Monthly Economic Report

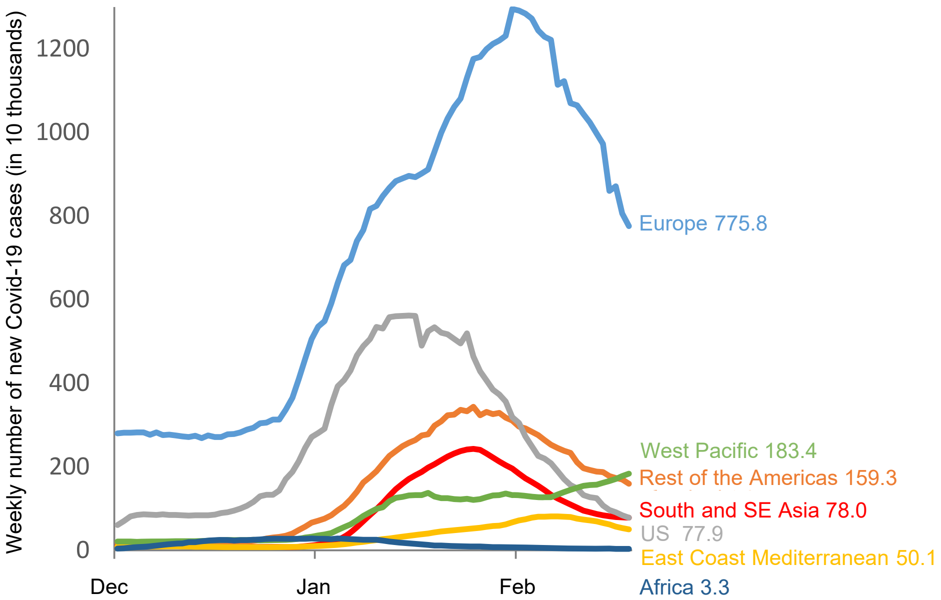
February 22, 2022

Mizuho Research & Technologies, Ltd.

Global Covid-19 infection trends: infections are continuing to subside on a worldwide level

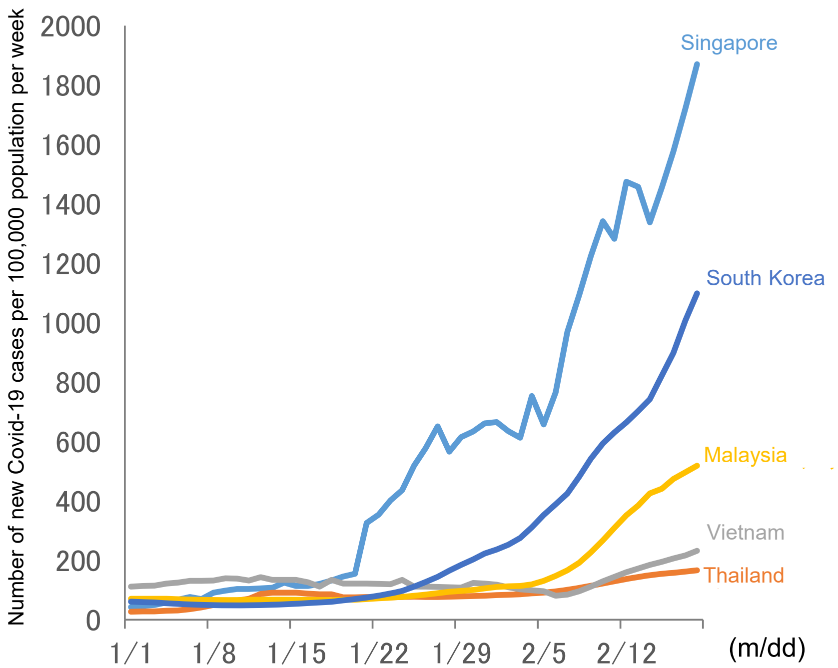
- The number of Covid-19 cases worldwide (cumulative) reached 423.94 million as of the morning of February 21.
- The weekly number of new Covid-19 cases around the world stood at 13.28 million as of February 18 (16.99 million as of February 11), showing a decline for the third consecutive week.
  - The decline was due to a sharp decrease in the number of new Covid-19 cases in the US and India, as well as steady declines in Europe and South America.
  - On the other hand, infections continue to spread in parts of East and Southeast Asia, such as South Korea, Vietnam, Thailand, Malaysia, and Singapore. In Vietnam, infections further spread in the northern part of the country where the electronics industry is concentrated, but the burden on the medical system was limited, which led to only a minor impact on production activities.

Weekly number of new Covid-19 cases reported worldwide (by region)



Note: Figures represent number of cases tallied as of February 20 (latest data as of February 18). Regional classification based upon WHO.
Source: Made by MHRT based upon Johns Hopkins University and WHO.

Weekly number of new Covid-19 cases in Asian countries where infections are increasing

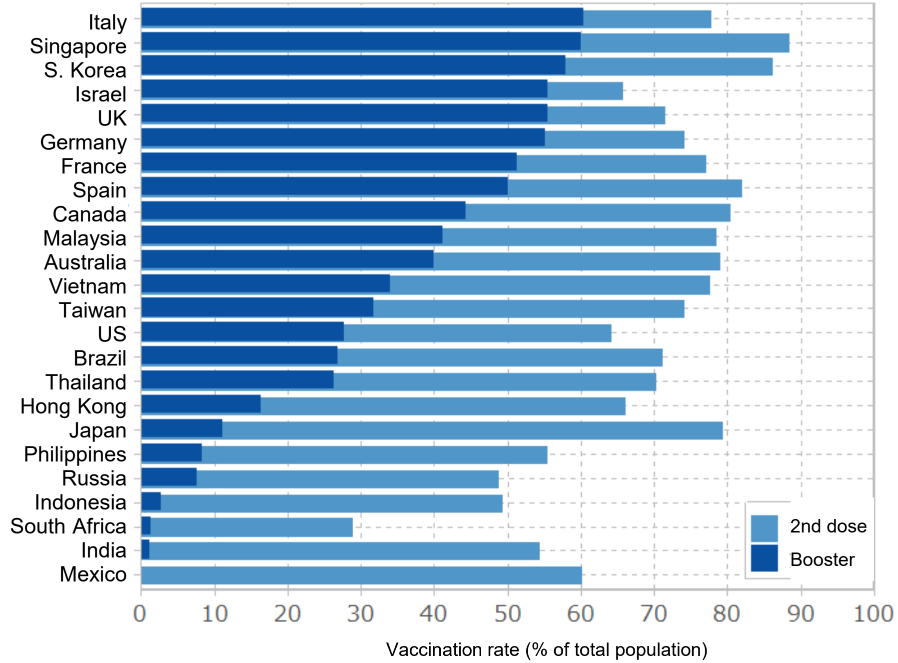


Note: Figures represent number of cases tallied as of February 20 (latest data as of February 18).
Source: Made by MHRT based upon *Our World In Data*.

Vaccinations: booster vaccination coverage progressed to nearly 60% in some major countries

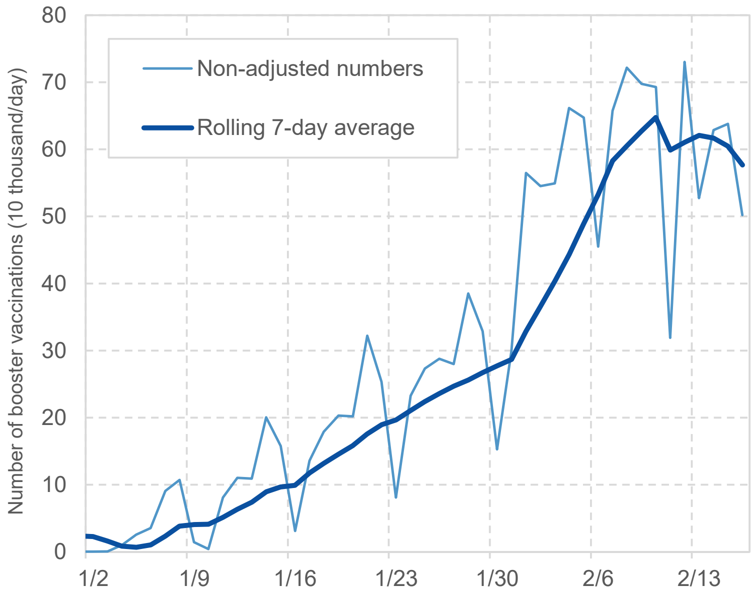
- Booster vaccination coverage in major countries has progressed to nearly 60% in Italy, Singapore and South Korea.
  - While the number of Covid-19 cases per population in Singapore and South Korea is much higher than in Japan, the number of deaths per population is currently lower than in Japan, revealing the possibility that booster vaccinations are preventing symptoms from worsening.
- In Japan, the number of booster vaccinations reached 14.08 million as of February 16 (11.1% of the total population).
  - The current pace of vaccinations is around 600 thousand doses per day nationwide. Despite a slowdown in vaccinations since mid-February, the actual number of vaccinations may be slightly larger than current data, due to the two public holidays in February and delays in data updates.

Vaccination rate in major countries



Note: Figures represent data tallied as of February 17 (latest data is from February 15).
Source: Made by MHRT based upon *Our World in Data,* and authorities of each country.

Pace of booster vaccinations in Japan

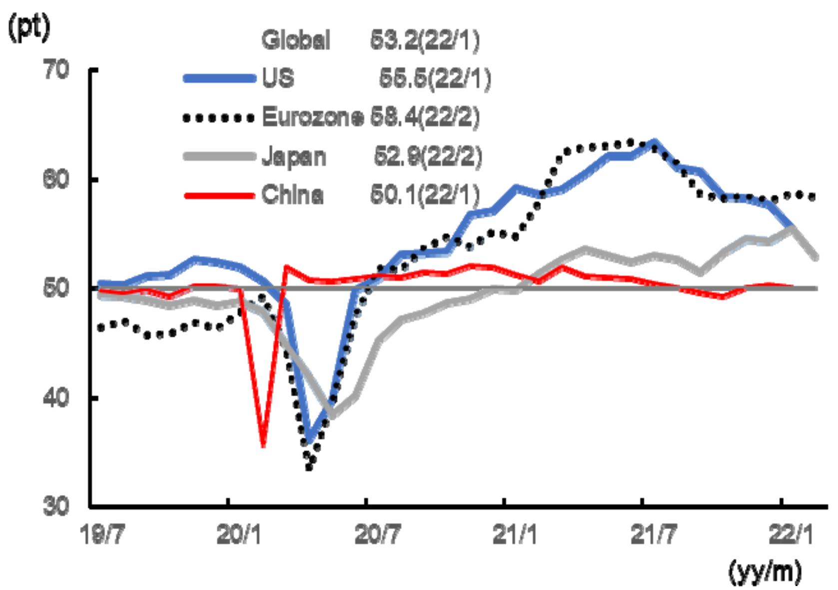


Note: Figures represent data tallied as of February 17 (latest data is from February 16). Booster vaccination data excludes those for healthcare professionals.
Source: Made by MHRT based upon the Digital Agency.

Current state of the global economy: the spread of the Omicron variant is serving as a drag on the non-manufacturing sector

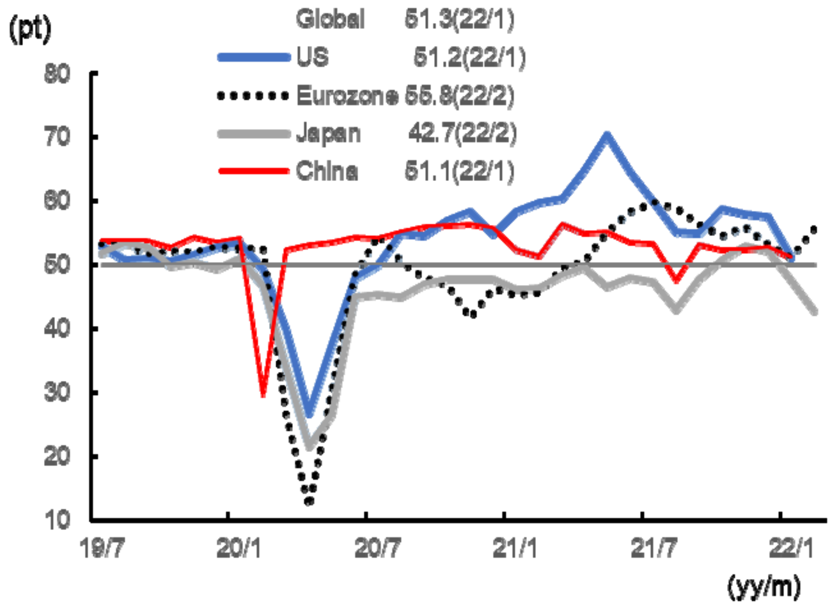
- Conditions in the manufacturing sector were generally favorable in January and February, while the nonmanufacturing sector was affected by the spread of the Omicron variant.
  - In Japan in particular, business conditions in the nonmanufacturing sector deteriorated further due to the spread of the Omicron variant, with the nonmanufacturing PMI falling below 50 for the second consecutive month. Service consumption stagnated from the second half of January to the first half of February due to a decrease in the flow of people caused by the resurgence of Covid-19 infections.
- However, the Omicron variant, which caused a global infection outbreak, is already subsiding.
  - The number of new Covid-19 cases in Japan may have peaked out in the first half of February, and service consumption is expected to gradually recover.
  - In Europe, the number of new cases has also peaked out. There are signs of recovery in the nonmanufacturing sector reflecting the easing of infection control measures.

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

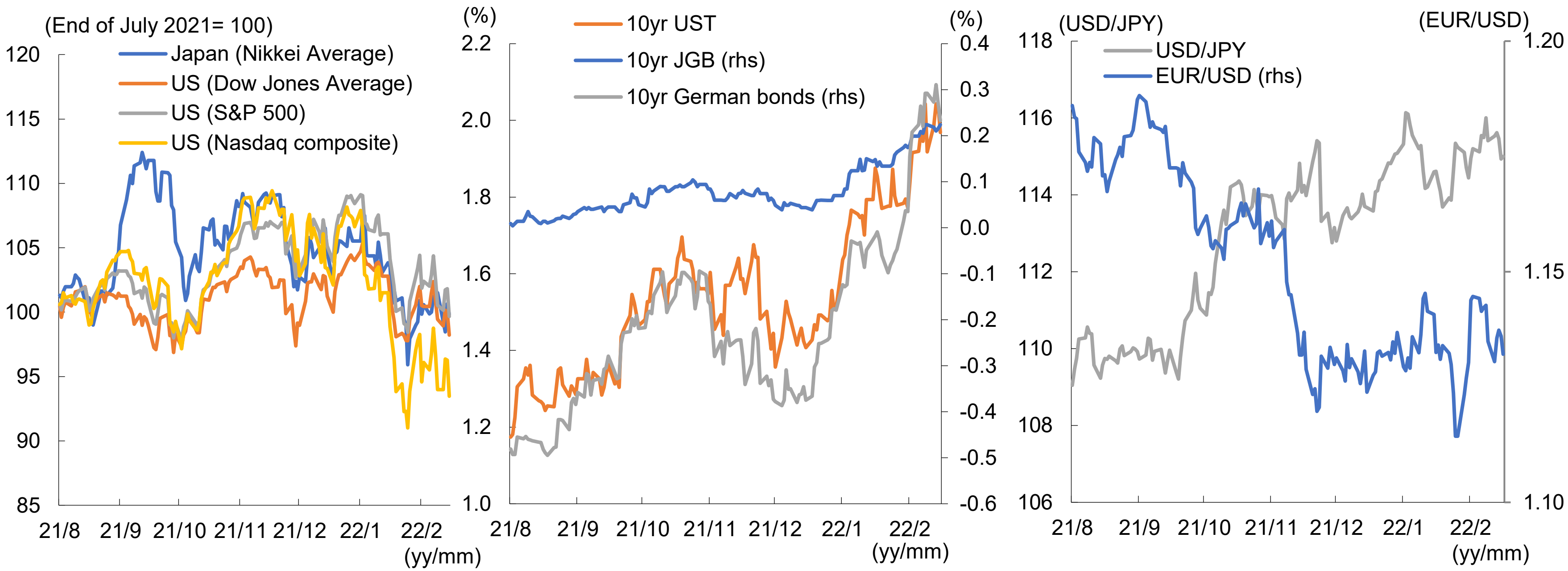


Note: The Purchasing Managers' Index (PMI) is an index calculated by weighting indexes such as new orders, output, order backlogs, prices, employment, and quantity of purchases. The reading of 50 in the PMI is the "expansion-contraction" threshold.
Source: Made by MHRT based upon IHS Markit, the National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

Overview of financial markets: US long-term interest rates rose factoring in rate hikes. Stock markets fell sharply

- The 10yr UST yield temporarily rose to the 2.0% level, further factoring in interest rate hikes by the FRB, reflecting the US January employment report (February 4) and the US January CPI (February10) which turned out to exceed market forecasts. Subsequently, yields declined slightly due to the rise of tensions over the situation in Ukraine.
- In the US, stocks fell, notably in high-tech stocks, reflecting factors such as the rise in the 10yr UST yield due to the US January employment report and US January CPI exceeding market forecasts. Current tensions over the situation in Ukraine also served as a negative factor. Japanese stocks also fell in tandem with US stocks.
- Turning to the USD/JPY rate, the yen temporarily weakened against the dollar to the JPY 116/USD level due to such facts as the US January employment report and US January CPI exceeding market forecasts. Currently the yen strengthened slightly against the dollar due to the rise of tensions over the situation in Ukraine.

Major market trends

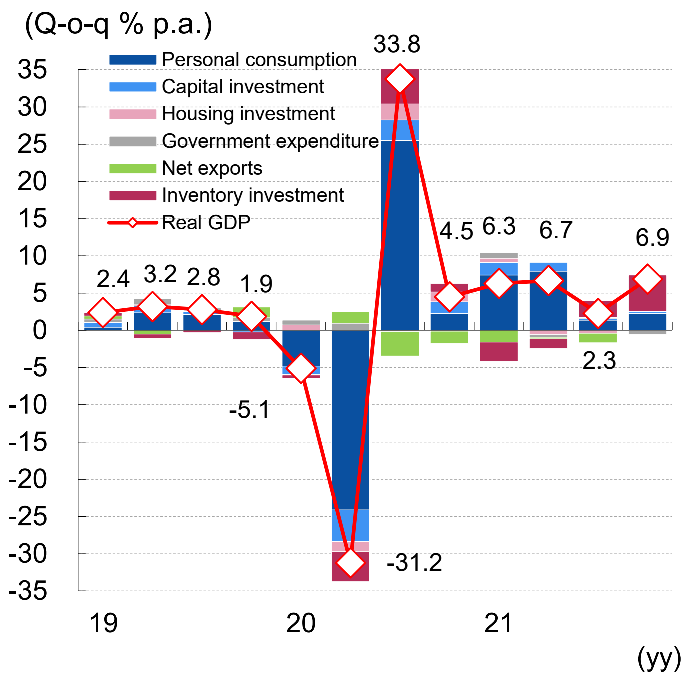


Note: All indexes show actual results up to February 18.
Source: Made by MHRT based upon Refinitiv.

US Economy: GDP growth rate accelerated in the Oct-Dec quarter, but is expected to slow down in the Jan-Mar quarter

- The pace of US real GDP growth in the Oct-Dec quarter (advance estimate) accelerated to +6.9% q-o-q p.a., up from the Jul-Sep quarter (+2.3% q-o-q p.a.), when it was depressed by the spread of the Delta variant and supply constraints. The results turned out to exceed MHRT's forecast (+5.4% q-o-q p.a.).
  - Inventory contribution turned out to be higher than MHRT's forecast. New car dealer inventories bottomed out as semiconductor shortages eased, and the replenishment of retail inventories progressed more than expected.
- The momentum of inventory recovery and consumption growth is not expected to continue due to the rapid spread of new Covid-19 cases and manpower shortages serving as a drag, indicating a slowdown in the Jan-Mar quarter.

Real GDP growth



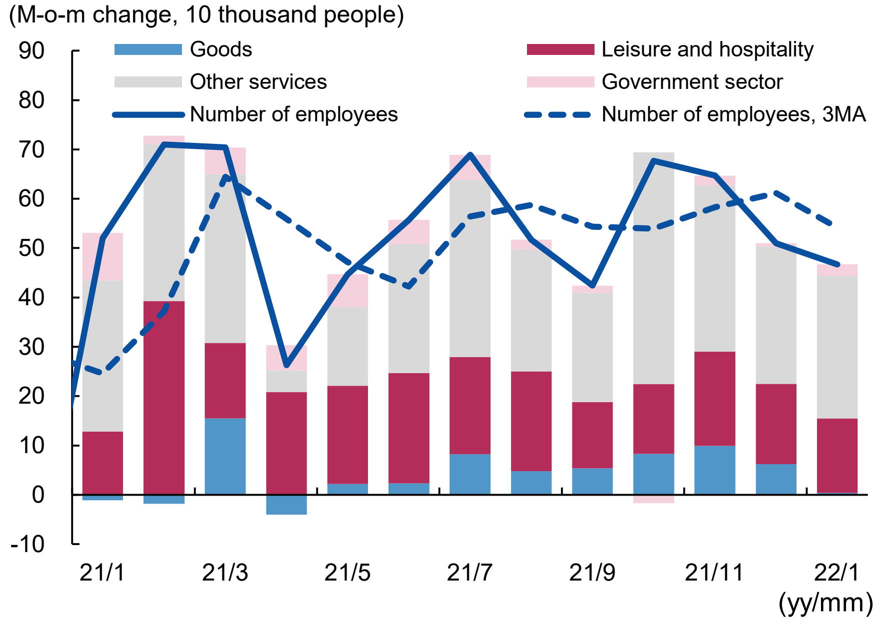
	21Q2	21Q3	21Q4	Key Points
Real GDP	+6.7	+2.3	+6.9	Growth rate accelerated again in the Oct-Dec quarter
Personal consumption	+12.0	+2.0	+3.3	Goods consumption (+0.5% q-o-q p.a.) turned positive, while on a basis excluding motor vehicles, which were in short supply, the growth rate was steady at +1.4% q-o-q p.a. Although the rapid spread of Omicron variant infections at the end of the quarter served as a drag, service consumption (+4.7% q-o-q p.a.) recovered steadily, mainly in transportation, etc.
Housing investment	-11.7	-7.7	-0.8	Declined for the third consecutive quarter. The shortage of manpower and materials continued to serve as a drag on new housing investment (-9.1% q-o-q p.a.).
Capital investment	+9.2	+1.6	+2.0	Marked only a slight acceleration. Investment in machinery turned positive, but growth was sluggish due to the prolonged decline in motor vehicle related investments (-38.2% q-o-q p.a.).
Inventory investment (※)	-1.3	+2.2	+4.9	Inventory recovery progressed mainly in the retail sector, including the bottoming out of new car dealer inventories, and the degree of contribution has increased significantly.
Government expenditure	-2.0	+0.9	-2.9	Both federal and state/local government consumption declined. Government investment also declined as state and local governments continued to reduce construction investment.
Net exports (※)	-0.2	-1.3	+0.0	Increased exports were offset by increased imports, which resulted in no change in net contribution of external demand.
Exports	+7.6	-5.3	+24.5	Goods rebounded in general. The easing of congestion at ports may have contributed. Service exports such as travel and transportation also increased.
Imports	+7.1	+4.7	+17.7	Consumer goods substantially increased due to moves to build up inventories in preparation for the year-end shopping season.

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

Persisting labor market crunch and upward pressure on wages

- The number of employees in January rose steadily at +467 thousand m-o-m (December: +510 thousand m-o-m), driven mainly by leisure and services requiring face-to-face interactions, despite the rapid resurgence of Covid-19 infections.
  - The unemployment rate (January: 4.0%) flattened out, showing no sign of improvement in labor market supply and demand.
  - While the labor force participation rate (January: 62.2%) rose by 0.3% pt, this was due largely to the annual revision. The view remains unchanged that workers' willingness to enter the labor market is low.
  - Hourly wages (January: +5.7% y-o-y) accelerated from the previous month (December: +4.9% y-o-y) due to tight labor supply-demand balance.
- The number of job openings has been significantly higher than the number of unemployed persons, widening the labor supply-demand gap to a historical high.

Number of employees by industry



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

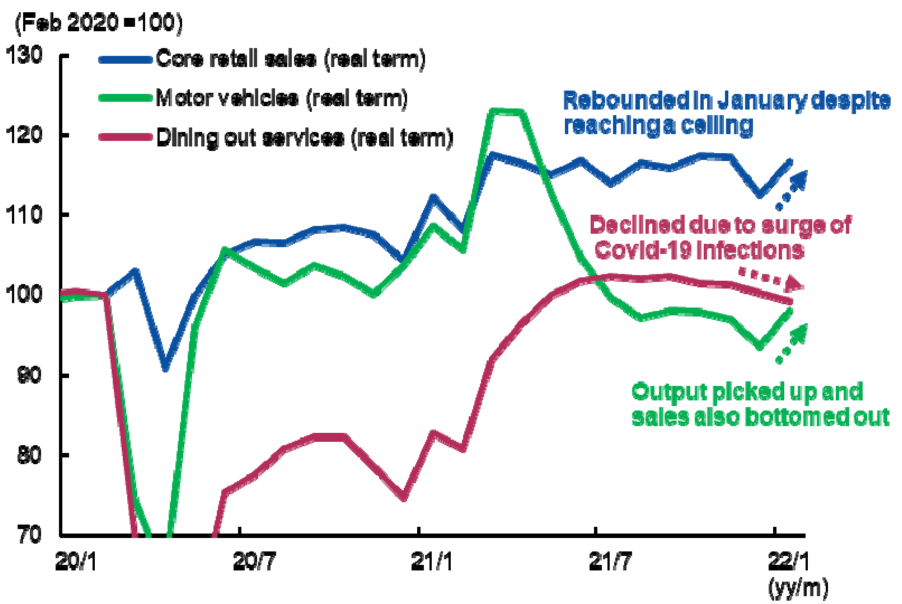
Number of job openings and number of unemployed persons

Note: The number of job openings are readings as of December 2021.
Source: Made by MHRT based upon US Department of Labor.

In January, consumption was boosted by the rebound in goods. Going forward, the driver is expected to shift to service consumption

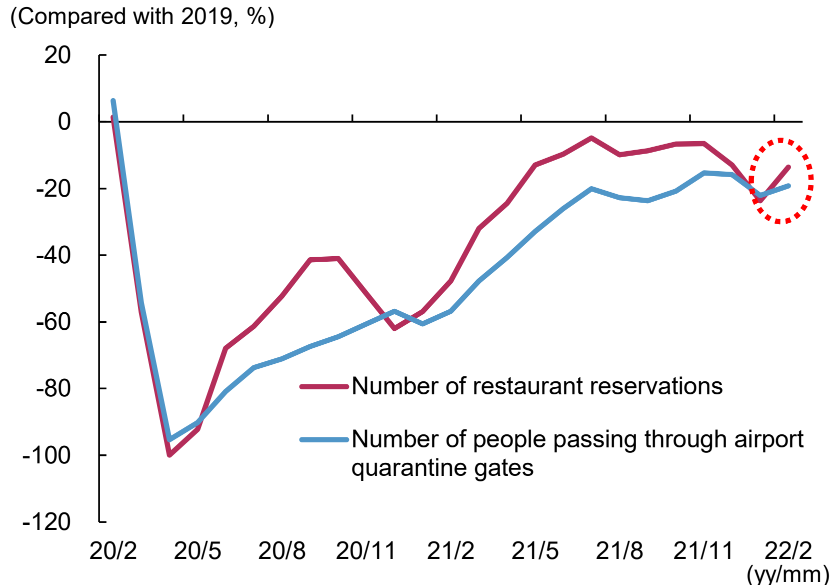
- Core retail sales (in real terms) rebounded sharply in January (+3.7% m-o-m, estimates by MHRT).
  - Looking at the breakdown, the increase in EC contributed to the upturn. The increase in time spent at home due to the resurgence of Covid-19 infections supported demand for goods.
  - Despite the deterioration of consumer sentiment reflecting the decline in real purchasing power due to the rise of prices, goods consumption has not collapsed due to favorable employment and income environment.
- Sales in dining-out services (in real terms) (-1.0% m-o-m) declined for the second consecutive month. Services requiring face-to-face interactions fell against the backdrop of the rapid resurgence of Covid-19 infections.
- Looking forward, service consumption is expected to recover as concerns about infections recede. The shift in demand from goods to services is expected to accelerate.
  - The number of restaurant reservations and the number of people passing through airport quarantine gates is picking up in February, reflecting the peak out of infections.

Real retail sales and dining-out service sales



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

High frequency data related to service consumption



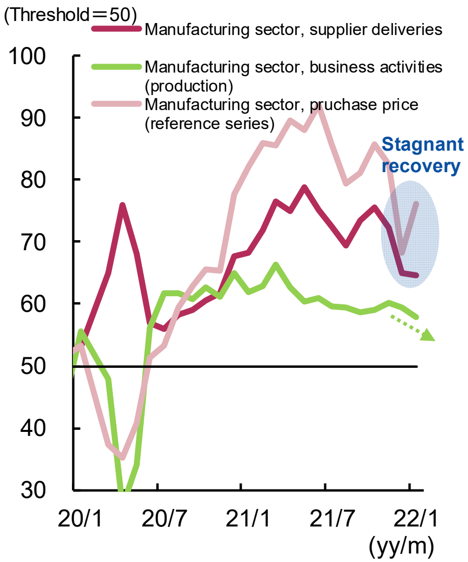
Note: February readings are the averages up to February 15
Source: Made by MHRT based upon US Department of Commerce and Open Table.

Business sentiment is deteriorating due to the rapid resurgence of Covid-19 infections. Labor shortages continue to serve as a drag

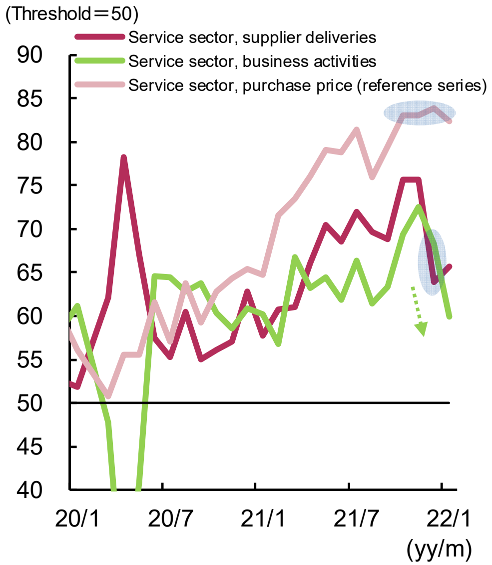
- In January, the ISM manufacturing/service sector indices fell. The business activity index fell and the improvement in supplier deliveries and purchase price indices is showing signs of a pause, against the backdrop of labor shortages and logistics network disruptions caused by the rapid spread of the Omicron variant.
  - Comments cited by companies include "we are experiencing massive interruptions to our production due to supplier Covid-19 problems limiting their manufacturing of key raw materials." [Chemical Products].
  - According to the Federal Reserve Bank of Kansas City, about 80% of companies indicated a downturn in activity due to the rapid resurgence of Covid-19 infections. Companies cited they had responded by increasing overtime work and reducing sales activities.
- The spread of Covid-19 infections has already peaked out and the impact of infections is expected to gradually fade from February. Manpower shortages will continue to serve as a drag on business activities.
  - Comments from various corporate surveys suggest that companies are still struggling to secure manpower.

ISM manufacturing / service sector indices

[Manufacturing]

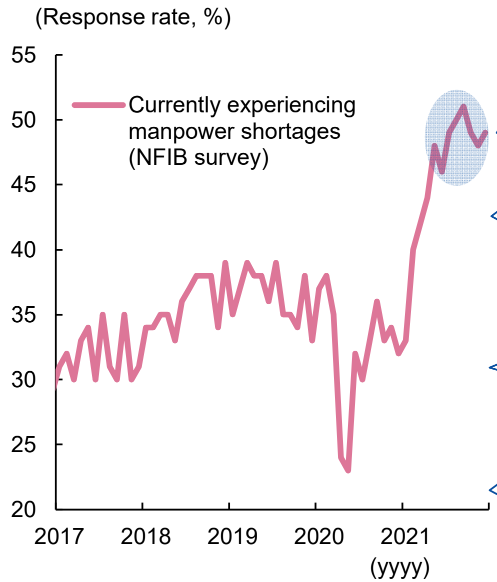


[Services]



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

Comments by companies on manpower shortages and related topics (partial excerpt)



While there has been some improvement in materials making it to our factories and logistics centers, **we are still constrained by (a lack of) qualified labor.** [ISM, Computer & Electronic Products]

We can't find new hires, and it may be permanent as many workers seem to have left the workforce [with no plans] to come back. [Dallas, Paper Manufacturing]

Labor constraints are presenting problems throughout all areas of the business. [ISM, Utilities]

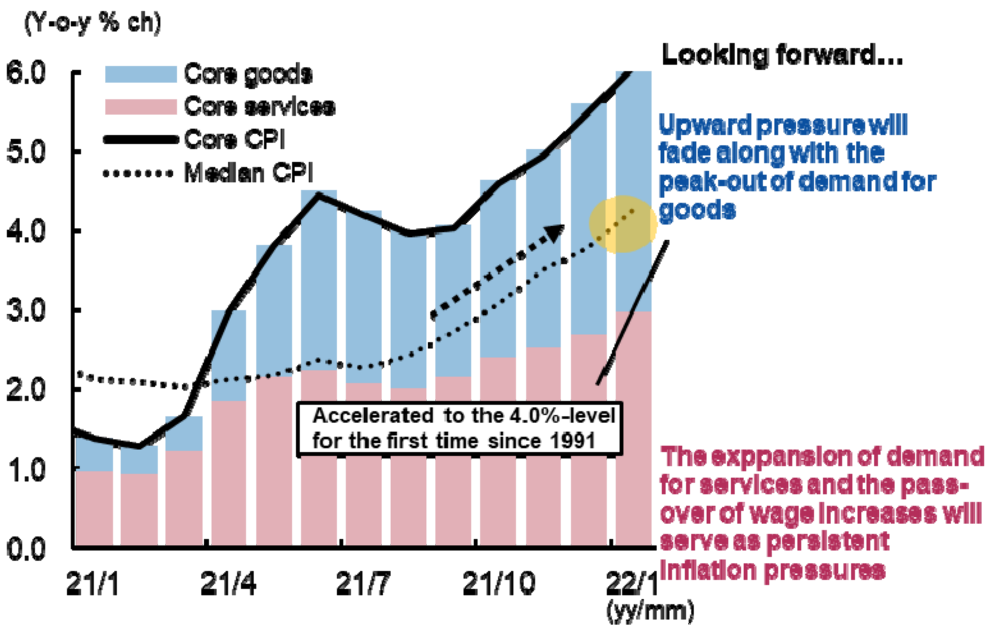
Labor shortage continues to be the primary concern. Clients have started to broaden the requirements for candidates they want to hire, and now they no longer require experience or are considering recent college graduates. [Dallas, Administrative and Support Services]

Source: Made by MHRT based upon Institute for Supply Management, NFIB, Federal Reserve Bank of Dallas, and Federal Reserve Bank of Kansas City.

Further acceleration of inflation. Pass-over of higher wages is serving as broad-based inflationary pressures

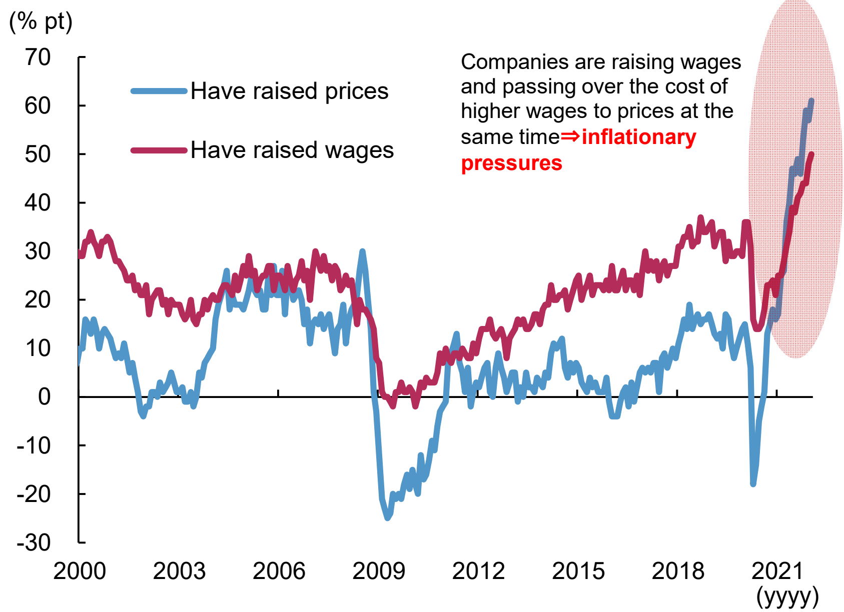
- In January, the core CPI accelerated further (December: +5.5% y-o-y → January: +6.0% y-o-y). Inflationary pressure remains widespread.
  - In addition to motor vehicle prices, where inventory remains low, and rents, the median CPI, which indicates underlying inflation, rose to the +4% y-o-y range.
  - According to the NFIB Small Business Survey for January, companies are raising wages and passing over the cost of higher wages to prices at the same time, indicating that there are widespread inflationary pressures.
- Looking forward, even though Inflation is expected to peak in the Jan-Mar quarter and subsequently decelerate, inflation is expected to remain high from the Apr-Jun quarter.
  - Despite the fall of goods prices due to the shift in demand from goods to services, the rise of wages are expected to push up overall prices through the rise of service prices.

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.

Percentage of US small and medium-sized companies that raised prices and wages (net basis)



Source: Made by MHRT based upon NFIB

January FOMC signals a rate hike in March. Set of principles for reducing the size of FRB's balance sheet (QT) was also announced

- Against the backdrop of rising inflation and historically strong labor demand, the FRB expects it "will soon be appropriate to raise the target range for the federal funds rate," suggesting a rate hike at the next FOMC meeting.
  - Remaining attentive to risks of sticky high inflation, the FRB emphasized its stance of being "nimble so that we can respond immediately."
- Regarding the "principles for reducing the size of the balance sheet," the FRB clarified that (1) the federal funds rate is the primary means of adjusting monetary policy, (2) reducing the balance sheet will occur after the process of raising interest rates has begun, (3) reductions will occur primarily through adjustments to reinvestments, not through asset sales, and (4) in the longer run, FRB envisions holding primarily US Treasury securities.
  - The current the balance sheet is substantially larger than it needs to implement monetary policy efficiently and effectively. So there's a "substantial" amount of shrinkage in the balance sheet to be done.
- In an environment that is quite different from the last gradual departure approach, from a perspective of the current economic and employment strength and high inflation, the departure from the accommodative stance may be sooner than expected.

Key points of the January FOMC

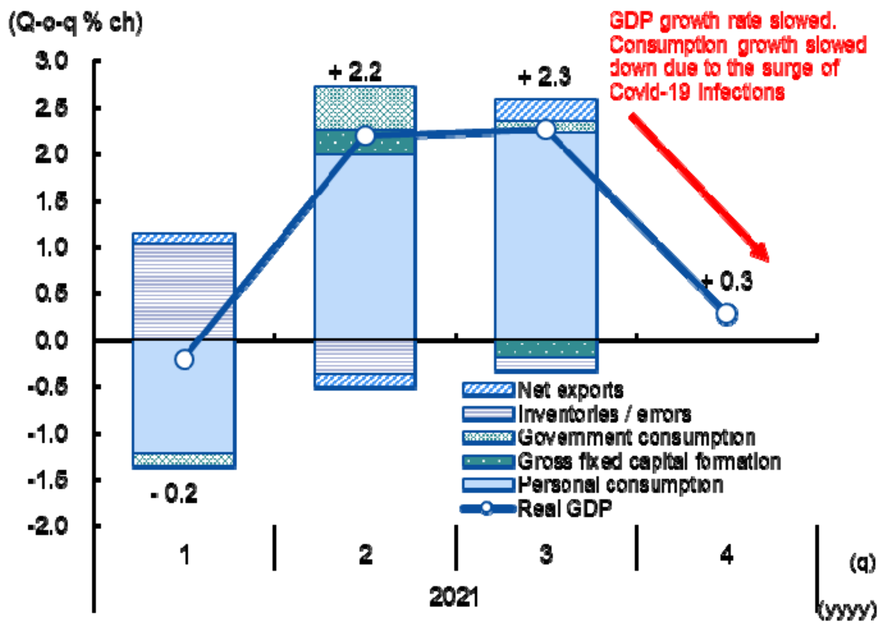
Decisions, etc.	● **Continue to reduce the monthly pace of its net asset purchases by half (from a total of $60 billion to $30 billion per month), bringing them to an end in early March.** ● **With inflation well above 2% and a strong labor market, it will soon be appropriate to raise the target range for the federal funds rate.** ● **Announced a set of principles for reducing the size of the balance sheet, and the details are due to be fleshed out going forward.**
Rate hike	● **The economy is now much stronger. The labor market is far stronger. Inflation is running well above the 2% target, much higher than when the FRB began raising rates in 2015. And these differences are likely to have important implications for the appropriate pace of policy adjustments.** ● **There are many millions more job openings than there are unemployed people, so there's quite a bit of room to raise interest rates without threatening the labor market.**
Reducing the balance sheet (quantitative tightening (QT))	● **The balance sheet is much bigger, and has a shorter duration than the last quantitative tightening. And the economy's much stronger, and inflation is much higher. So that leads to being willing to move sooner than the last quantitative tightening and also perhaps faster.** ● **The current balance sheet is substantially larger than it needs to implement monetary policy efficiently and effectively. So there's a "substantial" amount of shrinkage in the balance sheet to be done.**

Source: Made by MHRT based upon FRB.

The Eurozone economy: GDP growth remains flat reflecting the resurgence of Covid-19 infections in the winter. Reacceleration is expected from the Apr-Jun quarter

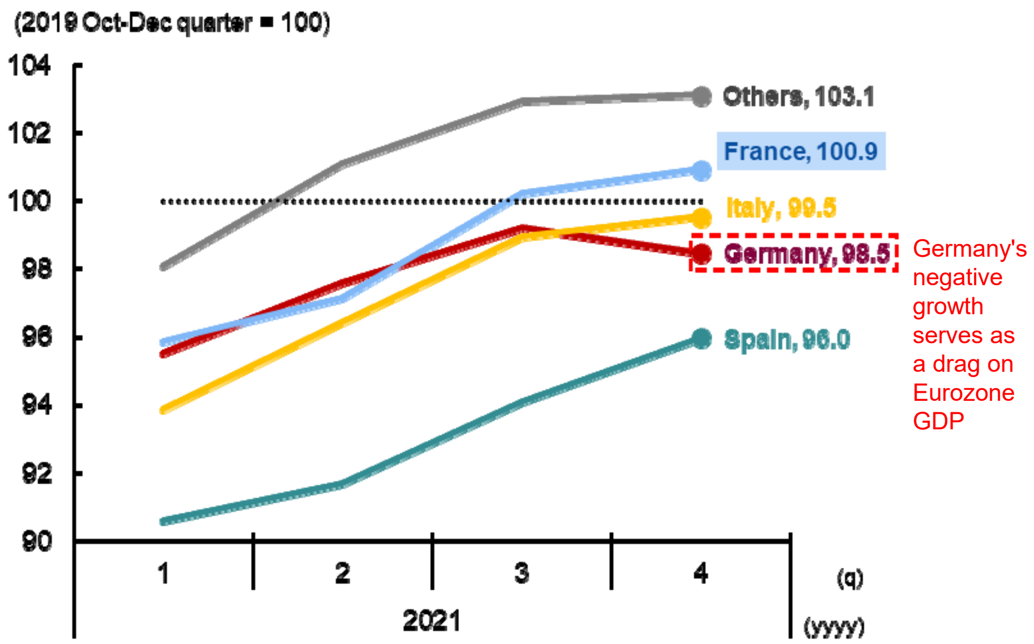
- Eurozone real GDP growth decelerated to +0.3% q-o-q in the Oct-Dec quarter.
  - Among the background factors was the slowdown of consumption growth due to reduced mobility reflecting the spread of Covid-19 infections.
- GDP growth is expected to remain near 0% in the Jan-Mar quarter of 2022 due to the spread of the Omicron variant serving as a drag. The reacceleration of growth is not expected until the Apr-Jun quarter when infections subside.
- By country, Germany's growth turned negative (-0.7% q-o-q), which served as a drag on overall Eurozone GDP growth. Among the background factors was the spread of Delta variant infections from November onward.

Eurozone: real GDP growth rate



Note: Real GDP q-o-q growth and the degree of contribution by the components of demand.
Source: Made by MHRT based upon Eurostat.

Major Eurozone countries: real GDP

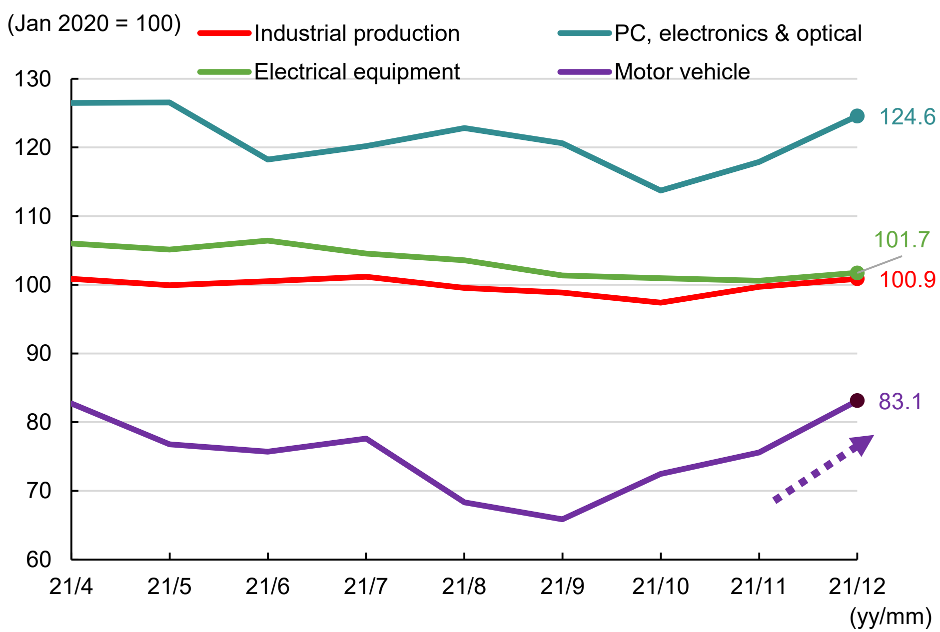


Note: "Others" are figures obtained by subtracting Germany, France, Italy, and Spain from the entire Eurozone.
Source: Made by MHRT based upon Eurostat.

Eurozone production rose in December due to the alleviation of supply constraints. A gradual recovery is expected going forward

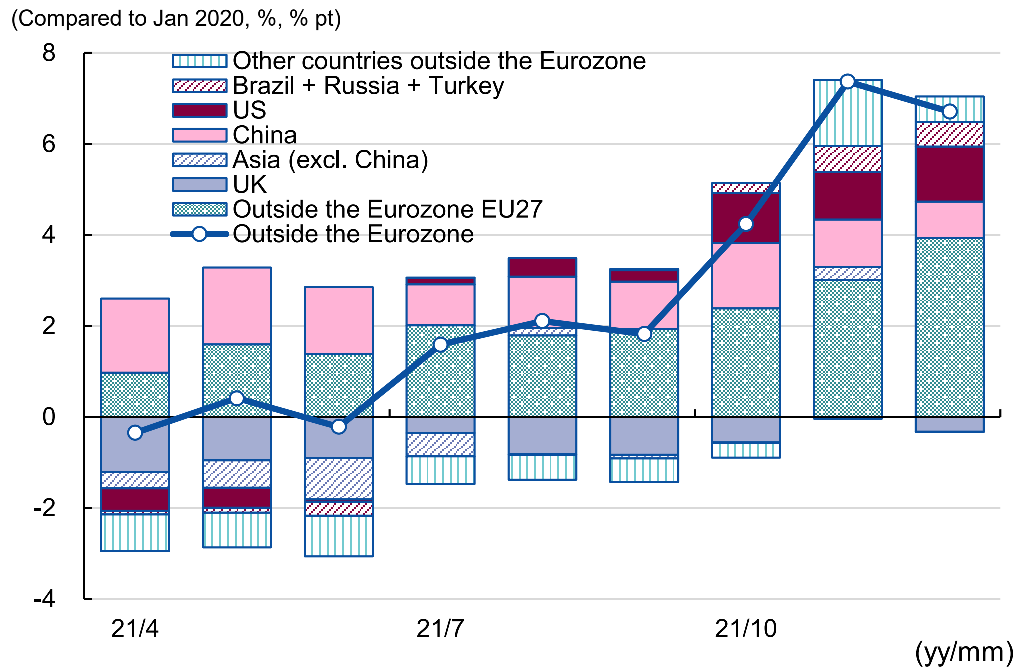
- Eurozone industrial production rose in December (+1.2% m-o-m) for the second consecutive month. Production is trending near pre-pandemic levels.
  - A significant increase in motor vehicle output (+10.0% m-o-m), driven by alleviation of parts and materials including semiconductors, drove the overall recovery.
  - Going forward, production is expected to recover gradually along with the alleviation of supply constraints.
- In December, nominal exports to areas outside the eurozone fell for the first time in two months to -0.6% m-o-m. Among the background factors was the a pause in exports to China.
  - The export order level DI is high, indicating the strength of demand. The odds are high that exports will gradually increase along with the recovery of production.

Eurozone: industrial production



Source: Made by MHRT based upon Eurostat.

Eurozone: nominal exports to areas outside the Eurozone

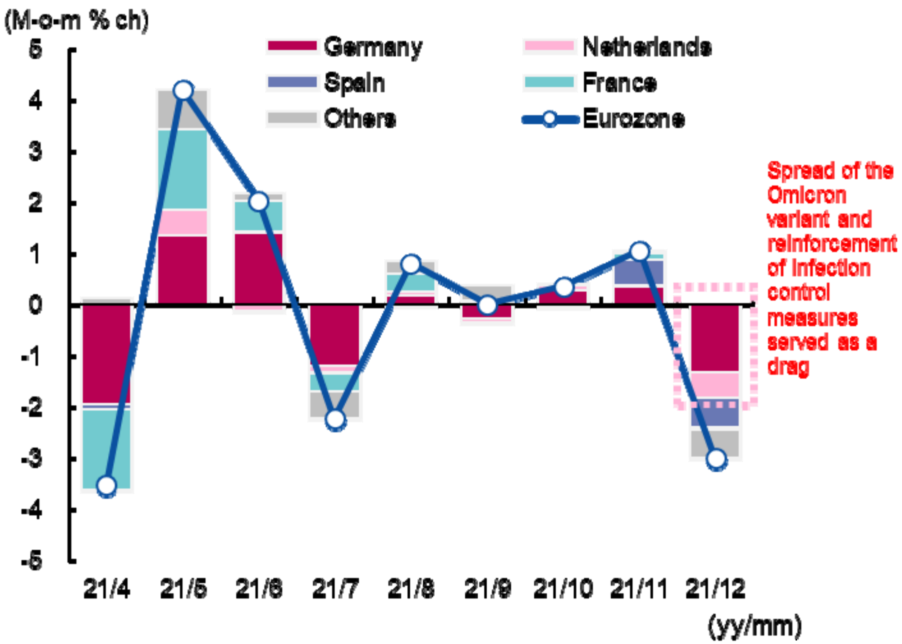


Source: Made by MHRT based upon Eurostat.

December retail sales fell sharply due to the spread of the Omicron variant. Expected to pick up from early spring

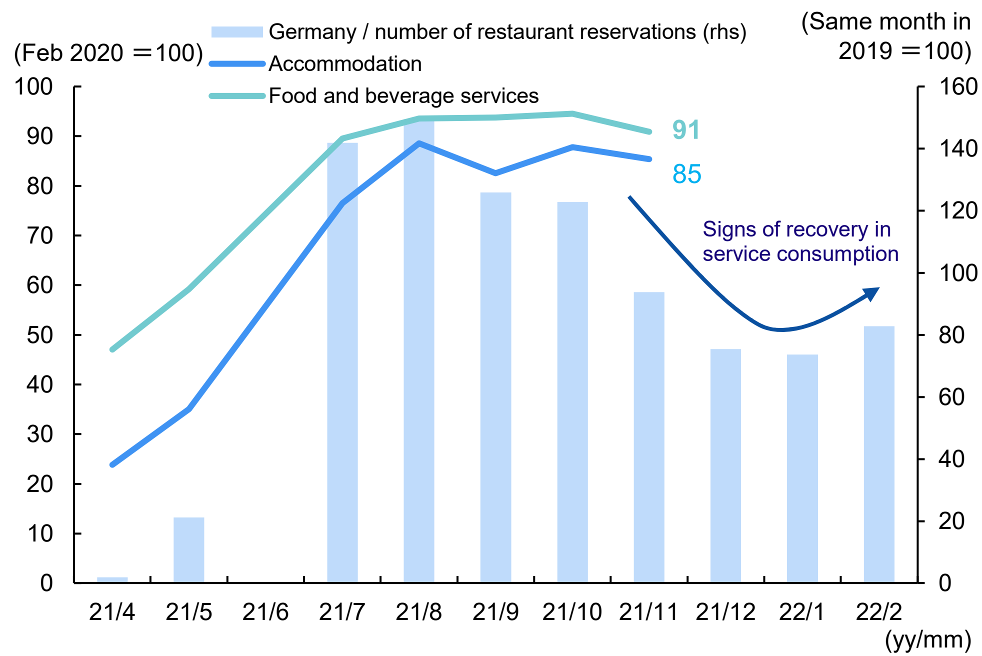
- Eurozone retail sales in real terms in December fell sharply by -3.0% m-o-m. The spread of the Omicron variant and the reinforcement of infection control measures served as a drag.
  - By country, retail sales fell sharply in Germany (-4.6% m-o-m) and the Netherlands (-9.2% m-o-m), which enforced restrictions on the number of shoppers entering retail facilities, serving as a drag on overall Eurozone sales.
- Given the relaxation of infection control measures reflecting the peak out of infections, the odds are high that consumption will pick up from early spring.
  - Despite the decline of accommodation, food and beverage services in November, restaurant reservations in Germany picked up in February 2022, indicating a recovery in service consumptions going forward.

Eurozone: real retail sales



Source: Made by MHRT based upon Eurostat.

Eurozone: nominal service sector sales and number of restaurant reservations in Germany



Note: The number of restaurant reservations is represented by monthly averages. February's data is the average up to February 16

Source: Made by MHRT based upon Eurostat and OpenTable.

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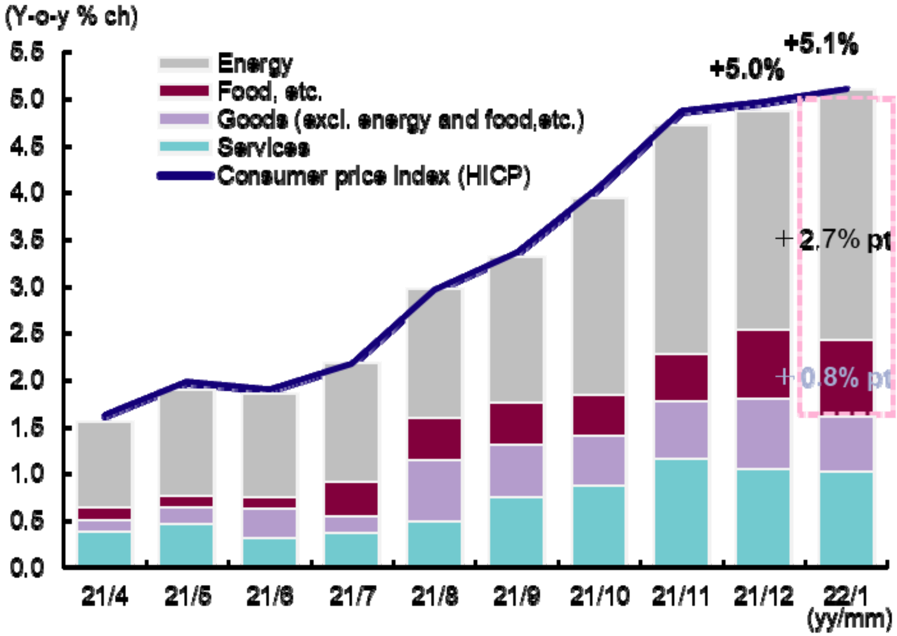
Prices accelerated in January as energy prices continued to soar. Prices are expected to remain high until early spring

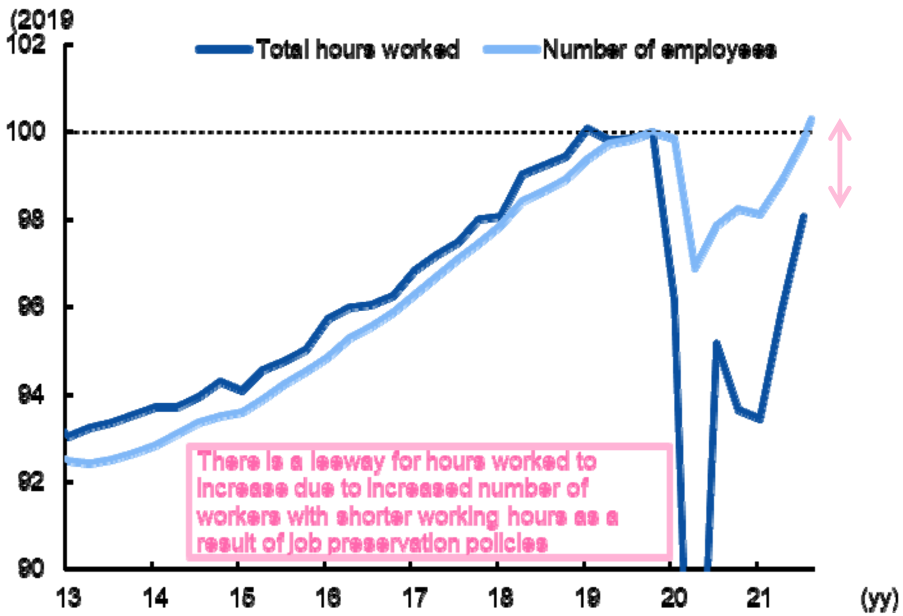
- Eurozone consumer price index in January (+5.1% y-o-y) accelerated at a faster pace from the previous month (+0.1% pt). Energy and food prices continued to soar, pushing up overall prices.
  - Core prices fell -0.3% pt from the previous month to +2.3% y-o-y, due to the fading base effects such as the rebound of the German VAT tax cut.
- Upward pressure on prices due to the rise in prices of raw material such as energy, are expected to prevail until early spring, when energy supply-demand balance will ease.
- Core price increases are expected to slow. Although the employment environment is improving, this is based upon the presupposition that excessive wage increases are not expected.
  - Although the number of employed persons has recovered to pre-pandemic levels, total hours worked are below pre-pandemic levels, indicating prolonged slackness in the labor market.

Eurozone: consumer price index (CPI)



Note: Degree of each components' contribution is based on a simplified estimate.
Source: Made by MHRT based upon Eurostat.

Eurozone: employment-related indicators



Note: ESA basis
Source: Made by MHRT based upon Eurostat.

The ECB will become more vigilant about the upside risks to inflation while maintaining its current monetary policy stance

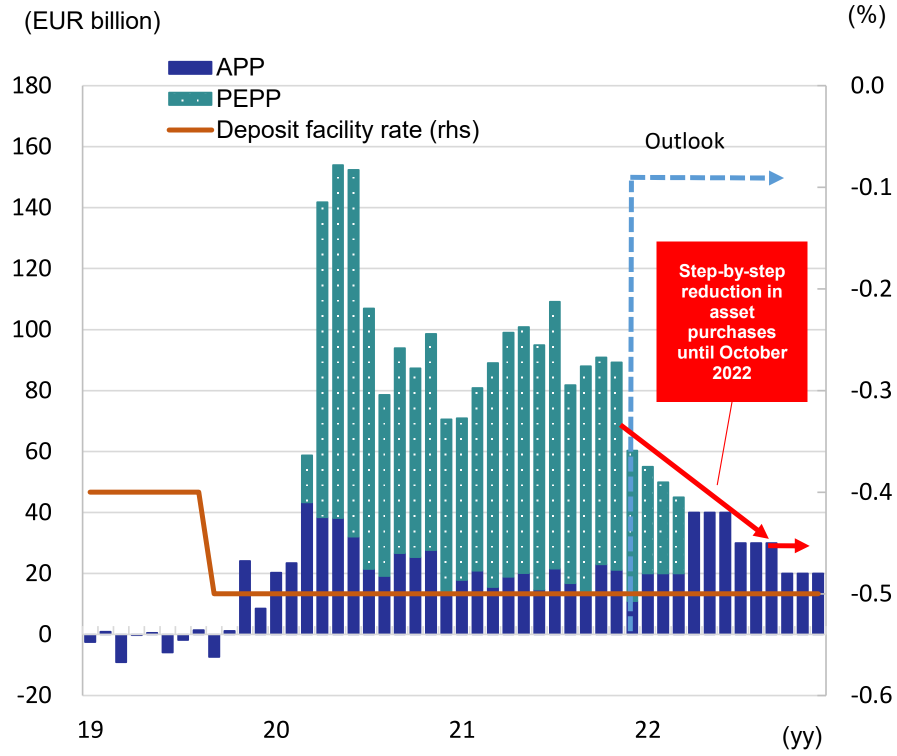
- At the Governing Council meeting in February, the ECB maintained its current monetary policy. According to its December policy decision, it will carry out the step-by-step reduction of asset purchases.
- Meanwhile, the ECB will become more vigilant about the upside risks to inflation, especially in the short term, and is prepared to closely monitor wage trends.
  - The ECB views inflation risks are tilted to the upside, with inflation likely to remain elevated for longer than previously expected.
- At the Governing Council meeting in March, the ECB is expected to once again review such matters as the pace of reduction in asset purchases based on the new staff projections (inflation is expected to be revised upward).

Key points of the ECB Governing Council meeting (February 3)

Economic situation	Growth is likely to remain subdued in the first quarter, as the current pandemic wave is still weighing on economic activity. However, the negative impact on economic activity is less than previous waves, allowing the economy to pick up again strongly in the course of the year.
Inflation outlook	Inflation has risen sharply in recent months, primarily driven by higher energy costs as well as higher food prices, and is likely to remain elevated for longer than previously expected, but to decline in the course of this year. Risks to the inflation outlook are tilted to the upside, particularly in the near term.
Labour market	Although with lower unemployment, the output gap is closing gradually, wage growth remains muted overall.
Monetary policy	In line with the step-by-step reduction in asset purchases decided on in December 2021, ECB will not hike rates until after completing net asset purchases (according to the forward guidance).

Source: Made by MHRT based upon ECB.

ECB: outstanding asset purchases

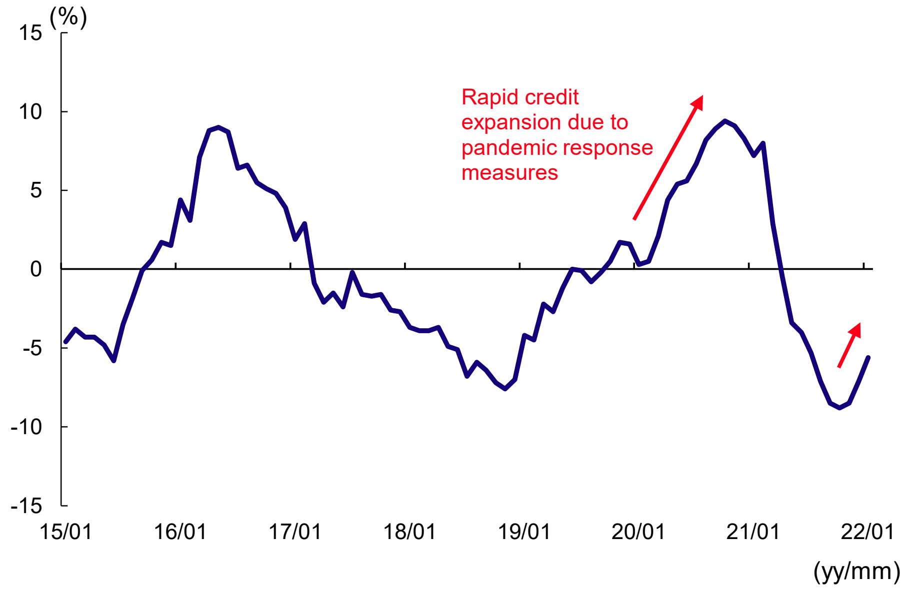


Source: Made by MHRT based upon ECB.

Chinese economy: credit impulse, a leading indicator, improved for the third consecutive month

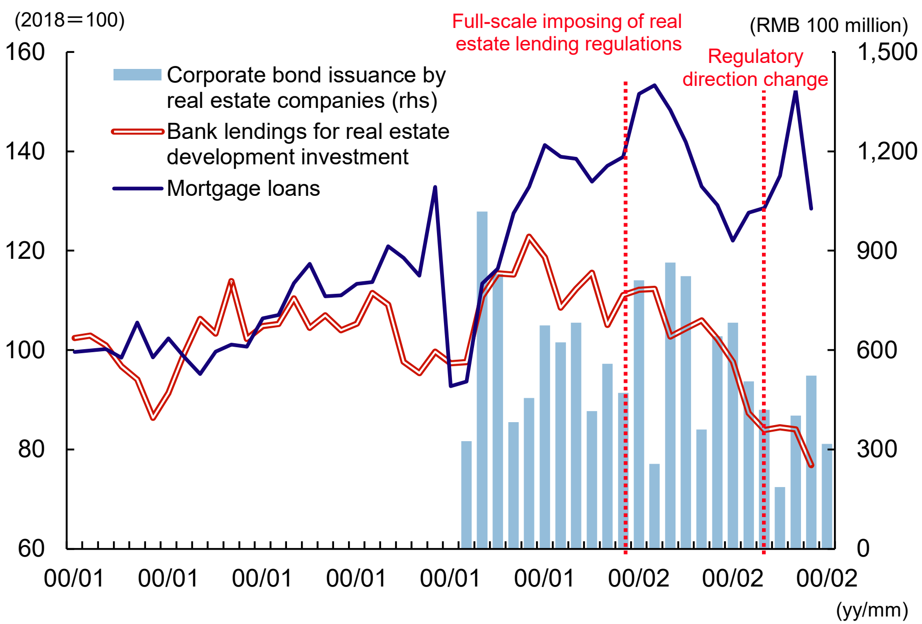
- Credit impulse, a leading indicator of economic strength, improved for the third consecutive month through to January.
  - Regulatory direction changes on lending restrictions relating to the real estate industry and easing of monetary policy served as a driver.
- However, financing in the real estate development industry is still sluggish.
  - Mortgage loans have surged temporarily, and corporate bond issuance is showing signs of bottoming out. On the other hand, bank lending for real estate development investment remains stagnant, and its bottoming out is not expected until the middle of the year.

Credit impulse



Note: Data shows percentage of growth of new lending amounts relative to nominal GDP, on a yearly lending amount change basis.
Source: Made by MHRT based upon Bloomberg.

Financing status of the real estate development industry

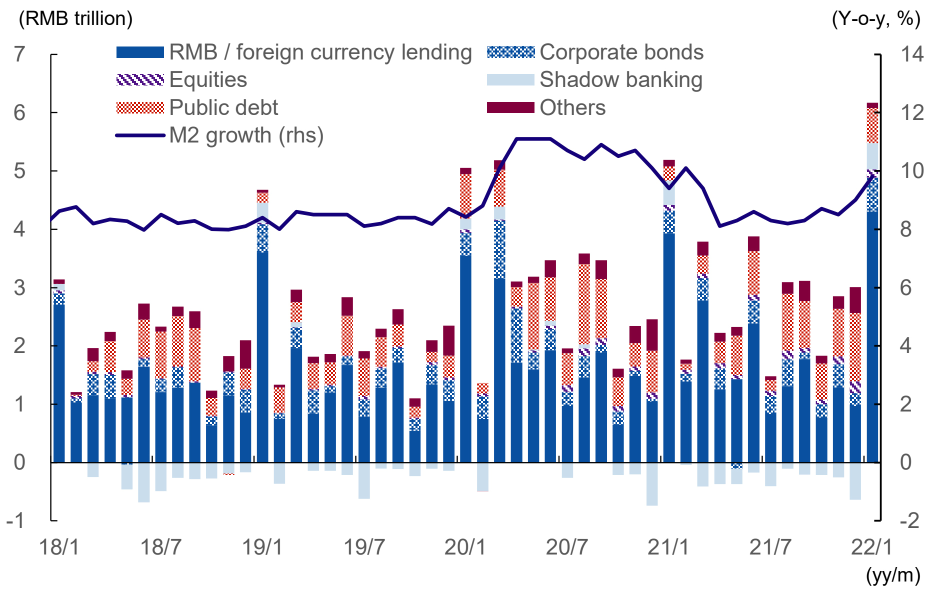


Note: Bank lending and mortgage loans for real estate development investment are seasonally adjusted by MHRT.
Source: Made by MHRT based upon the National Bureau of Statistics of China, Wind, and CEIC data.

Supply of funds to the real economy reached a record high for a single month. The RMB rate remains under strong pressure for yuan appreciation

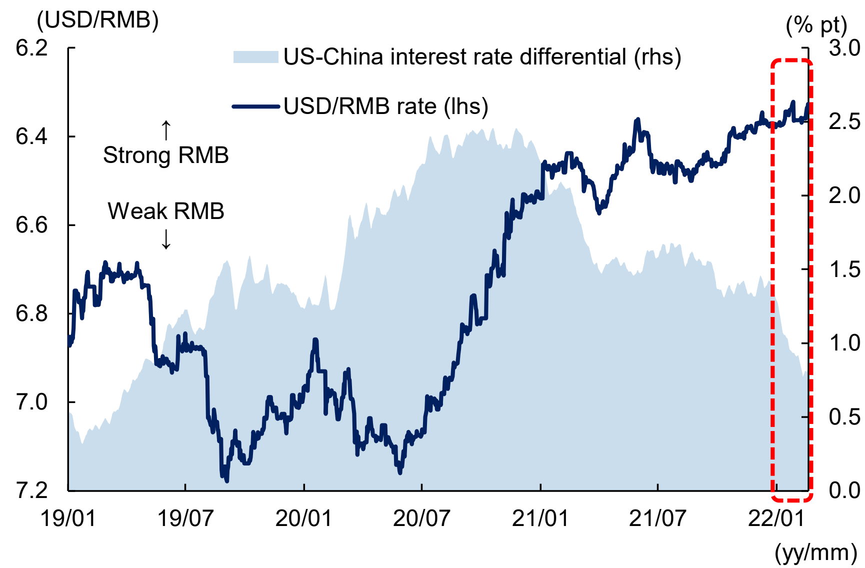
- China Total Social Financing (TSF), which indicates the amount of funds supplied from the financial system to the real economy, exceeded RMB 6 trillion for the first time in a single month in January, reaching a record high. Money supply (M2) also accelerated by +9.8% y-o-y, from the previous month (+9.0% y-o-y).
  - China's new yuan–denominated loans, which are also included in TSF, reached RMB 3.98 trillion, a record high for a single month. Loans for working capital increased significantly.
  - In January, the People's Bank of China (PBOC) apparently provided window guidance to major banks to increase lending. Adequate supply of funds is expected to be maintained going forward.
- The USD/RMB rate showed the yuan weakening to 1 USD = 6.36 RMB before the Chinese New Year, but the yuan appreciated again to the 1 USD=6.32 RMB range by February 18.
  - The yuan is still under strong pressure on the back of steady exports. Even so, a gradual depreciation of the yuan is expected since the US-China interest rate differential is narrowing.

Total Social Financing (newly financed funds) and money supply (M2)



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

USD/RMB rate and US-China interest rate differential

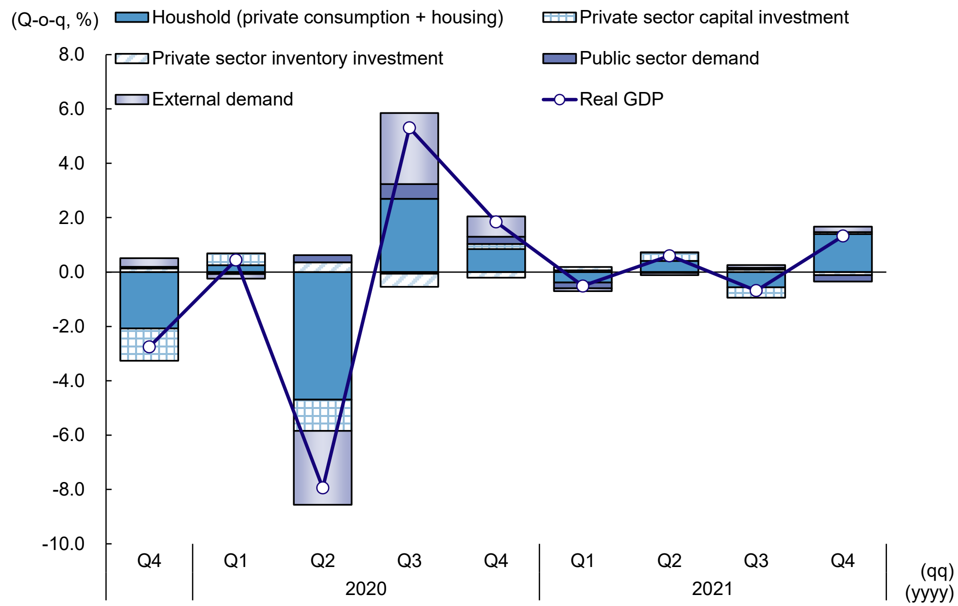


Note: US-China interest rate differential = 10yr Chinese bond yield - 10yr UST yield; 7-day moving average.
Source: Made by MHRT based upon CFETS, FRB, and CEIC data.

The Japanese economy: despite the strong growth in the Oct-Dec quarter, negative growth is expected in the Jan-Mar quarter due to the impact of the Omicron variant

- The *First Preliminary Quarterly Estimates of GDP* ("1st QE") revealed that Japan's real GDP in the Oct-Dec quarter grew +1.3% q-o-q (+5.4% p.a.), recording strong growth as expected.
  - The strong growth was due mainly to a significant recovery in personal consumption, including services requiring face-to-face interactions, reflecting the slowdown of the fifth wave of infections and easing of mobility restrictions. Among other factors, this was boosted by the recovery in motor vehicle output, reflecting the resolution of the fall of parts supplied from Southeast Asia last summer.
  - In the Jan-Mar quarter, we expect GDP growth to register approximately 2% lower than expected and fall slightly into negative territory (-0.3% q-o-q, -1.0% p.a.) due to the spread of Omicron variant cases serving as a drag on consumption of services requiring face-to-face interactions and motor vehicle output,

Oct-Dec quarter of 2021 *(1st QE)*



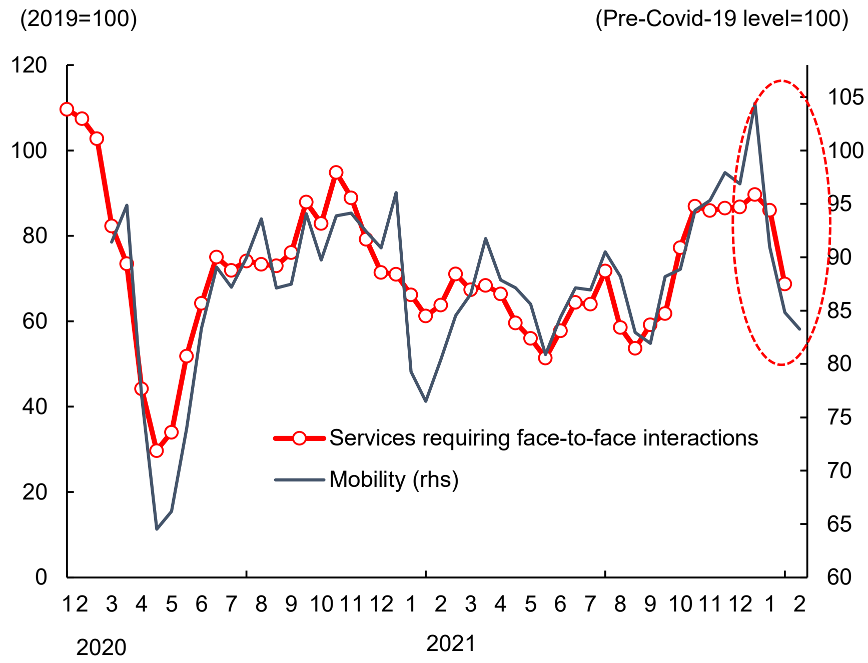
	2020 Oct-Dec	2021 Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	2022 Jan-Mar
Real GDP	1.8	-0.5	0.6	-0.7	1.3	-0.3
(Q-o-q % change, p.a.)	7.5	-2.1	2.4	-2.7	5.4	-1.0
(Y-o-y % change)	-0.8	-1.8	7.3	1.2	0.7	0.8
Domestic demand	1.1	-0.4	0.7	-0.8	1.1	-0.3
	(1.1)	(-0.4)	(0.7)	(-0.8)	(1.1)	(-0.3)
Private sector demand	1.1	-0.3	1.0	-1.2	1.9	-0.5
	(0.8)	(-0.2)	(0.7)	(-0.8)	(1.3)	(-0.4)
Personal consumption	1.6	-0.8	0.7	-0.9	2.7	-1.4
Housing investment	-0.1	0.9	1.0	-1.6	-0.9	0.4
Capital investment	1.2	0.4	2.0	-2.4	0.4	0.9
Inventory investment	(-0.2)	(0.1)	(0.0)	(0.1)	(-0.1)	(0.2)
Public sector demand	0.9	-0.8	-0.1	0.2	-0.9	0.3
	(0.3)	(-0.2)	(-0.0)	(0.1)	(-0.2)	(0.1)
Government consumption	0.8	-0.6	0.7	1.1	-0.3	0.4
Public investment	2.0	-1.6	-3.3	-3.0	-3.3	-0.5
External demand	(0.8)	(-0.1)	(-0.1)	(0.1)	(0.2)	(0.0)
Exports	10.7	2.2	3.1	-0.3	1.0	0.8
Imports	5.5	3.0	3.8	-0.9	-0.3	0.5
Nominal GDP	1.3	-0.4	0.2	-1.0	0.5	0.3
GDP deflator (y-o-y change)	0.2	-0.1	-1.1	-1.2	-1.3	-0.8

Note: Figures in the right-hand chart are on a q-o-q basis (in real terms) unless otherwise noted. The figures in parentheses represent the contribution to growth. Figures for the Jan-Mar quarter 2022 are forecasts.
Source: Made by MHRT based upon Cabinet Office, *Quarterly Estimates of GDP*.

Service consumption fell in the second half of January, and is expected to remain weak through the first half of February

- Service consumption in the second half of January fell sharply, notably in dining out, travel, and transportation, along with the decline of people going out as a result of the resurgence of Covid-19 infections.
  - The nationwide restaurant information view counts declined further through early February, indicating the ongoing weakness in service consumption, particularly in dining out.
- Service consumption is expected to gradually recover from the second half of February as infections peak out.
  - However, service consumption for the entire Jan-Mar quarter is expected to decline compared to the Oct-Dec quarter, serving as a drag on personal consumption.

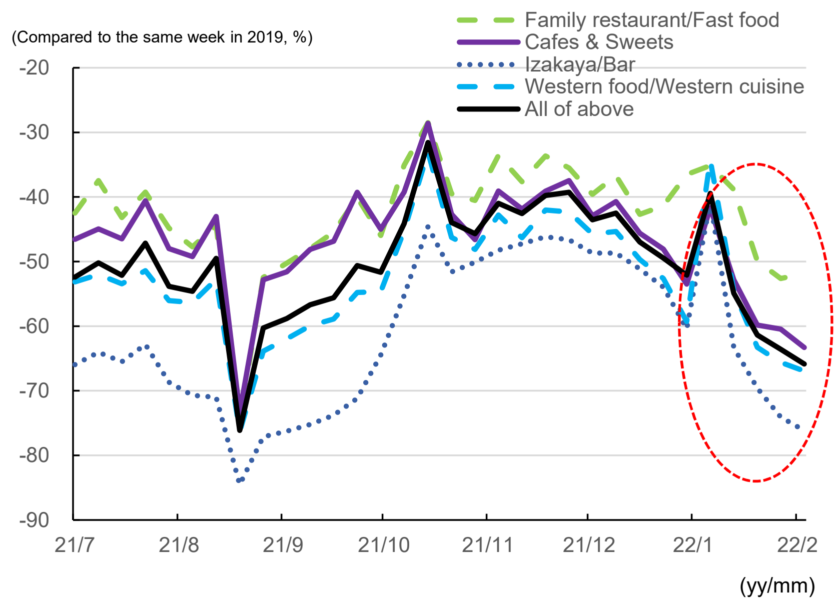
Trends of consumption of services requiring face-to-face interactions and mobility



Note: Consumption indices are seasonally adjusted by MHRT. Mobility represents retail and entertainment mobility. Due to the change in the publicly available data series, data from 2022 onward is represented by extending the new data series.

Source: Made by MHRT based upon JCB and Nowcast, *JCB Consumption NOW,* and Google LLC, *Google COVID-19 Community Mobility Reports*.

Trend of V-RESAS restaurant information view counts



Source: Made by MHRT based upon the Cabinet Office, *V-RESAS* data provided by Retty Inc.

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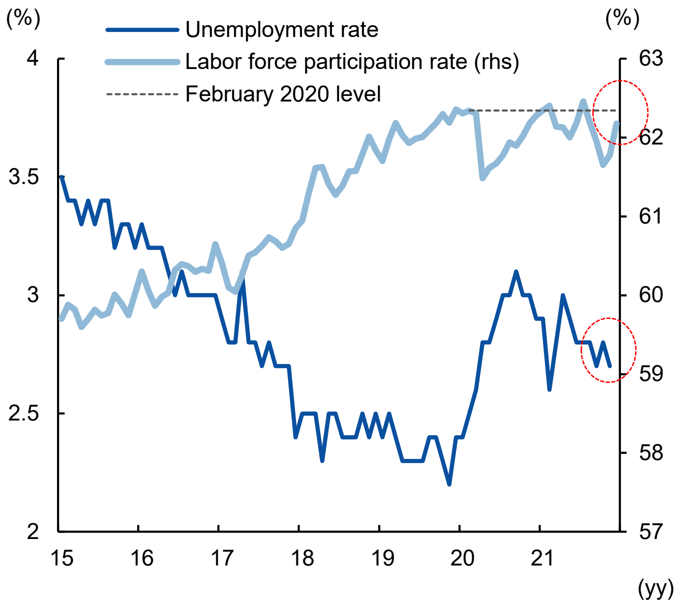
Even though employment indicators improved in December, they are expected to worsen again due to the resurgence of Covid-19 infections

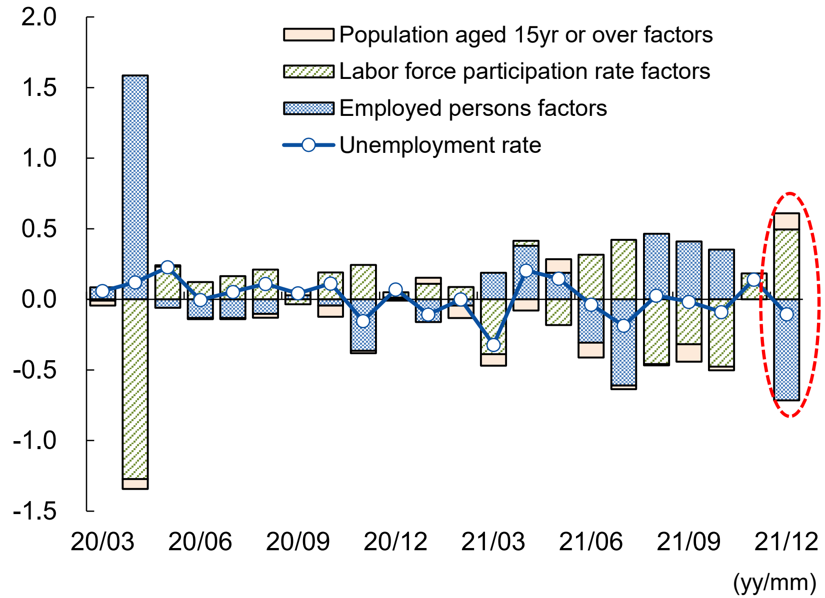
- The unemployment rate in December fell to 2.7% from the previous month, mainly due to the rise in number of employed persons, especially in sectors such as services requiring face-to-face interactions.
  - The number of employed persons (+490 thousand m-o-m) increased for the first time in five months. Persons not counted in the labor force (-300 thousand m-o-m) decreased for the second consecutive month, indicating an improvement in the labor market. The labor force participation rate recovered to a level approaching the pre-pandemic level of February 2020.
  - The average unemployment rate for 2021 was 2.8% (+0.4 pt from 2019), while the number of employed persons was 66.67 million (-0.8% from 2019).
  - Going forward, employment is expected to deteriorate again, especially in services requiring face-to-face interactions, due to the resurgence of Omicron variant infections. In addition, it will be necessary to keep in mind that the surge of raw material prices will serve as a drag on profits among companies and act as negative pressure on employment.

Trends of the unemployment rate and labor force participation rate



Note: Seasonally adjusted. Labor force participation rate = calculate as (labor force population / population aged 15 and over).
Source: Made by MHRT based upon Ministry of Internal Affairs and Communications, *Labour Force*

Breakdown of unemployment rate factors

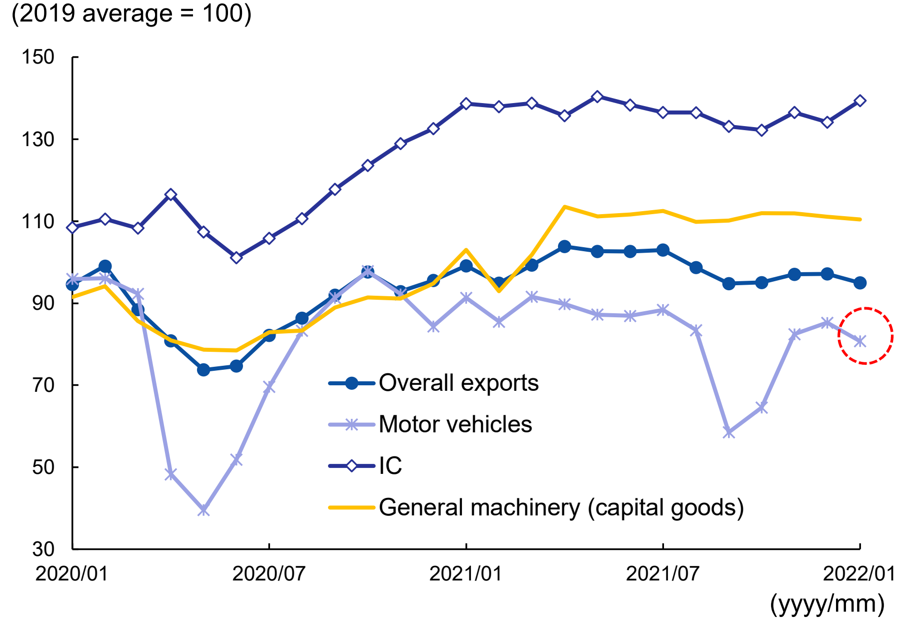


Note: Increase in the number of employed persons, increase in persons not counted in the labor force (decrease in the labor force participation rate), and decrease in the population aged 15 and over are factors that lower the unemployment rate.
Source: Made by MHRT based upon the Ministry of Internal Affairs and Communications, *Labour Force*.

Motor vehicle exports fell sharply due to the impact of the spread of Covid-19 infections. A gradual recovery is expected going forward

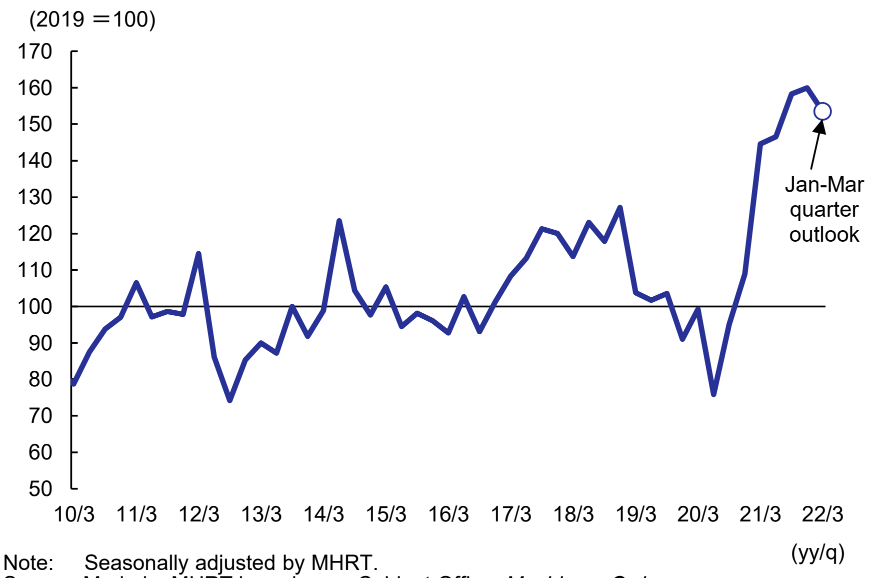
- The export volume index for January fell -2.2% m-o-m (December: +0.1% m-o-m), falling for the first time in four months.
  - Due to the impact of factory production stoppages caused by the spread of Covid-19 infections, motor vehicle exports decreased significantly (-5.1% m-o-m), serving as a drag on overall exports.
- Looking ahead, exports are expected to pick up gradually on the back of motor vehicle recovery and support from capital goods as the spread of Covid-19 infections peaks out.
  - Machinery orders from overseas, leading indicators for capital goods exports, remained high through the Oct-Dec quarter. Capital goods exports in the Jan-Mar quarter are expected to remain steady. According to the Cabinet Office's outlook for the Jan-Mar quarter, machinery orders from overseas are expected to decline, due to a more cautious investment stance in the face of high commodity prices and the spread of Covid-19 infections. However, since semiconductor manufacturing equipment and construction machinery are expected to support growth, a significant overall decline is likely to be avoided.

Trends in exports by major items



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

Machinery orders from overseas (excluding orders for railways, aircrafts, and ships)

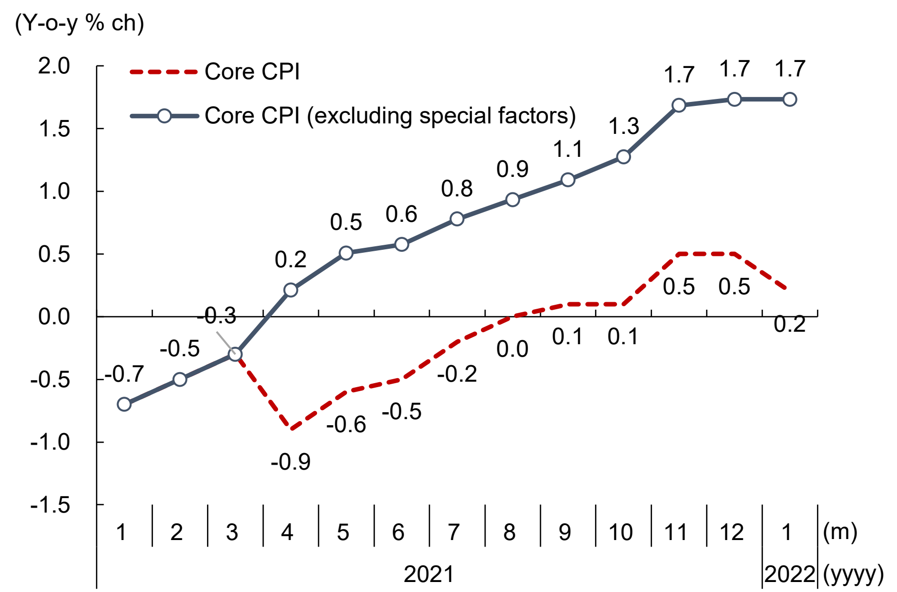


Note: Seasonally adjusted by MHRT.
Source: Made by MHRT based upon Cabinet Office, *Machinery Orders*.

The rise of the core CPI slowed slightly in January as the rebound from the GoTo Travel campaign wore off

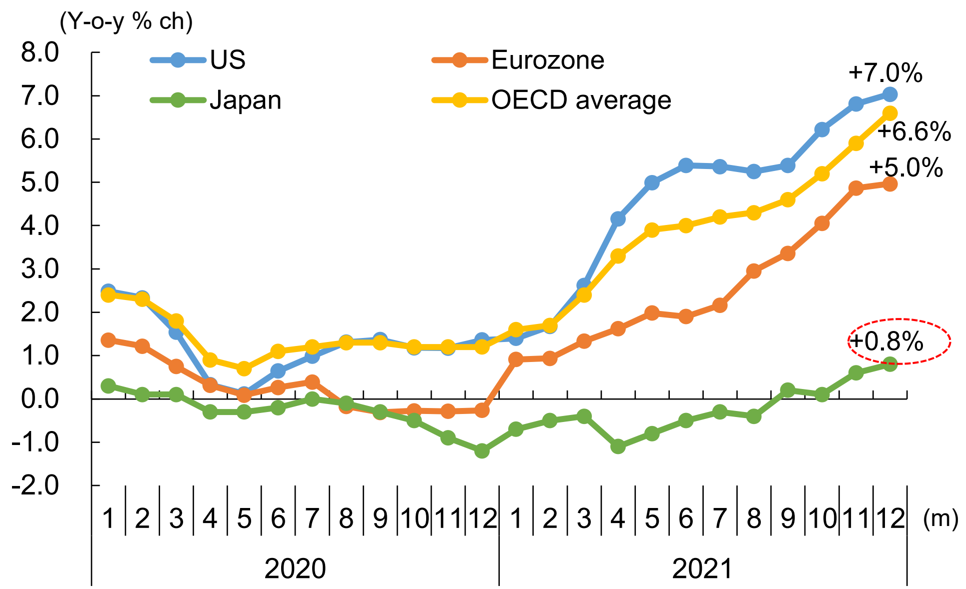
- In January, the core consumer price index (CPI) for Japan rose +0.2% y-o-y (December: +0.5% y-o-y). Excluding special factors, January core CPI was +1.7% y-o-y.
  - Looking at the contribution of each item to the year-on-year change in core CPI, the contribution by energy continued to expand by +1.3% pt in January (December: +1.2% pt), while accommodation charges restrained the rise of core CPI by ±0.0% pt in January (December: +0.3% pt) due to the fading rebound of demand from the GoTo Travel campaign.
  - The fading impact of fire and earthquake insurance premiums raised in January 2021, also served to curb the rise of the core CPI.
- Consumer prices (headline inflation) in 38 OECD countries averaged +6.6% y-o-y in December 2021, the highest growth in nearly 30 years.
  - Although consumer prices rose (+0.8% y-o-y), the pace of rise was the lowest among OECD member countries.

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*.

International comparison of CPI (headline inflation)



Note: Japan is represented by a series excluding the effect of consumption tax
Source: Made by MHRT based upon the US Department of Labor, Eurostat, OECD.Stat, Ministry of Internal Affairs and Communications, *Consumer Price Index*.

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.
  - ■ Market expectations on a policy shift emerged prior to the Monetary Policy Meeting. At the post-meeting press conference, Governor Haruhiko Kuroda stated that he has no intention of raising interest rates or modifying monetary policy if the price target is not achieved in a stable manner. Deputy Governor Masazumi Wakatabe also stated at the meeting with local leaders that, given the current situation where Japan's economy has finally started to pick up from the pandemic, it is definitely too early for the BOJ to start tightening monetary policy when the target has not yet been achieved.
- The BOJ is expected to continue its current monetary easing framework for the time being.
  - ■ The BOJ is expected to continue its monetary easing stance indicated in the March 2021 "Assessment," including three rounds of ETF purchases from January and its fixed-rate purchase operations (February 14).

Remarks by BOJ Governor Haruhiko Kuroda (January 18) and Deputy Governor Masazumi Wakatabe (February 3)

(Governor Haruhiko Kuroda)

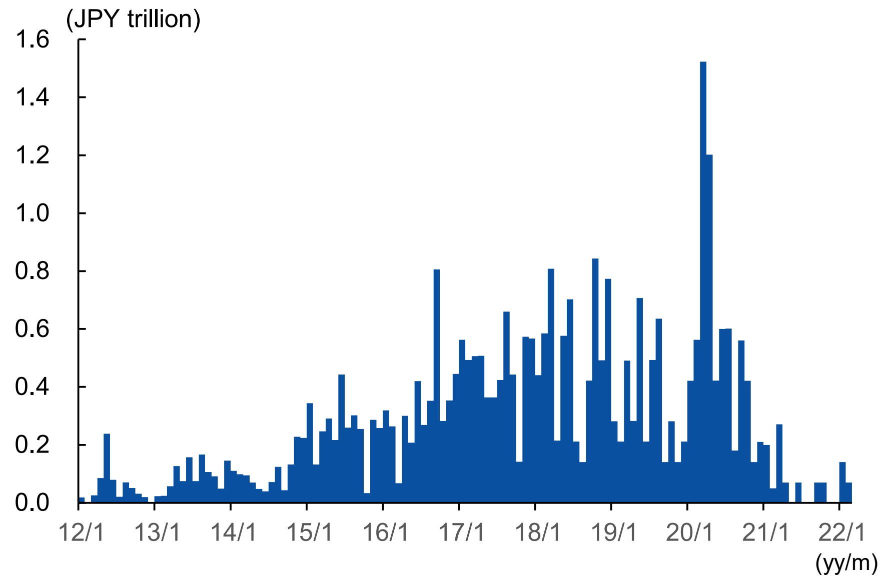
- ■ We're not yet in a situation where inflation is steadily accelerating toward the BOJ's goal. Under such conditions, we are absolutely not thinking about raising rates or modifying our accommodative monetary policy.
- ■ My term as BOJ governor ends in April 2023. But I have no plans to tie debate on policy normalization to my remaining term. We're not in a condition to debate an exit or policy normalization with price targets still far off in FY2023.

(Deputy Governor Masazumi Wakatabe)

- ■ The normalization of monetary policy is associated with “achieving the Bank’s price stability target” in a stable and sustainable manner.
- ■ Given the current situation where Japan's economy has finally started to pick up from the pandemic, it is definitely too early to start tightening monetary policy when the target has not yet been achieved as this could hinder the economic recovery.

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

The BOJ’s monthly ETF purchases



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

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Sustainability: Japan positions carbon neutrality in its growth strategy. The focus of attention is the Clean Energy Strategy in June

- The Kishida administration has positioned carbon neutrality policies in its "New Form of Capitalism" growth strategy. Japan reiterated (January 18) the goal of an "Asia Zero Emissions Community" through technological cooperation with Asian countries, amongst its commitment to the international community at the Davos Agenda.
- The FY2022 draft budget allocates JPY 100 billion for green-related R&D and JPY 20 billion in grants to local governments that will strengthen their efforts. In addition, the "Green Innovation Fund" (launched in 2020) will be utilized to provide JPY 2 trillion in R&D support over 10 years.
  - Compared to the massive green-related investment budgets set out by major Western countries, the amount of Japan's fiscal green spending is generally small, although the size of the national economy and its objectives differ.

The Kishida Administration's carbon neutrality policies

Measures	Current - Future Initiatives
Promote introduction of renewable energies	Introducing new legislative measures and providing information by METI, MOE, etc.
Promote electrification of automobiles	Subsidies for purchase of EVs, plug-in hybrid vehicles, fuel cell vehicles, etc.
Formulate clean energy strategy	Advisory panel launched (January 18). Strategies to be announced in June
Long-term strategy as a growth strategy based on the Paris Agreement	Develop measures for each item in energy, industry, transportation, etc.
Achieve decarbonization in the regions	Grants to local governments to strengthen their efforts
Promote sustainability finance	Create a framework for financial markets, driven by an expert panel (launched in December 2020)

Source: Made by MHRT based upon the website of the Prime Minister's Office

Green-related investments set out by the governments of respective countries

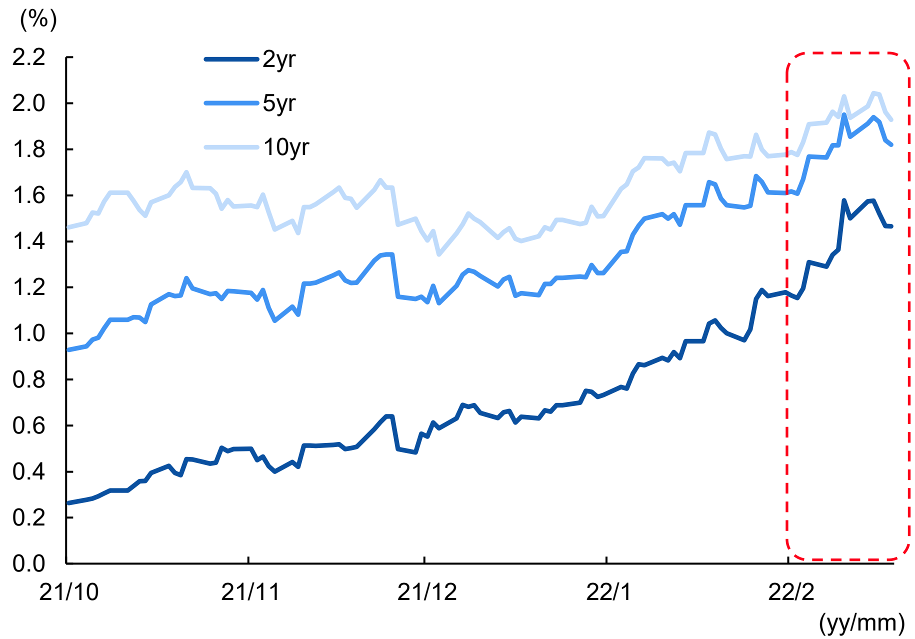
Country/Region	Outlines
Japan	2 trillion yen in R&D support over 10 years utilizing the Green Innovation Fund (launched in 2020)
EU	Plans to invest at least 30% equivalent (over JPY 65 trillion) of the EU medium-term budget (EUR 1.8243 trillion) from 2021 to 2027 in green-related sectors
US	Biden Administration submits spending bill that includes USD 555 billion (over JPY 60 trillion) in climate change response investments (2022-2031)
UK	Plans to attract GBP 90 billion (over JPY 14 trillion) of private investment by 2030

Source: Made by MHRT based upon various media reports.

US bond market: US long-term interest rates rose to the 2% level, further factoring in rate hikes

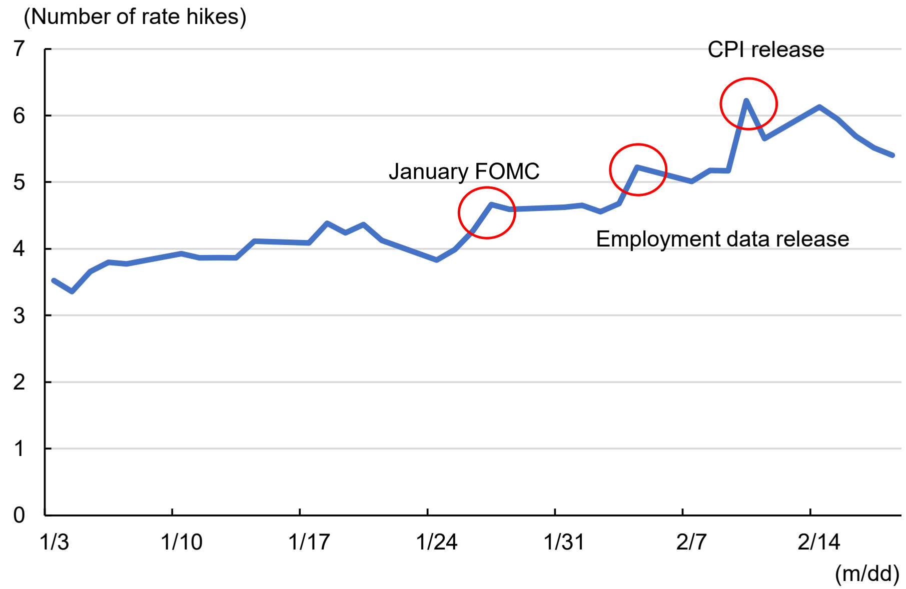
- US long-term interest rates rose above 2%, further factoring in rate hikes, on the back of the US January employment report and the US January CPI which exceeded market expectations.
  - Given the rise of concerns regarding a sharp tightening of monetary policy by the FRB due to confirmation on the acceleration of inflation, the market is factoring in five to six rate hikes by the end of 2022. Some hawkish FRB officials signaled a 1% rate hike possibly by July.
  - US long-term interest rates have temporarily fallen to the 1.9% level recently due to the heightened tensions on the situation in Ukraine.
- Looking ahead, US long-term interest rates are expected to rise.
  - Given a high possibility that a rate hike will be decided at the March FOMC meeting (March 15 and 16), we expect the rise of concerns regarding successive rate hikes going forward.

Trends of nominal interest rates



Source: Made by MHRT based upon Bloomberg.

Number of rate hikes expected by the market within 2022

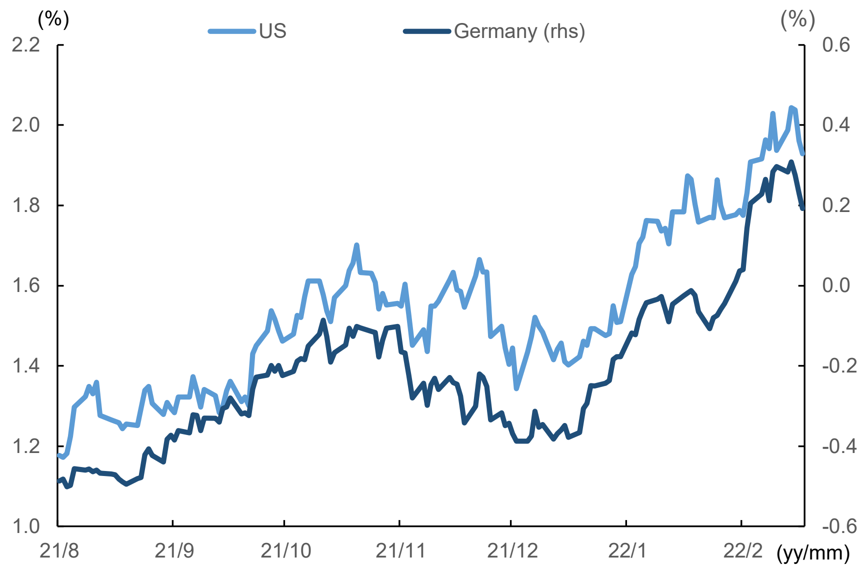


Note: The market outlook is calculated from Eurodollar futures. The rise in rates per one rate hike is assumed to be 0.25%.
Source: Made by MHRT based upon Bloomberg.

Eurozone bond market: German long-term interest rates rose to around 0.3%, against the backdrop of rising US long-term interest rates, etc.

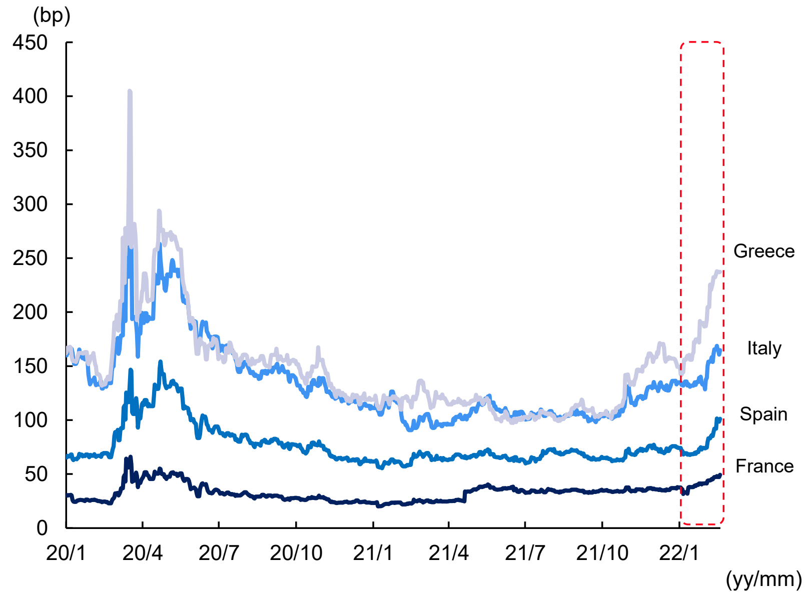
- German long-term interest rates rose to around 0.3% on the back of rising US long-term interest rates and market expectations on a rate hike by the ECB during 2022.
  - ECB President Christine Lagarde stated that she would proceed cautiously with monetary policy normalization, but did not explicitly rule out a rate hike by the end of 2022.
  - Yield spreads between southern European countries and Germany widened due to speculation on a rate hike by the ECB and an earlier discontinuation of asset purchases.
- Looking forward, German long-term interest rates are expected to rise, reflecting the rise of US long-term interest rates and market expectations on monetary policy normalization by the ECB.
  - Given the high possibility that the US will start raising interest rates in March, we expect German long-term interest rates to be subject to upward pressures.
  - The odds are high that energy prices will remain high, leading to the rise of concerns regarding inflation also in Europe.

Trend of US and German long-term interest rates



Source: Made by MHRT based upon Bloomberg.

Yield spreads of southern European countries' bonds against German bonds (10yr)

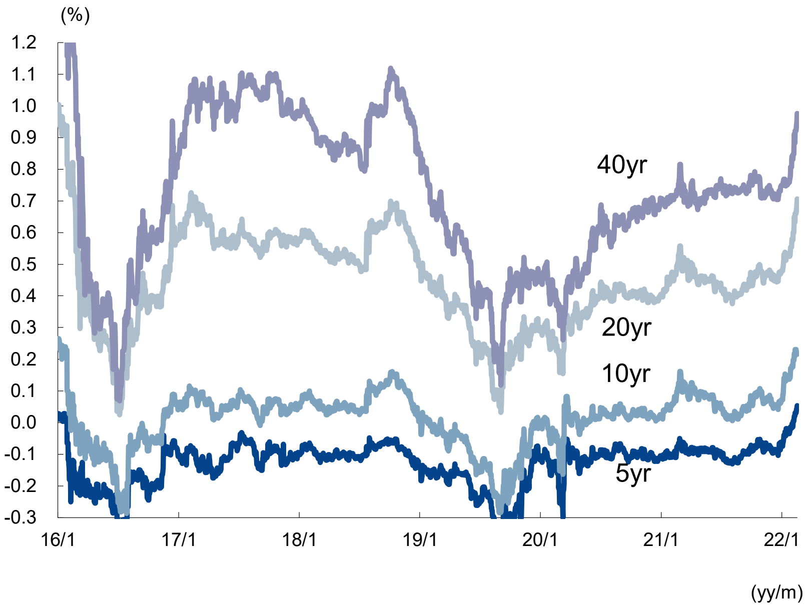


Source: Made by MHRT based upon Bloomberg.

Japanese bond market: the 10yr JGB yield is projected to trend around 0.2%

- The 10yr JGB yield rose to levels not seen since January 2016 (to the lower half of the 0.2% level), mainly due to the rise of US interest rates.
  - On February 10, the BOJ announced it will conduct its first fixed-rate purchase operation in about three and a half years (conducted on February 14), indicating its stance to curb the rise in long-term interest rates. The operation drew no bids, given that the fixed-rate offer was above the JGB yield. The 10yr JGB yield is currently around 0.2%, due to the focus of attention on the upper limit of the acceptable breadth of fluctuation.
- The 10yr JGB yield is projected to trend around 0.2%.
  - We expect that the yield will move within a narrow range around 0.2%, as prospects on the rise of US interest rates and lingering speculation on the BOJ's policy shift will serve as upward pressure, while the 10yr JGB yield will have limited room to rise due to the existence of the acceptable breadth of fluctuation (±0.25%).

Trends in JGB yields



Source: Made by MHRT based upon Bloomberg.

Trends in the 10yr JGB yield and the past eight fixed-rate purchase operations

Source: Made by MHRT based upon Bloomberg.

US stock market: stock prices fell amid market expectations on the acceleration of rate hikes by the FRB and geopolitical risks

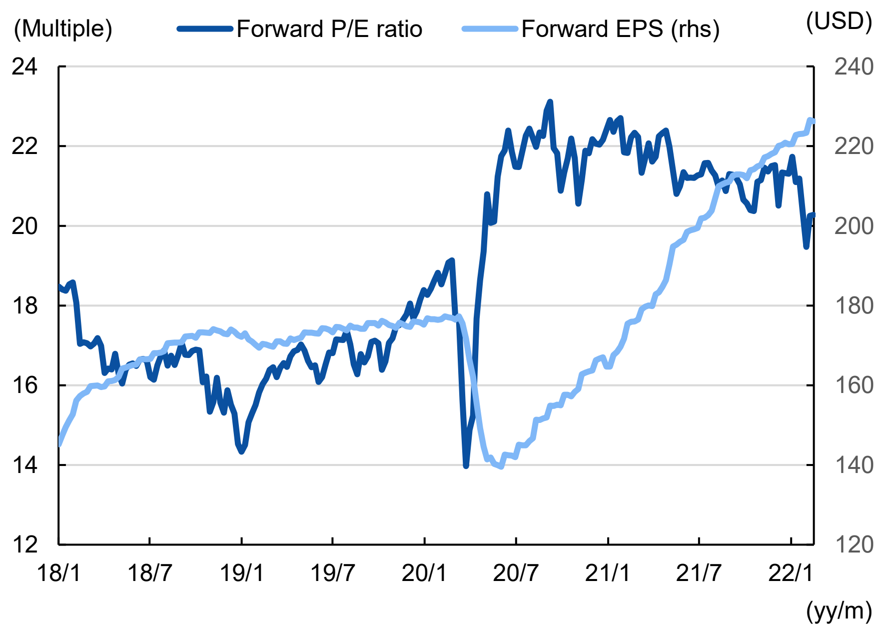
- The US stock market fell sharply due to the US January CPI that exceeded market expectations and uncertainty caused by the heightened tension over the situation in Ukraine.
  - Even though the favorable corporate earnings for the 2021 Oct-Dec quarter will be a positive factor, market expectations on the acceleration of rate hikes by the FRB and mounting geopolitical risks will serve as negative factors.
- Looking ahead, the market is expected to soften slightly due to the decline of P/E ratios as a result of the rise of interest rates.
  - Even so, EPS growth is expected due to steady corporate earnings and serve as support for stock prices.

Q4 corporate earnings of S&P 500 companies

	Higher than expected	No surprise	Lower than expected	Progress rate (%)	No. of companies which have reported earnings
Energy	83%	0%	17%	57.1	12 / 21
Materials	57%	9%	35%	82.1	23 / 28
Capital goods	83%	2%	16%	86.3	63 / 73
General consumer goods	72%	0%	28%	62.1	36 / 58
Consumer staples	74%	9%	17%	71.9	23 / 32
Healthcare	82%	2%	16%	79.7	51 / 64
Finance	77%	2%	22%	97.0	64 / 66
Information technologies	90%	3%	7%	77.3	58 / 75
Communication services	74%	0%	26%	85.2	23 / 27
Utilities	56%	11%	33%	32.1	9 / 28
Real estate	67%	17%	17%	62.1	18 / 29
S&P 500	78%	3%	19%	75.8	380

Source: Made by MHRT based upon Refinitiv.

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.

Japanese stock market: Japanese stocks fell in tandem with the US stock market

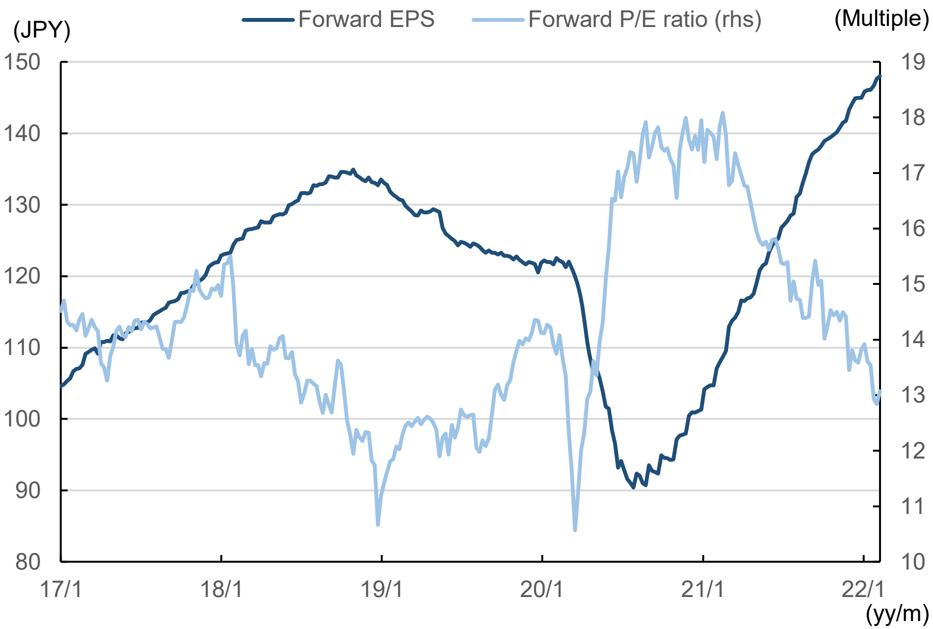
- The Japanese stock market fell in tandem with the US stock market, as US long-term interest rates rose and the US stock market fell sharply, notably in high-tech stocks.
  - The rapid spread of Omicron variant infections in January and the rise of tensions regarding Ukraine in February also served as negative factors.
- Looking ahead, although the Japanese stock market may soften at times in lock step with the US stock market, we expect a gradual rise thereafter.
  - Incoming FY2021 4Q corporate earnings are strong. Going forward, we expect Japanese companies to maintain solid earnings, and f the EPS to follow a moderate expansion.
  - The P/E ratio has recently declined to the lower half of the 13x range. Considering the corporate earnings growths of Japanese companies, the decline of the P/E ratio will be limited.

FY2021 Q3 earnings results

	FY2021 3Q net income compared to FY2019 3Q net income (%)	FY2021 3Q net income compared to FY2020 3Q net income (%)	Progress rate (%)	No. of companies which have reported earnings
Energy	158.3	273.1	100.0	4
Communication services	36.4	11.2	100.0	17
Healthcare	8.3	-13.1	100.0	31
General consumer goods	40.7	-6.8	100.0	55
Finance	19.2	1.4	97.8	44
Utilities	-385.0	-464.0	100.0	13
Capital goods	77.4	146.6	97.1	99
Information technologies	45.7	31.1	100.0	37
Consumer staples	20.3	11.7	100.0	25
Materials	16,536.3	60.3	100.0	48
Real estate	18.0	-23.1	100.0	8
TOPIX 500	53.9	24.3	99.0	381

Note: Data obtained from TOPIX 500 companies whose fiscal year ends on March 31.
Source: Made by MHRT based upon Bloomberg.

FY2021 Q3 earnings results

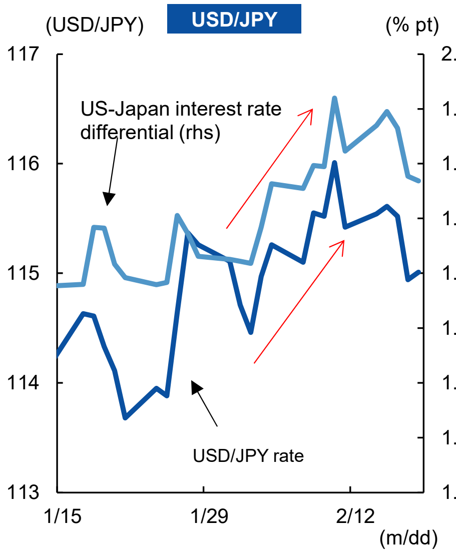


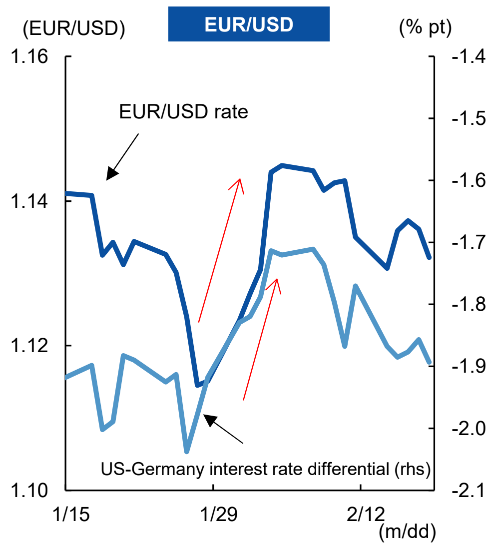
Source: Made by MHRT based upon Refinitiv.

Forex market: the dollar is expected to strengthen against both the yen and the euro

- The USD/JPY rate: the dollar temporarily strengthened against the yen to the 1 USD=JPY 116 level, given the rise of US interest rates, reflecting the hawkish January FOMC meeting (January 25 and 26) and the stronger-than-expected US January employment report and US January CPI. The yen is currently strengthening against the dollar due to the rise of tensions regarding Ukraine.
- The EUR/USD rate: the euro strengthened against the dollar due to the sharp rise of European interest rates reflecting the hawkish February ECB Governing Council meeting (February 3). However, the dollar strengthened against the euro again in response to the rise of tensions regarding Ukraine, resulting in market fluctuations since mid-January.
- Going forward, the dollar is expected to strengthen against both the yen and the euro on the back of the rise of US interest rates. However, given the focus of market attention on an interest rate hike by the ECB during 2022, it will be necessary to keep a close eye upon the possibility that the buildup of euro purchasing positions will serve as upward pressures upon the euro.

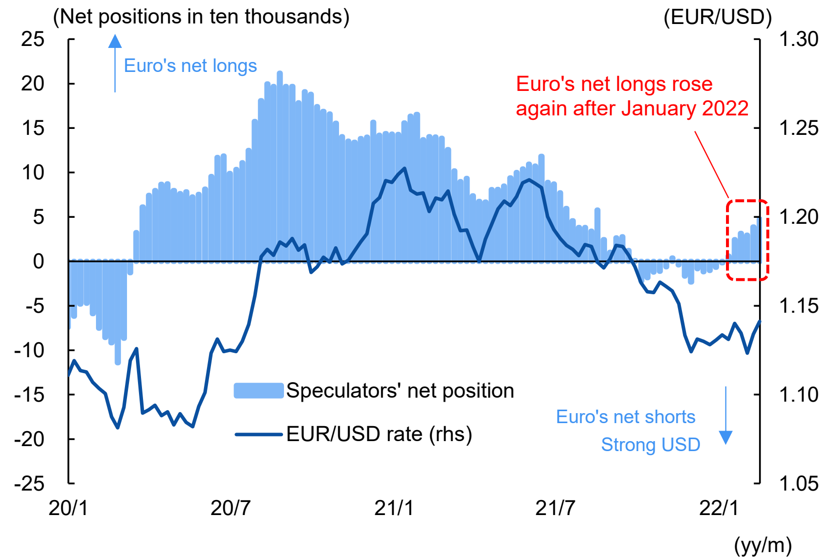
The USD/JPY, EUR/USD rates and interest rate differentials against the US





Note: US-Japan interest rate differential = 5yr UST yield – 5yr JGB yield.
US-German interest rate differential = 5yr German government bond yield – 5yr UST yield
Source: Made by MHRT based upon Bloomberg.

Euro/dollar net positions among speculators

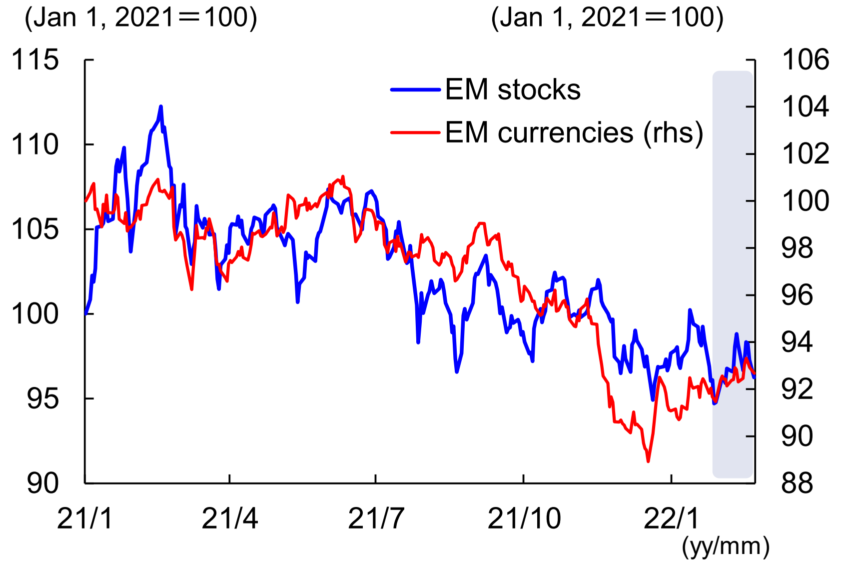


Source: Made by MHRT based upon Bloomberg.

EM financial markets: further currency depreciation was avoided at the moment, but still requires attention

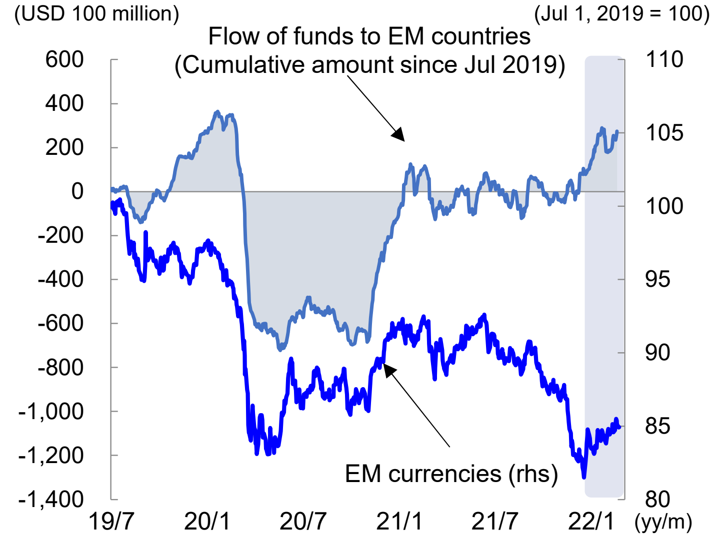
- While EM stocks will continue to face a heavy resistance, EM currencies avoided a further depreciation even amid growing market expectations of a US interest rate hike in March.
  - EM countries experienced an outflow of overseas investment funds, reflecting the US FOMC's indication in late January of a March interest rate hike.
  - Investment funds have subsequently started to flow in from overseas. EM currencies have generally recovered, such as in the countries of Latin America which are continuing to raise interest rates in a bid to address inflation and currency depreciation.
  - The Turkish lira, which depreciated sharply in 2021, was also able to halt further depreciation by implementing the exchange-rate-protected Turkish lira deposits scheme.
- However, there are concerns that the coming US interest rate hikes from March will lead to the rise of currency-weakening pressures in EM countries. EM stocks are also expected to continue to face a heavy resistance.
- As for Russia, both stocks and currency plunged following the deployment of troops to eastern Ukraine. The decline may continue due to prolonged turmoil and sanctions against Russia.

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 and Refinitiv.

Outlook on the financial markets

		Feb 21, 2022	Jan-Mar	Apr-Jun	Jul-Sep
Japan	Interest rate on Policy-Rate balances (End of term, %)	- 0.10	- 0.10	- 0.10	- 0.10
	Newly-issued JGBs (10yr, %)	0.21	0.10 to 0.20	0.10 to 0.20	0.10 to 0.20
	Nikkei Stock Average (JPY)	26,911	27,500 to 28,500	27,500 to 28,500	27,500 to 28,500
US	Federal Funds Rate (End of term, %)	0.00 to 0.25	0.25 to 0.50	0.75 to 1.00	1.25 to 1.50
	Long-term UST (10yr, %)	1.93	1.70 to 1.90	1.85 to 2.05	2.05 to 2.25
	Dow Jones Average (USD)	34,079	33,800 to 35,600	33,500 to 35,300	33,300 to 35,100
Eurozone	ECB deposit facility rate (End of term, %)	- 0.50	- 0.50	- 0.50	- 0.50
	Long-term government bond (Germany, 10yr, %)	0.21	0.00 to 0.20	0.10 to 0.30	0.15 to 0.35
Forex	USD/JPY rate (USD/JPY)	114.74	114 to 116	115 to 117	116 to 119
	EUR/USD rate (EUR/USD)	1.131	1.12 to 1.14	1.11 to 1.14	1.11 to 1.13

Note: 1. The foreign exchange rates (actual) are NY closing rates.
2. The projected policy interest rate indicated for the Oct-Dec, Jan-Mar, and Apr-Jun 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.