Outlook for the Japanese and Overseas Economies

ECONOMIC RESEARCH OFFICE
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MUFG Bank, Ltd.
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Contents

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Executive Summary

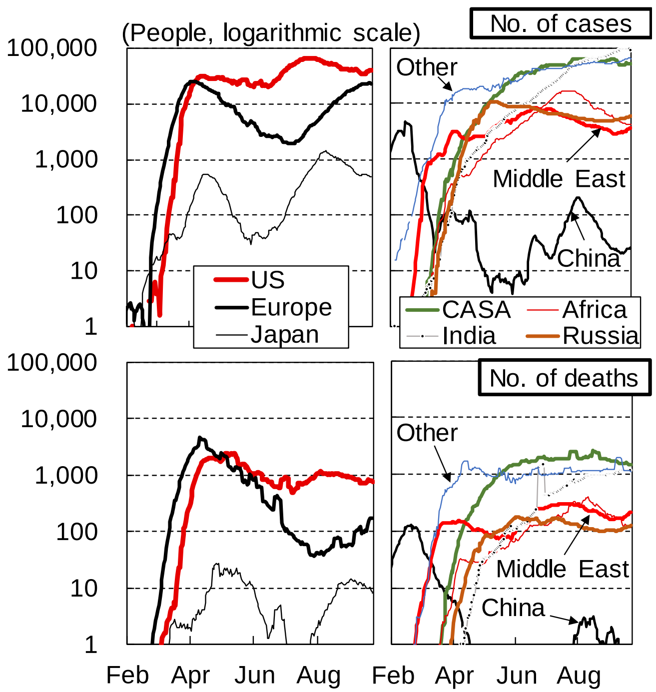
Due to the effects of COVID-19, the global economy will record its largest contraction in 2020 since the Great Depression. In general, most countries and regions are shifting from a phase of “restrictions on economic activities due to strict public health measures and prioritising the prevention of a spread of COVID-19 cases” to a phase of “easing public health measures and working to both maintain economic activities and curb the spread of infection”. Although the worst period for the global economy is now over, concerns about the spread of infection continue to put downward pressure on economies and the pace of economic recovery from now will be a gradual one. A treatment or vaccine is expected to be developed and made available; however, setting aside the dramatic impact this would have, economies are forecast to make a recovery in 2021 compared with 2020, but it will take time for the economies of developed countries to return to the levels they were at before the COVID-19 pandemic.

- Governments adopted strict restrictions on movement from March until May in order to curb the spread of COVID-19, but they paid a price: there was a large decrease in economic activities and deterioration across private consumption, production, labour, corporate profits and financing. Most countries recorded even larger slumps in the April-June quarter than they did in the January-March quarter.
- China was quick to restart its economic activities and its real GDP growth rate for the April-June quarter recovered swiftly to 3.2% YoY. On the other hand, the real GDP growth rate for the same period in the US, whose number of COVID-19 cases and deaths is the largest in the world, was -31.7% QoQ annualised (revised figure) – its largest contraction on record.
- The Eurozone economy’s real GDP growth rate for the April-June quarter fell by the largest amount on record: -40.3% QoQ annualised. Japan’s economy was already under downward pressure from the consumption tax rate hike and so with the COVID-19 pandemic on top of this, the real GDP growth rate slowed to -27.8% QoQ annualised in the April-June quarter – the third consecutive quarter of negative growth and the largest biggest drop on record.
- The global economy hit its worst point between April and May and has already started to recover. That being said, industrial production in developed countries stands at around 80% to 90% of 2019 levels as of July (June for Europe), and the level of activity (such as private consumption, investment and production) is recovering gradually.
- There is a clear risk that COVID-19 cases will rise after public health measures are eased, even if the spread of infection has calmed for a while. Therefore, it is important not to relax for the time being regarding the spread of infection. Looking ahead, it is very likely that economies will recover at a gradual pace while countries search for the balance between curbing the spread of infection and preventing a breakdown of health care versus maintaining economic activities.
- A treatment or vaccine is expected to be developed and made available and this could be as early as next year, which will help to curb the spread of infection to some extent. However, setting aside the dramatic impact this would have, the real GDP growth rate of the global economy as a whole is forecast to be -3.7% YoY in 2020 and 5.1% YoY in 2021. It is expected to take some time for economic activities to recover to the levels they were at in 2019 before the COVID-19 pandemic, particularly developed countries.
- Furthermore, there are still a number of risks to the downside: a second or third wave of infection; an explosive rise in cases in newly emerging countries; the time taken to develop and make available a treatment or vaccine; a further worsening of the conflict between the US and China brought about by the COVID-19 pandemic; excess debt due to demand for financing in response to the pandemic (particularly the US corporate sector).

1. Overview: The COVID-19 Situation – Number of Cases

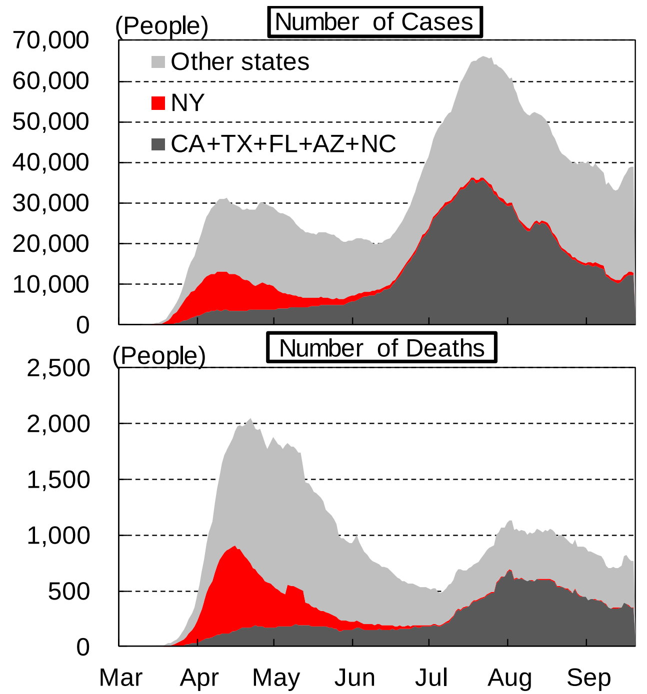
- According to the World Health Organization, the number of cases of COVID-19 were 24,854,000 and the number of deaths were 838,000 as of 30th August. Analysis by region shows that Europe, the US and Central and South America have a higher level of cases and deaths per 100,000 of the population than Asia.
- There is still a high level of daily new cases in Central and South America, the Middle East and Africa and many countries that eased their restrictions on movement are experiencing another rise in cases. In particular, the situation in the US is one that needs to be monitored closely (however, despite a rise in the number of cases of infection, the number of deaths is lower than during the March-May period thanks to advances in the treatment of symptoms among other factors).
- The infection is far from slowing (or ending) globally and it is still difficult to see a full re-opening of economic activities taking into account the restrictions on economic activities still in place, the strong sense of uncertainty among consumers and businesses, and fears of a second wave (there are many respiratory illnesses which are seasonal and the northern hemisphere will be entering its cooler months).

New Daily COVID-19 Cases and Deaths by Region



Note: 1. "Europe" is total of GBR, DEU, FRA, ITA and ESP. "CASA" (Central and South America) is BRA, MEX, ARG and PER. "Africa" is total of 47 countries including ZAF, NGA, GHA, "Middle East" is EGY, SAU and IRN.
2. Number of new cases excludes data which appear anomalous, such as negative results
Source: World Health Organization, MUFG Bank Economic Research Office

New Daily COVID19 Cases and Deaths by US State



Note: Number of daily new cases is a moving average of seven days
Source: Statistics of each state, MUFG Bank Economic Research Office

Situation after Easing Restrictions on Movement

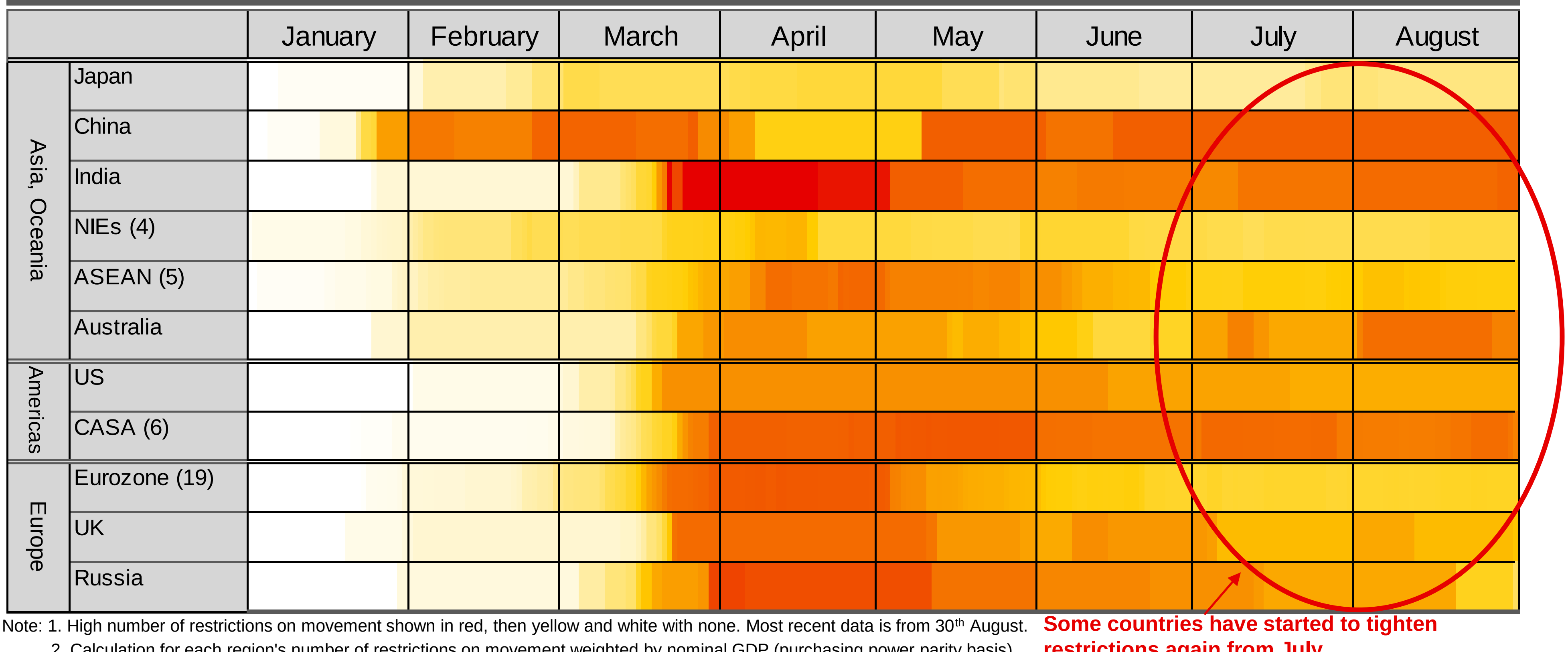
Country/ region name	Start of easing period	Summary
Japan	May	Number of cases rises again in Tokyo and other regions nationwide. Easing of restrictions on events is postponed and some local governments request businesses reduce opening hours/close.
China	Feb	Despite curbing the rise in cases, clusters appeared in some areas from April. Restrictions on movement tightened again on a provincial level.
Asia	Apr	Indonesia and the Philippines saw a gradual acceleration in the rise of cases after they eased restrictions on movement (both countries are extending and tightening restrictions). There was no rise in cases seen in other ASEAN countries after restrictions were eased.
US	May	New York cautiously re-started economic activities and curbed an increase in new cases, but cases are rising in the southern states that rushed to re-start activities. Florida and Texas have imposed restrictions on movement.
Europe	May	Despite countries easing restrictions sequentially from May, cases are rising in some countries, e.g. Spain. There was another rise in cases between June and July in Spain, Germany and the UK and lockdowns have been re-imposed in some areas.

Source: Various news reports, MUFG Bank Economic Research Office

1. Overview: The COVID-19 Situation – Restrictions on Movement

- In response to the spread of COVID-19, many countries and regions took strict public health measures, such as nationwide restrictions on going outside and closing shops, in order to contain the spread of infection.
- Many countries and regions have established an "exit strategy" and have started to re-open economies and relax public health measures: the US government published three-step guidelines on re-starting economic activities on 16th April and, in Europe, the EU announced a roadmap to ease various measures for its member countries. Countries in the EU and Asia (including Japan) are still considering how to tackle the issue of international travel.
- That being said, the situation in terms of travel in many countries is still far from normal (restrictions on commercial businesses' opening hours, travel to and from school and work, events and individuals' travel outside the home). In some countries it appears cases of infection are rising and restrictions on travel in some areas are being tightened (however, the political hurdle to re-imposing large-scale lockdowns of urban areas like those seen in March and April is high in most countries.

Heatmap of Restrictions on Movement by Country and Region



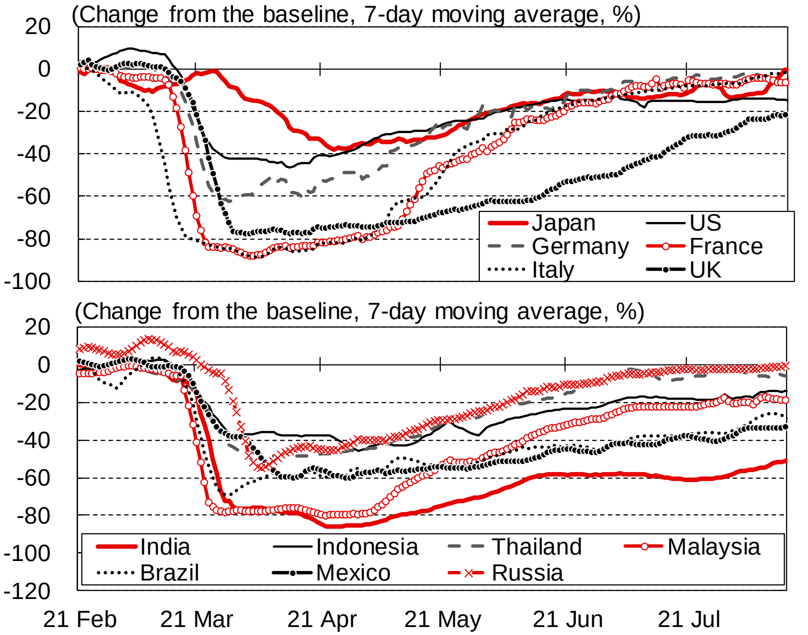
Note: 1. High number of restrictions on movement shown in red, then yellow and white with none. Most recent data is from 30th August.
2. Calculation for each region's number of restrictions on movement weighted by nominal GDP (purchasing power parity basis)

Source: Oxford University (Hale, Thomas, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government), IMF, MUFG Bank Economic Research Office

1. Overview: The COVID-19 Situation – Mobility Trends and Economic Growth

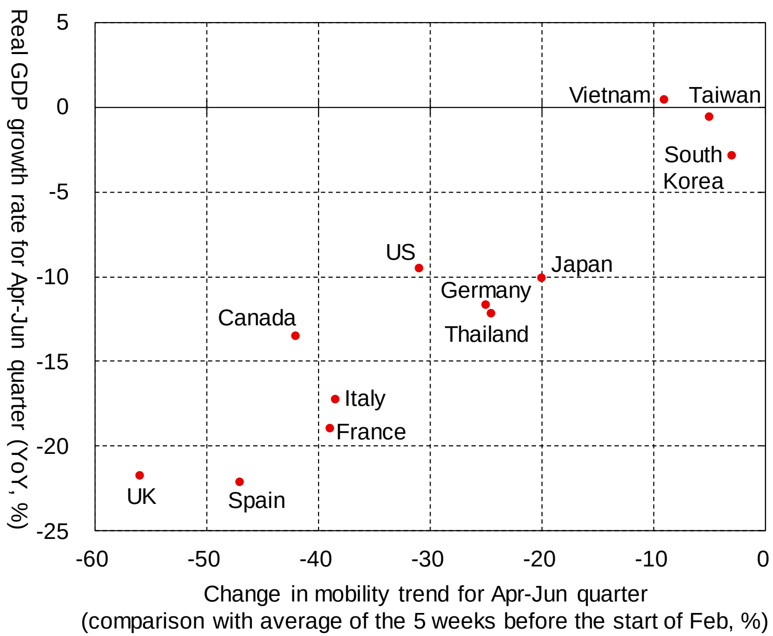
- Strict public health measures were adopted by many countries and regions to contain the spread of infection, such as nationwide restrictions on travel and shop closures. Yet regions that decided to stop the spread of the virus are now easing their various measures little by little in order to re-start economic activities, which is causing activity (mobility) to recover, such as retail and recreation. Nevertheless, levels of activity are still lower than normal in many countries and it will take time for it to recover completely.
- Analysis of mobility trends in major developed countries shows a large slump between the end of March and the middle of May owing to tight restrictions on movement as part of various government measures, and there was a drop in mobility to between 10% and 30% of normal levels in the UK, France and Italy. Although there is some disparity between countries, on the whole, mobility has recovered to around 90% of normal levels at present, yet it seems the last 10% will be difficult to regain. The spread of COVID-19 continues in newly emerging countries and there are many countries where mobility has not yet returned to the levels it has in Europe.
- It appears there is a relatively strong correlation between the downturn in mobility and the fall in economic growth rates. It is thought that a decrease of around 10% in mobility from normal levels equates to around a 5% QoQ drop in the economic growth rate (around -7% to -8% compared to the pre-COVID-19 pace; however, this is dependent on countries' inherent growth potential).

Mobility Trends in Emerging and Developed Countries (Retail and Recreation Facilities)



Note: Baseline is calculated using data from 3rd January to 6th February 2020
Source: Google, MUFG Bank Economic Research Office

Mobility Trends and Economic Growth Rates in Major Countries

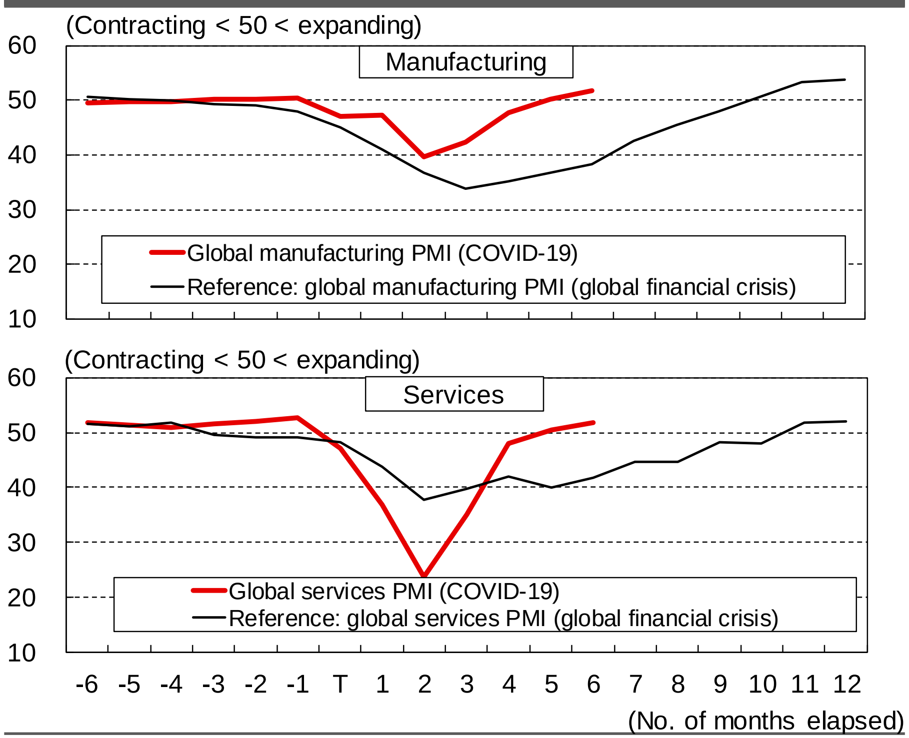


Note: Mobility trend is the movement of people to retail and recreation establishments, transit stations and workplaces recorded by Google
Source: Google, MUFG Bank Economic Research Office

1. Overview: Main Economic Indicators before and after the COVID-19 Pandemic – Business Sentiment, Production, Consumption

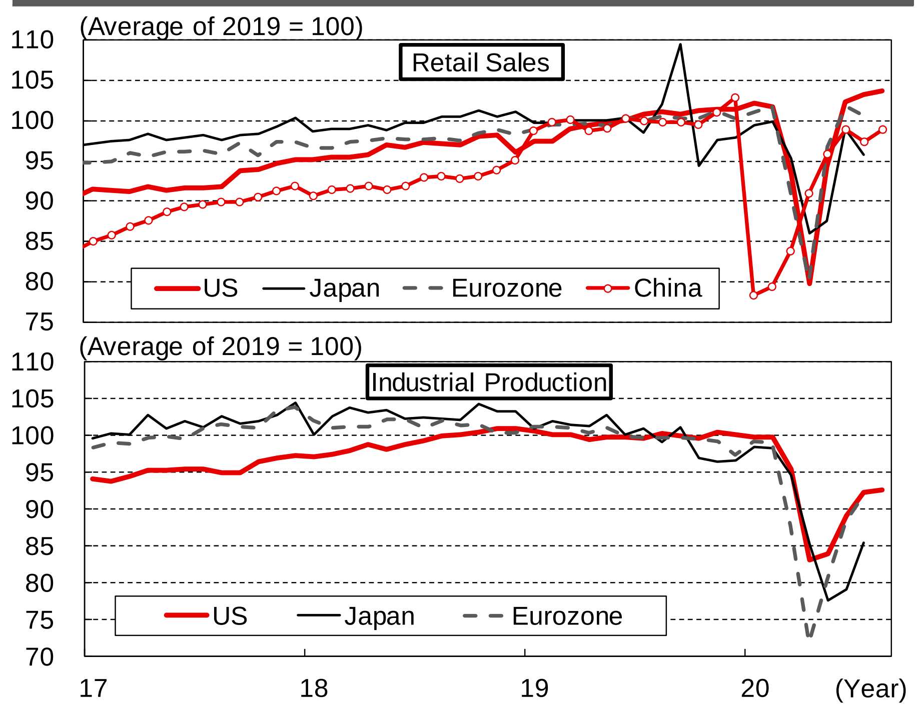
- As COVID-19 developed into a pandemic, countries and regions imposed strict public health measures, such as restrictions on movement and economic activities, and the world was plunged into a difficult situation all at once during the first half of 2020. In particular, the slump in the service sector was greater than during the global financial crisis.
- Countries are starting to loosen their public health measures slowly and business sentiment is recovering after bottoming out in April. However, business sentiment indicators are the result of questionnaires which ask whether if conditions are “getting better” or “getting worse”, and they tend to show high levels during a recovery. The actual recovery of the level of activity (such as private consumption, investment and production) is a gradual one.
- Retail sales in developed countries are picking up comparatively quickly due to pent up demand after restrictions were eased (retail sales in the US exceed the level in 2019). Nevertheless, there are concerns about another rise in cases and there is still some difference between items in terms of the degree to which they have recovered – it cannot be said things are back to normal. Industrial production in June and July was at around 80%~90% of the 2019 average before the pandemic.

PMI (Global Total and Industry Breakdown)



Note: Global financial crisis (September 2008) = T. COVID-19 pandemic (February 2020) = T
Source: IHS Markit, MUFG Bank Economic Research Office

Retail Sales and Production of Various Countries and Regions

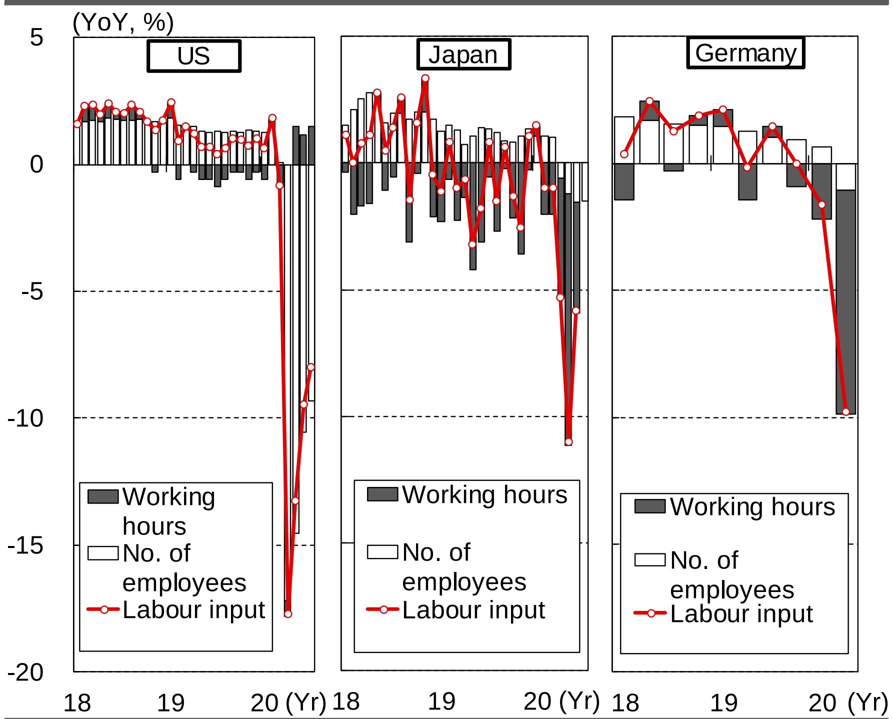


Source: Various statistics, MUFG Bank Economic Research Office

1. Overview: Main Economic Indicators before and after the COVID-19 Pandemic – Employment

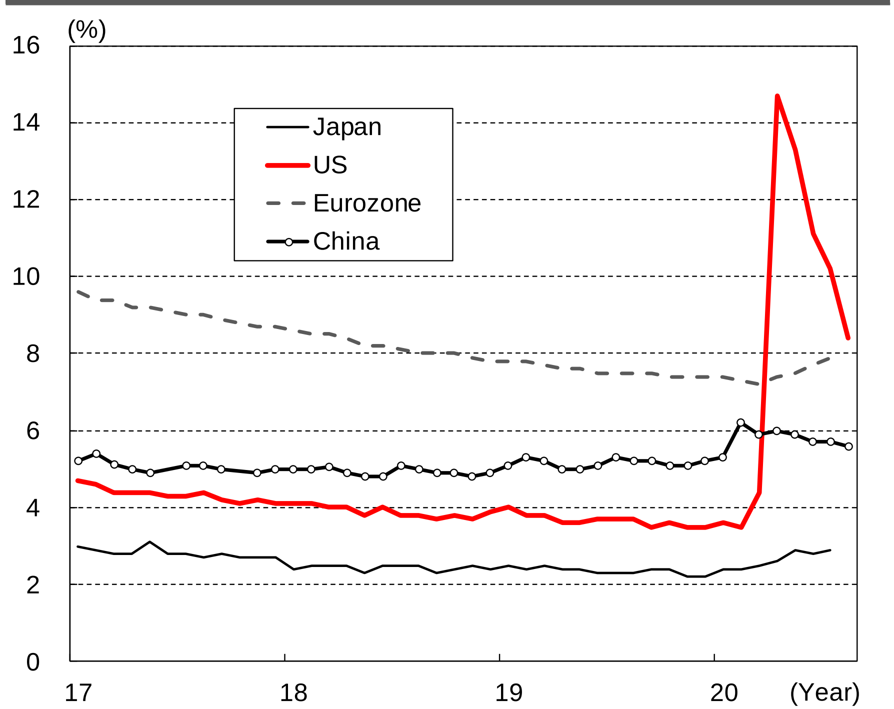
- The way the employment situation has deteriorated differs between regions. The US has lead with adjustment to employee numbers and Japan (and Europe) responded first by shortening hours. Nevertheless, both experienced a slump in the volume of labour input by around 10% at one time compared with the previous year (growth in the number of US non-farm employees slowed dramatically in April by 13.4% YoY. As economic activities are restarted, the number of employees is falling at a slower pace year-on-year, yet growth remains below that of the previous year: -8.6% YoY in June. The number of employees in Japan continues to grow worse, slowing by 1.6% YoY in June.
- The unemployment rate worsened very quickly in the US; unemployment hit its highest point since the end of World War II in April. In Japan, Europe and China, the unemployment rate is gradually rising (one reason for the difference between employment rates is that employees who are laid off are counted as unemployed in the US, whereas they are counted as employees in Japan. In addition, it appears Italy's unemployment rate fell due to a sudden rise in people leaving the labour market, which suggests a possibility that the real situation is worse than statistics indicate). The unemployment rates in the US, Japan and China are improving, but it appears some industries still face a pretty difficult situation and they have not yet returned to pre-Covid-19 levels.

Labour Input in Japan, US and Germany



Note: 1. For Japan, "working hours" is from the Monthly Labour Survey (common establishment basis), "number of employees" is from the Labour Force Survey
2. Labour input for Germany is quarterly figure
Source: National statistics of each country, MUFG Bank Economic Research Office

Unemployment Rate in Japan, the US, Eurozone and China



Source: Each country/region's national statistics office, MUFG Bank Economic Research Office

2. Key Points of the Outlook: Developments in Medicine and Epidemiology

- In terms of treatment, although trials have been carried out on adapting existing anti-viral medication and other treatments for severely ill patients, there is currently no confirmed cure for coronavirus (that said, the fact that second wave death rates tend to be lower than the first wave suggests that advances have been made in terms in hospitals' ability to treat the virus).
- Several vaccines have entered Phase 3 clinical trials but are not likely to be ready for use and distribution until the end of this year at the earliest ("game changer" vaccine unlikely within 2020). From next year, there is a possibility that a vaccine will be available and it will have a certain effect, but it is unclear as to whether this effect will be a drastic one.
- We are yet to see an example of herd immunity: a country with a high enough proportion of the population with antibodies to stop the spread of COVID-19 (in lockdown-free Sweden, only 6.1% of the population reportedly have antibodies).
- For now, we expect the spread of the virus to be gradually contained via public health measures which are compatible with economic activity and by anti-infection measures.

Latest Advances on Vaccines and Other Treatments

Trump's Operation Warp Speed	■ Aim to widely distribute vaccine to US population by Jan 2021 ■ Federal government to be involved in all three stages of 'development, production, and distribution'
Treatments for the virus	■ No confirmed cure currently exists ■ Initial treatments include adapting existing anti-viral medication and treatments for severely ill patients, and new drugs/vaccines are now in development. ● Anti-viral drugs: Remdesivir (Gilead Sciences), Avigan (FUJIFILM Toyama Chemical), etc. ● Treatments for severely ill patients: Tocilizumab (Roche) etc. ■ Medical institutions' knowledge of how to treat the virus has improved
Vaccine development	■ According to the WHO, as of 28 August, there were 143 pre-trial vaccines, 33 vaccines have entered clinical trials, and 8 of these are in Phase 3 trials (P3), including: ● UK - Oxford University/AstraZeneca: viral vector vaccine ● China - Sinovac: inactivated vaccine ● US - Moderna: mRNA vaccine

Source: Various sources, MUFG Bank Economic Research Office

Latest News on COVID-19 (Herd Immunity, etc.)

France	■ First known COVID-19 case was in December 2019 (6 May)
Sweden	■ Despite aiming for herd immunity, this did not materialise as expected, and only 6.1% of population have antibodies (19 Jun) ● Sweden did not formally implement a lockdown with aim of achieving herd immunity. ● Efficacy of herd immunity for COVID-19 remains unproven. Level/length of immunity in recovered COVID cases remains unknown.
Korea	■ Only 0.033% of population have antibodies. Minister of Health and Welfare announced that fighting coronavirus through herd immunity is not realistically possible (14 Jul)

Source: Various sources: MUFG Bank Economic Research Office

Social Distancing Related News

Japan	■ COVID-19 tracing app (COCOA) released (19 Jun) ■ Around 15.4 million downloads as of 17:00 on 18 Aug. Reported aim to increase usage to at least 60% of population. ■ Alerts close contacts if a patient tests positive for COVID-19 (does not alert secondary contacts)

Source: Various sources, MUFG Bank Economic Research Office

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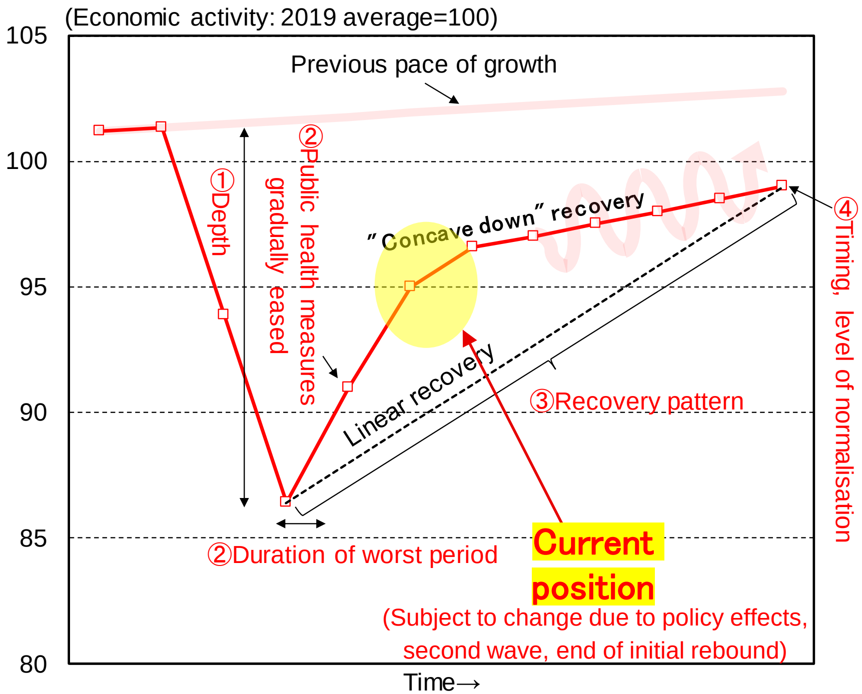
2. Key Points of the Outlook: Re-Starting Economic Activities and the Path to Recovery

- Economic activity has taken a hit as measures have been introduced worldwide to contain the spread of COVID-19, and it is difficult to estimate the path of economic recovery given this is unprecedented in terms of modern economic history, and it is also hard to predict when and how the spread of the infection will end. Making normal economic predictions based on demand components is difficult, so we estimate the recovery path based on the following: 1) the depth of economic slump (in terms of real GDP), 2) duration of the worst period, 3) recovery pattern and timing, 4) timing and level of normalisation of economic activities.
- In terms of 1), developed countries' economies slowed around 10-20% from their pre-COVID pace and, for 2), public health measures are already being eased. Looking back, we can safely say that April-May was the worst period. Now that the worst of the crisis has passed, the economy has seen an initial sharp rebound alongside the easing of restrictions.
- On the other hand, economic activity is likely to take time to return to previous levels given the gradual easing of restrictions, persistent concern among businesses and consumers, and the fact that new increase in remote demand is insufficient to make up for the decrease in demand due to COVID-related concern. As a result, the recovery is likely to take a 'concave down' path. Although the key focus at present is on the potential for a second wave of infection, the development and implementation of a vaccine will also be of vital importance.

Diagram of Projected Path to Economic Recovery



Source: Various sources, MUFG Bank Economic Research Office

Assumptions about the Path to Economic Recovery

Variables	Specific examples and assumptions
①Depth of slump	▪ Retail sales and production generally slowed by around 10-20% from their previous pace in each country.
②Duration of worst period	▪ Worst period from end-April into May. Countries then started to ease public health measures
③Recovery pattern and timing Second wave	▪ Level of economic activity starts to shift up as public health measures are gradually eased ▪ On the other hand, public health measures are being eased in stages so consumer and corporate concern over the virus won't dissipate easily. This means the subsequent recovery will be very moderate (and will fluctuate)
④Timing and level of normalisation of economic activities	▪ "Normalisation"post-2021 under "New normal" lifestyle. Downward pressure on economic activities – especially services – to continue and level of economic activities likely to be lower than before Covid-19. Vaccine development will have major impact.

Note: Does not factor in development or mass production of treatment or vaccine.
Accounts for risks of second wave and large outbreak in emerging economies
Source: Various sources, MUFG Bank Economic Research Office

2. Key Points of the Outlook: Possible Scenarios

- Maintaining strict public health measures is politically difficult due to the major damage they cause to the economy.
  - ✓ Even if infections die down, there is a clear risk of a renewed increase in infections once public health measures are eased.
  - ✓ It is unrealistic to think the situation will stabilise quickly (while COVID-19 risks remain)
- For now, recovery is likely to be slow as countries seek to balance maintaining economic activity with avoiding the collapse of medical systems.
  - ✓ Economic activity will stagnate at current levels (winter in northern hemisphere is also a risk)

    VS
  - ✓ Economic activity will gradually increase due to increased knowledge of how to handle COVID-19 (even in absence of a specific cure/vaccine, improvements in medical expertise, public health measures, and public awareness could contribute to this)
- The development and mass distribution of a vaccine/treatment would significantly affect the outlook, but is hard to foresee at present. There are reports of vaccines in development and it is possible that one or more will be available from next year and this may have a certain effect, but it is unclear as to whether this effect will be a drastic one.
- Note: On vaccines, WHO director general Dr Tedros Adhanom has warned that “there's no silver bullet at the moment and there might never be”. There is a downside risk of delay/failure of vaccine development. There is also the upside risk of an effective vaccine quickly stopping the spread of infection.

Timetable of Future Scenarios

Date		Major event
2020	Jul	
	Aug	Prime Minister Abe annouces resignation
	Sep	LDP party president election/New cabinet
	Oct	
	Nov	US presidential election /G7?/G20
	Dec	
2021	Jan	US presidential inauguration
	Feb	
	Mar	
	Apr	
	May	
	Jun	
	Jul	Tokyo Olympics, Paralympics
	Aug	
	Sep	LDP party president election
	Oct	End of term for members of House of Representatives
	Nov	
	Dec	
2022	Jan	
	Feb	Beijing Winter Olympics, Paralympics
	Mar	
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	Jul	House of Councillors election
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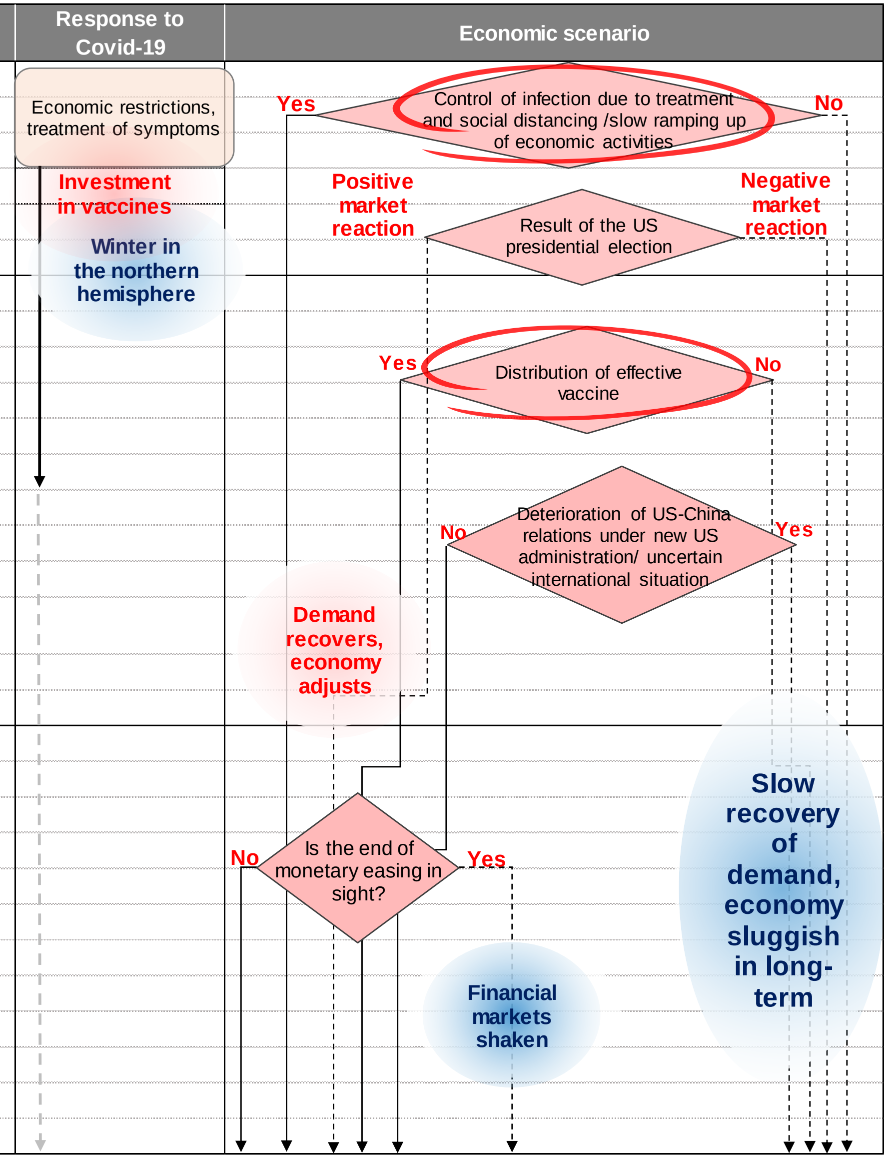
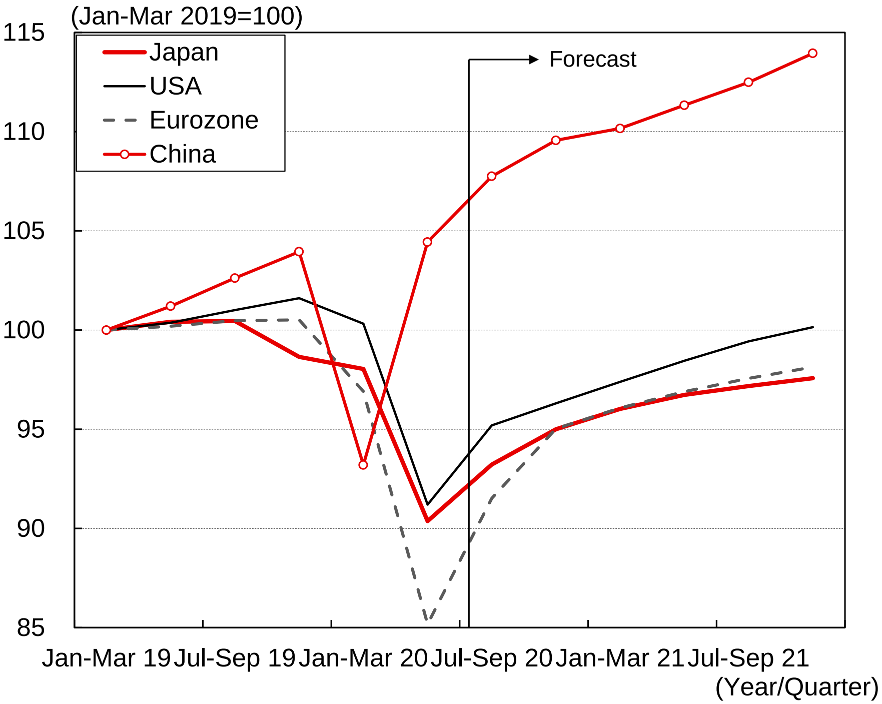


Source: Various sources, MUFG Bank Economic Research Office

2. Key Points of the Outlook: Outlook for the Global Economy (August)

- The global spread of COVID-19 and the public measures introduced to contain it have either limited or shrunk economic activity across many regions and countries, resulting in large scale economic deterioration in both the January-March and April-June quarters.
- China contained the virus quickly and restarted economic activity, and other countries and regions have moved to restart activity from late April-May, meaning that we expect real GDP growth to hit rock bottom in the April-June quarter, followed by a short-lived rebound in the form of considerable positive growth in the July-September quarter.
- Even as infections of COVID-19 have started to decline, there is clear evidence from some countries of the risk of further spread occurring once restrictions have been eased. Recovery from the October-December quarter 2020 and beyond is likely to occur at a moderate pace as countries attempt to strike a balance between maintaining economic activity and avoiding the collapse of medical systems.
- Treatments and vaccines are expected to be developed in time, but assuming the effects of these are short of miraculous, we forecast global real GDP growth of -3.7% YoY in 2020, and 5.1% YoY in 2021.

Real GDP Growth Forecasts for Major Countries/Regions



Source: National statistics, MUFG Bank Economic Research Office

Table of Real GDP Growth Forecasts for Major Countries/Regions

■Real GDP growth rate	2019	Economic Research Office Forecast 2020	Economic Research Office Forecast 2021	IMF Forecast (June) 2020	IMF Forecast (June) 2021
World	2.8	- 3.7	5.1	- 4.9	5.4
US	2.2	- 5.0	3.2	- 8.0	4.5
Annual report (17 July)	-	-	-	- 6.6	3.9
Eurozone	1.3	- 8.1	5.4	- 10.2	6.0
UK	1.5	- 11.8	7.6	- 10.2	6.3
Japan (fiscal year)	0.0	- 5.7	3.9	-	-
Japan (calendar year)	0.7	- 5.6	2.9	- 5.8	2.4
Asia (11 countries)	5.1	- 0.4	6.5	-	-
China	6.1	1.8	7.9	1.0	8.2
ASEAN (5 countries)	4.9	- 3.3	6.2	- 2.0	6.2
Indonesia	5.0	- 1.8	5.6	- 0.3	6.1
Thailand	2.4	- 7.3	4.8	- 7.7	5.0
Malaysia	4.3	- 5.9	7.7	- 3.8	6.3
The Philippines	5.9	- 6.3	7.2	- 3.6	6.8
Vietnam	7.0	2.1	7.5	-	-

Source: IMF, MUFG Bank Economic Research Office

3. Financial Market Trends: Outlook for US and Japanese Interest Rates

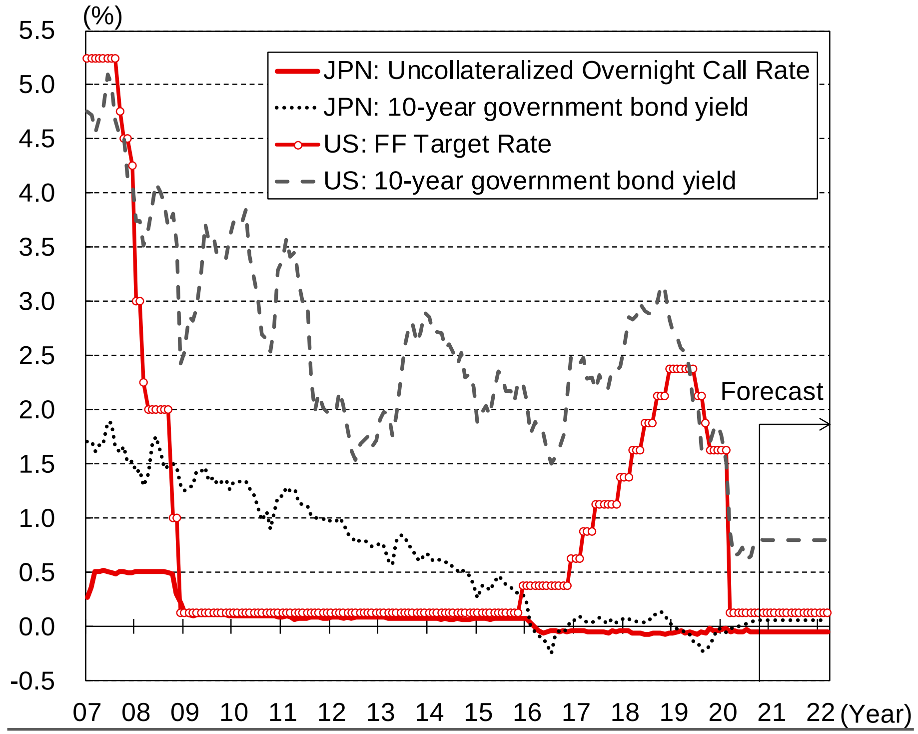
- Both Japan and the US have eased their monetary policies further due to the COVID-19 pandemic. Japan plans to stabilize yields at low levels in the vicinity of their policy rate target by conducting active purchases of Japanese government bonds (JGBs). The US has maintained its zero lower limit for the target federal funds rate and, in addition to the increase of its holdings of Treasury securities and MBS at least at the current pace (approximately USD 80 billions' worth per month), the Federal Reserve Bank is also considering introducing new policy measures, such as "clarifying forward guidance".
- The Eurozone also eased its monetary policy further, mainly through large-scale asset purchases and a third series of targeted longer-term refinancing operations. The European Central bank will maintain its plan to stabilise interest rates at low levels for the time being through various asset purchases.
- Looking ahead, it appears that the current easy monetary policies will remain at least for the duration of the forecasted period as COVID-19 continues to affect the real economy. Policy rates in the US and Japan will be maintained at their current low levels and although long-term interest rates will gradually rise as economies slowly recover, interest rates are forecast to remain at low levels on the whole.

Current and Future Japanese and US Monetary Policy

	FRB	BoJ
Current plans for policy rate management	FF rate target range: maintain at 0.0% to 0.25% until the economy has weathered recent events Inflation target: seek average of 2% over time (updates to Longer-Run Goals and Policy Strategy 27th August)	Short-term: apply negative interest rate of -0.1% to the Policy Rate Balances in current accounts Long-term: purchase JGBs so that 10-year JGB yields will remain at around zero %
Bond purchasing plan	Increase holdings at current rate (approx. USD80bn per month) over coming months	Purchase the necessary amount of JGBs without setting an upper limit
Comments regarding future of monetary policy	A number of participants noted that providing greater clarity regarding the likely path of the target range for the FF rate would be appropriate at some point. However, most judged that yield caps and targets would likely provide only modest benefits (Minutes of the FOMC meeting July)	The Bank would closely monitor the impact of COVID-19 and not hesitate to take additional easing measures if necessary. As for policy rates, it would expect short- and long-term interest rates to remain at their present or lower levels. (Governor Kuroda 16th July)

Source: Central banks of each country, MUFG Bank Economic Research Office

US and Japanese Policy Rate and Long-Term Interest Rates

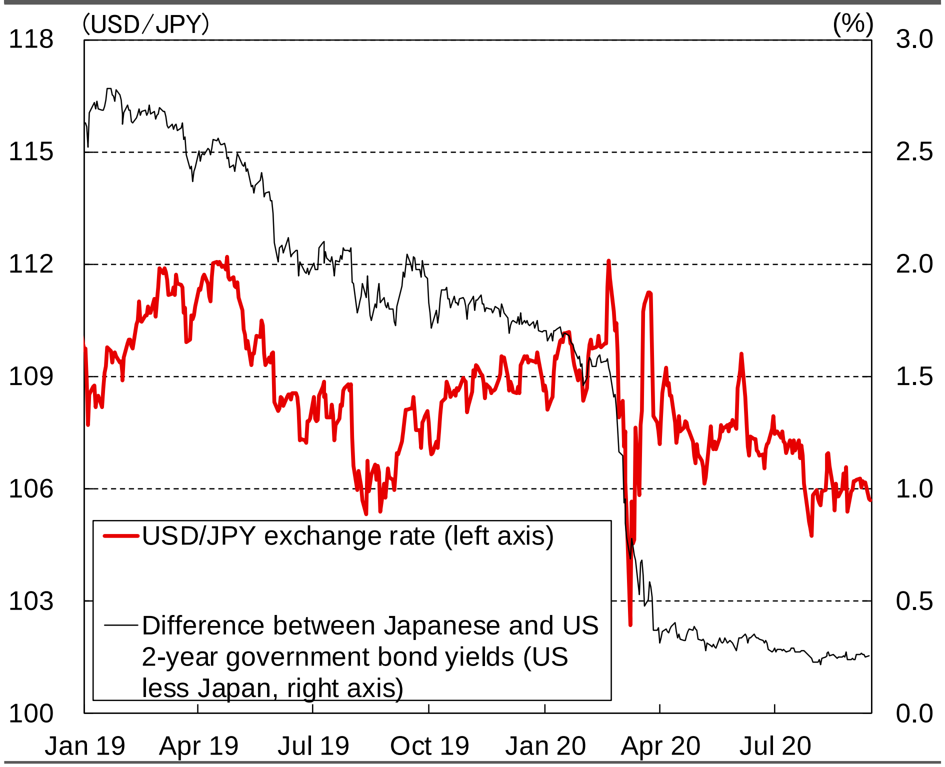


Note: From Dec 2008, the "FF Target Rate" is a median of the target rate
Source: Bloomberg, MUFG Bank Economic Research Office

3. Financial Market Trends: Outlook for the USD-JPY FX Rate

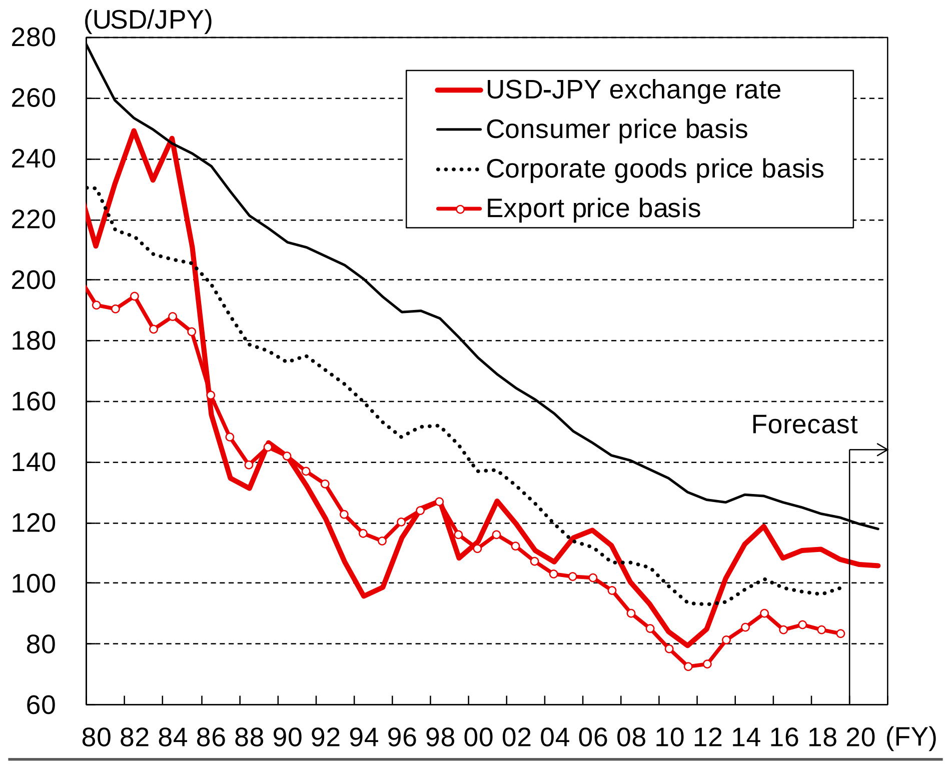
- Long-term interest rates of the US and other major developed countries are drawing close to 0% and the there is not much change in the difference between US and Japanese interest rates. It appears the gap between the two countries' interest rates is having less of an impact when it comes to fluctuations in the USD/JPY exchange rate.
- Although there are temporary fluctuations in the USD/JPY exchange rate in response to the COVID-19 situations in each country and the degree of risk taking by market participants, the exchange rate is expected to remain at current levels on the whole. In addition, purchasing power parity shows the exchange rate on a corporate goods price basis and an export price basis, which are used in corporate trading, have flattened out since around the mid-2010s, and there are signs that the long-term trend of JPY appreciation up until now will change.

USD/JPY and Difference between US and JPN 2-Yr Gov. Bond Yields



Source: Bloomberg, MUFG Bank Economic Research Office

USD/JPY Exchange Rate by Purchasing Power Parity



Note: 1. "Purchasing power parity" is the Japanese price index less the US price index multiplied by the standard rate.
2. "Export price basis" is the average of export price index and export deflator

Source: Each country's national statistics, Bloomberg, MUFG Bank Economic Research Office

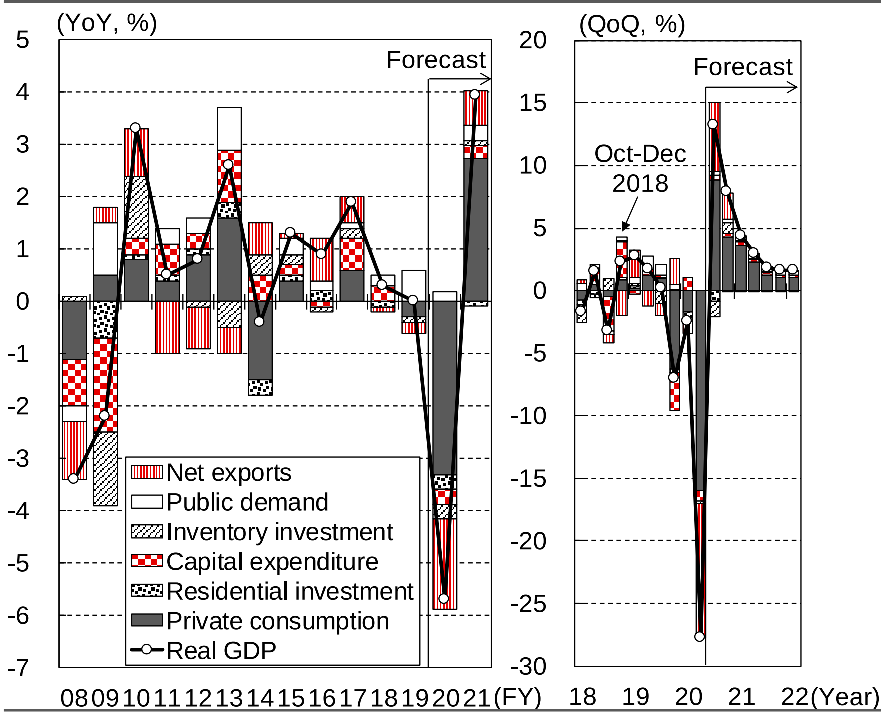
4. Japan: Overview

- According to The Reference Dates of Business Cycles published by the Cabinet Office, the economy has been in a downward phase since October 2018 (provisional) due to a fall in global manufacturing, but with the addition of the consumer tax rate hike in October 2019 and the impact of COVID-19 since the start of the year, this has become the largest post-war economic crisis. The GDP growth rate for the April-June quarter was -27.8% annualized (first preliminary estimate): the third consecutive quarter of negative growth and the largest decline since 1955, which is as far back as Japanese GDP statistics go. As the number of COVID-19 cases increase domestically and overseas, domestic private consumption has fallen by a large margin owing to people refraining from going outside and businesses shortening hours and suspending operations during the state of emergency in Japan. Exports also decreased significantly as overseas governments took strict public health measures, such as enacting lockdowns.

- As public health measures are eased and economic activities restarted, the economy has emerged from its worst period and it is very likely that real GDP will be positive in the July-September quarter for the first time in four quarters. Nevertheless, it appears infections are spreading again both inside and outside Japan and the COVID-19 situation is still very unclear, which means the subsequent pace of economic recovery will be slow and it will take time for economic activities to return to the levels they were at before the pandemic.

- The real GDP growth rate (fiscal year basis) is forecast to be -5.7% YoY in FY2020 and 3.9% YoY in FY2021.

Japan Real GDP and Outlook (Fiscal Year, Quarterly)



Source: Cabinet Office, MUFG Bank Economic Research Office

Japan Real GDP and Outlook (Fiscal Year, QoQ Annualised)

	FY2018 (Actual)	FY2019 (Actual)	FY2020 (Outlook)	FY2021 (Outlook)
Real GDP	0.3	0.0	-5.7	3.9
Private consumption	0.1	-0.6	-5.9	4.9
Residential investment	-4.9	0.5	-9.8	-2.7
Capital expenditure	1.8	-0.3	-1.8	1.5
Inventory investment (contribution)	0.0	-0.1	-0.3	0.1
Public demand	0.8	2.5	0.7	1.1
Net exports (contribution)	-0.1	-0.2	-1.7	0.7
Exports	1.7	-2.6	-13.5	8.6
Imports	2.6	-1.5	-3.3	3.8
Nominal GDP	0.1	0.8	-3.5	2.9
GDP Deflator	-0.2	0.8	2.3	-1.0

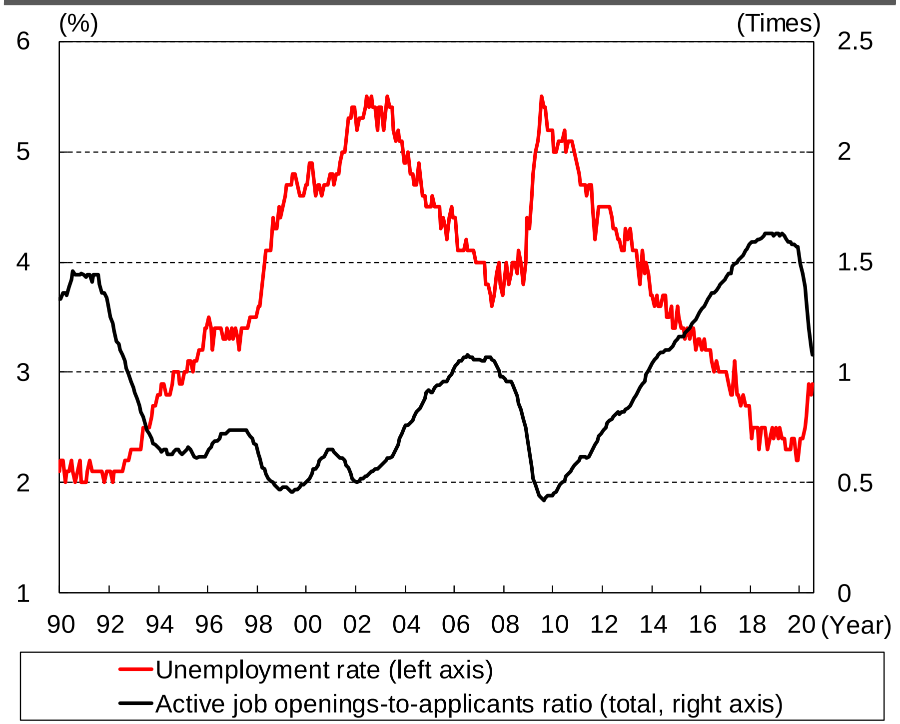
Source: Cabinet Office, MUFG Bank Economic Research Office

4. Japanese Economy: The Labour Market and Wages

- Historically speaking, the unemployment rate is still low and the job openings-to-applicants ratio is still high, but they have worsened since March. The job openings-to-applicants ratio was 1.11 in June and there was a decrease in openings, particularly those related to customer services, sales and clerical work. The unemployment rate increased 0.6% points from the end of 2019 to 2.8% in June. At this point in time, the worsening of the unemployment rate has been limited compared with during the global financial crisis. However, demand for labour has not really risen; the number of employees fell dramatically during the COVID-19 pandemic and its recovery has remained small. Therefore, it is important to keep an eye on the possibility of another rise in the unemployment rate as people who have left the labour market begin job hunting again.

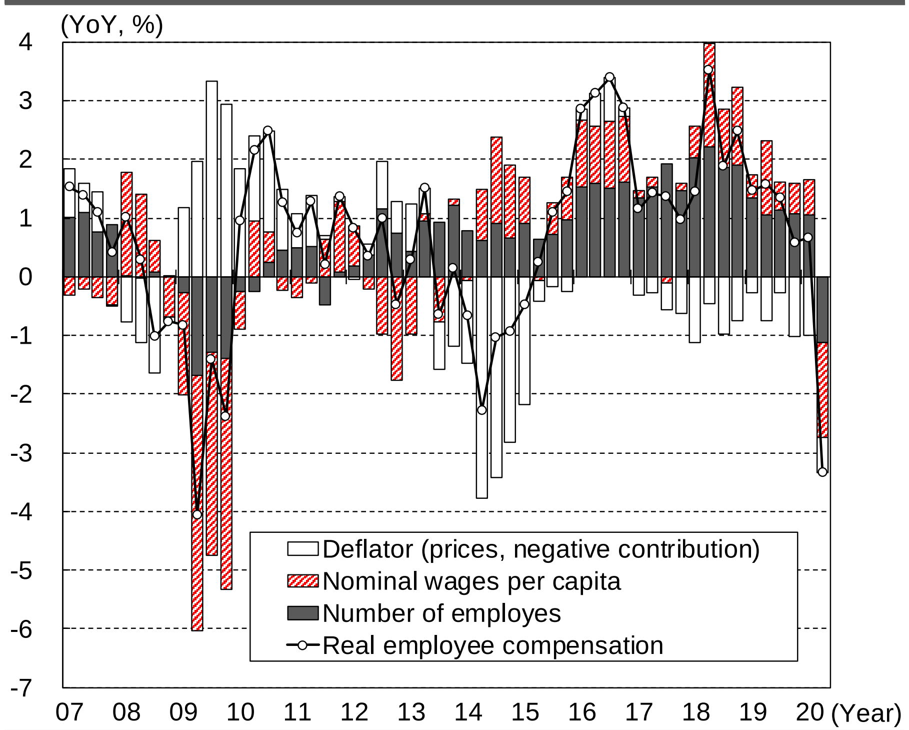
- As the number of employees and nominal wages per capita turned negative, so did real employee compensation, which decreased YoY for the first time in 21 quarters. The special cash payment of JPY 100,000 to each resident supported incomes in June and July, but this benefit has pretty much ended now. Looking ahead, it seems the recovery of economic activity will be slow and it is thought that demand for labour will take a while to return from its large decline during the COVID-19 pandemic. As a result, the capacity for the labour market and wages to underpin private consumption is predicted to be somewhat weaker than before the pandemic.

Employment Indicators



Source: Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, MUFG Bank Economic Research Office

Real Employee Compensation

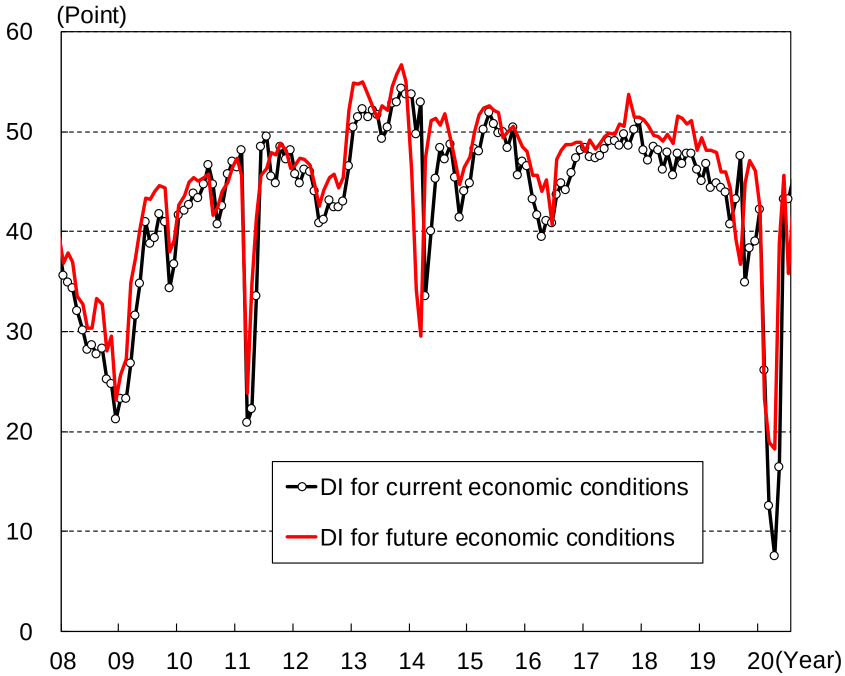


Source: Cabinet Office, Ministry of Internal Affairs and Communications, MUFG Bank Economic Research Office

4. Japanese Economy: Private Consumption

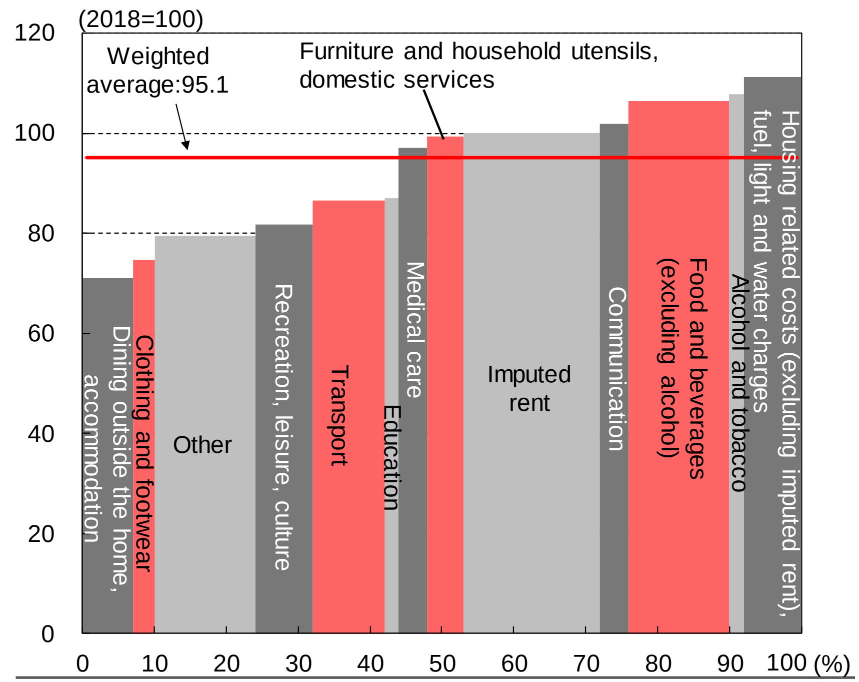
- Looking at consumer sentiment according to the Economy Watchers Survey, the "DI for current economic conditions" was unchanged from the previous month as services, housing and food and drink-related DI all increased, yet retail-related DI fell for the first time in three months due to the dip in demand that occurred after an irregular rise fueled by the special cash payments. On the other hand, the "DI for future economic conditions" fell for the first time in three months as another rise in COVID-19 cases led to a sense of caution about the future.
- When it comes to estimating private consumption in Japan during the COVID-19 era, it appears there is growth of spending on "food and beverages", "alcohol and tobacco" and "fuel, light and water charges" amongst others owing to increased time spent at home. On the other hand, it is very likely that the slump in face-to-face services, such as "dining outside the home" and "recreation, leisure and culture", will continue owing to regulations on the number of people at gatherings and people avoiding crowds to prevent the spread of infection. On the whole, it is estimated that consumption will remain at around 95% that of the level before the pandemic and the consumption tax rate hike until the permeation of a radical measure to prevent the spread of COVID-19, such as a vaccine. Taking into account the deterioration of the labour market and wages and the weakening of sentiment, it seems a complete recovery of private consumption will take place in FY2022 or later.

Economy Watchers Survey (Household-Related)



Source: Cabinet Office, MUFG Bank Economic Research Office

Consumption in Japan during the COVID-19 Era (Estimate)



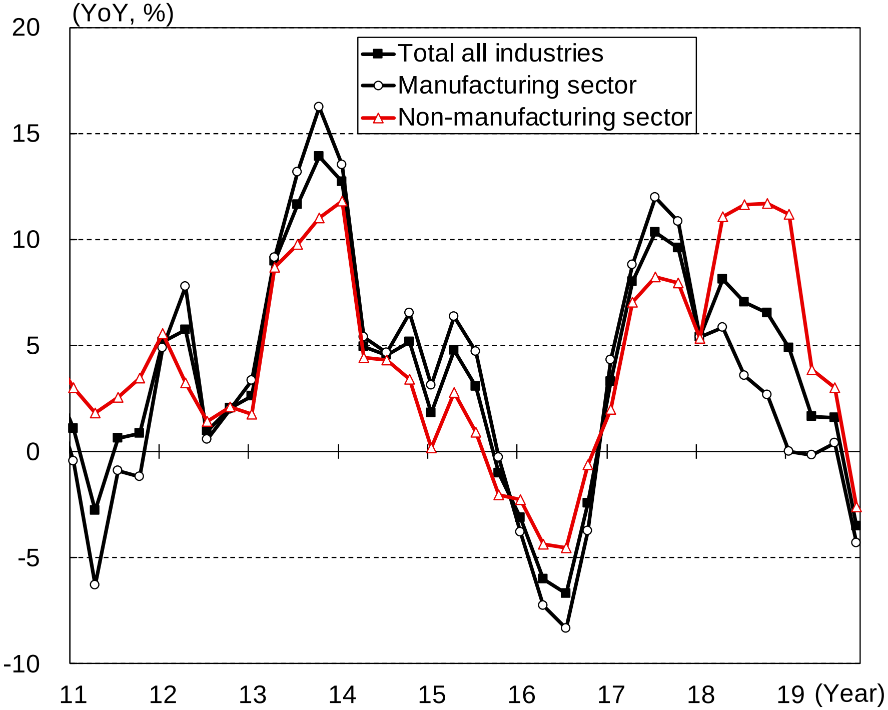
Note: Y axis is the level of private consumption by item in the Covid-19 era (estimate calculated by Economic Research Office based on expenditure by item in the Family Income and Expenditure Survey), X axis is each item weighted against GDP in 2018

Source: Cabinet Office, Ministry of Internal Affairs and Communications, MUFG Bank Economic Research Office

4. Japanese Economy: Business Results

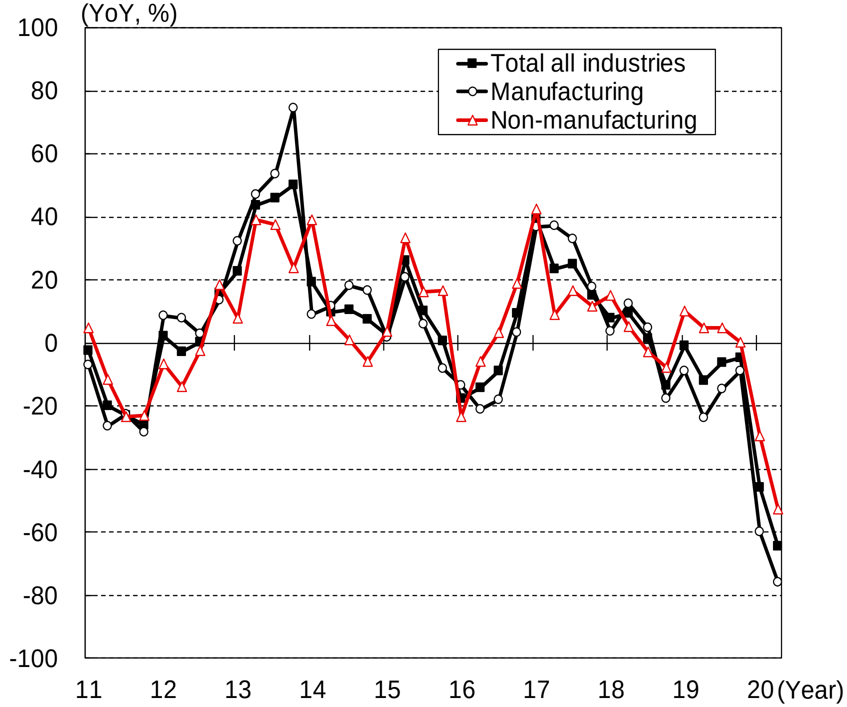
- Sales of corporations listed on the first section of the Tokyo Stock Exchange (excluding financial corporations) fell at a faster pace in the April-June quarter this year – in line with the pace of their slump during the global financial crisis. Analysis by industry shows a particularly marked slowdown in industries related to movement of people, such as “air transportation”, “transport equipment” and “land transportation”.
- Ordinary profits also registered a large fall during the same period. In addition to the industries which experienced sluggish sales mentioned above, ordinary profits of those industries and of “iron and steel” and “petroleum and coal products” also fell into the red on a quarterly basis. Even among the industries that maintained a profit, there were many which experienced a large loss, thereby highlighting the difficult environment that businesses face due to COVID-19.

Sales of Non-Financial Corporations Listed on the First Section of Tokyo Stock Exchange



Note: “Sales” of 1,342 firms that have published their Apr-Jun 2020 results as of 28 Aug and have published data continually since FY2006. Graph shows sales data up until Jul-Sep 2019 quarter
Source: Bloomberg, MUFG Bank Economic Research Office

Ordinary Profits of Non-Financial Corporations Listed on the First Section of Tokyo Stock Exchange



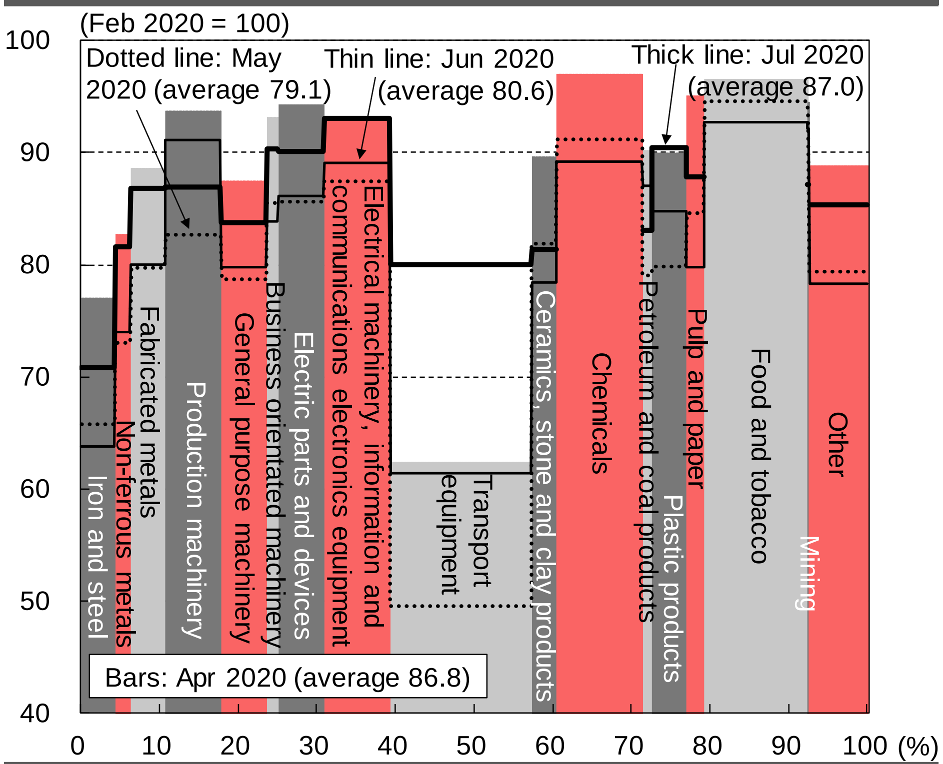
Note: "Ordinary profits" of 1,320 corporations that have published their Apr-June 2020 results as of 28 Aug and have published data continually since FY2006
Source: Bloomberg, MUFG Bank Economic Research Office

MUFG

4. Japanese Economy: Production and Exports

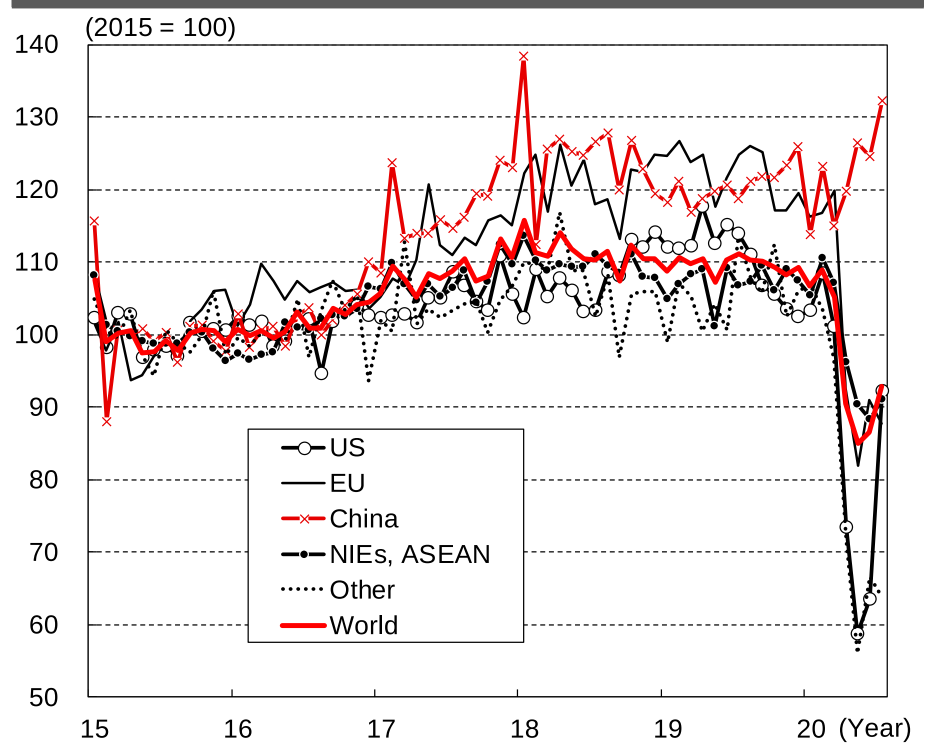
- The fall in exports due to restrictions placed on economic activities all around the world and the slump in domestic demand brought about by the national state of emergency declared in April in Japan led to a large drop in production. Data across all industries show a lower level of production in all sectors compared with February this year (just before the COVID-19 pandemic took hold). There was a particularly dramatic slump in “transport equipment” which includes automobiles. Looking at other industries, production is taking a while to recover owing to the fact that demand has not completely returned and the need for stock adjustments.
- The trend of production is affected by the weakness in exports and a breakdown by country and region shows exports to China remain firm, but those to other countries, such as the US, have dropped, putting significant downward pressure on total exports. Nevertheless, exports from Japan are forecast to recover at a gradual pace in the future taking into consideration the fact that other countries started to ease their public health measures in April and the overall trend of recovery of exports since June on a monthly basis.

Industrial Production and Change Since February 2020



Note: 1. X axis shows the weight of production by industry
2. Data for “chemicals” and “food and tobacco” for July have not been released
Source: Ministry of Economy, Trade and Industry, MUFG Bank Economic Research Office

Industrial Production and Change Since February 2020

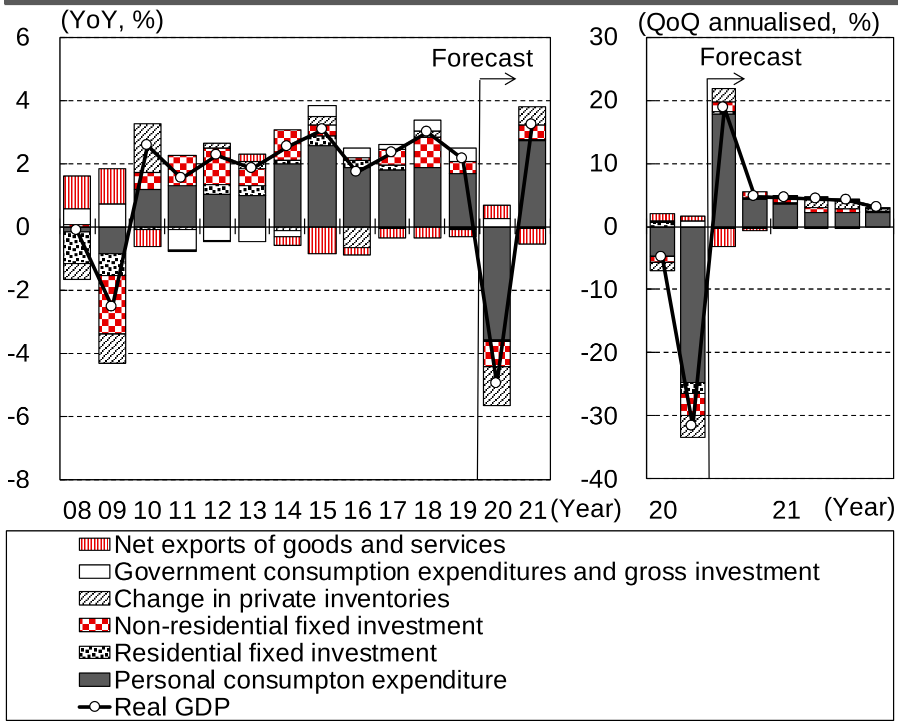


Note: The UK is included in “Other” for the entire period
Source: Cabinet Office, Ministry of Internal Affairs and Communications, MUFG Bank Economic Research Office

5. US Economy: Overview

- The US economy recorded its largest-ever fall as the real GDP growth rate dropped to 31.7% QoQ annualized (revised figure) in the April-June quarter. The main reason for this was the restrictions on movement adopted by many states from around the middle of March and into April to prevent the spread of COVID-19, which caused personal consumption to fall 34.6% QoQ annualized.
- At the start of May, the economy began to recover as economic activities restarted, and it appears the real GDP growth rate will make a marked return to positive territory in the July-September quarter. However, the number of cases of infection are still high, despite the fact growth of cases seems to have peaked, and it is thought there will be further ups and downs in the process of economic normalization and that a recovery of personal consumption, labour and capital expenditure will take some time.
- The real GDP growth rate for 2020 is forecast to contract significantly by 5.0% YoY and then expand by 3.2% YoY in 2021 as knowledge related to economic activities during the COVID-19 pandemic is accumulated and a usable treatment or vaccine is expected to be developed by then. However, the real GDP level will be lower than that of 2019 and it is predicted to be 2022 or later before it returns to pre-COVID-19 levels.

Real GDP and Breakdown of Demand Components



Source: Department of Commerce, MUFG Bank Economic Research Office

Year-on-Year GDP Figures and Outlook

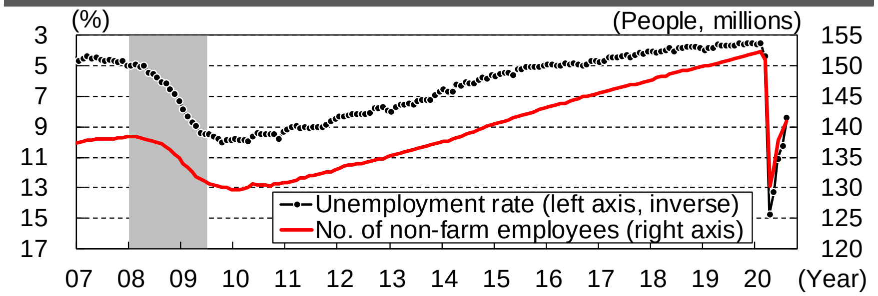
	2019 (actual)	2020 (outlook)	2021 (outlook)
Real GDP	2.2	-5.0	3.2
Personal consumption	2.4	-5.2	3.9
Residential investment	-1.7	-1.6	0.9
Non-residential investment	2.9	-5.4	3.3
Change in inventories (contribution)	-0.0	-1.2	0.6
Government consumption expenditure	2.3	1.6	-0.2
Net exports (contribution)	-0.2	0.4	-0.5
Exports	-0.1	-14.2	11.9
Imports	1.1	-12.8	11.8
Nominal GDP	4.0	-4.0	4.7

Source: Department of Commerce, MUFG Bank Economic Research Office

5. US Economy: Labour and Personal Consumption

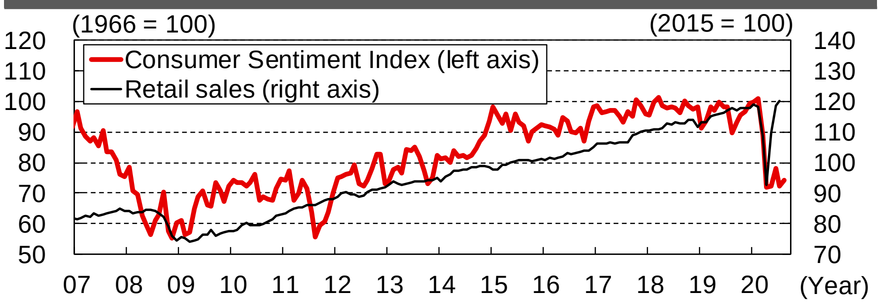
- There was an improvement of labour and consumption-related indicators in May as all states restarted economic activities. The unemployment rate in July was 10.2% – slightly lower than the 14.7% recorded in April – and retail sales had already returned to positive year-on-year growth in June and July.
- That being said, the number of non-farm employees increased 1.76 million in July from the previous month, slowing from 4.79 million and the sharp pace of recovery recorded in June after economic activities restarted. The labour recovery appears to have been influenced by the step-by-step easing of public health measures and by the second wave of infections. Looking ahead, it is important to bear in mind the possibility that the US economy may adopt the pronounced "jobless recovery" that it displayed at the start of its recovery (aim to expand business operations while increasing efficiency and suppressing an increase in labour).
- In addition, consumption of services such as transportation, recreation, dining out and accommodation have fallen significantly during the COVID-19 era owing to changes in spending behaviour, and it seems that a recovery in the consumption of some goods will take time. Sentiment indicators show consumers are maintaining a cautious attitude and it is predicted that personal consumption in the October-December 2020 quarter will be around 5% lower than it was in 2019 and it will be 2022 or so before it returns to pre-COVID-19 levels.

US Labour Statistics



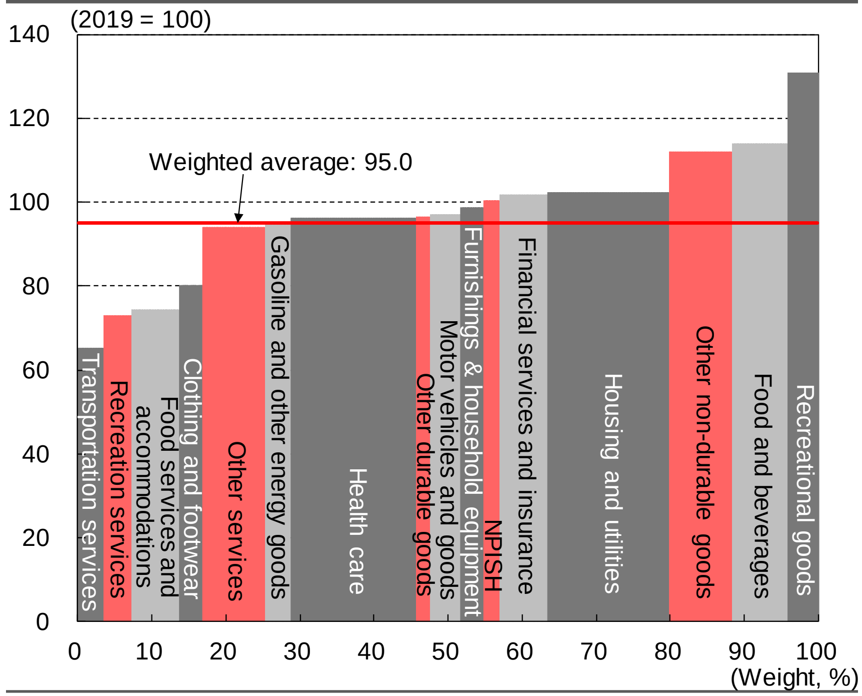
Source: Ministry of Finance

US Retail Sales and Consumer Sentiment



Source: Department of Commerce, University of Michigan, MUFG Bank Economic Research Office

Personal Consumption in the COVID-19 Era (Estimates)



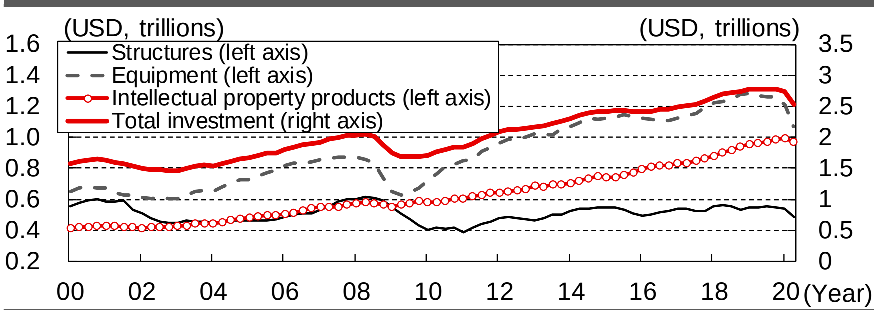
Note: Y axis shows personal consumption by item in the COVID-19 era. X axis shows weight of each item using estimates for real GDP

Source: Department of Commerce, MUFG Bank Economic Research Office

5. US Economy: Capital Expenditure

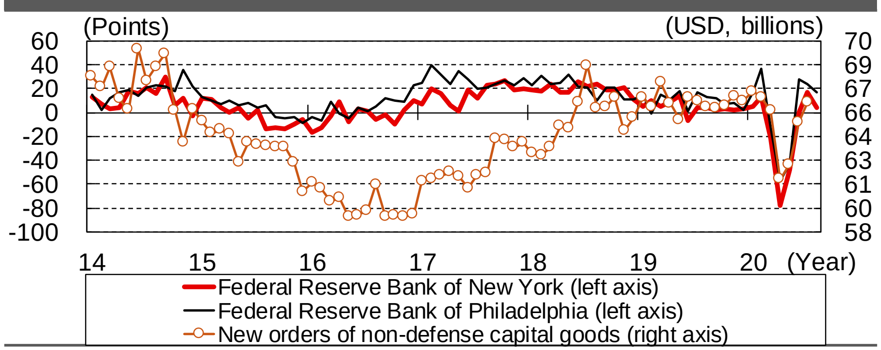
- According to the breakdown of capital expenditure in the April-June quarter, the deterioration of investment in intellectual property is limited, as it was during the global financial crisis, but investment in equipment has fallen sharply and is the main reason for the overall decrease in capital expenditure. Investment in intellectual property is expected to remain firm from now, particularly in IT companies, which have recorded strong earnings. Therefore, investment in equipment will be key in terms of the path taken by capital expenditure in future.
- Orders of non-defense capital goods (excluding aircraft) – a leading indicator of capital expenditure – bottomed out in April and are already recovering, which means capital expenditure is also predicted to recover once investment in equipment has bottomed out. Meanwhile, industrial production remained at about 90% of pre-COVID-19 levels in July and business sentiment is becoming a little more cautious in August. As a result, it is highly likely that industrial production will recover at a slow pace.
- Furthermore, it is possible that equipment investment by businesses will change dramatically in an economy affected by COVID-19. It is estimated investment in equipment will decrease by a large amount in the COVID-19 era, particularly investment related to transport services, and will be around 5%~10% lower at the end of 2020 than it was in 2019. Total capital expenditure is also predicted to be about 5% lower and it is likely to return to pre-COVID-19 levels at around the end of 2022.

US Non-Residential Fixed Investment



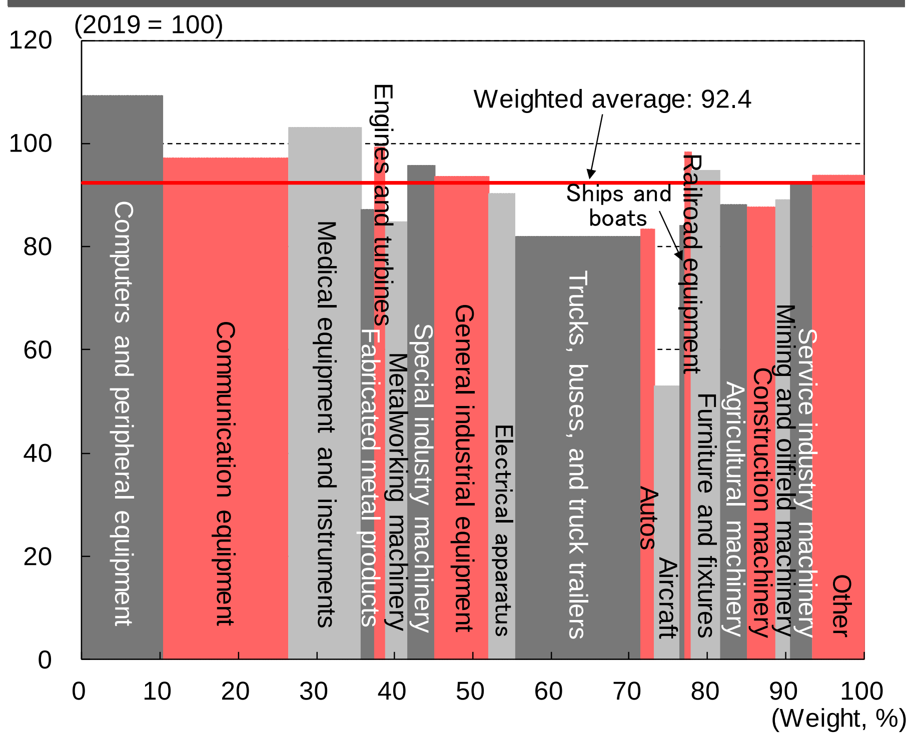
Source: Department of Commerce, MUFG Bank Economic Research Office

US FRB Manufacturing Indices and Non-Defense Capital Goods*



Note: Non-defense capital goods exclude aircraft
Source: Department of Commerce, each district Federal Reserve Bank, MUFG Bank Economic Research Office

Equipment Investment in the COVID-19 Era (Estimates)



Note: Y axis shows investment in equipment by item in the COVID-19 era. X axis shows weight of each item using estimates for real GDP
Source: Department of Commerce, MUFG Bank Economic Research Office

5. US Economy: Policy Response

- The Federal Reserve Board (FRB) announced a series of large-scale easing policies before maintaining its current policy for the most part. It seems there is still capacity for purchases as the balance of the FRB's purchases under the risk asset purchase programme it introduced is below 10% of its estimated upper purchase limit. In addition, discussions about new monetary policy measures are underway at the Federal Open Market Committee, such as "detailed forward guidance" and "upper limit or target for yields".
- The federal government decided upon USD 2.8 trillions' worth (from the first to fourth rounds; approximately 15% of GDP) of economic policies between March and April. The cash benefits paid to households (USD 1,200 per adult) and additional unemployment insurance (USD 600 per week) contributed significantly to the increase in households' disposable income from April. In addition, there was a total of USD525 billion in applications for the Paycheck Protection Program (PPP; loans and subsidies capped at 2.5 months of employee salaries) as of 8th August, which marked the deadline for applications. The PPP aimed to maintain labour at small and medium-sized companies and has contributed to underpinning business activities and labour.
- That being said, the additional unemployment insurance benefits came to a close at the end of July and it is thought there will be a negative impact once the effects of the PPP have worn off. If additional policies are delayed due to the conflict between the Republican and Democratic Parties in Congress, it will be important to bear in mind that this could put downward pressure on the US economy.

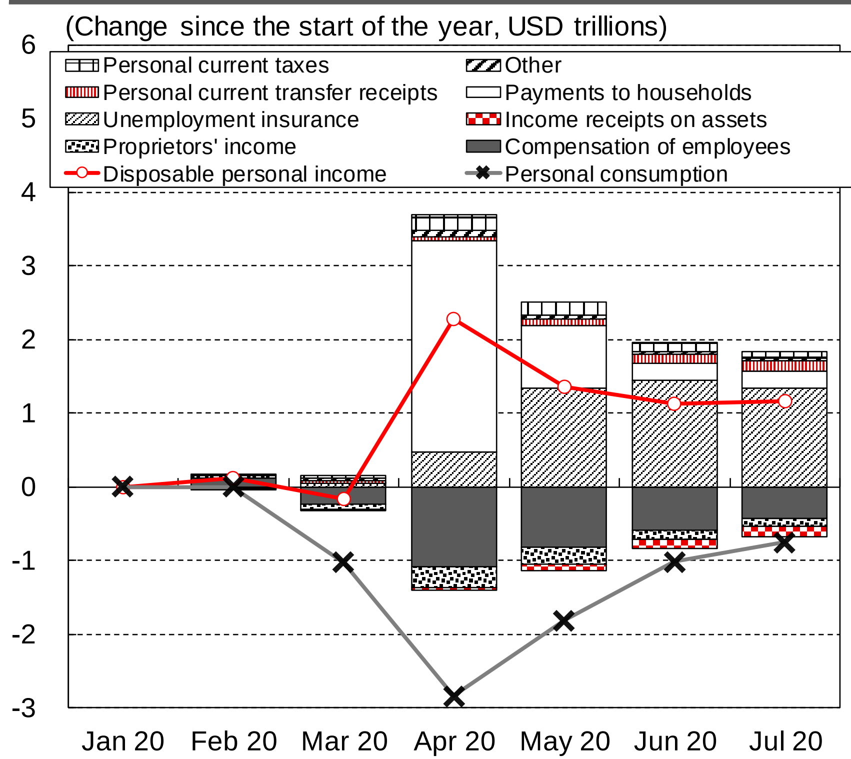
Main Points of Monetary Policy

FF rate cuts	Lowered the target range for the federal funds rate by 150bp in March, remained at 0.0% to 0.25% since then
Change framework	Seeks inflation average of 2% over time (27 Aug)
Quantitative easing	Increase Treasury securities and MBS by current pace at least
Risk asset purchasing	Establish 9 facilities for risk asset purchases in Mar and Apr with funding from Department of the Treasury

Name of program	Overview	Funding (USDbns)	Balance (USDbns)	Approx. upper purchase limit
1: CPFF	CP and ABCP purchases	10	8.6	100
2: PDCF	Securities firms may use discount rate	-	0.7	-
3: MMLF	Support for asset purchasing from MMF	10	10.8	100
4: PMCCF	Purchase of bond and loan issuance	50	44.5	750
5: SMCCF	Liquidity for corporate bonds	25		
6: TAFL	ABS (some CMBC and CLOs) purchases	10	10.8	100
7: PPPLF	Extend credit taking PPP loans as collateral	-	67.8	660
8: MSLP	Purchase loans to small & medium firms	75	38	600
9: MLF	Purchase states and districts' notes	35	16.1	500

Note: "Balance" as of 19 August. Some "upper limits" are estimates
Source: Federal Reserve Board, MUFG Bank Economic Research Office

Impact of Financial Policies on Private Income

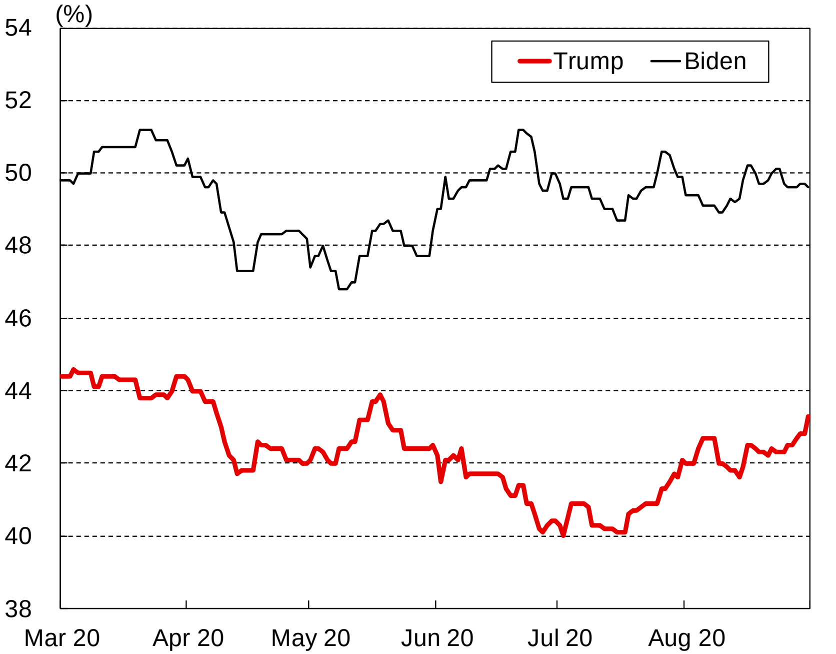


Note: 1. Published amounts are annualised and seasonally adjusted
2. "Personal current transfer receipts" does not include unemployment and payments to households
Source: Department of Commerce, MUFG Bank Economic Research Office

5. US Economy: Presidential Election

- Stock prices have recuperated somewhat from their sharp drop after the start of the COVID-19 pandemic and have recorded new highs. However, the unemployment rate exceeded 10% as of July and there is unlikely to be any drastic improvement before the presidential election. It is unclear if President Trump's response to COVID-19 and decision to prioritise restarting economic activities will gain support.
- Owing to the growing criticism of President Trump's response to COVID-19 and the protests over racial issues, a large gap developed between support for President Trump and Mr Biden, but President Trump is slowly closing that gap.
  - ✓ It appears the choice of Kamala Harris as the candidate for vice president was a safe option, yet the impact on the presidential election has been limited at present.
  - ✓ In terms of support for individual economic policies, such as tax regulations and restrictions, it is possible Trump has the upper hand.
- The outcome of the presidential election is still uncertain. It will be necessary to keep a close watch on the presidential debates, the economic situation, the spread of COVID-19 and the development of a vaccine amongst other factors which may affect the election.

Support for US Presidential Election Candidates



Source: Real Clear Politics, MUFG Bank Economic Research Office

Differences in Policy between President Trump and Mr Biden

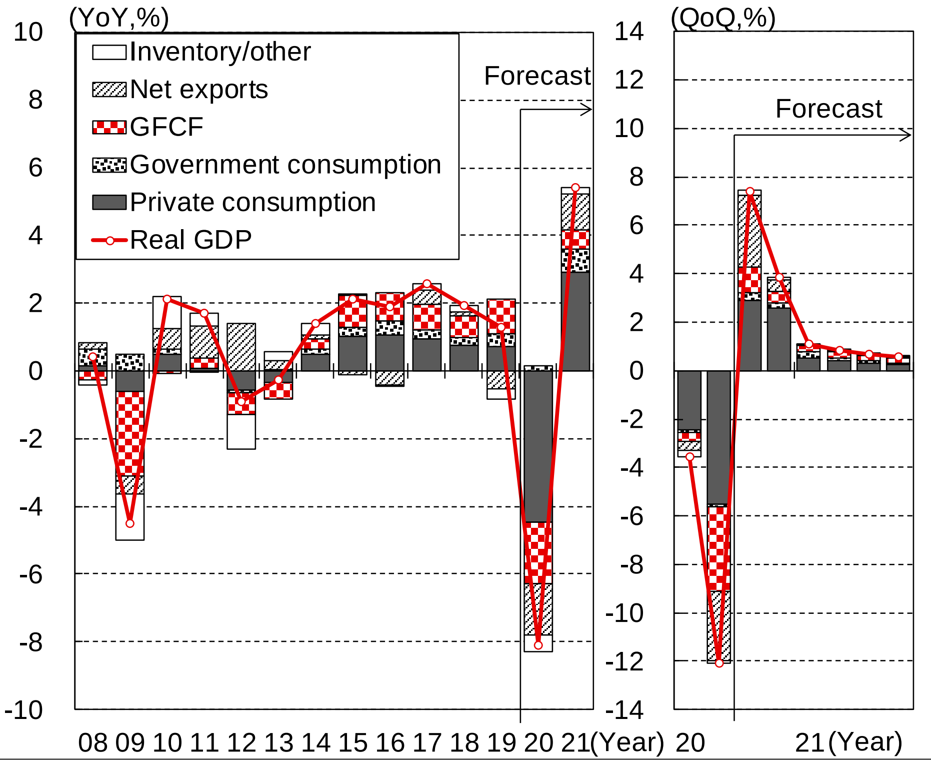
	Trump (Republican)	Biden (Democrat)
Taxes	・Possible additional tax cut (income taxes for middle-income bracket)	・Abolish Trump's tax cuts (return corporate tax to 28% from 21%) ・Increase taxation for large businesses
Investment in infrastructure	・Invest USD 1 trillion in infrastructure	・Invest USD 700 billion in infrastructure ・Invest USD 2 trillion in clean energy
Trade policy	・America First ・Critical of WTO ・Continue tariffs against China ・Demand China fulfills first stage of agreement (as of now)	・Cooperate with allies in policies against China (hardline stance against China) ・Trade policy to benefit workers ※Unclear about TPP and first stage of US-China trade agreement
Labour	・Increase jobs by 10 million in 10 months ・Write tax and trade policies that maintain US jobs	・Create 10 million jobs with investment in advanced technology, such as AI ・Raise federal minimum wage to USD15 per hour and improve workers' rights
Healthcare	・Abolish Obamacare ・Lower drug prices	・Lower age for those eligible for Medicare ・Lower drug prices
Regulations	・Strengthen regulations against large IT companies	・Strengthen regulations against large IT companies ・Strengthen Dodd-Frank Act

Source: Various news reports, MUFG Bank Economic Research Office

6. Eurozone Economy: Overview

- In the April-June quarter, Eurozone GDP growth shrank by a record 11.8% QoQ (-39.4% QoQ annualised) due to the spread of COVID-19. By country, Germany's GDP shrank by 9.7% QoQ, France's by 13.8% QoQ, and Italy's by 12.8% QoQ: double digit drops across the board due to a major fall in domestic and external demand.
- As economic activity restarts, some indicators are now improving, particularly real retail sales. In the short term, expansionary fiscal policies introduced by national governments are expected to bolster demand, resulting in a momentary rebound in the July-September quarter, but the pace of subsequent recovery is expected to be slow given ongoing consumer/corporate concern of a second wave.
- We expect to see a large real GDP contraction of 8.1% in 2020, followed by growth of 5.4% in 2021. However, the level of GDP will remain below the end-2019 level, and is not expected to recover to a pre-COVID level until approximately 2023.

Eurozone Real GDP Growth Forecast



Source: Eurostat, MUFG Bank Economic Research Office

Real GDP Growth Forecast for Major European Countries

(YoY,%) (YoY,%)

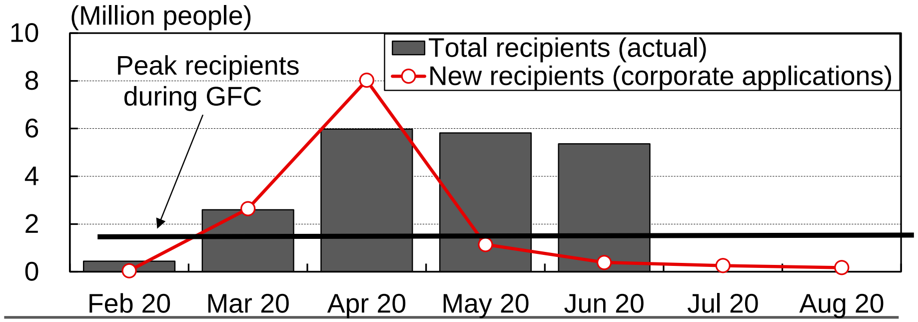
	2019			2020		2019	2020	2021
	Q2	Q3	Q4	Q1	Q1	(actual)	(forecast)	
Eurozone	0.2	0.3	0.0	-3.6	-11.8	1.3	-8.1	5.4
Germany	-0.5	0.3	0.0	-2.0	-9.7	0.6	-6.1	5.0
France	0.2	0.2	-0.2	-5.9	-13.8	1.5	-10.3	6.9
Italy	0.1	0.0	-0.2	-5.4	-12.8	0.3	-10.5	5.3
UK	-0.1	0.5	0.0	-2.2	-20.4	1.5	-11.8	7.6

Source: Eurostat, MUFG Bank Economic Research Office

6. Eurozone Economy: Labour Market and Household Consumption

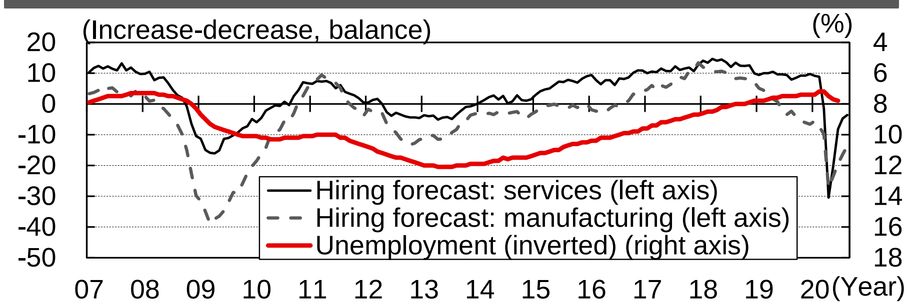
- Government policies to maintain employment have had some success: the unemployment rate for the Eurozone was 7.8% in July, up just 0.6% from February. The number of workers receiving short-time work subsidies under the German Kurzarbeit scheme has been falling since May (in terms of corporate applications). The restarting of economic activity means that the real employment environment may now be past its worst point.
- However, even after economic activity was restarted, survey measures of corporate hiring intentions remain below the breakeven point (of no change). Present measures to preserve employment look likely to be extended into 2021 or to be continued on a targeted basis for specific sectors. Nevertheless, given that Eurozone domestic demand is likely to take some time to recover, the medium-term fall in demand will inevitably result in an adjustment in the labour market, which in turn will hamper any recovery in consumption.
- Calculating the level of private consumption during the spread of coronavirus reveals that spending on services such as 'accommodation and food' and 'transport' has dropped considerably, and expenditure on goods (durable goods in particular) has only recovered slightly due to ongoing concerns over the state of the labour market. This means that by end-2020, the overall level of private consumption is likely to remain at least 5% below the end-2019 level, and we do not project a return to a pre-corona level until at least 2023.

German Recipients of Short-Time Work Subsidies



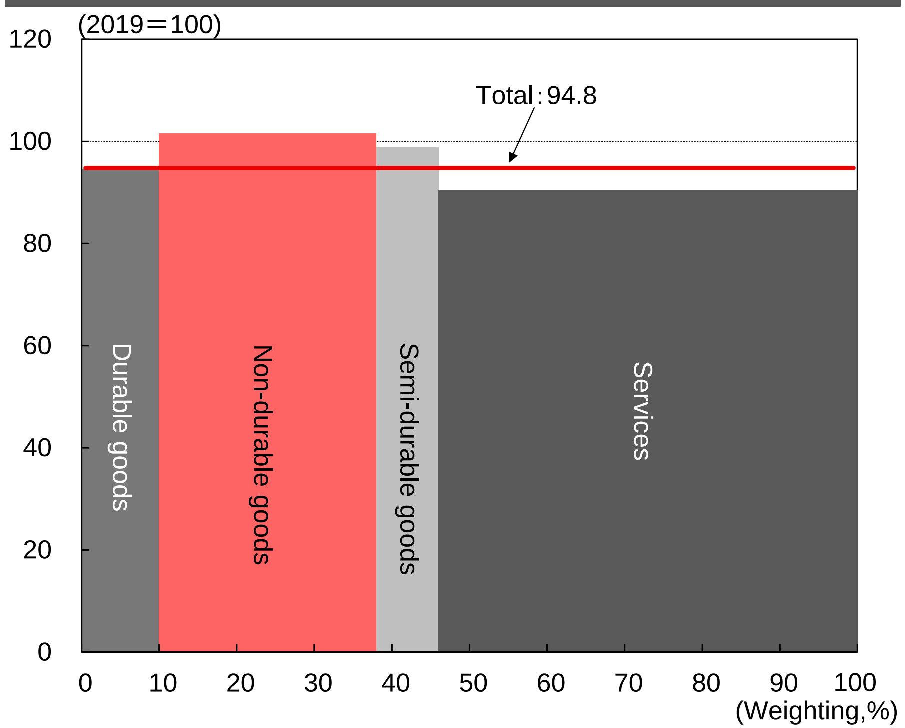
Source: Destatis, MUFG Bank Economic Research Office

Eurozone Hiring Forecasts by Industry and Unemployment



Source: Eurostat, MUFG Bank Economic Research Office

Eurozone Private Consumption Under COVID-19 (estimate)

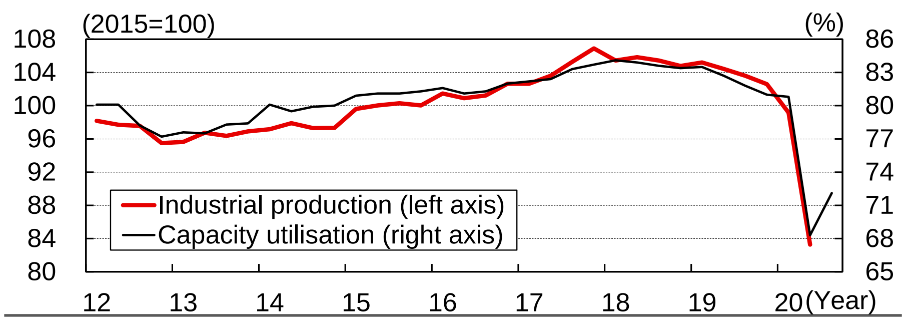


Note: Vertical axis is based on level of private consumption under COVID-19, horizontal axis is based on weighting of each item in private consumption component of real GDP.
Source: Eurostat, Insee, MUFG Bank Economic Research Office

6. Eurozone Economy: Capital Expenditure

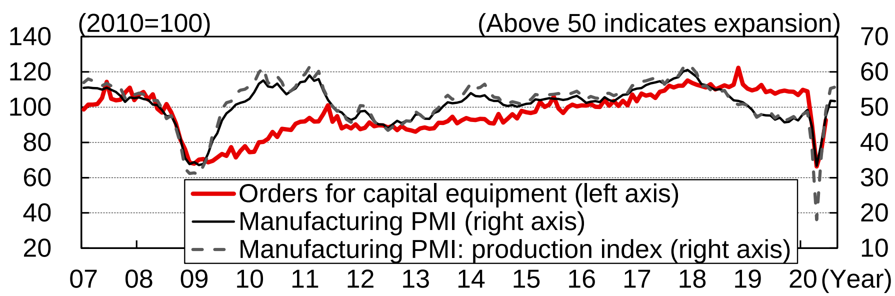
- Industrial production contracted sharply as measures to contain COVID-19 were implemented, and manufacturing capacity utilisation also dropped suddenly. With economic activity picking back up, manufacturing sentiment has now risen over the breakeven mark, but improvements in capacity utilisation and output have been small and remain far below previous levels.
- We expect stimulus policies introduced by national governments and pent-up demand to drive recovery in certain areas such as the automotive sector, albeit on a short term basis, putting output on track for recovery, but the pace of any rebound is likely to gradually slow once pent-up demand has been released.
- Weak recovery in demand for capital goods indicates that, amid increased concern over the potential for a second wave of infection, future uncertainty is likely to weigh on capital expenditure. We therefore forecast end-2020 capital expenditure to be close to 10% lower than the end-2019 level.

Eurozone Industrial Production and Capacity Utilisation



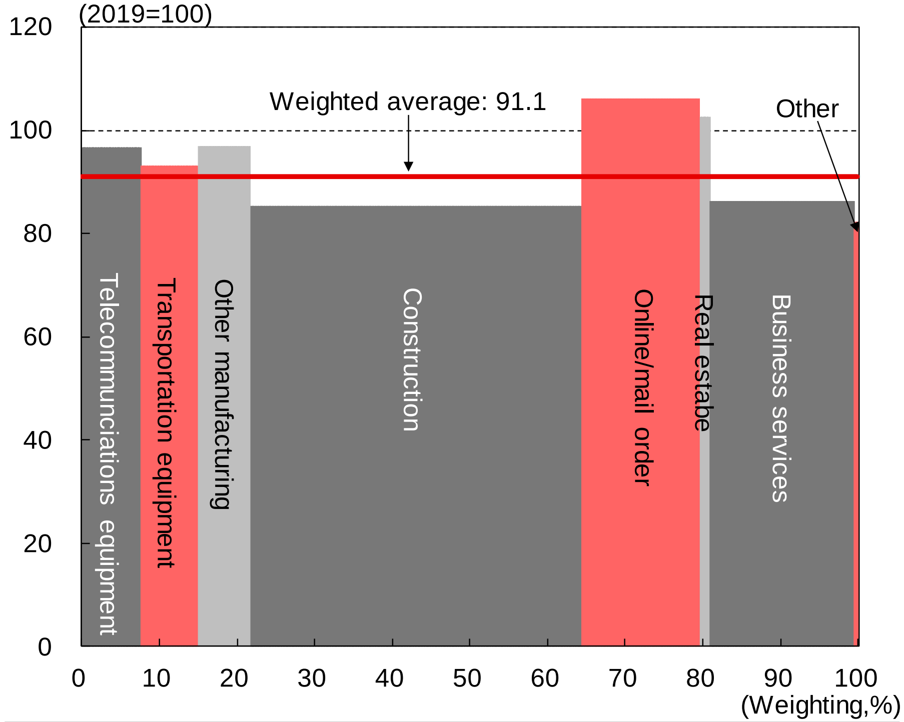
Source: National statistics, MUFG Bank Economic Research Office

Manufacturing PMI, Production Index, Orders for Capital Equipment



Source: ECB, IHS Markit, MUFG Bank Economic Research Office

Eurozone Gross Fixed Capital Formation Under COVID-19 (Estimate)



Note: Vertical axis is based on level of GFCF under COVID-19, horizontal axis is based on weighting of each item in GFCF component of GDP.
Source: Eurostat, Insee, MUFG Bank Economic Research Office

6. Eurozone Economy: Policy Response

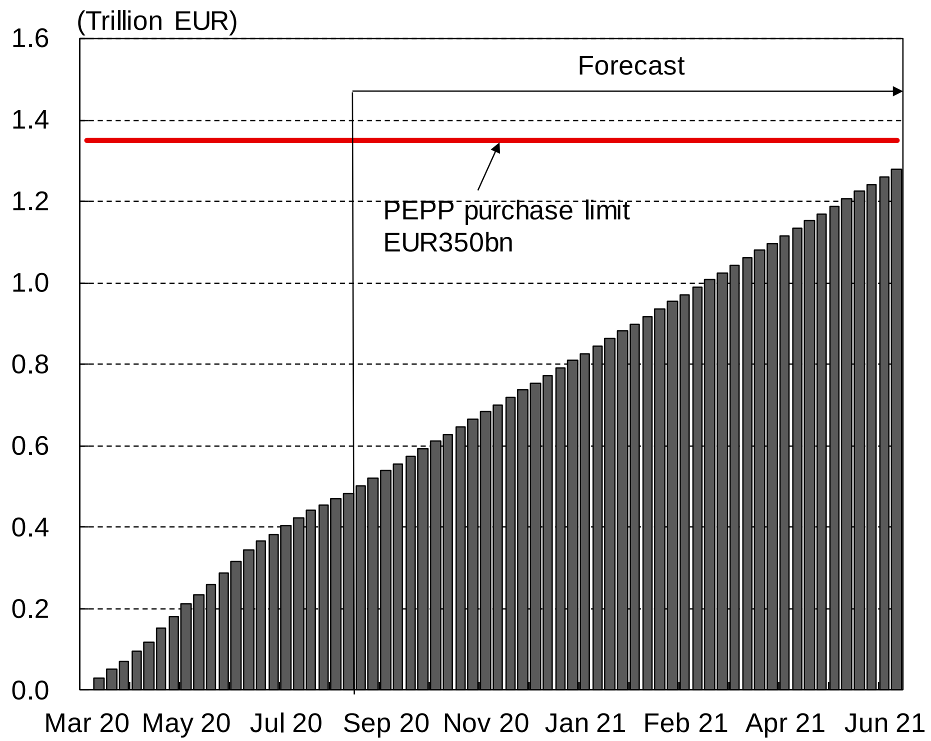
- From March, national governments moved quickly to introduce large-scale economic policies to support employment and household incomes. Since May, governments introduced time-limited policies to stimulate demand, such as VAT cuts and car scrappage schemes, with a focus on maintaining employment in specific industries. An EU-wide agreement was reached on the establishment of the EU recovery fund to be distributed from 2021-2023, and national governments look set to uphold a expansionary fiscal policy.
- Since March, the ECB has introduced large-scale additional easing measures, including 1) increasing the asset purchase programme (APP), 2) the introduction of a 1.35 trillion euro Pandemic Emergency Purchase Programme (PEPP), 3) changes to TLTRO3. These measures have reduced the cost of corporate funding and helped to settle unrest in financial markets.
- Looking forward, we forecast that national governments will continue to adopt a proactive approach to fiscal policy, and the ECB to maintain loose monetary policy, meaning that the economy will be supported by both fiscal and monetary policy. Even if PEPP purchases continue at their current rate, they are unlikely to reach the upper limit, which is expected to remain the same.

Overview of EU Recovery Fund

Total	EUR750bn (EUR390bn grants, EUR360bn loans)
Method of distribution	■2021-2022 portion to be distributed according on past employment rate and GDP per capita ■2023 portion to be distributed based on extent that real GDP drops in 2020-2021 (to be calculated on 30 June 2020)
Timescale	To be distributed over 2021-2023
Funding	Funded via the financial market by issuing AAA joint EU bonds
Repayment	■Repaid when bonds are redeemed in 2058 ■ Funds to be raised by a tax on plastic waste, emissions taxes, and taxes (eg. digital tax) on large corporations
Funding allocation	■EUR672.5bn 'Recovery and Resilience facility' to support member states EUR312.5bn in loans to member states EUR360bn in loans to member states ■EUR7.1bn to strengthen private investment: EUR2.1bn to upgrade strategic investment (Invest EU) EUR5bn to fund research (Horizon Europe)
Conditions	Member states must submit proposals for raising potential growth, job creation, strengthening economic and societal resilience, and green and digital transitions, to be approved by committee

Source: European Commission, MUFG Bank Economic Research Office

ECB Asset Purchases under PEPP



Note: Forecast is based on the assumption current weekly pace of asset purchases is maintained
Source: ECB, MUFG Bank Economic Research Office

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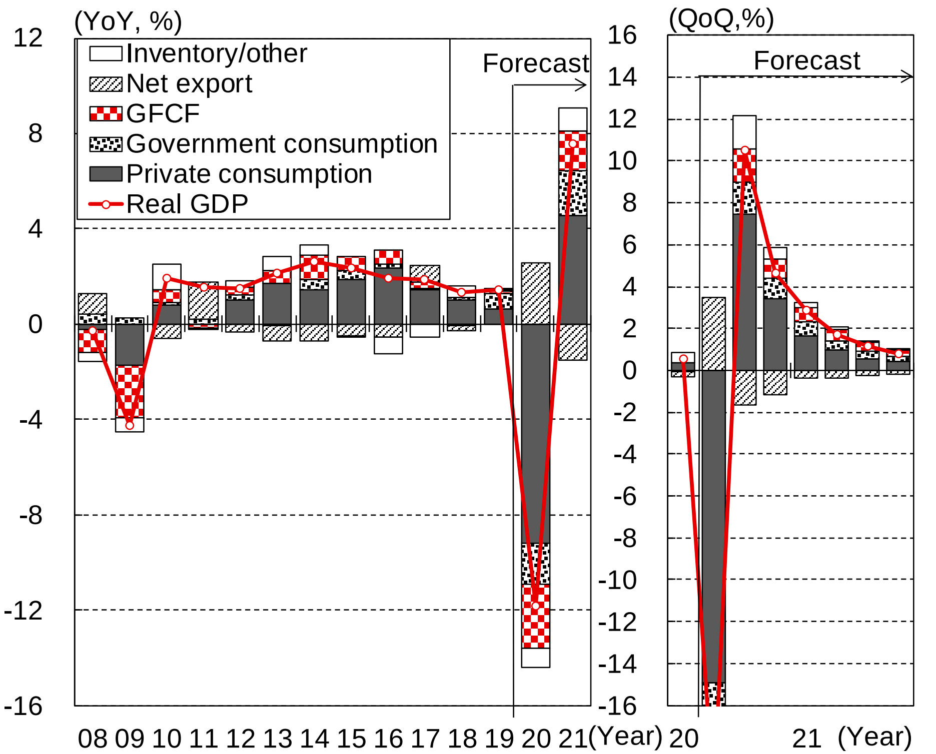
6. UK Economy: Overview

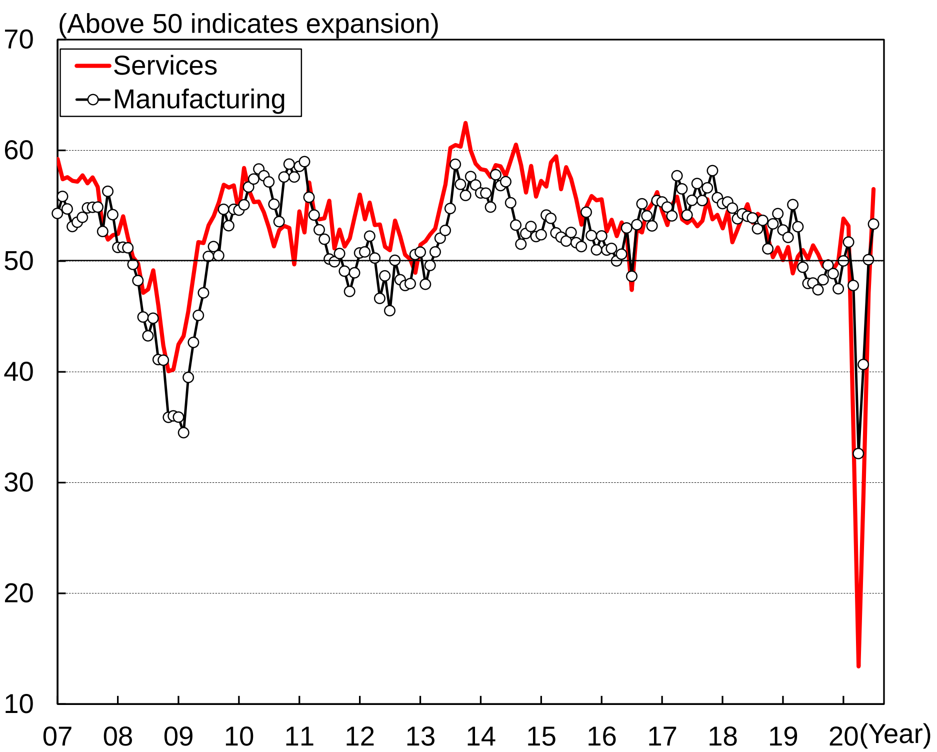
- UK real GDP shrank by 20.4% in the April-June quarter, a huge contraction even compared to other major European countries. Both consumption and investment had dropped considerably due to the length of time the UK spent in lockdown to contain COVID-19, and the fact that restrictions were eased later than in other European countries.
- The UK government started gradually easing restrictions from May, and the majority of businesses were allowed to reopen in July, with measures in place to contain the spread of the virus. After hitting record lows in April, UK service and manufacturing PMIs are now above the breakeven point of 50. However, the UK government has been extremely cautious in easing lockdown restrictions, and economic activity remains far below normal levels.
- Despite monetary and fiscal policy support, the UK economy still has the coronavirus crisis and Brexit to deal with, and uncertainty over employment and the business' operating environment is set to persist, meaning that recovery is likely to take time. We forecast UK real GDP to contract by 11.8% in 2020, with growth of 7.6% in 2021. However, it is likely to take several years for GDP to return to a pre-COVID level.

UK Real GDP Growth Forecast



Source: ONS, MUFG Bank Economic Research Office

UK PMIs by Sector

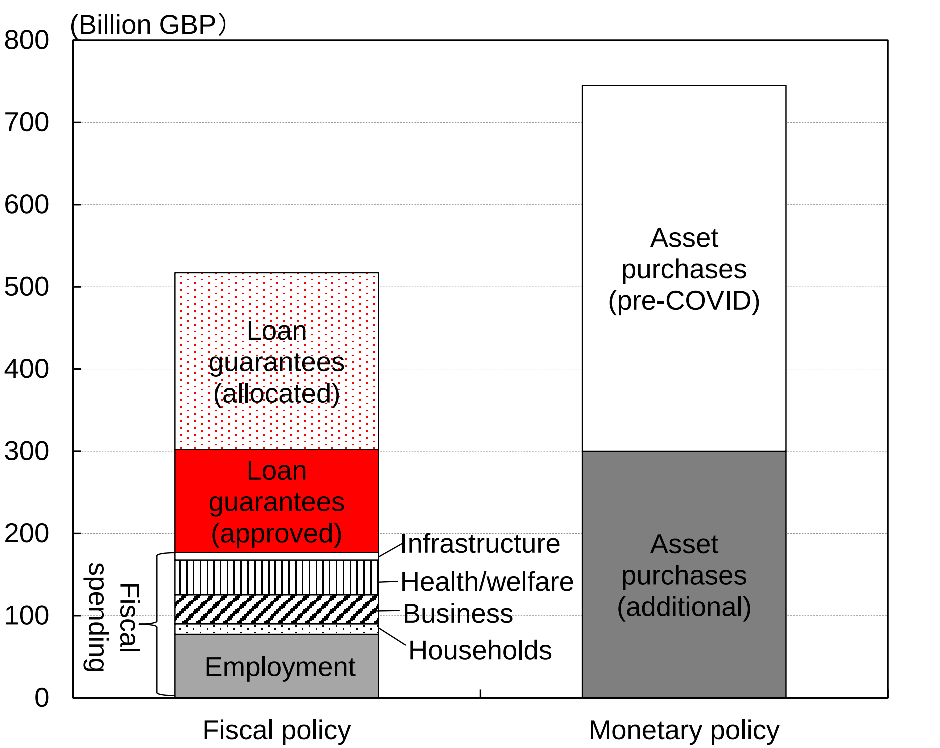


Source: IHS Markit, MUFG Bank Economic Research Office

6. UK Economy: Policy Response and Employment

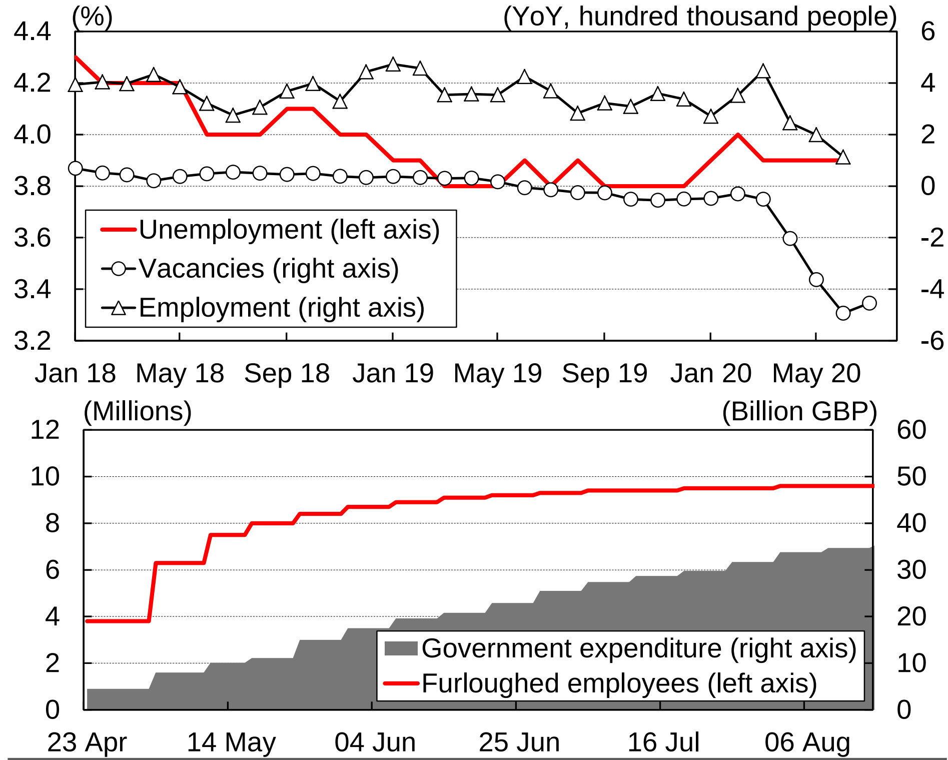
- The UK government has announced around GBP 175 billion in fiscal stimulus (equivalent to 8% of GDP, 4x post GFC), with a particular focus on employment support, and GBP 300 billion (equivalent to 15% of GDP) has been allocated to support corporate financing via CP purchases and government-backed loans. These policies have proven to be effective, especially those aimed at maintaining employment: a total of 9.6 million jobs have been furloughed under the coronavirus job retention scheme, and unemployment remained low at 3.9% in the April-June quarter.
- Growth in the workforce is still slowing month-on-month, and job vacancies have also dropped considerably compared to 2019. Government contributions to furloughed workers' wages will be cut from September, and the scheme will end on 31 October.
- The UK government is prepared to keep providing large-scale fiscal and financial support: in July for example, it announced policies including the Job Retention Bonus to encourage businesses to keep furloughed workers employed. The government and BoE are likely to continue to work in tandem to support the economy, with the BoE set to continue making large scale bond purchases. However, based on the feeble return of domestic demand, a rise in unemployment is inevitable, and this is likely to be a drag on any recovery in consumption.

Scale of UK Monetary and Fiscal Policy Response to COVID-19



Source: UK Government, BoE, MUFG Bank Economic Research Office

UK Labour Market and Furlough Scheme



Source: ONS, MUFG Bank Economic Research Office

6. UK Economy: Brexit

- On Brexit, the UK and the EU are currently in talks, with both parties working under the assumption that the transition period will not be extended beyond its current end date: 31 December 2020.
- At present, there remain large differences of opinion between the two sides on various issues including level playing field provisions, the judiciary, and fisheries, making it difficult to conclude a comprehensive trade deal by the end of the year. Given that both the UK and the EU are now focused on recovery from the economic impact of coronavirus, and the amount of time left for businesses to prepare for Brexit, we may well see a last minute push for a deal to avoid placing additional pressure on the economy.
- We therefore expect that both sides will seek to mitigate the economic shock using a combination of transitional measures, and a limited trade deal covering key sectors (gradually switching to new rules, whilst keeping EU rules for sectors where negotiations remain underway), thus avoiding a 'no trade deal' Brexit.
- Nevertheless, barriers to EU-UK business will inevitably increase, cross-border sales and investment are likely to suffer as a result.

UK-EU Negotiation Schedule and Brexit Scenarios

【Key dates】

Week of 29 Jun: Chief negotiators/sub-committee
Week of 6 Jul: Chief negotiators/negotiation teams/sub-committee
Week of 13 Jul: Chief negotiators/negotiation teams/sub-committee
Week of 20 Jul: 5th round of negotiations
Week of 27 Jul: Chief negotiators/negotiation teams/sub-committee
Week of 17 Aug: 6th round of negotiations
Week of 7 Sep: 7th round of negotiations

15-16 Oct EU Summit
31 Oct EU deadline for negotiations
26 Nov European Council meeting
→De facto deadline to ratify a trade deal by end-2020
10-11 Dec EU Summit
→De facto deadline for extending transition period
31 Dec End of transition period

【Scenario】

31 Dec 2020	Deal or no deal?	Comprehensive trade deal (10%)		Limited trade deal (50%)		No trade deal (40%)	
31 Dec 2020	Transition period	Partial extension (5%)	End (5%)	Partial extension (30%)	End (20%)	Extend (20%)	End (20%)
From 1 Jan 2020	New trade agreement	Take effect [wide scope] (with transitional measures)	Take effect [wide scope]	Take effect [limited scope] (with transitional measures)	Take effect [limited scope]	Further negotiations	WTO rules 'No trade deal' Brexit
	Unresolved areas	WTO rules/Further negotiations [limited scope]	WTO rules/Further negotiations [limited scope]	WTO rules or Further negotiations [wide scope]	WTO rules or Further negotiations [wide scope]		

Notes: Percentages show MUFG Economic Research Office view of likelihood of each scenario's occurrence.
Source: Various sources, MUFG Bank Economic Research Office

7. Asian and the Australian Economies: Overview

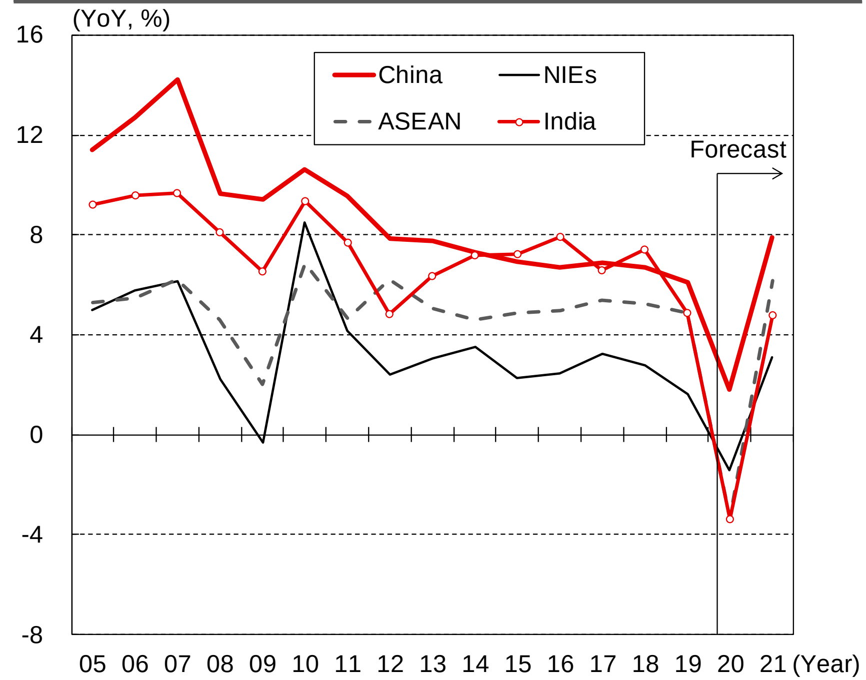
- China's real GDP growth rate for the April-June quarter was 3.2% YoY: a swift recovery from the previous quarter (-6.8% YoY) due to the restarting of economic activities. Looking ahead, it appears the corporate sector in particular will remain firm owing to the impact of government policies and, as such, China's recovery is forecast to be faster than those of developed countries. The outlook for GDP growth in 2020 is 1.8% YoY and 2021 is 7.9% YoY.
- The real GDP growth rate of ASEAN and NIEs for the April-June quarter was -8.7% YoY and -4.1% YoY respectively, both recording significant, negative growth owing to the strict public health measures imposed in response to the spread of COVID-19. With the exception of some countries, the spread of infection is dying down and it appears economies will recover gradually as economic activities are restarted. Nevertheless, the pace of recovery will remain slow. The growth rate in ASEAN and NIEs for 2020 is forecast at -3.3% YoY and -1.4% YoY, and for 2021 is predicted to be 6.2% YoY and 3.1% YoY respectively.
- Australia's real GDP growth rate for the April-June quarter is forecast to worsen markedly owing to various economic activities. Looking ahead, while the economy will recover gradually, the impact from COVID-19 on the first half of the year was large, and the growth rate is forecast to be -4.5% YoY in 2020 and 3.2% YoY in 2021.

Outlook for Asian and the Australian Economies

	Real GDP growth rate (%)			Consumer Price Index (%)		
	2019 (Actual)	2020 (Forecast)	2021 (Forecast)	2019 (Actual)	2020 (Forecast)	2021 (Forecast)
Asia	5.1	- 0.4	6.5	3.0	2.7	2.4
China	6.1	1.8	7.9	2.9	2.7	2.0
India (FY basis)	4.2	- 4.7	6.0	4.8	4.6	4.1
NIEs	1.7	- 1.4	3.1	0.7	0.4	0.9
South Korea	2.0	- 0.1	3.0	0.4	0.5	1.0
Taiwan	2.7	0.3	2.5	0.6	0.0	0.5
Hong Kong	- 1.2	- 6.7	3.3	2.9	1.7	2.3
Singapore	0.7	- 6.1	4.8	0.6	- 0.3	0.6
ASEAN 5	4.9	- 3.3	6.2	2.1	1.4	2.3
Indonesia	5.0	- 1.8	5.6	2.8	2.1	2.5
Thailand	2.4	- 7.3	4.8	0.7	- 1.0	1.2
Malaysia	4.3	- 5.9	7.7	0.7	- 1.2	1.4
The Philippines	6.0	- 6.3	7.2	2.5	2.5	2.7
Vietnam	7.0	2.1	7.5	2.8	4.0	3.5
Australia	1.8	- 4.5	3.2	1.6	0.4	1.3

Note: "Asia" is the total of 11 countries and regions
Source: National statistics of each country, MUFG Bank Economic Research Office

Real GDP in Major Countries and Regions in Asia



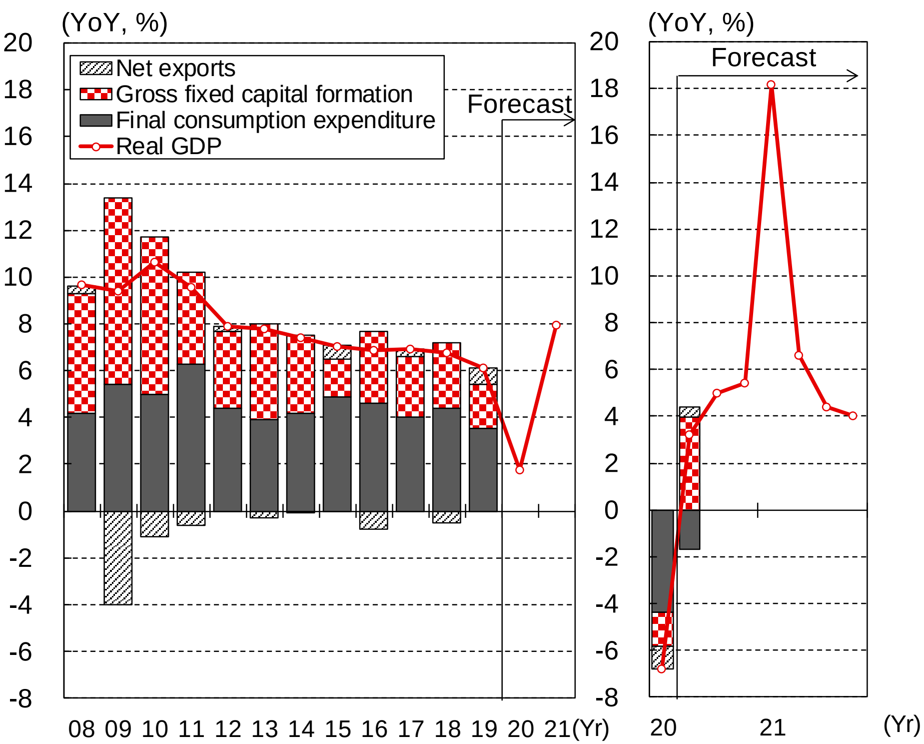
Source: National statistics of each country, MUFG Bank Economic Research Office

7. Asian and the Australian Economies: China – Overview and Investment

- China's real GDP growth rate for the April-June quarter was 3.2% YoY. The number of COVID-19 cases have been brought under control for the most part domestically so it was possible for restrictions on movement to be eased and there was a government-led restarting of production, which led to a sharp recovery of the Chinese economy from the previous quarter (-6.8% YoY).
- A breakdown by demand component shows investment is improving swiftly at present, particularly investment in infrastructure and real estate. At the National People's Congress in May, the government decided to expand its framework for issuing special local government bonds, which are used to fund investment in infrastructure (RMB 3.75 trillion in 2020, an increase of RMB 1.6 trillion from the previous year), and it will step up its "new infrastructure investment". Taking this into account, investment is forecast to remain firm.

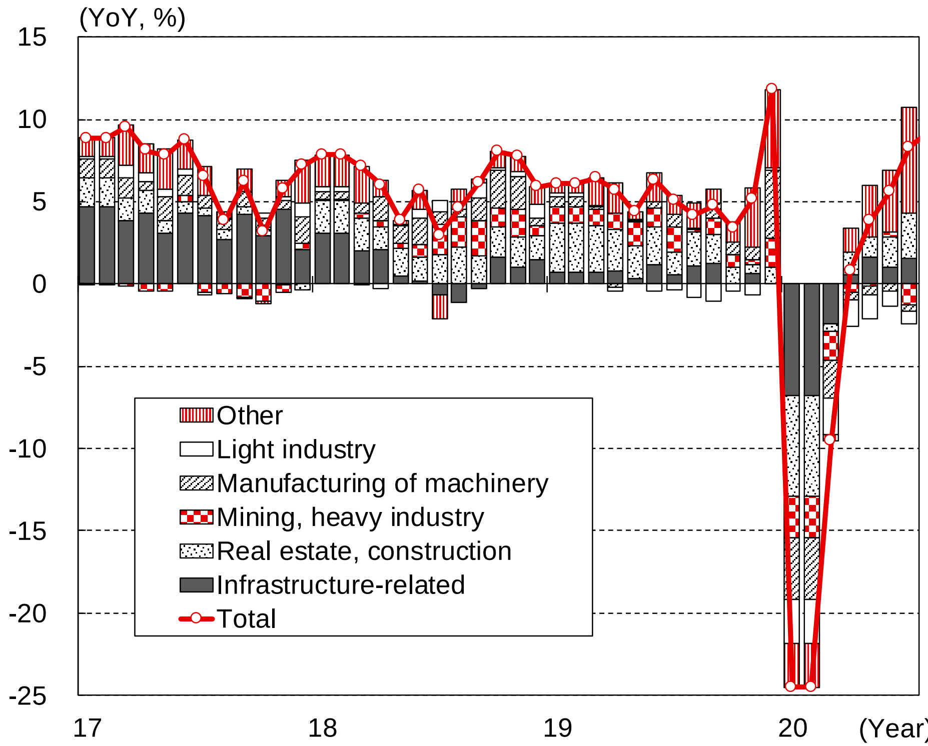
  "New investment infrastructure" is comprised of 3 fields: information infrastructure (5G, IoT, AI), fusion infrastructure (a shift away from conventional technology using internet and big data) and innovation infrastructure (high-tech public infrastructure that supports scientific research).

China's Real GDP Growth Rate



Source: National Bureau of Statistics, MUFG Bank Economic Research Office

China's Fixed Asset Investment



Note: "Infrastructure-related" covers transport, storage, postal services, water conservancy, environment and utility management. New infrastructure investment is not just contained within "infrastructure-related", but is likely included in other items too

Source: National Bureau of Statistics of China, MUFG Bank Economic Research Office

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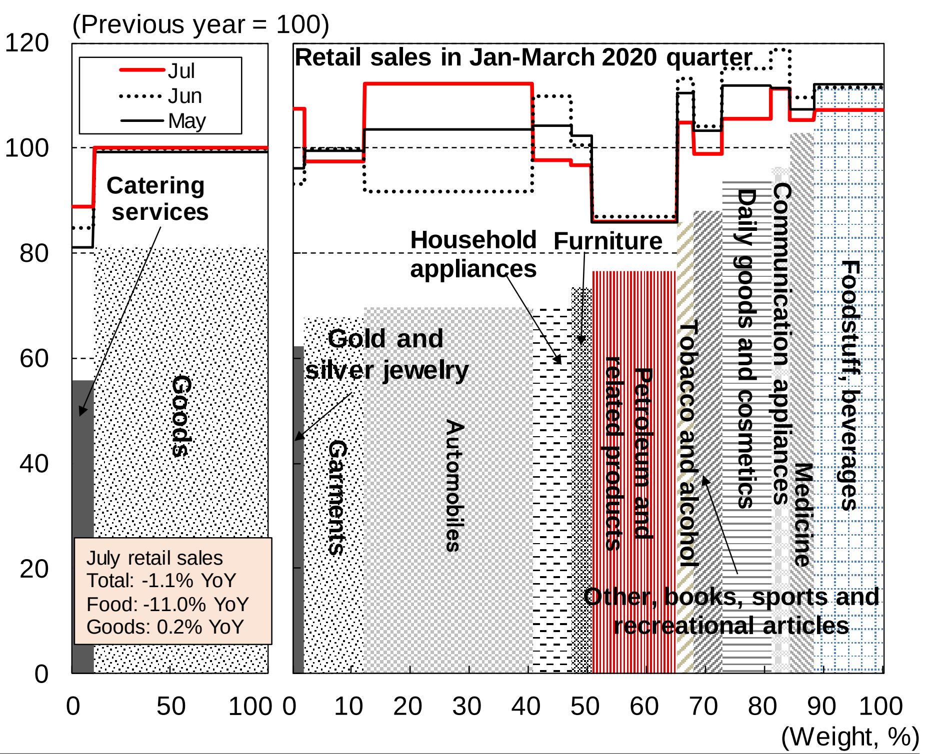
7. Asian and the Australian Economies: China – Private Consumption & Exports

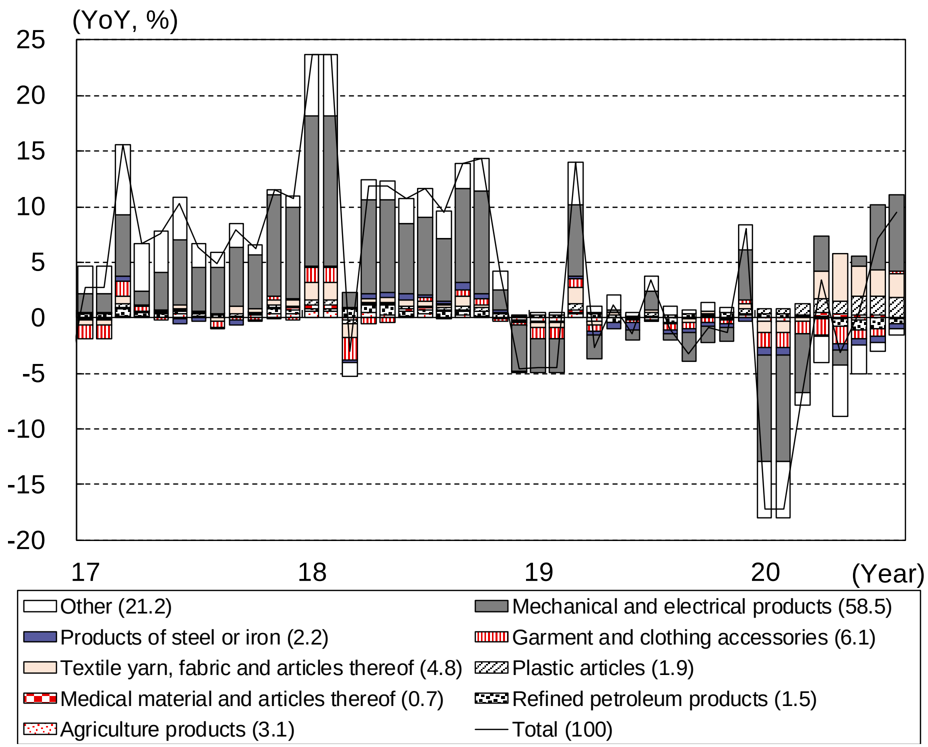
- Although retail sales continue to recover as restrictions on movement are eased, restaurant sales are slow to pick up and retail sales are still lower than last year. Looking ahead, it appears the pace of recovery of private consumption will remain gradual, particularly service-related spending, amid simmering concerns about another rise in COVID-19 cases.
- Exports show positive year-on-year growth at present. While the rise in COVID-19 cases globally is putting downward pressure on exports, there was a positive contribution by exports of “textile yard, fabric and articles thereof”, such as masks, and “mechanical and electrical products” including laptops, for which demand is rising as more people work from home. However, cases of infection are increasing again in several countries and regions, and it seems overseas economies will take time to recover to their level of activity experienced before the COVID-19 pandemic. Taking this into account, along with the rise in tension between the US and China, the severe situation surrounding exports is forecast to continue until 2021.

Breakdown of China’s Retail Sales by Item



Note: 1. The width of each item corresponds to their weight of as a percentage of sales in 2019.
2. The chart on the right is a breakdown of the sales of goods by item by business (with annual sales of RMB 5 million and over) that publish a sales breakdown
Source: National Bureau of Statistics of China, MUFG Bank Economic Research Office

Breakdown of China’s Exports by Item

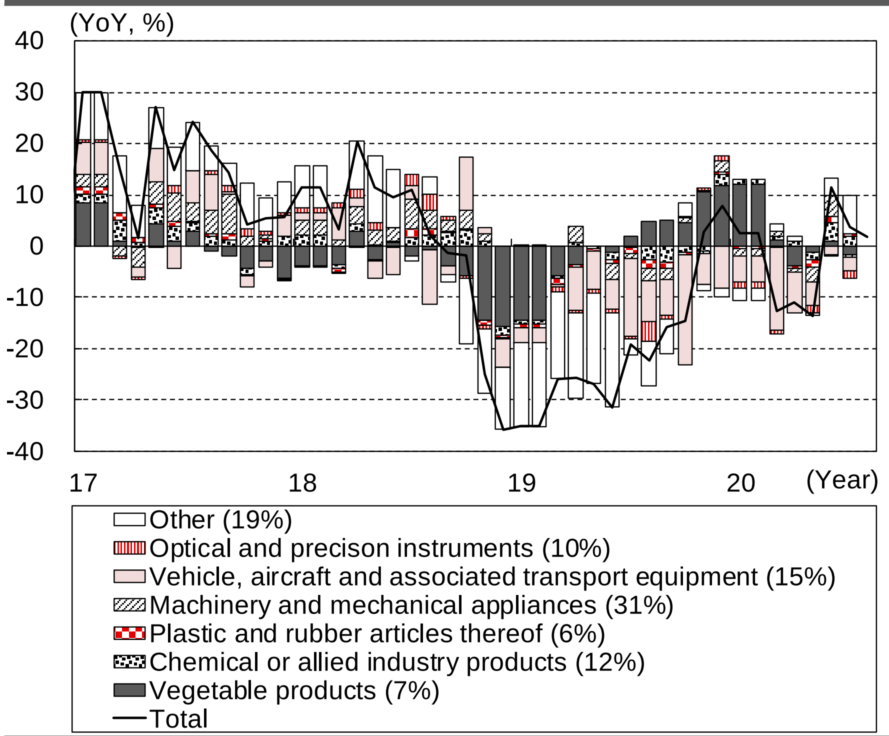


Note: 1. In order to smooth the irregularities caused by the lunar new year, figures for January and February are an average of the two months
2. The numbers in brackets in the chart denote the weight of each item as a percentage of the 2019 total
Source: General Administration of Customs, MUFG Bank Economic Research Office

7. Asian and the Australian Economies: China – Conflict between US and China

- The amount imported by China from the US between January and July was less than the previous year owing to the effects of the COVID-19 pandemic. China and the US agreed to continue with the implementation of the first stage of the trade agreement at a ministerial meeting on 24th August.
- That being said, the conflict between the US and China is not limited to trade issues; at the start of 2020, the conflict expanded further to encompass the responsibility for the spread of the COVD-19 virus, issues related to Hong Kong and the South China Sea and prohibitions on trade with specific Chinese corporations. More and more, the US government and Congress is enacting hard-line policies against China and China is resisting US measures.
- The US has drawn up tariffs, various regulations and measures prohibiting trade directed at China within the field of digital and IT technology. It will be important to keep an eye on the impact such actions have on the Chinese economy and the Chinese government's response in the medium term and not just the short term (especially in the field of digital and IT technology). It is also important to pay attention to any changes in US policy against China from unforeseen event risks and the result of the US presidential election.

China's Imports from the US



Note: 1. In order to smooth the irregularities caused by the lunar new year, figures for January and February are an average of the two months
2. The numbers in brackets in the chart denote the weight of each item as a percentage of the 2019 total

Source: General Administration of Customs, MUFG Bank Economic Research Office

Real GDP in Major Countries and Regions in Asia

Month	Overview
May	・Both US and Chinese governments confirm progress with first stage of trade agreement ・US tightens import ban against Huawei ・Congress passes Uighur Human Rights Bill (signed by President Trump in June)
June	・China passes Hong Kong National Security Law
July	・US places sanctions and restrictions on 4 individuals and 1 group in violation of Uighur human rights ⇒ China places sanctions on 4 US lawmakers ・US Secretary of State Mike Pompeo formally rejects Chinese maritime claims in South China Sea ⇒ China strongly opposes the statement ・US Congress passes Hong Kong Autonomy Act which includes financial sanctions ⇒ China says it will take retaliatory measures against US individuals and groups ・US government forbids government agencies from using products from 5 Chinese companies including Huawei ・US orders China close its consulate in Houston ⇒ China orders closure of US consulate in Chengdu
August	・US places sanctions on 11 individuals including Chief Executive Carrie Lam ⇒ China sanctions 11 members of US Congress ・US Health Secretary visits Taiwan ⇒ China strongly opposes the visit ・US and China hold discussions and confirm continued progress in first stage of US-China trade deal

Source: Various news reports, MUFG Bank Economic Research Office

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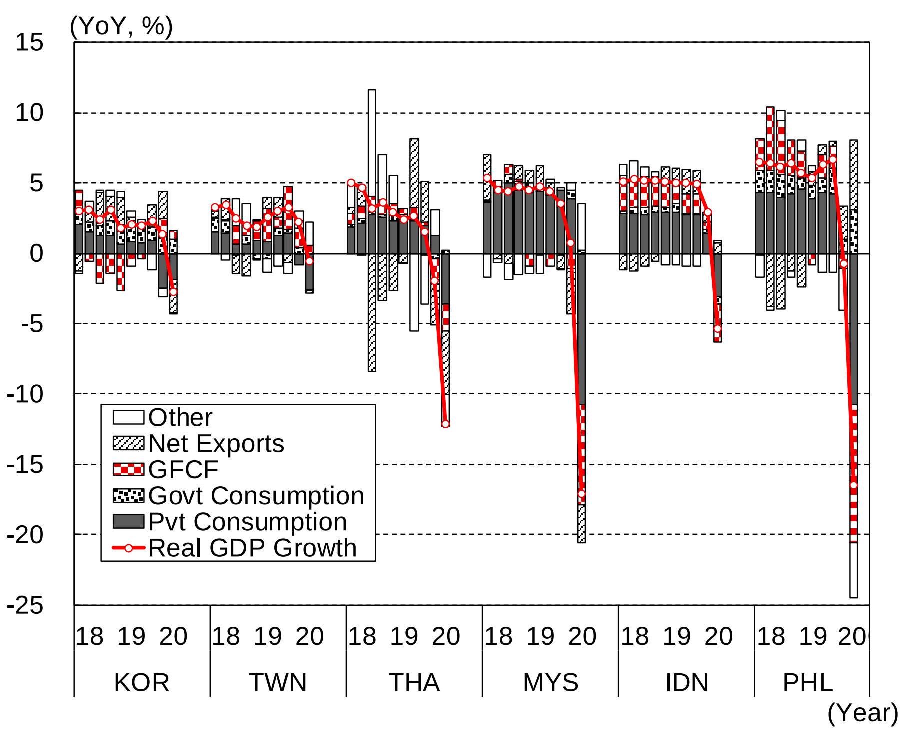
7. Asian and the Australian Economies: Other Asian Economies – Outline, Private Consumption and Exports

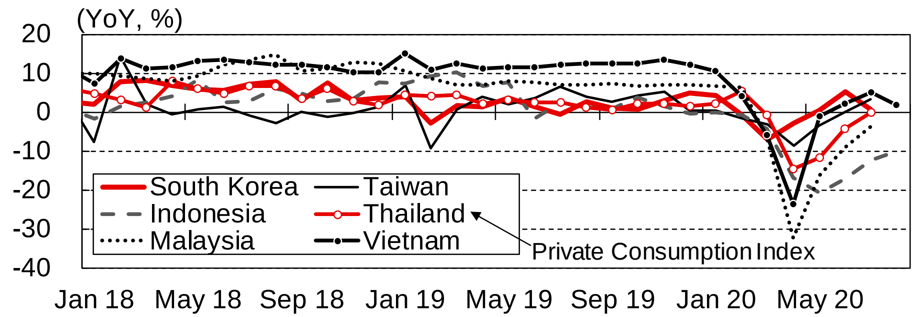
- Many countries and regions in Asia (excluding China) recorded negative real GDP growth rates in the April-June quarter due to a large, unavoidable decrease in domestic demand, such as private consumption and investment, as strict public measures were enacted in response to the spread of COVID-19.
- However, the spread of infection has calmed in all but some countries and the public health measures that restricted the economy have started to be eased. As a result, it appears retail sales hit their lowest point in April and May and have bottomed out in several countries and regions, and the overall trend of recovery is forecast to continue in the future. Nevertheless, taking into account the risk of another spread of infection and the resulting self-imposed restriction on activities by consumers, the pace of recovery will have to be gradual and it is predicted that private consumption will take a certain amount of time to return to its pre-COVID-19 levels.
- Exports of major countries and regions in Asia show that while exports to China are increasing at present as the Chinese economy recovers, growth of exports to other regions is still negative. Looking ahead, while it is thought that exports to developed countries will pick up little by little, it is very likely this will take time and even if exports to China remain robust, the recovery of total exports is forecast to be gradual.

Real GDP Growth Rates in Major Asian Economies

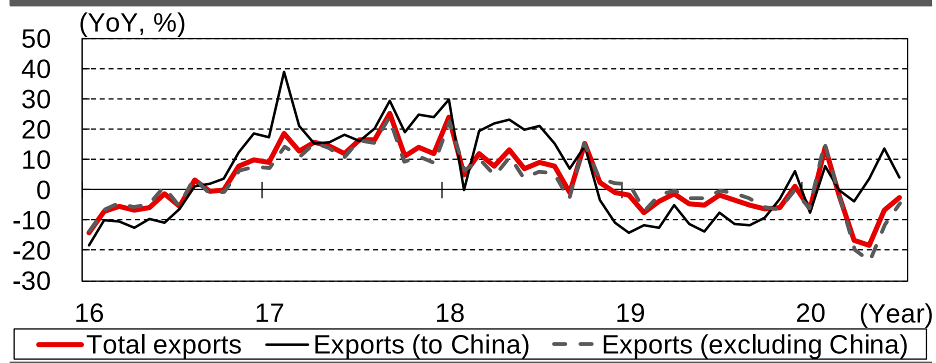


Source: National statistics of each country or region, MUFG Bank Economic Research Office

Retail Sales in Major Asian Economies



Exports in Major Asian Economies

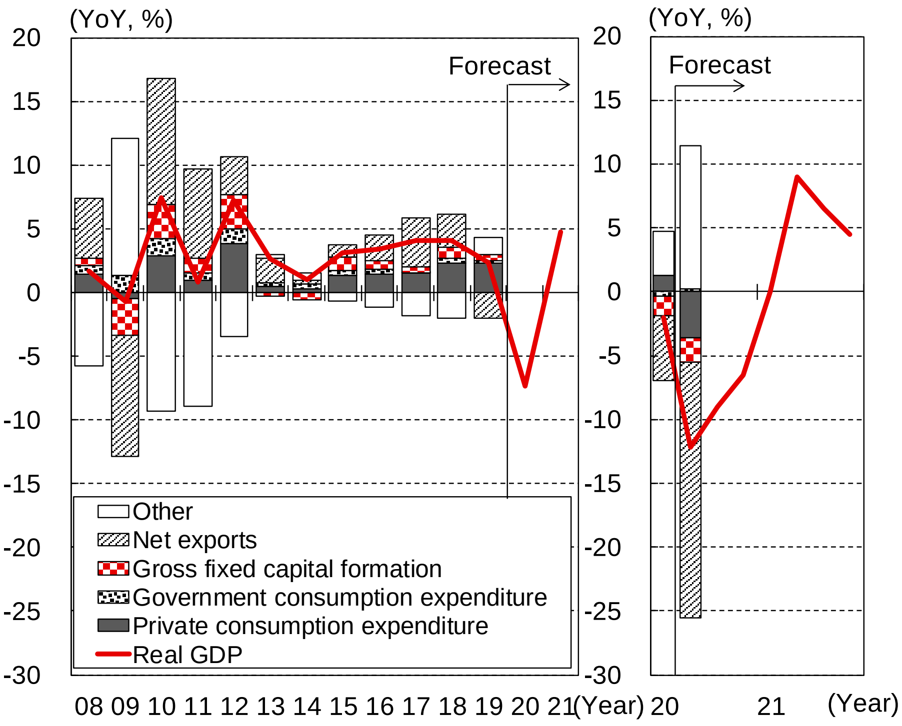


Note: Major Asian economies is a total of South Korea, Taiwan, Thailand, Malaysia, Vietnam
Source: National statistics of each country or region, MUFG Bank Economic Research Office

7. Asian and the Australian Economies: Other Asian Economies – Thailand

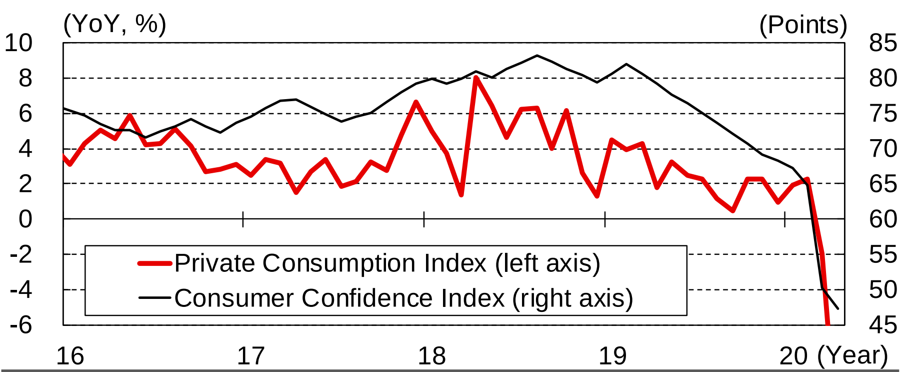
- Thailand's real GDP growth rate for the April-June quarter was -12.2% YoY: the first time it recorded negative growth of double digits in 22 years when the Asian Financial Crisis occurred. Growth of private consumption turned negative, falling 6.6% YoY due to COVID-19, and exports hit new lows of -28.3% YoY, putting downward pressure on overall growth.
- Thailand was successful in suppressing COVID-19 fairly early on and is starting to ease its various restrictive measures in stages. As a result, growth of private consumption was -3.1% YoY in June and shows signs of recovery. On the other hand, exports fell dramatically by 24.6% YoY in the same month and foreign tourists remained at zero in April for the third consecutive month as COVID-19 continues to spread worldwide.
- Looking ahead, with various restrictions on movement being lifted, the economy is on track for a slow recovery centred on domestic demand, yet the spread of infection does not appear to be subsiding. Therefore, the difficult situation for major industries, such as tourism, is expected to continue. The real GDP growth rate is forecast at -7.3% YoY in 2020 – the largest deceleration of the major ASEAN countries – and will then hit 4.8% YoY in 2021, but is not forecast to recover to the same level it was at in 2019.

Thailand's Real GDP



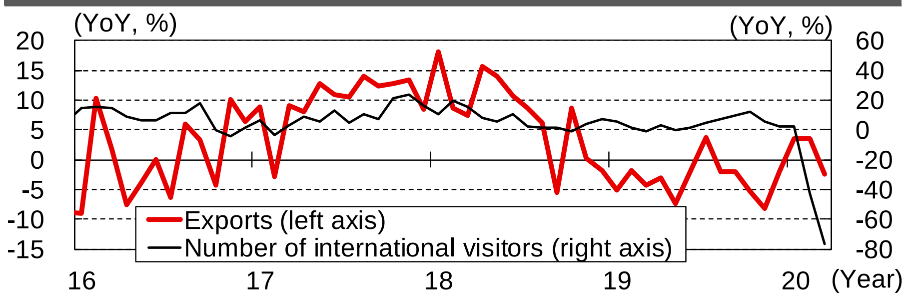
Source: Office of the National Economic and Social Development Board, MUFG Economic Research Office

Thailand's Private Consumption and Consumer Confidence Index



Source: Bank of Thailand, MUFG Bank Economic Research Office

Thailand's Tourists and Number of International Visitors

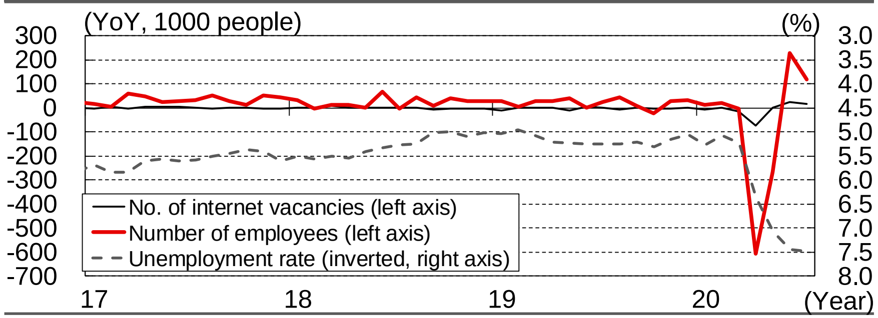


Source: Ministry of Commerce of Thailand, Ministry of Tourism and Sport, MUFG Bank Economic Research Office

7. Asian and the Australian Economies: Australia

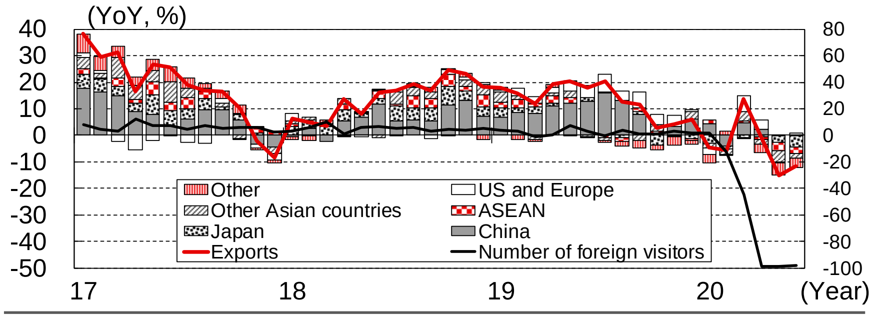
- Due to various restrictions on economic activities since mid-March due to the spread of COVID-19, it is very likely Australia's real GDP growth rate for the April-June quarter will worsen significantly (GDP statistics scheduled to be released on 4th September).
- With the exception of some states mentioned below, the spread of infection is slowing and economic activities are being restarted in stages. The economy is likely to start to slowly recover. In fact, there are signs that major indicators have been bottoming out since May, and the government's policies to support labour (announced at the start of March: 6.5% of GDP; additional and extended support announced in July: 1% of GDP), along with the central bank's continued easy monetary stance, will underpin the economy.
- The real GDP growth rate for 2020 is forecast to slow significantly by 4.5% YoY due to the effects of COVID-19 in the first half of the year, but will then recover gradually to 3.2% YoY in 2021. Since the period from late June into early July, cases of infection in Victoria (second largest gross regional product (GRP) at around 20% of the total) have been rising again, which has led to restrictions on economic activities being tightened again in that state and then others. It is important to keep an eye on whether or not this will put a damper on Australia's economic recovery.

Australia's Internet Vacancies, Employees, Unemployment Rate



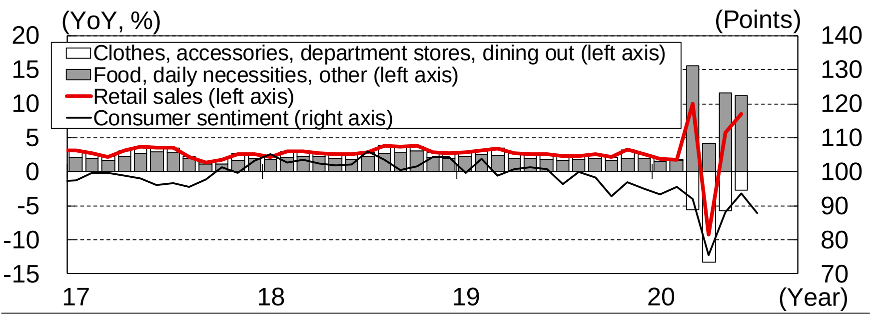
Source: Australian Bureau of Statistics, ANZ, MUFG Bank Economic Research Office

Real GDP in Major Countries and Regions in Asia



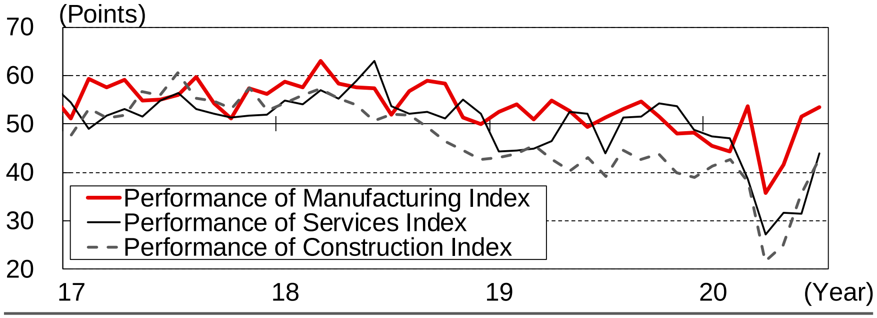
Source: Australian Bureau of Statistics, MUFG Bank Economic Research Office

Australia's Real Retail Sales and Consumer Sentiment



Source: Australian Bureau of Statistics, Westpac, MUFG Bank Economic Research Office

Australia's PMI

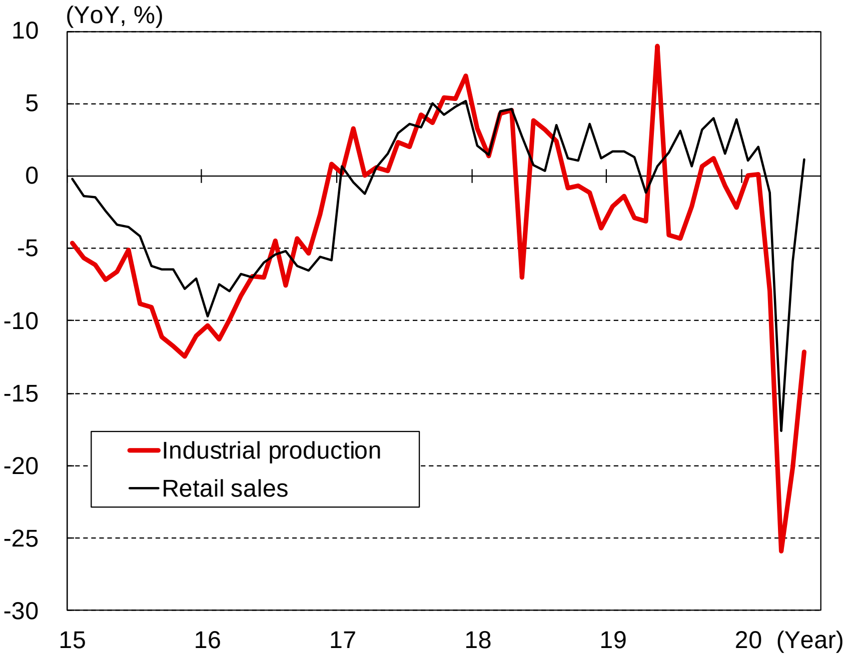


Source: The Australian Industry Group, MUFG Bank Economic Research Office

8. Central and South American Economies: Brazil

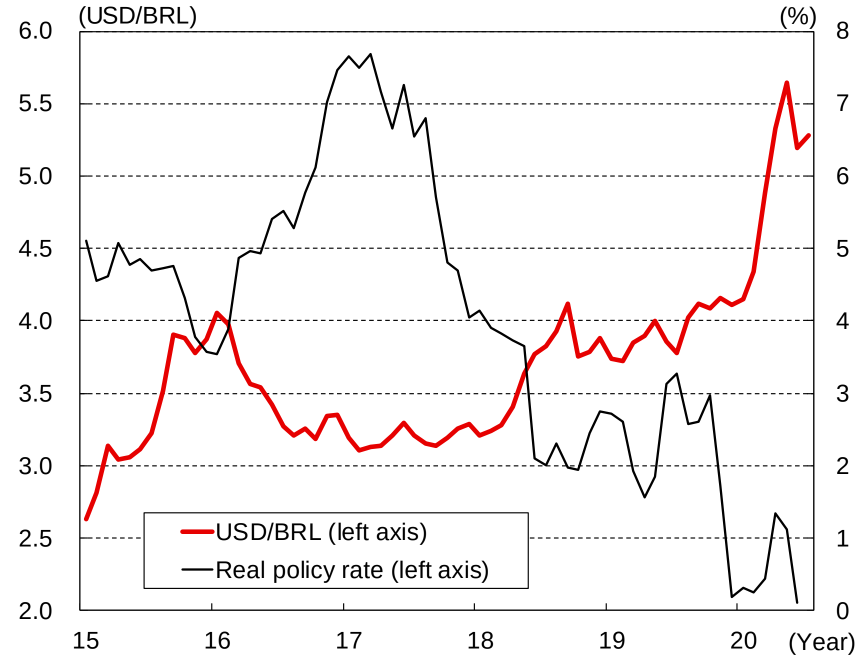
- Brazil's government called a state of emergency in late March and decided to implement BRL 1.1 trillions' worth of economic policies and state and district governments who were concerned about the rise in cases since the start of April enacted measures to restrict movement. As a result, economic activities were largely restricted and there was a large deterioration of economic indicators; the number of new vehicle registrations in the April-June quarter dropped 64.1% YoY and industrial production fell by 22.1% YoY during the same quarter.
- From mid to late May, state governments embarked on their policies to restart economic activities step by step leading to the current rise in business and consumer sentiment. In addition, retail sales recovered to positive growth compared to the previous year in June and it is thought the economy has stopped shrinking.
- However, there is still a lot of uncertainty about which path the economy will take in the future. With no sign that the spread of infection is slowing, Brazil's number of cases and deaths are the second highest in the world and there has been disruption to President Bolsonaro's government surrounding Economic Minister Guedes and the announcement of a second round of economic policies have been postponed. Furthermore, the capacity for monetary easing is limited against a backdrop of BRL depreciation. All of this culminates in a difficult situation for Brazil. Based on the above, the real GDP growth rate is forecast to fall 7.5% YoY in 2020 and then recover to 2.5% YoY in 2021.

Brazil's Industrial Production and Retail Sales



Source: The Brazilian Institute of Geography and Statistics, MUFG Bank Economic Research Office

Brazils' Real Policy Rate and Exchange Rate

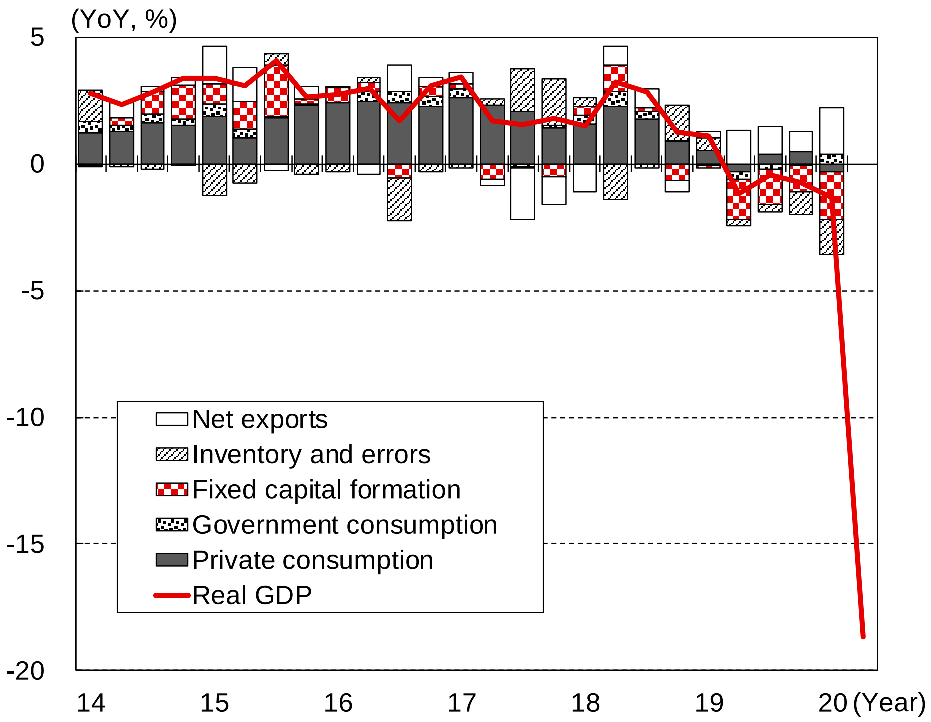


Source: Central Bank of Brazil

8. Central and South American Economies: Mexico

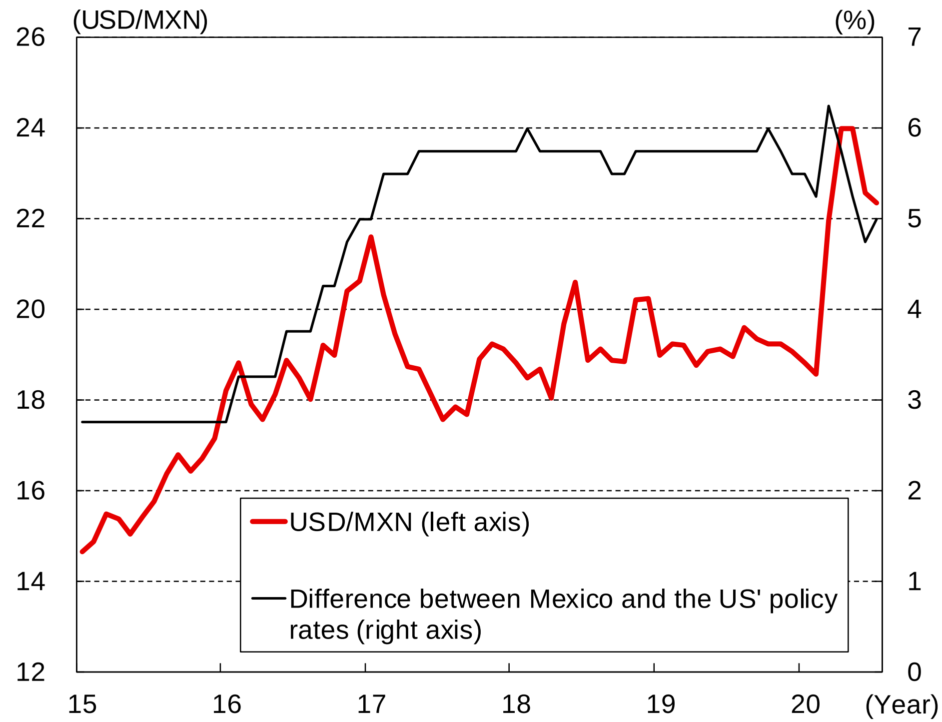
- The shrinking of the economy that started in 2019 has continued into 2020. A state of emergency was called in late March owing to the spread of COVID-19 and restrictions on movement were put in place resulting in a drop in the real GDP growth rate of -18.7% YoY in the April-June quarter: the fifth consecutive quarter of negative growth.
- While economic activities have been restarting in stages since mid May, Mexico is sixth in the world in terms of the number of COVID-19 cases and the infection continues to spread. In addition, there has been a large lump in its volume of trade owing to the impact of COVID-19 on its largest trading partner, the US. As a result, the recovery in Mexico's manufacturing PMI remains small as it rose to 40.4 in July from its lowest point in April (35.0).
- As the MXN continues to depreciate, capacity for monetary easing is limited and there is still much uncertainty about the economy in the future. The real GDP growth rate is forecast to slow significantly to -7.5% YoY in 2020. As the economy of its largest trading partner, the US, recovers in 2021, the Mexican economy is expected to follow suit and also recover, but growth will stop at 3.0% YoY.

Mexico's Real GDP Growth Rate



Source: The National Institute of Statistics and Geography, MUFG Bank Economic Research Office

Real GDP in Major Countries and Regions in Asia

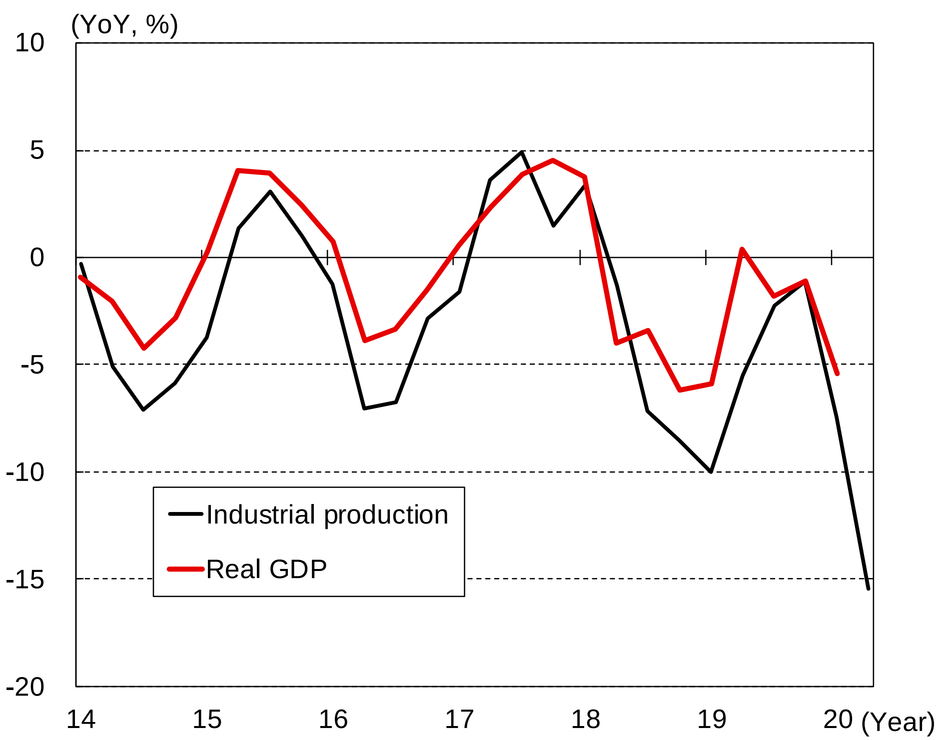


Source: The Bank of Mexico, MUFG Bank Economic Research Office

8. Central and South American Economies: Argentina

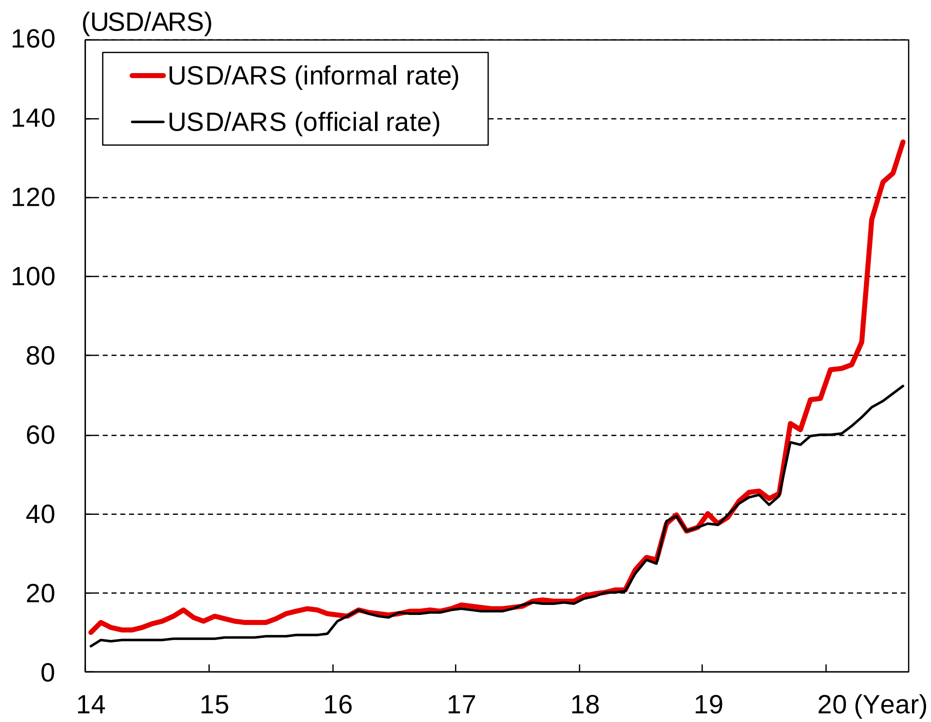
- Argentina's economy has taken a serious downturn due to its economic recession from the previous year and high inflation. It's real GDP growth rate appears to have already fallen by a large amount (-5.4% YoY) in the January-March quarter before the COVID-19 pandemic had even taken hold. Industrial production fell dramatically by 15.4% YoY in the April-June quarter due to downward pressure from the pandemic. Therefore, it is highly likely that the real GDP growth rate for the same quarter will record a fall of double digits.
- Although Argentina reached an agreement with its major creditors to restructure its debt on 5th August, markets did not react favourably to the news and the ARS continued to depreciate against the USD. Growth of CPI is still over 40% YoY and there are no signs of escape for the economy from this difficult situation.
- Brazil and Argentina have strong economic ties and in addition to the continuous rise in COVID-19 cases in Argentina, Brazil's economy is also facing difficulties. Therefore, Argentina's real GDP growth rate is forecast to fall 9.5% in 2020 and 1.0% YoY in 2021 resulting in four consecutive years of negative growth.

Argentina's Industrial Production and Real GDP Growth Rate



Source: The National Institute of Statistics and Census, MUFG Bank Economic Research Office

Exchange Rates of Argentinian Peso

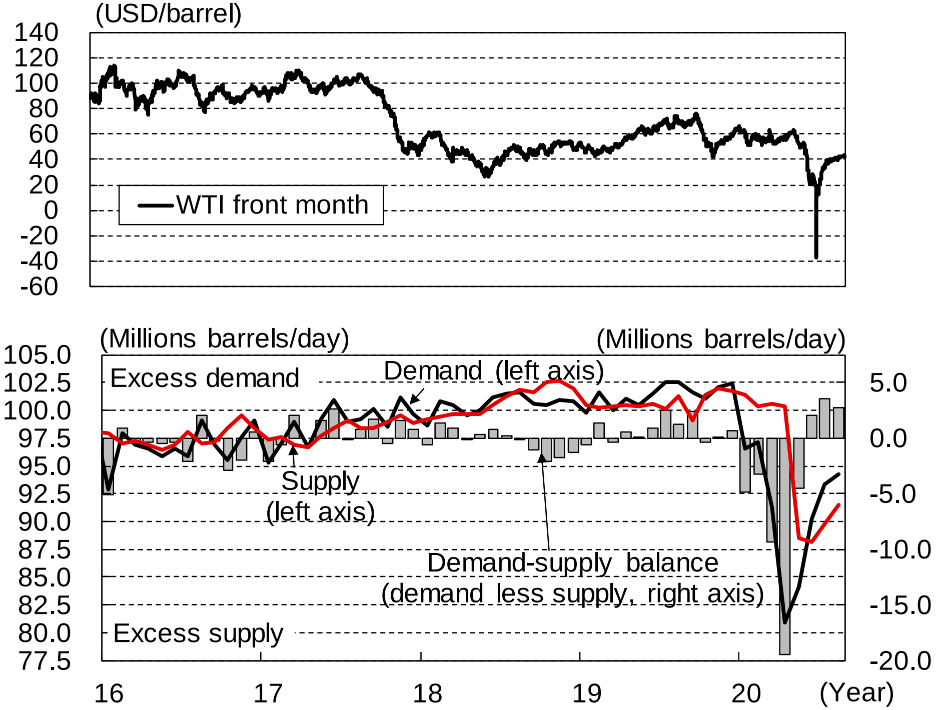


Source: The National Institute of Statistics and Census, MUFG Bank Economic Research Office

9. Oil Prices: Overview

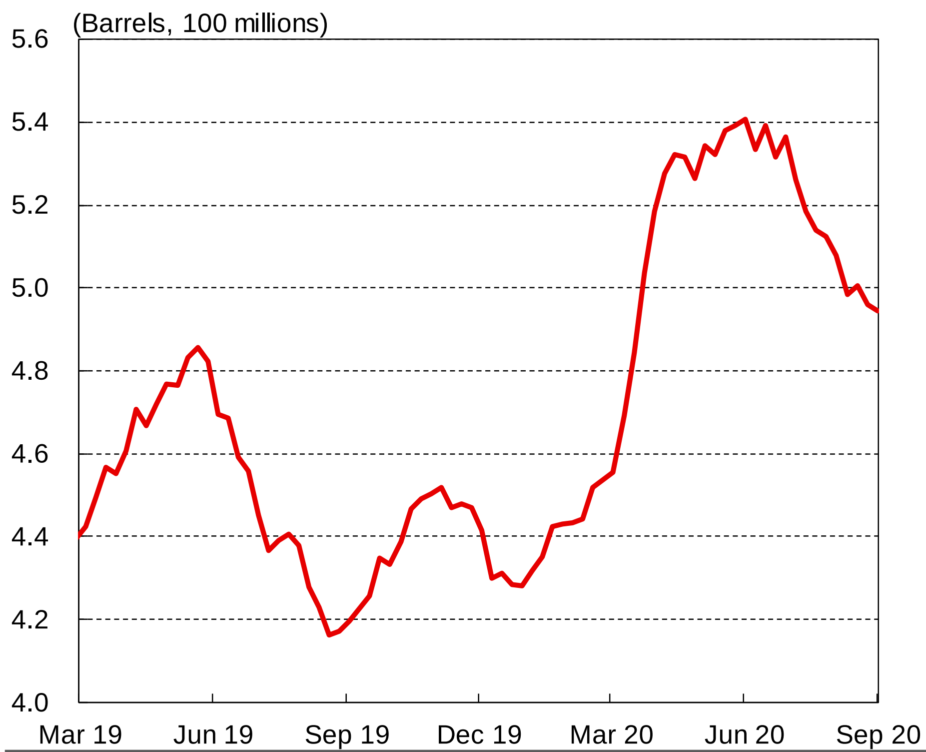
- Oil prices (WTI front month, USD per barrel) plummeted into negative territory for the first time in history in April owing to concerns about storage capacity. After that, oil prices picked up on the back of expectations of a recovery in demand for oil as many countries restarted economic activities and the cooperative oil production cuts by OPEC+. Around the middle of the year in June and July, it was confirmed that global demand for oil exceeded the volume of supply and oil prices recovered to between USD 40 and USD 43 and remains firm at that level at present.
- From March, there was an accumulation of oil stocks in the US as economic activities stagnated, including transport of goods and people, owing to restrictions imposed on going outside in the US. Since June, oil stocks are still at high levels compared to before the COVID-19 pandemic, but they are on a downward trend thanks to a recovery of oil demand and a decrease in shale oil production.

Oil Prices and the Current Balance of Global Supply and Demand



Source: EIA, Bloomberg, MUFG Bank Economic Research Office

US Oil Stocks

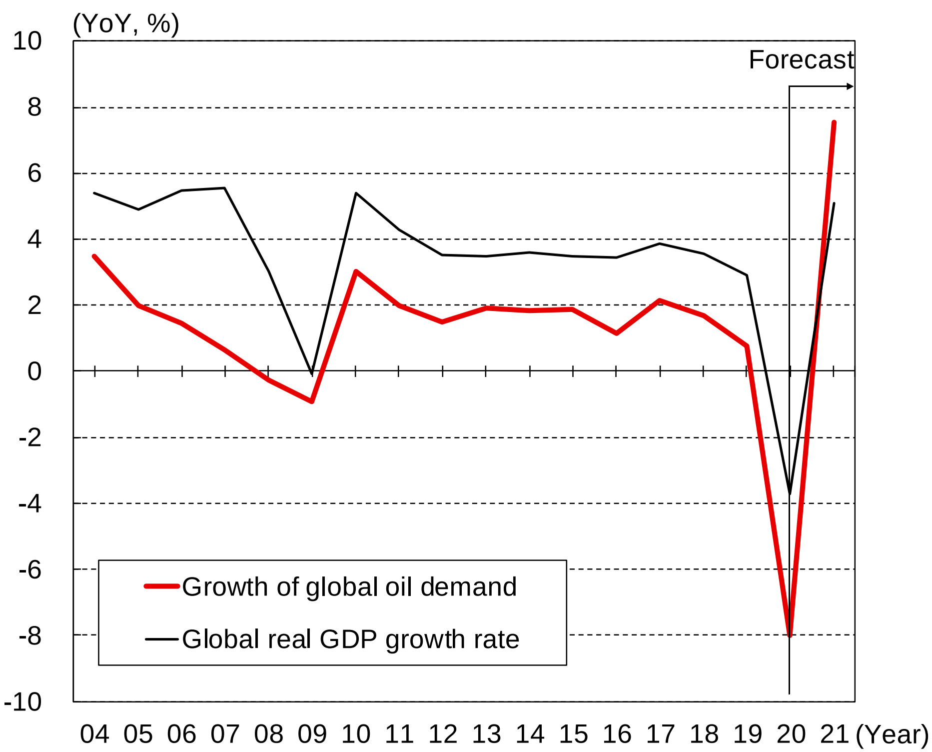


Source: EIA, MUFG Bank Economic Research Office

9. Oil Prices: Demand

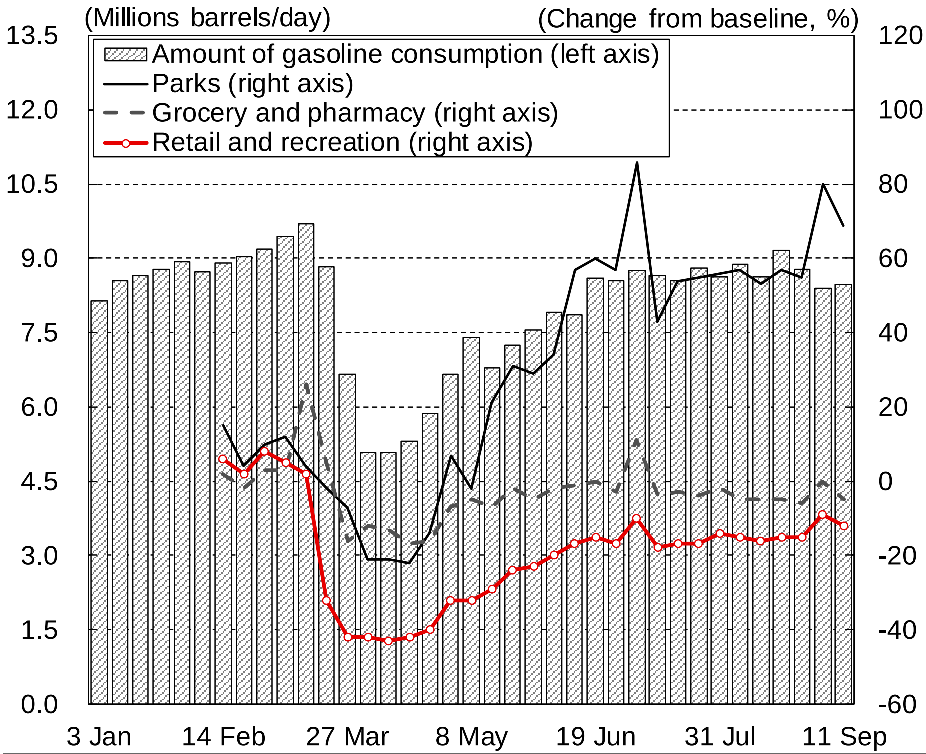
- According to the US Energy Information Administration (EIA), demand for oil is forecast to fall by more than the real GDP growth rate in 2020. There was a huge impact from demand for transport (gasoline, jet fuel), which vanished due to restrictions on movement, and it appears the negative economic growth rate reflects the fall in demand for oil, which was greater than anticipated. On the other hand, oil demand in 2021 is predicted to recover gradually in line with a recovery in the economy from now and into next year. However, even in this case, the EIA believes oil demand will only recover to around 98% of the level in 2019 before the COVID-19 pandemic.
- The volume of US gasoline consumption fell dramatically in mid-March owing to the restrictions placed on going outside; however, consumption has been slowly recovering since mid-April as restrictions are eased. That being said, consumption has taken another downturn in response to another rise in COVID-19 cases since the end of June, and levels are still lower than they were before the pandemic.

Growth of Global Real GDP Growth Rate and Oil Demand



Note: Real GDP growth rate forecast for 2020 and 2021 by Economic Research Office
Source: EIA, MUFG Bank Economic Research Office

Amount of US Gasoline Consumption and Mobility by Destination

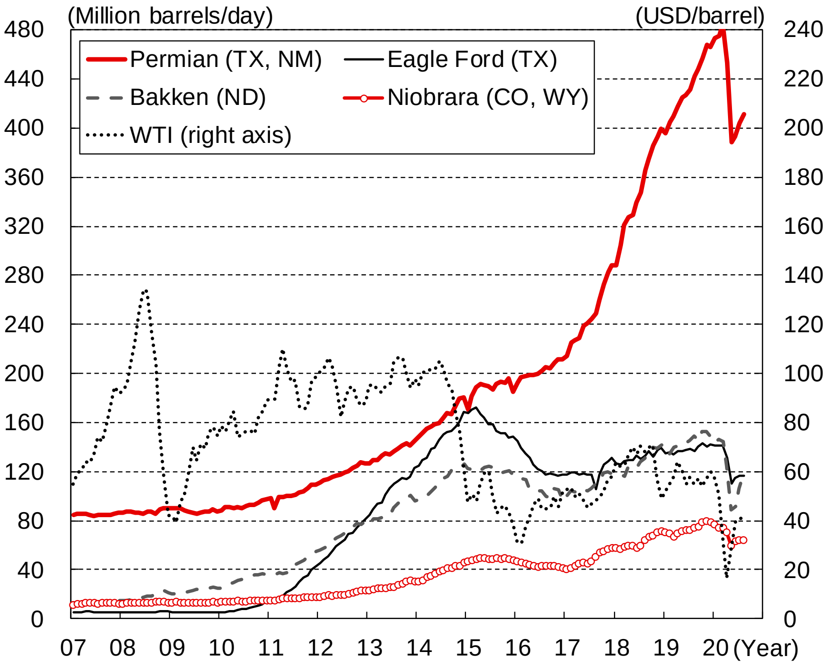


Note: The "baseline" is the median amount between 3rd Jan and 6 Feb 2020
Source: EIA, Google, MUFG Bank Economic Research Office

9. Oil Prices: Supply

- The volume of US shale oil production has been declining since April owing to fears about a decrease in demand brought about by COVID-19 and the sharp fall in oil prices. Concerns about a decrease in demand and a prolonged stagnation of oil prices subsequently faded, but shale oil output during this year and the next is forecast to decrease year-on-year across the two consecutive years in light of the historically low level of working oil rigs in the US, the decrease in investment in facilities by major oil companies and a deterioration of business conditions for the shale oil companies.
- Owing to the improvement in global demand for oil brought about by an easing of restrictions on movement in many countries and regions, OPEC+ decided to shrink the scale of its cooperative production cuts of 9.7 million barrels per day which it imposed in May. Based on the first agreement, oil output will be cut by 7.7 million barrels a day from August until December. If oil demand makes a satisfactory recovery, OPEC+ plans to decrease the scale of their cuts further to 5.8 million barrels a day from January to April.
- Saudi Arabia is lowering its oil production by more than the amount set out in the agreement and OPEC+ has demanded that countries who do not comply with their allocated supply cut between May and July must decrease production by the remaining amount they did not cut by September. Taking this into account, it is likely that OPEC+ will continue to act as a balancing force to the gap between oil demand and supply.

Shale Oil Output by Major US Oil Regions and Oil Prices



Note: Includes conventional crude oil production

Source: EIA, MUFG Bank Economic Research Office

Breakdown of Target and Actual Oil Output for by OPEC+ Members

(Million barrels/day)

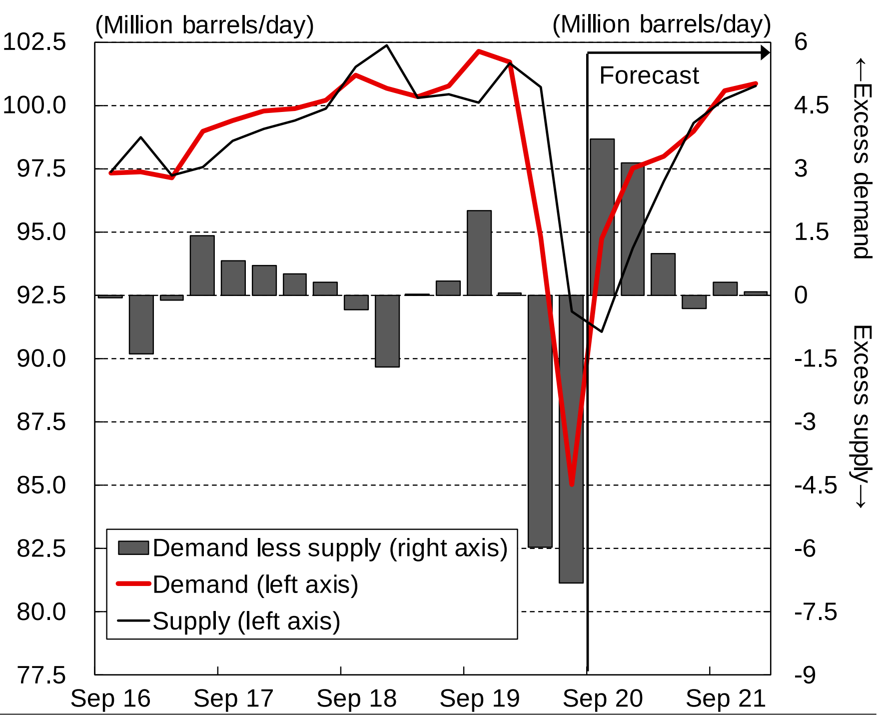
	Output in Oct 2018	Target output for Jul 2020	Output in Jul 2020	Rate of compliance (%)	Target output for Aug-Dec 2020
Saudi Arabia	11.00	8.49	8.44	102	8.99
Iraq	4.65	3.59	3.75	85	3.80
UAE	3.17	2.45	3.00	23	2.59
Other	7.86	6.07	6.21	92	6.44
OPEC10	26.68	20.60	21.40	87	21.82
Russia	11.00	8.49	8.60	96	8.99
Kazakhstan	1.71	1.32	1.34	94	1.40
Other	2.71	2.09	2.14	92	2.21
Non-OPEC	15.42	11.90	12.08	92	12.60
Total	42.10	32.50	33.48	89	34.42

Source: IEA, MUFG Bank Economic Research Office

9. Oil Prices: Forecast

- There was an unprecedented decrease in demand for transport caused by deterioration of the economy due to COVID-19 and restrictions on movement which resulted in a huge, temporary drop in demand for oil. Nevertheless, demand has already started to rise as economic activities are restarted and is forecast to continue to pick up gradually in the future owing to a recovery of the economy. On the supply side, US shale oil production is falling and an increase in supply resulting from OPEC+ scaling down its cooperative production cuts (the cuts will become smaller, i.e. production will increase) is forecast to happen step by step and in accordance with the recovery of global oil demand.
- Taking a comprehensive view of the balance between oil supply and demand, the huge excess in the oil supply which occurred at the worst period of the COVID-19 pandemic shifted to an excess of demand due to a sharp recovery of demand after economic restrictions were lifted and a decrease in output to historically low levels by oil-producing nations. However, it appears demand and supply for oil will draw close to equilibrium as supply catches up with demand. Meanwhile, although the increase in oil prices will slow, prices are expected to maintain an upward trend on the whole owing to a small increase in demand which will remain. Oil prices will average just under USD 40 in 2020 and around USD 45 in 2021; however, it is important to keep an eye on downward risks to prices, such as another increase in COVID-19 cases and a sharp drop in demand.

Outlook for Balance of Oil Demand and Supply



Source: EIA, MUFG Bank Economic Research Office

Oil Price Forecast

	WTI future (USD/barrel)	YoY (%)	Brent future (USD/barrel)	YoY (%)
2019 Q1	54.9	-12.7%	63.8	-5.1%
Q2	59.9	-11.8%	68.5	-8.7%
Q3	56.4	-18.7%	62.0	-18.2%
Q4	56.9	-4.2%	62.4	-9.0%
2020 Q1	45.8	-16.6%	50.8	-20.4%
Q2	28.0	-53.3%	33.3	-51.4%
Q3	41.5	-26.5%	44.5	-28.3%
Q4	42.5	-25.3%	45.5	-27.1%
2021 Q1	43.5	-5.0%	46.5	-8.5%
Q2	44.5	58.9%	47.5	42.6%
Q3	45.5	9.6%	48.5	9.0%
Q4	46.5	9.4%	49.5	8.8%
2019	57.0	-12.1%	64.2	-10.5%
2020	39.4	-30.8%	43.5	-32.1%
2021	45.0	14.1%	48.0	10.2%

Forecast

Note: Prices shown are average for period
Source: Bloomberg, MUFG Bank Economic Research Office

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Appendix: Global Economic Outlook

Forecast for the Global Economy

			World (weighted average of nominal GDP)	Developed countries	Emerging countries	Other	Japan (FY)	Americas: US	Central and South America (6 countries)	Brazil	Mexico	Argentina	Europe: Eurozone (19 countries)	Germany	France	Italy	UK	Russia
Nominal GDP	USD trillions		142.0	52.3	59.7	30.0	5.7	21.4	8.8	3.5	2.6	0.9	15.9	4.4	3.1	2.5	3.2	4.4
(2019)	Japan = 100		2,486	916	1,046	525	100	375	153	61	46	16	279	78	54	43	55	77
Real GDP	2019	Actual	2.8	1.7	4.6	1.3	0.0	2.2	0.6	1.1	-0.3	-2.1	1.3	0.6	1.5	0.3	1.5	1.3
YoY, %	2020	Forecast	-3.7	-6.1	-1.8	-3.5	-5.7	-5.0	-7.7	-7.5	-7.5	-9.0	-8.1	-6.1	-10.3	-10.5	-11.8	-6.0
	2021	Forecast	5.1	4.1	6.0	5.1	3.9	3.2	2.7	2.2	3.0	-1.0	5.4	5.0	6.9	5.3	7.6	3.0
CPI	2019	Actual	3.6	1.4	3.9	6.8	0.6	1.8	8.7	3.7	3.6	53.5	1.2	1.4	1.3	0.6	1.8	4.5
(YoY, %)	2020	Forecast	3.0	0.6	3.6	6.0	-0.4	0.9	8.5	3.0	3.5	50.0	0.6	0.9	0.8	0.3	0.8	3.2
	2021	Forecast	3.1	1.2	3.3	5.9	-0.1	1.6	7.4	5.0	4.5	35.0	1.3	1.5	1.1	0.5	1.2	3.3

			Asia and Oceania: Asia (11 countries and regions)	China	India (FY)	NIEs (4 countries and regions)	S. Korea	Taiwan	Hong Kong	Singapore	ASEAN (5 countries)	Indonesia	Thailand	Malaysia	Philippines	Vietnam	Australia
Nominal GDP	USD trillions		51.3	27.3	11.0	4.7	2.3	1.3	0.5	0.6	8.2	3.7	1.4	1.1	1.0	1.0	1.4
(2019)	Japan = 100		898	478	193	83	41	23	8	10	144	65	24	19	18	18	24
Real GDP	2019	Actual	5.1	6.1	4.2	1.7	2.0	2.7	-1.2	0.7	4.9	5.0	2.4	4.3	6.0	7.0	1.8
(YoY, %)	2020	Forecast	-0.4	1.8	-4.7	-1.4	-0.1	0.3	-6.7	-6.1	-3.3	-1.8	-7.3	-5.9	-6.3	2.1	-4.5
	2021	Forecast	6.5	7.9	6.0	3.1	3.0	2.5	3.3	4.8	6.2	5.6	4.8	7.7	7.2	7.5	3.2
CPI	2019	Actual	2.9	2.9	4.5	0.7	0.4	0.5	2.9	0.6	2.1	2.8	0.7	0.7	2.5	2.8	1.6
(YoY, %)	2020	Forecast	2.5	2.7	4.6	0.4	0.5	0.0	1.7	-0.3	1.4	2.1	-1.0	-1.2	2.5	4.0	0.4
	2021	Forecast	2.4	2.0	4.1	0.9	0.9	0.5	2.3	0.6	2.3	2.5	1.2	1.4	2.7	3.5	1.3

Note: 1. "Nominal GDP" is based on purchasing power parity

2. For "CPI", Japan is composite figure excluding fresh food, Eurozone and the UK are the EU standardised inflation rate (HICP)

3. Figures for Japan and India based on their financial years (April to following March) except Japan's nominal GDP

4. "World", "developed countries", "emerging countries" calculated using Japan data based on the calendar year, India data based on the fiscal year for nominal GDP only and other countries' data based on the calendar year

5. "Developed countries" is a total of Japan, NIEs (4 countries and regions), Australia, US, Eurozone (19 countries) and the UK. "Emerging countries" is a total of China, India, ASEAN (5 countries), Central and South America (6 countries) and Russia

6. "Central and South America (6 countries)" is a total of Brazil, Mexico, Argentina, Colombia, Chile and Peru

7. "Other" uses the IMF forecast for April as reference

Source: National statistics of each country, MUFG Bank Economic Research Office

Appendix: Outlook for the Japanese Economy and Financial Markets

Outlook for the Japanese Economy

Reflecting Apr-Jun 2020 GDP (the first preliminary estimates)

Forecast (from 2020 3Q)

	2019				2020				2021				FY2019	FY2020	FY2021
	1Q	2Q	3Q	4Q	Q1	2Q	3Q	4Q	Q1	2Q	3Q	4Q			
1. The Real Economy (QoQ annualized change)															
Real GDP	2.8	1.7	0.2	-7.0	-2.5	-27.8	13.2	7.9	4.4	3.0	1.9	1.6	0.0	- 5.7	3.9
Private Consumption	0.3	2.1	1.8	-11.0	-3.1	-28.9	16.5	7.9	6.6	4.1	2.2	1.8	-0.6	-5.9	4.9
Housing Investment	5.8	-0.6	4.9	-8.7	-15.8	-0.8	-25.2	-3.9	-0.8	-0.8	-0.8	-0.8	0.5	-9.8	-2.9
Private Business Fixed Investment	-1.9	3.3	0.9	-17.6	7.0	-5.8	2.0	1.6	1.6	1.6	1.2	1.2	-0.3	-1.8	1.5
Business Inventory (Contribution)	0.2	0.0	-1.0	0.1	-0.3	-0.2	-1.2	0.8	0.1	0.1	0.1	0.1	-0.1	-0.3	0.1
Government Expenditures	2.0	4.7	3.6	1.6	-0.2	-0.1	0.9	1.1	1.1	1.0	1.0	1.0	2.5	0.7	1.1
Public Investment	10.3	5.6	4.4	2.5	-1.8	4.7	3.2	2.4	1.6	0.8	0.4	0.4	3.3	2.5	1.1
Net Exports (Contribution)	2.1	-1.2	-1.0	2.1	-0.9	-10.8	5.6	2.1	0.1	0.1	0.1	0.1	-0.2	-1.7	0.7
Exports	-6.8	0.6	-2.5	1.6	-19.9	-56.0	46.4	21.6	6.1	5.3	4.1	3.2	-2.6	-13.5	8.6
Imports	-16.8	7.3	3.0	-9.4	-15.6	-2.1	2.0	5.7	4.9	4.1	3.2	2.4	-1.5	-3.3	3.8
Nominal GDP	5.0	1.9	1.7	-5.7	-2.0	-26.4	26.7	3.5	2.5	-14.6	28.8	-1.7	0.8	-3.5	2.9
GDP Deflator (YoY)	0.2	0.4	0.6	1.2	0.9	1.5	3.7	2.4	1.7	-3.3	-0.3	-0.1	0.8	2.3	-1.0
Industrial Production Index (QoQ)	-2.1	0.0	-1.1	-3.6	0.4	-16.9	5.1	1.5	1.0	0.9	0.8	0.5	-3.8	-14.3	4.4
Domestic Corporate Goods Price Index (YoY)	0.9	0.6	-0.9	0.2	0.6	-2.2	-0.8	-0.4	0.2	1.0	2.0	2.1	0.1	-0.8	1.8
Consumer Price Index (excl. fresh food, YoY)	0.8	0.8	0.5	0.6	0.6	-0.1	-0.3	-0.7	-0.4	-0.3	-0.2	0.0	0.6	-0.4	-0.1
2. Balance of Payments															
Trade Balance (billion yen)	69	-307	78	388	616	-1,790	3,000	2,333	2,239	2,478	2,150	692	666	5,781	5,864
Current Balance (billion yen)	4,961	4,852	4,708	5,312	4,854	2,123	6,895	6,228	6,077	6,324	6,000	4,547	19,709	21,322	21,274
3. Financial															
Uncollateralized overnight call rate	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Euro-Yen TIBOR (3-month rate)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Newly Issued 10-Year Government Bonds Yield	0.0	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	-0.1	0.0	0.1
Exchange Rate (USD/JPY)	110	110	107	109	109	108	106	106	106	106	106	106	109	106	106

Note: *Uncollateralized overnight call rate* is the average rate during the last month of the period. *Euro-Yen TIBOR (3-month rate)*, *Newly Issued 10-Year Government Bonds Yield* and *Exchange Rate (USD/JPY)* are averages during the period.

Source: Various statistics, Bloomberg, MUFG Bank Economic Research Office

Appendix: Outlook for the US Economy and Financial Markets

Outlook for the US Economy

Forecast →

	2019				2020				2021				2019	2020 (Forecast)	2020 (Forecast)
	1～3	4～6	7～9	10～12	1～3	4～6	7～9	10～12	1～3	4～6	7～9	10～12			
1. Main Economic Indicators															
Real GDP (QoQ annualized, %)	2.9	1.5	2.6	2.4	-5.0	-31.7	18.7	4.7	4.6	4.4	4.0	2.9	2.2	-5.0	3.2
Personal Consumption Expenditures	1.8	3.7	2.7	1.6	-6.9	-34.1	26.9	6.4	5.1	3.1	3.1	3.1	2.4	-5.2	3.9
Fixed Investment (Residential)	-1.7	-2.1	4.6	5.8	19.0	-37.9	10.2	3.5	3.5	3.4	3.4	3.4	-1.7	-1.6	0.9
Fixed Investment (Nonresidential)	4.2	0.0	1.9	-0.3	-6.7	-26.0	10.5	6.3	6.2	4.6	3.0	1.5	2.9	-5.4	3.3
Changes in Business Inventories (Contribution)	0.2	-1.0	-0.1	-0.8	-1.3	-3.5	2.2	0.0	0.2	1.6	1.5	0.4	0.0	-1.2	0.6
Government Expenditures	2.5	5.0	2.1	2.4	1.3	2.8	-1.5	-1.2	0.1	0.1	0.1	0.1	2.3	1.6	-0.2
Net Exports (Contribution)	0.6	-0.8	0.0	1.5	1.1	0.9	-3.0	-0.4	-0.2	-0.2	-0.2	0.0	-0.2	0.4	-0.5
Exports	1.8	-4.5	0.8	3.4	-9.5	-63.2	36.4	20.5	19.5	18.6	23.5	3.2	-0.1	-14.2	11.9
Imports	-2.1	1.7	0.5	-7.5	-15.0	-54.0	49.5	17.0	14.9	14.4	17.9	2.3	1.1	-12.8	11.8
Domestic Private End User Demand	2.1	2.9	2.6	1.4	-6.0	-33.0	23.3	6.2	5.2	3.4	3.1	2.8	2.3	-5.1	3.7
Nominal GDP (QoQ annualized, %)	4.0	4.1	4.0	3.9	-3.4	-33.3	21.0	6.8	6.4	5.5	6.1	5.0	4.0	-4.0	4.7
Industrial Production (QoQ annualized, %)	-1.9	-2.3	1.1	0.4	-6.8	-43.2	32.7	9.7	6.8	6.1	5.4	2.4	0.8	-7.7	5.3
Unemployment Rate (%)	3.9	3.6	3.6	3.5	3.8	13.0	10.0	9.0	8.5	8.0	7.5	7.0	3.7	9.0	7.8
Producer Price Index (YoY, %)	1.9	2.0	1.7	1.1	1.1	-1.1	0.2	0.5	0.8	1.0	1.2	1.5	1.7	0.2	1.1
Consumer Price Index (YoY, %)	1.6	1.8	1.8	2.0	2.1	0.4	0.4	0.8	1.4	1.5	1.6	1.7	1.8	0.9	1.6
2. Balance of Payments															
Trade Balance (hundred million dollars)	-2,161	-2,246	-2,242	-2,287	-2,332	-2,377	-2,423	-2,468	-2,514	-2,559	-2,605	-2,651	-8,643	-8,656	-8,756
Current Account (hundred million dollars)	-1,266	-1,277	-1,258	-1,289	-1,319	-1,349	-1,379	-1,409	-1,439	-1,468	-1,497	-1,526	-4,802	-4,618	-4,668
3. Financial Indicators															
FF Rate Target (%)	2.25-2.50	2.25-2.50	1.75-2.00	1.50-1.75	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	1.50-1.75	0.00-0.25	0.00-0.25
Euro Dollar (3M) (%)	2.7	2.5	2.2	1.9	1.5	0.6	0.2	0.1	0.1	0.1	0.1	0.1	2.3	0.6	0.1
10-year Treasury Note's Yield (%)	2.7	2.3	1.8	1.8	1.4	0.7	0.7	0.8	0.8	0.8	0.8	0.8	2.1	0.9	0.8

Note: FF Rate Targets is end-of-period figures, Euro Dollar (3M) and 10-year Note's Yield are averages for periods.
Source: Compiled by MUFG Bank Economic Research Office from various reports and Bloomberg

Appendix: Outlook for the European Economies and Financial Markets

Outlook for European Economies

1. Overview

	Real GDP growth rate (YoY, %)			CPI (YoY, %)			Current Account (USD billions)		
	2019 (Actual)	2020 (Forecast)	2021 (Forecast)	2019 (Actual)	2020 (Forecast)	2021 (Forecast)	2019 (Actual)	2020 (Forecast)	2021 (Forecast)
Eurozone	1.3	- 8.1	5.4	1.2	0.6	1.3	355	253	376
Germany	0.6	- 6.1	5.0	1.4	0.9	1.5	273	199	280
France	1.5	- 10.3	6.9	1.3	0.8	1.1	- 18	- 37	- 19
Italy	0.3	- 10.5	5.3	0.6	0.3	0.5	59	42	60
UK	1.5	- 11.8	7.6	1.8	0.8	1.2	- 113	- 103	- 111

2. Forecast by Demand Component (YoY, %)

	Eurozone			UK		
	2019 (Actual)	2020 (Forecast)	2021 (Forecast)	2019 (Actual)	2020 (Forecast)	2021 (Forecast)
Nominal GDP	3.0	- 7.1	6.3	3.4	- 9.6	8.1
Real GDP	1.3	- 8.1	5.4	1.5	- 11.8	7.6
Contribution by domestic demand	1.8	- 6.7	4.2	1.5	- 14.4	9.1
Contribution by foreign demand	- 0.5	- 1.3	1.2	0.1	2.6	- 1.5
Private consumption	1.3	- 8.6	5.1	1.0	- 14.1	7.2
Government consumption	1.8	0.8	3.0	3.4	- 9.2	9.8
Gross fixed capital formation	5.0	- 8.6	2.8	0.7	- 15.9	10.2
Inventory investment (contribution)	- 0.2	- 0.5	0.2	- 0.1	- 21.7	10.6
Exports	2.5	- 12.5	7.8	5.0	- 12.9	6.7
Imports	4.0	- 10.7	5.5	4.6	- 20.5	12.4

Note: 1. "Eurozone" is total of 19 countries - Germany, France, Italy, Ireland, Estonia, Austria, The Netherlands, Cyprus, Greece, Spain, Slovakia, Slovenia, Finland, Belgium, Portugal, Malta, Luxembourg, Lithuania

2. "CPI" is the standardised inflation rate for the EU (HICP)

Source: Eurostat, UK Office for National Statistics, MUFG Bank Economic Research Office

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