(Note) Adapted from Federal Reserve Bank of Atlanta. Average of the median of each month during the period.



## 2-1 New Technologies, including Digitalization, and Labor Market (3)

- The following are pointed out as factors hampering companies' investment in human resources, (i) time restrictions, (ii) being unable to accurately understand their skills and training needs, (iii) delayed establishment of company structure to implement the program, and (iv) delayed establishment of a system to make online study available.
- Moreover, it is also pointed out that a limited number of companies implement programs that focus on workers predisposed to losing their job due to the technological advance.
- Because human investment has positive externalities beyond the company level, policy support to promote company investment is an important issue.

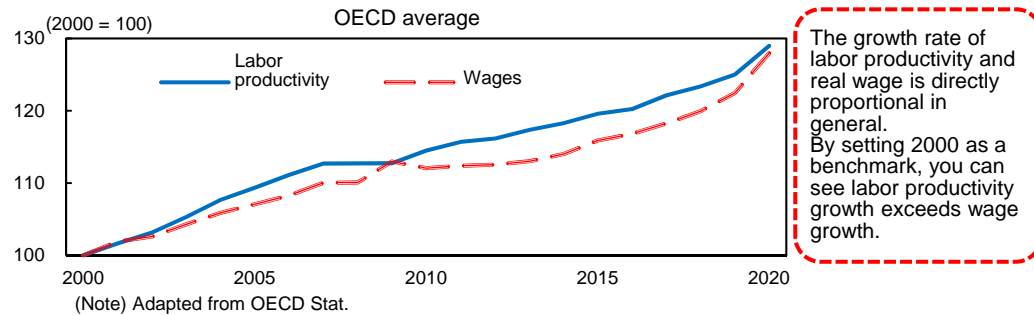
### Support measures for human investment by private companies and self-developing activities by individuals (case studies of foreign countries)

Channels	Tools	Case studies of foreign countries	Responsible organization
Information and guidance	- Information and guidance provision services	- <b>Competence Centre For Securing Skilled Labour (Germany):</b> Establishment of online platform that aims to support SMEs in developing the skills of their employees. - <b>Skills Operators (France):</b> Provision of guidance for SMEs to define training needs and identify financial support	Private organizations (such as NPOs)
Capacity building	- Consulting service	- <b>Joint Purchase Training (Finland):</b> Technical assistance for enterprises in the development of training programs - <b>People as Corporate Value (Germany):</b> Provision of consulting services for SMEs to develop HR strategies - <b>Unionlearn (U.K.):</b> Support for the development of a program to improve the employability of employees	Governments and public agencies Labor unions
Financial incentives	- Subsidies - Preferential tax treatments - Loans	- <b>Skills to Advance (Ireland):</b> Provision of subsidies for enterprises to upskill vulnerable groups, depending on company size (subsidized 50 to 70%) - <b>Vocational Ability Development Programme (South Korea):</b> Providing loans covering up to 90% of the costs of establishing training facilities or purchasing training equipment - <b>Training Grant for Employers (Estonia):</b> Compensating 50 to 100% of the training costs, based on the age, education level, and previous employment history of the participant	Governments and public agencies
Direct provision of training and environmental improvement	- Training to acquire digital skills, etc. - Provision of digital learning environment	- <b>DigiABC (Estonia):</b> Provision of onsite digital literacy training for (low-skilled) employees in the industrial sector and managers - <b>Digital Skills Partnership (U.K.):</b> Provision of fully-funded digital skill programs for low-skilled adults - <b>Digital Strategy (Finland):</b> Subsidies for the development of a virtual learning environment for promoting the digitalization of the activities and learning environments of vocational education and training	Governments, employers associations, private companies
Institutional improvements	- Contractual terms	- <b>Payback clauses (some countries):</b> Legally permit employers to recover at least part of their investment in training in the event that the targeted employee leaves soon after the training program	-

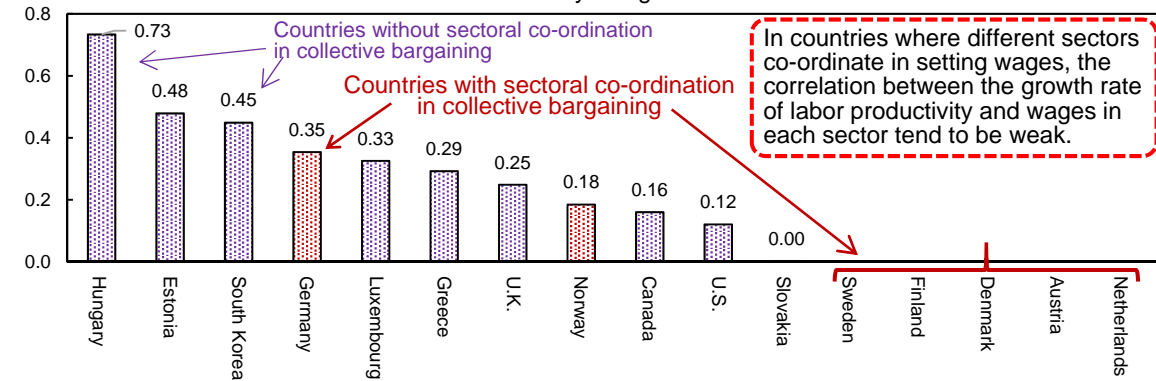
## 2-2 Trends of Labor Productivity and Wages

- As for labor productivity and real wage, the OECD average show that, though wage growth is slightly below labor productivity growth, they have been directly proportional in general since 2000.
- Different countries have different degrees of human investment and labor mobility, and different relationships between the productivity of the entire economy and real wage. Some countries show a high growth rate of productivity and real wage, while others show a low growth rate.
- An example of countries where both of them show strong growth is Nordic countries.
- ✓ When you focus on co-ordination by sector in the collective bargaining (co-ordination in a fashion where a certain sector sets the goal of wage growth, and others follow), countries with co-ordination by sector, including Nordic countries, tend to show a weak correlation between the growth rate of productivity and nominal wage by sector.
- ✓ Despite weak correlation by sector, in Sweden where there is a movement towards human investment through collective bargaining, relatively high growth has been realized in both productivity and wages as the whole economy.

(1) Correlation between the growth rate of real labor productivity and real wage

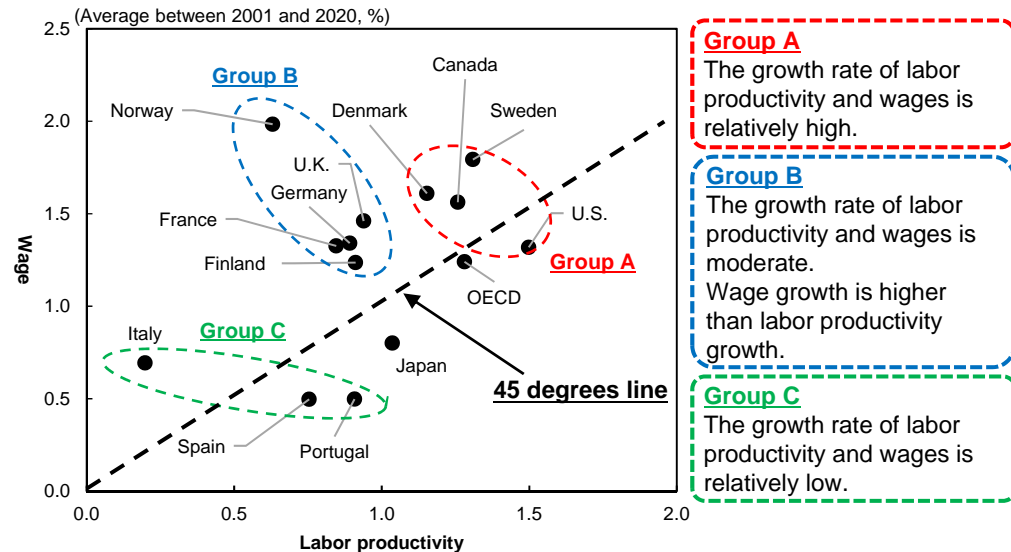


(3) Value of the elasticity of nominal wage related to nominal labor productivity estimated by using sectoral data



(Note) 1. Estimated by the Cabinet Office based on OECD Stat STAN database. The period of estimation is from 2000 to 2019.  
2. When the null hypothesis that the elasticity value is zero is not rejected in the two-sided t-test at 5% significance level, the elasticity value is set to zero.

(2) Scatter diagram of the growth rate of real labor productivity and real wage in each country



(Note) Adapted from OECD Stat.

**Collective agreement:** Collective agreement concluded between labor and management as a result of collective bargaining mainly decides the working conditions, including wages, hours of work, vocational training, dismissal provisions, and safety and health.

**Co-ordination in collective bargaining:** Co-ordination means that the decision of the major participant of collective bargaining is followed by other participants in a planned manner. Here, we focus on co-ordination behaviors among different industrial sectors.

### (4) Case studies where human investment is realized through collective bargaining

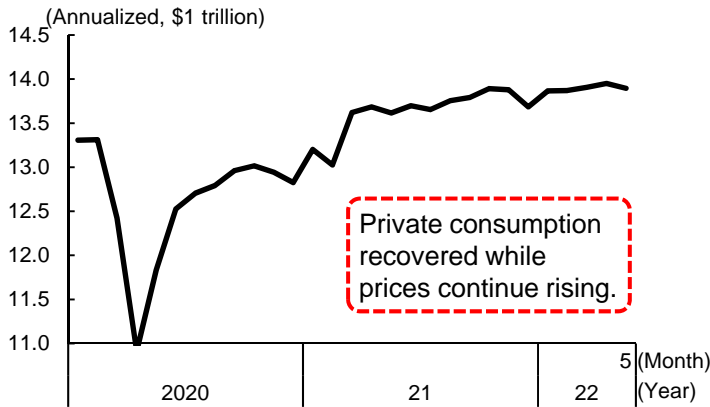
- In Sweden, Job Security Councils (JSCs), NPOs, support the unemployed. Access to opportunities for training and reskilling is provided at the time of massive dismissal. Workers under collective bargaining are all covered by JSCs. They also try to improve workers' skill based on the forecast on skill needs.
- In Germany, the government designs a lifelong learning policy based on the collective agreement made through collective bargaining. In 14 of 16 states, workers are eligible to receive five days of training a year.

(Note) Adapted from Simons et al. (2020).

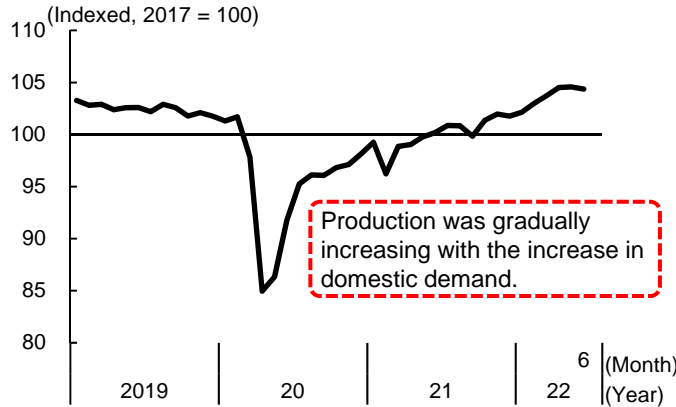
# (Reference 1-1) Economic Trends in Major Regions [U.S. economy]

- U.S. economy recovered in the first half of 2022. Private consumption and production increased throughout the first half of the year. Employment was also sound.
- Tightening labor market and job-hopping trends have remained unchanged since 2021, and the serious labor shortage continues under the current circumstances.
- The housing loan rate rose sharply in response to monetary tightening. In a situation where further monetary tightening is expected in the future, the impact on economy needs to be closely watched, including on the housing market.

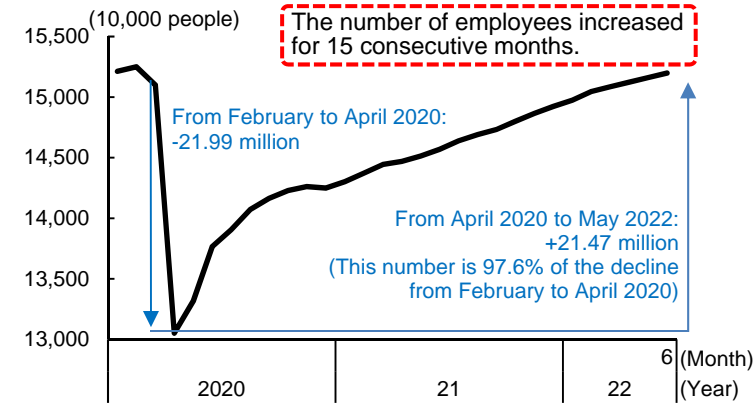
(1) Real personal consumption expenditures



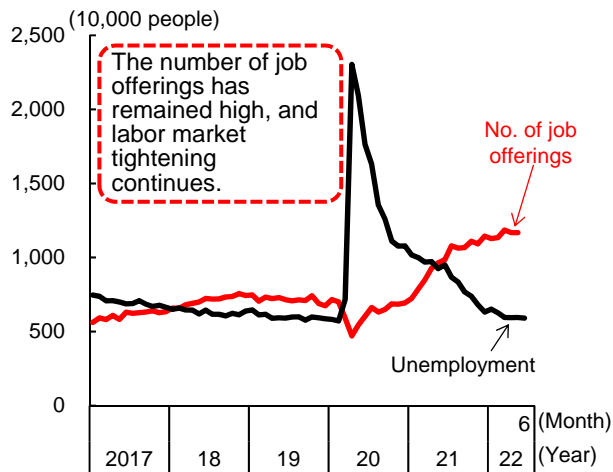
(2) Industrial production



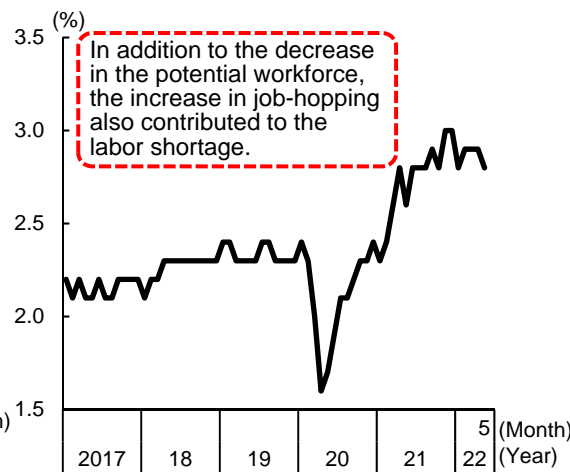
(3) Non-farm employees



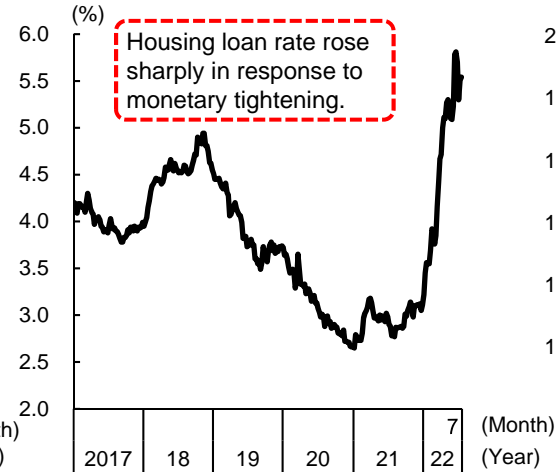
(4) Unemployment and job offerings



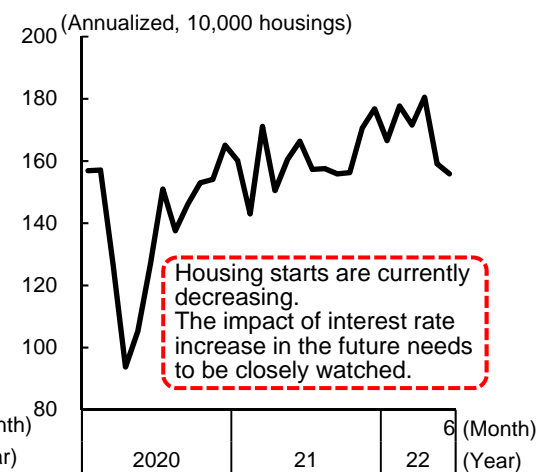
(5) Voluntary separation rate



(6) Housing loan rate



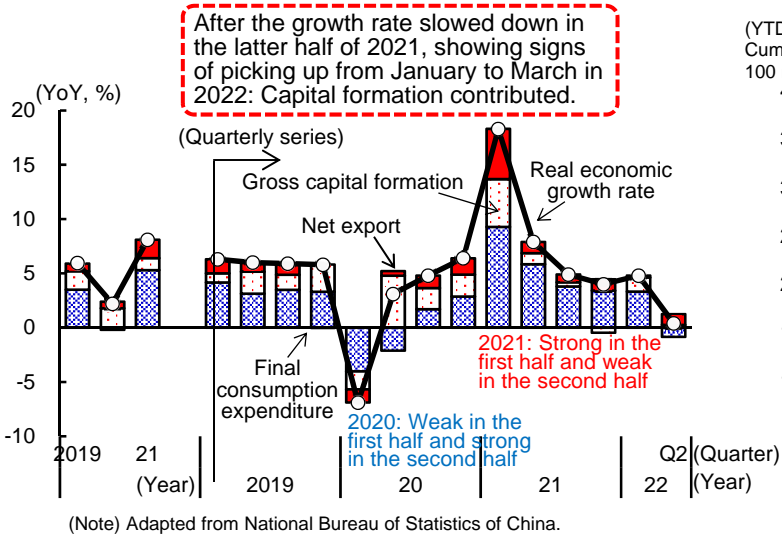
(7) Housing starts



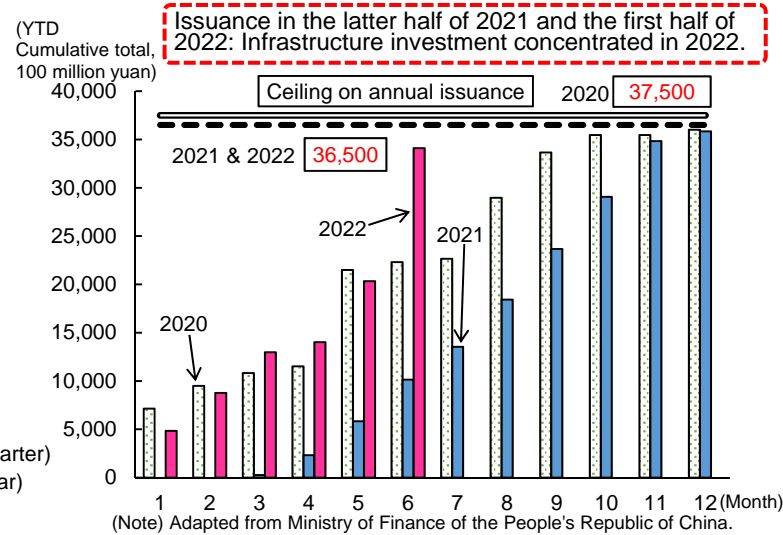
# (Reference 1-2) Economic Trends in Major Regions [Chinese Economy]

- In 2021, the growth was strong in the first half and weak in the second half. Since then, strong growth led by infrastructure investment has been sought in 2022, through policy adjustment across years.
- However, economic recovery has been stagnating, due to the restriction of economic activities in some regions affected by increasing infection. Sharp slowdown is found in real estate-related indices (development investment, sales, etc.), and income from the transfer of land-use rights, which have been an important financial resource for regional governments, also decreased significantly.
- On the other hand, China, aiming to become a “manufacturing powerhouse,” intends to achieve development led by advanced technologies. The country made excellent progress in the ranking of industrial robot utilization.

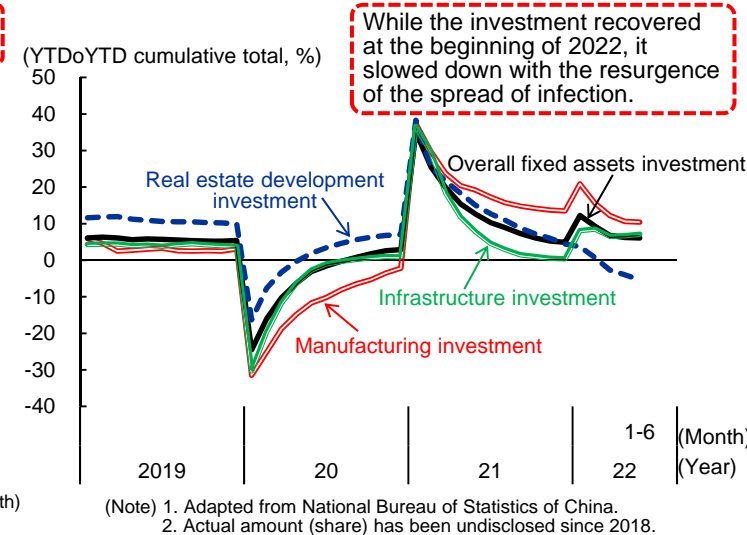
(1) Real GDP growth rate



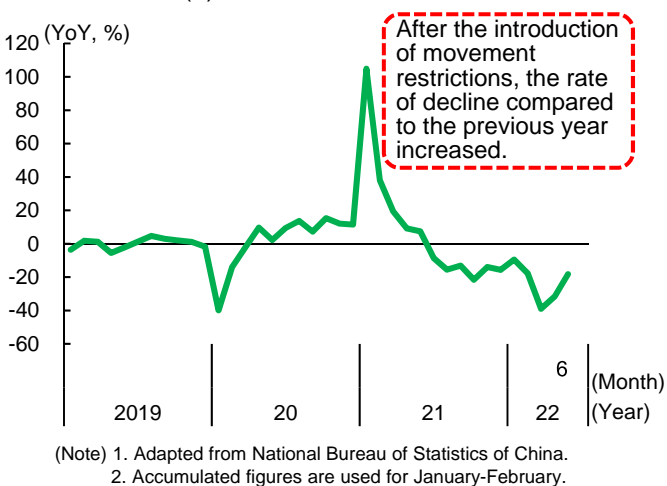
(2) Issuance of local special bonds



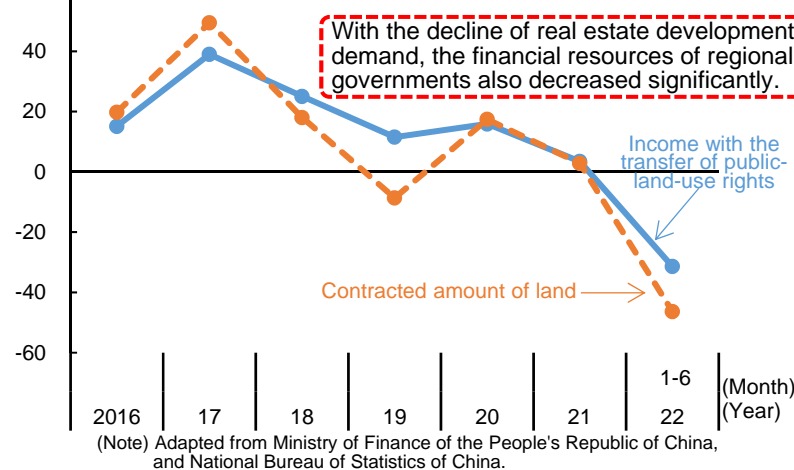
(3) Fixed assets investment



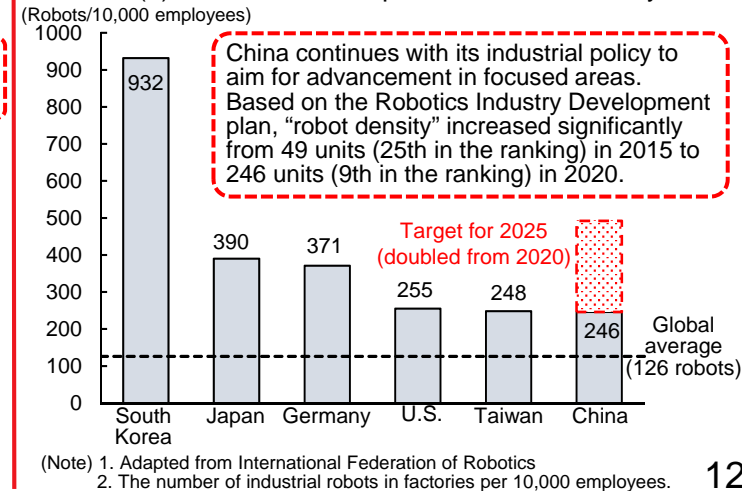
(4) Real estate sales area



(5) Income with transfer of land-use rights and the contracted amount of land



(6) International comparison of robot density



# (Reference 1-3) Economic Trends in Major Regions [European Economy]

- In Europe, the economy is showing recovery, with the real economic growth rate in the Eurozone and the U.K. showing an increase for four consecutive quarters. Employment is improving.
- The Russian invasion of Ukraine caused accelerated inflation and the worsening of supply constraints. Consumption recovery is stagnating, and production remains unchanged.

