Monthly Economic Report

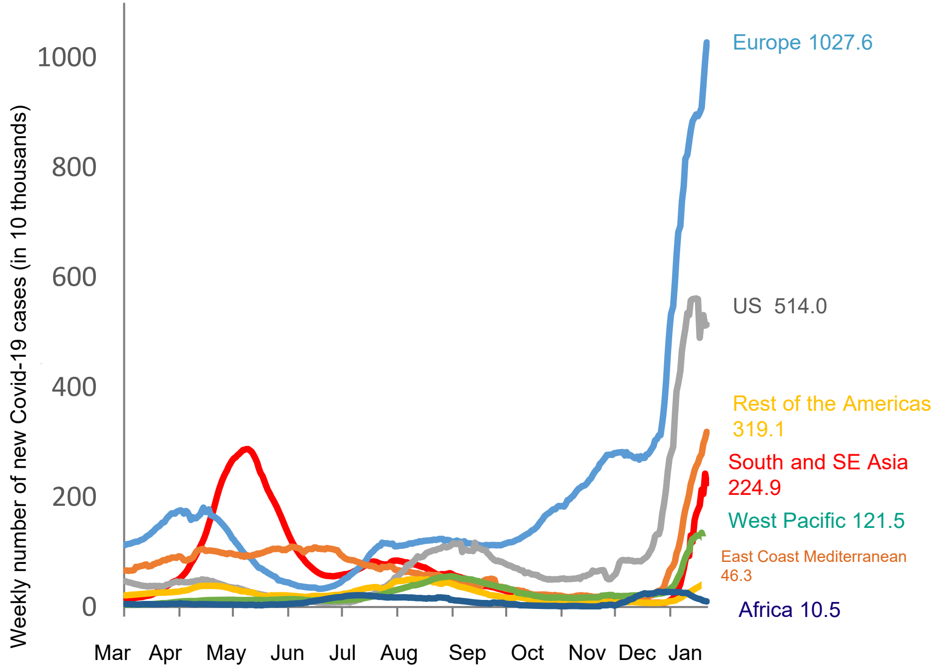
January 25, 2022

Mizuho Research & Technologies, Ltd.

Global Covid-19 infection trends: despite signs of a peak-out in some countries in Europe and the US, there are no signs of an "exit" overall

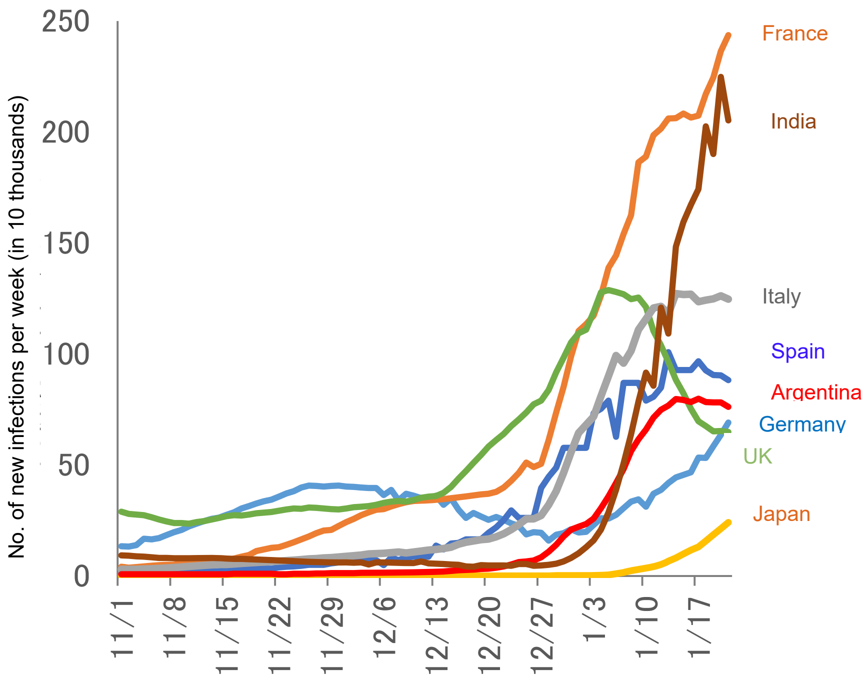
- The number of Covid-19 cases worldwide (cumulative) reached 350.54 million as of the morning of January 24.
- The weekly number of new Covid-19 cases around the world stood at 22.64 million (previous week: 20.36 million), setting a record high weekly number of new cases.
  - There are signs of a peak-out in some parts of Europe and the US. While the Omicron variant spreads very quickly, it may be brought under control in a relatively short time (reflecting the significant effect of stringent infection control measures and constraints on citizens' mobility).
  - In Europe, on the other hand, infections have continued to increase in France and Germany. The Omicron variant has also been spreading in emerging countries such as India and Brazil.

Weekly number of new Covid-19 cases reported worldwide



Note: Figures represent number of cases tallied as of January 23 (latest data as of January 21). Regional classification based upon WHO.
Source: Made by MHRT based upon Johns Hopkins University and WHO.

Weekly number of new Covid-19 cases in major countries



Note: Figures represent number of cases tallied as of January 23 (latest data as of January 21).
Source: Made by MHRT based upon Johns Hopkins University.

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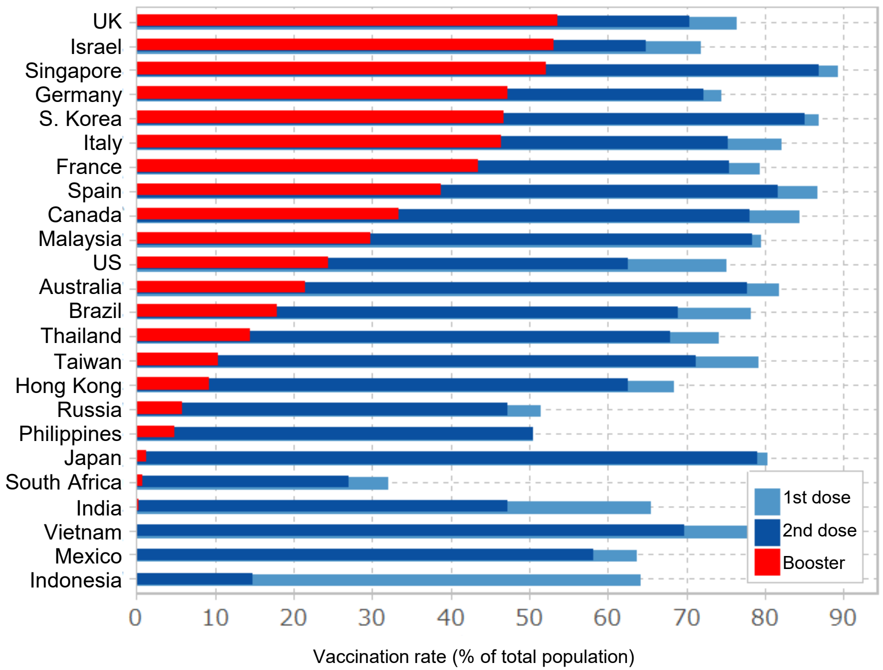
Vaccinations: rollout of booster vaccinations is progressing globally. Japan is one lap behind

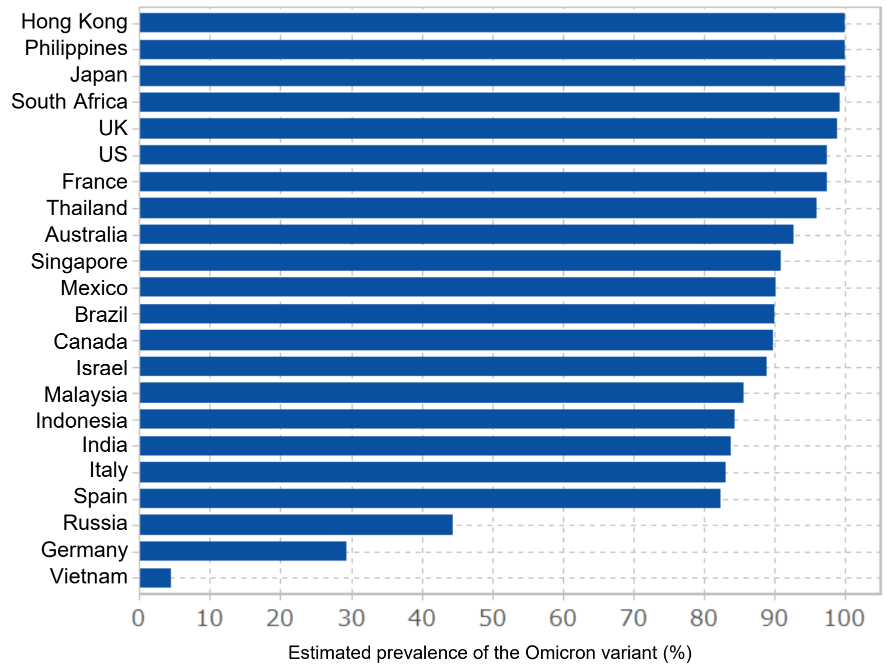
- Booster vaccination coverage has progressed to over 50% in the UK, Israel, and Singapore. South Korea and continental Europe have reached over 40%.
  - The US made an early start, but the pace of the booster vaccination rollout is slow with coverage at about 25% at present.
  - In Japan, the number of booster vaccinations reached 1.94 million as of January 21 (1.4% of the total population). From February onwards, we expect a full-fledged rollout of booster vaccinations starting with the elderly and followed by the working-age population.
- In most of the major countries, the estimated prevalence of the Omicron variant has exceeded 80%, more or less replacing the Delta variant.

Vaccination rate in major countries



Note: Figures represent data tallied as of January 20 (latest data is from January 18). No data on booster vaccinations in Vietnam.
Source: Made by MHRT based upon *Our World in Data*

Estimated prevalence of the Omicron variant by country



Note: These percentages are based on the genetic tests conducted and do not reflect the percentages among all infected people.
Source: Made by MHRT based upon CoVariants.org and GISAID

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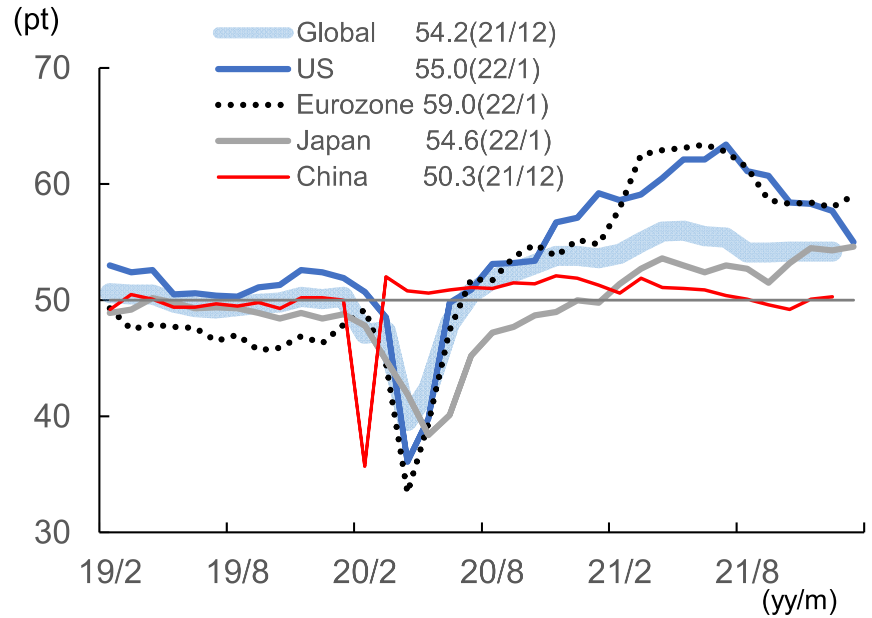
Current state of the global economy: the spread of the Omicron variant is serving again as a drag on the global economy

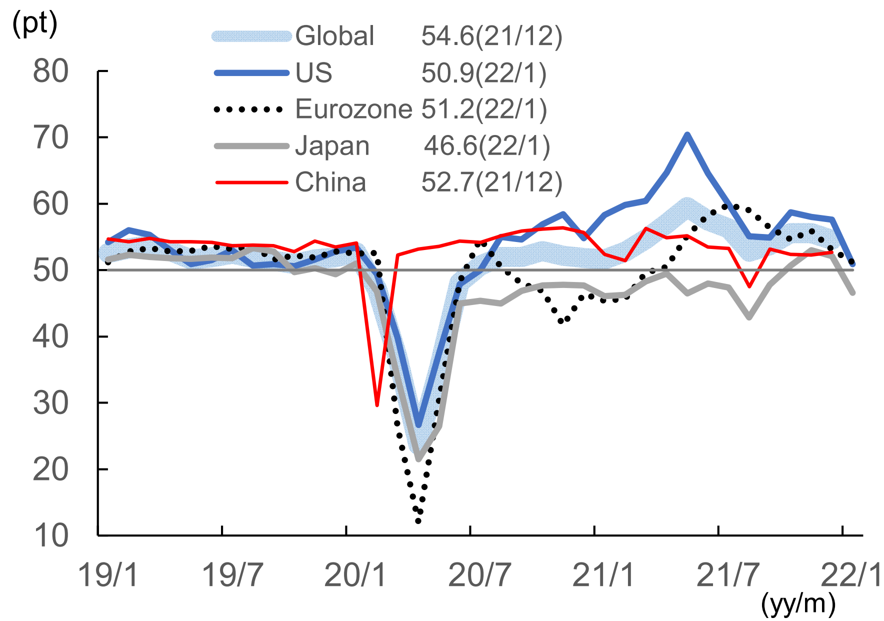
- In Europe, the manufacturing PMI has risen further. In the US, the manufacturing PMI fell but remains at a high level, reflecting favorable conditions in the manufacturing industry.
  - ■ In the US, supply constraints continue to serve as a drag on business activity, but there are some signs such as the improvement of supplier deliveries.
  - ■ Likewise in the Japanese manufacturing sector, business conditions are also expanding, such as the upturn of motor vehicle production.
- However, the nonmanufacturing PMI in Japan, the US and Europe fell across the board due to the spread of the Omicron variant.
  - ■ In Japan, which is under a quasi-state of emergency, the nonmanufacturing PMI fell below 50 in January, the first time in four months since September 2021.

Manufacturing PMI



Note: The Purchasing Managers' Index (PMI) is an index calculated by weighting indexes such as new orders, output, order backlogs, prices, employment, and quantity of purchases. The reading of 50 in the PMI is the "expansion-contraction" threshold.
Source: Made by MHRT based upon IHS Markit, the National Bureau of Statistics of China.

Nonmanufacturing PMI

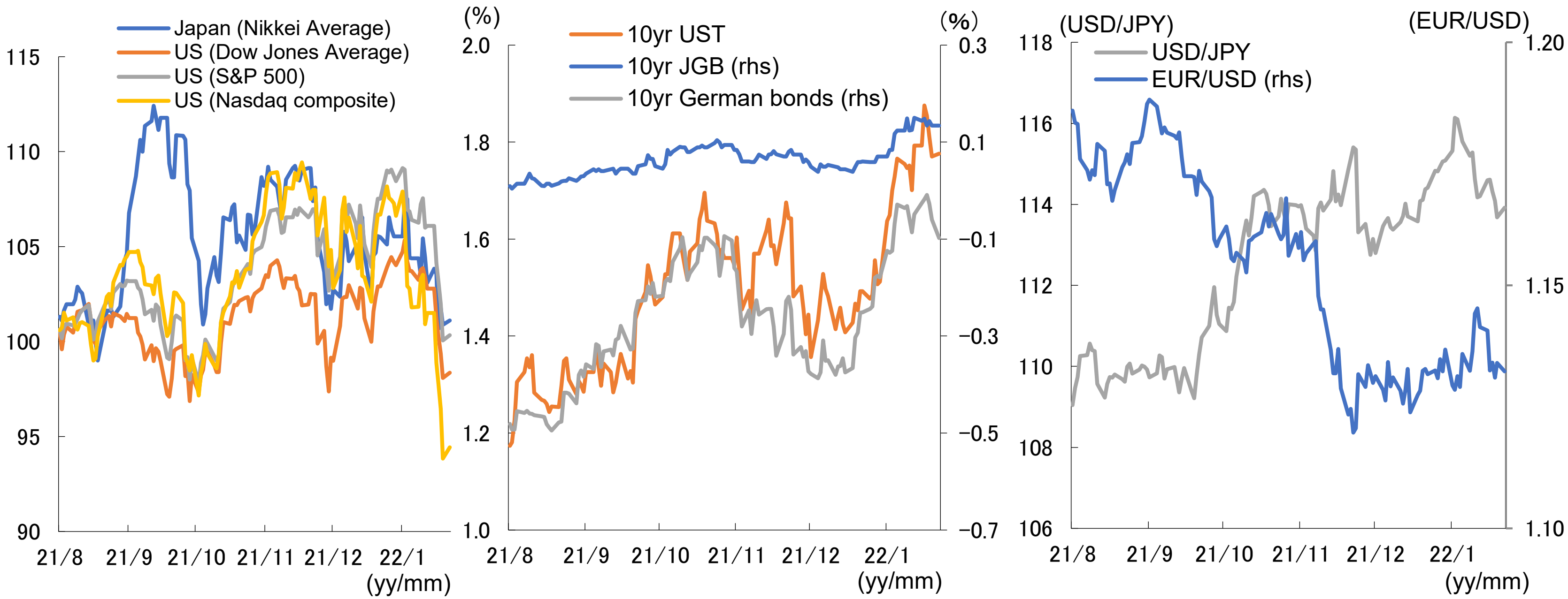


Note: The Purchasing Managers' Index (PMI) is an index calculated by weighting indexes such as new orders, output, order backlogs, prices, employment, and quantity of purchases. The reading of 50 in the PMI is the "expansion-contraction" threshold.
Source: Made by MHRT based upon IHS Markit, the National Bureau of Statistics of China.

Overview of financial markets: US interest rates rose and Japanese and US stocks fell on expectations of an earlier-than-expected normalization of US monetary policy

- The 10yr UST yield rose sharply to the 1.8% level as the release of the hawkish FOMC meeting minutes and comments by a dovish Fed official in support of a March rate hike raised expectations of an earlier-than-expected normalization of US monetary policy. In the meantime, the yield has fallen to the 1.7% level due to risk-off movements.
- In the US, the Dow Jones Average and the S&P 500 hit new highs at the beginning of the year, but fell due to the rise in US long-term interest rates led by the rise of expectations of an earlier-than-expected normalization of US monetary policy. Japanese stocks also fell in tandem with US stocks.
- Turning to the USD/JPY rate, even though the yen weakened against the dollar to the JPY 116/USD level at the beginning of the year reflecting the rise in US interest rates, the yen was bought against the dollar due to risk-off sentiment as global stock prices fell due to concerns regarding an earlier-than-expected normalization of US monetary policy. Currently the yen has appreciated to the JPY 113/USD level.

Major market trends

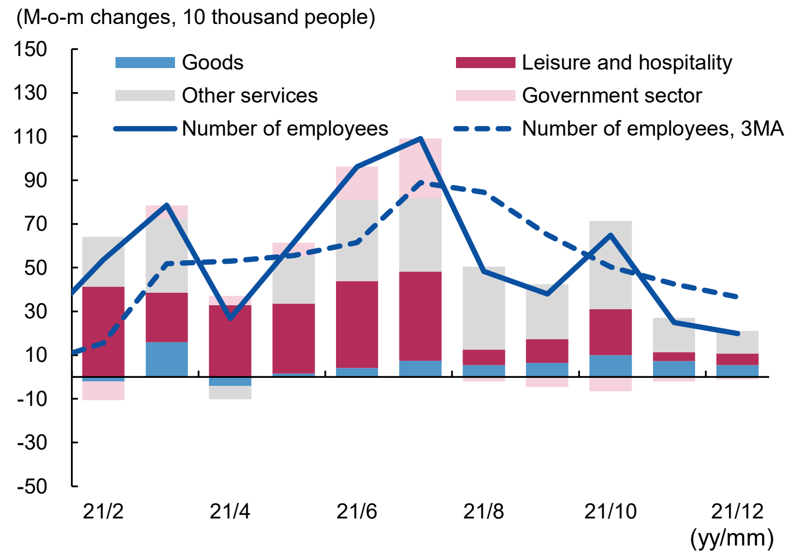


Note: All indexes show actual results up to January 24.
Source: Made by MHRT based upon Refinitiv.

US Economy: a further labor market crunch, with the unemployment rate falling below 4%, adding further widespread upward pressure on wages

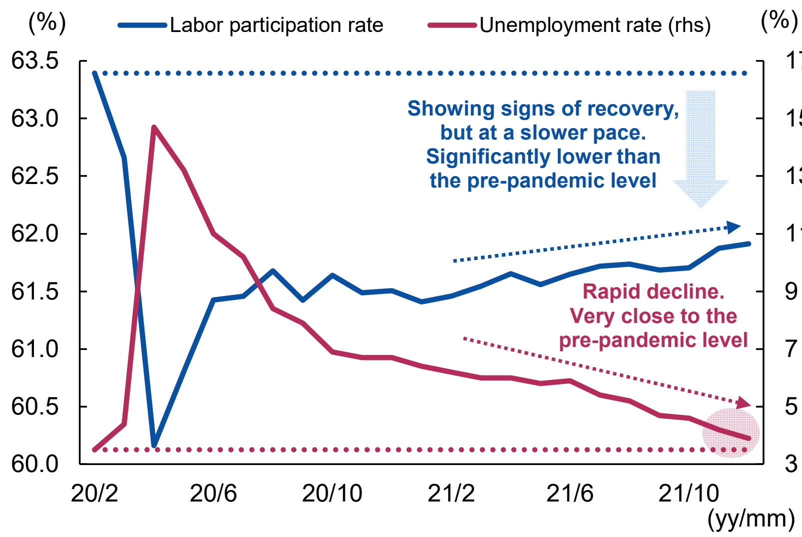
- The rise in the number of employees in December remained steady at +199 thousand m-o-m but has slowed (November: +249 thousand m-o-m). This was due to people leaving their existing jobs in search of better employment conditions and concerns related to Covid-19 infections. The unemployment rate fell below 4% to 3.9% (November: 4.2%), continuing to fall at a fast pace despite the already low unemployment rate.
  - The employment rate was 59.5%, up +0.2% pt from the previous month, indicating strong labor demand. The labor participation rate remained flat compared to the previous month at 61.9%.
  - Wages rose strongly (+0.6% m-o-m, +4.6% y-o-y). There is strong upward pressure on wages across a wide range of industries.
- The rapid resurgence of Covid-19 infections and resulting factors such as an increase in school closures hindered recovery in labor supply, further tightening the labor supply-demand balance.
  - According to Indeed, the number of job openings continued to rise through late December, increasing to over 60% above the pre-pandemic level (February 2020).

Number of employees by industry



Source: Made by MHRT based upon US Department of Labor.

Labor participation rate and unemployment rate

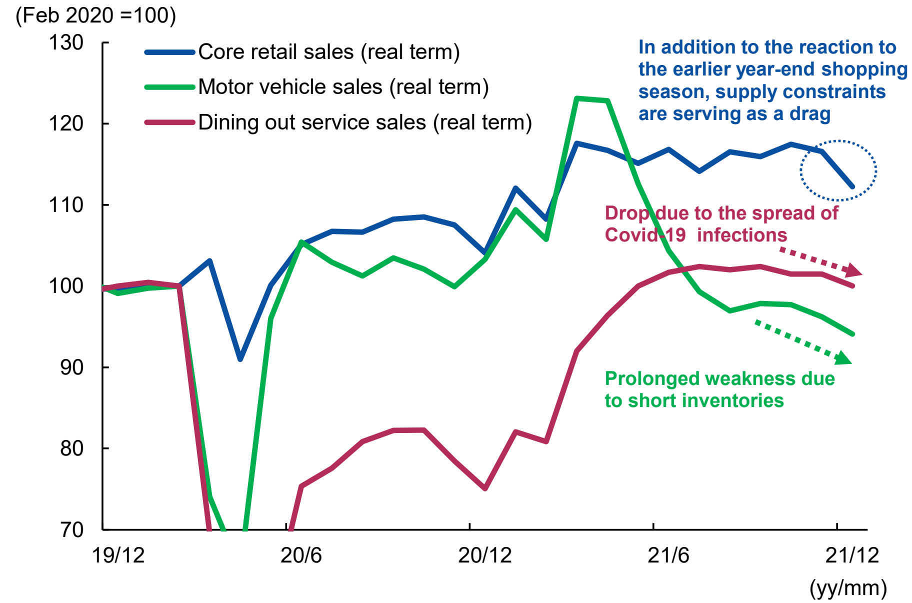


Note: The dotted lines indicate the pre-pandemic (Feb 2020) level.
Source: Made by MHRT based upon US Department of Labor.

Goods consumption in December fell sharply. In addition to a reactionary drop from the year-end shopping season, supply constraints also served as a drag

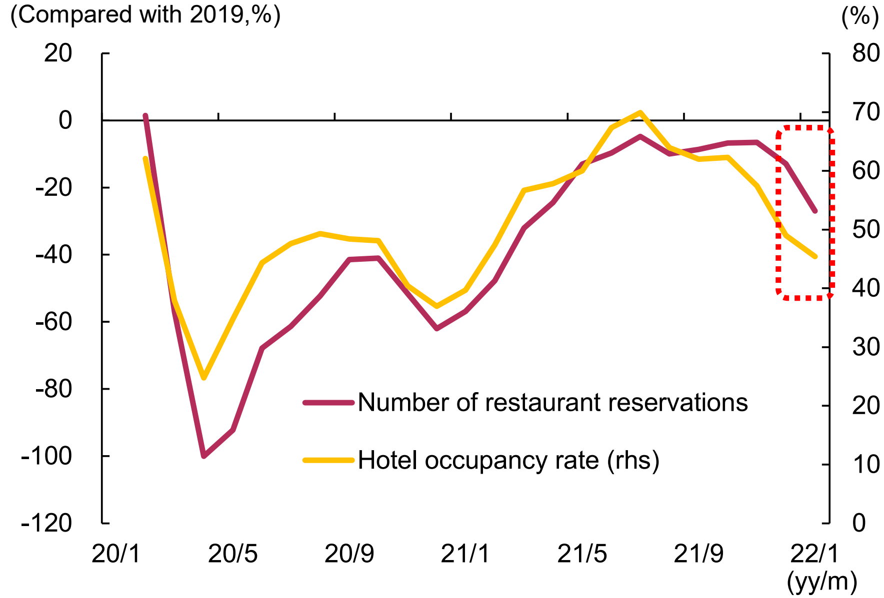
- Core retail sales (in real terms) fell sharply in December (-3.7% m-o-m, estimated value by MHRT) from the previous month.
  - A reactionary drop is persisting from the earlier year-end shopping season. Looking at the breakdown, EC fell significantly, and the drop in clothing and entertainment products has also added to the downward pressure.
  - The drop in store utilization rates due to labor shortages, reflecting the resurgence of Covid-19 infections and the shortage of goods caused by distribution network disruptions, may have also contributed to the downward pressure.
  - For the Oct-Dec quarter (0.0% q-o-q, p.a.), real core retail sales flattened out at a high level.
- Sales in dining-out services (in real terms) (-0.7% q-o-q, p.a.) also fell. In addition to limited operations caused by labor shortages, weaker demand due to the spread of Covid-19 infections from the end of the month also served as a drag on sales.
  - The number of restaurant reservations in early January proved to be less than in December. Growing concerns about the resurgence of Covid-19 infections is expected to serve as a drag on services requiring face-to-face interactions going forward.

Real retail sales and dining-out service sales



Note: Estimated value by MHRT. Core retail sales excludes motor vehicles, building materials, gasoline and dining out.
Source: Made by MHRT based upon the US Department of Commerce and the US Department of Labor.

High frequency data related to service consumption

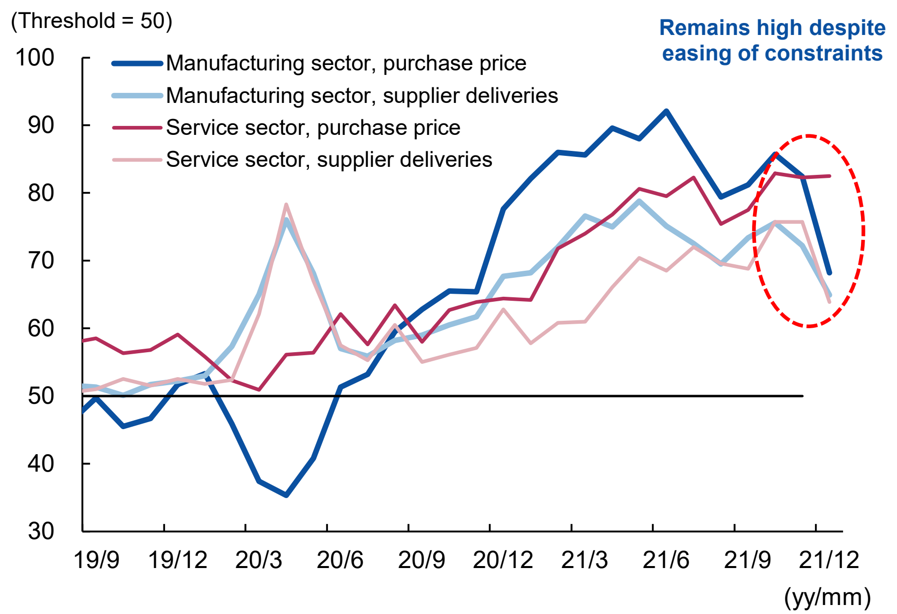


Note: The number of restaurant reservations in January is the average number up to January 11, while the hotel occupancy rate in January is the value as of January 8.
Source: Made by MHRT based upon US Department of Commerce and Open Table.

Business sentiment is favorable. Supply constraints, especially labor shortages, continue to serve as a drag on business activity

- In December, the ISM manufacturing/service sector indices remained at high levels. Although there were some declines in supplier deliveries and purchase prices, which indicate a degree of tightness in supply and demand, both remain at high levels. Many corporations continue to cite tightness of parts and materials, manpower, and logistics networks in their comments.
  - In terms of logistics networks, constraints on sea transportation are easing, while land transportation remains constrained. The American Trucking Associations estimates that there will be a shortage of over 80 thousand drivers in 2022, a historically high level.
- Corporations are particularly concerned about labor shortages regarding supply constraints going forward.
  - In the December Federal Reserve Bank of Kansas City survey, the concern most frequently cited by respondents for 2022 was "labor shortages" in both the manufacturing and non-manufacturing sectors.

ISM manufacturing / service sector indices



Source: Made by MHRT based upon Institute for Supply Management.

Industry-specific company comments referring to bottlenecks (partial excerpt)

Sector	Comments
Chemical Products	"My gut feeling says it's **getting easier to source materials.**"
Fabricated Metal Products	**"Price increases appear to be slowing. Lead times are shrinking"**
Other Services	"Starting to see **some relief** in the supply chain, but **not below the critical point yet."**
Plastics & Rubber Products	"Plastic **raw material shortages impact orders."**
Miscellaneous Manufacturing	"Many of our suppliers are **unable to deliver product until January or February 2022 or later.**"
Food, Beverage & Tobacco Products	**"Labor is still tight, and turnover continues."** "Teams are burned out from working long hours and dealing with supply constraints daily."
Wholesale Trade	**"Trucking availability is worsening. Labor shortages are causing issues."**
Accommodation & Food Services	**"Supply chain challenges to procure supplies … remains our greatest obstacle at present, along with staffing needs."**

Signs of easing in some sectors, especially in parts and materials…

but supply constraints remain in a wide range of industries

Source: Made by MHRT based upon Institute for Supply Management.

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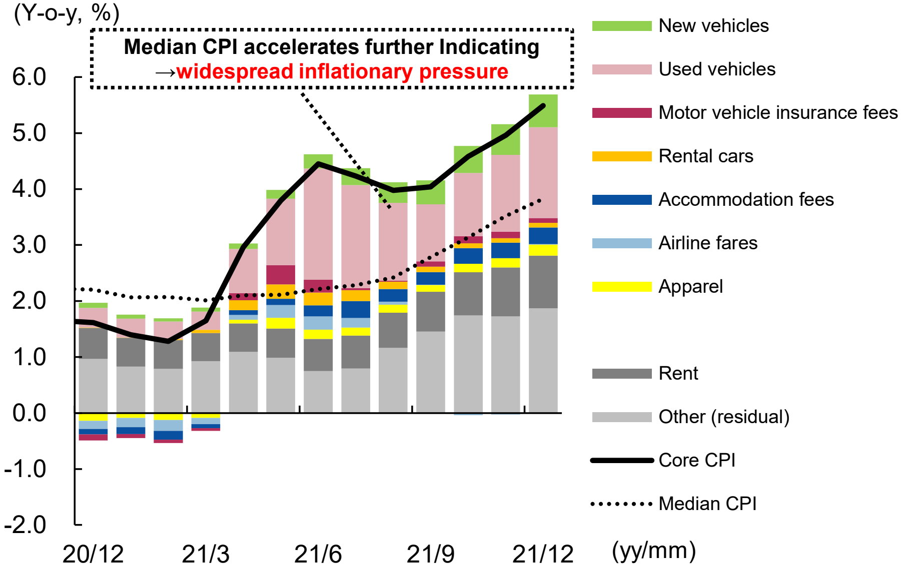
Accelerated rise in inflation. High inflation is expected to continue, caused by supply constraints

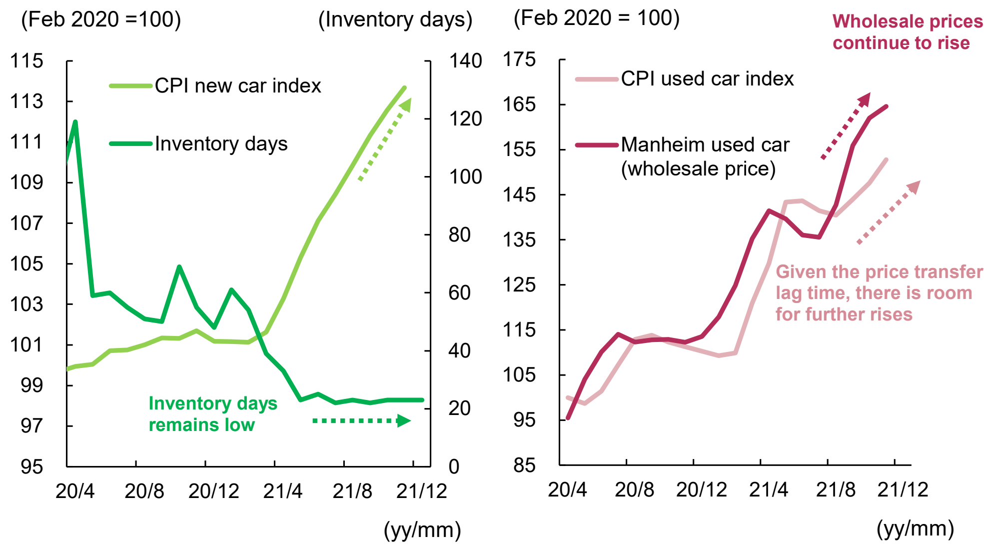
- In December, the core CPI accelerated further (November:+4.9% y-o-y → December: +5.5% y-o-y) and is expected to remain in the high 4% range at the beginning of 2022.
  - The rise of motor vehicle prices continued to accelerate due to tight supply-demand conditions. The Manheim Index, a leading indicator of used vehicle prices, rose further from its already high level in December.
  - The rise in rents, which has a high weighting, also continued to accelerate. As supply and demand in the owner-occupied home market continues to tighten, rents are also facing upward pressure.
  - The median CPI, a measure of underlying inflation, accelerated further (December: +3.8% y-o-y), indicating widespread inflationary pressures.
  - The January Beige Book indicated that many corporations are passing wage increases onto prices, raising concerns about rising wage and price spirals.
- Based on the latest results, the core PCE deflator is expected to continue to rise at a high rate of +4.8% y-o-y in December (November: +4.7% y-o-y)

Breakdown of core CPI (y-o-y % ch)



Note: The median CPI is the median of the CPI for various items published by the US Department of Labor. The impact of volatile items is removed, allowing for the observation of underlying inflation trends.
Source: Made by MHRT based upon Federal Reserve Bank of Cleveland, US Department of Labor.

CPI new/used car indices and related indicators



Source: Made by MHRT based upon US Department of Labor, Manheim, etc.

FRB Chair Jerome Powell mentioned the implementation of quantitative tightening later this year (January 11, FRB Chair nomination hearing)

- FRB Chair Jerome Powell mentioned the view that "the economy no longer needs … very highly accommodative policies" and " at some point perhaps later this year, we will start to allow the balance sheet to run off."
  - While stating that "it's a long road to normal from where we are," he expressed concern that "inflation psychology starts to get entrenched" and indicated that "we're going to have to be … nimble here."
  - Regarding the supply-demand imbalance behind high inflation, he mentioned it is necessary to restrain demand by tightening the monetary policy to the extent it works.

Key points from the congressional testimony

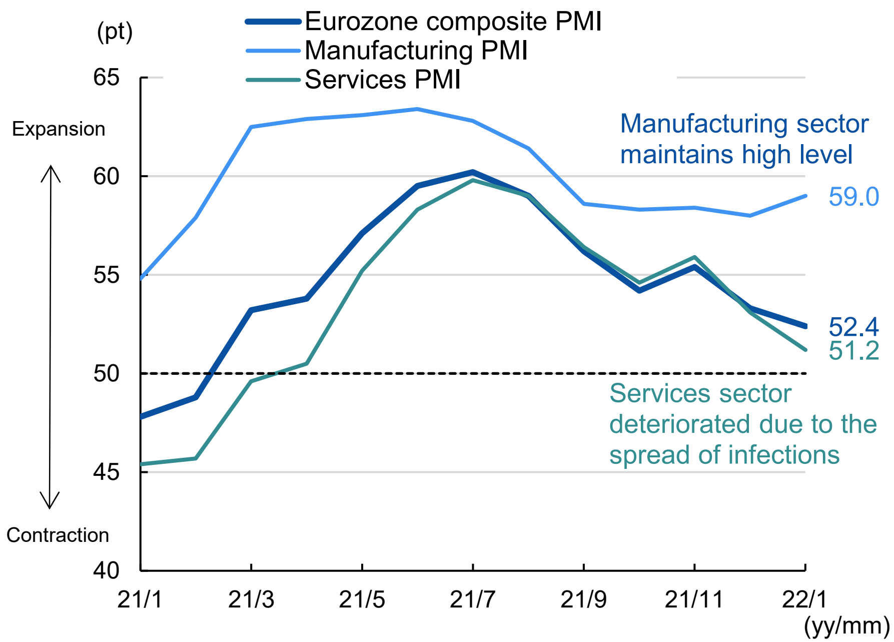
Strong demand is one of the causes of high inflation	● Omicron likely will cause lower hiring and a pause in growth, but it should be short lived. Then the economy, would be a very positive one. ● In the goods sector, spending is running at a level 20 percent above where it was before the pandemic, which has overwhelmed the supply chains. ● Powell doesn't think the FRB will look to get all of the realignment between demand and supply through the demand channel, although it should get some.
Avoiding persistent high inflation	● The question is how fast inflation subsides, and the risk (in the meantime) is that inflation psychology starts to get entrenched. ● If these high levels of inflation get entrenched, then that will inevitably lead to much tighter monetary policy and could lead to a recession and that will be bad for workers. ● High inflation is a severe threat to the achievement of maximum employment and to achieving a long expansion that can give us that. ● If the FRB sees inflation persisting at high levels longer than expected, and if the FRB has to raise interest rates more over time, it will.
Need to proceed with normalization nimbly	● If things develop as expected, the FRB will be normalizing policy, meaning it is going to end asset purchases in March and raise rates over the course of the year. At some point, perhaps later this year, the FRB will start to allow the balance sheet to run off. The FRB hasn't made any decisions about the timing. It is going to have to be both humble and a bit nimble. ● Broadly speaking, all members see interest rate increases coming this year, but it is going to depend on the progress on the supply side and on inflation. The FRB honestly doesn't know. There's risk on both sides, on growth and on inflation. The FRB has to be very attentive to what's happening in the economy and willing to adapt pretty nimbly its policy. ● Already clear that the FRB will have the ability to move sooner and a little faster to run off the balance sheet. In terms of selling assets, (regardless of whether the FRB will do it or not,) the option has never been ruled out.

Source: Made by MHRT based upon FRB.

The Eurozone economy: January composite PMI worsens in reaction to the resurgence of Covid-19 infections. A slightly negative Jan-Mar quarter GDP growth is expected

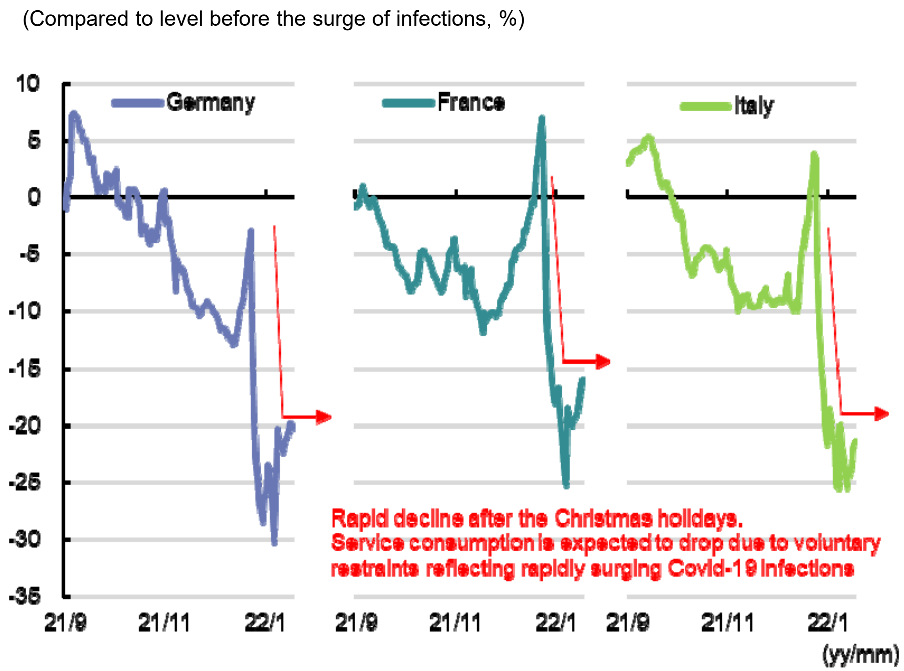
- The Eurozone composite PMI fell for the second consecutive month to 52.4 in January. This was due to a deterioration in business sentiment in the service sector (-1.9% pt from the previous month), notably in the tourism and entertainment sector, reflecting the spread of the Omicron variant.
  - On the other hand, the manufacturing PMI rose by +1.0% pt from the previous month to a high level of 59.0. Although some factors including absenteeism due to Covid-19 infections curbed production in some sectors, the continued alleviation of supply constraints served as a driver of the upturn.
- In the Jan-Mar quarter of 2022, the manufacturing sector is expected to underpin economic conditions thanks to the alleviation of supply constraints. However, as the service sector is likely to face further downward pressure due to more stringent infection control measures in response to the resurgence of Covid-19 infections, GDP is expected to fall slightly.

Eurozone: PMI



Note: The reading of 50 is the “expansion-contraction” threshold.
Source: Made by MHRT based upon Refinitiv and IHS Markit.

Eurozone: retail sales and leisure mobility in major countries

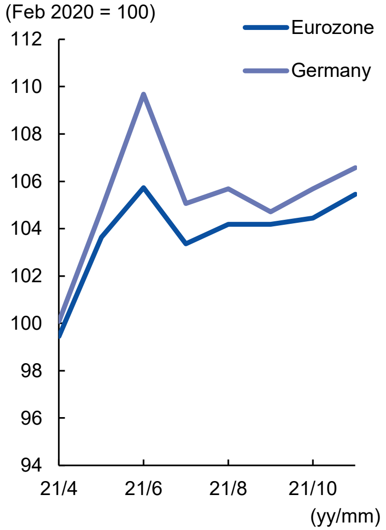


Note: Seven day moving average. Latest data as of January 17.
Source: Made by MHRT based upon Google LLC.

November retail sales remained firm, but consumption is expected to fall due to the resurgence of Covid-19 infections and supply constraints

- Eurozone retail sales in November rose +1.0% m-o-m. Demand for goods remained firm.
  - In Germany (+0.8% m-o-m), however, shortages of goods, notably in home appliances and furniture, restrained growth. For the time being, supply constraints are expected to serve as a drag on goods consumption.
- The odds are high that consumption will continue to decline until early spring, mainly in services, due to the resurgence of Covid-19 infections.
  - The number of reservations for dining out in Germany fell for the fourth consecutive month due to the resurgence of Covid-19 infections and more stringent infection control measures. This suggests a significant drop in service consumption going forward.

Eurozone: real retail sales



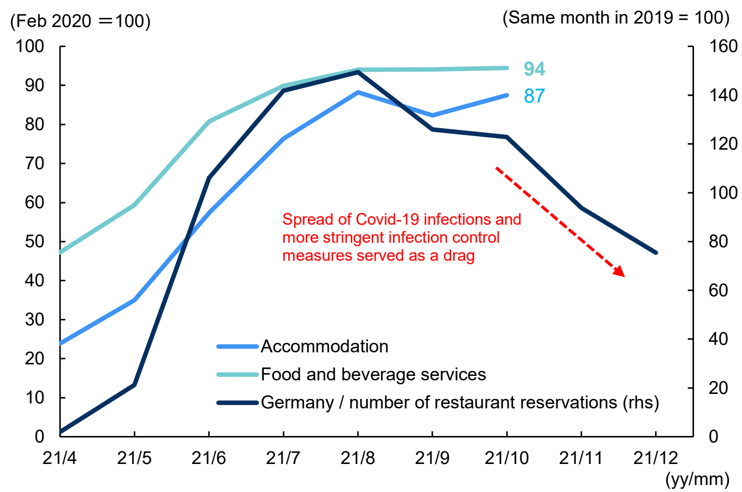
Note: Retail sales excludes motor vehicle sales.
Source: Made by MHRT based upon Eurostat.

Germany: percentage of corporations citing delivery shortfalls

	Oct	Nov	Dec
Retail (overall)	60.1	77.8	81.6
Electronic products and household appliances	79.2	84.6	97.6
Consumer electronics retailers	83.7	84.3	97.0
DIY centers	83.5	93.0	96.0
Bicycle retailers	89.6	95.8	95.7
Furniture stores	65.7	90.0	91.9
Car dealers	82.9	93.5	90.4
Computers and accessories, software	77.3	91.3	87.3

Source: Made by MHRT based upon ifo Institute.

Eurozone: nominal service sector sales and number of reservations for dining out in Germany

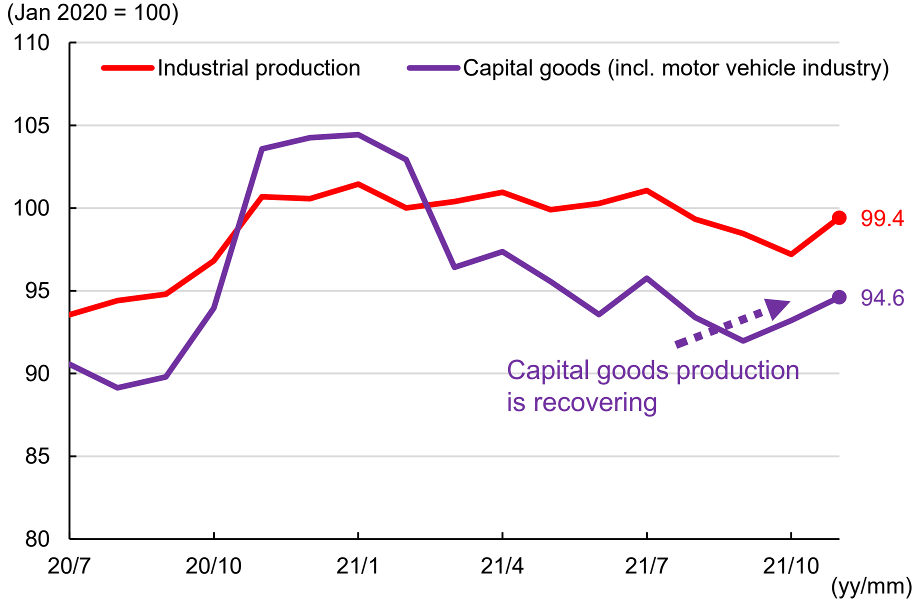


Note: The number of restaurant reservations is represented by monthly averages.
Source: Made by MHRT based upon Eurostat and OpenTable.

Eurozone production rose in November due to the alleviation of supply constraints. Slow recovery is expected to continue going forward

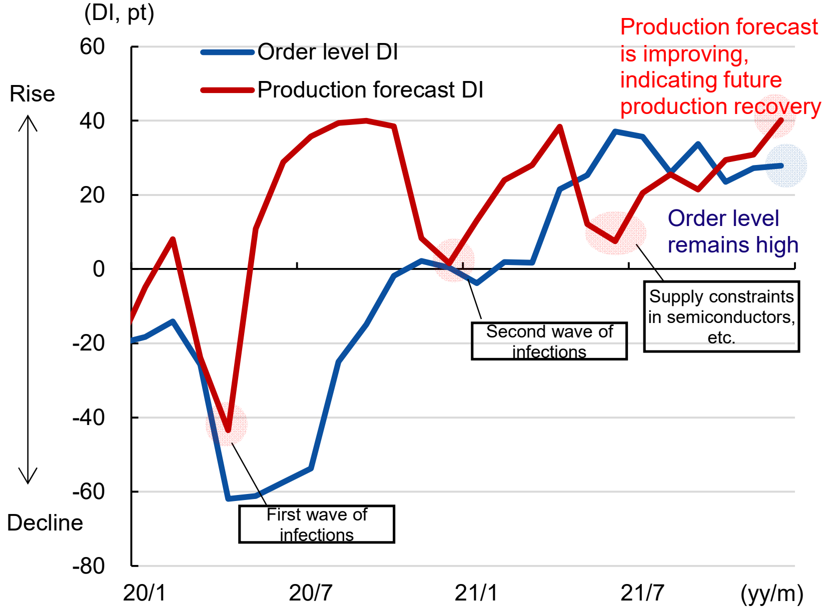
- Eurozone industrial production rose in November (+2.3% m-o-m) against a backdrop of the ongoing easing of supply constraints.
  - Output of motor vehicles (+4.8% m-o-m) continued to increase, albeit at a slower pace, driving the overall recovery.
- A gradual recovery is expected to continue in the first half of 2022.
  - The production expectation DI rose in December due to the alleviation of supply constraints for semiconductors and other products, indicating that the recovery in motor vehicle output will continue.
- In the near term, however, attention should be paid to the risk of a sharp rise in the number of Omicron cases, which could reduce labor supply and serve as a drag on production.

Eurozone: industrial production



Source: Made by MHRT based upon Eurostat.

Eurozone: Motor vehicle order level DI and production expectation DI

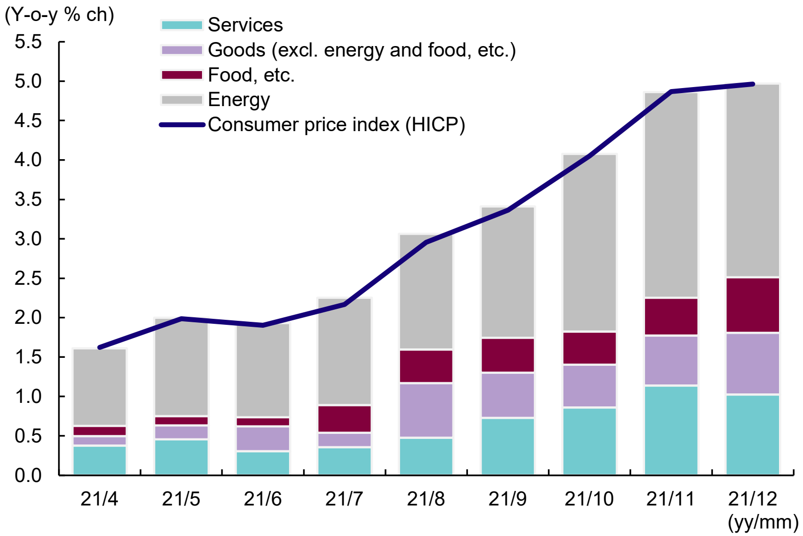


Note: The reading of zero is the DI threshold. The production expectation DI is based on production expectations over the next three months.
Source: Made by MHRT based upon the European Commission.

Inflation accelerated slightly in December. Going forward, although the rise is expected to slow down, inflation is likely to remain at a high level for the time being

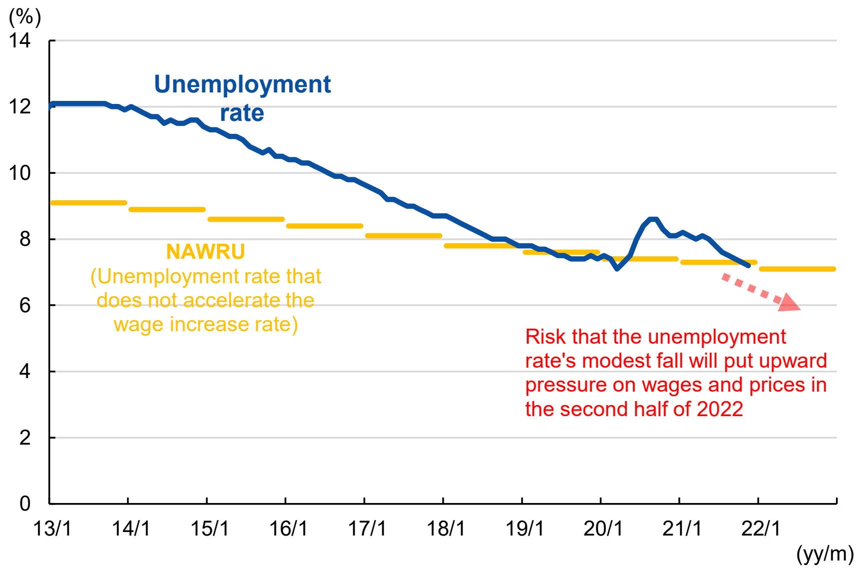
- Eurozone consumer prices in December (+5.0% y-o-y, final) accelerated at a slightly faster pace at +0.1% pt from the previous month, against the background of continued upward pressure on goods prices at +0.5% pt from the previous month, due to supply constraints.
- The inflation rate in 2022 is expected to remain high for the time being due to lingering inflationary pressures, although it will slow down as the base effect fades.
  - In November, the unemployment rate (7.2%) fell to near the Non-Accelerating Wage Rate of Unemployment (NAWRU) for 2022.
  - According to Indeed, the number of job openings in Germany is above the pre-pandemic level, notably in the manufacturing and service sectors requiring face-to-face interactions. Attention should be paid to wage trends and the risk of price hikes due to the tightening of the labor market in the second half of 2022 and beyond.

Eurozone: consumer price index (CPI)



Source: Made by MHRT based upon Eurostat.

Eurozone: unemployment rate



Source: Made by MHRT based upon Eurostat and the European Commission.

The December ECB Governing Council meeting expressed caution over the prevailing risk of high inflation

- At the Governing Council Meeting in December, the ECB decided to discontinue new net asset purchases under the Pandemic Emergency Purchase Program (PEPP) due to progress on economic recovery and other factors.
- The Governing Council maintained the view that inflation would ease in the course of 2022 as the temporary factors that drove its increase ease but cautioned that a "higher for longer" inflation scenario could not be ruled out for 2023 and beyond.

ECB: Key points of the ECB Governing Council meeting (based on the account released on January 21)

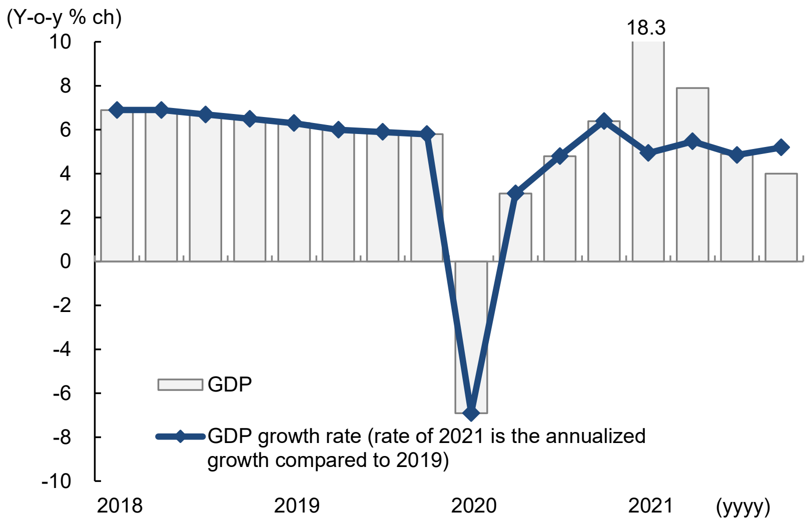
Economic situation / staff projections	The current pandemic wave and extended supply bottlenecks will be a drag on the economy, but the ECB expects growth to rebound strongly over the course of 2022. New ECB staff projections foresee annual real GDP growth at +4.2% in 2022, +2.9% in 2023 and +1.6% in 2024.	The December staff GDP projection foresaw a strong recovery in economic activity despite some near-term downward revisions owing to supply bottlenecks and the new pandemic wave.
Inflation outlook	Inflation is expected to remain elevated in the near term owing to the surge in energy prices, but decline over the course of 2022. New staff projections foresee annual inflation at +3.2% in 2022, +1.8% in 2023, and +1.8% in 2024	Regarding the inflation outlook, members of the Governing Council Meeting concurred that the recent and projected near-term increase in inflation was driven largely by temporary factors that were expected to ease in the course of 2022. At the same time, it was cautioned that a "higher for longer" inflation scenario could not be ruled out. For 2023 and 2024, inflation in the baseline projection was already relatively close to 2% and could easily turn out above 2%. It was seen as important to preserve the flexibility to act decisively.
Pandemic Emergency Purchase Program (PEPP)	ECB will discontinue new net asset purchases under the PEPP at the end of March 2022 (as originally projected). Will now reinvest the principal payments from maturing securities purchased under the PEPP until the end of 2024 (extended by one year). Depending on the situation, PEPP reinvestments can be adjusted flexibly, including purchasing bonds issued by the Hellenic Republic over and above rollovers of redemptions. Net purchases under the PEPP could also be resumed, if necessary.	Members broadly agreed that the progress on economic recovery and towards the Governing Council's 2% medium-term inflation target permitted a gradual normalization of the monetary policy stance. The flexibility embedded in the PEPP was judged to have helped to provide the required monetary policy support and to reduce fragmentation in financial markets during the crisis.
Asset Purchase Programme (APP)	After discontinuing PEPP, in line with a step-by-step reduction in asset purchases, the ECB decided to increase the volume of purchases on a monthly net purchase pace from the current €20 billion, to €40 billion in the second quarter and €30 billion in the third quarter. From the fourth quarter onwards, the volume will return to €20 billion.	Concerns were also expressed about any premature scaling back of asset purchases, etc. The point was also made that the phasing-out of the temporary step-up in net asset purchases under the APP was appropriate to ensure a sufficient level of monetary policy support following the discontinuation of net asset purchases under the PEPP while avoiding unwanted cliff effects.

Source: Made by MHRT based upon ECB.

Chinese economy: 2021 marked a high growth rate of +8.1%, due to prior year factors

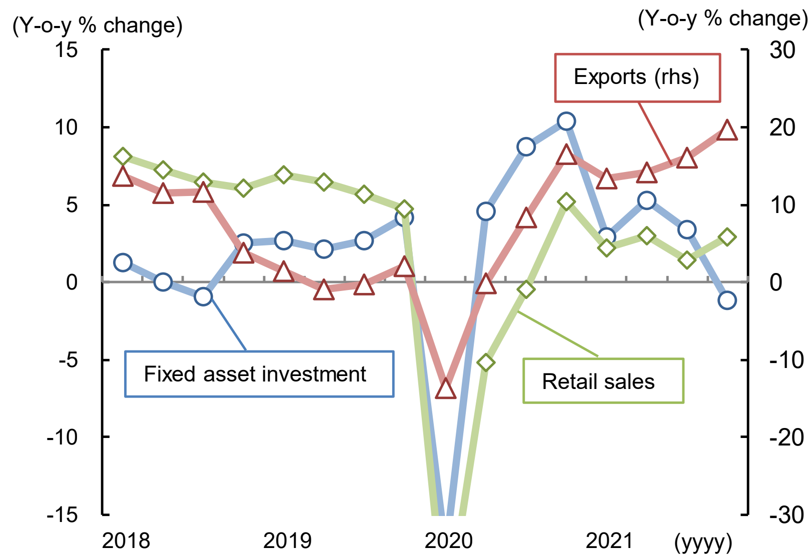
- China's real GDP growth in the 2021 Oct-Dec quarter slowed to +4.0% y-o-y (previous quarter: +4.9% y-o-y). The growth rate compared to 2019 (annualized) has picked up slightly to +5.2% (previous quarter: +4.9% y-o-y). Similarly, on a q-o-q basis, the growth rate improved to +1.6% q-o-q (previous quarter: +0.7% q-o-q).
  - However, this improvement was derived from the alleviation of slowdown factors in the Jul-Sep quarter (such as the resurgence of Covid-19 infections and electric power shortages), indicating that China's domestic demand lacked strength compared to external demand.
  - Manufacturing investment was still steady, but fixed asset investment marked a negative growth due to weak real estate investment.
- In the first half of 2022, China's zero-Covid policy and real estate lending restrictions will remain a restraining factor for the economy.
  - The economy is expected to maintain a growth rate near 5% even if the economic slowdown intensifies, since monetary and fiscal policies have already partially been implemented.

Real GDP



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

Key indicators

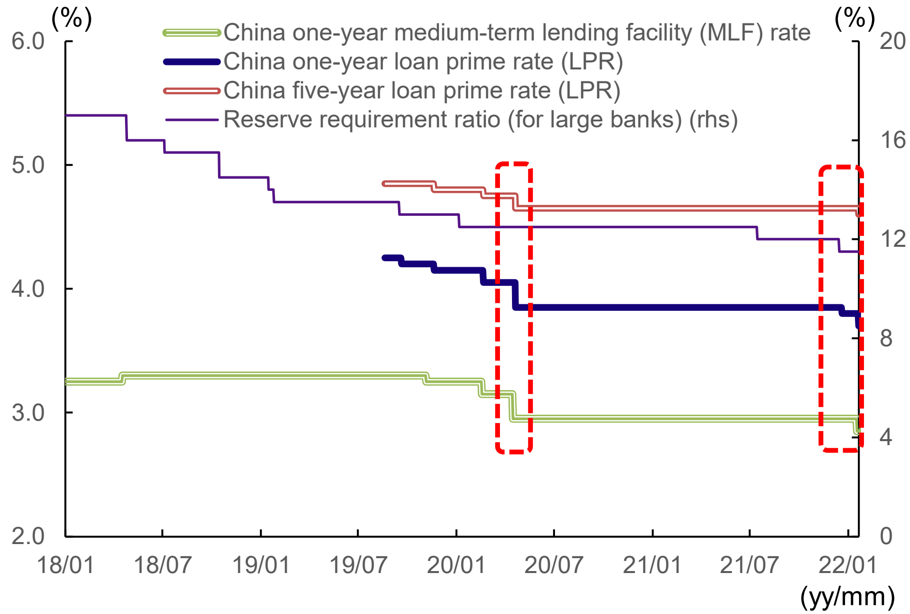


Note: Fixed asset investment is the Producer Price Index (building material) in real terms while total retail sales of social consumer goods are represented in real terms indexed by the retail price index. Data for 2021 is the annualized growth rate compared to 2019.
Source: Made by MHRT based upon the National Bureau of Statistics of China, General Administration of Customs of China, and CEIC data.

The economy was supported by two consecutive months of rate cuts. The RMB rate is testing the ceiling of yuan appreciation

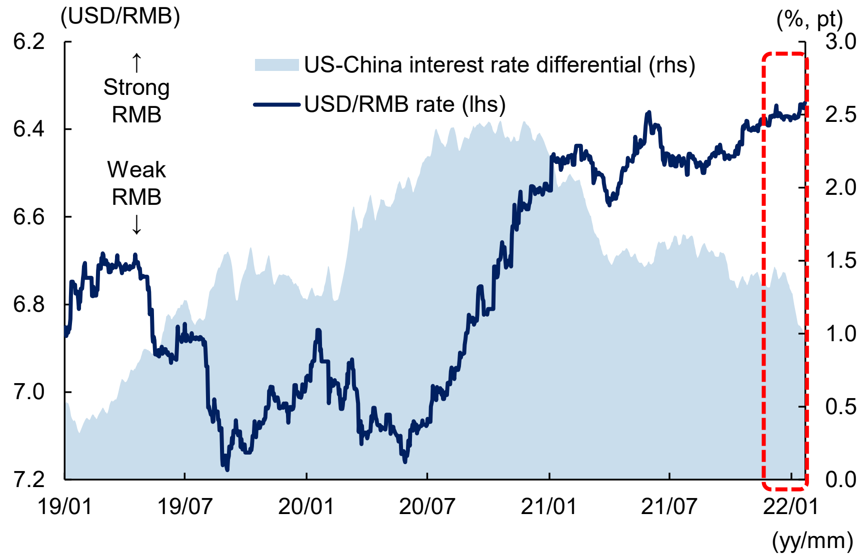
- On January 20, the People's Bank of China (PBOC) cut its 1yr Loan Prime Rate (LPR) by -0.1% to 3.70%, continuing its rate cuts from the previous month to support the economy.
  - The 5yr LPR, a reference rate for mortgage loans, was cut by a mere 0.05% to 4.60%, but this nevertheless made the PBOC's stance of implementing monetary easing clearer.
  - Further rate cuts and the lowering of the reserve requirement ratio are expected to continue through to the first half of 2022.
- The USD/RMB rate is testing the ceiling of the yuan's appreciation. The yuan temporarily weakened after the deputy governor of the PBOC said at a press conference on January 18 that "the PBOC won't allow one-way moves in the exchange rate," but the yuan appreciated again to the 1 USD = 6.33 RMB range on January 21.
  - The yuan is still under strong pressure from bond investment inflows and consistent trade surpluses. Even so, a gradual depreciation of the yuan is expected since the US-China interest rate differential is narrowing.

Benchmark interest rate and reserve requirement ratio



Source: Made by MHRT based upon the People's Bank of China, National Interbank Funding Center, and CEIC data.

USD/RMB rate and US-China interest rate differential

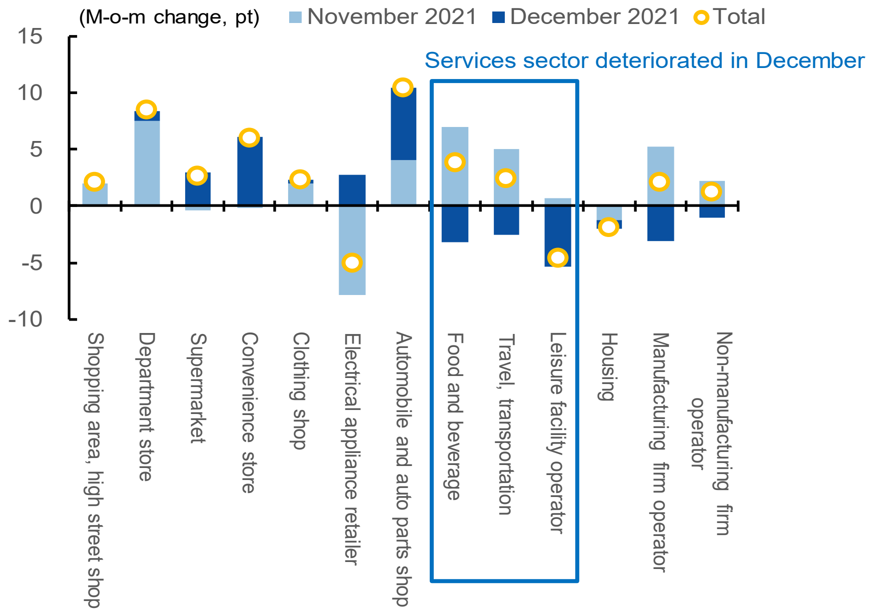


Note: US-China interest rate differential = 10yr Chinese bond yield - 10yr UST yield; 7-day moving average.
Source: Made by MHRT based upon CFETS, FRB, and CEIC data.

The Japanese economy: business sentiment may have peaked. Growing concerns about surging Omicron cases and rising raw material prices

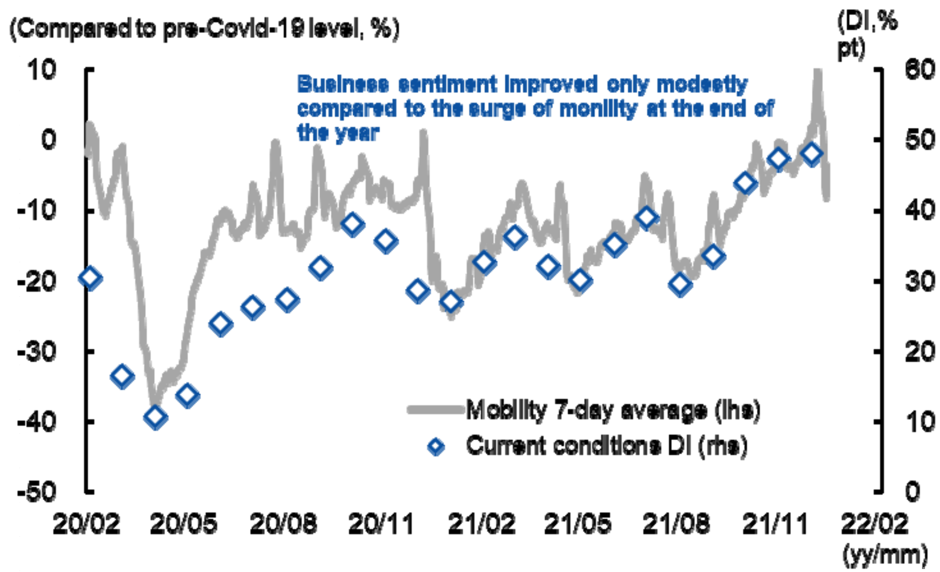
- The pace of recovery in business sentiment is slowing. The pickup in services requiring face-to-face interactions seems to be coming to a pause.
  - The Economy Watchers Survey's DI for current conditions (direction) in December improved modestly by +0.1 pt (m-o-m). While retail sales improved, food and beverage, tourism / transportation deteriorated.
  - The DI for the current condition was still below 50 (November:47.2→ December:48.0), which is deemed as the expansion- contraction threshold. Despite a surge of mobility at the end of the year in 2021, but the improvement in business sentiment was comparatively modest. Concerns about the resurgence in Covid-19 infections and pandemic-related changes in people's behavior are serving as a drag on business sentiment.
- Business sentiment is expected to weaken going forward due to the spread of the Omicron variant and the rise of raw material prices.
  - The DI for future conditions deteriorated for the second consecutive month. The percentage of respondents who mentioned the Omicron variant rose (November:11.7% → December: 34.1%), and the DI for all industries dropped from the previous month.

Economy Watchers Survey: DI for current conditions by industry (direction)



Note: Not seasonally adjusted basis
Source: Made by MHRT based upon Cabinet Office, *Economy Watchers Survey*.

Economy Watchers Survey: DI for current condition level and retail / entertainment mobility



Source: Made by MHRT based upon Cabinet Office, *Economy Watchers Survey* and Google *COVID-19 Community Mobility Reports*.

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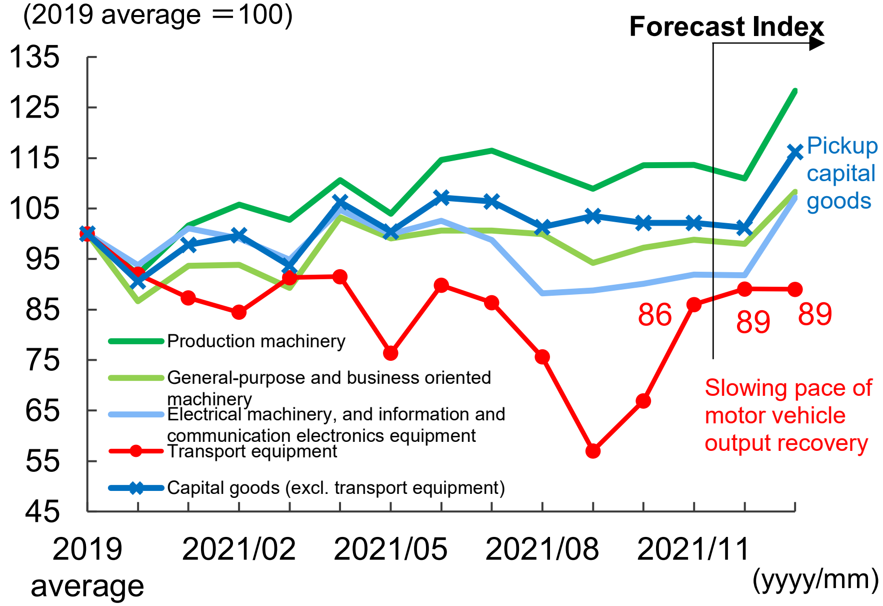
Motor vehicle output achieved a full-fledged recovery. Capital goods should serve as a driver from the beginning of the year

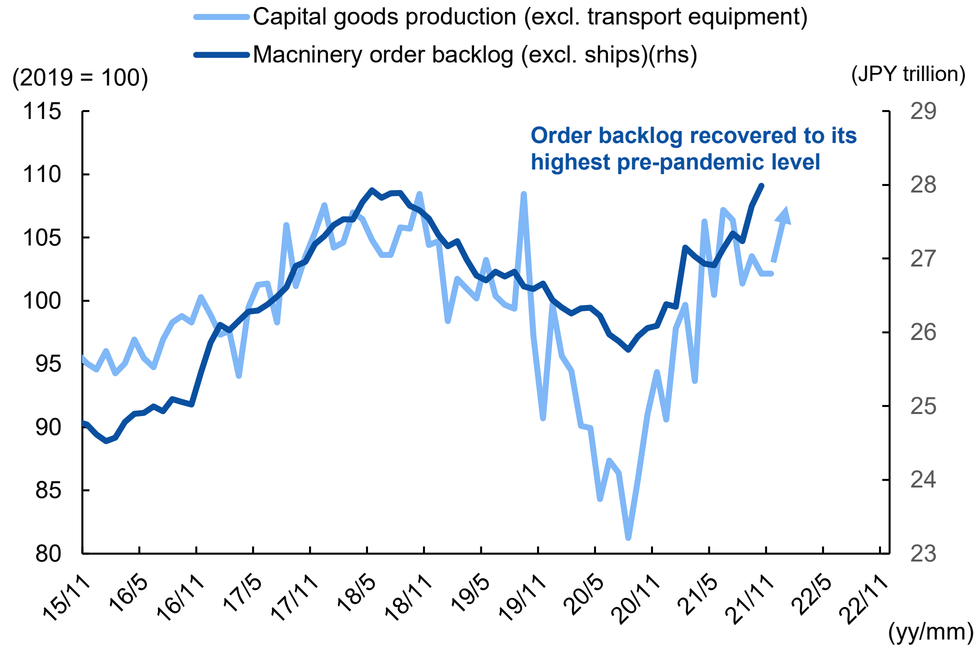
- Motor vehicle output picked up, given the easing of the Southeast Asia factor.
  - The industrial production index in November rose a dramatic +7.2% m-o-m. Motor vehicle output and material industry (plastic products, etc.) production recovered.
  - Motor vehicle output is expected to continue to grow. However, the pace of output growth slowed after the start of the year, peaking at below the pre-pandemic level. Given the ongoing supply crunch of semiconductors, the recovery of motor vehicle output is expected to be limited.
- Depite the current weakness of capital goods, an upward is expected going forward.
  - The production forecast index rose significantly in January. Order backlogs are high and are expected to pick up from the beginning of the year.

Industrial production / actual results and production forecast index



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

Capital goods production and machinery order backlog

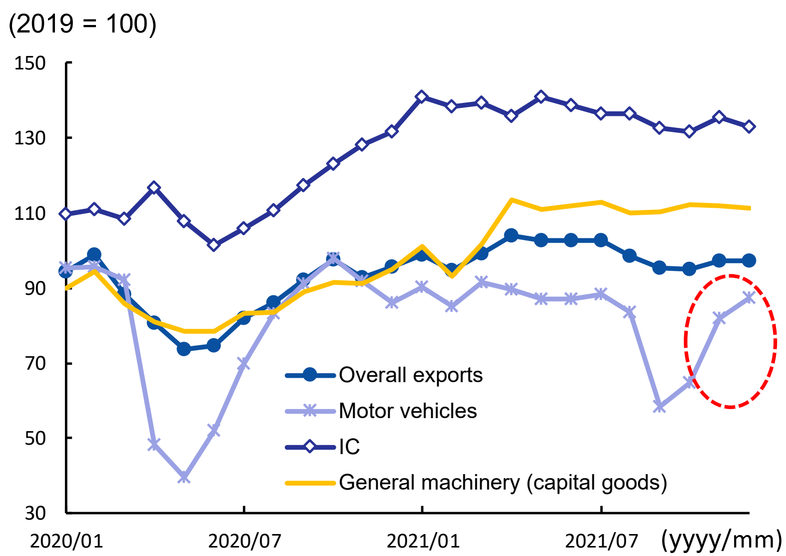


Source: Made by MHRT based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production*. and Cabinet Office, *ESRI Orders Received for Machinery*.

Exports increased further, driven by motor vehicles. Import values are at a high level due to the rise of commodity prices

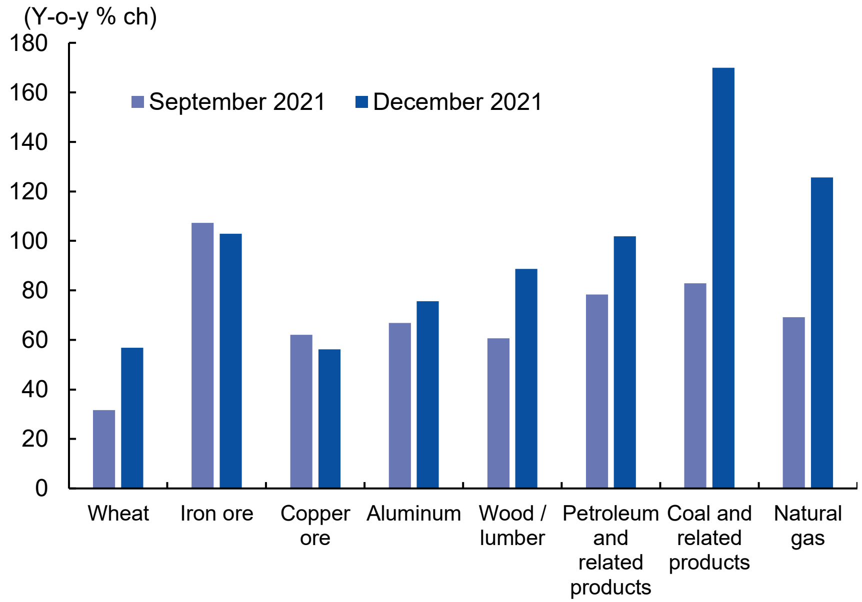
- The export volume index for December rose for the second consecutive month, up +0.2% m-o-m (November:+2.0% m-o-m).
  - Motor vehicles (+6.4% m-o-m), for which supply constraints are gradually alleviating, boosted the overall index. IC and capital goods fell slightly but remained at a high level.
- Import values remained high due to the rise of commodity prices. The trade balance is showing an excess of imports for the eighth consecutive month.
  - Import prices have risen further since the previous quarter, mainly in petroleum and related products, coal and related products, and natural gas.
- Looking ahead, exports are expected to continue to increase gradually, reflecting a pickup in the motor vehicle sector, in addition to support from capital goods and information-related sectors. On the other hand, rising costs due to the rise of commodity prices is likely to serve as a drag on corporate earnings.

Trends in exports by major items



Note: Seasonally adjusted by MHRT.
Source: Made by MHRT based upon Ministry of Finance, *Trade Statistics*.

Import prices, y-o-y (quarterly basis)

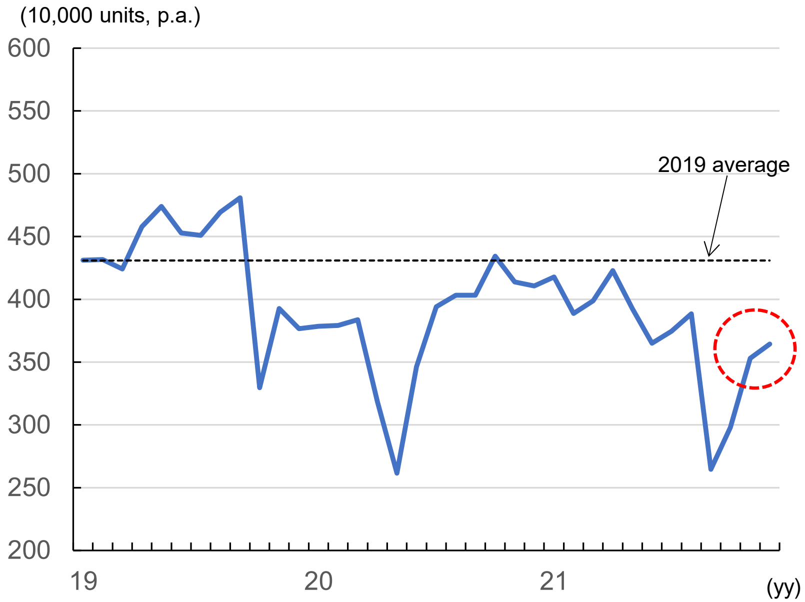


Source: Made by MHRT based upon the Bank of Japan, *Corporate Goods Price Index*.

Consumption picked up in December, but is expected to deteriorate again due to the resurgence of infections

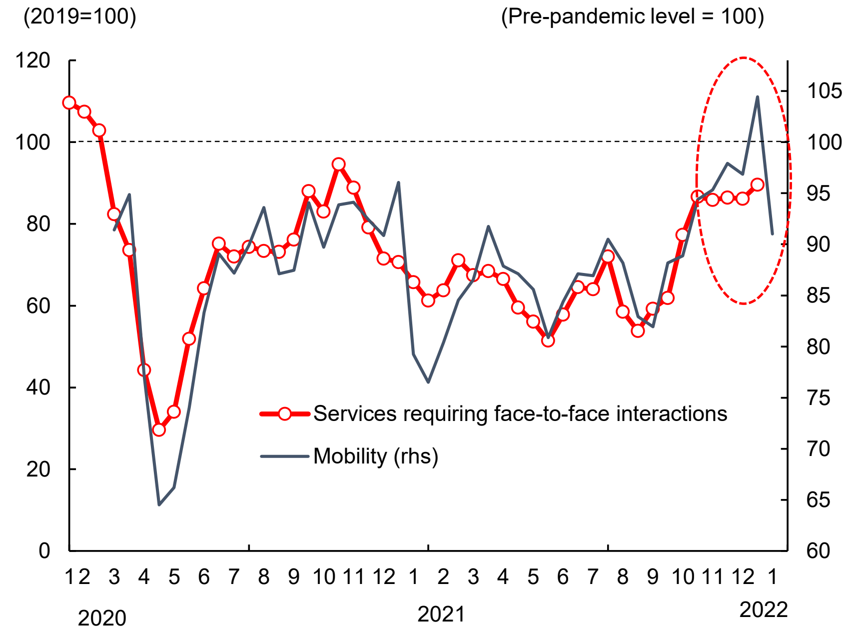
- New car sales, in terms of units sold, rose in December for the third month in a row, +3.2% m-o-m.
  - Current sales appears to reflect the alleviation of difficulties in procuring parts from Southeast Asia and the recovery of output. On the other hand, the recovery of output will be limited, given the lingering the impact of semiconductor shortages. Sales are not expected to exceed pre-pandemic levels until 2023 or later.
- In the second half of December, consumption of services requiring face-to-face interactions recovered slightly due to increased flows of people during the 2021 year-end.
  - However, service consumption is expected to deteriorate again in the Jan-Mar quarter due to the surge in Omicron cases since the start of the new year.

New car (passenger car) unit sales



Note: Passenger cars (including 660 cc minivehicles). Seasonally adjusted by MHRT.
Source: Made by MHRT based upon Japan Automobile Dealers Association, Japan Light Motor Vehicle and Motorcycle Association.

Trends of consumption of services requiring face-to-face interactions and mobility

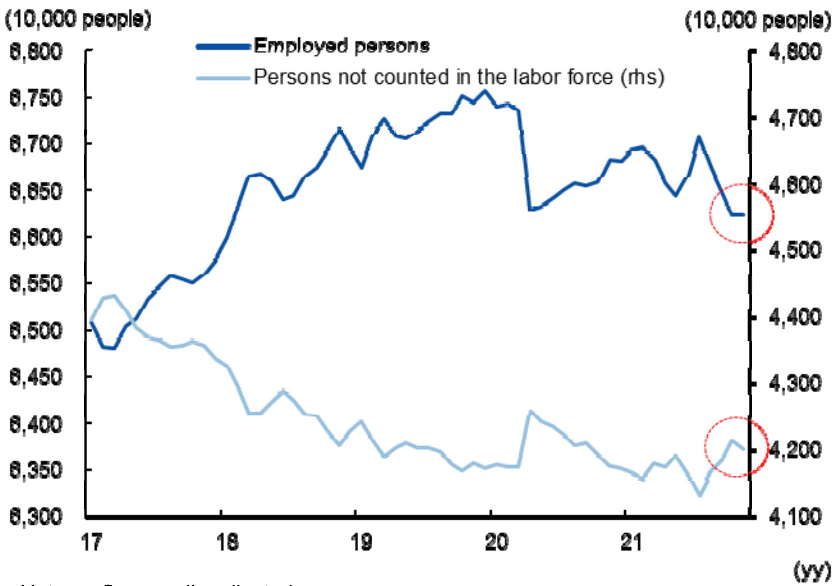


Note: Half month basis. The index representing consumption of services requiring face-to-face interactions is seasonally adjusted (up to 2H Dec 2021) by MHRT. Mobility is represented by retail and entertainment mobility.
Source: Made by MHRT based upon JCB and Nowcast, *JCB Consumption NOW*, and Google LLC, *Google COVID-19 Community Mobility Reports*.

The unemployment rate rose in November. Despite a temporary uptick, labor demand is expected to deteriorate again

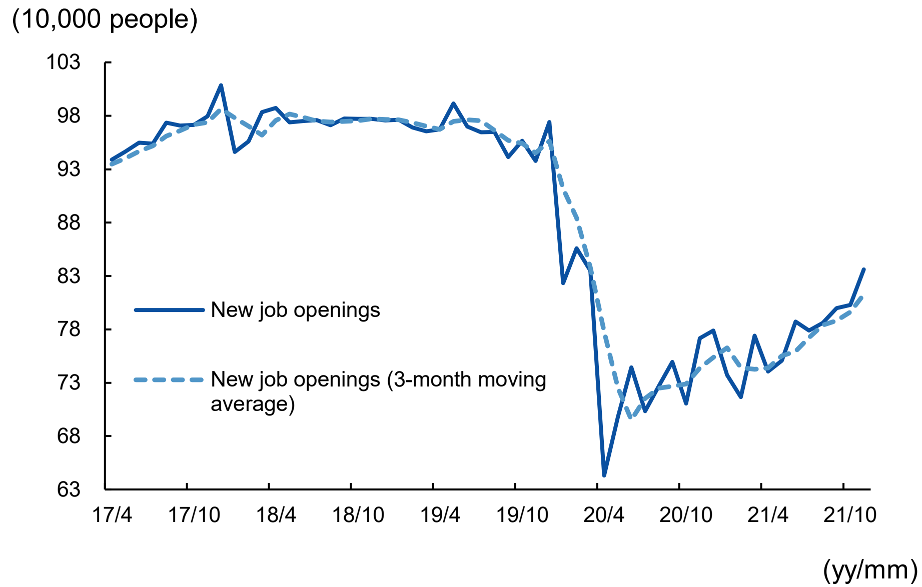
- The unemployment rate in November increased to 2.8% from the previous month (October: 2.7%). It is believed that some persons not counted in the labor force have become unemployed persons.
  - The number of unemployed persons (+100,000 m-o-m) increased. While the number of employed persons remained flat from the previous month, persons not counted in the labor force decreased (-130 thousand m-o-m) for the first time in four months (the contribution of persons not counted in the labor force to the unemployment rate is estimated to be +0.2% pt).
  - The number of new job openings, a leading indicator of employment, increased +4.1% from the previous month, an increase for the fourth consecutive month. The increase was mostly contributed by sectors such as services requiring face-to-face interactions.
  - As for the employment situation going forward, even though labor demand is temporarily expected to pick up, notably in services requiring face-to-face interactions, the situation is expected to deteriorate again as the surge of raw material prices and the increase in Omicron cases is likely to serve as a drag through the Jan-Mar quarter.

Trends in number of employed persons and persons not counted in the labor force



Note: Seasonally adjusted
Source: Made by MHRT based upon Ministry of Internal Affairs and Communications, *Labour Force*.

Trends in new job openings

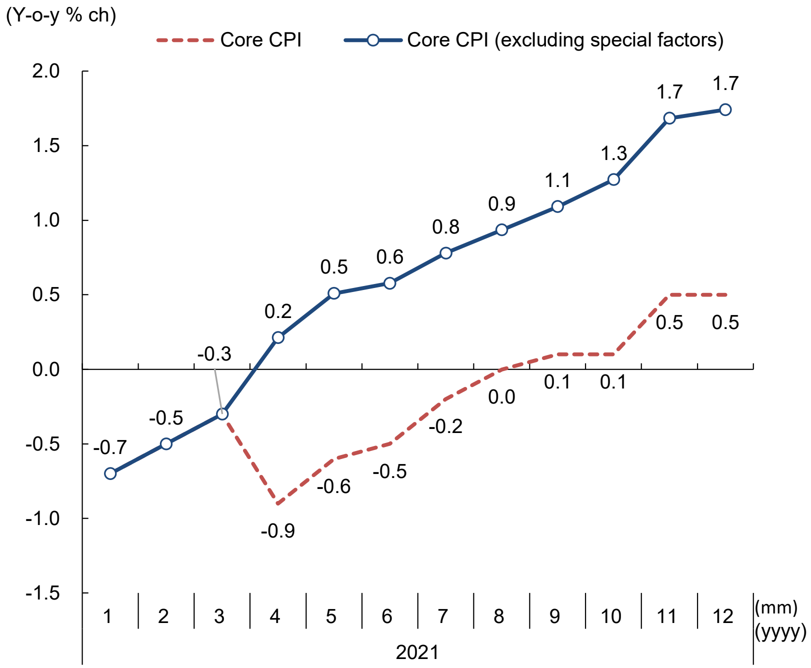


Note: Seasonally adjusted
Source: Made by MHRT based upon Ministry of Health, Labour and Welfare, *Employment Referrals for General Workers*.

The rate of increase of core CPI remained flat at +1.7% y-o-y (ex special factors)

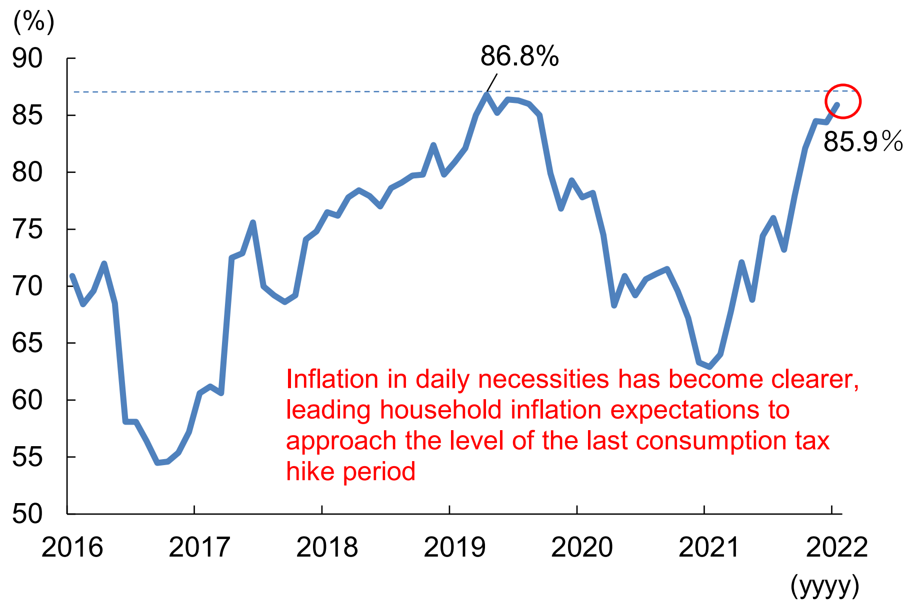
- In December, the core consumer price index (CPI) for Japan rose +0.5% y-o-y (November: +0.5% y-o-y). Excluding special factors, December core CPI rose +1.7% y-o-y.
  - While energy (November: +15.6% y-o-y → December: +16.4% y-o-y) rose, household durable goods (November:-0.3% y-o-y → December -2.9% y-o-y) and accommodation charges (November: +57.6% y-o-y → December :+44.0% y-o-y) were downward factors. As a result, the rate of increase of core CPI as a whole remained flat.
  - The rate of increase of core CPI is expected to gradually accelerate further due to the recent rise in crude oil prices and the pass-over of costs to prices of foodstuffs.
- According to the January price monitor survey, 85.9% of respondents expect prices of daily necessities to rise in a year, a level close to that of the 2019 consumption tax hike period. As prices of daily necessities continue to rise, the number of households that expect prices to rise further will continue to increase.

Trend of Core CPI y-o-y change



Note: The series excluding special factors excludes the effects of accommodation charges and communication charges (mobile phones).
Source: Made by MHRT based upon the Ministry of Internal Affairs and Communications, *Consumer Price Index*.

Inflation forecast for daily necessities



Note: The percentage of respondents who answered that the prices of daily necessities in general will rise in one year compared to the present time.
Source: Made by MHRT based upon the Consumer Affairs Agency, *Consumer Price Monitor Survey*.

Bank of Japan: the BOJ is expected to continue its current monetary easing framework over the long term

- At the January Monetary Policy Meeting (January 17 and 18), the Bank of Japan (BOJ) decided to maintain its current monetary policy stance.
  - The BOJ is expected to continue its current monetary easing framework for the time being.
- In the *Outlook for Economic Activity and Prices* (*Outlook Report*), the projected growth rate and prices for FY2022 were revised up from the previous outlook in October.
  - While the FY2021 growth rate was revised downward, the FY2022 growth rate has been revised upward, mainly due to the pickup in personal consumption and the impact of the government's economic measures.
  - Prices for FY2022 (median) were revised upward to +1.1% from the previous outlook, reflecting rising energy prices and raw material costs. With regard to price-related risk assessments, BOJ's view has changed from "risks to economic activity are skewed to the downside for the time being," to "risks to prices are generally balanced."

Outlook for Economic Activity and Prices: The Bank's View (January 2022)

(The BOJ's view on the economy)

- Japan's economy is likely to recover as downward pressure on services consumption and the effects of supply-side constraints wane, while being supported by an increase in external demand, accommodative financial conditions, and the government's economic measures.
- Thereafter, as the virtuous cycle from income to spending intensifies in the overall economy, including the household sector, supported by accommodative financial conditions, for example, Japan's economy is projected to continue growing at a pace above its potential growth rate.

(The BOJ's view on prices)

- The year-on-year rate of change in the consumer price index (CPI, all items less fresh food) is likely to increase in positive territory for the time being, albeit with fluctuations, on the back of a rise in energy prices, a moderate pass-through of raw material cost increases, and dissipation of the effects of a reduction in mobile phone charges.
- Thereafter, the rate of increase in the CPI is expected to stay at around 1% toward the end of the projection period, due to the improvement in the output gap and a rise in medium- to long-term inflation expectations.

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

Forecasts of the Majority of the BOJ Policy Board Members (January 2022)

	Real GDP	CPI (all items less fresh food)
Fiscal 2021	+2.7 to +2.9 [+2.8]	0.0 to +0.1 [0.0]
Forecasts made in October 2021	+3.0 to +3.6 [+3.4]	0.0 to+0.2 [0.0]
Fiscal 2022	+3.3 to +4.1 [+3.8]	+1.0 to+1.2 [+1.1]
Forecasts made in October 2021	+2.7 to +3.0 [+2.9]	+0.8 to+1.0 [+0.9]
Fiscal 2023	+1.0 to +1.4 [+1.1]	+1.0 to +1.3 [+1.0]
Forecasts made in October 2021	+1.2 to +1.4 [+1.3]	+0.9 to +1.2 [+1.0]

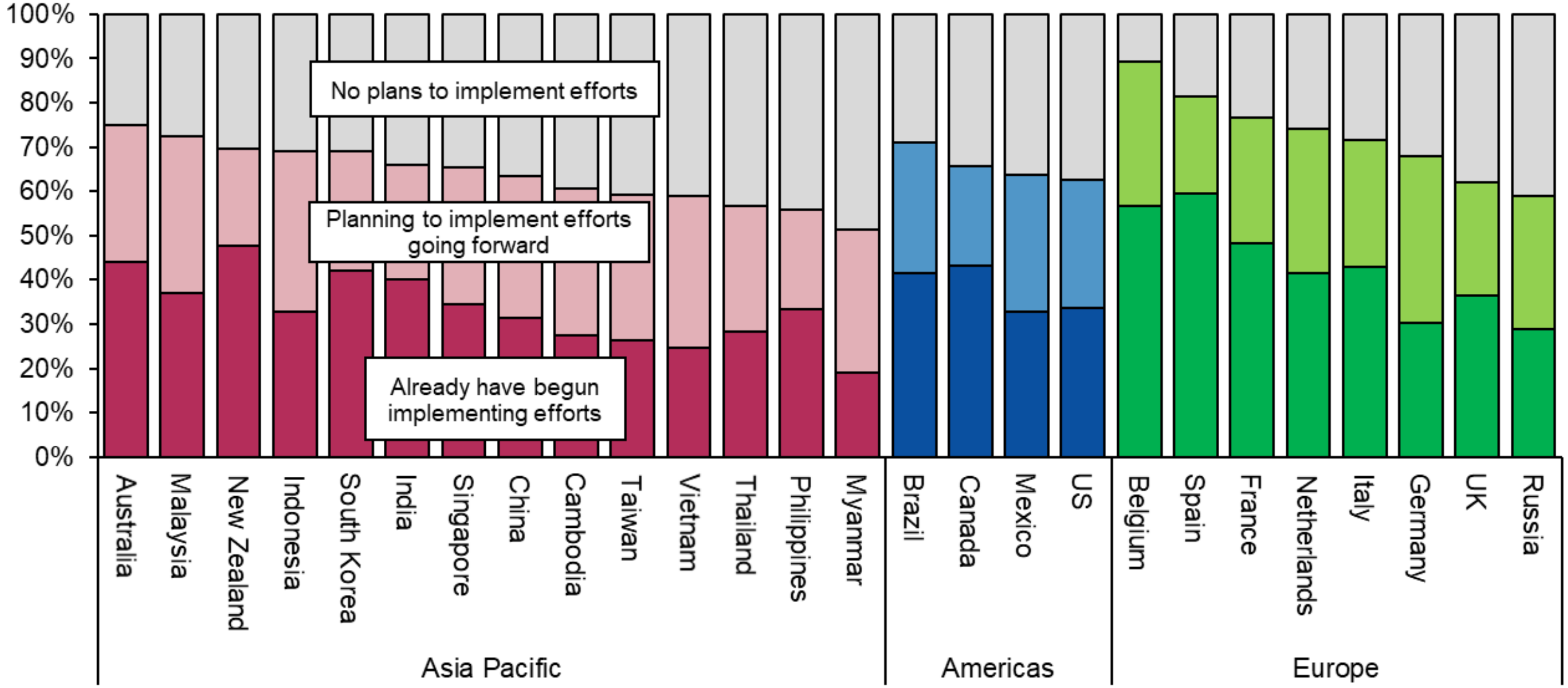
Note: Fiscal y-o-y comparisons. Figures in brackets indicate the medians of the Policy Board members' forecasts. The reduction in mobile phone charges by major carriers conducted in spring 2021 is estimated to directly push down the CPI for fiscal 2021 by around -1.1 percentage points.

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

Sustainability: the majority of Japanese companies operating overseas have started or plan to implement decarbonization

- According to a JETRO survey of Japanese companies operating overseas, the majority, more than 60%, have already started or plan to implement decarbonization efforts.
  - By country/region, in addition to Europe, companies in developed Asian countries such as Australia are leading the way. Furthermore, many companies in the electronics and financial industries are actively decarbonizing, and in Malaysia and India, where these industries are concentrated, companies are also making good progress.
  - On the other hand, Japanese companies operating in emerging Asian countries are lagging behind in their response, attributable to the lukewarm stances of local governments and business partners.

Status of decarbonization efforts by Japanese companies operating overseas



Note: The survey was conducted in August and September 2021. A total of 6,753 companies across all regions responded.
Source: Made by MHRT based upon JETRO, *JETRO Survey on Business Conditions of Japanese Companies Operating Overseas (FY2021)*.

Scope 3 emissions and other head office-led efforts to reduce emissions and requests from business partners are motivating decarbonization efforts

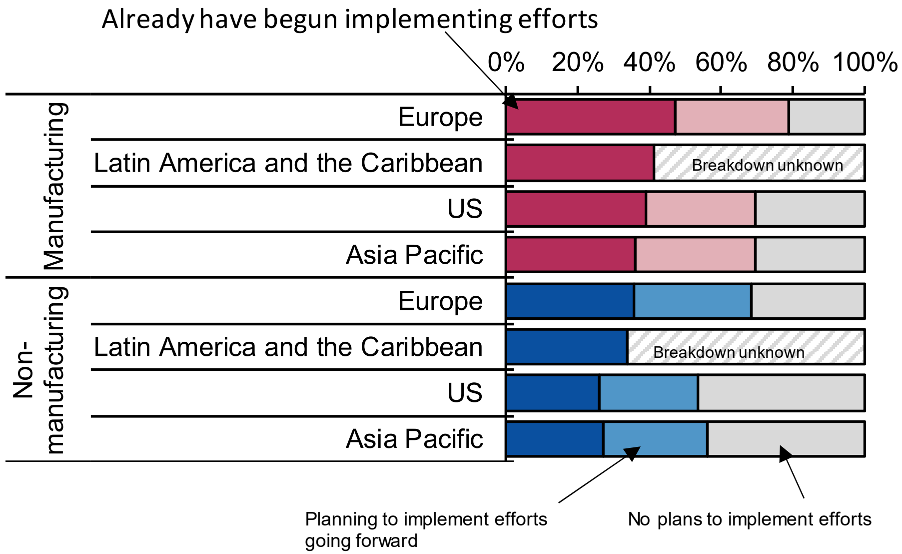
- The most common reason for implementing decarbonization efforts was "instructions from the head office (parent company)" across all regions, exceeding "regulations and preferential treatment by the government" as the source of motivation. This indicates that companies, especially those in the manufacturing industry, are conscious of reducing emissions throughout the supply chain.
  - ■ In Europe, many Japanese companies cite requests from business partners, investors, and consumers as motivating factors to implement efforts.
    - ◆ According to a survey by the German Chamber of Commerce and Industry, more than half of German companies have implemented emission reduction measures involving their business partners. In order to maintain and expand their business relationships, it appears that there is a growing incentive for Japanese companies to align with this trend.

Reasons for implementing decarbonization efforts (multiple answers allowed)

(%)	Asia Pacific	US	Latin America and the Caribbean	Europe
Instructions from the head office (parent company)	68.0	68.2	79.6	62.4
Regulations and preferential treatment by the government of the country/region in which the	33.0	30.2	20.7	33.6
Instructions/requests from business partners (Japanese companies)	20.6	23.2	24.0	25.5
Instructions/requests from business partners (non-Japanese companies)	11.3	16.2	14.9	15.1
Requests from investors	10.6	12.7	13.7	17.1
Requests from consumers	8.7	13.3	12.2	18.7
Requests from employees	3.6	5.1	4.3	9.9
Requests from citizens and NGOs	2.5	2.3	3.6	4.5
Others	11.1	8.4	6.4	9.6

Note: The survey was conducted in August and September 2021. A total of 6,753 corporations across all regions responded.
Source: Made by MHRT based upon JETRO, *JETRO Survey on Business Conditions of Japanese Companies Operating Overseas (FY2021)*

Status of decarbonization efforts by manufacturing sectors and non-manufacturing sectors

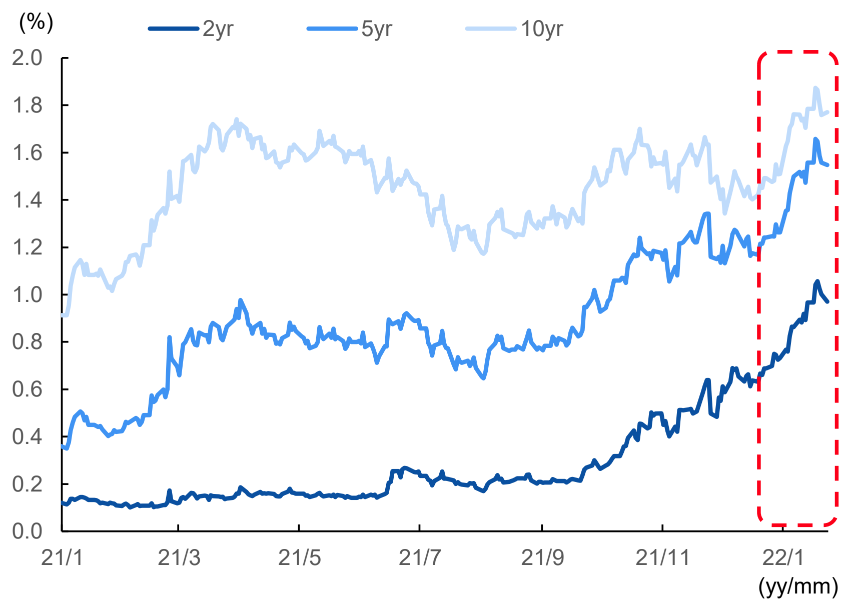


Note: The survey was conducted in August and September 2021. A total of 6,753 corporations across all regions responded.
Source: Made by MHRT based upon JETRO, *JETRO Survey on Business Conditions of Japanese Companies Operating (FY2021)*.

US bond market: US long-term interest rates temporarily rose sharply to around 1.9%

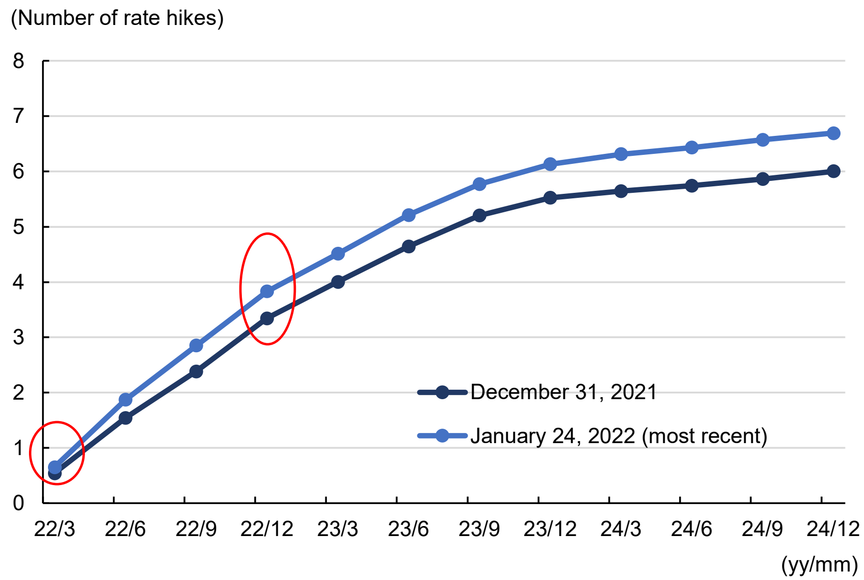
- US long-term interest rates temporarily rose to around 1.9%, factoring in the acceleration of monetary policy normalization, but subsequently fell due to risk-off sentiment.
  - The minutes of the December FOMC meeting (released on January 5) revealed that in addition to rate hikes, there are discussions on running off the FRB's balance sheet.
  - Even dovish FRB officials supported the March rate hike. The market has largely factored in the first rate hike in March and four rate hikes within 2022.
  - With high inflation persisting, the December employment report showed that the unemployment rate fell below 4%, further raising awareness of monetary tightening.
- Looking forward, we expect US long-term interest rates to rise through the March FOMC meeting, since rate hikes are expected to be further factored in as the strength of employment and inflation is confirmed.

Trends of nominal interest rates



Source: Made by MHRT based upon Bloomberg.

Markets' factoring in of rate hikes

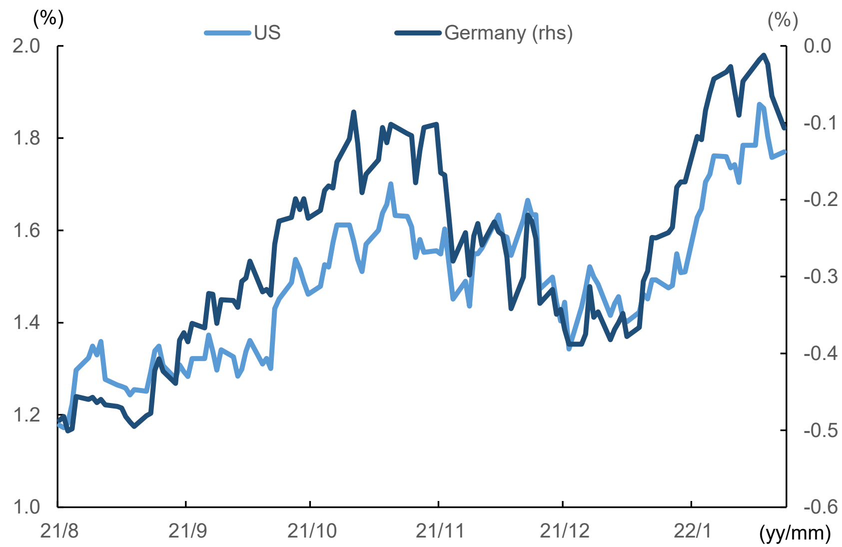


Note: The market outlook is calculated from Eurodollar futures . The rise in rates per one rate hike is assumed to be 0.25%.
Source: Made by MHRT based upon Bloomberg.

Eurozone bond market: German long-term interest rates surged to around 0%

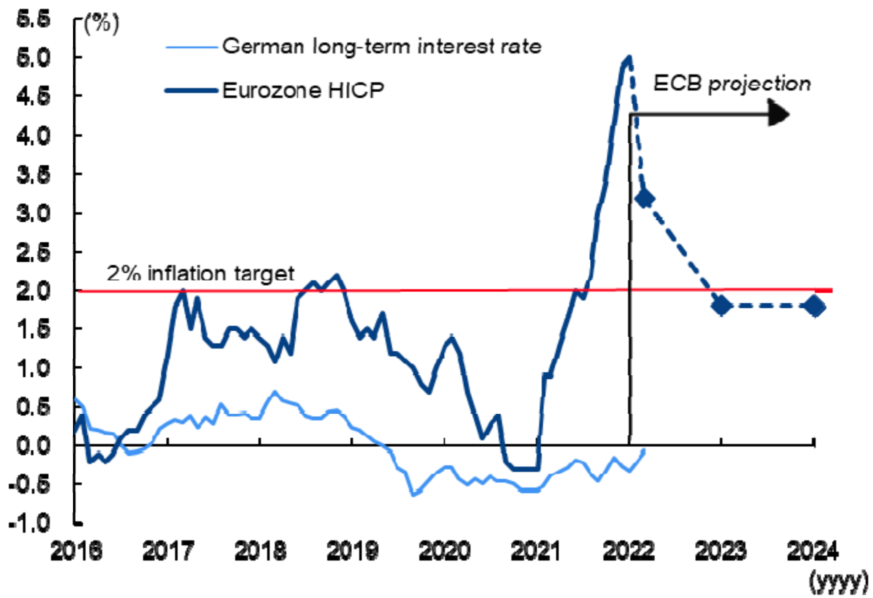
- German long-term interest rates surged to near 0% on the back of the sharp rise of US long-term interest rates and speculation on a rate hike by the ECB.
  - Amid prospects of the FRB's early monetary tightening, Eurozone inflation accelerated from the previous month to +5% y-o-y in December, leading to speculation of a rate hike by the ECB in 2022.
  - On the other hand, ECB President Christine Lagarde and ECB Governing Council Member Philip R. Lane expect inflation to decline and are against a rate hike in 2022.
- Looking forward, while German long-term interest rates are expected to rise along with the rise in US long-term interest rates, the pace of rise should be mild.
  - Since inflation in Europe is expected to decline, speculation of a rate hike is expected to recede.

Trend of US and German long-term interest rates



Source: Made by MHRT based upon Bloomberg.

Eurozone inflation rate and German long-term interest rate



Note: German long-term interest rate is represented by the monthly average.
Source: Made by MHRT based upon Bloomberg.

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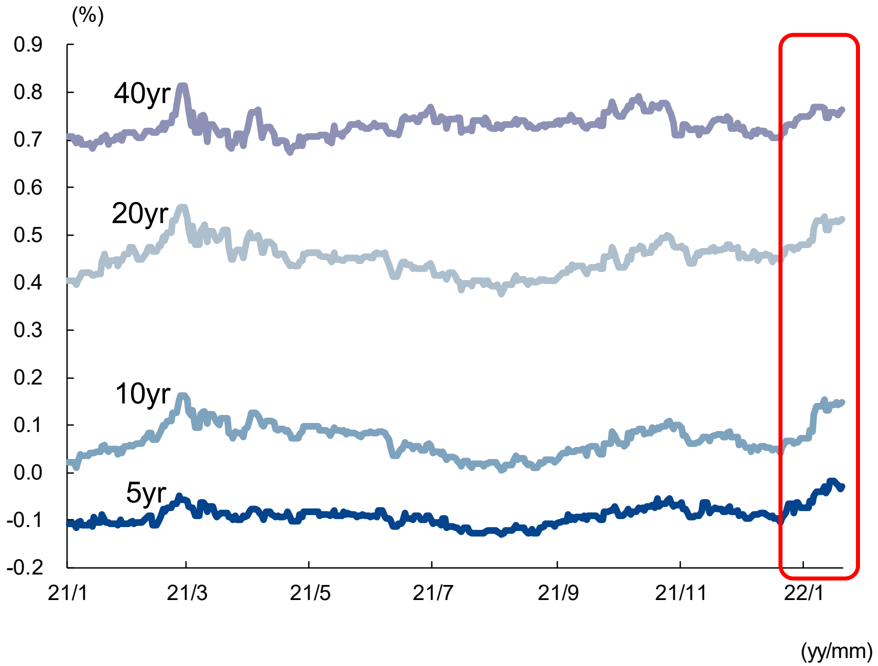
Japanese bond market: the 10yr JGB yield is projected to trend in the mid-0.1% range

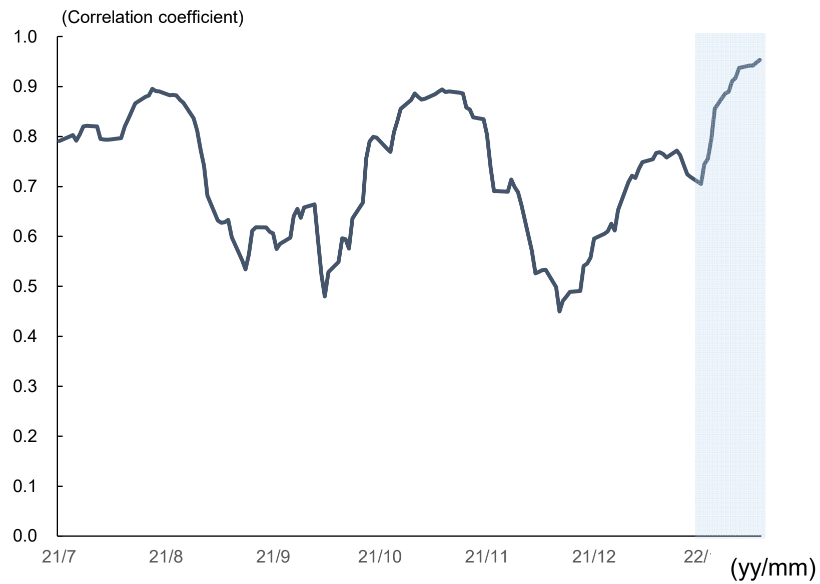
- The 10yr JGB yield rose from the upper half of the 0.0% range at the end of December 2021 to the current lower half of the 0.1% range.
  - The main cause of the rise of yen interest rates is the rise of US long-term interest rates due to speculation on the acceleration of US monetary policy normalization. However, given media speculation of a policy revision ahead of the BOJ Monetary Policy Meeting (January 17 and18), the rates temporarily rose to the level of February 2021 (mid 0.1% level).
- The 10yr JGB yield is expected to trend around the mid-0.1% range.
  - Domestic factors behind the yield rise in Japan temporarily receded as the BOJ Governing Policy Meeting decisions were “uneventful" with no indication of the BOJ's policy change. On the other hand, given that long-term interest rates in the US are expected to rise in the lead-up to the March FOMC meeting, long-term interest rates in Japan are also expected to trend in the mid-0.1% range.

Trends in JGB yields



Source: Made by MHRT based upon Bloomberg.

Correlation of US-Japan 10yr government bond yields

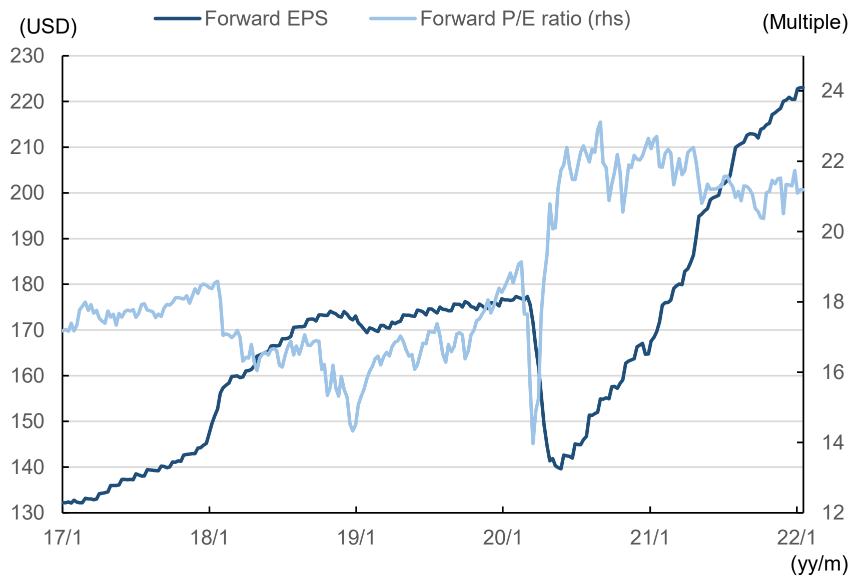


Note: The observation period of the correlation coefficient is 30 business days.
Source: Made by MHRT based upon Bloomberg.

US stock market: stock prices fell sharply on the rise of speculation on acceleration of monetary policy normalization

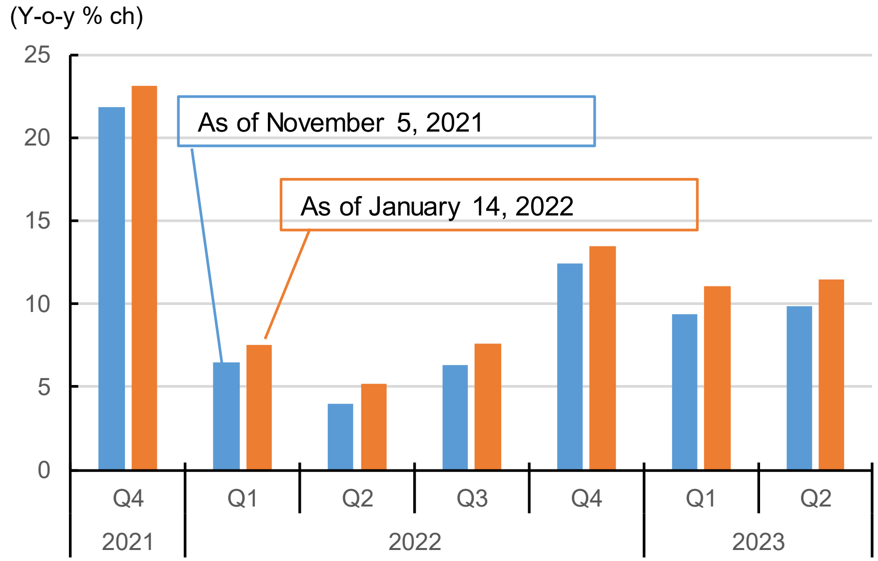
- In the US stock market, the Dow Jones Average and the S&P 500 reached new highs at the beginning of the year. However, the December FOMC meeting minutes (released on January 5) and a series of hawkish comments from FRB officials raised caution about an earlier monetary policy normalization, leading to the rise of US long-term interest rates and a sharp decline in stock prices.
  - As of January 24, compared to the end of 2021, the three major indices fell as follows: the Dow Jones Average: -5.4%; S & P500: -7.5%; NASDAQ: -11.4%.
- As the P/E ratio remains at a high level, there is a lingering sense of overvaluation. Although the EPS is expected to rise going forward, US stocks are expected to remain flat as the sense of overvaluation recedes. However, it will be necessary to keep a close eye upon the risk of a fall in the event of a further rise of interest rates.
  - S&P 500 companies' earning forecasts have been revised upward from the forecasts as of November.

S&P 500 forward EPS and forward P/E ratio



Note: Forward EPS and forward P/E ratio are based on a 12-month forward forecast.
Source: Made by MHRT based upon Refinitiv.

Quarterly EPS forecasts for S&P 500 companies



Source: Made by MHRT based upon Refinitiv.

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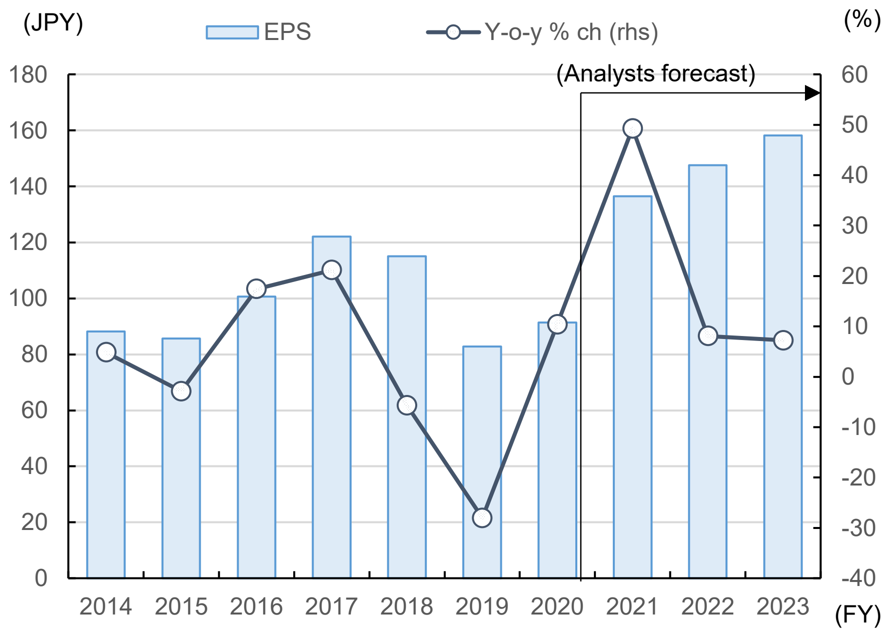
Japanese stock market: stocks subject to weak sentiment as in the US stock market

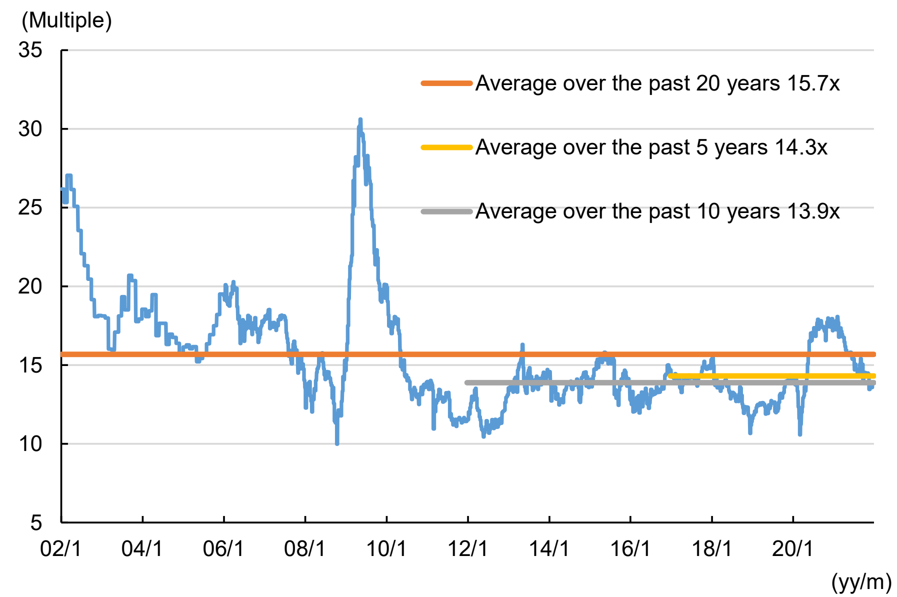
- The Japanese stock market fell sharply in tandem with the US stock market, as the US stock market fell in response to the rise of US long-term interest rates.
  - The rapid surge of cases of the Omicron variant in Japan is also serving as a negative factor.
- The P/E ratio of Japanese stocks has recently dipped to the lower 13x range. Amid the recovery of the Japanese economy, Japanese corporations are expected to maintain solid corporate earnings, which should limit further P/E ratio declines going forward. Japanese stocks are expected to follow firm footing in line with the rise in their EPS.

TOPIX forward EPS by fiscal year (as of January 20)



Source: Made by MHRT based upon Refinitiv.

Trend of TOPIX forward P/E ratio

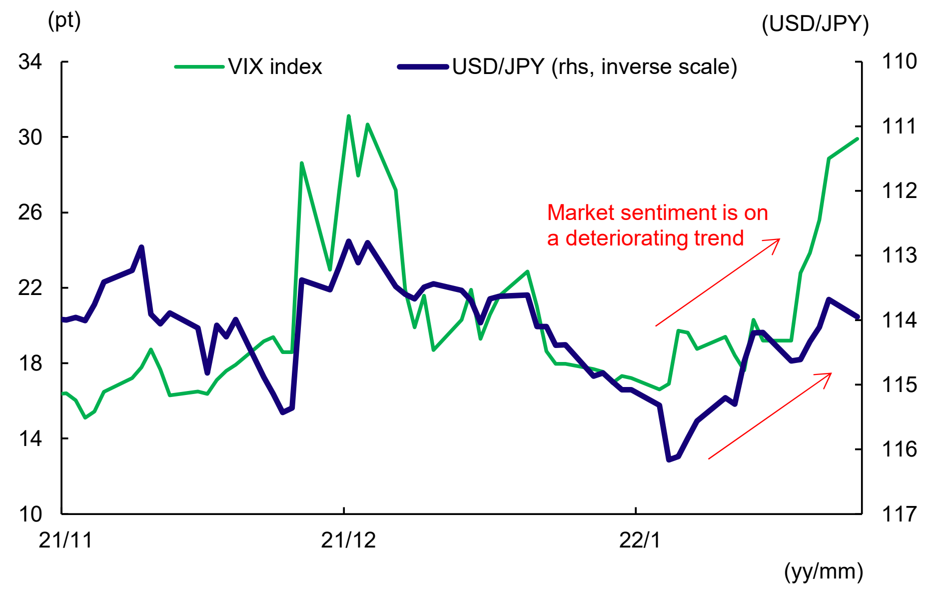


Note: Forward P/E ratio is based on a 12-month forward forecast.
Source: Made by MHRT based upon Refinitiv.

Forex market: the dollar is expected to strengthen against the yen as US rate hikes are factored in

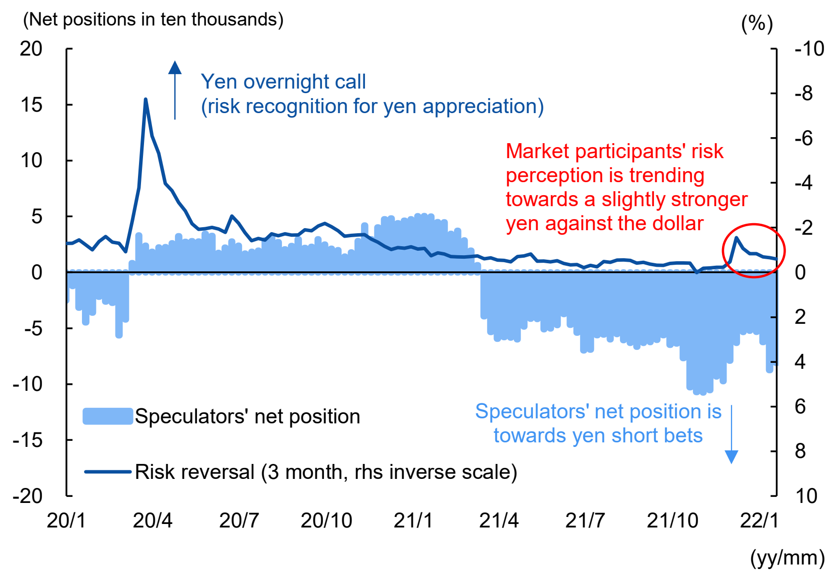
- As for the USD/JPY rate, although the dollar strengthened to the yen to the 1USD = JPY116 range at the beginning of the year due to the rise of US interest rates, it subsequently weakened to the current level of JPY113 yen to the dollar.
  - The "hawish" minutes of the December FOMC (released on January 5) led to a global stock market fall due to caution over the possibility of an earlier monetary policy normalization. Given risk-off yen buying, this led to the yen's appreciation to the dollar, to the 1USD = JPY 113 range.
- Looking forward, we expect the yen to weaken against the dollar amid the rise of US interest rates as US rate hikes are further factored in.
  - However, note that market participants continue to be slightly cautious against the yen's appreciation under the current risk reversal. In the event of further yen appreciation, stemming from risk-off sentiment due to the fall of stock prices, attention needs to be paid to the possibility of a further acceleration of the yen's appreciation due to the unwinding of yen short positions (repurchases of yen).

USD/JPY rate and VIX index



Source: Made by MHRT based upon Bloomberg.

Risk reversal (3-month) and speculators' net positions

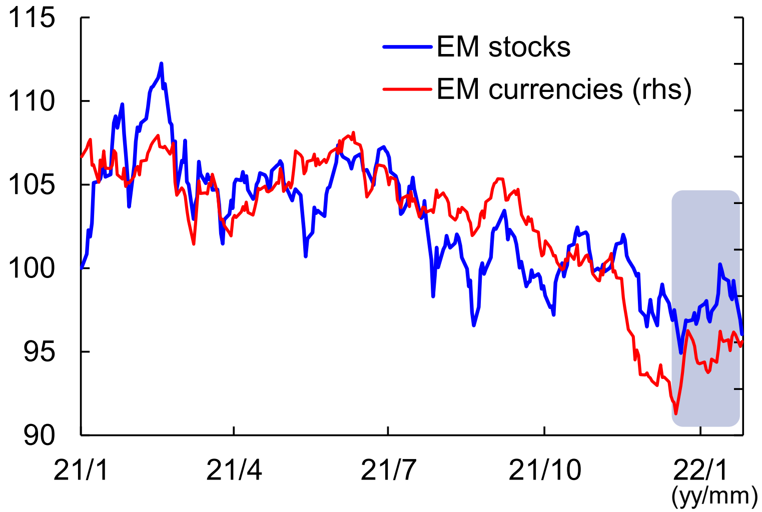


Note: Risk reversal represents the same exercise date, and price difference between calls and puts in the same delta. It is known as an indicator that reflects the risk perception of option market participants. Delta 25%.
Source: Made by MHRT based upon Bloomberg.

EM financial markets: stocks and currencies show signs of picking up along with the ebb of concerns regarding the Omicron variant

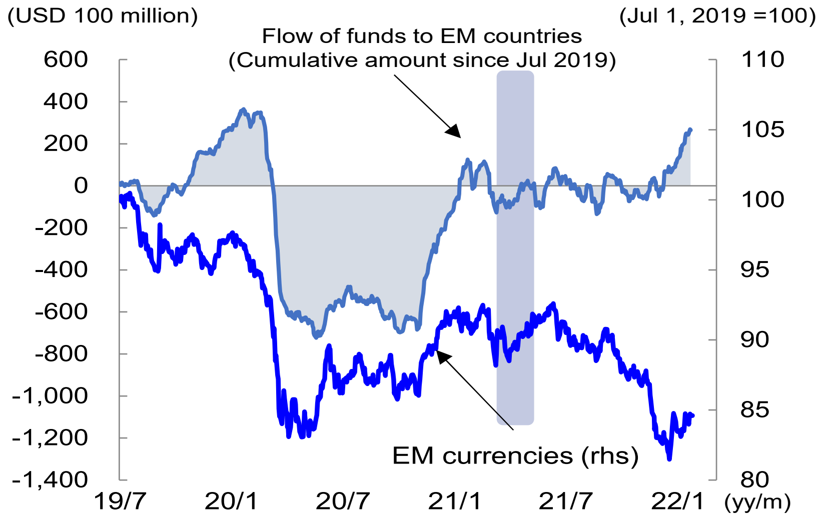
- Although EM stocks and currencies weakened further on reports of the emergence of the Omicron Covid-19 variant (in late November 2021) , they have subsequently staged a rebound.
  - Concerns regarding negative pressures on the global economy have eased, given views that symptoms in cases of infection with the Omicron variant tend to be less severe.
  - The flow of funds to EM countries is picking up, and the fall of EM stocks and currencies has generally paused. There are indications of a recovery at present.
- The recovery of commodity prices has also been a tailwind for emerging economies, serving to boost the currencies of commodity-exporting countries such as those of Latin America and South Africa.
  - However, with regard to Russia, given concerns of its possible invasion of Ukraine, both stocks and currencies fell, against the backdrop of tensions with the US and Europe.
  - Turkey has introduced a scheme that protects local currency deposits against exchange rate volatility. Despite a sharp momentary rebound of the Turkish lira, it currently remains at historical lows.

EM stocks and EM currencies



Note: EM stocks are indicated by MSCI Emerging Markets.
EM currencies index is indicated by the JP Morgan Emerging Markets FX Index.
Source: Made by MHRT based upon Refinitiv.

Flow of funds to EM countries and EM currencies



Note: Flow of funds to EM countries is the cumulative amount of foreign portfolio investment in EM countries during the timeframe. Emerging market currencies are based on the JP Morgan Emerging Markets FX Index.
Source: Made by MHRT based upon IIF, Refinitiv.

Outlook on the financial markets

		Jan 24, 2022	Oct-Dec	Jan-Mar	Apr-Jun
Japan	Interest rate on Policy-Rate balances (End of quarter, %)	-0.10	-0.10	-0.10	-0.10
	Newly-issued JGBs (10yr, %)	0.14	0.00 to 0.10	0.00 to 0.10	0.05 to 0.15
	Nikkei Stock Average （JPY）	27,588	28,500 to 29,500	28,900 to 29,900	29,400 to 30,400
US	Federal Funds Rate (End of quarter, %)	0.00 to 0.25	0.00 to 0.25	0.25 to 0.50	0.50 to 0.75
	Long-term UST (10yr, %)	1.77	1.45 to 1.65	1.65 to 1.85	1.80 to 2.00
	Dow Jones Average （USD）	34,365	34,400 to 36,200	34,300 to 36,100	34,000 to 35,800
Eurozone	ECB deposit facility rate (End of quarter, %)	-0.50	-0.50	-0.50	-0.50
	Long-term government bond （Germany, 10yr, %)	-0.11	-0.35 to -0.15	-0.35 to -0.15	-0.25 to -0.05
Forex	USD/JPY rate （USD/JPY)	113.95	112 to 114	114 to 116	115 to 117
	EUR/USD rate （EUR/USD)	1.133	1.12 to 1.14	1.11 to 1.13	1.10 to 1.12

Note: 1. The foreign exchange rates (actual) are NY closing rates.
2. The projected policy interest rate indicated for the Jul-Sep, Oct-Dec, and Jan-Mar quarters is the end of quarter closing rate, while others indicate that the average value in the quarter will fall within the range indicated.

Source: Made by MHRT based upon Bloomberg.