

# FY2021 - FY2022 Economic Outlook

Despite prospects of global economic recovery, the resurgence of Covid-19 infections and supply constraints serve as a drag

October 22, 2021

Mizuho Research & Technologies, Ltd.

**MIZUHO**

The Mizuho logo consists of the word "MIZUHO" in a bold, white, sans-serif font, positioned above a thin, white, curved line that arches under the letters.

## Key points of our outlook

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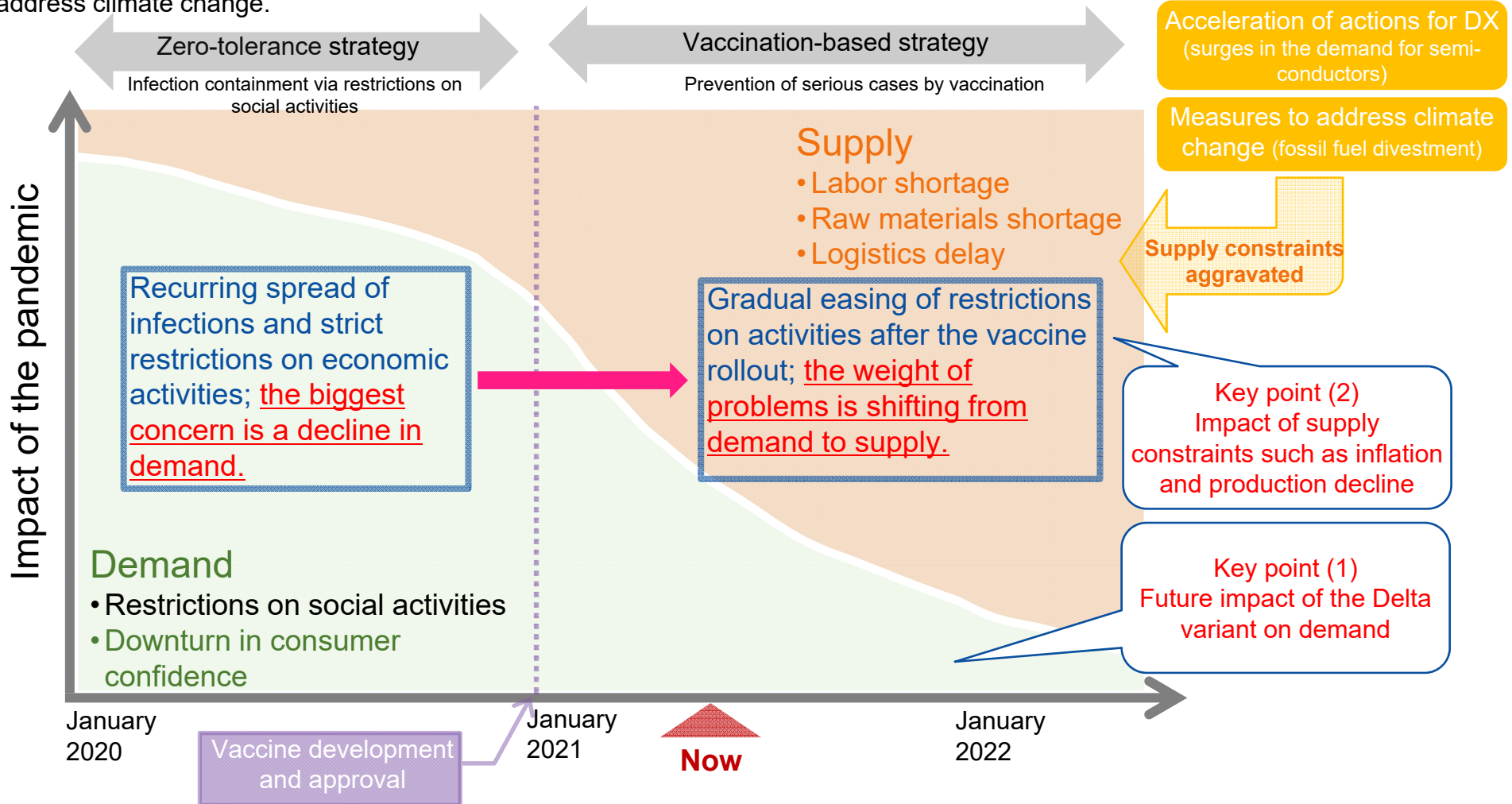
- We expect the global economy to recover as restrictions on social activities begin to ease along with the rollout of Covid-19 vaccines. However, the resurgence of infections and supply constraints through the first half of 2022 will serve as a drag. Our forecasts on global economic growth are +5.4% y-o-y in 2021 and +4.1% y-o-y in 2022.
- Considering indications that the effectiveness of Covid-19 vaccines in preventing infection declines over time, it is highly probable that infections will resurge in the first half of 2022. In Japan, although a situation similar to the state of emergency is expected to occur around that time, restrictions on social activities are likely to be imposed only on non-vaccinated individuals. Thus, the negative pressures stemming from restrictions on social activities is assessed to be smaller than the summer of 2021. The resurgence of infections will also serve as a drag on consumer confidence on a global level.
- Supply constraints will cause higher inflationary pressures, lower production, and lower corporate profits. While we expect supply & demand to tighten in 2021, supply constraints will gradually ease after the turn of the year in 2022.
- Inflation in the US is expected to remain at a high level through the end of 2021 due to tight supply & demand for goods. Subsequently, the tight supply & demand will ease, and the inflation rate will decline to around 2% in 2022. This stems from the limited upward pressure from excess savings, and the pause in demand for goods reflecting the recovery of service consumption. On the supply side, in addition to the gradual emergence of the effects of facility expansion, developments will progress to address logistical bottlenecks at facilities such as ports through the expansion of processing capacity.
- The negative pressure on Japanese motor vehicle production due to supply constraints is expected to continue until mid-2022. Even though the shortage in the supply of parts caused by the spread of infections in Southeast Asia will be resolved over the end of 2021, the effects of semiconductor shortages is likely to remain until mid-2022. Terms of trade are expected to worsen as a result of rising import prices due to supply constraints. There are concerns regarding restraints upon capital investment due to downward pressure on corporate profits.

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# 1. Overview

# Global outlook: weight of Covid-19 impact shifting due to vaccine rollout and the lifting of mobility restrictions

- Despite lingering negative pressures from concerns regarding the spread of infections due to the emergence of highly infectious variants, supply constraints could intensify as a result of the shortage of labor and raw materials, along with the recovery of demand against a backdrop of vaccine rollouts.
- Concerns about supply constraints are increasing coupled with the acceleration of actions for digital transformation (DX) and measures to address climate change.



Source: Made by MHRT

# Global economy recovers along with vaccine rollout; however, resurgence of infections and supply constraints serve as negative pressures

## Outlook on the global economy (revised in October)

	(Y-o-y % change)				(Y-o-y % change)		(%pt)	
	2019	2020	2021	2022	2021	2022	2021	2022
	CY		(Outlook)		(Forecast as of August)		(Comparison with previous forecast)	
Global real GDP growth	2.8	-3.1	5.4	4.1	5.9	4.2	-0.5	-0.1
Japan, US, Europe	1.7	-5.0	5.0	4.2	5.1	4.4	-0.1	-0.2
US	2.3	-3.4	5.8	4.4	6.2	4.2	-0.4	0.2
Eurozone	1.6	-6.4	4.8	4.5	4.6	4.7	0.2	-0.2
UK	1.7	-9.7	6.7	4.4	5.9	5.0	0.8	-0.6
Japan	0.0	-4.6	1.9	2.8	2.3	4.2	-0.4	-1.4
Asia	5.2	-0.9	7.1	5.3	7.6	5.2	-0.5	0.1
China	6.0	2.3	7.9	5.2	8.4	5.4	-0.5	-0.2
NIEs	1.9	-0.8	4.9	3.0	4.5	2.9	0.4	0.1
ASEAN5	4.8	-3.5	3.5	5.5	4.1	5.4	-0.6	0.1
India	4.8	-7.0	9.0	6.3	9.6	5.5	-0.6	0.8
Australia	1.9	-2.5	4.1	3.1	4.3	3.1	-0.2	-
Brazil	1.4	-4.1	4.8	1.6	4.8	2.2	-	-0.6
Mexico	-0.2	-8.3	5.8	2.6	5.6	2.6	0.2	-
Russia	2.0	-3.0	4.0	2.6	3.1	3.3	0.9	-0.7
Japan (FY)	-0.5	-4.4	3.0	2.6	3.8	3.7	-0.8	-1.1

Recovery is expected to be slow due to supply constraints such as semiconductor shortages and logistics disruptions (inventory factors).

Occasional spread of infection due to high infectivity under the zero-tolerance policy (factor for consumption decline); also impacted by downward pressure on investment due to constraints of real estate lending and insufficient electricity supply

In ASEAN countries, downward pressure is caused by restrictions on social activities due to the surge of new variants. In India, power shortages and supply constraints in semiconductors will weigh on the economy.

Infections are likely to resurge in 2022, and a cautious attitude lingers. More output cuts of motor vehicles will occur due to supply constraints for parts such as semiconductors.

Note: The total for forecasted regions is calculated based on GDP share (PPP) by the IMF.  
Source: Made by MHRT based upon releases by the IMF and the statistics of relevant countries and regions

# Key point (1): reassessment of the Delta variant; rapid decline in infection prevention effect considered

- Our new model explicitly incorporates policy measures to improve vaccine rollouts and to expand testing (including vaccines and testing packages) in addition to factors such as the infectivity of variants.
- A series of results suggesting the decline in effectiveness of vaccines in preventing infection have been published.
  - Our October Outlook is based upon the assumption of a steep decline of **infection-prevention** effect (to 60%) four months after the second dose, reflecting research results by Pfizer,.

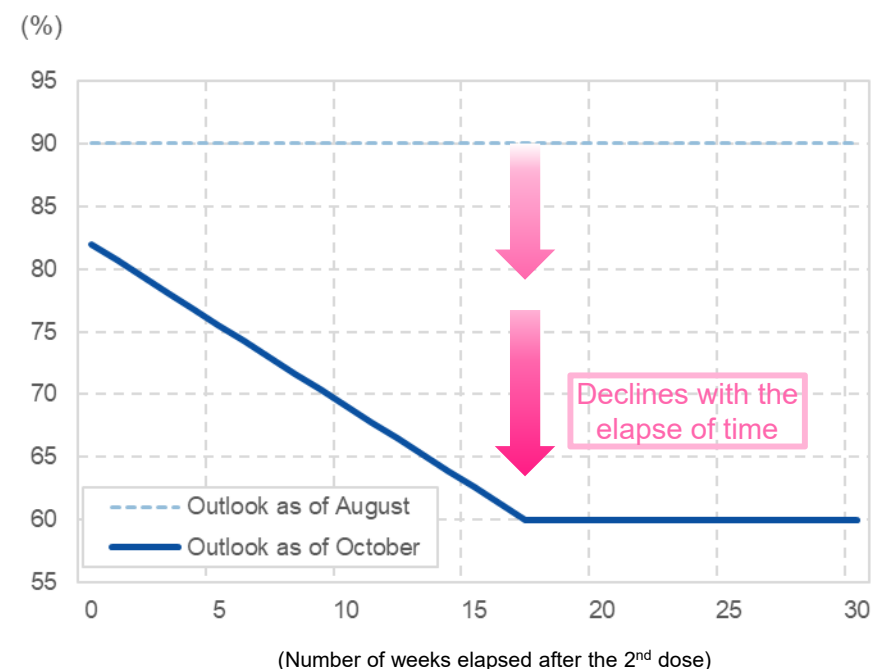
## Structure of the Mizuho epidemiological model reflecting the impact of the Delta variant

### Four major changes from the previous model

- (1) Three-generation model, including children  
⇒ Infection routes via children considered
- (2) Higher infectivity of the Delta variant  
⇒ Actual results reflected
- (3) Decline in the infection-prevention effect of vaccination  
⇒ Effect assumed to decline with the elapse of time
- (4) Policy measures incorporated
  - Higher vaccination rate/booster dose (to maintain immunity)
  - Expansion of testing and public use of proof of vaccination (to control infection by reducing human contact)
  - Increase in the number of beds for critical cases (healthcare system enhancement)
  - Introduction of antibody cocktail therapy (to reduce medical treatment burden)

Source: Made by MHRT

## Assumption of the infection-prevention effect of vaccines



Note: Infection-prevention effect and serious-case prevention effect are separated in the October outlook.  
Source: Made by MHRT

## Reference: reassessment of the Delta variant; rapid decline in infection-prevention effect considered

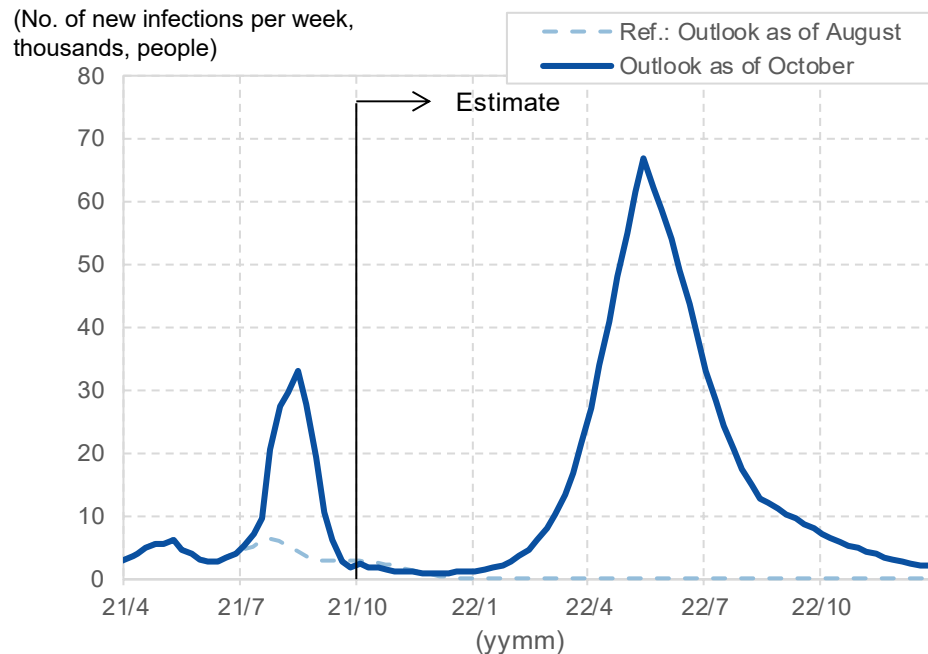
	MHRT's October Outlook	Reference: MHRT's August Outlook	
<b>Structure of the model</b>	<ul style="list-style-type: none"> <li>● <b>Three-generation</b> model (elderly: aged 65 and over, working age: 15-64 years old, <b>children: aged 14 and under</b>)</li> </ul> ⇒ Resurgence of infections in children (unvaccinated generation) considered	<ul style="list-style-type: none"> <li>● Two-generation model (elderly: 65 and over, working age: 64 and under)</li> </ul>	
<b>Infectivity of the Delta variant (vs. the Alpha variant)</b>	<ul style="list-style-type: none"> <li>● Calculated based on the actual result (elderly: 1.12 times, <b>working age: 1.49 times, children: 1.35 times</b>)</li> </ul> ⇒ Difficult to achieve herd immunity only by vaccination	<ul style="list-style-type: none"> <li>● Assumed 1.2 times for all generations</li> </ul>	
<b>Vaccine assumptions</b>	Final rollout rate	<ul style="list-style-type: none"> <li>● Elderly: <b>90%</b>, working age: 80%</li> </ul> ⇒ Lowered the rollout rate considering the slowdown of vaccination of the elderly	<ul style="list-style-type: none"> <li>● The final rollout rate was not specified, as it was projected that herd immunity could be obtained at a rollout rate of about 60%.</li> </ul>
	Infection-prevention effect	<ul style="list-style-type: none"> <li>● After 1<sup>st</sup> dose: 45%</li> <li>● After 2<sup>nd</sup> dose: 82% → <b>60% four months later</b></li> <li>● After 3<sup>rd</sup> dose: 90% → <b>40% four months later</b></li> </ul> ⇒ Reflects announcement by Pfizer; however, a more-rapid decline is assumed.	<ul style="list-style-type: none"> <li>● After 1<sup>st</sup> dose: 30%</li> <li>● After 2<sup>nd</sup> dose: 90% (No decline in effectiveness considered)</li> <li>● After 3<sup>rd</sup> dose: N/A</li> </ul>
	Serious-case prevention effect	<ul style="list-style-type: none"> <li>● After 1<sup>st</sup> dose: 85%</li> <li>● After 2<sup>nd</sup> dose: 95%</li> </ul>	<ul style="list-style-type: none"> <li>● No distinction between Infection-prevention effect and serious-case prevention effect; both considered as 90% after the 2nd dose</li> </ul>
<b>Policy measure assumptions</b>	Enhancement of screening/testing systems	<ul style="list-style-type: none"> <li>● Testing system to be enhanced in <b>October</b> 2021</li> </ul> ⇒ Expected to be enhanced in June, but shifted backward based on the situation of the distribution of antigen test kits at schools	<ul style="list-style-type: none"> <li>● Enhanced from June 2021</li> </ul>
	Booster dose	<ul style="list-style-type: none"> <li>● 3<sup>rd</sup> dose to start in January 2022</li> </ul>	<ul style="list-style-type: none"> <li>● Not considered</li> </ul>
	Vaccination certificate	<ul style="list-style-type: none"> <li>● To be implemented in Jan-Dec 2022; 20% reduction in the social activities of unvaccinated individuals (<b>30% during the state of emergency</b>)</li> </ul> ⇒ Considering the impact of a possible <u>declaration of the state of emergency</u> in 2022	<ul style="list-style-type: none"> <li>● Not considered</li> </ul>
	Antibody cocktail therapy	<ul style="list-style-type: none"> <li>● To be provided to <b>50%</b> of the infected cases from January 2022</li> </ul> ⇒ Reflected approval of new medicines and impact of expanded therapy for non-serious cases	<ul style="list-style-type: none"> <li>● Not considered</li> </ul>
	Increase in the number of hospital beds for serious cases	<ul style="list-style-type: none"> <li>● To be increased to <b>1.1 times</b> the current level from January 2022</li> </ul> ⇒ Judged as difficult to increase on a large scale due to staff shortages	<ul style="list-style-type: none"> <li>● Not considered</li> </ul>

Source: Made by MHRT

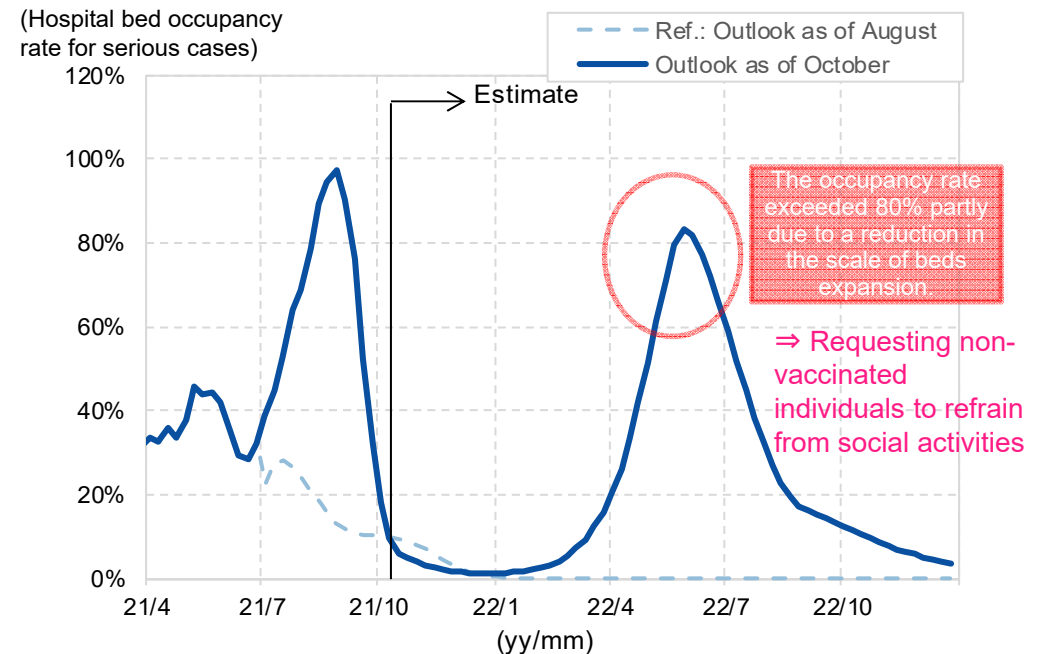
# Japan: hospital bed occupancy rate for patients with serious cases expected to increase to 80% in 2022, leading to a situation equivalent to the state of emergency

- Infections are expected to resurge in the first half of 2022, due to the impact of the Delta variant and the time decay of the vaccine's effectiveness in preventing infections.
  - The Delta variant is likely to make it difficult to achieve herd immunity through vaccinations alone.
  - Due to the increase in the number of serious cases after an increase in infections, the hospital bed occupancy rate is expected to be significantly higher than the Stage IV level (50%). This will lead to a situation similar to the state of emergency, calling for the voluntary restraint of social activities, especially among non-vaccinated individuals.

## Transitions in the simulation of the number of new infections per week in Tokyo



## Transitions in the simulation of the hospital bed occupancy rate for serious cases in Tokyo



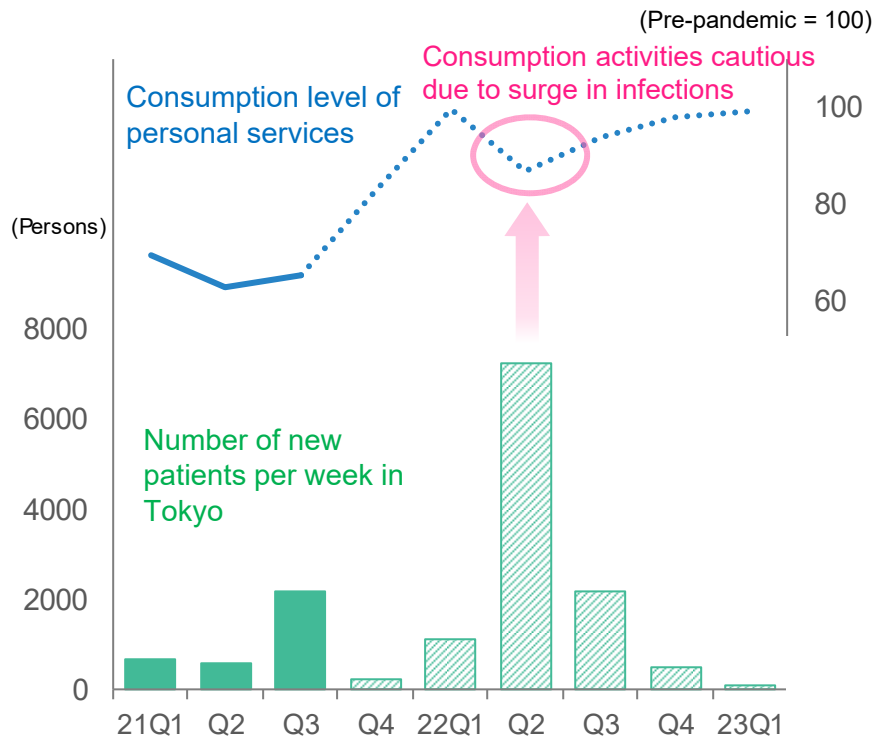
Note: The actual records for the hospital bed occupancy rate do not include the number of potential serious cases.  
Source: Made by MHRT based upon the COVID-19 BULLETIN BOARD and releases by Japan's Ministry of Health, Labour and Welfare and by Google LLC



# Japan: consumption behavior of the unvaccinated to remain cautious in 2022 due to lingering concerns regarding infections

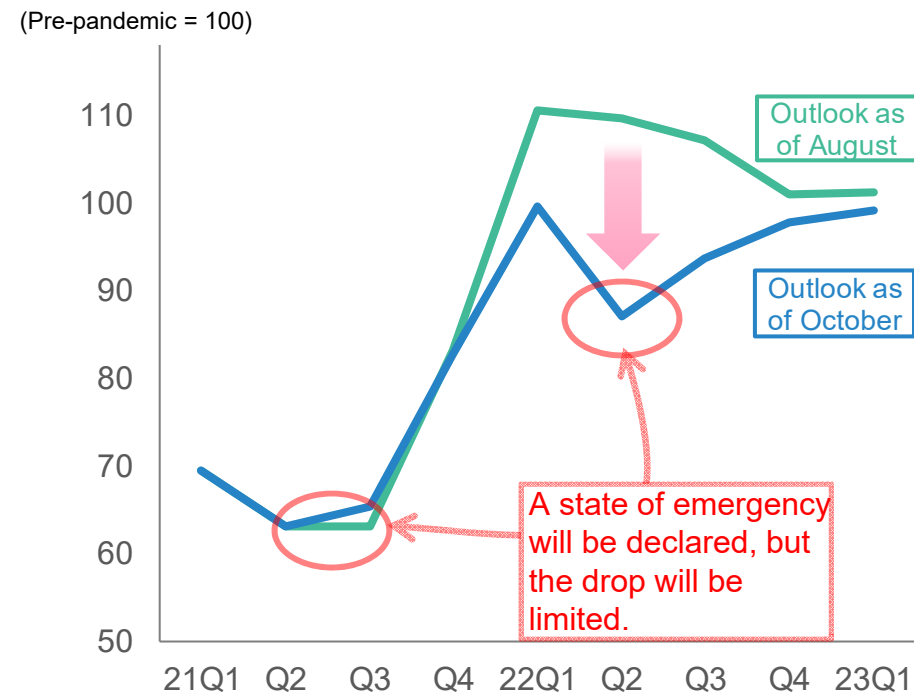
- Consumption of personal services is expected to recover to the pre-pandemic level in the Jan-Mar quarter of 2022 due to vaccine rollouts but will temporarily weaken in the Apr-Jun quarter of 2022 due to the rapid increase in number of new infections and the strained healthcare system.
  - However, since restrictions will not be imposed on the social activities of vaccinated individuals, therefore the breadth of decline is expected to be narrower than that of previous states of emergency.
  - Herd immunity is expected to be achieved in 2023. Until then, personal services consumption will continue to be lower than the pre-pandemic level.

## Personal services consumption path and new infections



Source: Made by MHRT based upon JCB & Nowcast, "JCB Consumption NOW"

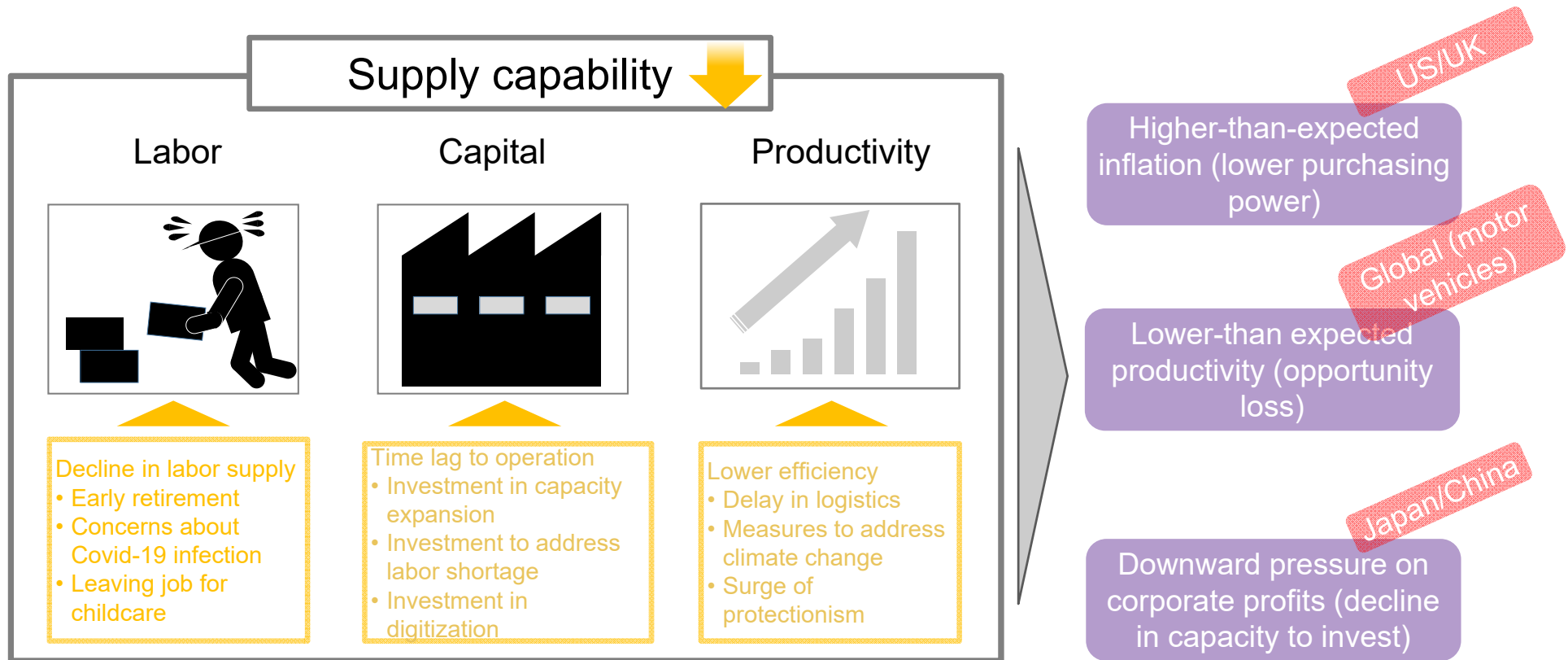
## Comparison of consumption paths for personal services between the August and October outlooks



Source: Made by MHRT based upon JCB & Nowcast, "JCB Consumption NOW"

## Key point (2): background of supply constraints and three channels of influence

- Bottlenecks exist in each of the three key factors: labor, capital, and productivity.
- A decline in supply capacity will negatively affect the real economy through the following three channels: (1) upward pressure on inflationary pressures (lower purchasing power), (2) lower-than-expected production (loss of consumption opportunities), and (3) downward pressure on corporate profits (decline in capacity and willingness to invest).
- There are differences in the routes and sizes of influence depending on the economic structure of each country/region.



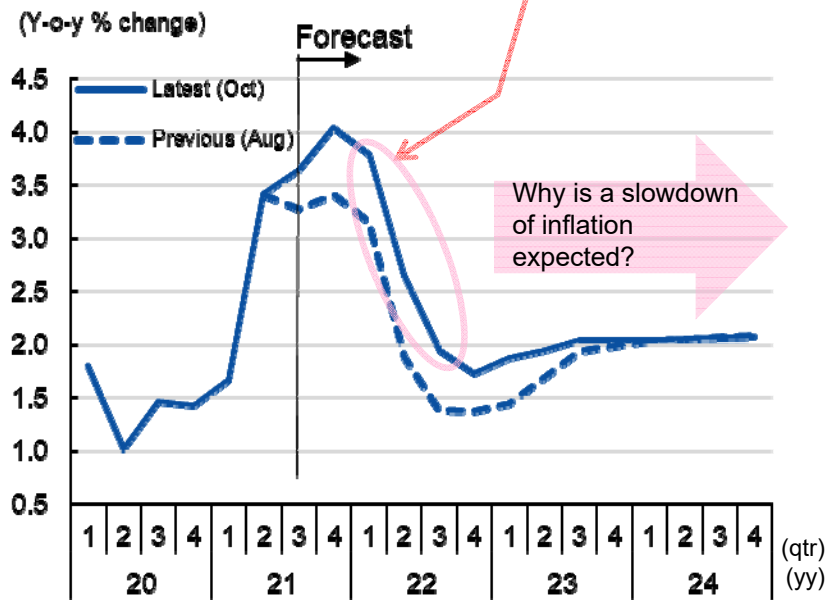
Source: Made by MHRT

# (1) Inflation (US): even though inflation is projected to remain high in 2021, it should decline to around 2% in 2022

- Even though US inflation is projected to remain high during 2021, it should decline to around 2% in 2022.
  - The decline of the inflation rate through 2022 reflects the fading impact of US supply & demand factors on global goods prices.
    - ◆ The inflation rate (core PCE deflator) is expected to be higher than our outlook in August. This is due to the lingering impact of high inflation thus far.

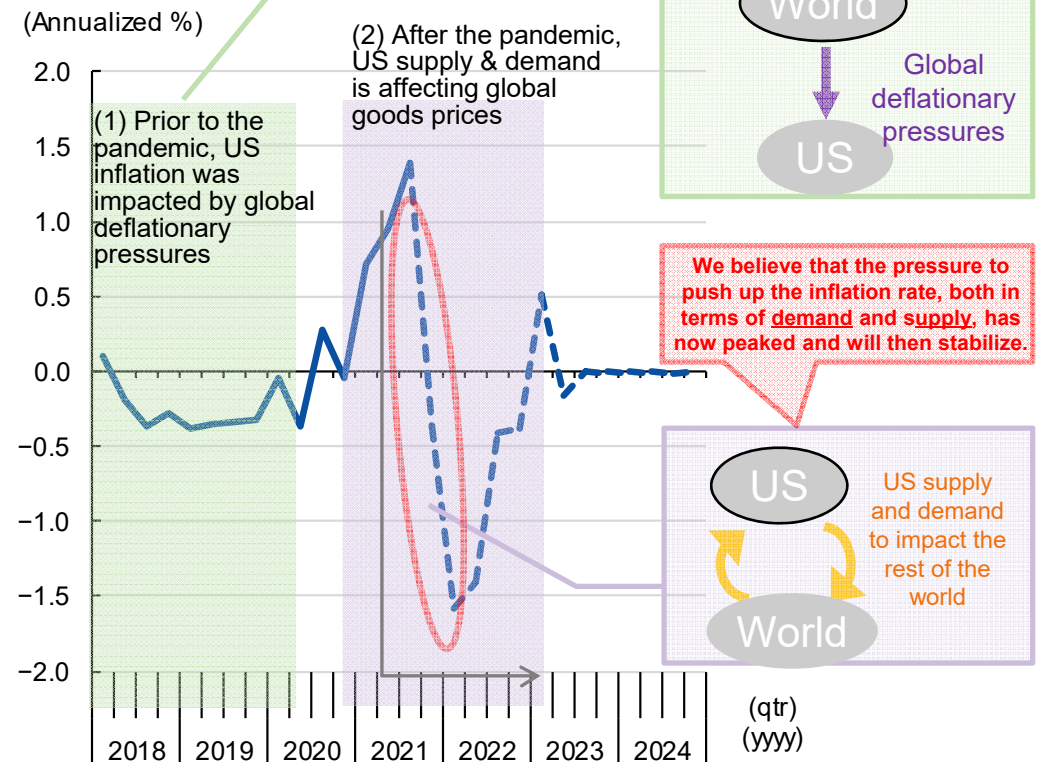
## Outlook on US inflation

Of half US households and corporations, "expectations" are moving in tandem to actual inflation  
 ⇒ Higher-than-expected inflation to date to partially push up the inflation rate going forward



Note: Increased rate of the core personal consumption expenditure deflator  
 Source: Made by MHRT based upon releases by the US Department of Commerce

## Rate of change in global goods prices

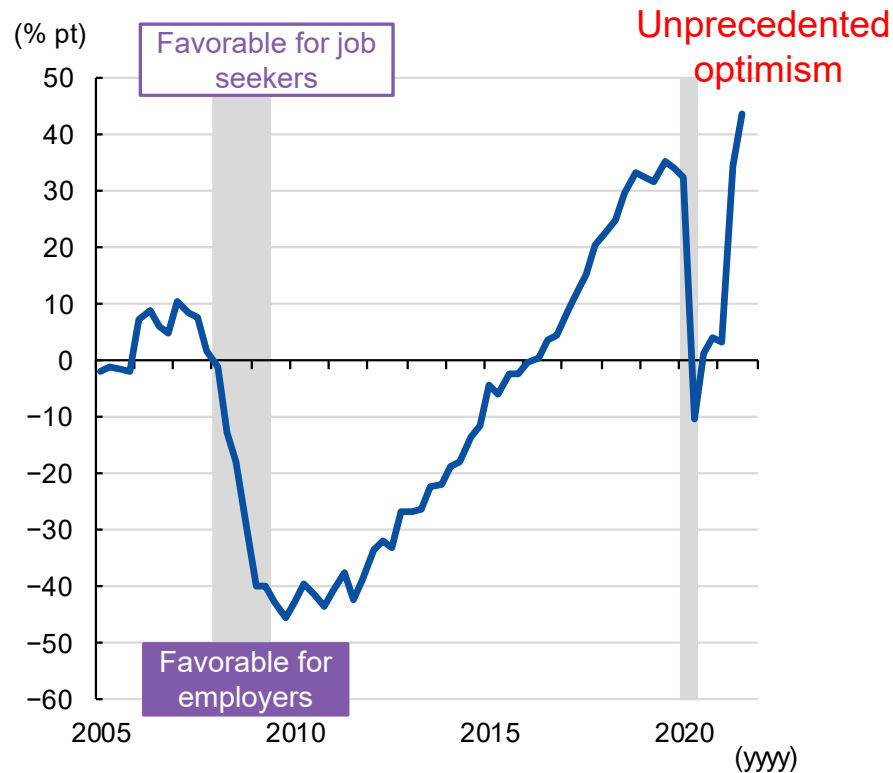


Note: Relative increase rate in import goods-related prices (excluding petroleum and IT products) to headline inflation rate  
 Source: Made by MHRT

# Outlook on demand: excess savings not expected to lead to consumption; demand for goods expected to slow down along with the recovery of service consumption

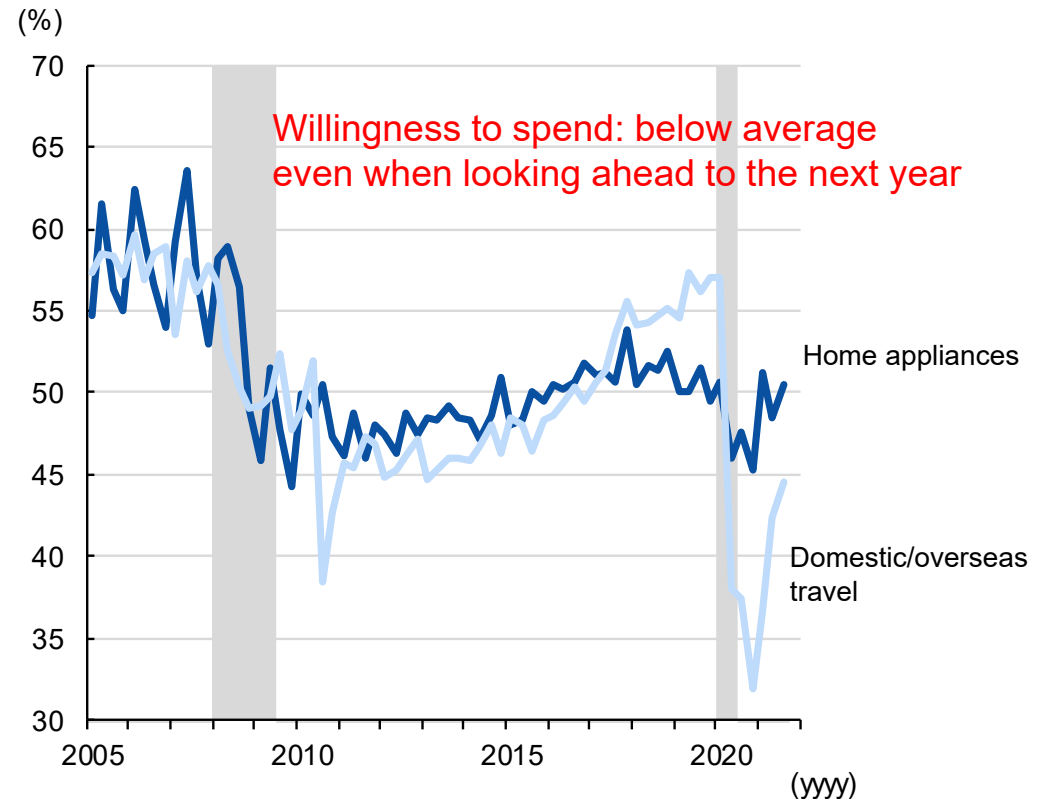
- Among US households, there has been a surge of unprecedented optimism about the employment situation. However, spending plans with a view to 2022 are "normal" for consumer electronics and "weak" for domestic and international travel.
- We could not observe the situation where the excess savings of households are being redirected to expenditures (i.e., no sign of excess savings to be used).
- Against this backdrop, goods consumption has slowed while service consumption has recovered, helping to ease supply & demand.

## US household employment outlook



Note: Difference between the percentage of answers "there are plenty of job opportunities" and "difficult to find a job"  
 Source: Made by MHRT based upon releases by the Conference Board

## US household consumption plan (within 6 months)

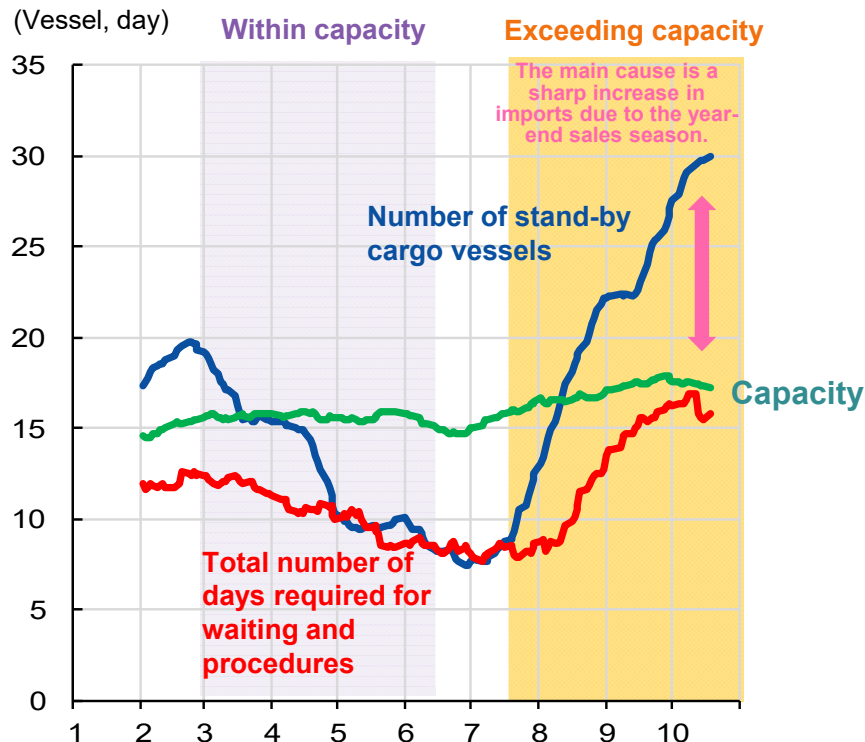


Note: Percentage of consumers that answered "planning to purchase in the next six months"  
 Source: Made by MHRT based upon releases by the Conference Board

# Outlook on supply: bottlenecks expected to be resolved by terminals shifting to 24/7 operations and securing labor

- US capital goods orders (except for aircraft) marked a record high. Supply capacity is expanding, supported by strong investments.
- Regarding logistics, which has become a bottleneck of economic activities, US President Biden announced the idea of making major West Coast ports operate 24/7 (October 13).
  - If realized, the processing capacity of the Port of Los Angeles will be 1.55 times the current capacity. By shifting the cargo-receiving operations to nighttime, the processing capacity is expected to increase by another 20%.
  - The port congestion rate is expected to improve to the 70-80% level with increased capacity. The slowdown in imports for the year-end sales season will also contribute to easing the bottleneck.
- The number of workers in the logistics industry (1.13 million, at present) is on an upward trend. With 800 thousand unemployed people seeking logistics-related jobs, there is available capacity in terms of human resources as well.

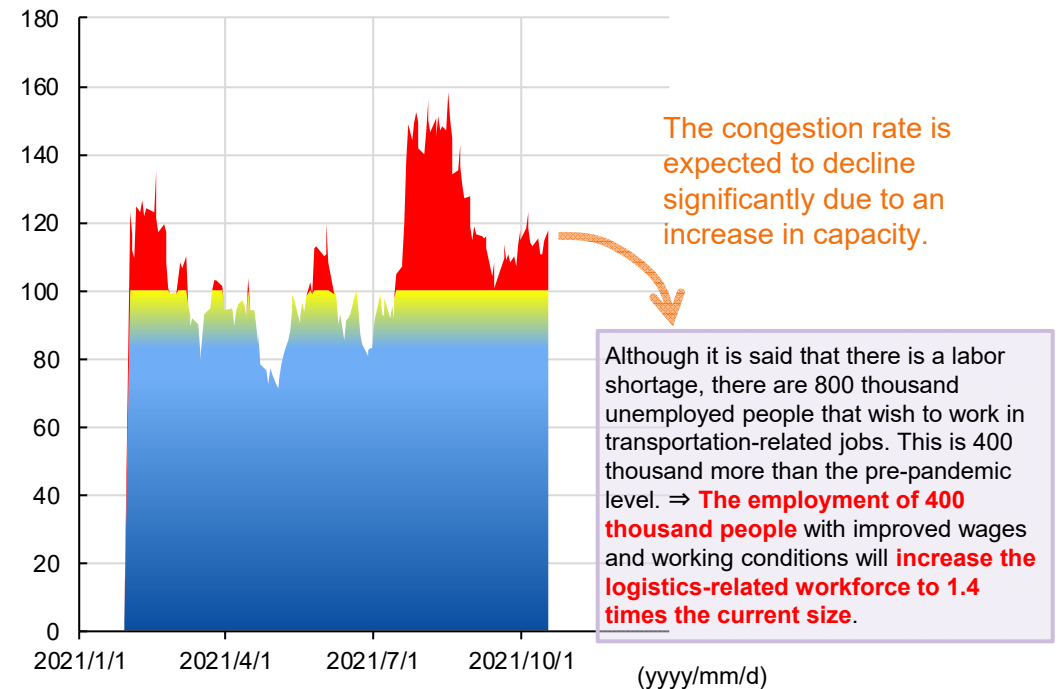
## Number of stand-by cargo vessels and the number of days required for procedures at the Port of Los Angeles



Note: The capacity is expressed by the number of cargo vessels onshore.  
Source: Made by MHRT based upon releases by the Port of Los Angeles

## Congestion rate trend of the Port of Los Angeles

(Port capacity ratio, %)

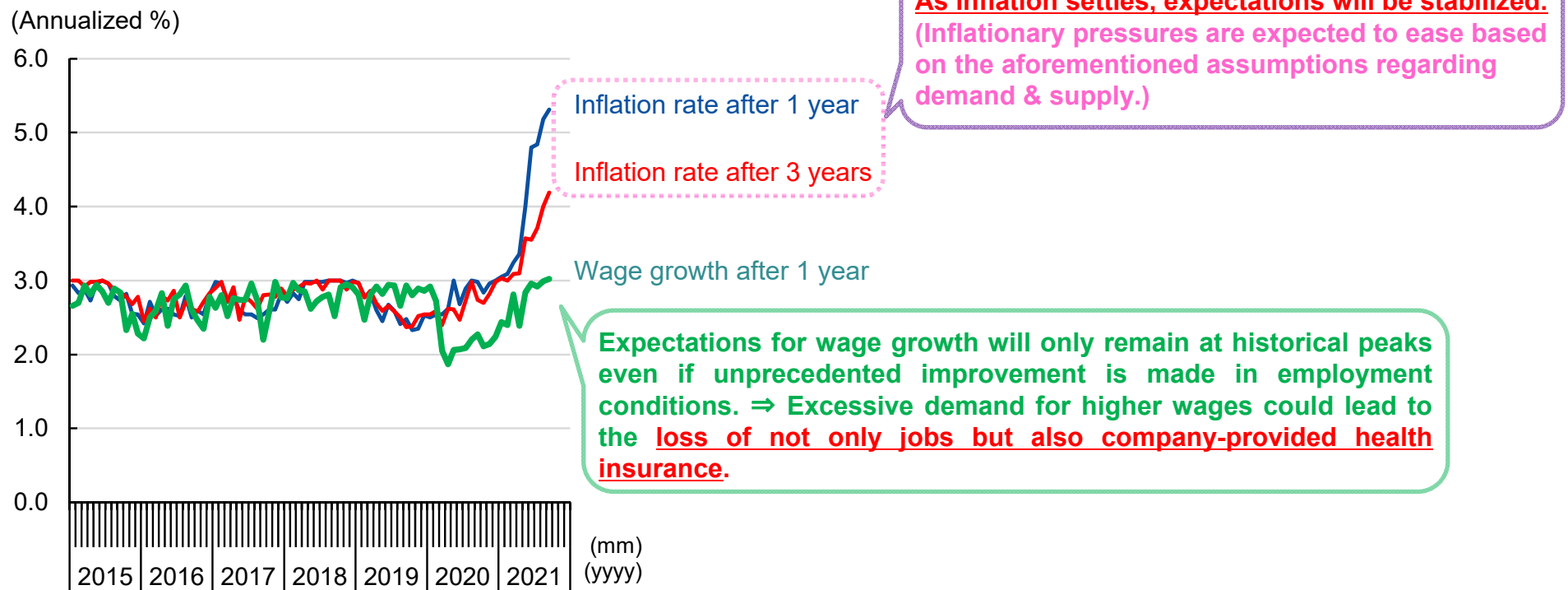


Note: Calculated based on the number of vessels waiting, the number of vessels landed, and the number of days in and out of port.  
Source: Made by MHRT based upon releases by the Port of Los Angeles

# Outlook on mindset (expectations): although inflation expectations are rising, this is only temporary; expectations for wage increases are stable

- According to surveys, the expected inflation rate among US consumers are surging, reflecting the recent rise of the inflation rate.
  - A future decline in the inflation rate is expected to reduce inflation expectations. Our main scenario outlook takes into view the fact that some households and businesses form inflation expectations linked to actual inflation rates.
- Expectations for wage growth are in a stable range despite unprecedented optimism about employment. Despite moves to raise wages in the US, this is unlikely to last.
  - US companies usually do not accept wage increases that exceed productivity growth (they will not continue to operate at a loss). US workers that lose their health insurance if they lose their jobs fundamentally have low bargaining power for wages, and therefore momentum for a wages increase is expected to remain low.

## Expected inflation rate of US consumers and the expected wage growth rate

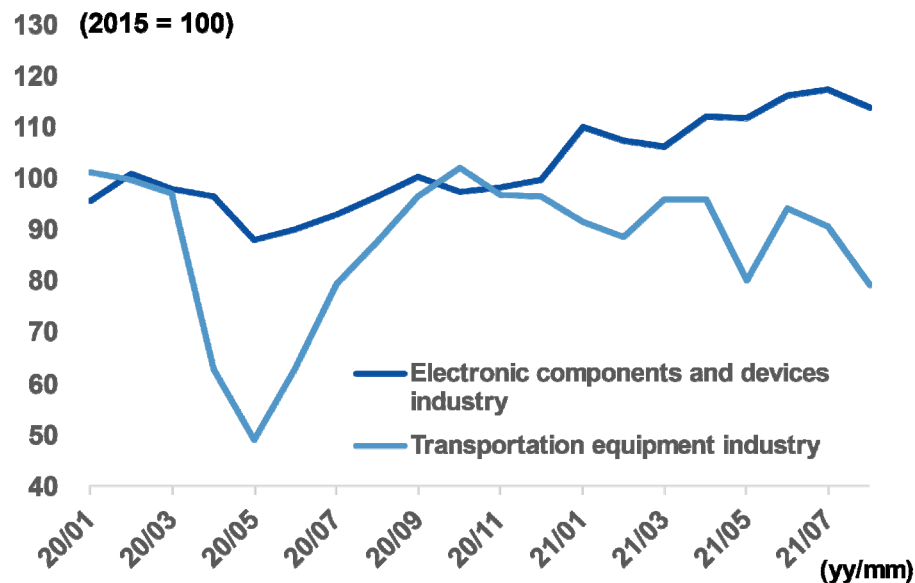


Source: Made by MHRT based upon releases by the Federal Reserve Bank of New York

## (2) Production (Japan): despite gradual easing of shortage of parts imported from Southeast Asia, the semiconductor shortage is hampering production

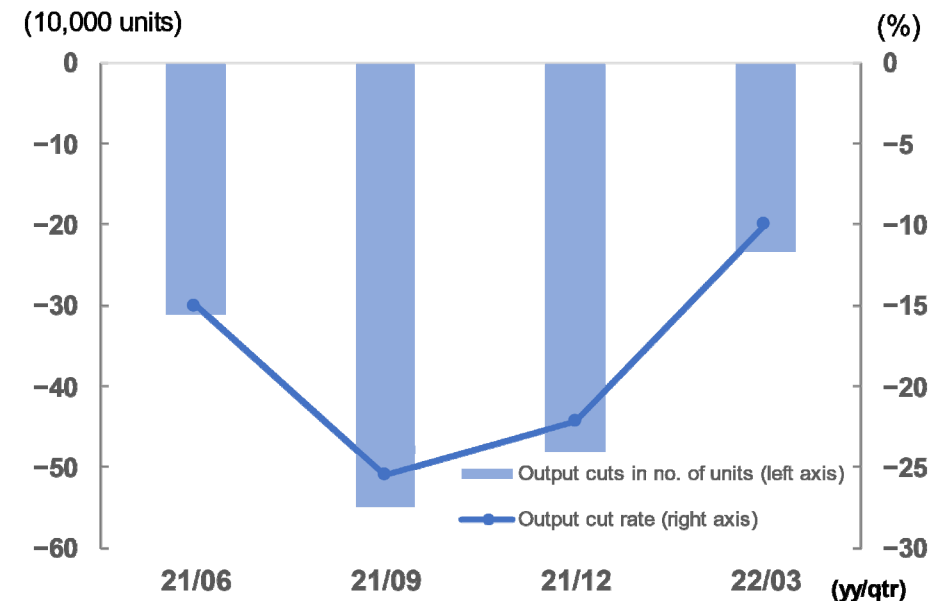
- Due to the decline in parts supply caused by the spread of infection in Southeast Asia, in addition to the shortage of semiconductors, the range of motor vehicle output cuts in the Jul-Sep quarter expanded to about 550 thousand units compared to the baseline (the path that would have been taken if there were no impact from the semiconductor shortage and declined parts supply) (with a reduction rate of -25%).
- The impact of the spread of Covid-19 infections in Southeast Asia, the main cause of the currently progressing output cuts, will come to an end toward the end of the year. On the other hand, the semiconductor shortage is expected to continue until mid-2022. Motor vehicle output in the Oct-Dec quarter is projected to decline by about -480 thousand units (-22%) compared to the baseline.
  - For the full year of FY2021, output is projected to decline by about -1.57 million units (-18%) compared to the baseline.
  - Taking into account spillover effects on other industries and the generation of substitute demand, the decline is expected to push down FY2021 GDP by about -1%.

Production actuals of transportation equipment and electronic components/devices



Source: Made by MHRT based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

Impact of motor vehicle output cuts due to supply constraints



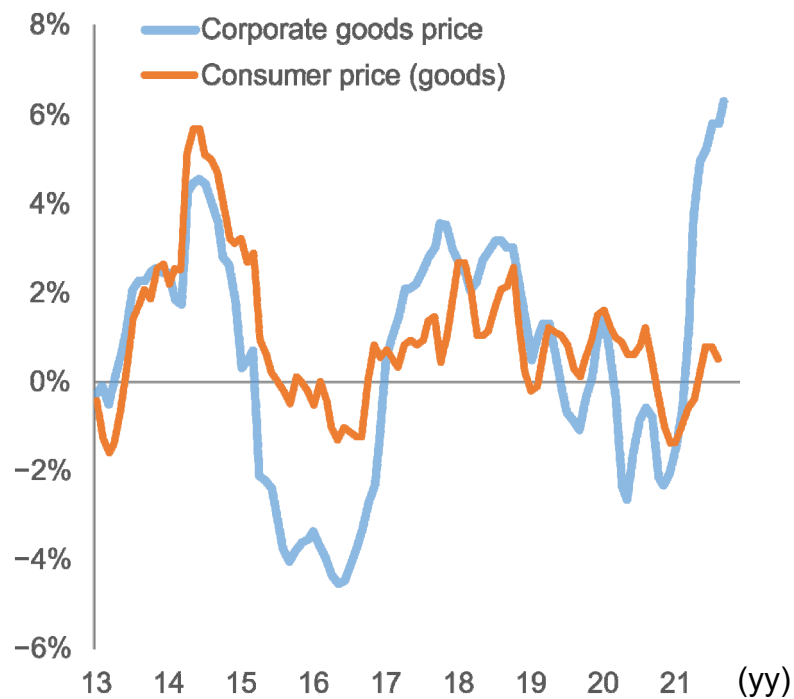
Note: The output cuts (no. of units) and the output cut rate represent the volume and rate that deviated from the baseline.

Source: Made by MHRT based upon media reports and financial information of motor vehicle manufacturers

### (3) Income (Japan): inflationary pressures limited even under supply constraints; concerns regarding the deterioration of terms of trade

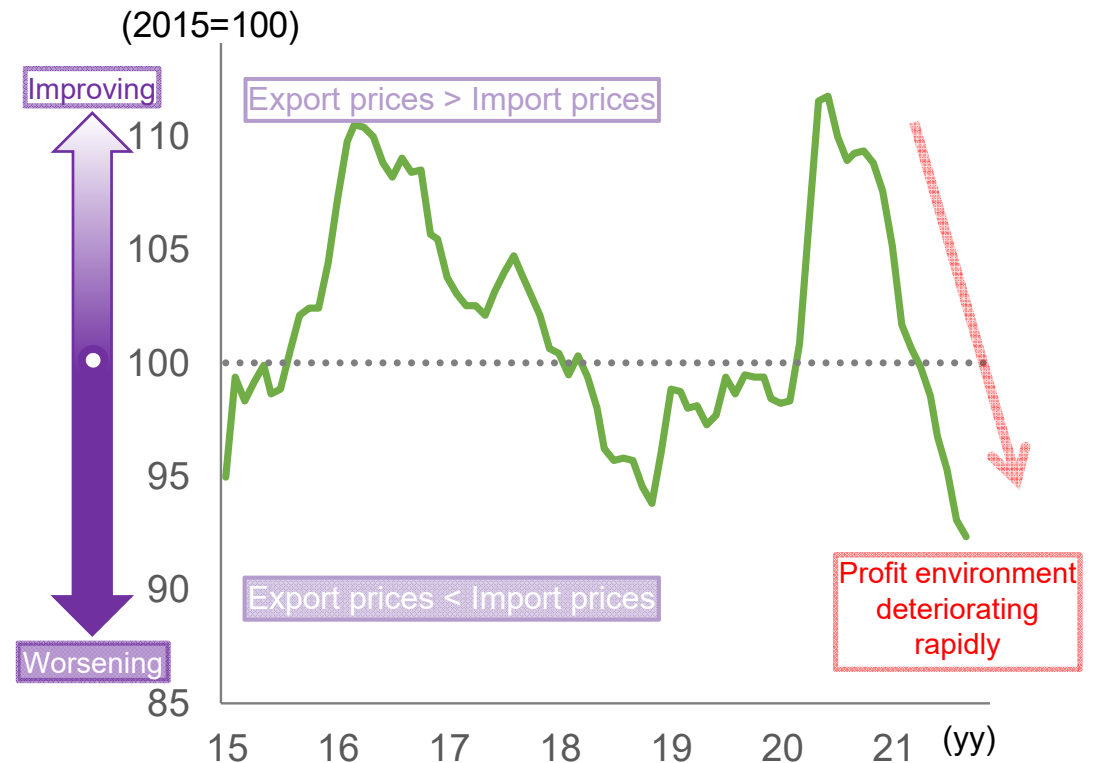
- Reflecting the surge of raw material prices, the corporate goods price index, which indicates transaction prices among companies, has rose to 6.3% y-o-y, a record high since 2008.
  - On the other hand, the consumer price inflation rate for goods has remained low, at 0.5% y-o-y. Unlike the US, the transfer of raw material price increases to consumer goods tends to be limited in Japan.
- Rather, in Japan, there is more concern about a downturn in corporate earnings due to the deterioration of terms of trade.
  - The “terms of trade” index marked a seven-year low due to soaring import prices, suggesting a large outflow of income overseas (i.e., it is more difficult for Japanese companies to make a profit). There is the risk that worsening supply constraints could negatively affect corporate profits, the source of labor wages, and capital investment.

**Corporate goods price index and consumer price index (goods)**



Source: Made by MHRT based upon Ministry of Internal Affairs and Communications, *Consumer Price Index*, and Bank of Japan, *Corporate Goods Price Index*

**Terms of trade index**



Note: The “terms of trade” index is calculated via the following formula: export price index / import price index × 100.

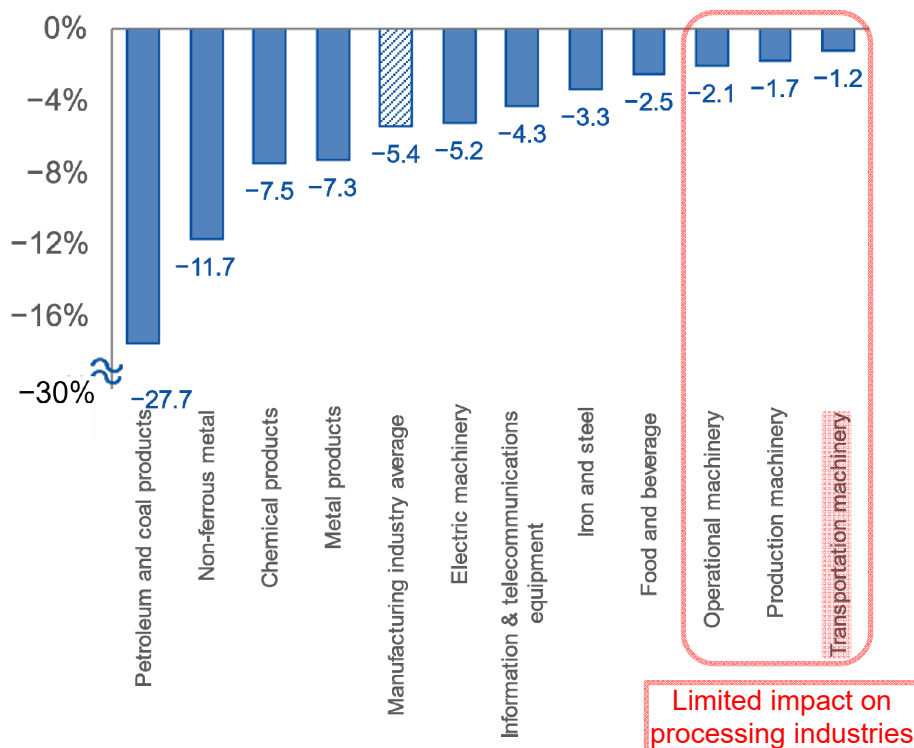
Source: Made by MHRT based upon releases by the Bank of Japan



# Cost cuts are the driver of the recovery of corporate profits; worsening terms of trade likely to exert further downward pressure

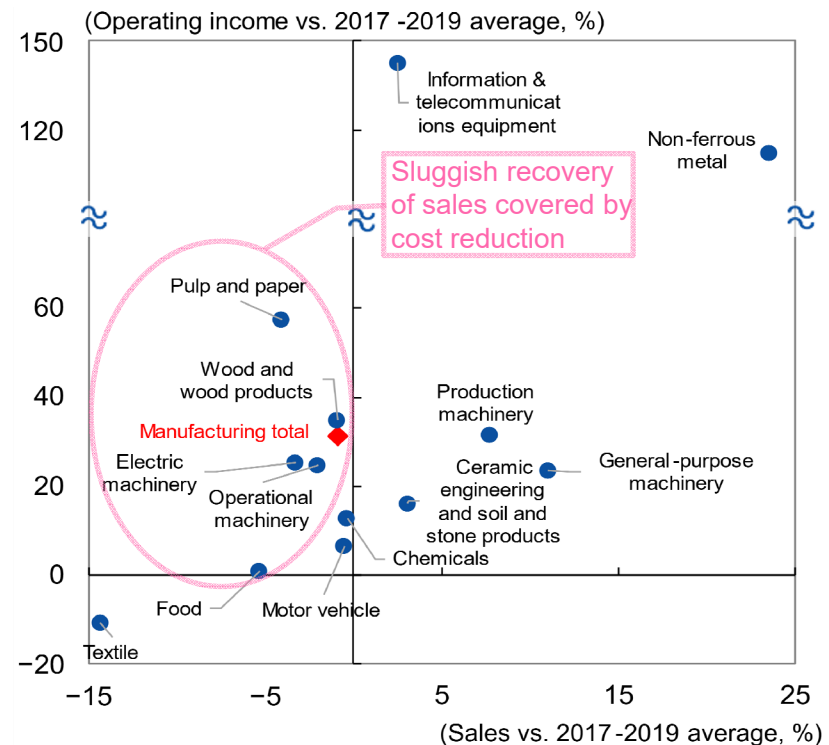
- Even in the manufacturing sector, there are disparities among industries in the degree of deterioration of terms of trade.
  - The most-affected sector is the materials manufacturing industry, which is heavily dependent on raw materials imports. The impact on processing industries such as motor vehicles is relatively low.
- The recovery of the pace of sales is also polarized in the manufacturing sector.
  - The pace of recovery is slow for electric machinery, motor vehicles, and operational machinery, while information & telecommunications equipment and production machinery are outperforming the pre-pandemic average. These industries are maintaining profit growth by reducing SG&A expenses, etc.

### Year-on-year change in terms of trade by industry



Note: The "terms of trade" index is calculated via the following formula: output price index / input price index × 100; representing the y-o-y ratio of the Apr-Jun quarter  
 Source: Made by MHRT based upon releases by the Bank of Japan

### Recovery in sales and operating profit by industry



Note: Surveyed the large companies with capital of JPY 1 billion or more; actual of the Apr-Jun quarter of 2021 (seasonality adjusted)  
 Source: Made by MHRT based upon releases by the Ministry of Finance

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## **2. Economic conditions of various countries/regions, financial markets**

## US: +5.8% projected for 2021 and +4.4% for 2022

- GDP growth in 2021 is projected to register +5.8% and +4.4% for 2022 (revised from August by -0.4% pt for 2021 and +0.2% pt for 2022).
  - In 2021, we made a downward revision of outlook due to the weaker-than-expected summer consumption and the delay in inventory recovery. However, the output was revised upward for 2022 to reflect the full-scale recovery of inventories.
    - ◆ The fall of consumer spending on motor vehicles due to inventory shortages and a slump in the consumption of personal services due to the spread of infections during the summer are likely to put downward pressure on consumption.
    - ◆ The recovery of inventories will not proceed much during 2021, reflecting the severe shortage of inventories. A full-scale recovery will take place after the beginning of 2022.

### Outlook for the US economy

		2019	2020	2021	2022	2020				2021				2022			
		CY		(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
GDP (real)	Q-o-q % ch. p.a.	2.3	-3.4	5.8	4.4	-5.1	-31.2	33.8	4.5	6.3	6.7	4.5	4.6	3.6	5.0	4.4	2.6
Personal consumption	Q-o-q % ch. p.a.	2.2	-3.8	7.8	3.3	-6.9	-33	41.4	3.4	11.4	12.0	0.5	3.5	2.5	3.5	3.5	2.2
Housing investment	Q-o-q % ch. p.a.	-0.9	6.8	10.7	3.0	20.4	-31	59.9	34.4	13.3	-11.7	3.0	1.5	4.3	5.0	6.3	4.7
Capital investment	Q-o-q % ch. p.a.	4.3	-5.3	7.9	4.7	-8.1	-30	18.7	12.5	12.9	9.2	4.0	6.1	4.7	3.4	3.7	3.3
Inventory investment	Q-o-q contribution p.a. % pt	0.1	-0.5	0.1	1.3	-0.5	-4.0	6.8	1.1	-2.6	-1.3	2.8	0.8	1.2	2.0	1.3	0.2
Government consumption	Q-o-q % ch. p.a.	2.2	2.5	0.9	1.0	3.7	3.9	-2.1	-0.5	4.2	-2.0	2.0	1.9	0.3	0.5	1.6	2.1
Net exports	Q-o-q contribution p.a. % pt	-0.2	-0.3	-1.2	-0.0	-0.1	1.5	-3.3	-1.7	-1.6	-0.2	0.3	0.1	-0.2	-0.2	-0.3	-0.2
Exports	Q-o-q % ch. p.a.	-0.1	-14	5.5	9.1	-16.3	-60	54.5	22.5	-2.9	7.6	8.1	9.0	9.2	9.7	9.7	8.5
Imports	Q-o-q % ch. p.a.	1.2	-9	13.1	7.3	-13	-53	89.2	31.3	9.3	7.1	3.6	5.6	8.1	8.8	9.4	7.4
Unemployment rate	%	3.7	8.1	5.4	4.1	3.8	13.1	8.8	6.8	6.2	5.9	5.1	4.3	4.3	4.2	4.1	3.9
PCE deflator	Y-o-y % ch.	1.5	1.2	3.6	2.4	1.7	0.6	1.2	1.2	1.8	3.9	4.4	4.5	3.9	2.6	1.6	1.5
Core excluding food and energy	Y-o-y % ch.	1.7	1.4	3.1	2.5	1.8	1.0	1.5	1.4	1.7	3.4	3.6	4.0	3.8	2.7	2.0	1.7

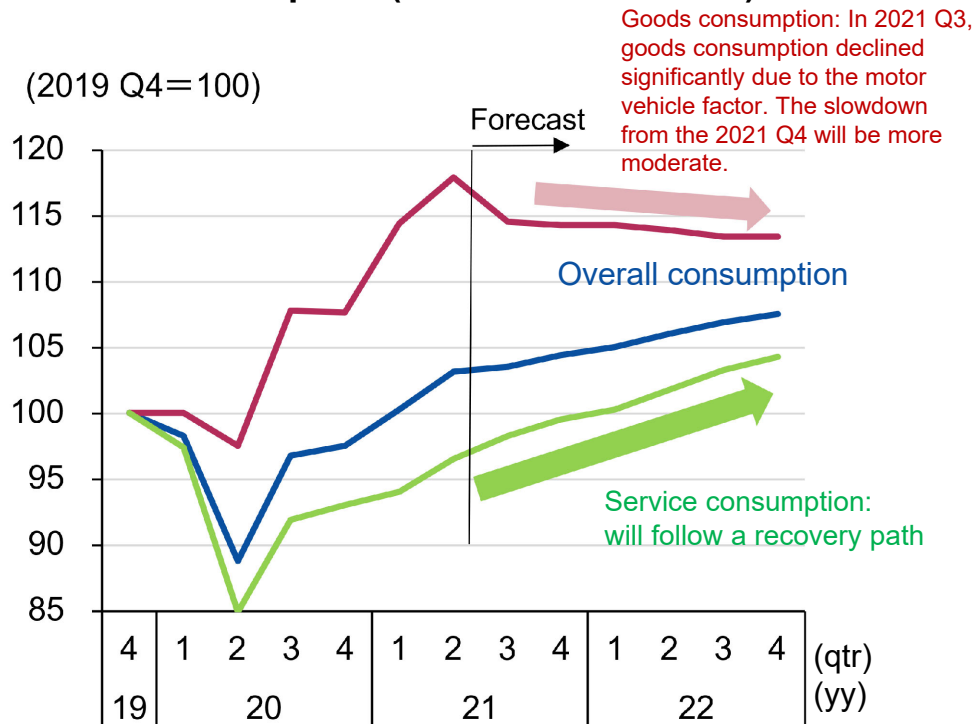
Note: The shaded areas are forecasts by MHRT.

Source: Made by MHRT based upon releases by the US Department of Commerce and the US Department of Labor

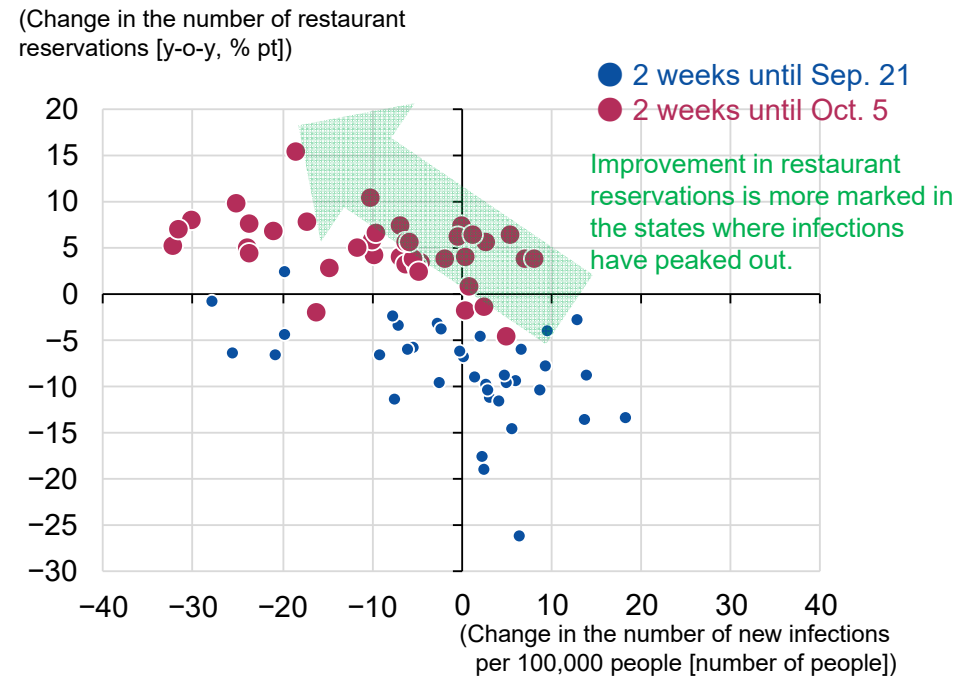
# US: service consumption expected to recover, with the pace of the slowdown in goods consumption to be moderate

- Real personal consumption during the period from July to August was soft at -0.1% (annualized) compared to the Apr-Jun quarter average. Service consumption slowed mainly in the personal services sector due to the spread of Covid-19 infections, and goods consumption declined mainly in the motor vehicle sector due to a serious inventory shortage (excluding motor vehicles, goods consumption was high).
- Looking forward, we expect service consumption to follow a recovery path. Goods consumption, excluding motor vehicles, is expected to remain strong through the end of the year.
  - At the moment, as the number of infected people has decreased, the number of restaurant reservations has improved (but has not recovered rapidly, as infection concerns remain). Although a resurgence of infection is expected to put downward pressure on the consumption of personal services, there will be no change in business regulations, and the recovery trend will not be interrupted.
  - Considering the delay in the reopening of offices (i.e., that people will continue to work from home), the slowdown of consumption of goods other than motor vehicles will take place after the turn of the year in 2022.

## Personal consumption (results and outlook)



## Restaurant reservations and new Covid-19 infections (by state)



Source: Made by MHRT based upon releases by the US Department of Commerce

Note: "Change" here is based on the comparison with the previous two weeks of the relevant period.  
Source: Made by MHRT based upon Open Table data and releases by the CDC

# US: we expect that bottlenecks will be resolved and the recovery of inventories will progress by 2022

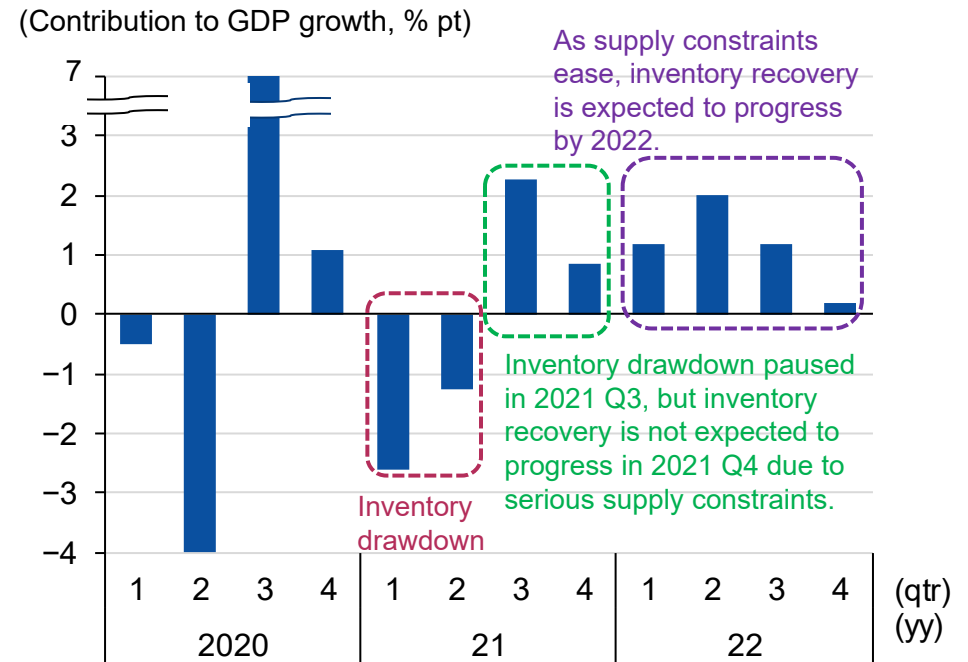
- The ISM supplier deliveries and prices indexes in the manufacturing and service industries remain high, although the sharp rise seems to be paused recently. Labor shortages due to infection concerns, as well as continuing delays and disruptions in maritime logistics, port operations, and domestic transportation, are accelerating the shortage of materials.
- Looking forward, labor shortages and logistical disruptions should start to ease. We expect that the recovery of inventories will progress by 2022.
  - Easing infection concerns will contribute to the improvement of labor supply. On the other hand, early retirement and childcare will continue to weigh on the labor supply.
  - The end of the year-end shopping season is expected to ease logistical disruptions. (Preparations for the year-end shopping season have aggravated the recent logistical chaos.) More-flexible port operations on the West Coast (e.g., 24-hour operations) will also serve as a positive factor in resolving disruptions.

## ISM indices



Source: Made by MHRT based upon releases by the Institute for Supply Management (US)

## Contribution by inventory investment on GDP growth rate (actual & forecast)

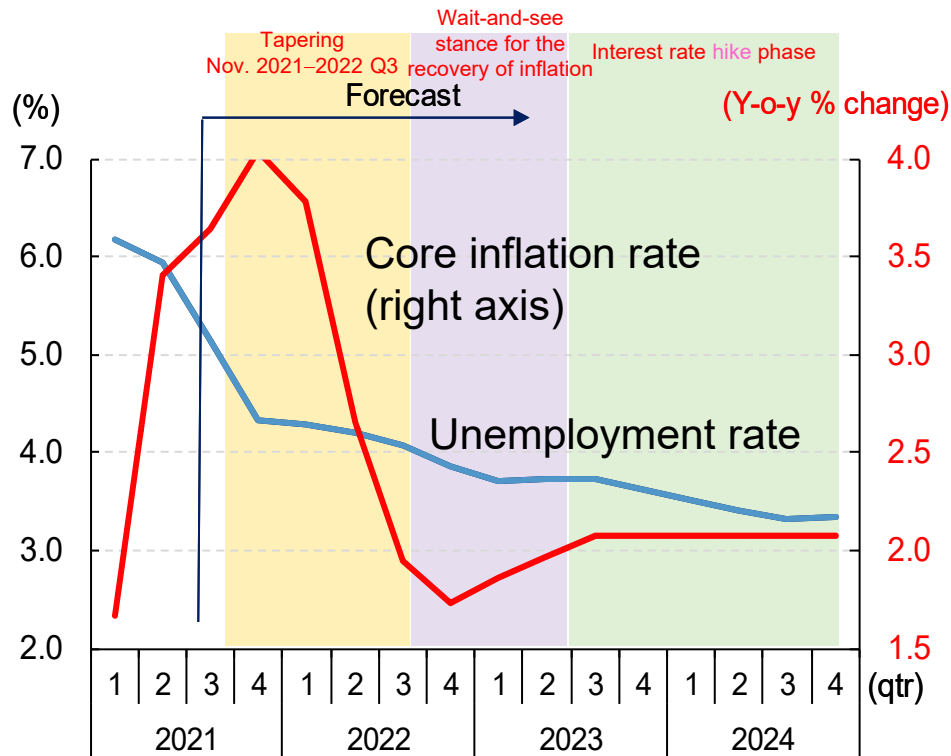


Note: Forecast values from the Jul-Sep quarter of 2021 onward  
 Source: Made by MHRT based upon releases by the US Department of Commerce

# US: timing of interest rate hike expected to in mid-2023

- The Federal Open Market Committee (FOMC) decided to start tapering at the November meeting. A monthly reduction of USD 10 billion in US treasury bonds and USD 5 billion in MBS will be made until 2022 Q3. The balance is to be maintained thereafter.
- Even though the core inflation rate is expected to fall below 2% toward the end of 2022, the decline is likely to be temporary, and the range will be limited. Given a gradual rise thereafter, edging over 2% by mid-2023, the first rate hike is expected in the Jul-Sep quarter of 2023. (The employment situation will also be good, satisfying broad-based and inclusive maximum employment requirements.)
- Gradual rate hikes at a pace of once per quarter are expected from 2024.

## US inflation outlook and monetary policies



### Oct-Dec quarter of 2022 to Apr-Jun quarter of 2023

• The core inflation rate will fall below 2%, but it will be temporary. It will rise up to above 2% in the Apr-Jun quarter of 2023.

### Jul-Sep quarter of 2023

- (1) The "broad-based and inclusive maximum employment" will be achieved with an unemployment rate below 4%.
- (2) The first rate hike will occur as core inflation moderately goes up and exceeds 2%.

### In 2024

• Gradual interest rate hikes will occur once per quarter.

Note: Rate of rise of the core personal consumption expenditure deflator  
Source: Made by MHRT based upon releases by the US Department of Commerce

## Eurozone: sustained growth of the 4% range expected in 2021 and 2022; spread of infections and prolonged supply constraints are expected to affect growth

- Real GDP growth in the eurozone is forecast to register +4.8% y-o-y and +4.5% y-o-y in 2021 and 2022, respectively.
  - The rapid recovery in consumption due to the easing of infection control measures in the summer of 2021 has paused. From the Oct-Dec quarter onward, consumption is likely to remain flat, negatively impacted by the resurgence of infections in the winter. In addition, supply constraints, particularly in the motor vehicle industry, will hinder production in the manufacturing sector, resulting in sluggish exports.
  - From the mid-2022, consumer confidence is expected to improve with the end of infections, pushing up consumption. Supply constraints are expected to be resolved, leading to the rise of exports.

### Outlook on the eurozone economy

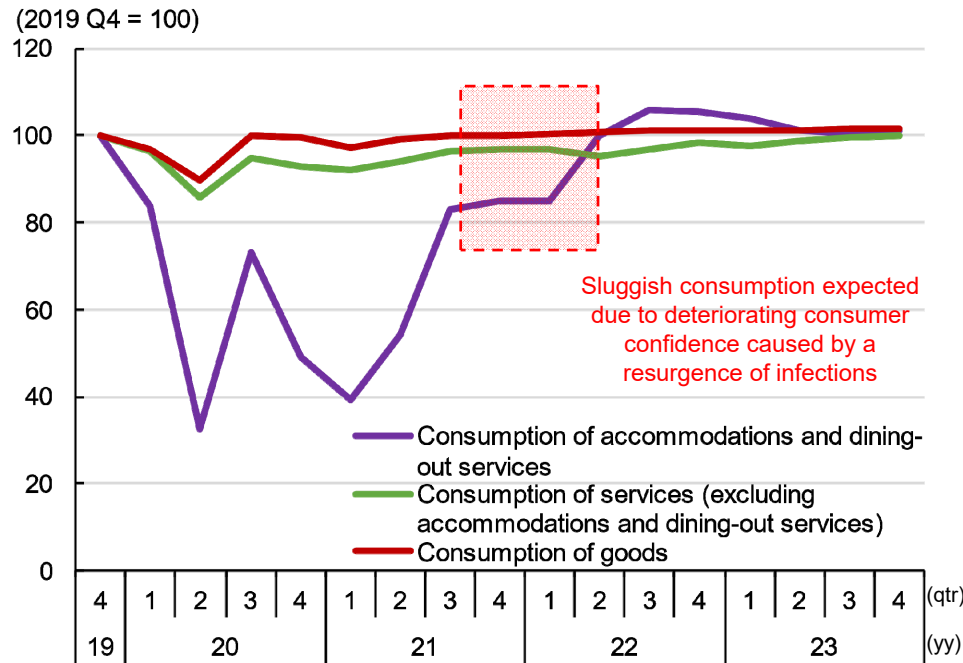
		2019	2020	2021	2022	2020				2021				2022			
		CY		(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
GDP (real)	Q-o-q % ch.	1.6	-6.4	4.8	4.5	-3.5	-11.7	12.6	-0.4	-0.3	2.1	2.1	0.2	0.5	1.4	1.7	1.4
Domestic demand	Q-o-q % ch.	2.5	-6.2	3.8	3.7	-3.2	-12.3	10.5	-0.3	-0.4	2.1	2.4	0.3	0.1	0.9	1.2	1.1
Personal consumption	Q-o-q % ch.	1.3	-7.9	3.0	4.6	-4.3	-12.9	14.5	-3.2	-2.3	3.4	3.9	0.3	0.2	0.6	1.5	0.6
Gross fixed capital formation	Q-o-q % ch.	6.7	-7.0	3.8	3.9	-4.4	-19.6	13.9	2.7	-0.0	1.1	0.7	0.5	0.5	1.4	1.6	1.7
Government consumption	Q-o-q % ch.	1.8	1.3	3.3	1.5	-0.1	-2.8	5.5	0.8	-0.5	1.2	0.5	0.1	0.4	0.4	0.2	0.0
Inventory investment	Q-o-q contribution, % pt	-0.1	-0.5	0.5	-0.0	0.3	-0.2	-1.7	0.7	0.9	-0.2	0.0	0.0	-0.2	0.2	-0.1	0.3
External demand	Q-o-q contribution, % pt	-0.8	-0.3	1.1	1.0	-0.4	0.5	2.4	-0.1	0.1	0.0	-0.2	-0.1	0.3	0.5	0.6	0.4
Exports	Q-o-q % ch.	2.7	-9.1	8.8	6.9	-3.6	-18.7	16.4	4.2	1.1	2.7	0.2	0.4	1.3	2.0	3.8	3.6
Imports	Q-o-q % ch.	4.7	-9.1	6.9	5.3	-2.9	-20.2	11.7	4.8	1.0	2.8	0.6	0.7	0.7	1.1	2.9	3.2
CPI	Y-o-y % ch.	1.2	0.3	2.3	2.1	1.1	0.2	-0.0	-0.3	1.1	1.8	2.8	3.6	3.0	2.7	1.6	1.1
Core, excluding food and energy	Y-o-y % ch.	1.0	0.7	1.4	1.2	1.1	0.9	0.6	0.2	1.2	0.9	1.4	2.1	1.3	1.4	1.0	0.9

Note: The shaded areas are forecasts by MHRT.  
Source: Made by MHRT based upon releases by Eurostat

# Eurozone: rapid recovery in consumption during the summer paused; downward pressure on consumer confidence due to a resurgence of infections

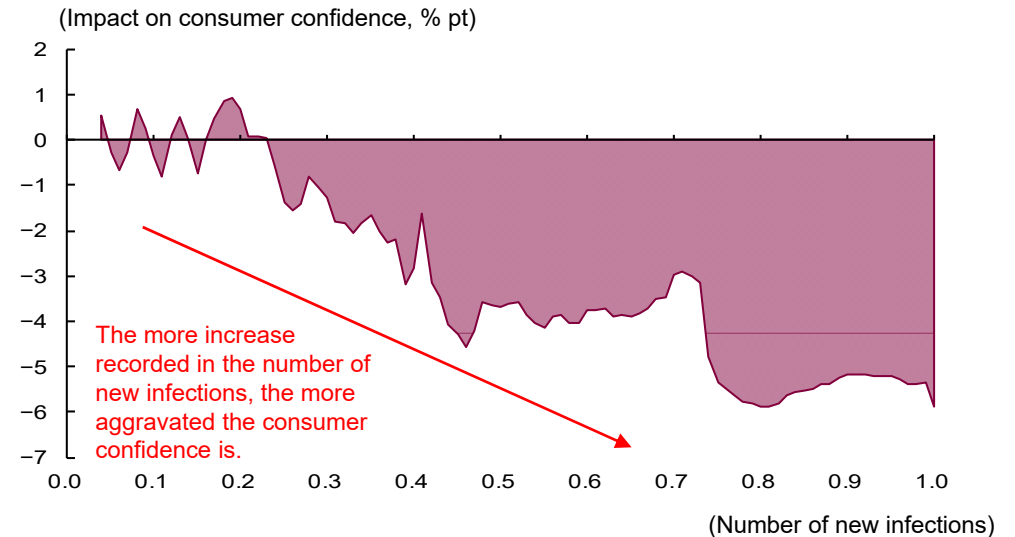
- Consumption recovery from early spring 2021 due to the easing of infection control measures peaked in August and then paused.
- A resurgence of infections in the winter is expected to serve as downward pressure on consumer confidence. Consumption is likely to be flat, especially in accommodations and dining-out services.
  - The rise of the number of new infections will have negative impact on consumer confidence. Certain organizations (e.g., the University of Washington) predict that infections will resurge in some major countries in the winter and that the number of new patients will reach the highest level ever. If the number of infected people increases to about 80% of the historical high, consumer confidence (DI) will be pushed down by about 6% pt.
- Pent-up demand, especially for accommodations and dining-out services, is expected to occur in mid-2022 or later due to the resurgence of infections and voluntary restraints upon social activities by persons such as the elderly.

## Eurozone: outlook on goods & services consumption



Note: Estimates and forecasts by MHRT  
Source: Made by MHRT based upon releases by Eurostat

## Eurozone: impact of the number of new infections on consumer confidence (DI)



Note: 1. Random forest regression analysis of the consumer confidence index (DI) of the eurozone (19 countries) with the feature values being the number of new infections (two-week average of the survey period), the infection control stringency index (same), and country dummies as feature values. The PDP (Partial Dependence Plot) is calculated from the regression model. The estimation period is from Mar. 2020 to Sep. 2021.

2. The number of new infections is standardized using the maximum number of new infections in each country up to the above-mentioned period. (Max-Min)

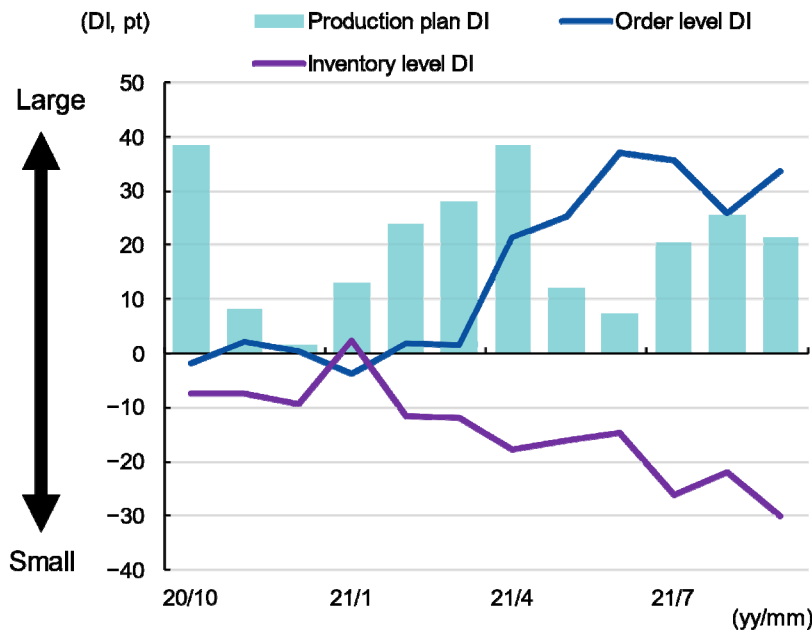
Source: Made by MHRT based upon releases by the European Commission and *Our World in Data*



# Eurozone: supply constraints to continue in production; pace of resolution expected to be slow

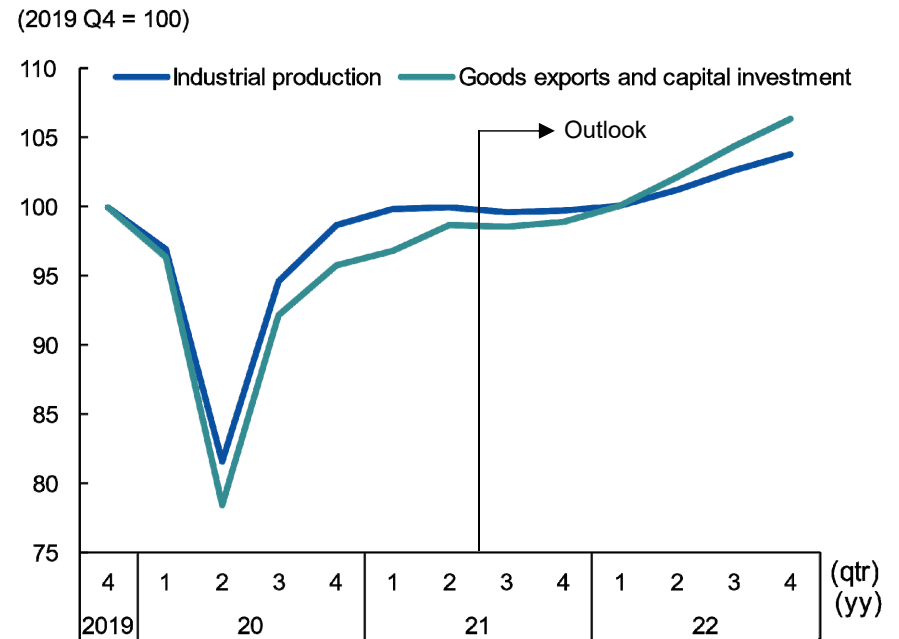
- Production in the eurozone is sluggish, especially in the motor vehicle industry, due to supply constraints. Production is expected to remain flat until mid-2022.
  - In the motor vehicle industry, robust demand is satisfied by drawing down inventories, and supply constraints continue to put downward pressure on production. The motor vehicle output cuts are likely to spread to parts industries, such as the metal, rubber, and plastic industries, putting downward pressure on overall production.
  - The DI for motor vehicle production plans suggests a production increase. However, the recovery of motor vehicle production is expected to be slow, as it will take time to resolve shortages of semiconductors and other components.
- From mid-2022 onward, exports will be a main factor to boost GDP, driven by a recovery in motor vehicle production due to the resolved supply constraints for semiconductors, etc.

**Eurozone: DI for production plans, orders, and inventory in the motor vehicle industry**



Note: Zero is the judgment threshold.  
Source: Made by MHRT based upon releases by the European Commission

**Eurozone: outlook on industrial production, goods exports and capital investment**

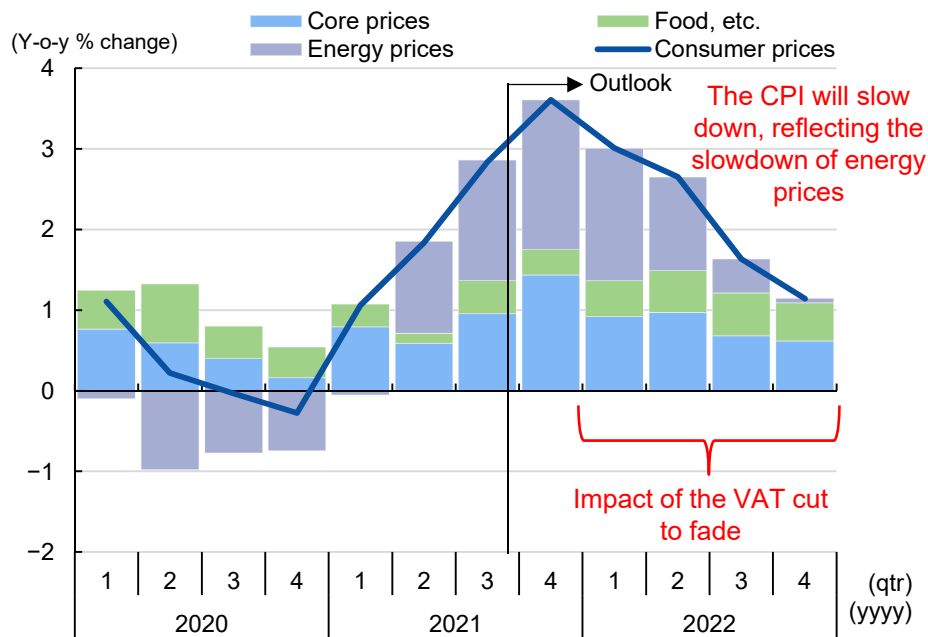


Source: Made by MHRT based upon releases by Eurostat

# Eurozone: even though the inflation rate will reach a high level, it should peak-out in the Oct-Dec quarter of 2021

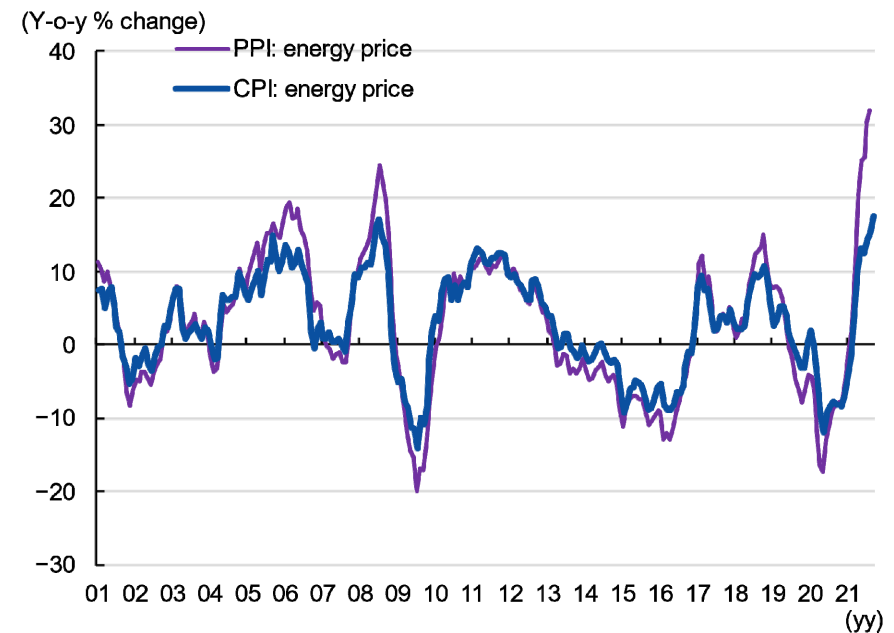
- Consumer prices are predicted to remain at around +3% y-o-y until mid-2022, reflecting the rebound from the previous year's VAT tax cut and soaring energy prices.
  - In contrast to wholesale energy prices which reached +32.0% y-o-y (August PPI), retail energy prices stood at 17.4% y-o-y (September CPI), revealing that the pass-through of costs to prices was limited. In some major countries, governments are expected to take measures to restrain the rise of retail prices.
- In contrast, inflation is expected to slow down as the impact of the VAT cut will fade in 2022, and the pace of energy price increase will slow down from the Apr-Jun quarter. Core prices are expected to hover around 1%.

## Eurozone: outlook on consumer price index



Source: Made by MHRT based upon releases by Eurostat

## Eurozone: energy prices for PPI and CPI



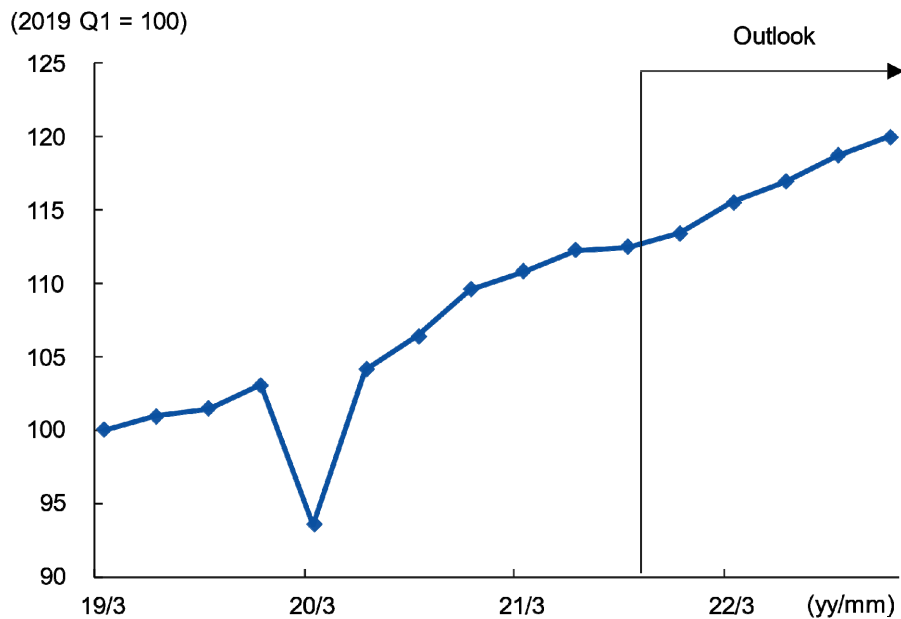
Note: The latest figures are from August 2021 for the PPI and September 2021 for the CPI (preliminary report).

Source: Made by MHRT based upon releases by Eurostat

# China: economy currently slowing down in a shift from the rapid post-pandemic recovery

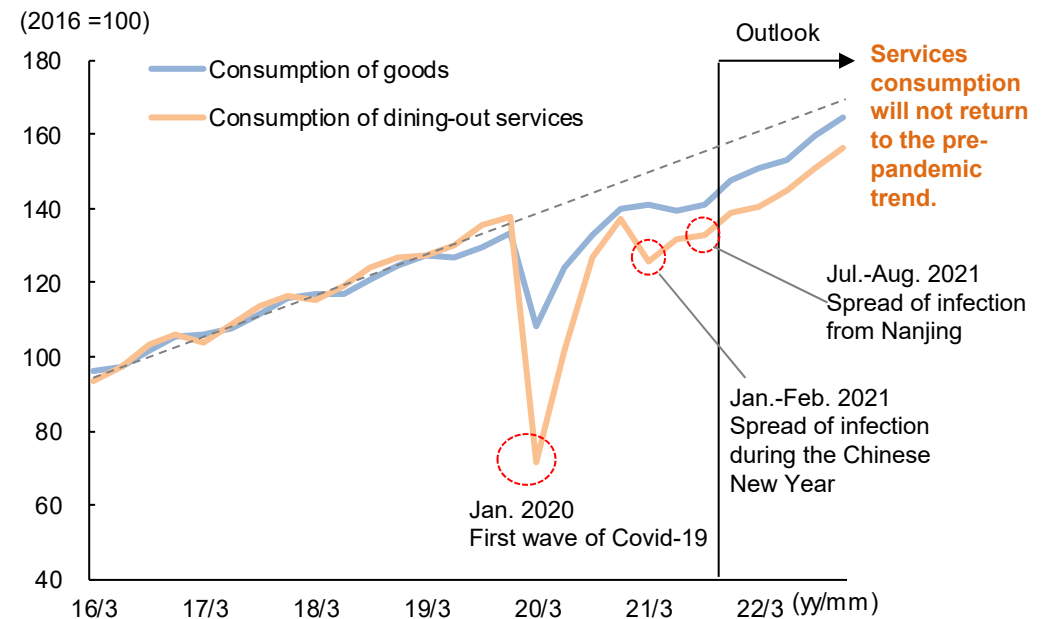
- Real GDP growth in China is projected to register +7.9% and +5.2% y-o-y in 2021 and 2022, respectively.
  - Amid the economic slowdown subsequent to the economic recovery up to the first half of 2021, factors such as (1) the spread of Covid-19 infections caused by variants, (2) natural disasters such as floods, (3) power supply issues, and (4) a slowdown of real estate investment due to restrictions on loans to real estate developers are expected to serve as further downward pressures on the economy in the second half of the year.
- As a sporadic resurgence of infections (plus localized lockdowns) and the impact of real estate lending restrictions are expected to continue in 2022, the consumption and investment trends are projected to be slightly weaker-than-expected. In 2022, the economy is likely to register growth near the lower limit of the cruise mode of economy, which is said to be 5–6%.
  - Even at the end of 2022, service consumption will not return to the pre-pandemic trend.

## China: outlook on real GDP growth



Note: Seasonally adjusted by MHRT  
 Source: Made by MHRT based upon releases by the National Bureau of Statistics of China and CEIC data

## China: consumption of goods and dining-out services

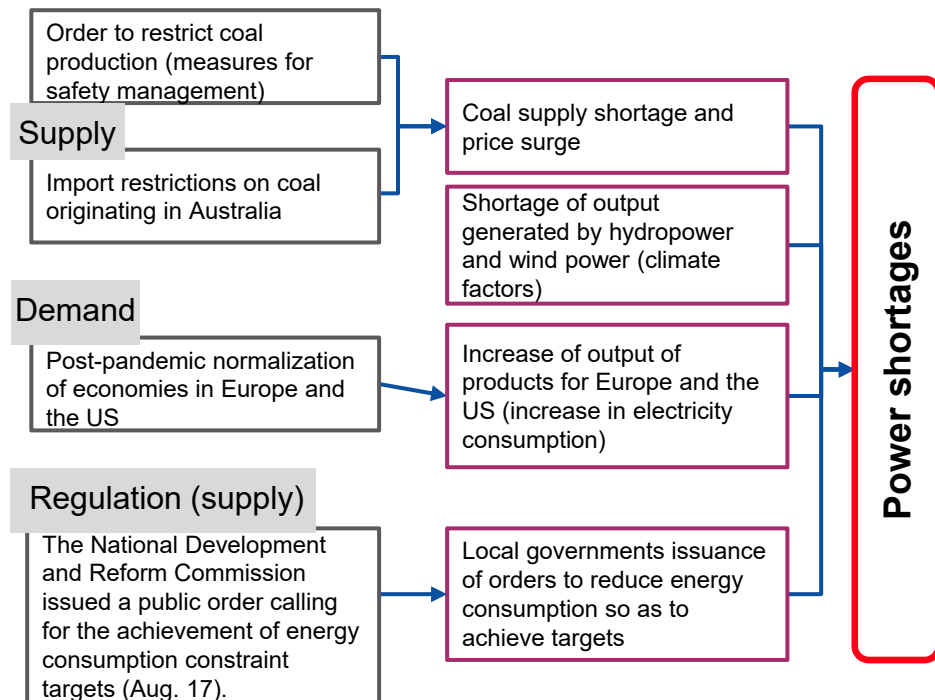


Note: Seasonally adjusted by MHRT; the dotted line shows the trend from 2016 to 2019.  
 Source: Made by MHRT based upon releases by the National Bureau of Statistics of China and CEIC data

# China: despite rush to resolve power shortage, temporary downward pressures on the economy are expected

- While the power shortage in China is mainly due to persistently high demand for electricity and stagnant coal production/imports, it is also driven by the strict implementation of the current environmental regulations.
  - Since late September, the government authorities have shifted their policy to place priority upon power security by taking such measures as the increase of coal production and electricity rate hikes for businesses.
  - However, the supply-demand environment is expected to remain tight in some regions, as the government has not cancelled the environmental targets.
- The power supply problem has put downward pressure on the GDP by about 0.2% pt this year, but the full-year impact in 2022 is expected to be limited due to easing of supply & demand.
  - In the areas where environmental targets have not been achieved (where a Level 1 or 2 warning is issued), the greater the electricity consumption in the relevant industry (such as mining and heavy chemical), the more stagnant the production activities.
  - According to the authorities, the impact on the high-tech manufacturing industry is expected to be small, due to the policy to prioritize the power supply for high-tech manufacturers.

## Main reasons for China's power shortage



Source: Made by MHRT based upon media reports

## Impact of power supply issues on GDP in 2021 (forecast)

Region	Direct impact (% pt)		Ripple effect (% pt)
	Mining and heavy industry (chemicals)	Industries other than at left (excluding high-tech)	
Level-1 warning area	-0.08	-0.02	-0.08
Level-2 warning area	-0.01	-0.01	-0.01
Total			-0.2

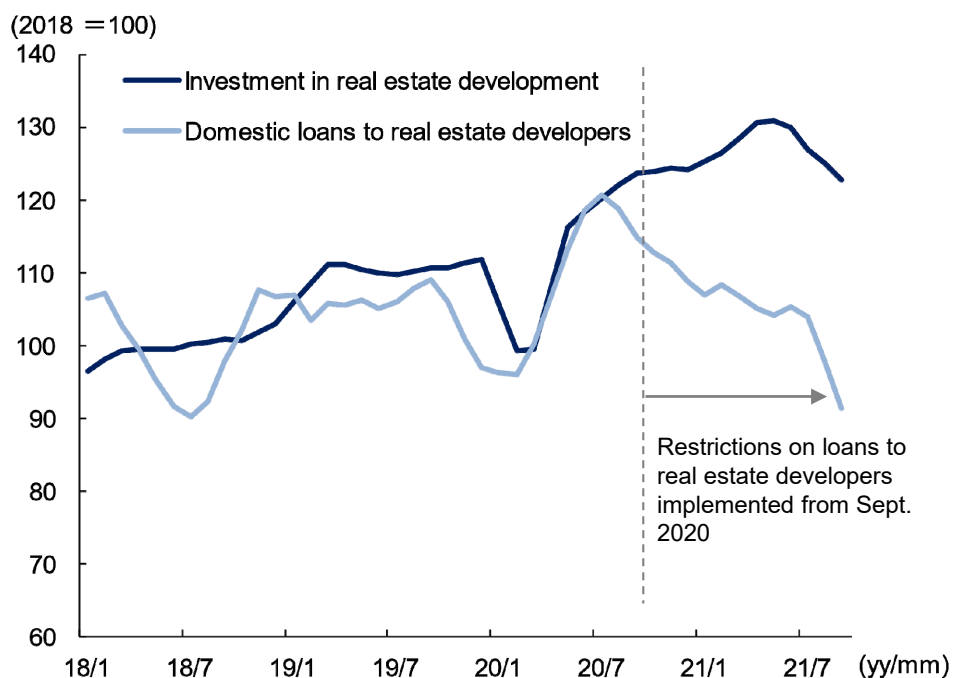
Note: The environmental targets are classified into energy consumption and energy consumption per unit of GDP. The Level 1 warning is issued when the target achievement rate is lower than 90%, and a Level 2 warning is issued when the rate is between 90% and 100%. The above classification rules for regions are as of the end of June 2021. Direct impacts are forecasted based on the extent of decline in production in the target regions and industries (based on media releases). The ripple effects are the effects from mining and heavy industry (chemicals) only.

Source: Made by MHRT based upon releases by the National Bureau of Statistics of China, CEIC data, and media reports.

# China: restrictions on loans to real estate developers are serving as greater-than-expected restraints upon real estate investment

- Investment in real estate development is currently declining due to the government's measures (which have become stricter than last year) to suppress the bubble economy.
  - Slowdown in the growth of investment in real estate (y-o-y) was expected to some extent considering the government's historical stance on real estate investment. However, the full-year growth rate was lower than forecast as the restrictions on loans to real estate developers (implemented from September 2020) served as greater-than-expected restraints upon real estate investment.
- Loans to real estate developers that precede the current investment in real estate development are declining, suggesting that the downward trend in such investment will continue.
  - However, after a year has passed since the introduction of the restrictions, there are signs of policy adjustments (relaxation of the rules). The pace of decline in investment for real estate development is expected to slow down, and the decline is expected to bottom out in the first half of 2022.

## Housing investment-related indicators



Note: Three-month moving average; seasonally adjusted by MHRT  
Source: Made by MHRT based upon releases by the National Bureau of Statistics of China and CEIC data

## Events relating to restrictions upon real estate developers

Time	Event
September 2020	<ul style="list-style-type: none"> <li>• Launched the pilot phase of "Three Red Lines," which is a financial conditions-based lending restrictions upon real estate developers (full-scale implementation in Jan. 2021)</li> </ul>
September 28, 2021	<ul style="list-style-type: none"> <li>• Monetary Policy Committee of the People's Bank of China: Stated that it will "maintain the healthy development of China's real estate market and protect the rights and interests of consumers"</li> <li>• First statement the committee made on real estate since 2009</li> </ul>
October 15, 2021	<ul style="list-style-type: none"> <li>• <u>Ten major real estate developers request government to ease real estate policies</u></li> <li>• Also calling for measures to stabilize the market and to support non-speculative housing acquisitions</li> </ul>
October 15, 2021	<ul style="list-style-type: none"> <li>• Director General of the Financial Markets Department of the People's Bank of China: Expressed that "<u>Some financial institutions have some misunderstandings about financing management rules</u>" and stressed that they should "maintain the stable and orderly distribution of real estate credit and maintain the steady and healthy development of the real estate market"</li> </ul>

Source: Made by MHRT based upon media reports

## Emerging economies: slow recovery of ASEAN countries' economies given prolonged mobility restrictions

- In 2021, the recovery of domestic demand among the ASEAN countries, where vaccine rollouts have been slow, will be hampered by the persistence of stay-at-home restrictions. Exports also will slow down due to restricted manufacturing operations.
  - ASEAN's stagnant industrial production is causing global supply constraints in a wide range of industries, including motor vehicles.
- In 2022, economic activity will resume on a full scale along with the progress of vaccine rollouts, and the pace of growth in ASEAN countries will pick up.
  - The pace of growth among the NIEs and commodity-exporting countries should slow down due to the impact of interest rate hikes and slowdown of goods exports stemming from a shift in demand to services.

### Outlook on Asian and emerging economies

	2018	2019	2020	2021		2020				2021		
				(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
<b>Asia</b>	6.3	5.2	-0.9	7.1	5.3	-	-	-	-	-	-	-
<b>China</b>	6.7	6.0	2.3	7.9	5.2	-6.8	3.2	4.9	6.5	18.3	7.9	4.9
<b>NIEs</b>	2.9	1.9	-0.8	4.9	3.0	-	-	-	-	-	-	-
South Korea	2.9	2.2	-0.9	4.1	2.9	1.5	-2.6	-1.0	-1.1	1.9	6.0	-
Taiwan	2.8	3.0	3.1	5.4	3.2	2.5	0.3	4.3	5.1	9.3	7.4	-
Hong Kong	2.8	-1.7	-6.1	6.2	3.0	-9.1	-9.0	-3.6	-2.8	8.0	7.6	-
Singapore	3.5	1.3	-5.4	5.7	3.0	0.0	-13.3	-5.8	-2.4	1.5	15.2	6.5
<b>ASEAN5</b>	5.3	4.8	-3.5	3.5	5.5	-	-	-	-	-	-	-
Indonesia	5.2	5.0	-2.1	3.7	4.9	3.0	-5.3	-3.5	-2.2	-0.7	7.1	-
Thailand	4.2	2.3	-6.1	1.7	4.1	-2.1	-12.1	-6.4	-4.2	-2.6	7.5	-
Malaysia	4.8	4.4	-5.6	4.7	6.7	0.7	-17.2	-2.7	-3.4	-0.5	16.1	-
The Philippines	6.3	6.1	-9.6	4.5	6.6	-0.7	-17.0	-11.6	-8.3	-3.9	11.8	-
Vietnam	7.1	7.0	2.9	2.8	7.0	3.7	0.4	2.7	4.5	4.7	6.6	-6.2
<b>India</b>	7.3	4.8	-7.0	9.0	6.3	3.0	-24.4	-7.4	0.5	1.6	20.1	-
<b>Australia</b>	2.9	1.9	-2.5	4.1	3.1	1.4	-6.4	-3.9	-0.8	1.2	9.7	-
<b>Brazil</b>	1.8	1.4	-4.1	4.8	1.6	-0.3	-10.9	-3.9	-1.1	1.0	12.4	-
<b>Mexico</b>	2.2	-0.2	-8.3	5.8	2.6	-1.3	-18.7	-8.7	-4.5	-3.6	19.6	-
<b>Russia</b>	2.8	2.0	-3.0	4.0	2.6	1.4	-7.8	-3.5	-1.8	-0.7	10.5	-

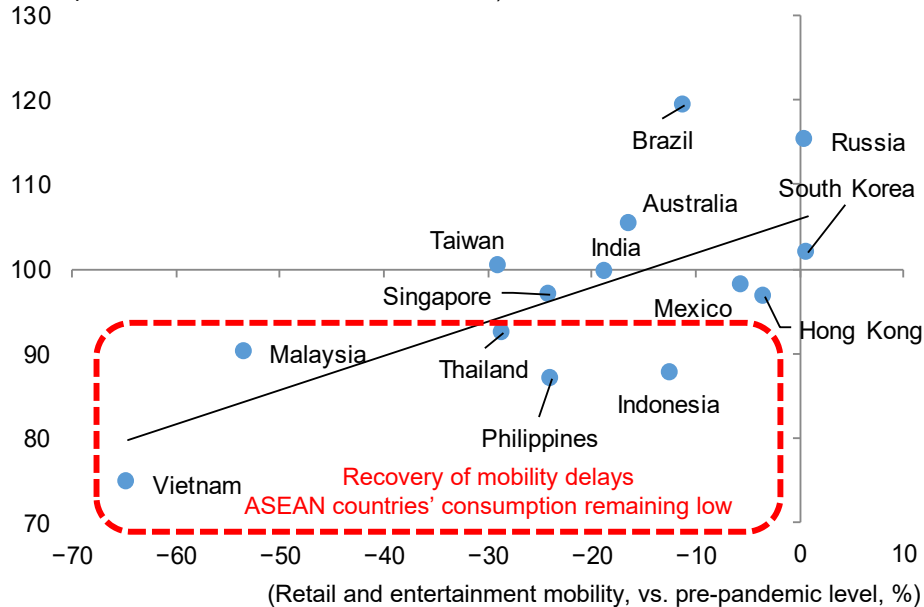
Note: Real GDP growth rate (y-o-y, %); the shaded areas are forecasts. Average figures are calculated based on the GDP share (PPP) by the IMF.  
Source: Made by MHRT based upon releases by the IMF and the statistics of relevant countries and regions

# Emerging economies: mobility remains sluggish in ASEAN countries, slowing consumption recovery

- In many emerging countries, personal consumption (retail sales) has not recovered to pre-pandemic levels. In particular, recoveries in Asian countries are lagging behind other emerging countries.
  - Consumption is recovering at a brisker pace in Latin America and Russia, where mobility is nearing normalization.
  - Consumption has slowed down in ASEAN countries, where restrictions on social activities have been prolonged and where mobility has not been normalized. Consumption in Vietnam, in particular, has fallen sharply after it was normalized briefly in early spring.
- In Singapore and Malaysia, where vaccines have already rolled out to a certain extent, consumption is expected to recover gradually after deregulation. In contrast, in the Philippines and other countries, where vaccine rollouts are slower, there are lingering risks of prolonged restrictions on social activities due to the resurgence of infections.

## Correlation between mobility and personal consumption

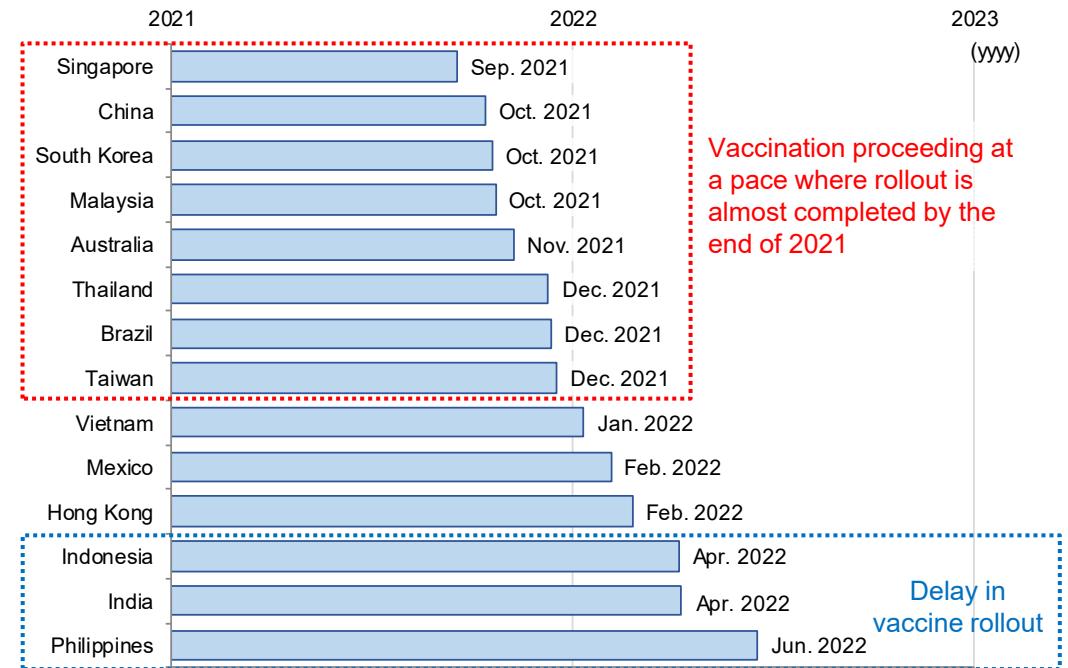
(Consumption-related indicator, Dec. 2019 = 100)



Note: Most-recent monthly retail sales-related statistics (some of which are seasonally adjusted values by MHRT) and the mobility levels for the month; for India, the production index of consumer goods is used as a proxy variable.

Source: Made by MHRT based upon Google and the statistics of relevant countries and regions

## Time of completion of vaccine rollout (assuming that the current pace of vaccination continues)



Note: 1. Assuming that 75% or more of the population has been vaccinated (twice)

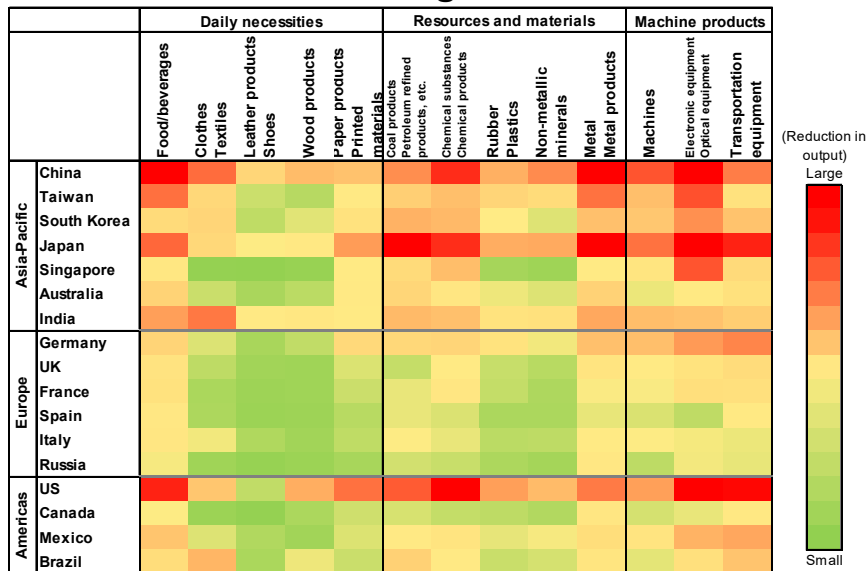
2. Assuming that people that have received their first vaccination are sure to receive their second dose

Source: Made by MHRT based upon *Our World in Data*

# Emerging economies: supply constraints originating from ASEAN expected to be mostly resolved in the Jan-Mar quarter of 2022

- The supply of intermediate goods is stagnating due to restrictions on manufacturing operations in ASEAN. The impact of downward pressure on production is spreading globally.
  - Motor vehicle output in China, Japan, and the US was lower than expected. According to estimates, electronics and chemicals are also structurally vulnerable.
- Regarding the current shortage of motor vehicle parts, the supply system is expected to normalize in general during the Jan-Mar quarter of 2022.
  - Supply from Malaysia, where the back-end processes for the production of semiconductors for motor vehicles are concentrated, is expected to see normalization by the end of this year due to the curb of infections by vaccine rollouts.
  - Supply from southern Vietnam, where the production of wire harnesses, etc., is concentrated, is expected to normalize during the Jan-Mar quarter of 2022 in general due to the easing of restrictions on factory operations. However, there is the possibility that the hasty easing of restrictions could lead to a resurgence of infection and a delay in the normalization of production.

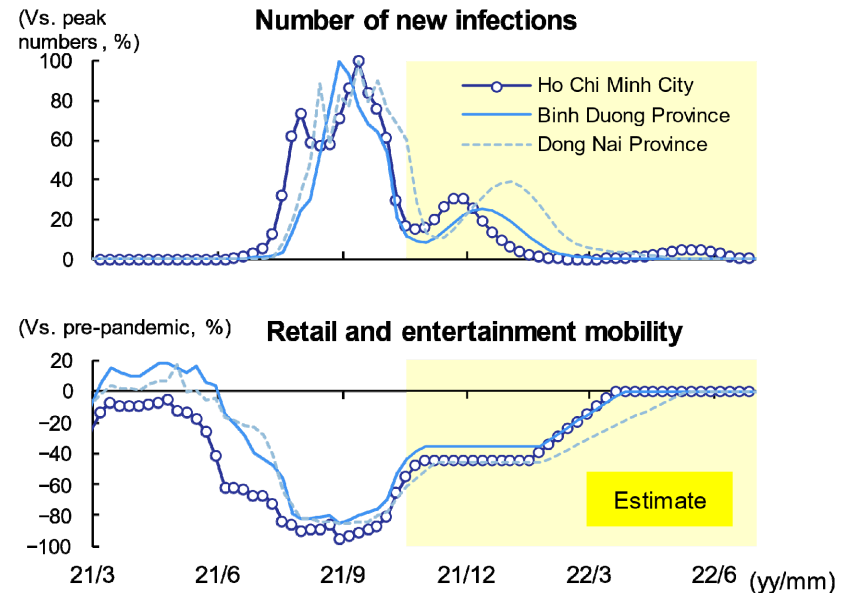
## Downward pressure on production due to supply constraints that have originated in ASEAN



Note: In the chart, on the assumption that the intermediate goods produced in the five major ASEAN countries cannot be substituted by supplies from other regions, the lowest possible production by each industry was calculated and the direct effects on downstream sectors were reflected. However, indirect ripple effects are not considered. In accordance with the actual regulations, stricter operating restrictions are applied in the order of machinery products, resources and materials, and daily necessities.

Source: Made by MHRT based upon releases by the ADB

## Simulation of infections in southern Vietnam



Note: The Vietnamese government has declared a transition to the "new normal" approach in which economic activities will be resumed allowing a certain level of infections. Therefore, it is assumed that no further actions will be taken to control the outings of people. Although realistic assumptions are made for the pace of vaccination and the level of behavior of citizens to prevent infection, there is a high degree of uncertainty in both of these, and the results of the simulation should allow a wide margin of difference.

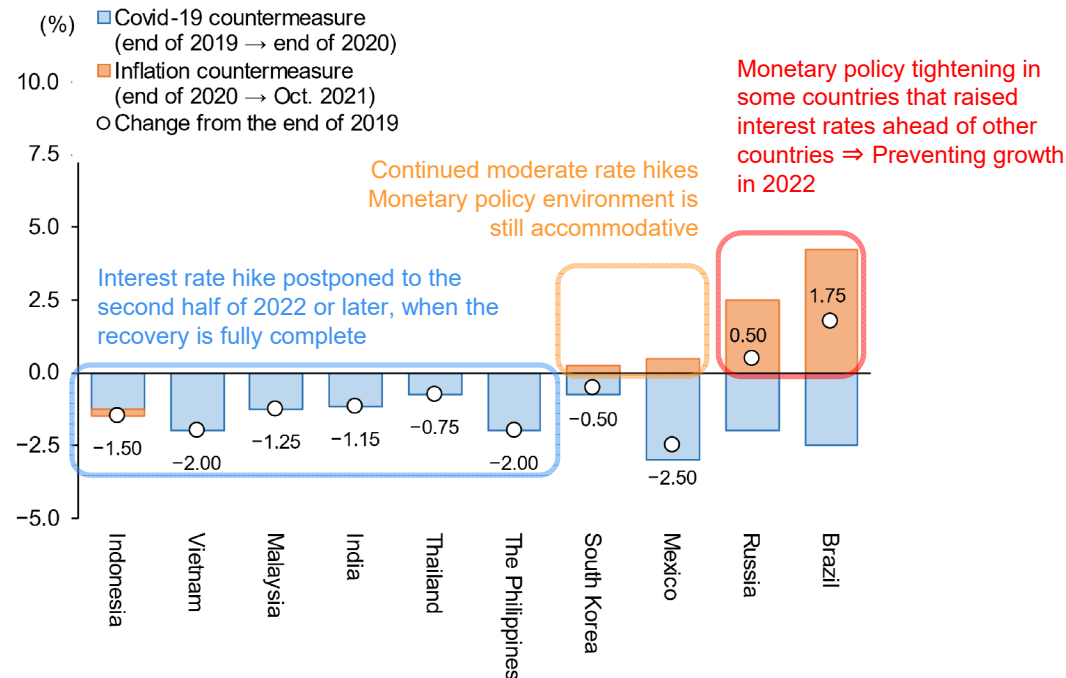
Source: Made by MHRT based upon releases by the Vietnam Ministry of Health and Google LLC



# Emerging economies: more countries adopting rate hikes to address inflation; tight monetary measures possible to hamper growth in 2022 in some countries

- Countries that have already started to raise interest rates are likely to continue to do so until the end of the year. As the countries of Southeast Asia have been placing priority upon domestic demand recovery, they are expected to keep rates unchanged.
  - In Brazil and Russia, which are ahead of other countries in raising interest rates, the rates are significantly higher than pre-pandemic levels. Tighter monetary policy is expected to restrain growth in 2022.
  - Among the countries of Southeast Asia, where inflation is relatively under control, interest rate hikes will be postponed to the second half of 2022 or later, when a full-scale recovery is expected.
- The risks that require a change in the scenarios are (1) acceleration of inflation and (2) currency depreciation.
  - As for (1), risks may materialize due to prolonged supply constraints and the rise of commodity prices. Central banks are also wary of the upward risk balance.
  - As for (2), there is the risk that countries will be compelled to accelerate the pace of (move up the schedule of) interest rate hikes so as to cope with currency depreciation in the event of a focus of attention upon the acceleration of US interest rate hikes due to the rise of concerns regarding US inflation.

## Changes in policy rates in major emerging economies



Source: Made by MHRT based upon releases by CEIC data

## Inflation risk assessment by central banks (statements)

### Brazil (September)

- Inflationary pressures are expected to continue in the short term as industrial products prices keep increasing due to rising input costs, supply constraints, and a shift in demand from services to goods.

### Russia (September)

- The balance of risks for future inflation have seen a significant upward trend (proinflationary).
- Disruptions in production/logistics networks, labor shortages, and structural changes of the labor market due to the pandemic could be risk factors.

### Mexico (September)

- The balance of risks for inflation have seen an upward trend.
- Upward risk factors are: (1) inflationary pressures from external sources, (2) cost-related pressures, (3) persistence of core inflation, (4) exchange rate depreciation, and (5) increase in the prices of agricultural and livestock products.

Source: Made by MHRT based upon releases by the central banks of relevant countries

## **(5) Japanese economy: even though vaccine rollout is a positive factor, supply constraints are serving as negative pressure; infection concerns to persist in 2022**

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- The pace of GDP growth is projected to register a small decline of -0.2% q-o-q (-0.9% p.a.) in the Jul-Sep quarter of 2021. In addition to the slump in consumption of services toward individuals in response to the spread of the Delta variant, the sharp output cuts of motor vehicles reflecting the shortage of semiconductors and decline of parts supply from Southeast Asian countries served as a drag on growth.
- FY2021 GDP growth is projected to be +3.0%. In the second half of the fiscal year, vaccines will be rolled out to the working-age population, and services consumption will recover. However, goods consumption will slow down, as teleworking and stay-at-home demands run their course. In addition to the continued weakness in domestic sales and exports of motor vehicles due to a prolonged shortage of semiconductors, the worsening terms of trade due to soaring raw material prices is a drag on the economy.
- FY2022 GDP growth is projected to be +2.6%. Based on the infectivity of the Delta variant and the effectiveness of vaccines, we expect that herd immunity will not be achieved even after the turn of the year in 2022 and that concerns about infection will linger. A significant increase in the number of new infections and serious cases is expected in the first half of FY2022 due to an increase in mobility, which will lead to more-cautious consumer behavior especially among unvaccinated citizens and will limit the size of pent-up demand.
- A high degree of uncertainty exists regarding the effectiveness of the vaccines and the government's policy response (e.g., enhancement of the testing system and increases in the number of hospital beds), and the actual performance could be above or below the forecast. It will be necessary to keep a close eye upon the new administration's economic and Covid-19 measures as well as infection trends.

## Japan: economic growth rate projected to register +3.0% in FY2021 and +2.6% in FY2022, indicating ongoing recovery

- Japan's economy is expected to grow +3.0% y-o-y in FY2021. Jul-Sep quarter growth is projected to be weak due to continued downward pressure from the spread of the Delta variant and the output cuts of motor vehicles due to shortages of semiconductors and the supply of semiconductors from Southeast Asian countries. Even though consumption mainly of services will recover along with the vaccine rollout in the second half of FY2021, the prolonged semiconductor shortage and deterioration of terms of trade will serve as a drag on the economy.
- The economy is expected to grow +2.6% y-o-y in FY2022. Given the failure to achieve herd immunity, we expect a surge in number of new infections and serious cases in the first half of FY2022 along with the rise in the number of people on outings. Consumer behavior will become more cautious, limiting pent-up demand.

### Outlook for the Japanese economy

		2020	2021	2022	2021				2022				2023
		FY	(Outlook)		Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
GDP (real)	Q-o-q % ch	-4.4	3.0	2.6	-1.1	0.6	-0.2	1.0	1.5	-0.5	1.4	0.7	0.3
	Q-o-q % ch p.a.	—	—	—	-4.2	1.9	-0.9	4.0	6.0	-2.0	5.9	2.9	1.4
Domestic demand	Q-o-q % ch	-3.8	2.5	2.3	-0.8	0.8	-0.1	1.0	1.5	-0.7	1.3	0.7	0.3
Private sector demand	Q-o-q % ch	-6.3	2.9	2.8	-0.6	0.8	-0.2	1.2	1.8	-0.7	1.5	0.8	0.4
Personal consumption	Q-o-q % ch	-5.8	3.3	2.4	-1.3	0.9	-0.3	1.4	2.1	-1.5	1.6	0.8	0.4
Housing investment	Q-o-q % ch	-7.2	2.2	1.5	1.0	2.1	1.5	-0.8	0.5	0.7	0.4	0.2	0.2
Capital investment	Q-o-q % ch	-6.8	3.8	3.2	-1.3	2.3	0.3	0.7	0.7	0.9	0.9	0.7	0.7
Inventory investment	Q-o-q contribution, %pt	(-0.2)	(-0.3)	(0.2)	(0.4)	(-0.3)	(-0.1)	(0.0)	(0.1)	(0.1)	(0.1)	(0.0)	(-0.1)
Public sector demand	Q-o-q % ch	3.6	1.5	1.0	-1.6	0.7	0.3	0.5	0.6	-0.6	0.6	0.5	0.2
Government consumption	Q-o-q % ch	3.4	2.1	1.0	-1.7	1.3	0.2	0.4	0.8	-0.5	0.6	0.4	0.2
Public investment	Q-o-q % ch	4.2	-0.6	1.0	-1.1	-1.7	1.0	1.0	0.3	-0.8	0.8	0.6	0.2
External demand	Q-o-q contribution, %pt	(-0.6)	(0.5)	(0.3)	(-0.2)	(-0.3)	(-0.2)	(0.0)	(-0.0)	(0.2)	(0.1)	(0.0)	(-0.0)
Exports	Q-o-q % ch	-10.4	11.3	4.8	2.4	2.8	-1.6	0.6	1.2	2.1	1.8	0.7	0.5
Imports	Q-o-q % ch	-6.8	8.3	3.2	4.0	5.0	-0.7	0.5	1.1	1.0	1.1	0.5	0.5
GDP (nominal)	Q-o-q % ch	-3.9	1.7	3.4	-1.1	-0.1	-0.5	0.1	2.3	0.8	1.0	0.0	0.9
GDP deflator	Y-o-y % ch	0.6	-1.3	0.8	-0.2	-1.2	-1.4	-1.7	-0.9	0.9	0.7	0.9	0.6
Domestic demand deflator	Y-o-y % ch	-0.3	0.6	0.6	-0.5	0.2	0.4	0.8	0.7	1.0	0.6	0.7	0.5

Note: Figures in the shaded areas are forecasts.

Source: Made by MHRT based upon the Cabinet Office, *Quarterly Estimates of GDP*

# Japan: recovery of employment and wages expected to be slow; core CPI for the second half FY2021 to grow high y-o-y

- Even though labor compensation will follow a recovery path in FY 2021, the increase is likely to be small compared to the slump in FY2020, amid lingering cautiousness in corporate behavior. Despite the prolonged impact of the Covid-19 pandemic, a sharp rise of the unemployment rate should be avoided, given the re-extension of subsidy programs for employment adjustment.
- Although the decline of telecommunication fees will serve as a drag, the core CPI (y-o-y) will rise to around 1% y-o-y in the second half of FY2021, pushed up by energy prices reflecting the surge of crude oil prices. While the BOJ core CPI (y-o-y) will remain negative during FY2021, the breadth of the negative range will gradually contract as the rise of raw material prices will be passed on to prices of food and other products. A significantly positive CPI is expected in FY2022, when the impact of communications volume will fade.

## Outlook for the Japanese economy (key economic indicators)

		2020 FY	2021 (Outlook)	2022	2021				2022				2023
					Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Industrial production	Q-o-q % ch	-9.5	6.0	5.7	2.9	1.1	-3.7	0.9	1.4	2.0	2.9	1.3	1.1
Ordinary profits	Y-o-y % ch	-15.6	23.6	16.3	26.0	93.9	18.0	2.4	3.2	10.4	23.7	17.9	16.6
Nominal compensation of employees	Y-o-y % ch	-2.0	0.8	0.9	-0.4	2.0	0.6	0.6	0.1	0.6	1.1	0.9	1.1
Unemployment rate	%	2.9	2.8	2.8	2.8	2.9	2.8	2.8	2.8	2.9	2.9	2.7	2.6
New housing starts	P.a., 10,000 units	81.2	87.4	88.4	83.0	87.5	88.1	87.3	87.2	88.2	88.6	88.9	88.7
Current account balance	P.a., JPY tril	18.3	11.4	17.8	20.5	20.8	11.0	6.9	7.1	13.3	16.5	19.0	19.1
Domestic corporate goods price	Y-o-y % ch	-1.4	5.1	-0.2	-0.3	4.6	5.9	5.9	3.8	0.9	-1.2	-0.1	-0.3
(ex consumption tax)	Y-o-y % ch	-2.1	-	-	-	-	-	-	-	-	-	-	-
Consumer prices, ex fresh food	Y-o-y % ch	-0.4	0.3	1.2	-0.5	-0.6	0.0	1.0	0.9	1.5	1.1	1.0	1.2
(ex institutional factors)	Y-o-y % ch	-0.4	0.3	1.3	-0.4	-0.6	-0.2	0.6	1.3	1.9	1.5	1.0	0.8
Consumer prices, ex fresh food and energy	Y-o-y % ch	0.1	-0.4	1.4	0.0	-0.9	-0.5	0.0	0.0	1.3	1.2	1.4	1.5
(ex institutional factors)	Y-o-y % ch	-	-0.4	1.4	0.1	-0.9	-0.7	-0.4	0.4	1.7	1.6	1.4	1.1

Note: 1. Figures in the shaded areas are forecasts. The readings above may differ from public releases because the rates of change are calculated on the basis of real-terms data.

2. Ordinary profits are based upon the *Financial Statements Statistics of Corporations by Industry* (all industries basis) (ex finance & insurance).

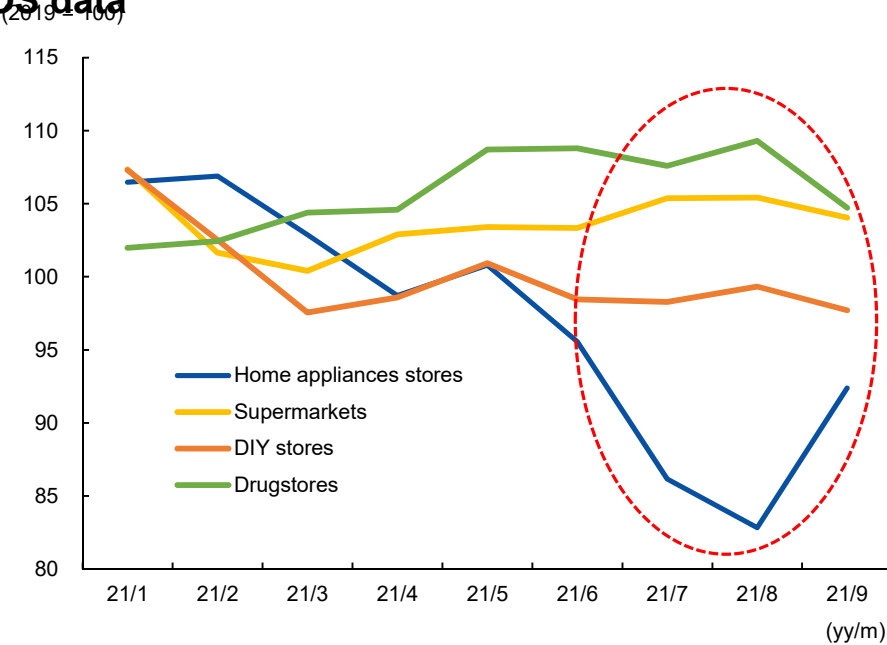
3. The Consumer Price Index reflects the 2020 base-revision. "Institutional factors" in consumer prices refer to the impacts of the consumption tax, free education, and the GoTo Travel program.

Source: Made by MHRT based upon relevant statistics

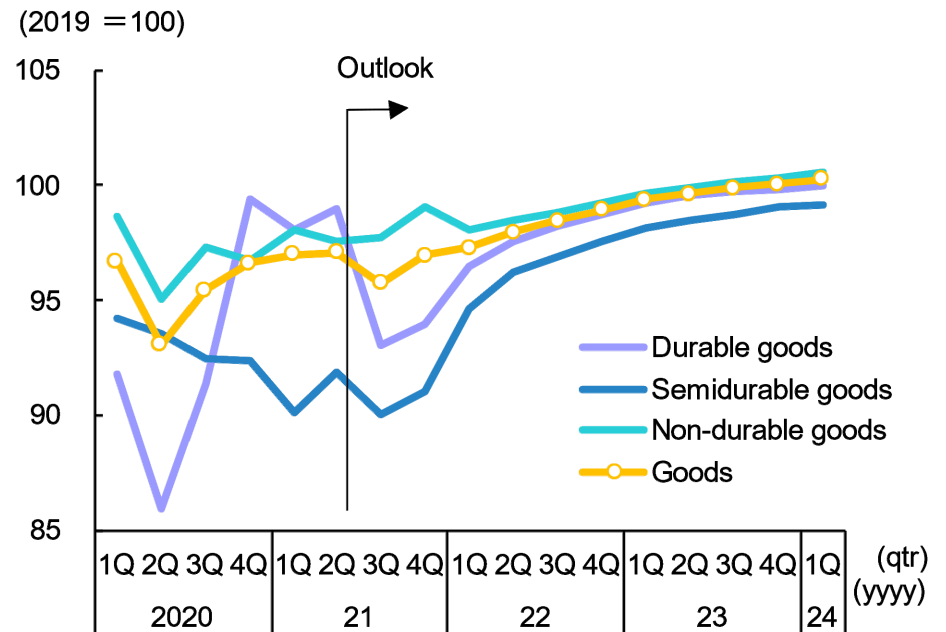
# Japan: goods consumption is currently weak, and consumption growth is expected to remain sluggish in the Oct-Dec quarter and beyond

- Goods consumption in the Jul-Sep quarter declined mainly with respect to durable goods, putting downward pressure on overall personal consumption.
  - Motor vehicles declined sharply due to a shortage of semiconductors and output cuts by factory shutdowns in Southeast Asian countries. Home appliances are also expected to slow down due to prolonged rainfall, fading demand for the Olympic Games, and the feeling that teleworking/stay-at-home demand has run its course.
- The slowdown of growth is expected to continue in the Oct-Dec quarter and beyond. The shift of the driver of personal consumption recovery from goods to services will become even clearer.
  - In addition to prospects of the prolonged impact of motor vehicle output cuts, teleworking demand for home appliances/stay-at-home demand will also fade. Even though the pass-over of costs to consumer prices is limited at the moment, the rise of energy and food prices is serving as negative pressures on the incentive for consumer spending.

## Trend of goods consumption from the perspective of POS data



## Outlook on goods consumption



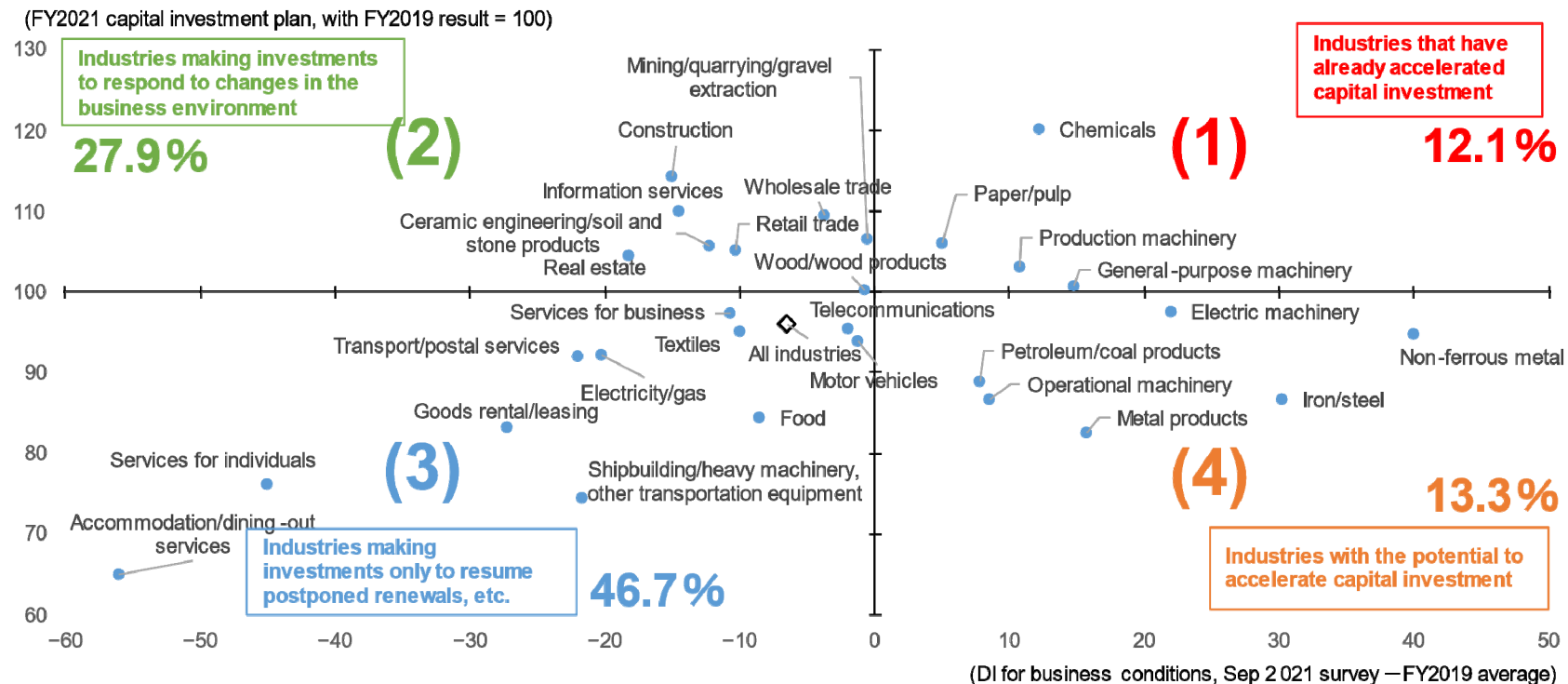
Note: Seasonally adjusted by MHRT  
 Source: Made by MHRT based upon Ministry of Economy, Trade and Industry, METI POS - Indices for retail sales amount (micro indices)

Source: Made by MHRT based upon Cabinet Office, Quarterly Estimates of GDP

# Japan: pace of recovery in corporate capital investment to be moderate as companies continue to take a cautious stance

- Only certain industries are investing more aggressively amid the rise of demand, and investment in capacity-building is limited.
  - Investment in labor-saving and information technology for e-commerce is seen in several industries, especially retail ((2) in the chart). However, only a few industries, such as chemicals, have both business conditions and investment plans above pre-pandemic levels ((1) in the chart).
  - In many industries, both business conditions and investment plans are below pre-pandemic levels ((3) in the chart), and their investment is limited to those for renewal.
  - The pace of capital investment recovery is expected to be moderate due to downward pressure from the deterioration of terms of trade and concerns regarding the slowdown of the Chinese economy.

## BOJ *Tankan*: DI for business conditions and capital investment plans (compared to pre-pandemic levels)



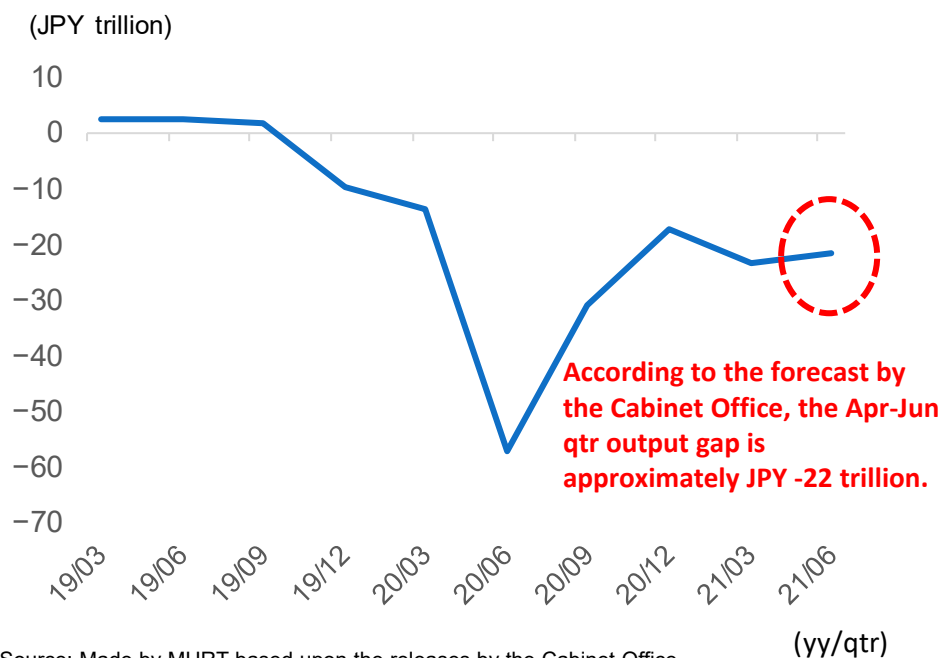
Note: 1. All enterprises, capital investment plans include those in software, and excludes land investment; 2. Capital investment plans reflect the revision rate from the September survey to actual figures (FY2015-FY2019 average).

Source: Made by MHRT based upon the Bank of Japan, *Short-term Economic Survey of Enterprises in Japan* ("Tankan")

# Japan: size of the economic stimulus package expected to be around JPY 30 trillion; economic effects of cash subsidies to households to be limited

- The government is expected to prepare a supplementary budget for FY2021 that includes an economic stimulus package after the House of Representatives election. Budgets for digitalization, green society, and public works-related projects are expected to be included, in addition to anti-pandemic measures, amounting to about JPY 30 trillion in fiscal spending. (Some of this could be funded via an unused budget from the previous fiscal year.)
  - According to Cabinet Office forecasts, the output gap for the Apr-Jun quarter will be about JPY -22 trillion. Fiscal spending is likely to be targeted to exceed this amount.
  - The target households for subsidies are expected to be limited. If about JPY 2 trillion is spent as a subsidy, the boosting effect on GDP will only be about +0.1%.
  - Public investment relating to national resilience is expected to be made in accordance with the five-year plan. This will be a weaker boost in the growth rate compared to the previous year.
  - The resumption of the "GoTo" campaign using vaccination certificates will contribute to the emergence of pent-up demand among some vaccinated citizens.

## Output gap (forecast by the Cabinet Office)



Source: Made by MHRT based upon the releases by the Cabinet Office

## Policy measures expected to be taken under the economic stimulus package (supplementary budget)

	Policy measures
Support for households	Cash support for low-income households, including single parents, non-regular workers, and students Countermeasures for the falling birthrate (support for education and housing expenses for households with children)
Support for companies	Resumption of subsidy programs for sustaining businesses and a subsidy program for supporting business rent for small and medium-sized companies Promotion of essentially interest-free unsecured loans and request for a moratorium on repayments Extension of special measures for subsidies for employment adjustment
Support for the medical system	Support for expansion of the medical system, allowance for medical service workers, etc.
Digitalization	Support for the development of digital infrastructure for small and medium-sized businesses, including local development of 5G, and for the promotion of individual education using ICT
Green society	Support for decarbonization (including subsidies for purchasing EVs and FCVs)
Countermeasures for the deterioration of terms of trade	Increase in the maximum limit for emergency guarantees to address the surge of raw material prices, etc.
Economic security	Support for the domestic production of essential medical and industrial products (vaccines, therapeutic medicine, semiconductors, etc.)
Public investment	Expansion of national resilience measures for disaster prevention/mitigation
Demand stimulus measures	Resumption of the "GoTo" campaign using vaccination certificates

Source: Made by MHRT based upon media reports

# Financial markets: US long-term interest rates are expected to follow a gradual uptrend during the forecast period

- US long-term interest rates are expected to follow a moderate uptrend around the beginning of 2023.
- US stocks should remain flat, given the gradual decline in PER. Japanese stocks are expected to follow a gradual uptrend along with EPS growth.
- The USD/JPY exchange rate will remain flat during 2022, and a moderate depreciation of the yen against the US dollar is expected in 2023.

## Outlook for financial markets

	2020 FY	2021 FY	2022 FY	2021				2022				2023
				Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Japan												
Interest rate on the policy rate balanc (%)	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10
Newly issued JGBs (10-year, %)	0.03	0.03 to 0.15	0.05 to 0.15	0.07	0.07	0.03	0.05 to 0.15	0.05 to 0.15	0.05 to 0.15	0.05 to 0.15	0.05 to 0.15	0.05 to 0.15
Nikkei Stock Average (JPY)	24,462	28,400 to 29,900	29,000 to 31,000	28,988	28,962	28,568	28,400 to 29,400	28,900 to 29,900	29,000 to 30,000	29,700 to 30,700	29,900 to 30,900	30,000 to 31,000
US												
Federal Funds rate (End-of period value, %)	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25	0.00 to 0.25
Newly issued government bonds (10-year, %)	0.87	1.32 to 1.80	1.65 to 1.90	1.30	1.58	1.32	1.60 to 1.80	1.60 to 1.80	1.65 to 1.85	1.65 to 1.85	1.65 to 1.85	1.70 to 1.90
Dow Jones Average (USD)	28,110	33,700 to 35,700	33,900 to 35,900	31,493	34,121	34,910	33,700 to 35,500	33,900 to 35,700	33,900 to 35,700	33,900 to 35,700	34,000 to 35,800	34,100 to 35,900
Eurozone												
ECB deposit facility rate (End-of-period value, %)	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
German government bonds (10-year, %)	-0.48	-0.37 to -0.05	-0.25 to 0.00	-0.41	-0.22	-0.37	-0.25 to -0.05	-0.25 to -0.05	-0.25 to -0.05	-0.25 to -0.05	-0.25 to -0.05	-0.20 to 0.00
Exchange rate												
USD/JPY (USD/JPY)	106	109 to 115	112 to 116	106	109	110	112 to 115	112 to 115	112 to 115	112 to 115	112 to 115	113 to 116
EUR/USD (EUR/USD)	1.17	1.14 to 1.21	1.13 to 1.17	1.21	1.21	1.18	1.14 to 1.17	1.14 to 1.17	1.14 to 1.17	1.14 to 1.17	1.14 to 1.17	1.13 to 1.16

Note: Forecast values (expressed in ranges) indicate that the average value for the period is expected to fall within the relevant range.  
Source: Made by MHRT based upon releases by Bloomberg



## Reference: key political events

	2021		2022		2023	
US	Oct	Expiration of the term of FRB Vice Chair Randal K. Quarles (in charge of bank supervision)	Jan	Expiration of the term of FRB Vice Chair Richard H. Clarida	Mar	20 years since the Iraq War
			Feb	Expiration of the term of office of FRB Chair Jerome H. Powell		
			Nov	Mid-term elections		
Europe			Apr	France: Presidential election	1H	Italy: Legislative election
			Jun	France: Legislative election		
Japan	Oct	House of Representatives election	Jul	End of term of office of members of House of Councilors	Apr	End of term of Bank of Japan Governor Haruhiko Kuroda
					Apr	Nationwide local elections
					Apr	End of term of office of the governor of Osaka prefecture and mayor of Osaka city
Asia	Dec	Hong Kong: Legislative Council election	Feb-Mar	Beijing Olympic and Paralympic Games	By Mar	Thailand: election of the House of Representatives (lower house)
			Mar	South Korea: Presidential election	By Jul	Cambodia: general election
			Mar	Hong Kong: Chief Executive election	By Aug	Myanmar: general election
			Around May	The Philippines: Presidential and legislative elections	By Sep	Malaysia: general election
			Autumn	China: 20 <sup>th</sup> National Congress of the Communist Party		
Other			1H	Australia: Senate and House of Representatives elections	By year-end	Turkey: presidential and legislative elections
			Oct	Brazil: Presidential election		

Source: Made by MHRT based upon media reports

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