Monthly Economic Report

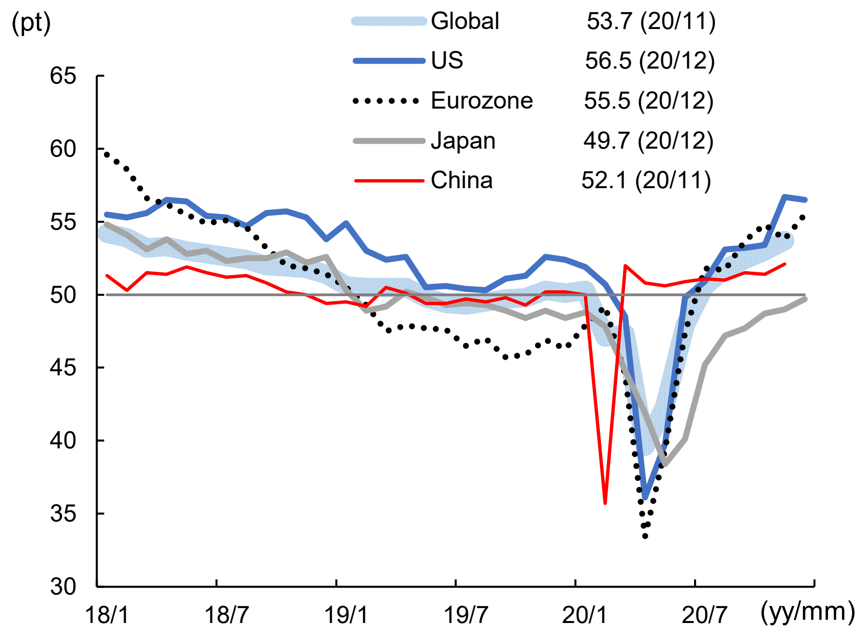
December 24, 2020

Mizuho Research Institute

1. Current state of the global economy: sluggish recovery in the Oct-Dec quarter due to the resurgence of Covid-19 infections in Europe and the US

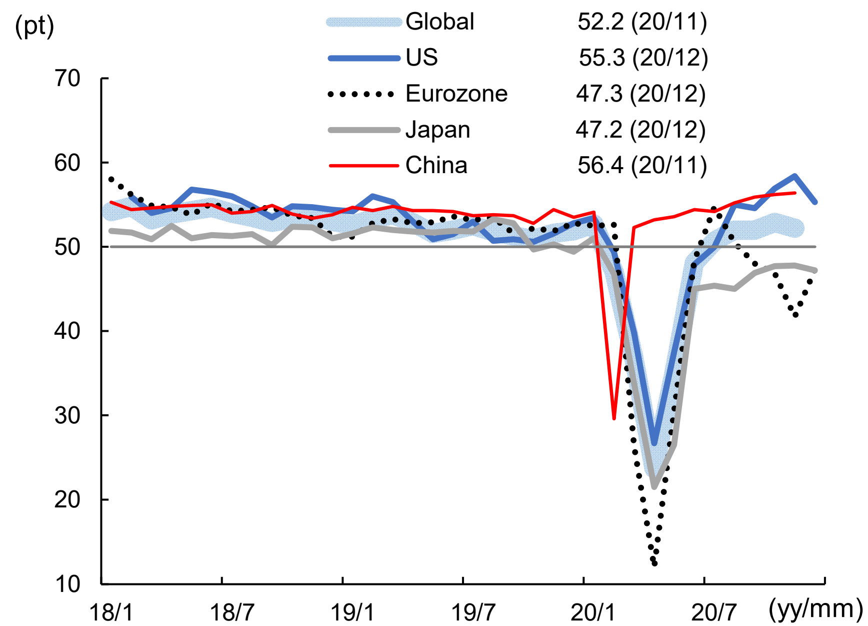
- While the global economy remains below pre-pandemic levels, it is following a recovery path.
- However, given the resurgence of Covid-19 infections, primarily in Europe and the US, Oct-Dec quarter growth among developed countries is forecast to decline.
  - In Europe, where lockdowns were implemented, a fall into negative growth in the Oct-Dec quarter may not be avoided.
  - Likewise in Japan, the spread of Covid-19 infections and the accompanying suspension of the Go To Travel Program are downside factors for the non-manufacturing sector.
  - Even in the US, where the PMI provides indications of an economic recovery, there are currently concerns over the economic impact of the resurgence of Covid-19 infections.

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 MHRI based upon the National Bureau of Statistics of China, Markit Economics

Non-manufacturing PMI



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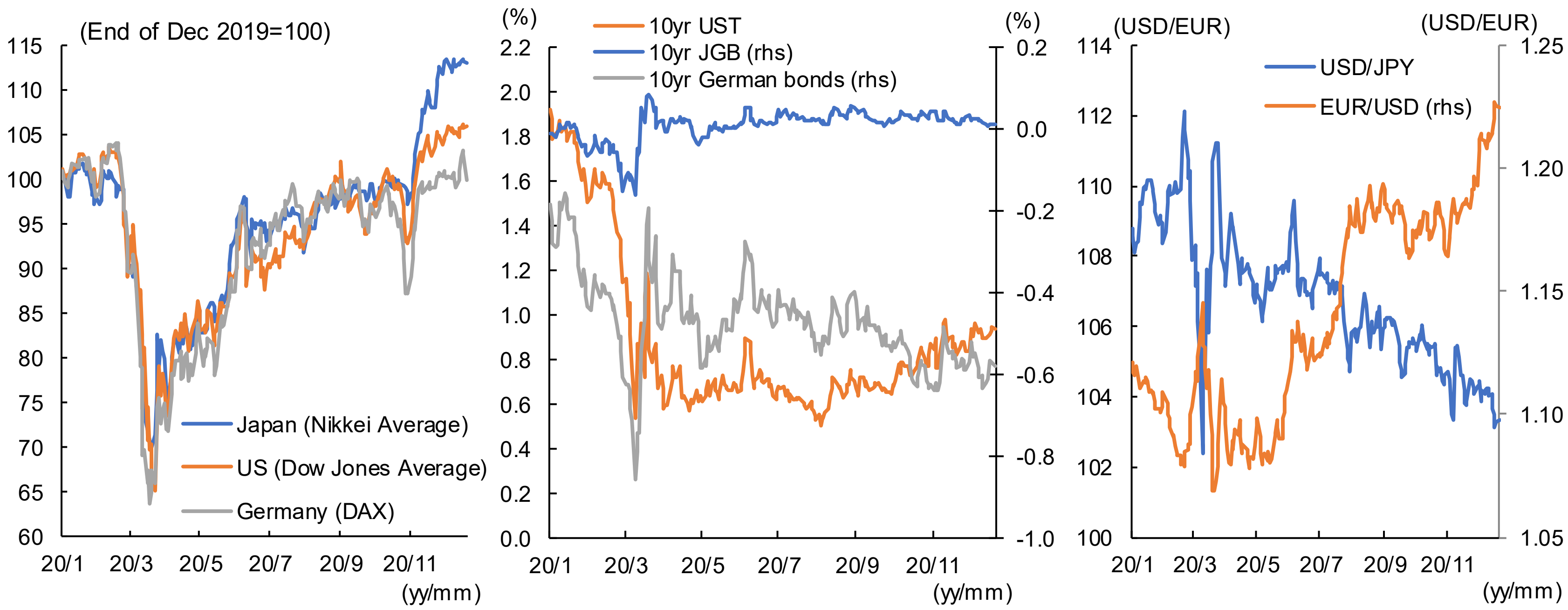
Source: Made by MHRI based upon the National Bureau of Statistics of China, Markit Economics

Overview of financial markets: despite concerns over the spread of a new Covid-19 variant, markets are supported by the US approval of additional economic measures

- While concerns regarding the spread of a new Covid-19 variant in the UK served as a drag, the markets are supported by US bipartisan agreement to approve additional economic measures.
  - Stocks generally remained high despite declines mainly in the U.K., where warnings of the spread of new coronavirus variants are rising, and in Europe, where restrictions on entry from the U.K. are being implemented. The Nikkei Stock Average has moved in a narrow range around JPY26,000, while the Dow Jones Average has remained at around the USD30,000-level.
  - Turning to interest rates, 10yr UST yields moved around 0.9%, as stock prices remained stable.
  - As for foreign exchange rates, the US dollar continued to lose ground to the yen and the euro. The EUR/USD exchange rate rose to the highest level since April 2018.

Major market trends

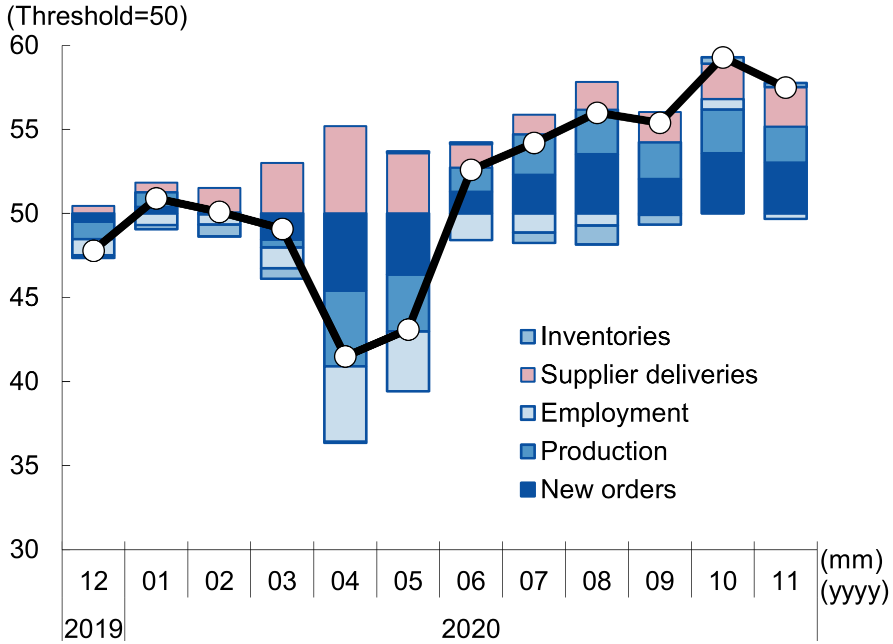


Source: Made by MHRI based upon Bloomberg

2. (1) US economy: Improvements in corporate business conditions stall. The sluggish recovery of employment may be serving as constraints upon supply

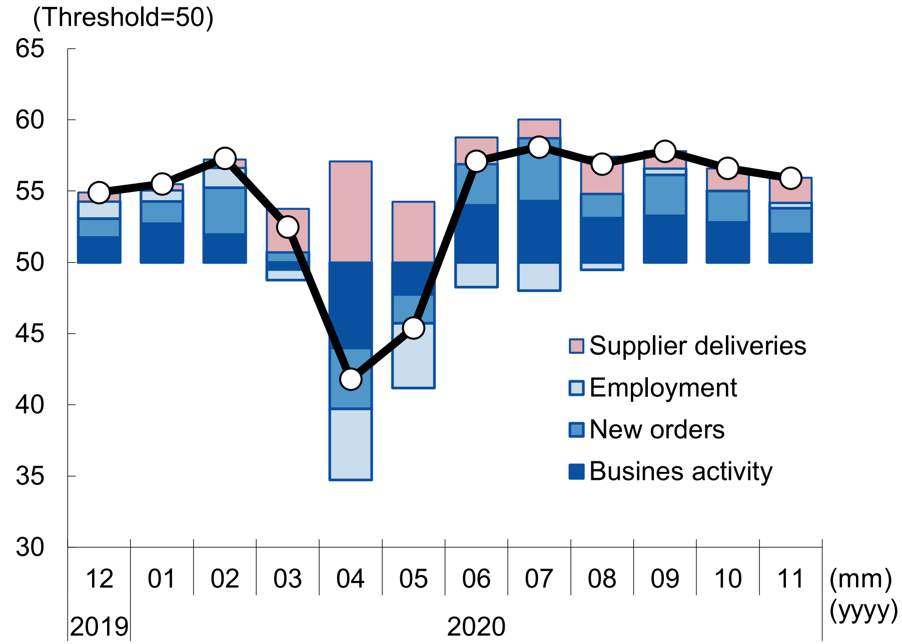
- Both the manufacturing and non-manufacturing ISM indexes fell from the previous month, declining respectively to 57.5 and 55.9.
  - Even though the indicator on employment in ISM non-manufacturing index improved, it fell below the threshold of 50 in the manufacturing index.
- Comments among companies indicated that labor shortages resulting from Covid-19 measures drove down production capacity.
  - The Fed's Beige Book (November) also included reports indicating that the spread of Covid-19 infections and school closures have hindered workers' ability to return to work, suggesting the possibility that the slow recovery of employment constrained supply in the goods-producing sector.
  - As for the commercial real estate market, there were reports on the ongoing polarization between weak demand for office and retail space and strong demand for factories and distribution centers.

ISM manufacturing index



Source: Made by MHRI based upon Institute for Supply Management

ISM non-manufacturing index



Source: Made by MHRI based upon Institute for Supply Management

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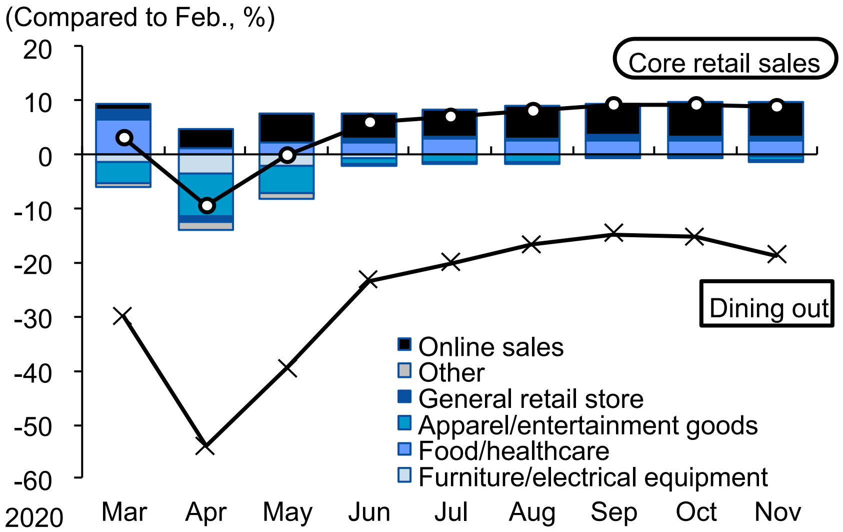
Vulnerable service industries face headwinds from tighter restrictions. Additional economic stimulus measures underpin economic conditions at the start of the new year

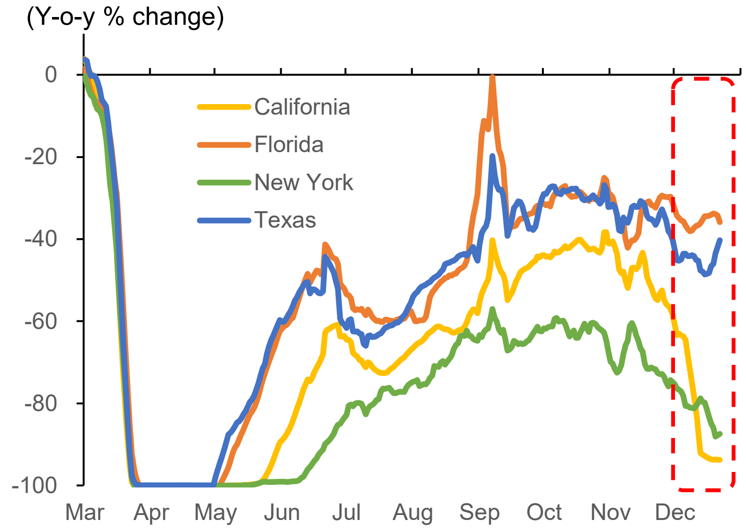
- November retail sales declined (-1.1% m-o-m), serving as evidence of downward pressures on consumer spending by the resurgence of Covid-19 infections.
  - In contrast to the strength of at-home demand such as for building materials and goods at grocery stores, retail sales for department stores, apparel and gasoline declined sharply.
  - Food services dropped sharply (-4.0% m-o-m), reflecting the resurgence of Covid-19 infections and tightening of restrictions across the country.
    - ◆ Restaurant reservations are continuing to worsen in December and beyond, suggesting a further downtrend in vulnerable services.
- Improvements in the income environment are also stalling at the moment. There are rising uncertainties regarding whether or not additional economic stimulus measures, which are essential for underpinning the income environment, will be passed by the end of the year.
  - Initial claims for unemployment benefits edged up. Continuing claims for unemployment benefits also remain depressed, suggesting the stagnation of the recovery in the employment and income environment.
  - President Trump suggested that he would veto the FY2021 budget, which includes additional economic stimulus measures.

Retail sales



Source: Made by MHRI based upon the US Department of Commerce.

Restaurant reservations (key US states, as of December 22)



Note: 7-day moving average.
Source: Made by MHRI based upon OpenTable.

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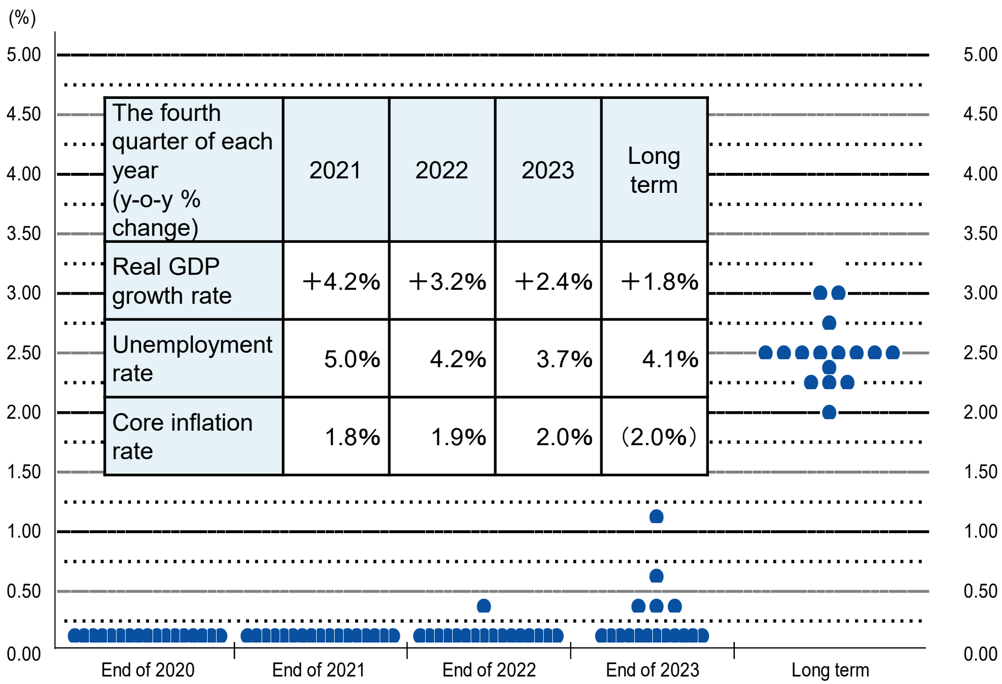
(2) US monetary policy: the FOMC revised its guidance on asset purchases at the December meeting, indicating that asset purchases would be continued

- Reflecting the strong economic growth in the Jul-Sep quarter and the current sharp fall of the unemployment rate, the FOMC revised upward its 2021 economic projections. (Note: The FRB’s projections are based on the Oct-Dec quarter every year).
- The FOMC stated that it will continue asset purchases until substantial further progress has been made toward maximum-employment and price-stability goals.
  - The FOMC explained that this means it will be looking for employment to be substantially closer to the goal, before it starts making adjustments to its purchases.
  - Additional easing (expanding asset purchase programs, increasing the duration of asset purchases, etc.) was merely discussed.

FOMC economic projections



The fourth quarter of each year (y-o-y % change)	2021	2022	2023	Long term
Real GDP growth rate	+4.2%	+3.2%	+2.4%	+1.8%
Unemployment rate	5.0%	4.2%	3.7%	4.1%
Core inflation rate	1.8%	1.9%	2.0%	(2.0%)

Note: The economic outlook indicates the median rate.
Source: Made by MHRI based upon FRB

Key points of the December FOMC press conference

Economic situations
- **The recovery has progressed more quickly than generally expected.**
- **The outlook for the economy is extraordinarily uncertain and will depend in large part on the course of the virus. Recent news on vaccines has been very positive. However, it remains difficult to assess the economic implications of these developments.**

Monetary policy
- **(Regarding the asset purchase guidance) The FOMC does not intend to associate its policy with specific numbers.**
- **The FOMC will be looking for substantial further progress towards its monetary policy goals, before it starts making adjustments to its purchases.**
- **It is not easy to have inflation move up. It will take time. (That being said) the FOMC does not believe increasing asset purchases will speed up inflation.**

Housing prices, stock prices
- **The housing sector has fully recovered. From a financial stability standpoint, housing prices are not of a level of concern right now.**
- **Admittedly, PE’s are high, but that’s maybe not as relevant in a world where we think the 10-year Treasury is going to be lower than it’s been historically.**

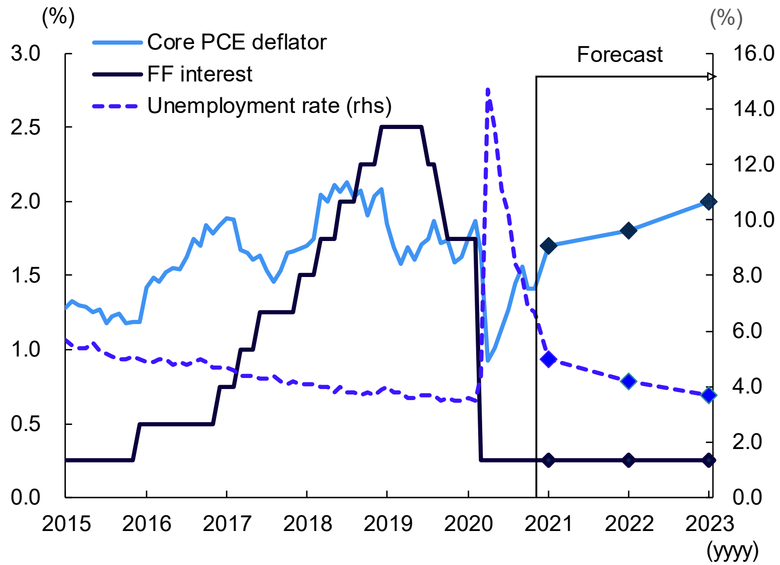
Climate change
- **Climate change is an emerging risk to financial institutions, the financial system, and the economy.**
- **We are in the very early stages of understanding what climate change means (to the FRB). It is important that we work and discuss best practices with peer agencies around the world.**

Source: Made by MHRI based upon FRB

(3) US bond market: 10yr UST yields are forecast to move around 0.8% to 1.0%

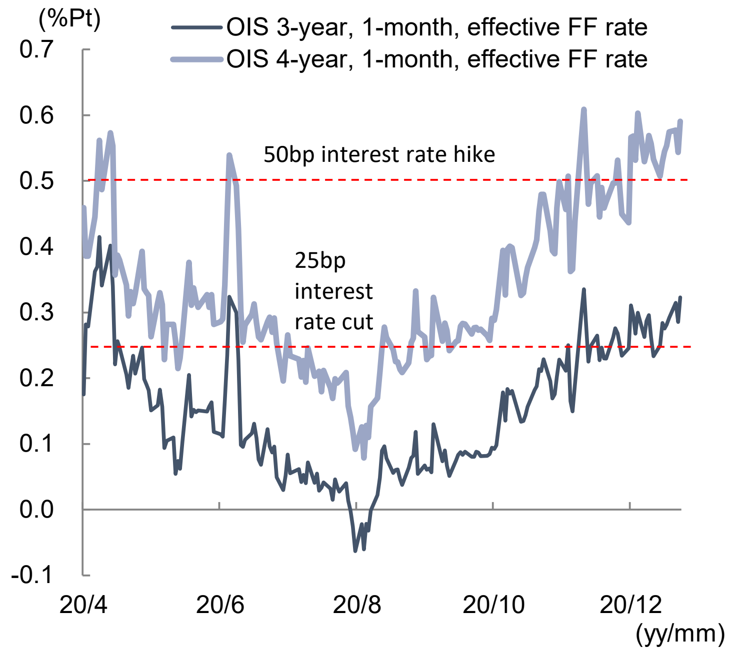
- While expectations around the development of Covid-19 vaccines have been rising, the spread of Covid-19 infections has not ceased, and 10yr UST yields are trending within a narrow band around 0.9%.
- In the statement issued at the December FOMC meeting (December 15-16), the duration of asset purchases was changed from "over coming months" to "until substantial further progress has been made toward our maximum employment and price stability goals." Specific target numbers for employment and price stability were not identified.
  - ■ Even though the US bond market has factored in around one interest rate hike in the next three years, the FRB has indicated that it will not raise rates until at least 2023, Therefore, it is unlikely that interest rates will rise further. We expect the 10yr UST yields to trend around 0.8% to 1.0%.

US policy rate and the core PCE deflator, trends in the unemployment rate



Note: The forecasts are median figures of the FOMC staff projections for each year (as of the fourth quarter of the year), which was published by the FOMC on December 16.
Source: Made by MHRI based upon Bloomberg, FRB.

Trends in factoring in federal funds rate hike

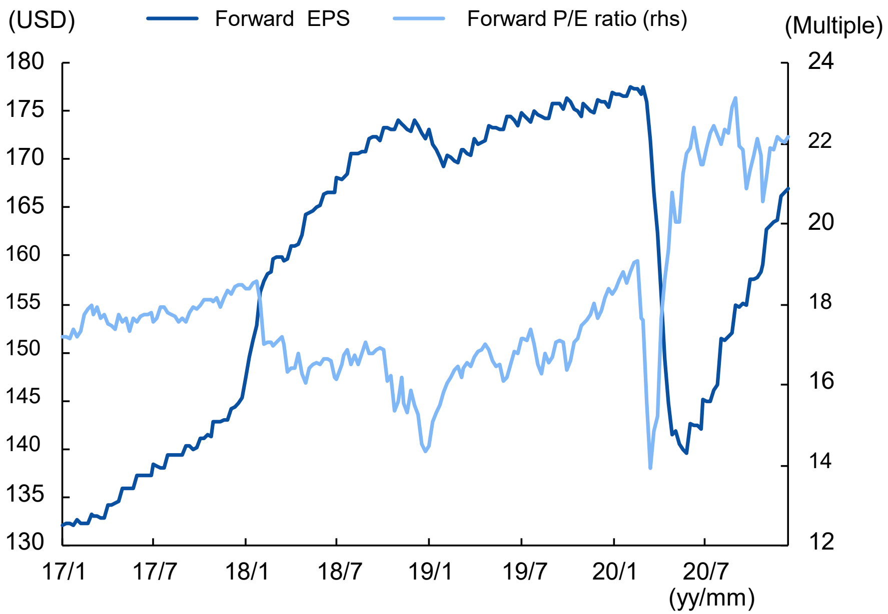


Note: OIS uses the forward rate.
Source: Made by MHRI based upon Bloomberg.

(4) US stock market: risks of market adjustment linger including the resurgence of Covid-19 infections

- The Dow Jones Average moved within a narrow range around USD30,000. Despite growing expectations around the roll-out of vaccines and additional economic measures, concerns over lockdowns along with the resurgence of Covid-19 infections within the country serve as a drag.
- Regarding valuation, the forward P/E ratio remains pinned at a high 22x.
  - There is a strong sense of overvaluation even when considering the low interest rate environment and the further boost provided by technology stocks.
- There are lingering market adjustment risks, such as the resurgence of Covid-19 infections and high uncertainties regarding the development and roll-out of vaccines.

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



Note: The forward EPS and forward P/E ratio are on a 12 months ahead forecast basis.
Source: Made by MHRI based upon Refinitiv.

GAFAM and forward P/E ratio by economic sector

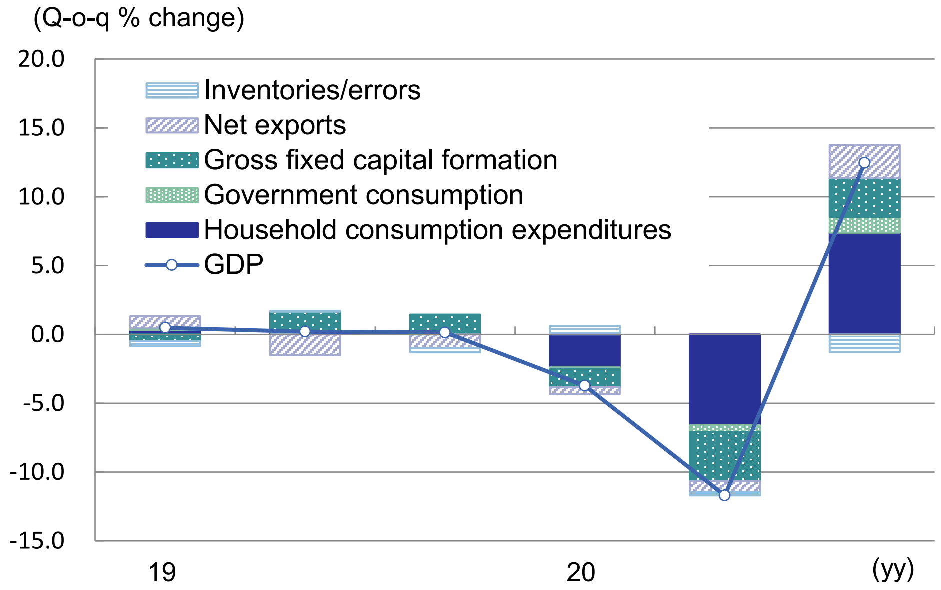
	Forward P/E ratio		
	End of Oct	Most recent	Contribution difference
S&P500 Index	20.6	22.2	+ 1.6
GAFAM Index	36.7	34.8	- 0.1
Energy	30.8	32.4	+ 0.1
Finance	12.6	14.5	+ 0.3
Capital goods	22.0	23.8	+ 0.2
Materials	19.1	20.6	+ 0.0
Public services	19.0	18.6	- 0.0
Information technologies (excl. Apple and Microsoft)	22.3	25.6	+ 0.5
Health care	15.2	16.1	+ 0.1
General consumer goods (excl. Amazon)	22.2	23.5	+ 0.2
Daily necessities	19.8	20.8	+ 0.0
Communication services (excl. Google, Facebook)	16.7	20.6	+ 0.2
Real estate	49.5	55.0	+ 0.0

Note: 1. GAFAM refers to Google, Apple, Facebook, Amazon, and Microsoft.
2. GAFAM index and the figures by sector excluding GAFAM are based on estimates by MHRI.
3. Degree of contribution refers to the difference between the latest contribution and the contribution as of the end of October to the S&P 500 index.
Source: Made by MHRI based upon Refinitiv.

3. (1) The Eurozone economy: growth rate expected to fall into negative territory in the Oct-Dec quarter along with the resurgence of Covid-19 infections

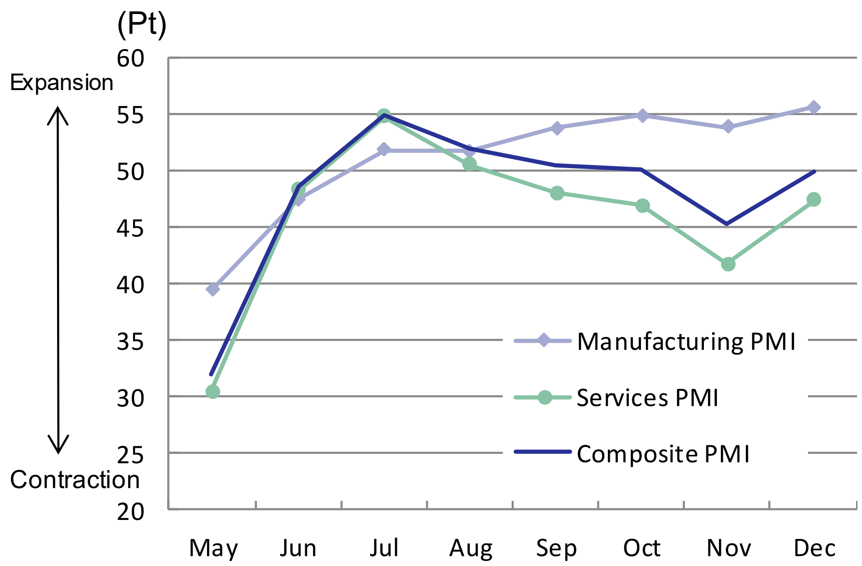
- Eurozone real GDP growth stood at +12.5% q-o-q in the Jul-Sep quarter, rebounding from the Apr-Jun quarter (-11.7% q-o-q), when the economy contracted sharply due to lockdowns. However, the growth rate remains below that before the Covid-19 crisis, at -4.3% y-o-y.
  - In France, Italy, and Spain, which all carried out relatively severe lockdowns, growth rebounded strongly by around +17% q-o-q.
- The Eurozone Purchasing Managers' Index (composite PMI, flash estimate), having a high correlation with GDP, stood at 49.8 in December, falling below the expansion/contraction threshold of 50. It is highly probable that growth will fall into negative territory in the Oct-Dec quarter.
  - Underlying factors include the decline of services consumption accompanying the resurgence of Covid-19 cases and infection prevention measures such as lockdowns.

Eurozone: real GDP



Note: Y-o-y growth rate of real GDP and contribution ratio by demand item
Source: Made by MHRI based upon Eurostat

Eurozone: PMI



Note: PMI at 50 is the expansion/contraction threshold.
Source: Made by MHRI based upon HIS Markit.

(2) Eurozone monetary policy: ECB approves additional monetary easing due to the second wave of Covid-19 infections and high uncertainty about economic recovery

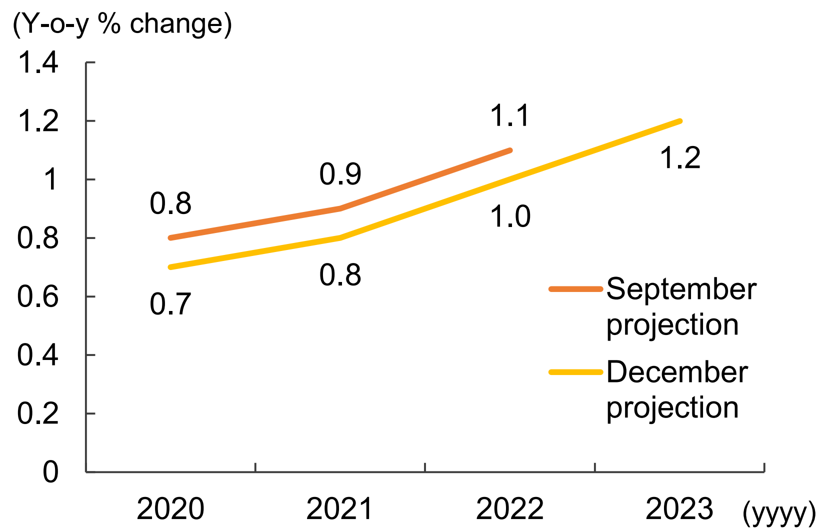
- The ECB Governing Council meeting on December 10 decided to extend the horizon for net purchases under the Pandemic Emergency Purchase Programme (PEPP) for nine months, increase the envelope of the PEPP by EUR500 billion, and to conduct additional operations under the Third Series of Targeted Longer-term refinancing Operations (TLTRO III) until the end of December 2021. These decisions were made amid the resurgence of Covid-19 infections and the high level of uncertainty around economic recovery.
  - ECB staff macroeconomic projections in December made a downward revision of the 2021 outlook by -1.1%pt (+3.9% y-o-y). We expect the pace of recovery from the second wave of Covid-19 infections to be slow. Core prices were revised downward by -0.1%pt for each year from 2020 to 2022.
- For the time being, trends in the economic condition and prices bear watching.

Key points from the ECB Governing Council (December 10)

ECB staff macroeconomic projections	The growth rates for 2020, 2021 and 2022 are forecast as -7.3%, +3.9%, and +4.2%, respectively, while the core inflation rates are +0.7%, +0.8%, and +1.0% respectively.
Interest rate (unchanged)	Interest rate on the main refinancing operations, 0.00% (unchanged); interest rates on the marginal lending facility, 0.25% (unchanged); deposit facility, -0.50% (unchanged).
Pandemic emergency Purchase Programme (PEPP, extended/expanded)	The Governing Council decided to increase the envelope of the pandemic emergency purchase programme (PEPP) from €1,350 billion to a total of €1,850 billion. It also extended the horizon for net purchases under the PEPP for nine months (until the end of March 2022). Decisions were also made to extend the reinvestment of principal payments from maturing securities purchased under the PEPP until at least the end of 2023 (one year extension).
Asset Purchase Programme (APP, unchanged)	Net purchases under the APP will continue at a monthly pace of €20 billion. The temporary envelope of additional net asset purchases of €120 billion, added in March, will end at the end of 2020 as planned. Reinvesting the principal payments from maturing securities purchased under the APP will continue.
Third series of targeted longer-term refinancing operations (TLTRO III, extended/expanded)	Three additional operations will be conducted (until December 2021). The Governing Council decided to extend to June 2022 the duration of the set of collateral easing measures. It also decided to raise the total amount that counterparties will be entitled to borrow in TLTRO III operations from 50% to 55% of their stock of eligible loans.
Pandemic emergency longer-term refinancing operations (PELTRO, extended)	It was decided that four additional operations are to be conducted in 2021.

Source: Made by MHRI based upon ECB.

ECB staff projections for core prices



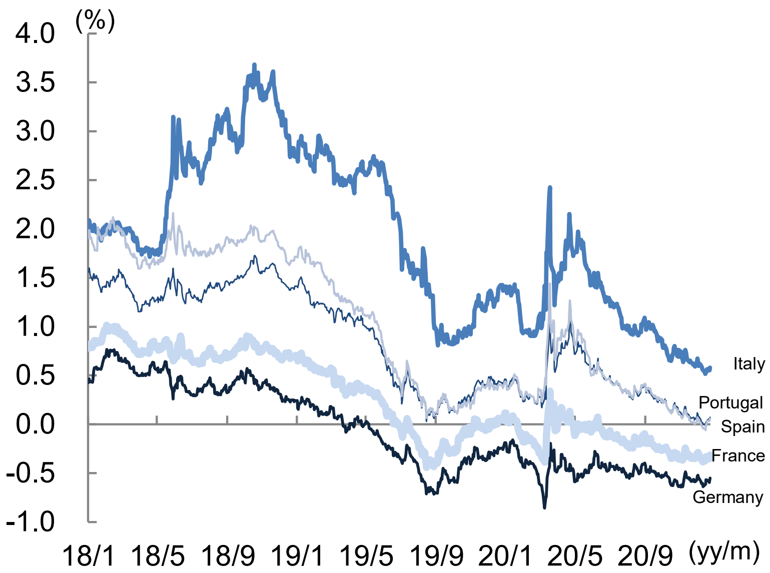
Source: Made by MHRI based upon ECB

(3) Eurozone bond market: German 10yr government bond yield expected to trend around -0.6% to -0.4%

- Interest rates in European countries are trending at a low level due to monetary easing measures. The 10yr Italian government bond yield fell to a record low level in the 0.5% range.

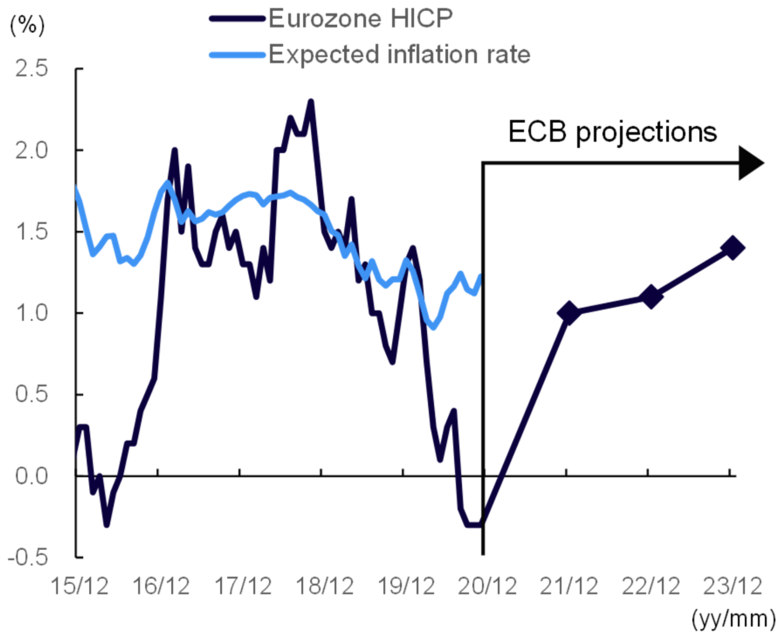
- On December 10, the ECB Governing Council meeting decided on additional easing. Mostly in line with market forecasts, the duration of the Pandemic Emergency Purchase Programme (PEPP) was extended for nine months until the end of March 2022, with the amount increased by EUR500 billion to a total of EUR1.85 trillion.
  - The ECB's December economic projections made a downward revision to the Eurozone HICP, which would remain below the 2% level even in 2023. In presenting a realistic outlook of weak inflation, the ECB indicated that monetary easing would be maintained for a long term. The German 10yr government bond yield is expected to trend around -0.6% to -0.4% due to monetary easing and the escalation of Covid-19 infections.

Trends in 10yr government bond yield in Eurozone countries



Source: Made by MHRI based upon Bloomberg.

Eurozone expected inflation rate and Eurozone HICP

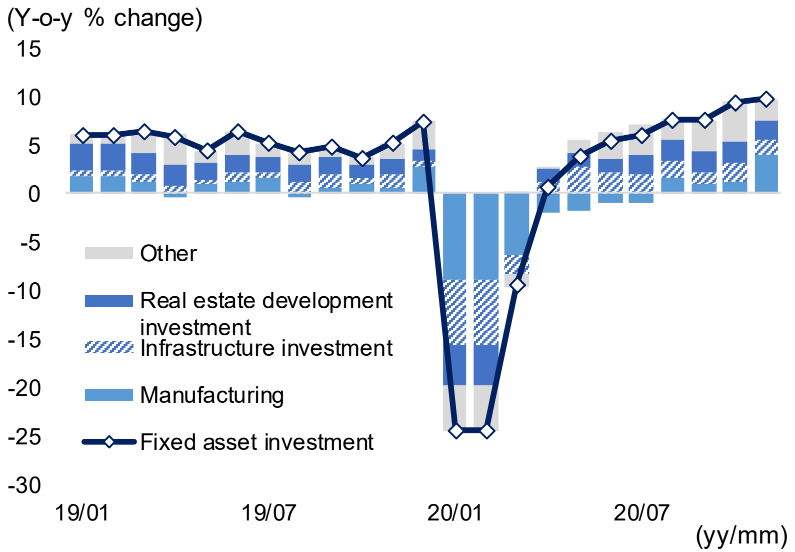


Note: Expected inflation rate refers to the 5-year forward, 5-year inflation swap. HICP projections are forecasts by the ECB value in December.
Source: Made by MHRI based upon Bloomberg and ECB

4. (1) The Chinese economy: major indicators in November accelerated from the previous month, indicating a steady recovery of the economy

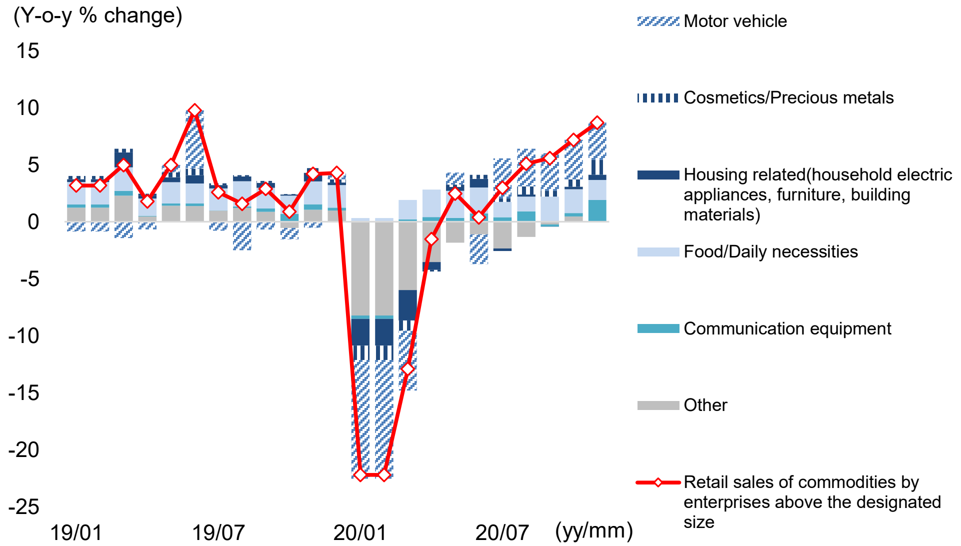
- Major indicators in investment, retail sales, and exports for November accelerated from the previous month, indicating a steady recovery of the economy.
  - Investment accelerated, rising to +9.7% y-o-y. While the growth of investment in real estate development and infrastructure slowed, contributions from manufacturing investment, for example in communication/electronics and pharmaceuticals, expanded.
  - Growth in retail sales also accelerated. The launch of new Apple products resulted in expanded contributions from communication equipment. High-end goods such as cosmetics and precious metals was also strong.
- Looking forward, the gradual recovery is expected to continue, underpinned by the acceleration of consumption against a backdrop of manufacturing investment and the improvement of the employment/income environment.
  - The surveyed unemployment rate in November decreased to 5.2% from the previous month (5.3%), with a slight increase in average weekly working hours compared to the previous month.

Fixed asset investment (by industry)



Note: Infrastructure investment = the combined total for three sectors, utilities, water/environment/public facilities, and transportation/warehouse/postal services.
Source: Made by MHRI based upon the National Bureau of Statistics of China, CEIC data

Retail sales of commodities by enterprises above the designated size (by item)



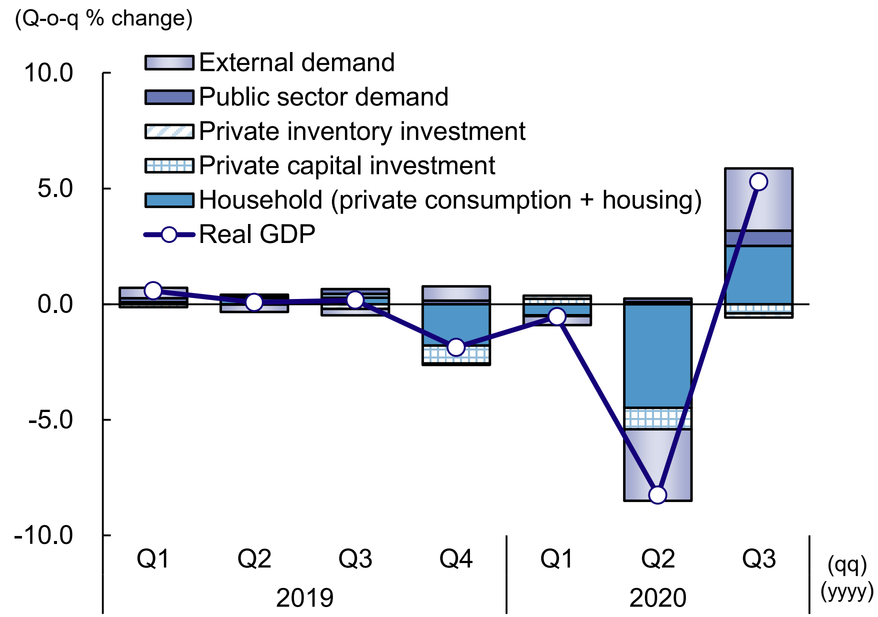
Note: "Retail sales of commodities by enterprises above the designated size " refers to net sales by wholesalers with annual operating revenues of 20 million yuan or more, retailers with annual operating revenues of 5 million yuan or more, and hotel and restaurant businesses with annual operating revenues of 2 million yuan or more.
Source: Made by MHRI based upon the National Bureau of Statistics of China, CEIC data

5. (1) The Japanese economy: growth rate revised upward in the Jul-Sep quarter; no impact on economic assessment

- 2020 Jul-Sep quarter real GDP growth was revised upward from ＋5.0% q-o-q (＋21.4% p.a.) in the *First Preliminary Quarterly Estimates of GDP* (“*1st QE*”) to ＋5.3% q-o-q (＋22.9% p.a.). Our view remains unchanged that the rate of economic growth is in positive territory, driven mainly by consumption and exports.
  - Personal consumption, housing investment, capital investment, and government consumption were revised upward, reflecting the results of the *Financial Statements Statistics of Corporations* and annual estimates corresponding to the 2015 benchmark year revision of the *National Accounts* (e.g. re-categorizing reform/renewal construction as gross fixed capital formation).
  - The impact on FY2020 growth is small, since the benchmark year revision had limited effect on the growth rates of past fiscal years, and the carry-over of growth to FY2020 remained unchanged from -1.3%.
  - Looking forward, the pace of economic recovery will slow down, as the spread of Covid-19 infections both in Japan and overseas lead to downward pressures on consumption and exports and progress of adjustments in wages and capital investment.

2020 Jul-Sep quarter GDP (2nd QE)

	2019 Jul-Sep	Oct-Dec	2020 Jan-Mar	Apr-Jun	Jul-Sep	*1st QE*
GDP (real)	0.2	-1.9	-0.5	-8.3	5.3	5.0
(Q-o-q % ch, p.a.)	0.7	-7.2	-2.1	-29.2	22.9	21.4
(Y-o-y % ch)	1.3	-1.1	-2.0	-10.3	-5.7	-5.8
Domestic demand	0.5	-2.5	-0.2	-5.2	2.5	2.0
	(0.4)	(-2.4)	(-0.2)	(-5.2)	(2.6)	(2.1)
Private sector demand	0.3	-3.5	-0.1	-7.1	2.6	2.1
	(0.2)	(-2.6)	(-0.1)	(-5.3)	(1.9)	(1.5)
Personal consumption	0.5	-3.1	-0.6	-8.3	5.1	4.7
Housing investment	0.0	-1.8	-3.7	0.5	-5.8	-7.9
Capital investment	1.0	-4.6	1.4	-5.7	-2.4	-3.4
Inventory investment	(-0.2)	(-0.1)	(0.1)	(0.1)	(-0.2)	(-0.2)
Public sector demand	0.8	0.6	(-0.2)	0.6	2.3	1.9
	(0.2)	(0.2)	(-0.0)	(0.1)	(0.7)	(0.5)
Government consumption	0.8	0.4	-0.3	0.3	2.8	2.2
Public investment	1.2	1.2	0.0	1.9	0.5	0.4
External demand	(-0.3)	(0.6)	(-0.4)	(-3.1)	(2.7)	(2.9)
Exports	-0.5	0.2	-5.3	-17.1	7.0	7.0
Imports	1.0	-3.1	-3.1	1.4	-8.8	-9.8
GDP (nominal)	0.3	-1.2	-0.5	-7.9	5.5	5.2
GDP deflator (y-o-y)	0.6	1.5	0.9	1.4	1.2	1.1

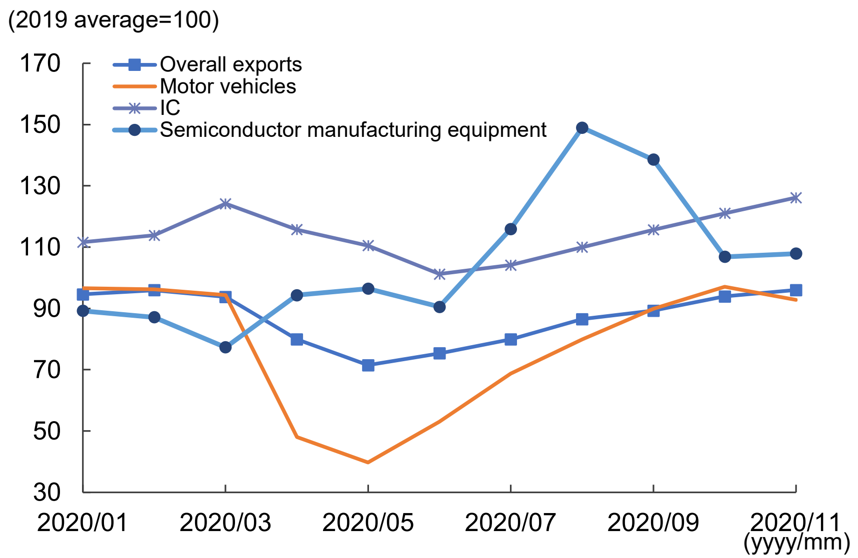


Notes: Figures in the right hand chart indicate changes over the previous quarter (in real terms) unless otherwise noted. The figures in parentheses represent the contributions to growth.
Source: Made by MHRI based upon Cabinet Office, *Quarterly Estimates of GDP*.

Exports continued to increase in November. Even so, they are expected to weaken from December onwards, primarily those to Europe

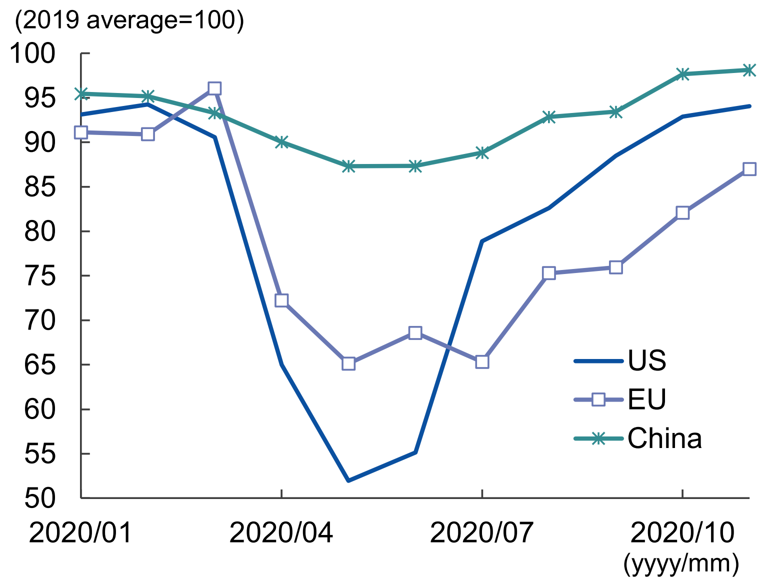
- The November export volume index stood at ＋2.2% m-o-m, rising for the sixth consecutive month. Exports have recovered to 96% of the pre-Covid-19 level (2019 average).
  - Even though motor vehicle exports decreased as pent-up demand ran its course, the increase in IC and semiconductor manufacturing equipment lifted overall exports.
- Exports, primarily to Europe, are projected to weaken from December onward.
  - Under the slowdown of exports bound for the US and China, which had recovered ahead of those to other regions, exports to the EU increased.
  - Amid the pause in growth of motor vehicle exports to the US and China, exports are expected to remain stagnant from December onward. As for exports to the EU, which served as the driver of export recovery in November, we expect they will take a downturn in December due to the impact of the resurgence of Covid-19 infections, and that overall exports will weaken from December onward.

Major export items



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

Export volume index by major destination

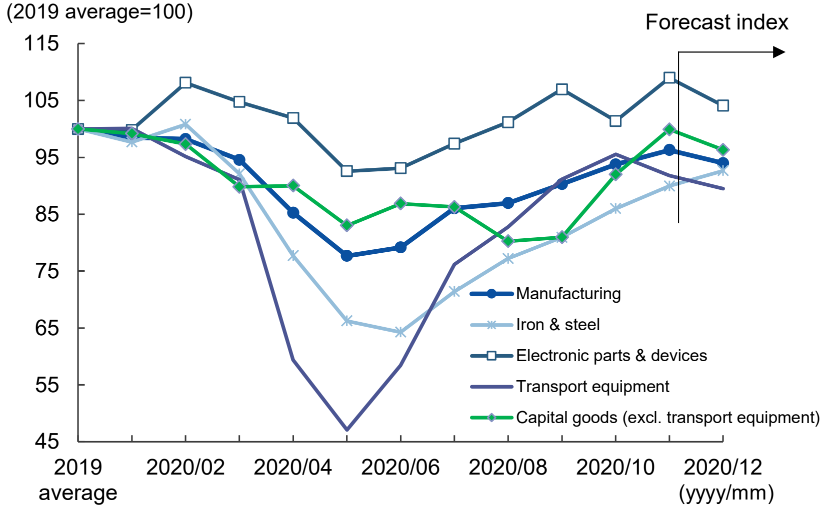


Note: Seasonally adjusted by MHRI
Source: Made by MHRI based upon Ministry of Finance, *Trade Statistics*

Recovery of transport equipment production expected to pause; production forecast to flatten out in the Jan-Mar quarter

- As of October, industrial production recovered to about 94% of the pre-pandemic level (2019 average).
  - Industrial production stood at +3.8% m-o-m in October (September: +3.9% m-o-m), rising for five consecutive months. In addition to a significant rise in the general-purpose and business-oriented machinery industries reflecting large-scale projects, the motor vehicle industry, which is experiencing a rebound in sales domestically and internationally, is serving to lift overall production.
- The recovery of production is expected to pause after peaking in November.
  - Although a production hike was planned in November, a production cut is expected in December. The odds are high that production will level out in the Jan-Mar quarter of 2021.
  - Given the November and December production cuts for transport equipment (motor vehicles) which had thus far driven the recovery, the rebound is coming to a pause. Pent-up demand has run its course in both Japan and overseas, and the resurgence of Covid-19 infections in Europe serves as a negative factor going forward.

Production results/forecasts by major sectors/goods (comparison pre- and post-Covid-19 pandemic)



Note: 1. Indexed with pre-Covid-19 pandemic (2019 average) = 100.
2. November and December readings are calculated upon the assumption of production plans.
Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production, Indices of Industrial production Forecast..*

Production results/forecasts by major sector/goods

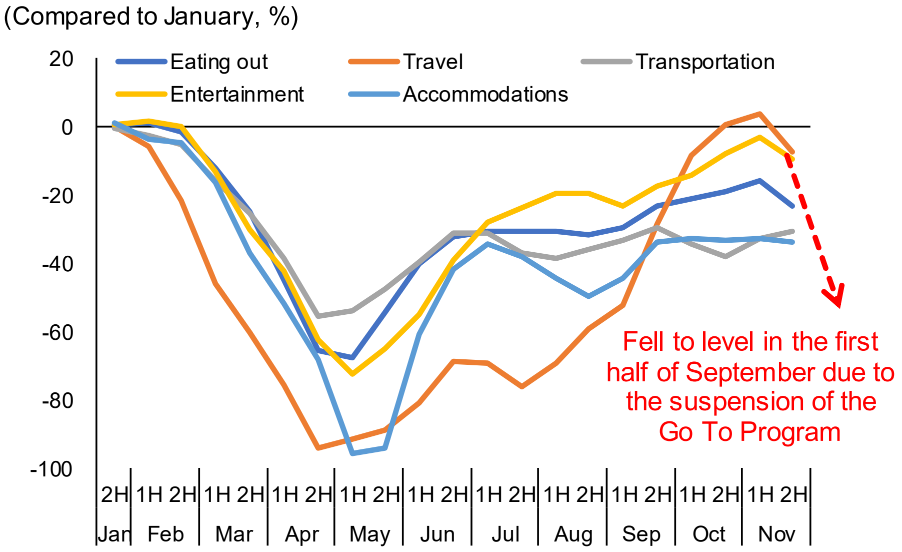
		Actual	Plans		Actual		Plans
		2020/10	2020/11	2020/12	20/Q2	20/Q3	20/Q4
By sector	Industrial production	3.8	2.7	-2.4	-16.9	8.7	7.8
	Iron & steel	6.3	4.6	3.0	-28.3	10.2	17.0
	Electronic parts & devices	-5.2	7.5	-4.5	-8.0	6.2	2.9
	Electrical machinery	7.7	0.5	1.1	-13.0	4.9	10.5
	Telecommunications equipment	15.1	-0.6	-8.1	-4.7	-2.4	11.9
	Transport equipment	4.8	-3.9	-2.5	-42.4	51.6	10.7
By goods	Capital goods (excl. transport equipment)	13.6	8.6	-3.6	-9.2	-4.8	16.5

Note: 1. Actual results are based upon the industrial production index, and plans are based upon the index of industrial production forecast.
2. 2020 Q4 is calculated upon the assumption of production plans for November and December .
3. The figures do not necessarily match public releases due to rounding.
Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production, Indices of Industrial production Forecast..*

Service consumption decreased due to the resurgence of Covid-19 infections. A further decline is expected given the suspension of the Go To Travel Program

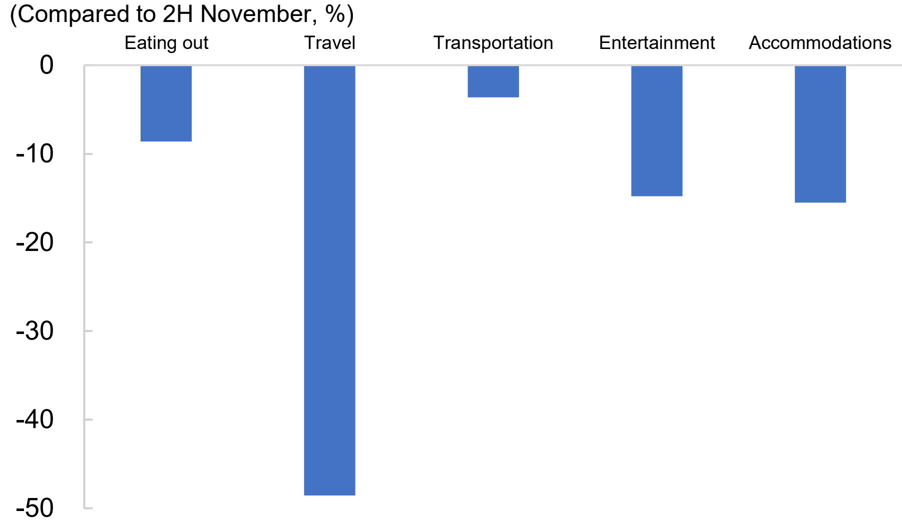
- Consumption of services in the second half of November decreased primarily in travel, eating out, and entertainment, reflecting concerns regarding the resurgence of Covid-19 infections and the partial suspension of the Go To Program.
- Consumption of services is forecast to decline further over the year-end, reflecting the ongoing rise in number of confirmed Covid-19 cases and the nationwide suspension of the Go To Travel Program.
  - In order to contain the spread of infections, mobility needs to fall to levels prior to the rise stemming from the Go To Travel Program (first half of September). The rates of decline (compared to the second half of November) necessary to reach this target are -48.6% for travel, -15.5% for accommodations, and -14.8% for entertainment.
  - The decline of mobility from December through January has already been factored into MHRI's economic outlook as of December 10. Personal consumption (GDP-based) is forecast to grow only +0.1% q-o-q in the Jan-Mar quarter, and real GDP is predicted to fall -0.2% q-o-q.

Service consumption with face-to-face interactions in the second half of November



Note: Reference data series. Seasonally adjusted by MHRI (two half-year backward moving average).
Source: Made by MHRI based upon JCB and Nowcast, *JCB Consumption NOW*.

Rates of decline necessary to reach levels in the first half of September

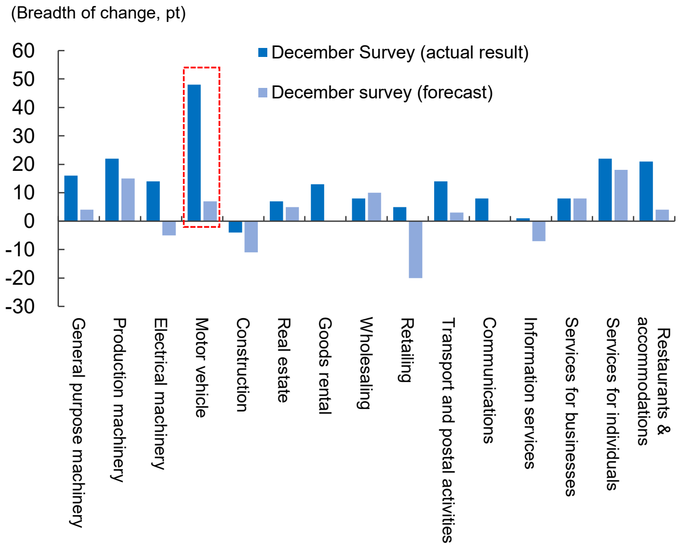


Note: Reference data series. Seasonally adjusted by MHRI (two half-year backward moving average).
Source: Made by MHRI based upon JCB and Nowcast, *JCB Consumption NOW*.

Despite the improvement of business conditions (*Tankan*) mainly in the manufacturing sector, the forecast remains cautious due to the resurgence of Covid-19 infections

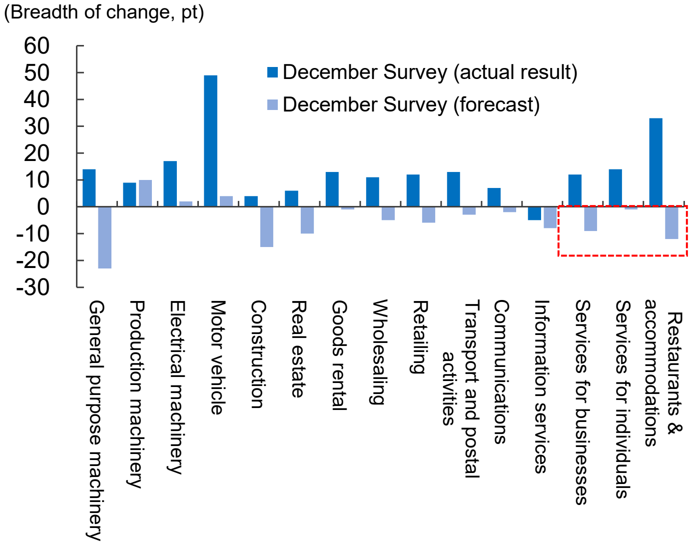
- The business conditions DI for large manufacturers improved by 17pt (-27%pt→-10%pt), while the DI for large non-manufacturers worsened by 7pt (-12%pt→-5%pt).
  - In the manufacturing sector, motor vehicles recovered rapidly. Production machinery and electrical machinery, which saw a rebound in exports, also improved significantly.
  - In the non-manufacturing sector, the breadth of improvement widened in services for individuals, accommodations/eating and drinking services, and transportation and postal activities due to factors such as the impact of the Go To Program. Even so, the business conditions DI of these sectors is still low.
- *Tankan* business conditions DI “forecasts” are cautious due to concerns regarding the resurgence of Covid-19 infections.
  - “Forecasts” among large manufacturers are expected to improve by 2pt, while large non-manufacturers are expected to deteriorate by 1pt.
  - Partly due to the decision to partially suspend the Go To Program at the time of the survey (November 11th to December 11th), the forecast for small non-manufacturers worsened significantly mainly among restaurants & accommodations (actual result -12%pt → forecast -20%pt).

Change in the business conditions DI (large enterprises)



Source: Made by MHRI based upon Bank of Japan, *Short-Term Economic Survey of Enterprises in Japan (Tankan)*

Change in the business conditions DI (small enterprises)



Source: Made by MHRI based upon Bank of Japan, *Short-Term Economic Survey of Enterprises in Japan (Tankan)*

Approval of additional economic stimulus measures will boost FY2021 growth mainly in public investment

- On December 8, the government approved an additional economic stimulus package by cabinet decision. The size of the projects will total JPY73.6 trillion, of which national and local fiscal spending will total JPY32.3 trillion.
  - Of national spending (JPY30.6 trillion), 19.2 trillion is funded by additional spending by the third supplementary budget for FY2020.
  - Measures which are expected to have a direct impact in lifting GDP are national resilience (increase in public investment) and the extension of the Go To Program (increase in service consumption). The economic effects of these measures are estimated to be about JPY1 trillion in FY2020 (+ 0.2%pt of GDP) and JPY4 trillion (+ 0.7%pt of GDP) in FY2021. Other expenditures which are geared toward the provision of support for finance toward corporations and medium- to long-term business transformation, are considered to have limited impact in lifting GDP over the short term. The reserve fund (JPY10 trillion) is not included in the calculation of the economic impact, given the lack of clarity regarding whether or not it will be spent and how it will be used.

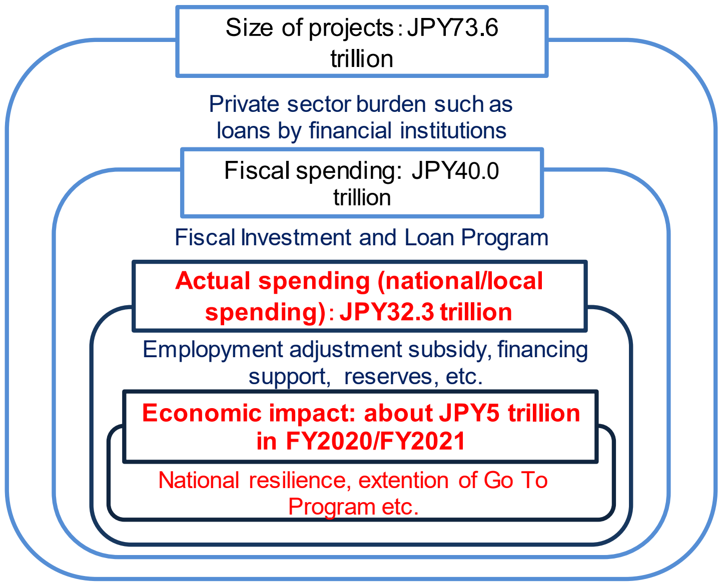
Overview of economic stimulus measures

(JPY trillion)

	Fiscal spending			Project scale
		National /local	Fiscal Investment and Loan Program	
Prevention of the spread of Covid-19	5.9	4.5	1.4	6.0
Growth strategy (digital/zero carbon)	18.4	13.4	5.0	51.7
National resilience (disaster prevention and reduction)	5.6	4.4	1.3	5.9
Reserve	10.0	10.0	0.0	10.0
Total	40.0	**32.3**	7.7	**73.6**

Source: Made by MHRI based upon various media reports.

Diagrammatic representation of the size of projects in the economic stimulus measures



Source: Made by MHRI based upon various media reports.

(2) BOJ monetary policy: the BOJ decided to to continue support for corporate financing and assess various measures at its December meeting

- At the monetary policy meeting (MPM) in December (December 17-18), the BOJ decided upon (1) the extension of the duration of the “Special Program to Support Financing in Response to the Novel Coronavirus (Covid-19)” and (2) the implementation of “an assessment for further effective and sustainable monetary easing to achieve the price stability target of 2 percent.”
  - The “extension of the duration” in (1) refers to six months from March 2021 to September 2021 (further extension will be considered if necessary). Its operational aspect will also be reviewed.
  - As for (2), the BOJ commented that it would continue with "Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control,” and stated that it would “assess” various measures and make public its findings, likely at the March 2021 meeting.
- The results of the “assessment” may eventually lead to modifications in the operation of “purchase of ETF, etc.” (purchase allocation amount, etc.) and the “Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth.”

BOJ December Monetary Policy Meeting decisions

Extension of the Special Program to Support Financing in Response to the Novel Coronavirus (COVID-19)

- Extension of the program by 6 months: from March 2021 to September 2021 (further extension of the program will be considered if necessary).
- Assessment of the operational aspects
  - Purchase of CP and corporate bonds: combining the additional purchases amount (15 trillion yen in total)
  - Special Funds Supplying operations: the BOJ will remove the upper limit of funds it provides to each eligible counterparty (i.e. JPY 100 billion).

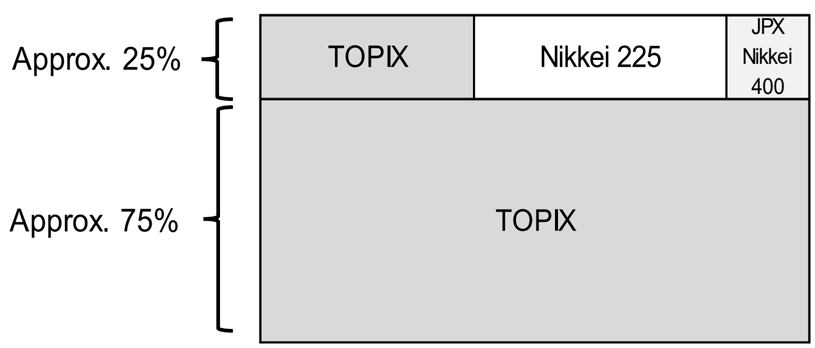
An assessment for further effective and sustainable monetary easing to achieve the price stability target of 2 percent.

- The BOJ will continue with "Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control."
- The BOJ will assess various measures conducted under this framework and make public its findings, likely at the March 2021 meeting.

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

BOJ’s ETF purchase distribution

(Reference) Example of an annual purchase amount

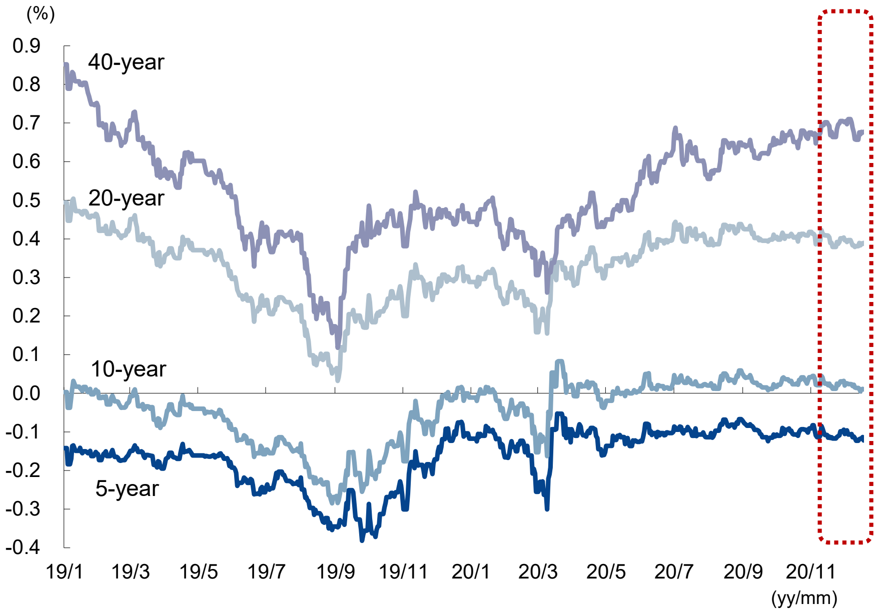


Source: Made by MHRI based upon the Bank of Japan.

(3) Japanese bond market: 10yr JGB yield forecast to trend around 0%

- FY2021 calendar-based market issuance is scheduled to reach a record high JPY221.4 trillion in comparison to this fiscal year including the third supplementary budget.
  - The amount of annual issuance would decrease by JPY3.8 trillion yen in comparison to the annual issuance ("average year basis"), upon the assumption that the pace of issuance after additional issuances by FY2020 budget supplementations (from July 2020 onward) is maintained.
- Looking at the calendar-based market issuance by maturity, 40yr JGBs increase by JPY600 billion when compared to "average year basis".
  - As the increase is in line with market demand, it can be fully digested. We expect that concerns regarding the deterioration of the supply-demand balance will recede for the time being and that the 10yr JGB yield will trend around 0%.

JGB yields



Source: Made by MHRI based upon Bloomberg.

Calendar based market issuance (by maturity)

(JPY trillion)

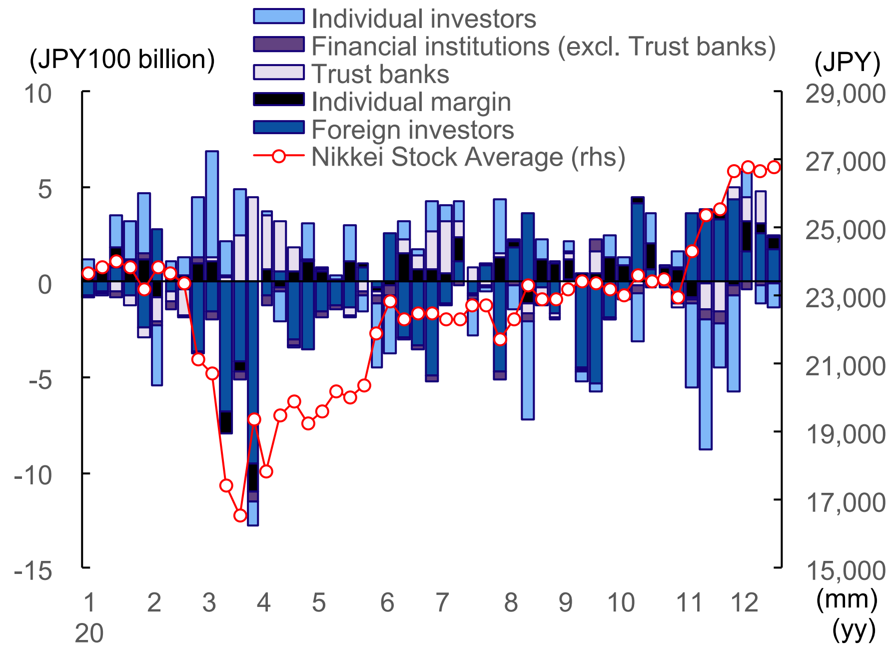
Category	FY2021 initial budget	Increase/decrease compared to the FY2020 budget (after third supplementary budget)	Increase/decrease compared to the "average year basis"
40-year bond	3.6	0.6	0.6
30-year bond	10.8	0.6	-
20-year bond	14.4	0.9	-
10-year bond	31.2	1.5	-
5-year bond	30.0	1.8	-
2-year bond	36.0	3.0	-
TBs (1-year)	42.0	5.1	-
TBs (6-month)	41.2	-4.4	-4.4
10-year inflation-indexed bond	0.8	-	-
Liquidity enhancement auction	11.4	-	-
Total	221.4	9.1	-3.8

Source: Made by MHRI based upon the Ministry of Finance.

(4) Japanese stock market: Nikkei average faces a heavy upside, but should follow firm footing going forward

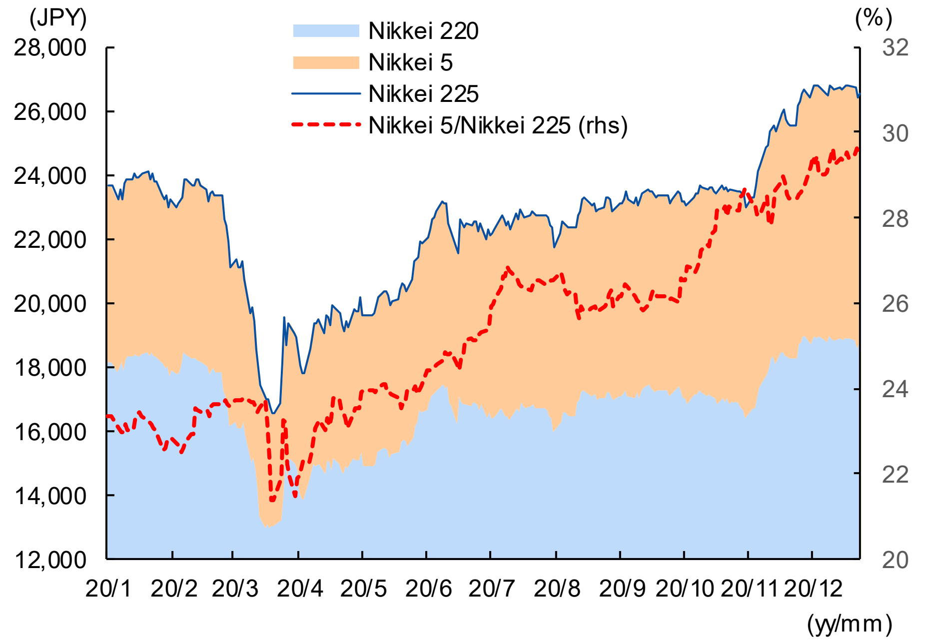
- As for the Nikkei Stock Average, the market is facing a heavy upside at the upper end of the JPY26,000-range due to the slowdown of investment by foreign investors, which served as the driver of the stock market rise in November.
  - While individual investors turned to become net buyers for the first time in five weeks, they are currently reverting to being net sellers.
- Currently, there is a pattern continuing where the rise of high-priced stocks is contributing to push up the Nikkei Stock Average.
- Although the forward P/E ratio at 18x indicates a strong sense of overvaluation and makes a further rise unlikely, stock prices are expected to remain firm reflecting the recovery of corporate earnings.

Trends in trading by investor



Note: The graph shows a total of the first and second sections of two markets.
Source: Made by MHRI based upon Refinitiv, Japan Exchange Group.

Trends in the Nikkei Stock Average



Note: Nikkei 5 (Nikkei 220) refers to the indexing (estimates) of the top 5 stocks (lower 220 stocks) in terms of composition weight.
Source: Made by MHRI based upon Refinitiv

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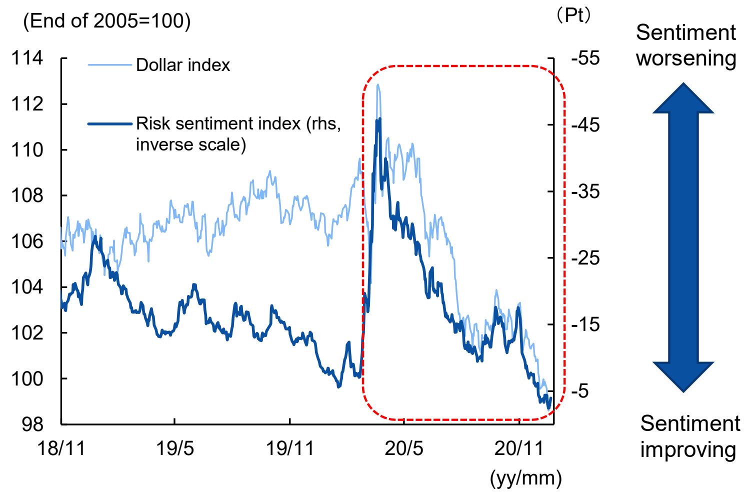
6. Forex market: amid continued downward pressure on the US dollar, the USD/JPY exchange rate faces a heavy upside for the time being

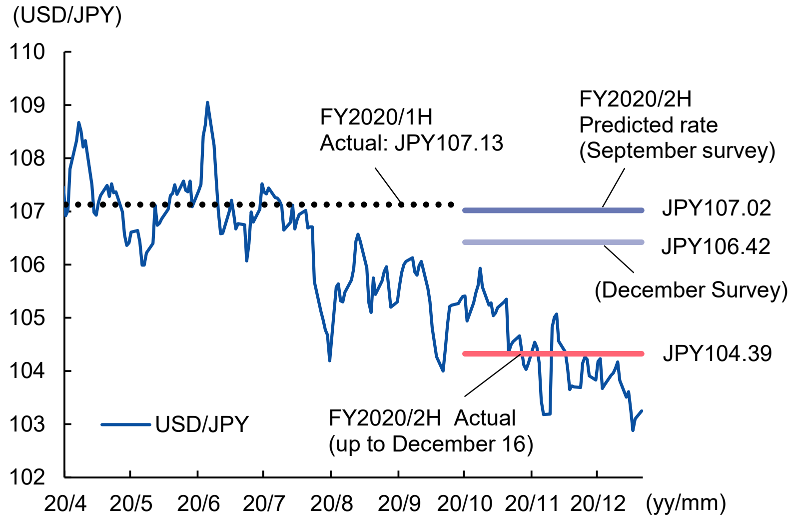
- Market sentiment is continuing to improve, due to expectations toward the progress in development of Covid-19 vaccines and additional economic stimulus measures in the US. The market turned to risk-on mode with a weak US dollar.
  - Given expectations toward a dovish FOMC, the market turned bearish on the dollar. The yen gained ground to the dollar, strengthening to the level of JPY103/USD.
- US dollar-weakening pressures will linger for some time. We expect the USD/JPY exchange rate to remain range-bound around JPY104 with a lack of a clear direction.
  - The FOMC indicated once again its meeting in December that it will keep an accommodative monetary policy stance for a prolonged period. Amid the maintenance of a low interest rate environment, dollar-selling pressures amid a risk-on market will persist.
  - On the other hand, a further weakening of the dollar due to additional easing measures has been averted. Given the tendency of the Japanese yen to be sold in a risk-on market, the USD/JPY currency pair will remain static.
  - The yen is stronger than the predicted exchange rate among export-oriented corporations for the second half of FY2020 (*Tankan* December survey). There are concerns regarding its negative effect upon corporate earnings.

Risk sentiment index and dollar index



Note: Risk sentiment index shows the degree of correlation in the global financial markets based on 19 indicators such as stocks and credits. Estimates by MHRI. The USD/JPY exchange rate is the nominal effective exchange rate (BIS based). The readings are as of December 21, 2020.
Source: Made by MHRI based upon Bloomberg.

The actual USD/JPY rate and the predicted exchange rate (FY2020/2H)



Note: The USD/JPY rate is as of NY closing prices (December 21)
Source: Made by MHRI based upon Bank of Japan, *Short-Term Economic Survey of Enterprises in Japan* (*Tankan*), Bloomberg

7. Outlook on the financial markets

		○Main Scenario					○Sub-scenario 1				○Sub-scenario 2			
		2020/ Jul-Sep	Oct-Dec	2021/ Jan-Mar	Apr-Jun	Jul-Sep	2020/ Oct-Dec	2021/ Jan-Mar	Apr-Jun	Jul-Sep	2020/ Oct-Dec	2021/ Jan-Mar	Apr-Jun	Jul-Sep
US	Federal funds rate (End-of-quarter, %)	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25
	10yr UST bond yield (%)	0.63	0.85	0.90	0.90	0.95	0.85	1.00	1.00	1.05	0.85	0.45	0.65	0.70
	Dow-Jones Average (UDS)	27,314	29,000	29,300	29,600	29,900	29,200	29,500	30,200	30,600	29,000	20,700	21,300	22,000
Japan	Euroyen TIBOR (3-mo, %)	-0.06	-0.06	-0.07	-0.07	-0.07	-0.06	-0.05	-0.05	-0.05	-0.06	-0.07	-0.07	-0.07
	10yr JGB yield (%)	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	-0.10	-0.05	-0.05
	Nikkei Stock Average (JPY)	22,913	25,100	25,400	25,700	26,000	25,200	26,300	26,500	26,700	25,100	16,500	17,200	18,100
Europe	ECB deposit facility rate (End-of-quarter, %)	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
	10yr government bond yield (German government bonds, %)	-0.49	-0.55	-0.50	-0.45	-0.45	-0.55	-0.40	-0.35	-0.30	-0.55	-0.70	-0.60	-0.50
Forex	USD/JPY rate (USD/JPY)	106	105	105	105	106	105	107	107	108	105	101	103	105
	EUR/USD rate (EUR/USD)	1.17	1.19	1.19	1.19	1.18	1.19	1.18	1.17	1.17	1.19	1.12	1.12	1.13

- Sub-scenario 1 (upside scenario)
  - Early containment of the Covid-19 pandemic. The absence of a resurgence of infections leads to an upturn in the global economy. Long-term interest rates and stock prices rise. The dollar strengthens against the yen.
- Sub-scenario 2 (downside scenario)
  - Despite a temporary global economic recovery due to the reopening of economic activities around the world, a second wave of Covid-19 infections arises in the Jan-Mar quarter of 2021. Measures to prevent the spread of Covid-19 infections lead to a global economic slowdown. Both long-term interest rates and stock prices fall. The dollar weakens against the yen.