FY2018, FY2019 Economic Outlook

- Despite slower growth in 2019, the economy should remain firm. Keep a close eye upon the rise of uncertainties -

November 15, 2018

Mizuho Research Institute

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Key points of our forecast

- The global economy will peak in 2018 and moderate in 2019. China’s economic slowdown and decelerating demand for semiconductors will serve as drags upon global growth. Even so, the strength of the US economy will underpin global growth, keeping it on solid footing.

- While the US economy remained on a solid expansion track in the Jul-Sep quarter, the Eurozone and Chinese economies slowed down and Japan’s growth fell into negative territory.

- Among the risk factors are the escalation of US-China trade tensions, a sharp slowdown of the Chinese economy, European political turmoil such as the breakdown of Brexit negotiations, and spread of concerns regarding the emerging market (EM) economies. There are concerns that the global economy may revisit the economic slowdown experienced during 2015 to 2016.

- Turning to trade tensions, there is a lingering possibility that the US may take a more hard-line stance amid the ongoing global power struggle with China. Should the tensions escalate, the slowdown of the Chinese economy and deterioration of US business confidence would drag down the global economy.

- Semiconductor sales have shifted into low gear. Although sales growth should bottom out by mid-2019, it will be necessary to keep a close eye upon a supply glut due to the acceleration of China’s drive to produce semiconductors domestically in addition to trade tensions between the US and China.

- The Federal Open Market Committee (FOMC) will continue to gradually increase the federal funds rate in 2019 as long as the US economy remains on a strong expansion track, in a bid to restrain potential inflationary pressures and expansion of a financial bubble. The risks of EM fund outflows will continue to linger.

- On the Japanese economy in FY2019, even though our outlook forecasts an economic slowdown reflecting the consumption tax hike in October and a slower pace of export growth, various income support measures should keep the downward pressures subdued.

I. General Overview

The momentum in the global economic recovery will gradually subside

(1) Overview of the global economy: we have downwardly revised our outlook on the global economy from our outlook in September due to trade tensions

- Despite a slight decline in the growth rate in 2019, we forecast the global economy will be underpinned by a strong US economy.

[Outlook on the global economy]

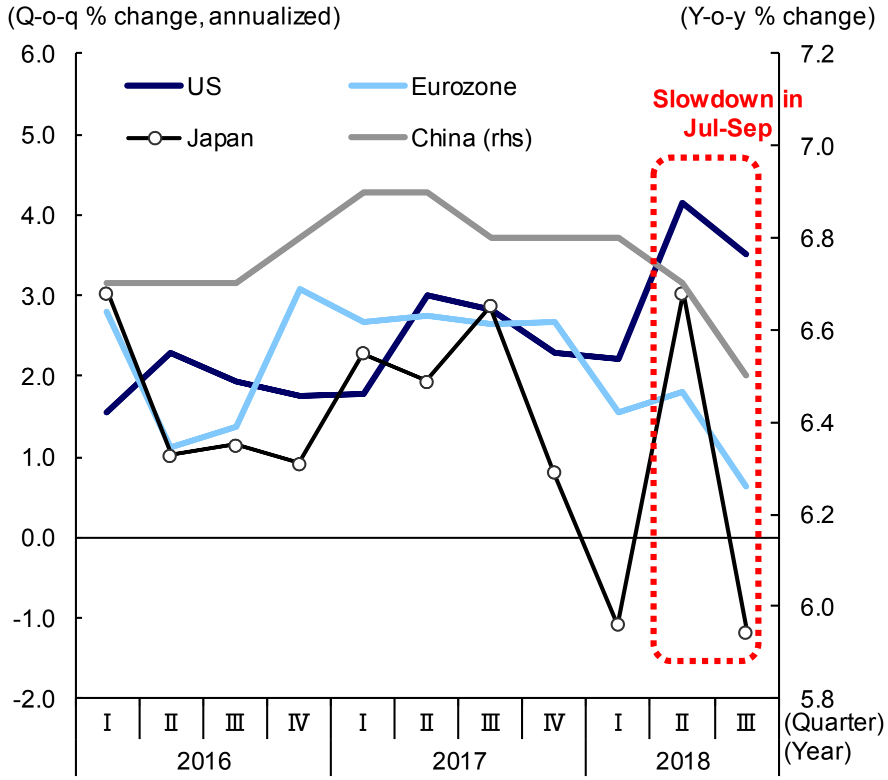
	Calendar year 2015	2016	2017	2018	2019 (Y-o-y % change)	2018 (Forecast in Sep 2018)	2019 (Forecast in Sep 2018) (Y-o-y % change)	2018 (Breadth of change from forecast in Sep 2018)	2019 (Breadth of change from forecast in Sep 2018) (% point)
Total of forecast area	3.6	3.4	3.9	4.0	3.8	4.1	3.9	-0.1	-0.1
Japan, US, Eurozone	2.4	1.6	2.2	2.2	2.0	2.3	2.1	-0.1	-0.1
US	2.9	1.6	2.2	2.9	2.7	3.0	2.7	-0.1	-
Eurozone	2.1	1.8	2.4	1.9	1.5	2.0	1.7	-0.1	-0.2
Japan	1.4	1.0	1.7	0.9	1.2	1.0	1.1	-0.1	0.1
Asia	6.2	6.2	6.1	6.2	5.9	6.2	6.0	-	-0.1
China	6.9	6.7	6.9	6.6	6.2	6.6	6.4	-	-0.2
NIEs	2.1	2.3	3.2	2.8	2.4	2.8	2.5	-	-0.1
ASEAN5	4.9	4.9	5.3	5.3	4.9	5.3	5.0	-	-0.1
India	7.6	7.9	6.2	7.6	7.3	7.6	7.3	-	-
Australia	2.5	2.6	2.2	3.2	2.6	3.2	2.7	-	-0.1
Brazil	-3.5	-3.5	1.0	1.4	2.4	1.3	2.3	0.1	0.1
Mexico	3.3	2.9	2.0	2.2	2.2	2.1	2.5	0.1	-0.3
Russia	-2.5	-0.2	1.5	1.6	1.3	1.6	1.3	-	-
Japan (FY)	1.4	1.2	1.6	1.0	0.8	1.2	0.8	-0.2	-
Crude oil price (WTI, USD/bbl)	49	43	51	66	72	68	72	-2	-

Note: The shaded areas are forecasts. The total of the forecast area is calculated upon the 2016 GDP share (PPP) by the IMF
Sources: Made by MHRI based upon releases by the International Monetary Fund (IMF) and statistics of relevant countries and regions

(2) Overview of the global economy: the slowdown in the Jul-Sep quarter signals a peak-out of the global economy

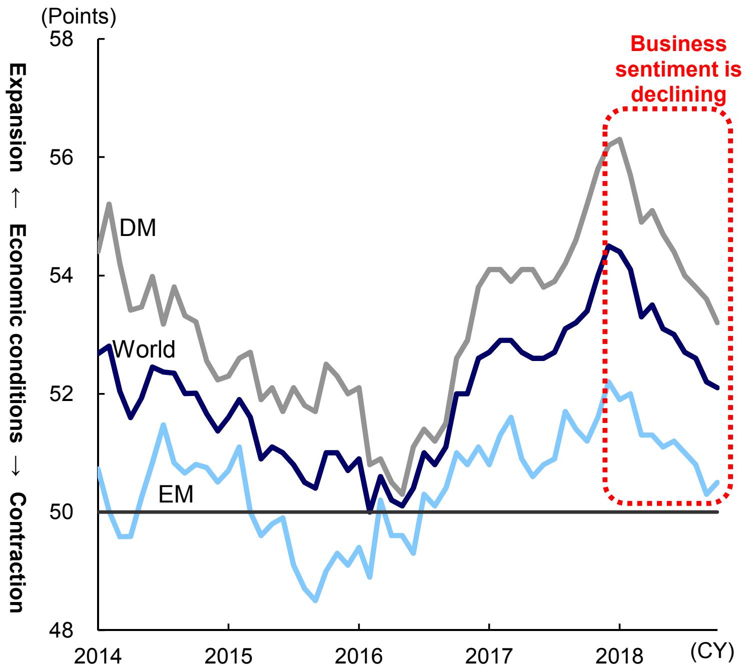
- Although the US economy remains strong, there has been an overall slowdown in other major countries.
  - The growth rate in the Jul-Sep quarter remained high in the US, but fell in the Eurozone and China, and turned negative in Japan.
  - Business sentiment in the manufacturing sector has remained sluggish since the beginning of the year, and the manufacturing PMI for emerging markets (EM) has fallen to near 50.

[Quarterly GDP growth (Japan, US, Eurozone, China)]



Source: Made by MHRI based upon statistics of relevant countries and regions

[Global manufacturing PMI]

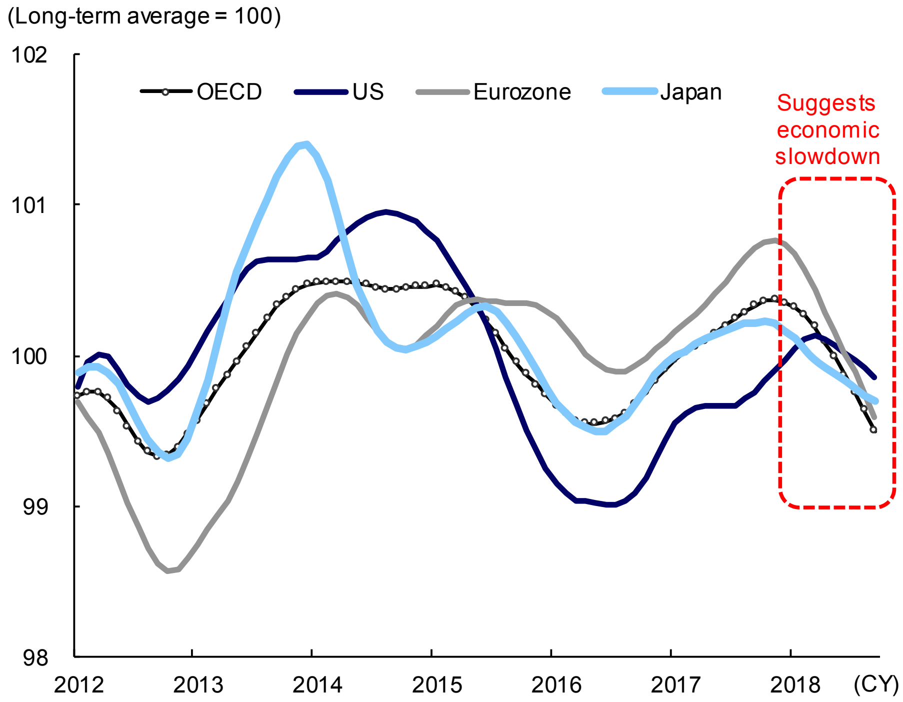


Source: Made by MHRI based upon Markit

Leading indicators suggest a slowdown. Keep a close eye upon the rise of uncertainties

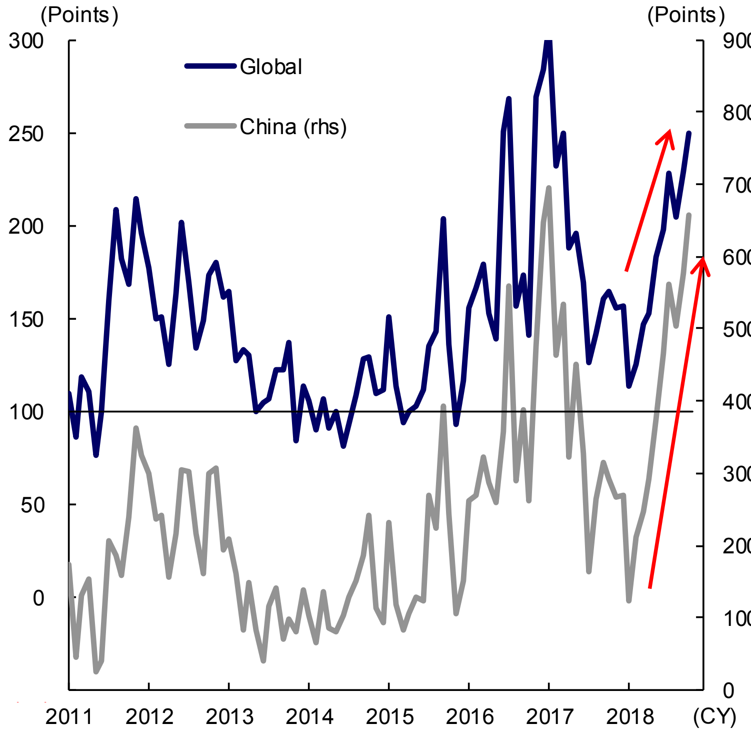
- Leading economic indicators suggest an economic slowdown from the second half of 2018 to the first half of 2019. The recovery momentum should gradually fade.
  - Leading indicators show a clear slowdown of the overall OECD economies led by the Eurozone and Japan. There are signs that the US economy is also peaking out.
  - The Economic Policy Uncertainty Index is rising mainly with respect to China, suggesting the rise of uncertainties due to concerns regarding US-China trade tensions.

[OECD Leading Indicators]



Source: Made by MHRI based upon OECD

[Economic Uncertainty Index]



Source: Made by MHRI based upon Economic Policy Uncertainty

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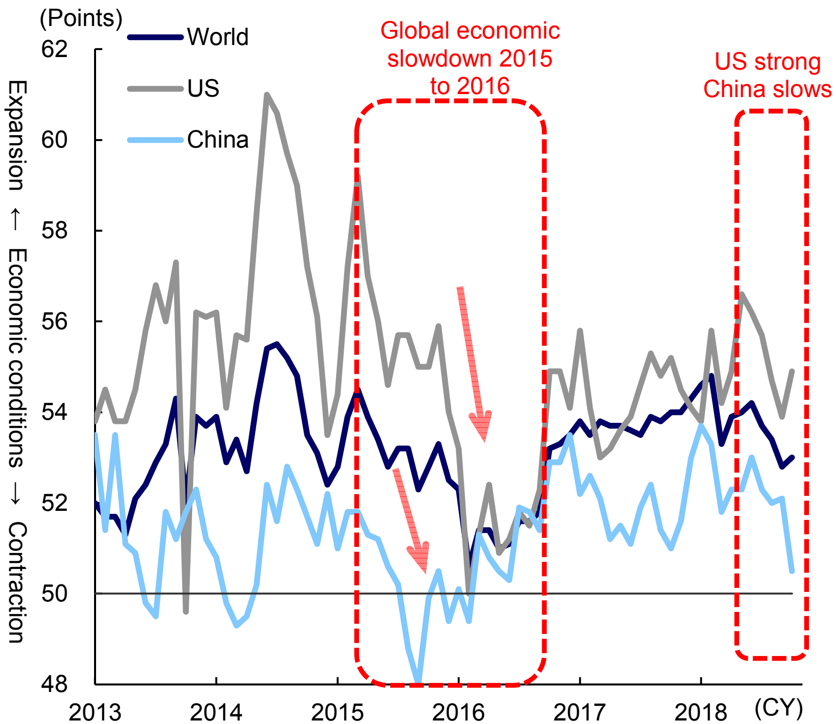
Concerns about a possible return of the global economic slowdown during the period from 2015 to 2016

- Apart from the strength of the US economy, the global economy appears to be in a soft patch and there are also concerns regarding a global economic slowdown akin to 2015 to 2016.
  - In 2016, the economic slowdown in emerging markets such as China spread to developed market countries such as the US and the Eurozone.
  - Signs of similarities with that time are emerging such as the economic slowdown in China and peak-out of the IT cycle. In addition to the risk of further decline due to factors such as the aggravation of US-China trade tensions, signs of deterioration of the US economy also needs to be monitored.

[Global Composite PMI]



Source: Made by MHRI based upon Markit

[Factors contributing to the economic slowdown in 2015 to 2016 and current conditions]

Factors contributing to economic slowdown	Current conditions
China's economic stagnation	Slowdown in Chinese economy (entering a stagnant phase)
Deterioration in IT cycle	Down-shift of semiconductor sales
Sharp drop in crude oil price	Recent sharp drop in crude oil price
Appreciation of the dollar (dollar weak against the yen in 2016)	Appreciation of the dollar since bottoming in February 2018
European political uncertainty (Brexit decision)	Uncertainties in countries such as the UK, Italy and Germany

Source: Made by MHRI

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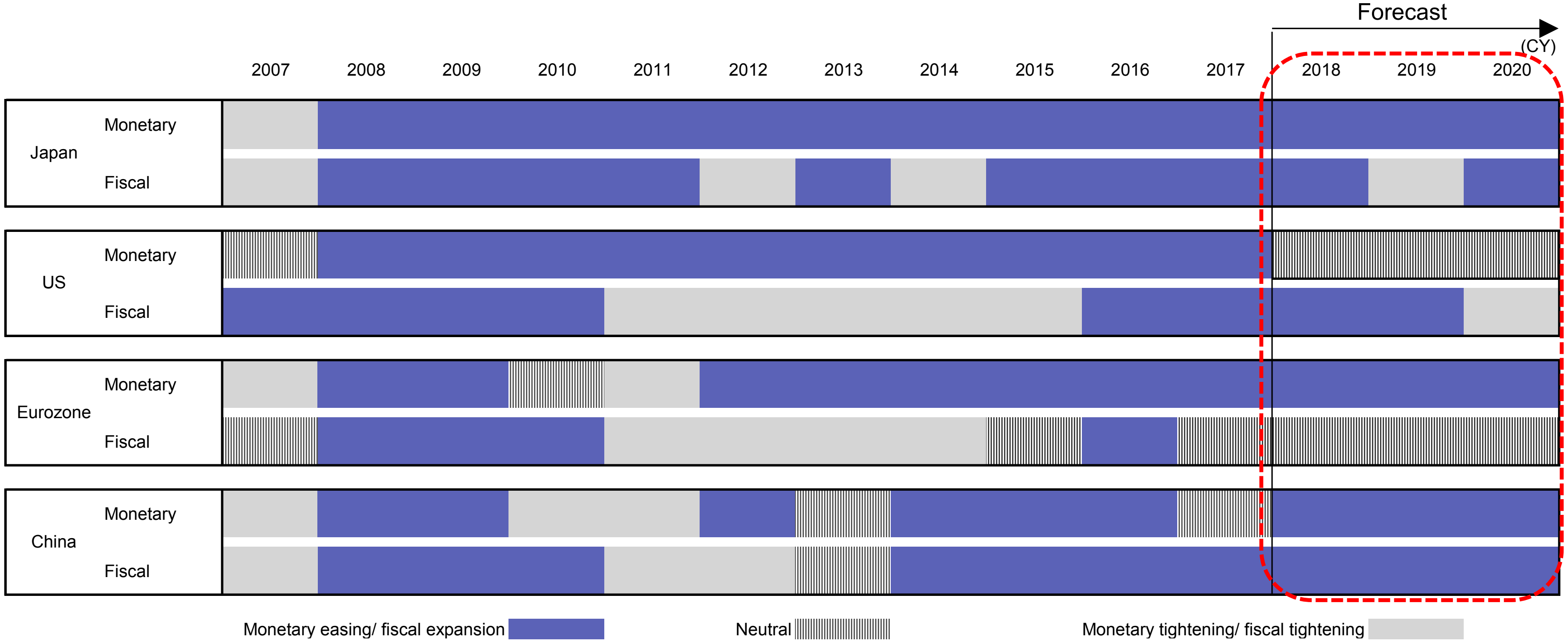
Global: fiscal policy will provide near term support, but weigh on the Japanese and US economies up until 2020

- The boost to the US economy should fade by 2020 unless there are additional fiscal measures. The US interest rate hikes will likely end in 2019.
  - While Japan will implement a consumption tax hike in 2019, the downward pressure on the economy will be limited due to various support measures.
  - The Chinese government will support the economy with monetary and fiscal policy measures to ensure that an excessive economic downturn is avoided.

[History and outlook on monetary and fiscal policies (Japan, US, Eurozone, China)]



Note: Monetary policy indicates the policy stance of the authorities based on the sense of direction and sense of levels. We have assumed the US will cut interest rates in 2018 to 2019, and hike rates in 2020, but we forecast the overall policy stance to be neutral
Fiscal policy is based on the IMF's forecast structural fiscal balances (y-o-y), with the addition of qualitative assessments by the respective analysts in charge of each region.

Source: Made by MHRI based upon each area's central bank and the IMF

(3) Trade issues: three triggers and risks indicated by issues facing the US, China, Europe and the EM

- ❑ What will happen to the US and Chinese economies, which are the main combatants of trade frictions?
- ❑ What will happen in the world (EM) and in the financial and commodity markets through each of the channels for trade, investment, natural resources and finance?

[Impact on the global economy and financial markets (conceptual diagram)]

	Trade negotiations (customs tariffs)		Trade negotiations (Standards, Regulations), Regulations on US-bound investment and exports
Now	Closed	South Korea, Canada/Mexico (both accepted volume restrictions)	USMCA implements stricter criteria such as local production standards, etc. CFIUS reforms and export regulation reforms implemented for the purpose of protecting advanced and core technologies
	Ongoing	Japan, Europe (both avoided tariffs on cars and car parts)	
	Frozen	China	

Future	Unable to maintain current status or China makes concessions	Outright conflict between US and China	Stricter criteria such as local production standards, invoke investment regulation program

Issues serving as triggers in each country		Triggered by trade policies themselves	Triggered by US government action
US	Inflation Bubble (CRE, leveraged loans)		
China	Economic slowdown		
Europe	Economic slowdown (linked to China) Italy's fiscal policy (No-deal Brexit)		
EM	Dollar-denominated debts		

Point 1.
Risk that a hike in US interest rates and stronger dollar will spread to emerging markets

Acceleration in rate hikes, sharp rise in long-term interest rates (Precedence: early 1980s, 1994) → spread to EM through financial channels

Point 2.
Risk that China's economic slowdown will spread

Worse-than-expected economic deterioration in China. Increased pressure for capital outflows (Precedence: 2015, 2016) → spread to EM though contracted equilibrium caused by unintended global imbalance and through financial channels, spread to international commodity markets through natural resource channels, etc.

Point 3.
Risk of contraction of investment/M&A and turmoil in the supply chain

Stricter regulations on investment/ exports of advanced technologies → tactic of alliances and strategic tie-ups stalls with companies in multiple countries (investment channels)

Shift towards the US in North America, Shift towards peripheral countries from China in Asia (China Plus One) (spread through trade and investment channels)

Source: Made by MHRI

Under the IMF's worst-case scenario, global economic growth would fall below 3% which would be a *de facto* recession. Japan's economic growth would fall into negative territory

- ❑ According to the IMF's *World Economic Outlook*, the impact on the global economy is limited so far (phase I).
- ❑ If the trade war escalates, the impact would spread to China (phase II), the US (phase III) and the world and financial markets (phases IV and V).

[IMF simulation of the impact of the US-China trade war]

Scenario			Timing invoked		Impact on the macro economy							
			2018 H2	2019	World 2019	World 2020	US 2019	US 2020	China 2019	China 2020	Japan 2019	Japan 2020
Additional US tariffs/ Growth rate in real GDP if no retribution from trading partners					3.8	3.8	2.7	2.0	6.7	6.7	0.9	0.3
Phase Ⅰ (Already invoked)	US	① Steel (25%), Aluminium (10%)	✔									
		②China $50 billion (25%)	✔									
		③China $200 billion (10%)	✔	10%→25%	-0.1	-0.1	-0.2	-0.2	-0.6	-0.5	0.0	0.0
	Trading partners	④ Retribution to ① and ② (Same amount)	✔									
		⑤ Retribution to ③ ($60 billion x average 7%)	✔	7%→17%								
IMF World Economic Forecast (October 2018 Base Line)					3.7	3.7	2.5	1.8	6.2	6.2	0.9	0.3
Phase Ⅱ	US	⑥China $267 billion (25%)		✔	-0.2	-0.2	-0.2	-0.3	-1.2	-0.9	0.1	0.0
	China	⑦ Retribution to ⑥ ($130 billion × 25%)		✔								
Phase Ⅲ	US	⑧ Cars and car parts ($350 billion x 25%)		✔	-0.3	-0.4	-0.6	-0.7	-1.0	-0.9	0.0	-0.2
	Trading partners	⑨ Retribution to ⑧ (Same amount)		✔								
Phase Ⅳ	Sentiment	⑩ Deterioration in capital investment due to trade frictions	✔	✔	-0.5	-0.5	-0.7	-0.8	-1.3	-1.0	-0.2	-0.3
Phase Ⅴ (Worst case)	Financial markets	⑪ Tighter financial conditions due to trade frictions		✔	-0.8	-0.8	-0.9	-0.9	-1.6	-1.4	-0.5	-0.7
IMF World Economic Outlook (October 2018 Worst Case)					2.9	2.8	1.6	0.9	4.5	4.8	0.5	-0.4

Tail wind from Japan's consumption tax hike

Insignificant

China's one-sided loss

Corresponding decline in the US

Global contagion

Below 3% is the same as a global recession

Negative growth in Japan

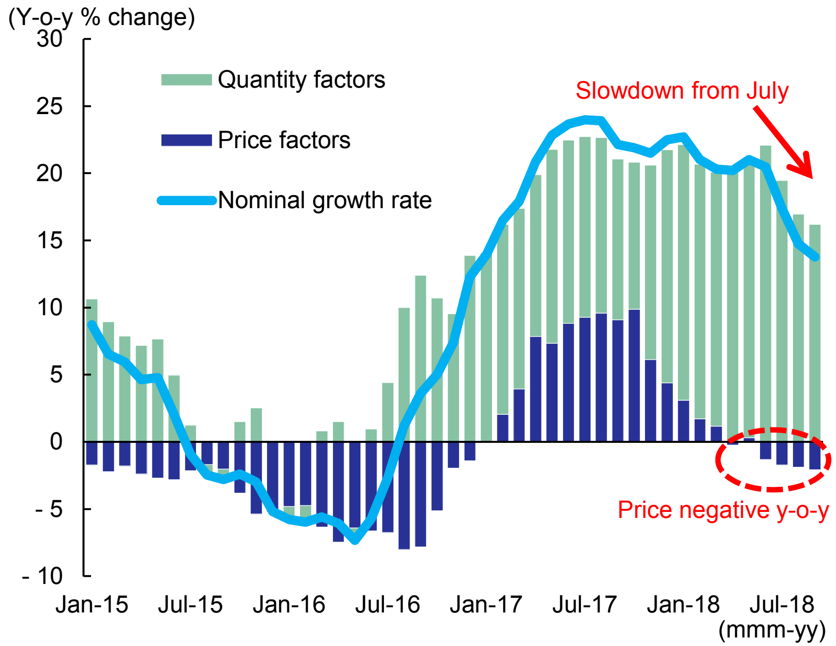
Note: The impact on the macro economy is the change in real GDP. Indicating the cumulative impact in order from phase 1 (e.g., the figures for phase 2 are the aggregate of phase 1 and phase 2).

Source: Made by MHRI based upon the IMF, *World Economic Outlook* (October 2018)

(4) Semiconductors: in addition to decelerating sales sales and pause in memory demand, US-China tensions may have an impact

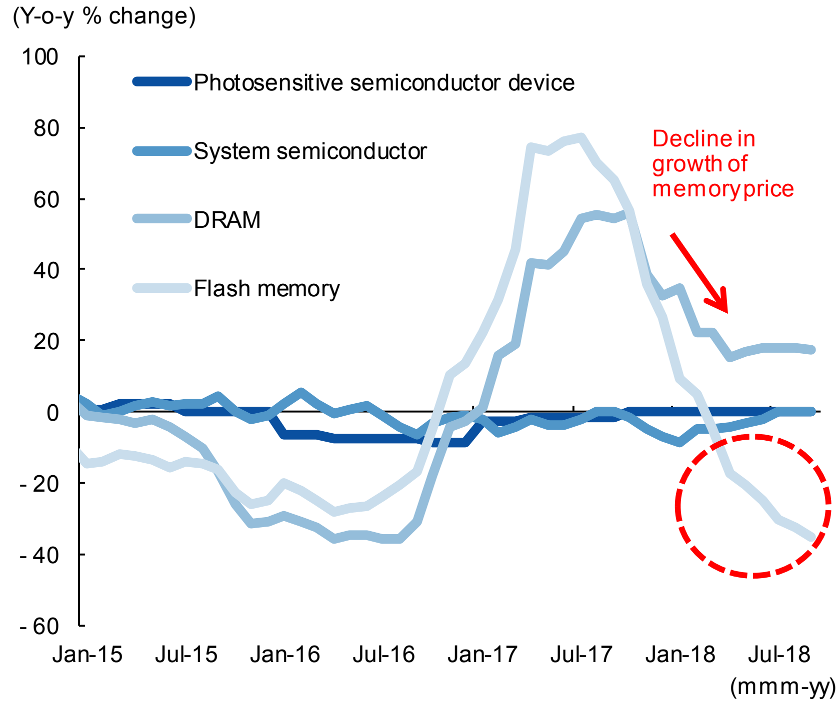
- ❑ Even though semiconductor sales had stayed at high levels of about +20% y-o-y from the beginning of the year, they have fallen substantially since July.
- ❑ The decline in sales growth can be attributed to weak BtoC demand and waning memory demand.
  - In addition to ongoing weakness in BtoC demand of smartphones etc., growth in demand for memory has slumped since demand for data centers and cryptocurrency mining has stopped growing. Memory prices are falling below previous-year levels due to increased supply capacity for memory.
- ❑ The increase in sales in the Chinese market, the largest consumer of semiconductors, has paused. This is possibly influenced by a pause in labor-savings investment and investment for improved efficiency as well as the rise of uncertainty due to US-China trade tensions.

[Global semiconductor sales]



Source: Made by MHRI based upon CIEC Data

[South Korea – semiconductor price index]



Source: Made by MHRI based upon CIEC Data

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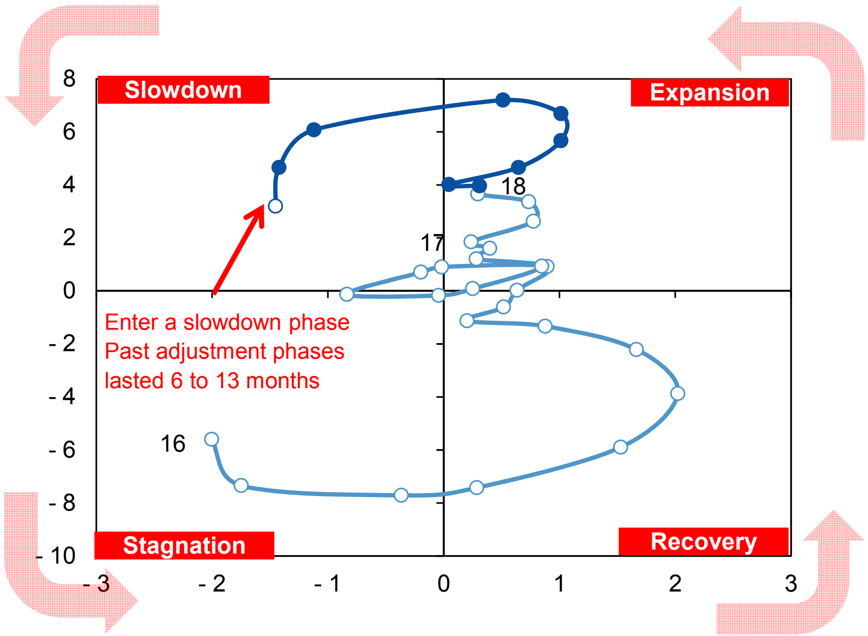
We forecast the pace of economic growth to moderate and likely bottom by mid-2019, but with large risk of further slowdown

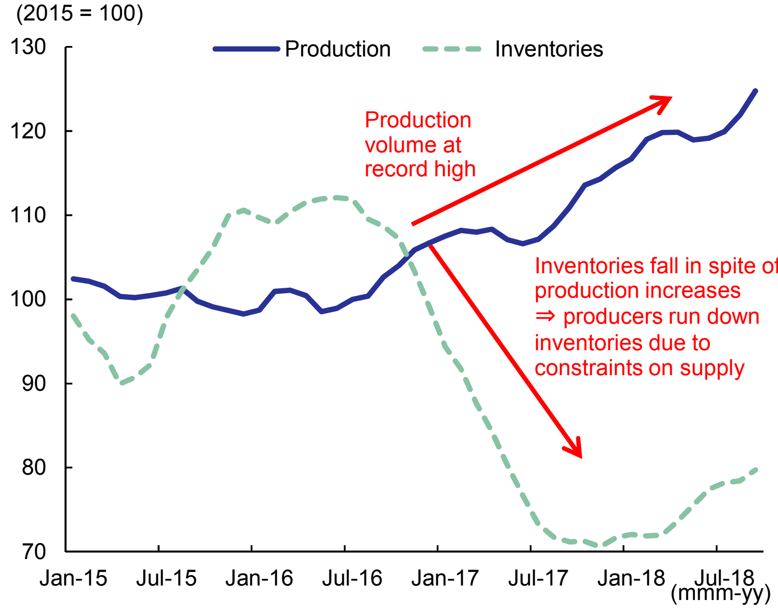
- Sales of semiconductors are forecast to slow over the near term. From past experience, we expect sales to bottom by mid-2019.
  - MHRI's Silicon Cycle Index indicates a slowdown from August. Past periods of adjustment (from slowdown to stagnation) have taken 6 to 13 months.
- BtoB demand for onboard equipment and IoT is firm and volume will be gradually boosted by the decline in the price of memory and a serious correction is likely to be avoided, yet constraints on supply of silicon wafers will most likely weigh on the recovery.
- In addition to US-China tensions, a supply glut due to acceleration in the local production of semiconductors in China should be monitored as a downside risk.

[Silicon Cycle Index (Since January 2016)]



Note: 1. The Y-axis indicates the upward and downward divergence from the trend; the X-axis indicates the m-o-m change in cyclical component
2. September is preliminary data
Source: Made by MHRI

[Japan - production and inventories of silicon wafers]

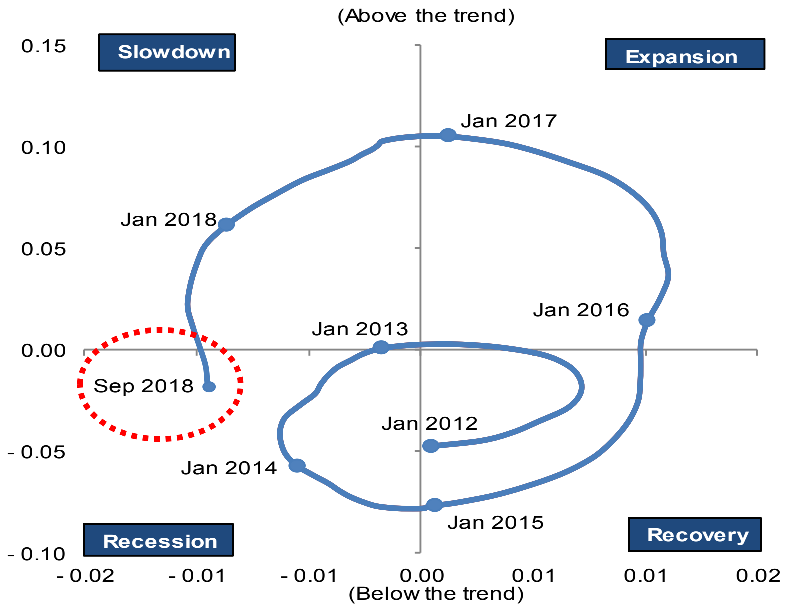


Source: Made by MHRI based upon CEIC Data

(5) China: the business cycle clock has entered a stagnant phase

- China's economy has entered a stagnant phase. Trade tensions could aggravate the decline in exports and lead to a protracted stagnation.
  - The Business cycle clock of China's diffusion index entered a stagnant phase in August 2018.
    - ✓ Despite a slight recovery in investment due to economic stimulus measures, this was due to an intensification of the fall of retail sales and corporate profits.
  - Although overall exports remain firm, there has been pronounced decline since July when looking just at goods subject to US sanctions. Given the expansion of sanctions since September, it is highly likely that growth in overall exports will also contract.

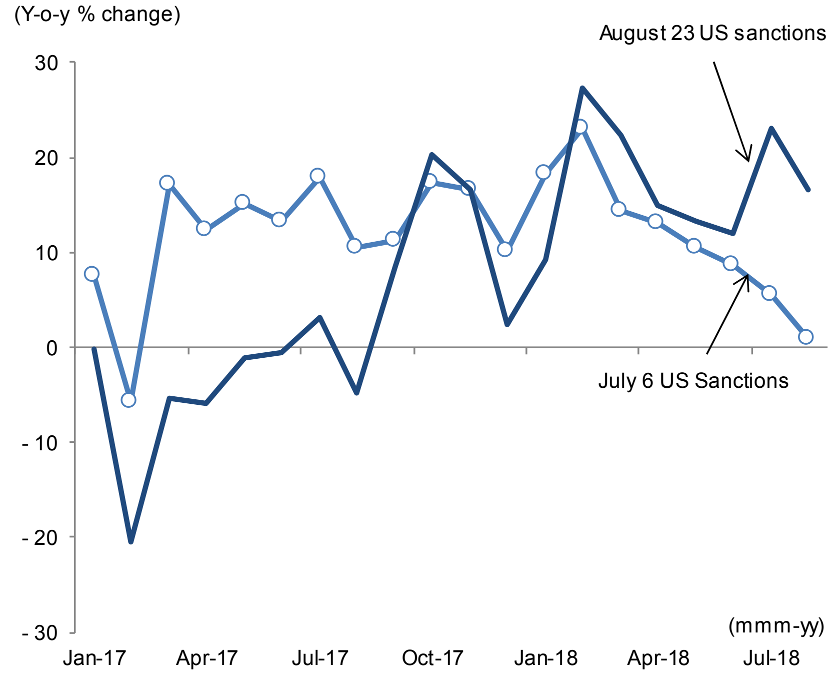
[Business cycle clock of China's diffusion index]



Note: The diffusion index comprises 6 indices of production, retail sales of consumer goods, investment in fixed assets, imports, ratio of job offers to applicants and corporate earnings, respectively standardised, and adjusted to remove the trend and outliers, weighted equally. The Y-axis plots the upward and downward divergence from the trend, while the X-axis plots the variation (m-o-m change) in the time series for the cycle components.

Source: Made by MHRI based upon National Bureau of Statistics of China and the General Administration of Customs, China

[US-bound exports of goods subject to US sanctions]



Note: Aggregated at the World Customs Organization's HS-6 levels for goods subject to US sanctions

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

II. The Japanese Economy

Firm despite a slowdown of growth

The Japanese economy: even though growth is expected to slow down, the economy should remain on firm footing

- Japan's economic growth fell into negative territory (-1.2% q-o-q p.a.) for the first time in two quarters in the Jul-Sep quarter of 2018. A series of natural disasters including the torrential rain in western Japan, Typhoon No. 21 and the Hokkaido earthquake led to store shut-downs, suspension of factory operations and severance of logistics networks, serving as negative pressures upon consumption and exports. Capital investment growth also grinded down to a pause in a backlash to the strong growth in the Apr-Jun quarter.

- MHRI's FY2018 forecast on Japan's GDP: +1.0%. Even though strong labor market conditions will serve as tailwinds upon personal consumption, the pace of economic recovery will turn out to be mild since inflation will push down real wages. Capital investment should remain on firm footing mainly in labor-saving investments, reflecting the strength of investment incentive. Exports should gradually slow down, given the impact of the Chinese economy's entry into a stagnant phase and signs that the IT sector is peaking out.

- In FY2019, Japan's economic growth is forecast to moderate to +0.8%, reflecting downward pressures reflecting the consumption tax hike in October and the slowdown of exports. However, the downward pressures upon real income should turn out to be milder than in April 2015 (the previous consumption tax hike) due to the implementation of various income support measures at the time of the consumption tax hike.

- Turning to the risks, it will be necessary for the time being to keep a close eye upon the escalation of trade tensions. There are concerns that the rise of uncertainty would depress corporate sentiment. Furthermore, in the event of a further escalation of US-China trade tensions, it would serve indirectly as negative pressures upon Japan's economy. Should the US impose additional tariffs related to motor vehicles, it would have a serious impact upon Japan.

Japan: forecast growth rates for FY2018 (+1.0%) and FY2019 (+0.8%)

- Real GDP growth in FY2018 and FY2019 are forecast to slow down from FY2017.
  - FY2018 real GDP growth forecast: +1.0%, revised downward from our forecast as of September (+1.2%). The downward revision is attributed to the impact of natural disasters.
  - FY2019 real GDP growth forecast: the October 2019 consumption tax hike will push down the growth rate in FY2019. Together with factors such as the moderation in exports, we forecast the growth rate to decline.

[Outlook on the Japanese economy]

		2016 FY	2017	2018	2019	2017 Apr-Jun	Jul-Sep	Oct-Dec	2018 Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	2019 Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	2020 Jan-Mar
GDP (real)	Q-o-q % ch	1.2	1.6	1.0	0.8	0.5	0.7	0.2	-0.3	0.8	-0.3	0.6	0.4	0.3	0.6	-1.0	0.2
	Q-o-q % ch p.a.	—	—	—	—	1.9	2.9	0.8	-1.1	3.0	-1.2	2.3	1.8	1.2	2.4	-4.0	0.9
Domestic demand	Q-o-q % ch	0.4	1.2	1.0	0.9	0.8	0.1	0.3	-0.3	0.9	-0.2	0.5	0.4	0.4	0.9	-1.4	0.2
Private sector demand	Q-o-q % ch	0.4	1.3	1.3	0.8	0.6	0.3	0.5	-0.4	1.1	-0.2	0.5	0.4	0.4	1.1	-1.9	0.3
Personal consumption	Q-o-q % ch	0.3	0.8	0.6	0.7	0.8	-0.6	0.3	-0.2	0.7	-0.1	0.4	0.2	0.4	1.5	-2.5	0.5
Housing investment	Q-o-q % ch	6.2	-0.3	-4.0	-0.4	1.6	-1.8	-3.2	-2.1	-1.9	0.6	1.5	1.2	1.7	-1.2	-3.8	-4.1
Capital investment	Q-o-q % ch	1.2	3.1	4.5	1.9	0.2	1.5	0.7	0.7	3.1	-0.2	0.3	0.5	0.4	1.0	0.3	0.2
Inventory investment	Q-o-q contribution, % pt	(-0.3)	(0.1)	(0.0)	(-0.1)	(-0.1)	(0.4)	(0.2)	(-0.2)	(0.0)	(-0.1)	(0.0)	(0.0)	(-0.1)	(-0.1)	(0.1)	(0.0)
Public sector demand	Q-o-q % ch	0.6	0.9	0.1	1.2	1.3	-0.4	-0.1	-0.1	0.1	-0.2	0.5	0.5	0.5	0.2	0.0	-0.1
Government consumption	Q-o-q % ch	0.5	0.7	0.6	0.8	0.4	0.1	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	-0.0	0.1
Public investment	Q-o-q % ch	0.9	1.5	-1.5	2.7	5.0	-2.2	-0.8	-0.5	-0.3	-1.9	1.8	1.6	1.1	0.2	0.3	-0.6
External demand	Q-o-q contribution, % pt	(0.8)	(0.4)	(0.0)	(-0.0)	(-0.3)	(0.6)	(-0.1)	(0.1)	(-0.1)	(-0.1)	(0.1)	(0.0)	(-0.1)	(-0.3)	(0.4)	(-0.0)
Exports	Q-o-q % ch	3.6	6.3	1.9	1.8	-0.2	2.7	2.1	0.5	0.3	-1.8	1.4	0.8	0.4	0.4	0.3	0.3
Imports	Q-o-q % ch	-0.8	4.1	2.0	2.1	1.7	-1.0	3.1	0.1	1.0	-1.4	1.0	0.6	0.9	1.9	-1.8	0.3
GDP (nominal)	Q-o-q % ch	1.0	1.7	0.9	1.2	0.7	1.1	0.2	-0.5	0.6	-0.3	1.0	-0.1	0.6	0.5	-0.2	0.0
GDP deflator	Y-o-y % ch	-0.2	0.1	-0.1	0.4	-0.3	0.1	0.1	0.5	0.0	-0.3	0.0	-0.3	0.2	0.0	0.6	0.8
Domestic demand deflator	Y-o-y % ch	-0.5	0.6	0.6	0.9	0.4	0.5	0.6	0.9	0.5	0.8	0.6	0.5	0.7	0.5	1.0	1.2

Notes: Figures in the shaded areas are forecasts.
Source: Made by MHRI based upon Cabinet Office, *Preliminary Quarterly Estimates of GDP*.

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Japan: a gradual decline in CPI (excluding food and energy) (y-o-y) is forecast from around mid-2019

[Outlook on the Japanese economy (major economic indicators)]

		2016	2017	2018	2019	2017			2018				2019				2020
		FY				Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Industrial production	Q-o-q % ch	1.0	4.1	0.9	1.7	1.9	0.0	1.2	-1.1	1.2	-1.3	1.3	0.8	0.7	1.2	-1.3	-0.3
Ordinary profits	Y-o-y % ch	10.0	6.9	3.5	-0.4	22.6	5.5	0.9	0.2	17.9	-5.9	-0.9	0.5	-1.5	7.8	-3.6	-2.4
Nominal compensation of employees	Y-o-y % ch	2.5	2.2	2.7	2.0	2.2	2.0	1.8	2.7	3.4	2.5	2.9	2.1	2.0	2.2	2.1	2.0
Unemployment rate	%	3.0	2.7	2.4	2.4	2.9	2.8	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5
New housing starts	P.a., 10,000 units	97.4	94.6	96.9	93.1	98.7	95.5	94.8	89.2	96.8	95.3	96.8	99.1	99.9	94.3	90.3	87.5
Current account balance	P.a., JPY tril	21.0	21.8	20.4	17.9	20.0	23.2	23.6	18.7	22.1	17.0	20.2	19.3	16.5	14.6	19.0	18.6
Domestic corporate goods prices	Y-o-y % ch	-2.4	2.7	2.4	2.3	2.2	2.8	3.3	2.5	2.4	3.0	2.5	1.8	1.4	1.1	3.4	2.9
Domestic corporate goods prices (ex consumption tax)	Y-o-y % ch	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	1.5	1.0
Consumer prices, ex fresh food	Y-o-y % ch	-0.2	0.7	0.9	1.1	0.4	0.6	0.9	0.9	0.7	0.9	0.9	0.9	0.9	0.8	1.3	1.3
Consumer prices, ex fresh food (ex consumption tax)	Y-o-y % ch	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	0.3	0.3
Consumer prices, ex fresh food and energy	Y-o-y % ch	0.3	0.2	0.4	0.7	0.0	0.1	0.3	0.5	0.3	0.3	0.4	0.5	0.5	0.5	0.9	0.9
Consumer prices, ex fresh food and energy (ex consumption tax)	Y-o-y % ch	-	-	-	0.3	-	-	-	-	-	-	-	-	-	-	0.0	0.0
Uncollateralized overnight call rate	%	-0.06	-0.06	-0.05	-0.05	-0.07	-0.06	-0.06	-0.06	-0.07	-0.06	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Yield on newly-issued 10-yr JGBs	%	-0.05	0.05	0.11	0.15	0.04	0.05	0.05	0.06	0.04	0.10	0.15	0.15	0.15	0.15	0.15	0.15
Nikkei average	JPY	17,520	20,984	22,700	23,800	19,503	19,880	22,188	22,366	22,341	22,654	22,600	23,300	24,000	23,500	23,500	24,000
Exchange rate	USD/JPY	108	111	112	115	111	111	113	108	109	111	113	114	115	116	115	113
Crude oil price (WTI nearest term contract)	USD/bbl	48	54	67	73	48	48	55	63	68	69	63	68	71	73	74	75

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

2. Consumer prices (both including and excluding the impact of the consumption tax hike) reflect the impact of free pre-school education for the Oct-Dec quarter of 2019 and the Jan-Mar quarter of 2020

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

4. Nominal compensation of employees for FY2017, FY2018, and the Jun-Mar and Apr-Jun quarters of 2018 excludes the effects of methodological changes in the *Monthly Labour Survey.*

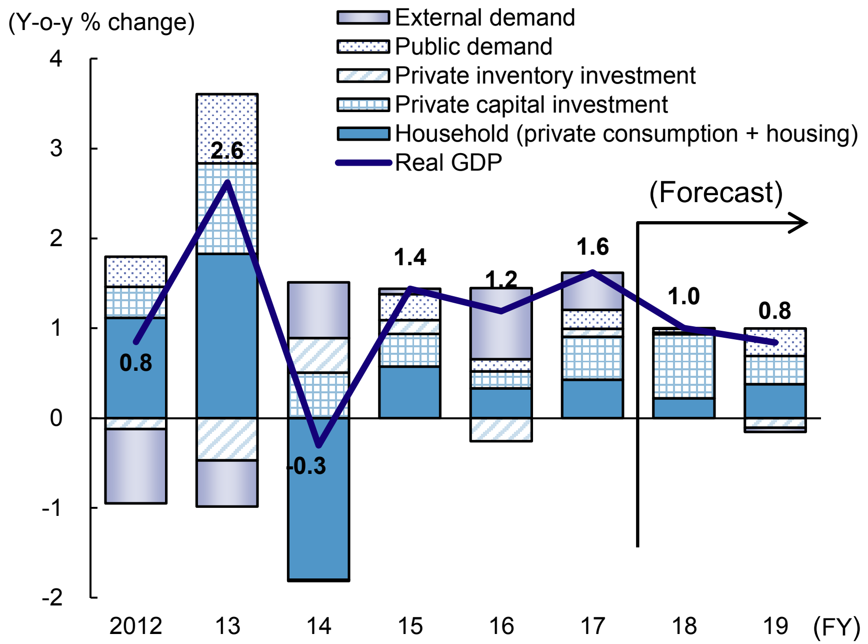
5. Of the finance-related indices, the uncollateralized overnight call rate refers to the rate at the end of term, the yield on newly-issued 10-yr JGBs refers to the average of the end-of-month rates during the relevant term, and all others are averages during the relevant terms

Sources: Made by MHRI based upon relevant statistics

Outlook: FY2018 and FY2019 growth forecast to slow down from FY2017

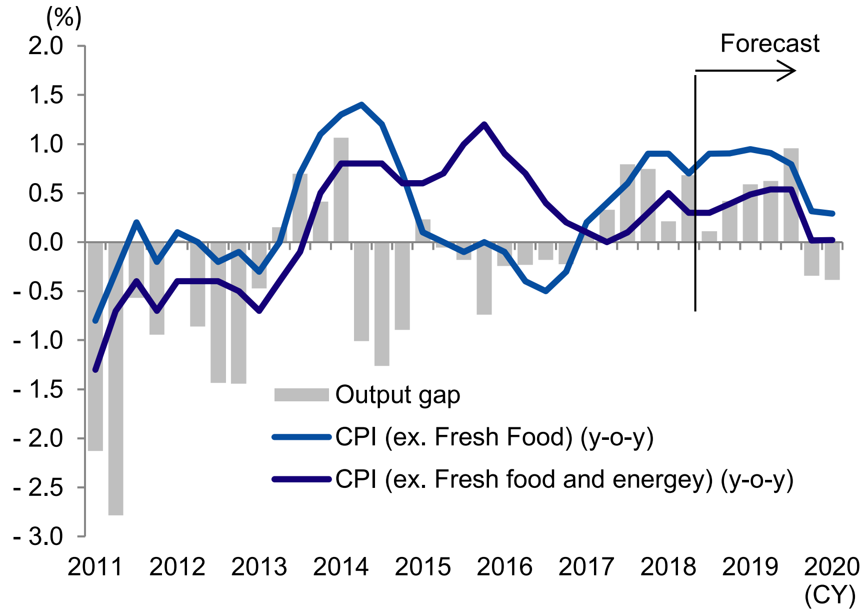
- FY2018 real GDP growth forecast: +1.0%, revised downward from our forecast as of September (+1.2%). The downward revision is attributed to the impact of natural disasters.
- The October 2019 consumption tax hike will push down the growth rate in FY2019. Despite support from public sector demand, we forecast the growth rate to decline due to factors such as the slowdown of exports.

[Factor contribution to the rate of growth in real GDP]



Source: Made by MHRI based upon Cabinet Office, *National Accounts*

[Output gap and CPI (forecast)]



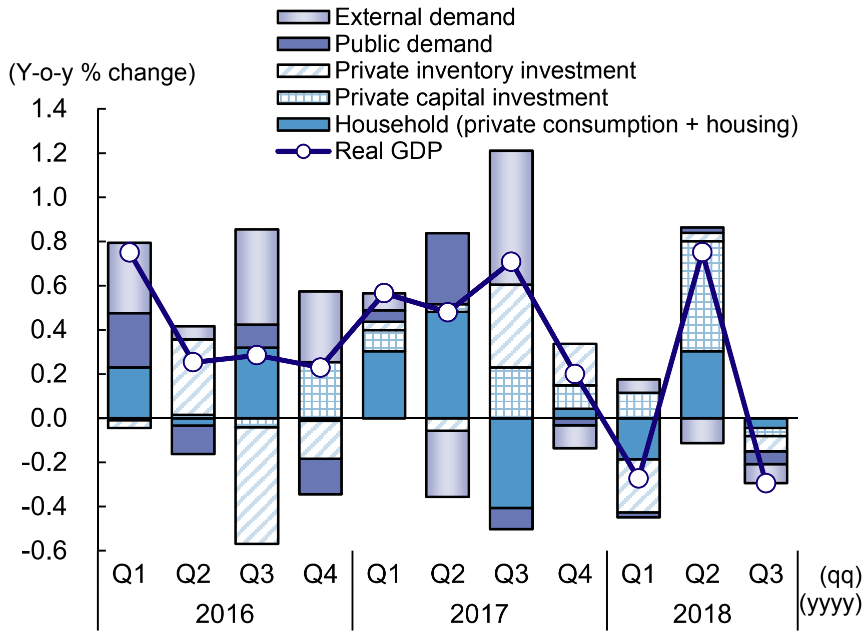
Note: Output gap estimated by MHRI.
The CPI excludes consumption tax (accounting for the impact of free pre-school education)

Source: Made by MHRI based upon Ministry of Internal Affairs and Communications and Cabinet Office

Current status and forecast: real GDP was -1.2% q-o-q in Jul-Sep quarter, the first negative growth in two quarters

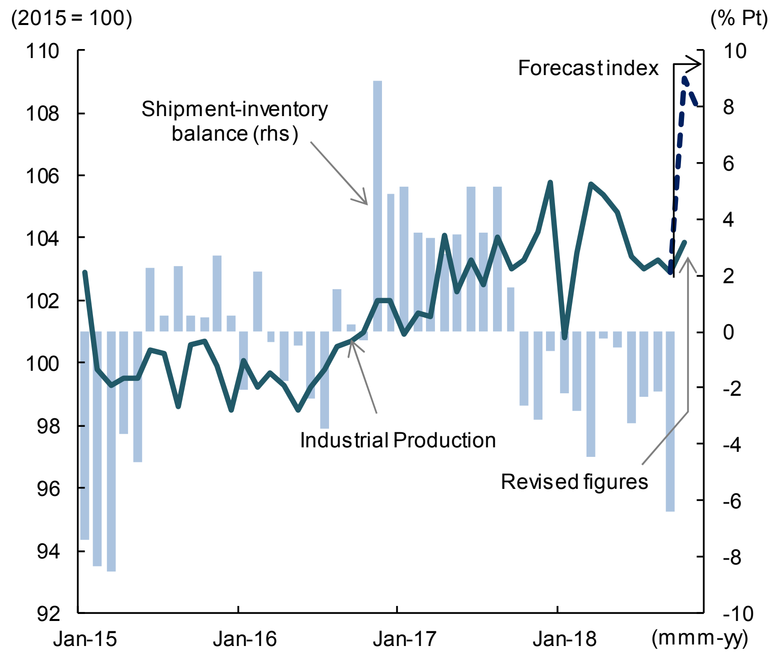
- Real GDP for the Jul-Sep quarter was -0.3% q-o-q (-1.2% q-o-q, annualized), the first negative growth in two quarters.
  - A series of natural disasters including the heavy rains in western Japan, Typhoon No. 21, and the Hokkaido earthquake led to store shut-downs, suspension of factory operations, and severance of logistics networks, serving as negative pressures on consumption and exports. Capital investment also grinded down to a pause due to a backlash to the strong growth in the Apr-Jun quarter.
- Steady progress is being made in the recovery following the natural disasters, and production is being restored.
  - However, the shipment-inventory balance, particularly for electronic parts and devices, has deteriorated and we expect the increase in production to be at a moderate pace.

[Quarterly real GDP]



Source: Made by MHRI based upon Cabinet Office, *Preliminary Quarterly Estimates of GDP.*

[Industrial production index]



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

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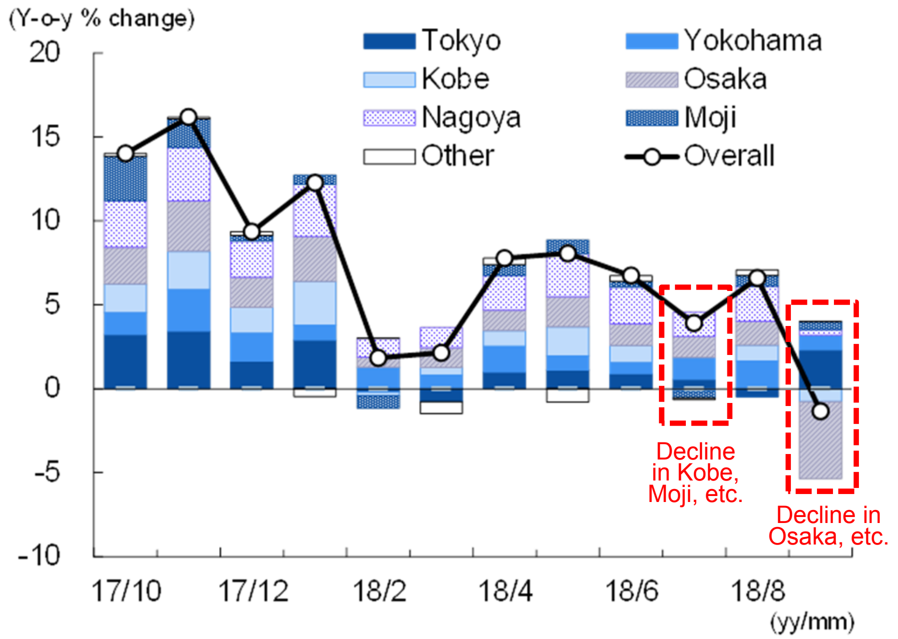
Natural disasters: successive natural disasters pushed down exports of goods and services in Jul-Sep quarter

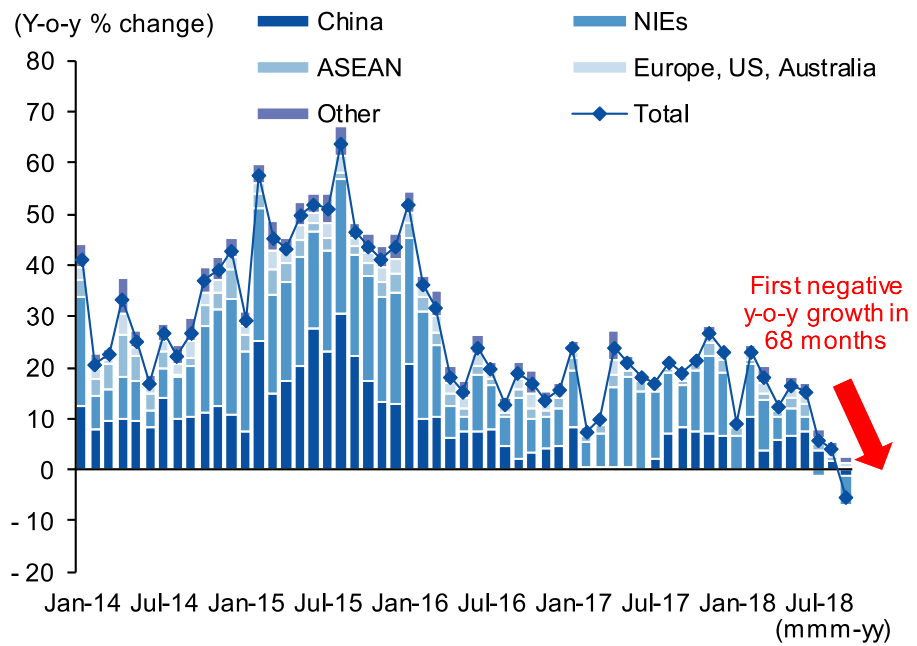
- Successive natural disasters pushed down goods and services exports in the Jul-Sep quarter.
  - In July, exports from the ports of Kobe and Moji fell due to the impact of the suspension of factory operations caused by heavy rains in western Japan.
  - In September, exports from Osaka fell due to the temporary closure of Kansai International Airport caused by Typhoon No. 21.
  - In addition to the temporary closure of the airport, concerns regarding natural disasters led to a decline in number of foreign visitors. In September, the number of foreign visitors to Japan fell below the previous year for the first time in 68 months.

[Exports by Customs Office (Value base)]



Note: The Hakodate, Nagasaki, Okinawa areas are a small proportion relative to overall, so they are combined together under "Other."
Source: Made by MHRI based upon Ministry of Finance, *Trade Statistics*

[Number of foreign visitors to Japan]

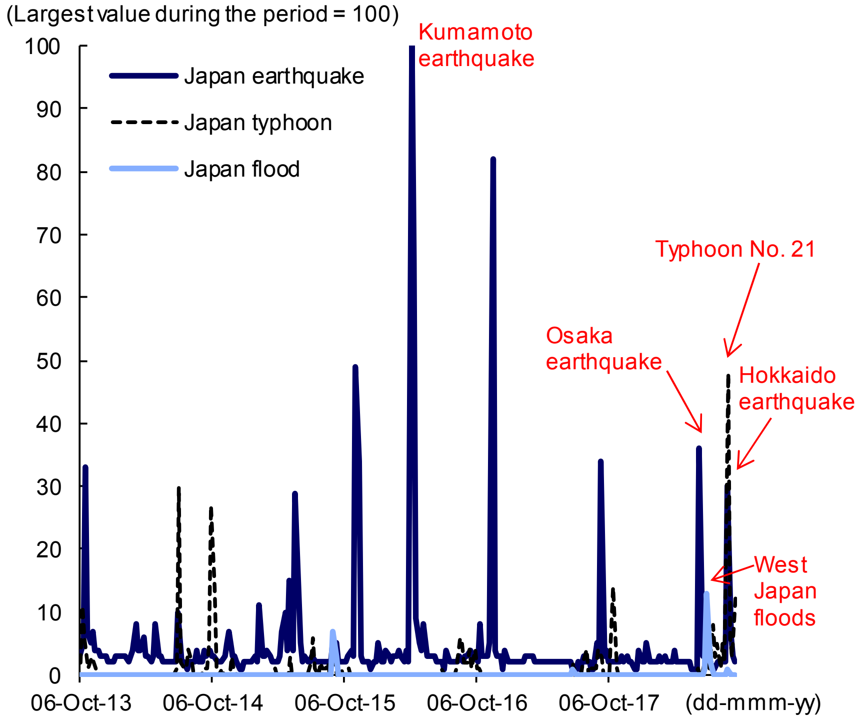


Source: Made by MHRI based upon the Japan National Tourism Organization

Natural disasters: we forecast the impact of recent natural disasters to be temporary

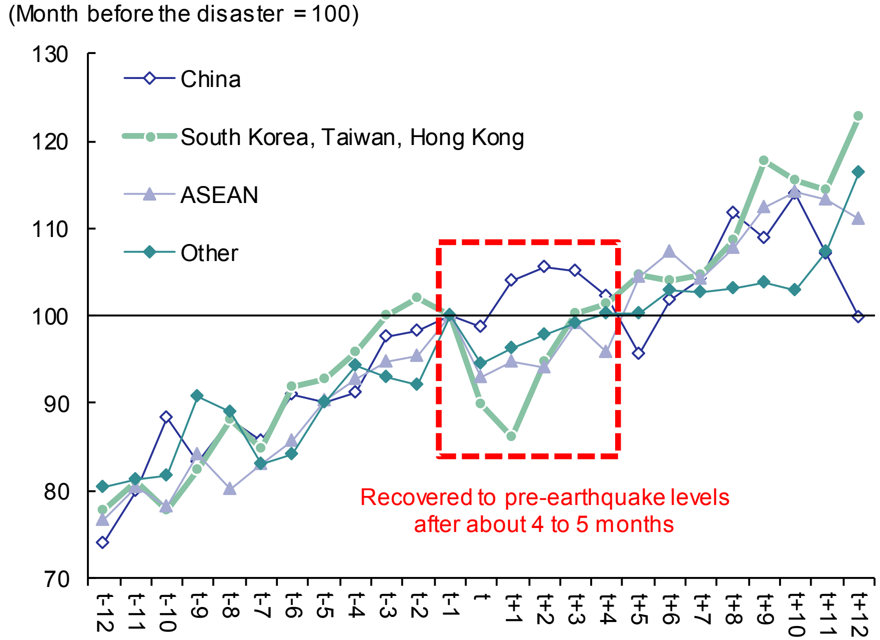
- The negative impact of natural disasters such as earthquakes, flood and typhoons is usually temporary. We except the impact to subside along with the restoration of infrastructure, etc.
  - Despite the sensitivity of foreigners to earthquakes, the Osaka and Hokkaido earthquakes did not appear to elicit as much interest as the Kumamoto earthquake.
  - While the number of travelers from countries near Japan fell at the time of the Kumamoto earthquake, the numbers recovered to pre-earthquake levels around 4 to 5 months after the earthquake.

[Number of Google Keyword Searches]



Source: Made by MHRI based upon Google Trend

[Number of foreign visitors at the time of the Kumamoto Earthquake]



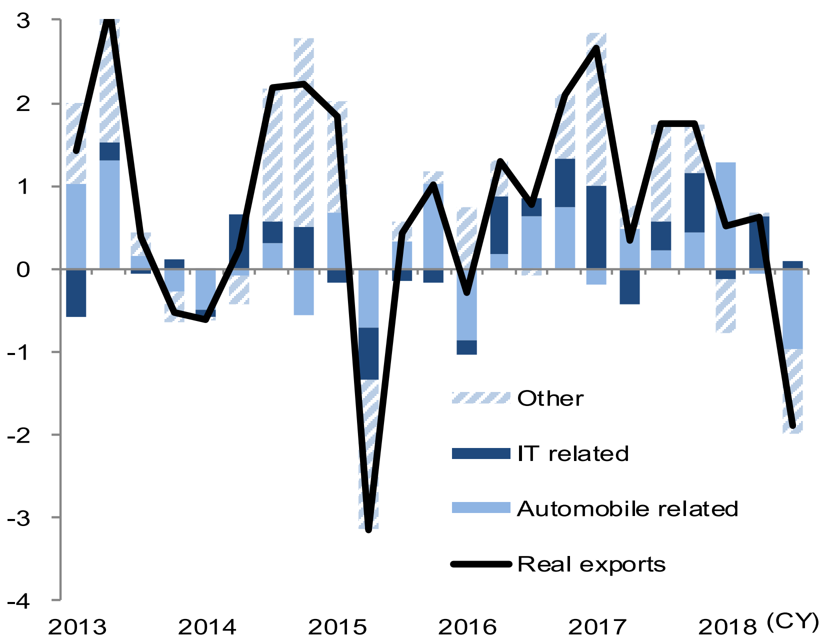
Note: Seasonally-adjusted by MHRI. 12 month before and after the time of the earthquake (t)

Source: Made by MHRI based upon the Japan National Tourism Organization (JNTO)

Exports and fixed (capital) investment: we forecast sluggish exports and continued strength in fixed (capital) investment

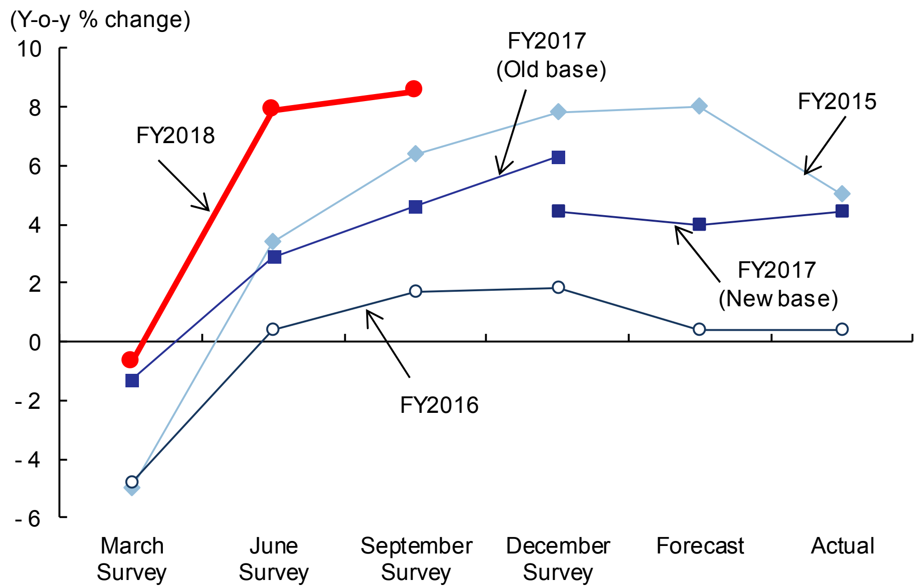
- As we write this report, exports are declining due to the effect of natural disasters. However, growth of IT-related exports remained slightly positive in the Jul-Sep quarter.
  - Given the steady restoration following the disasters, we expect a temporary recovery of exports in the Oct-Dec quarter.
  - However, IT-related demand, which was the driver of exports, are likely to peak out. Japan's exports should slow down due to the entry of China's economy into a stagnation.
- Considering the ongoing strong investment incentive among companies, we forecast that capital investment will be firm due to needs for investment for labor-saving measures.
  - The risk is that investment sentiment may cool down along with the escalation of trade tensions.

[Factor contribution to real exports]



Source: Made by MHRI based upon Bank of Japan, *Real Exports and Real Imports*

[Fixed Investment Plans (BOJ *Tankan* September Survey)]

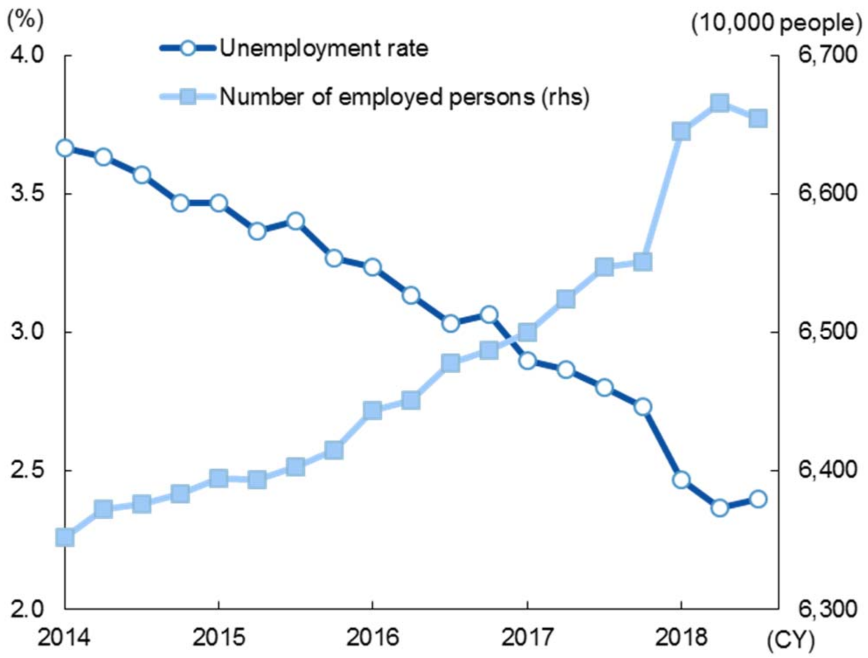


Note: Includes land purchasing expenses and excludes software.
Source: Made by MHRI based upon Bank of Japan, *Short-term Economic Survey of Enterprises in Japan* (*TANKAN*).

Employment and consumption: given good employment conditions, consumption should remain firm

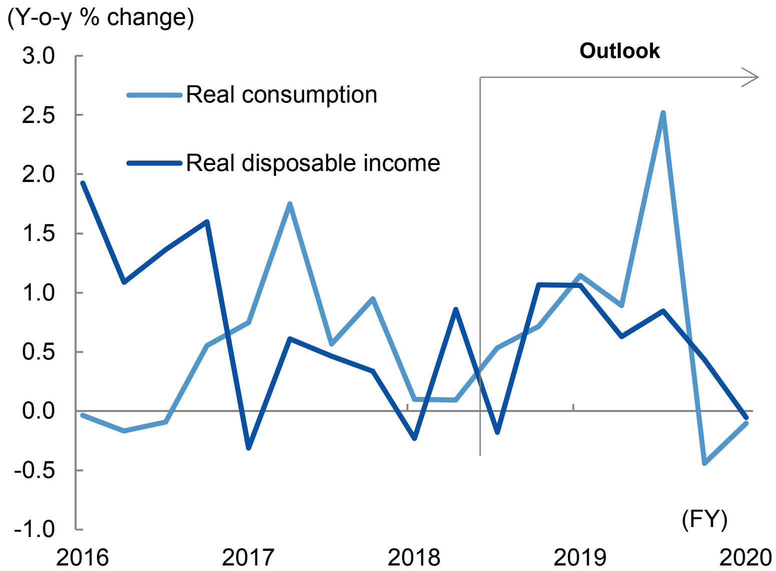
- Amid the ongoing favorable employment conditions, personal consumption should also follow firm footing.
  - The unemployment rate is at the lower half of the 2% level and the number of employed persons is also rising gradually. Given the ongoing sense of labor shortages, the unemployment rate should remain low.
  - Given prospects that the number of employed persons will continue to rise gradually due to factors such as labor force participation by the elderly, disposable incomes should also be firm. While there could be short-term fluctuations before and after the consumption tax hike, on balance, we forecast personal consumption to be firm.

[Unemployment rate and the number of employed persons]



Note: Seasonally-adjusted. Quarterly base
Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Labour Force Survey*

[Disposable income and personal consumption (outlook)]

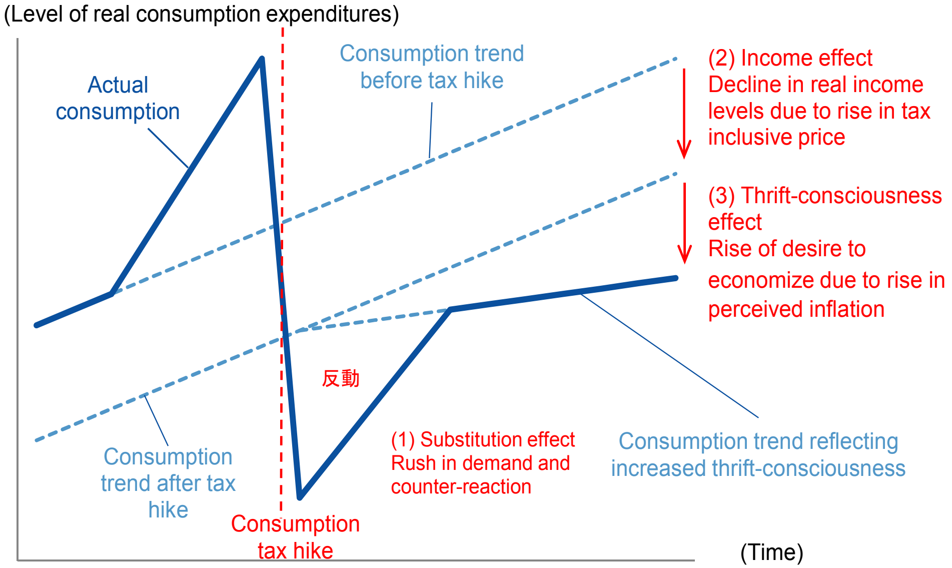


Source: Made by MHRI based upon Cabinet Office, *Annual Report on National Accounts*

Consumption tax hike impact: three elements need to be considered for the impact of the consumption tax hike

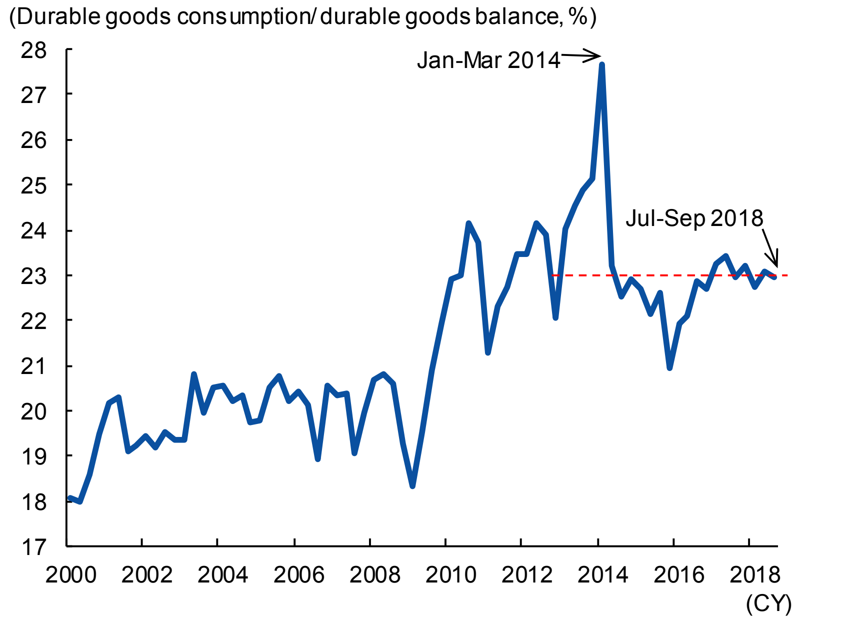
- In view of the April 2014 consumption tax hike, we believe three elements need to be considered in assessing the impact of the October 2019 consumption tax hike.
  - (1) In addition to the counter-reactionary decline, (2) the decrease in value of real incomes due to the rise in tax inclusive price, and (3) increased thrift-consciousness due to the rise in perceived inflation.
- In terms of (1) the counter-reactionary decline, the trend is likely to be limited in 2019 and 2020 compared to 2014.
  - Considering that an additional October 2015 tax hike was anticipated in April 2014, the rush in demand at the time most likely priced in a 5% point tax hike.

[How the consumption tax hike affects personal consumption (concept diagram)]



Source: Made by MHRI

[Stock ratio of durable goods]



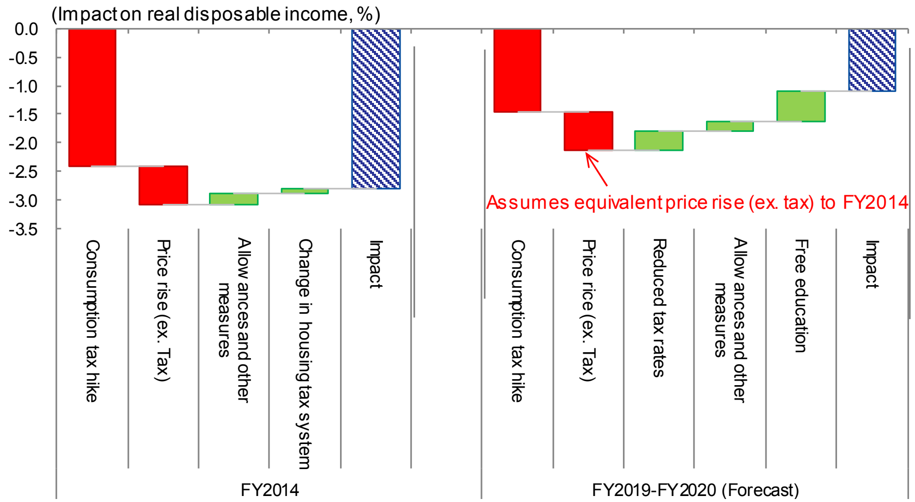
Note: 1. Keeping the amount of retirement constant, converting the balance from annual to quarterly.
2. The retirement ratio since 2017 extended at a fixed rate by the balance at the end of 2016

Source: Made by MHRI based upon Cabinet Office, *Annual Report on National Accounts, Preliminary Quarterly Estimates of GDP*

Consumption tax hike impact: we expect the impact to be limited compared to FY2014

- The value of real incomes fell substantially in FY2014 due to the consumption tax hike (5% → 8%) and the rise in tax inclusive prices.
  - This time, the consumption tax hike will be smaller (8% → 10%) and income support measures have been expanded. We thus forecast that the downward pressure on disposable incomes to be around 1% in FY2019 to FY2020.
- In terms of (3) households' perceived inflation, the increase in the price of frequently purchased goods led to a rise in FY2014 to FY2015.
  - However, we expect the introduction of reduced tax rates on items such as frequently purchased food in FY2019 to suppress the rise in perceived inflation.
- While there could be short-term fluctuations before and after the consumption tax hike, on balance, we forecast personal consumption to be firm.

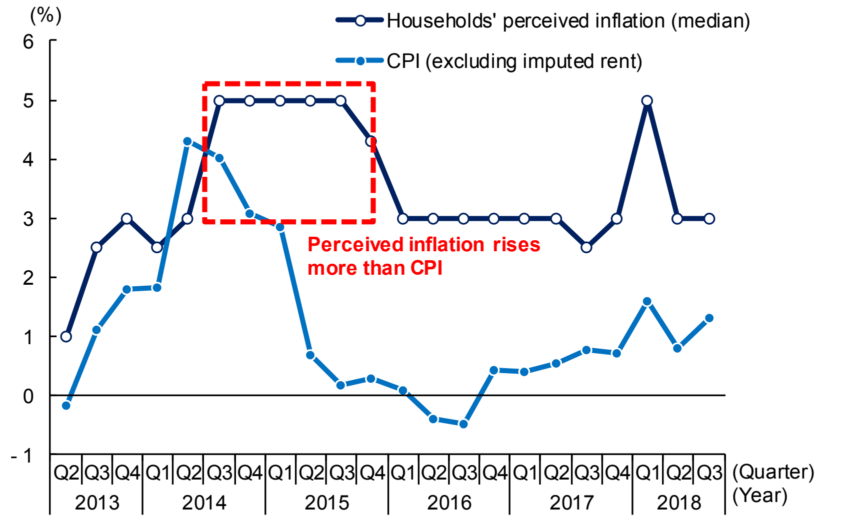
[Impact of the consumption tax hike on real disposable incomes]



Note: 1. The price index is the household final consumption expenditure deflator (excluding imputed rent and FISIM)
2. Since the impact on the tax rate increase due to the October 2019 consumption tax hike is spread over FY2019 and FY2020, the charts show the aggregate impact for 2 years.

Source: Made by MHRI based upon the Cabinet Office, *Annual Report on National Accounts*

[CPI and perceived inflation]



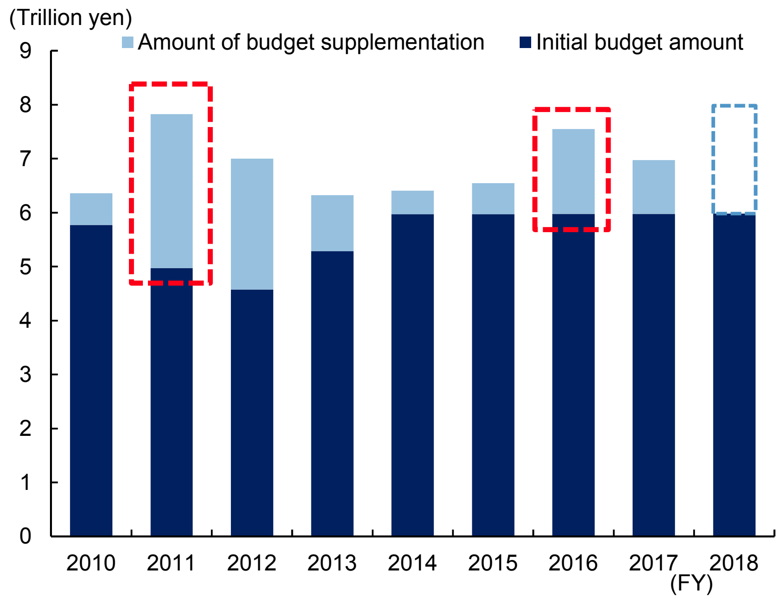
Note: 1. Households' perceived inflation is the median response to the survey question, "By what percent do you think prices have changed compared with one year ago?"
2. The CPI is "general" excluding imputed rent.

Source: Made by MHRI based upon the Bank of Japan, *Opinion Survey on the General Public's Views and Behavior*, and the Ministry of Internal Affairs and Communications, *Consumer Price Index*

Government and prices: uptick of public investment due to budget supplementation, gradual slowdown of core CPI (y-o-y)

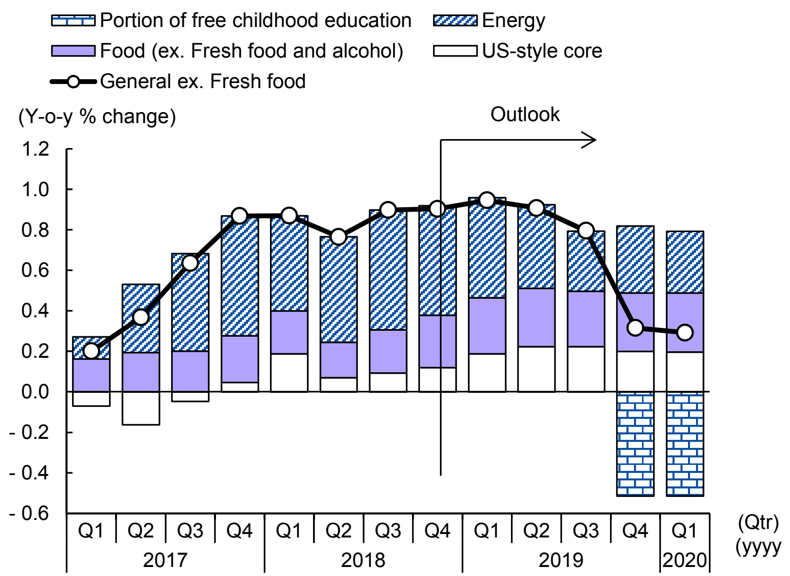
- The government passed the first supplementary budget. According to trial calculations, FY2019 nominal GDP will be pushed up around 0.2% due to an increase in public investment worth approximately 800 billion yen.
  - In FY2011, after the Great East Japan Earthquake, and FY2016 after the Kumamoto earthquakes, public works-related expenses were supplemented by the passage of supplementary budgets.
  - The odds are high that the budget supplementation in the second supplementary budget funded by increased tax revenues will reach around 2 trillion yen. An uptick in public investment is projected in FY2019.
- Prices will likely peak in the Jan-Mar quarter of 2019 and subsequently slow down.
  - The rise of prices will gradually slow down due to a pause in the rise of energy prices. The measure to make early childhood education free in October 2019 (CPI contribution of -0.5% pt) will also serve as negative pressure.

[Public works-related expenses]



Note: FY2018 figure are tentative estimates
Source: Made by MHRI based upon Ministry of Finance

[CPI (outlook)]



Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Consumer Price Index*

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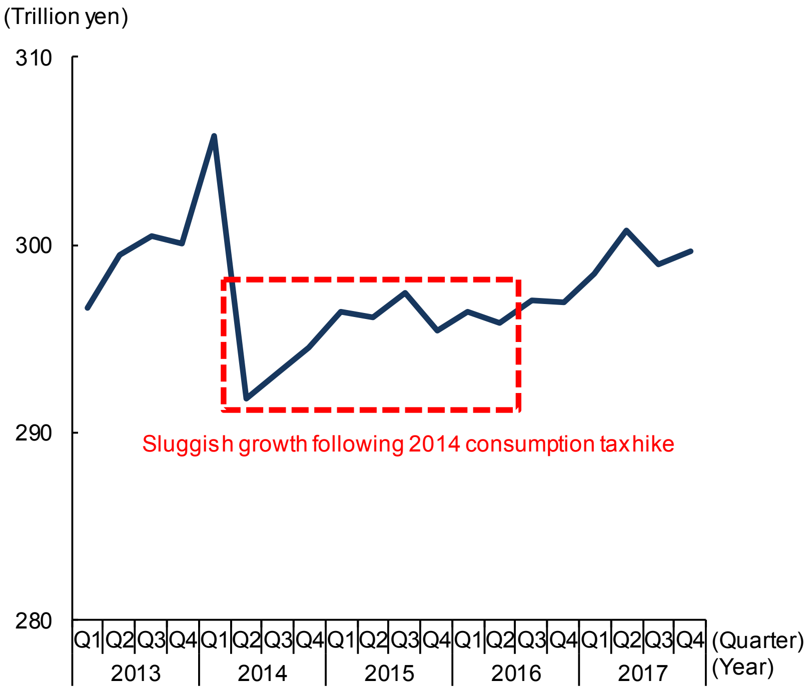
Risk: need to be wary of the risk of a return of the 2014 to 2015 period of stagnation

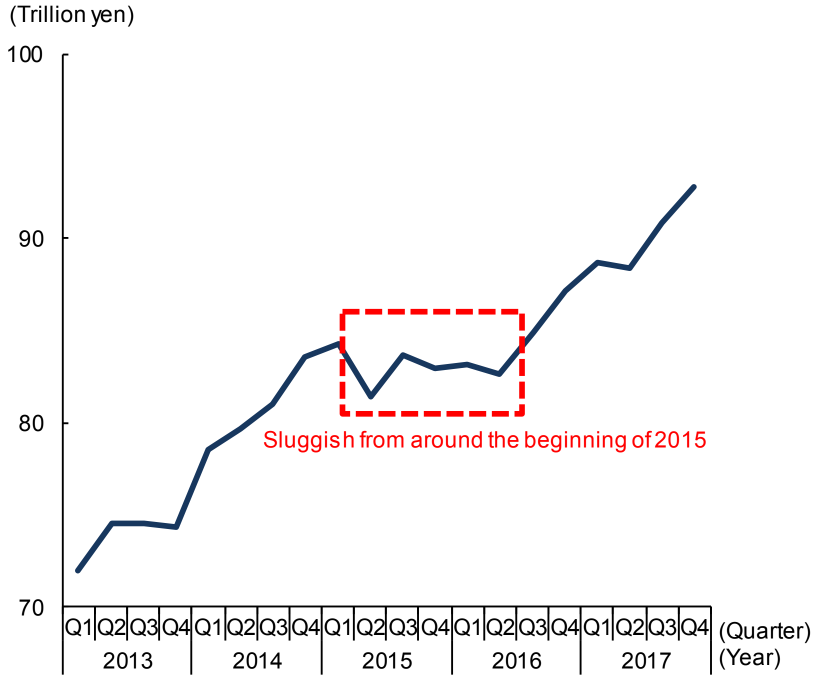
- As a risk scenario for Japan's economy, it will be necessary to watch out for a return to a period of stagnation last experienced in 2014 to 2015.
  - The sluggish growth in 2014 to 2015 was attributed to the stagnant growth of exports in addition to the prolonged impact of the consumption tax hike.
    - ✓ In addition to the impact of the global economic slowdown from around 2015, IT-demand also slowed from the second half of the year and export growth remained stagnant.
  - While we forecast that the impact of the October 2019 consumption tax hike will be limited compared to 2014, in the event exports slow down more than expected, this requires close attention as it could serve as a drag on the economic recovery.

[Japan: real consumer spending]



Note: Annualized. Seasonally-adjusted.
Source: Made by MHRI based upon Cabinet Office, *National Accounts*

[Japan: real exports]



Note: Annualized. Seasonally-adjusted.
Source: Made by MHRI based upon Cabinet Office, *National Accounts*

BOJ: despite rising concerns about side effects, policy interest rates to be left unchanged until the consumption tax hike

- The BOJ left policy unchanged at the October Monetary Policy Meeting (October 30/31). The price outlook was lowered in the *Outlook for Economic Activity and Prices* (the "*Outlook Report*") while the comment "it is necessary to pay close attention to future developments" was added in relation to the risks considered most relevant to the conduct of monetary policy.
  - The *Financial System Report* (October 2018) presented a quantitative evaluation of tail risk. The analysis was that there is growing risk of future decline in the economy.
- We forecast policy interest rates to be left unchanged until the consumption tax hike due to the forward guidance for policy interest rates. The BOJ could subsequently allow a moderate rise in interest rates within the scope of maintaining price momentum.

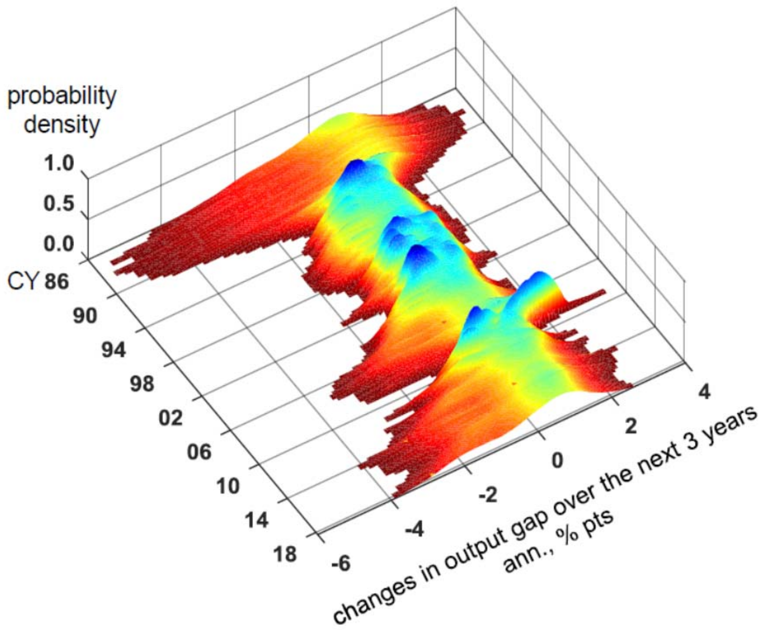
[*Outlook for Economic Activity and Prices* (October 2018)]

(Y-o-y % change)

	Real GDP	CPI (All items except fresh food)	Excluding impact of consumption tax hike
FY2018	+1.3 to +1.5 (+1.4)	+0.9 to +1.0 (+0.9)	
Forecast made in July 2018	+1.3 to +1.5 (+1.5)	+1.0 to +1.2 (+1.1)	
FY2019	+0.8 to +0.9 (+0.8)	+1.8 to +2.0 (+1.9)	+1.3 to +1.5 (+1.4)
Forecast made in July 2018	+0.7 to +0.9 (+0.8)	+1.8 to +2.1 (+2.0)	+1.3 to +1.6 (+1.5)
FY2020	+0.6 to +0.9 (+0.8)	+1.9 to +2.1 (+2.0)	+1.4 to +1.6 (+1.5)
Forecast made in July 2018	+0.6 to +0.9 (+0.8)	+1.9 to +2.1 (+2.1)	+1.4 to +1.6 (+1.6)

Note: Forecasts of the Majority of Policy Board Members. Figures in brackets indicate the median of the Policy Board members' forecasts (point estimates)
Source: Made by MHRI based upon Bank of Japan materials

[Financial vulnerabilities and risks to economic growth over the next 3 years (GDP at Risk "GaR")]



Note: The chart presents the time series of probability distributions of annualized changes in output gap over the next 3 years at each point in time.
Source: Bank of Japan, *Financial System Report* (October 2018)

III. The Asian Economies

Slowdown throughout 2019

The Asian economies: slowdown throughout 2019

- China’s economy has entered a stagnant phase since August 2018. Although exports remain firm, there has been substantial slowdown in exports of goods subject to US sanctions. Investment - mainly in infrastructure - has fallen below year-ago levels. Consumer spending is sluggish with respect to automotive sales.

- Looking forward with respect to China, we forecast the decline in exports to become more pronounced due to the reinforcement of US sanctions. There are concerns that this will spread to export-related fixed business investment and consumer sentiment. The government is supporting the economy through the implementation of monetary and fiscal policies.

- In Asian economies (ex. China), the growth rates were overall firm in the Jul-Sep quarter. While there is a sense that IT-related exports has temporarily paused, overall exports are firm and domestic demand is supported by increased infrastructure investment, etc.

- Looking forward, the Asian economies (ex. China) are projected to slow particularly in relation to exports due to the slowdown of the Chinese economy and peak-out of the IT cycle. However, in the event production shifts from China to other Asian countries in a abid to avoid trade tensions, it will serve as a positive factor for exports. Depending on such developments, growth rates could exceed expectations.

- Furthermore, in view of successive interest rate hikes from the middle of 2018 in Indonesia, the Philippines and India, which are heavily domestic demand-driven, consumption and investment could slow with a time lag.

- In view of the foregoing, we forecast a slowdown in the Asian economies as a whole throughout 2019.

Asia: China, NIEs, ASEAN and India are all facing a slowdown throughout 2019

- China: in the face of the slowdown of exports and investment due to trade tensions, China will underpin the economy through economic stimulus measures.
- NIEs and ASEAN: given China's economic slowdown and peak-out of the IT cycle, the NIEs and ASEAN economies will moderate particularly in relation to exports.
  - Note that there is possibility of production being moved away from China to nearby countries to avoid trade tensions, However, this has not been factored into our outlook due to a shortage of information. Any move in production would support the exports of some countries.
- India and ASEAN: among countries with high dependence on domestic demand such as Indonesia and the Philippines, domestic demand will slow down due to successive interest rate hikes from the middle of 2018.

[Outlook on the Asian economies]

(Unit: %)

	2014	2015	2016	2017	2018	2019
Asia	6.4	6.2	6.2	6.1	6.2	5.9
China	7.3	6.9	6.7	6.9	6.6	6.2
NIEs	3.5	2.1	2.3	3.2	2.8	2.4
South Korea	3.3	2.8	2.3	3.1	2.6	2.4
Taiwan	4.0	0.8	2.3	2.9	2.5	2.2
Hong Kong	2.8	2.4	2.3	3.8	3.5	2.3
Singapore	3.9	2.2	2.3	3.6	3.2	2.5
ASEAN5	4.6	4.9	2.3	5.3	5.3	4.9
Indonesia	5.0	4.9	2.3	5.1	5.2	5.1
Thailand	1.0	3.0	2.3	3.9	4.2	3.0
Malaysia	6.0	5.1	2.3	5.9	5.0	4.5
The Philippines	6.1	6.1	2.3	6.7	6.2	6.0
Vietnam	6.0	6.7	2.3	6.8	6.9	6.6
India	7.0	7.6	2.3	6.2	7.6	7.3
(Reference) Asia ex. China and India	4.2	3.8	2.3	4.5	4.3	4.0
(Reference) Asia ex. China	5.4	5.4	2.3	5.3	5.8	5.5

Note: Real GDP growth rate (y-o-y). Shading denotes forecasts. Average figures are calculated from the 2016 GDP share from the IMF (purchasing power parity base)

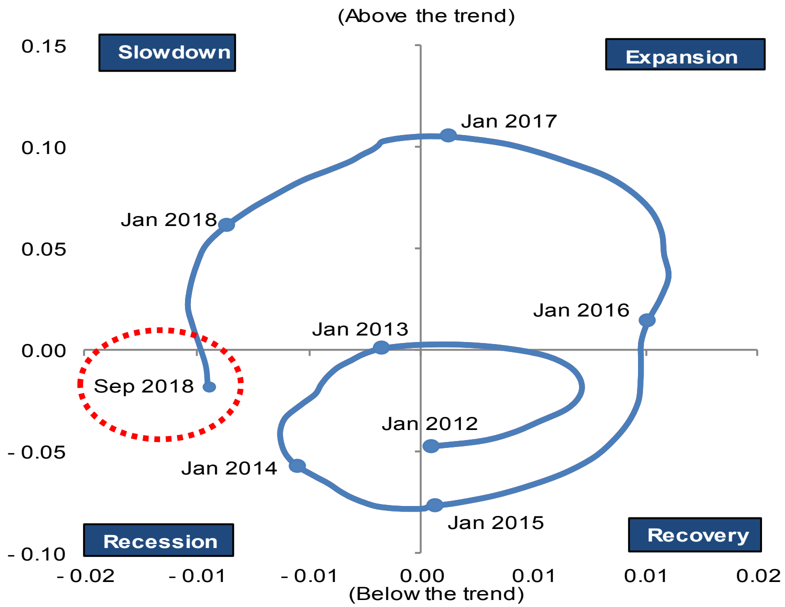
Source: Made by MHRI based upon statistics of the relevant countries and regions

(restatement of p. 12)

China: the business cycle clock has entered a stagnant phase , with a high likelihood of further decline in exports

- China's economy has entered a stagnant phase. Trade tensions could aggravate the decline in exports and lead to a protracted stagnation.
  - The Business cycle clock of China's diffusion index entered a stagnant phase in August 2018.
    - ✓ Despite a slight recovery in investment due to economic stimulus measures, this was due to an intensification of the fall of retail sales and corporate profits.
  - Although overall exports remain firm, there has been pronounced decline since July when looking just at goods subject to US sanctions. Given the expansion of sanctions since September, it is highly likely that growth in overall exports will also contract.

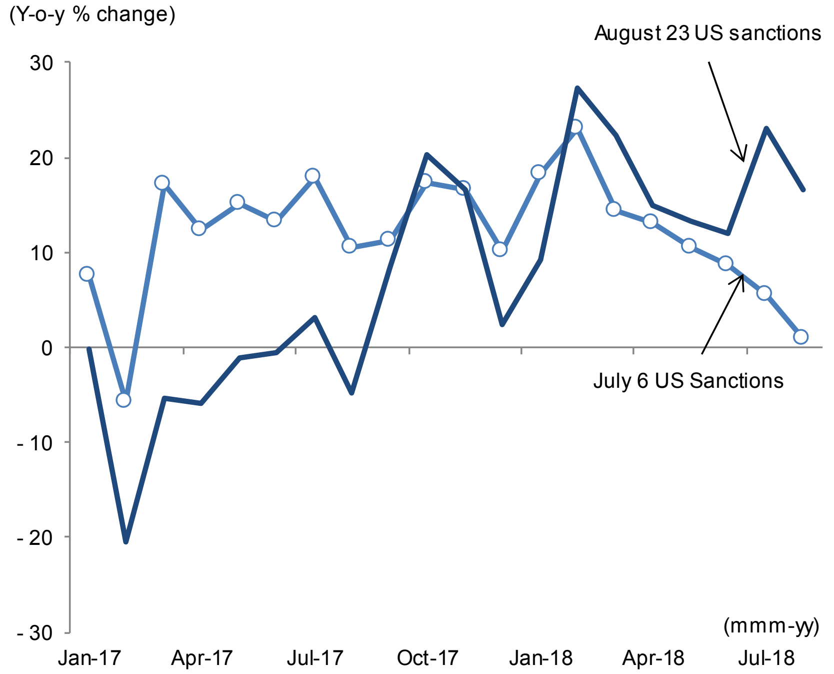
[Business cycle clock of China's diffusion index]



Note: The diffusion index comprises 6 indices of production, retail sales of consumer goods, investment in fixed assets, imports, ratio of job offers to applicants and corporate earnings, respectively standardised, and adjusted to remove the trend and outliers, weighted equally. The Y-axis plots the upward and downward divergence from the trend, while the X-axis plots the variation (m-o-m change) in the time series for the cycle components.

Source: Made by MHRI based upon National Bureau of Statistics of China and the General Administration of Customs, China

[US-bound exports of goods subject to US sanctions]



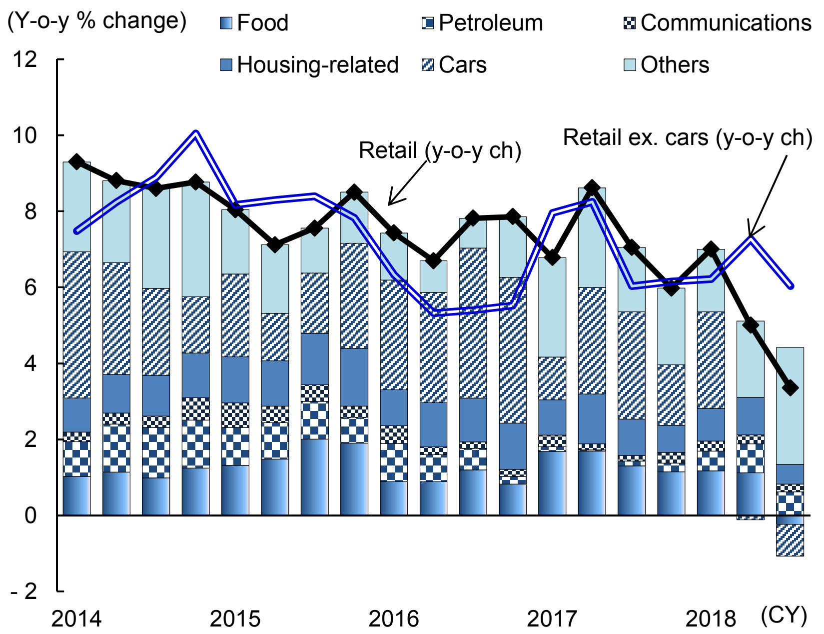
Note: Aggregated at the World Customs Organization's HS-6 levels for goods subject to US sanctions

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

China: while sluggish car sales due to the abolition of tax cuts are expected to subside, there are concerns about deterioration in sentiment

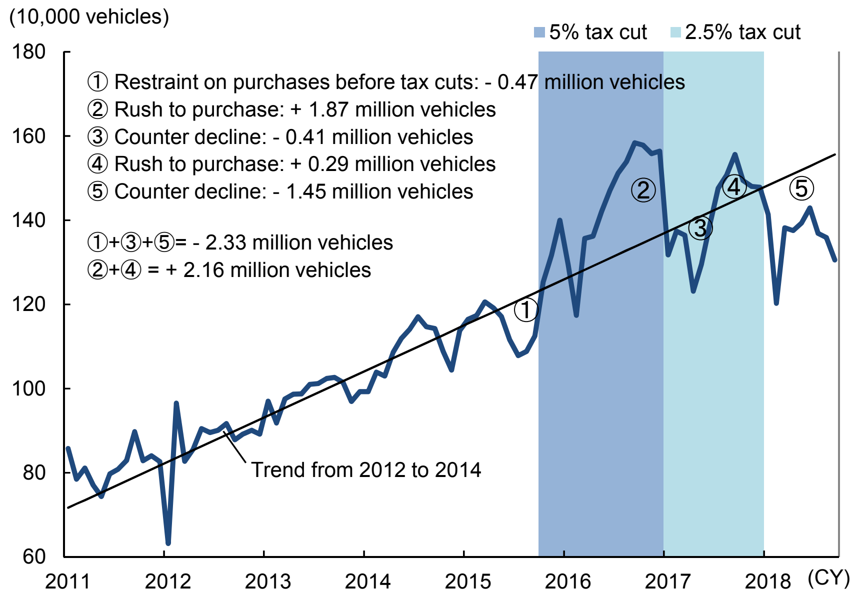
- Sluggish car sales are dragging down retail sales. Even though the downward pressure on car sales from the abolition of tax cuts are subsiding, the deterioration of consumer sentiment is a source of concern.
  - Factors contributing to sluggish car sales since the beginning of 2018 include (1) counter-reaction to the end of tax cuts on small cars, (2) sluggish sales of mid-sized cars most likely for corporate business usage, (3) hold-off of purchases of cars that run on gasoline due to the higher price of crude oil, and (4) slowdown of pace of rise of the penetration rate. Factor (1) in particular has had a major downward impact.
    - ✓ Based on past trends, the counter-reactionary decline to the rush to purchase during the period of reduced taxes is likely to subside in the second half of 2018. However, there are concerns that deterioration of consumer sentiment could become a new factor weighing on the economy.

[Retail sales]



Note: Made real using the series corresponding to the breakdown of retail sales in the retail sales price index
Source: Made by MHRI based upon National Bureau of Statistics China

[Impact of tax cuts on the number of small cars sold (estimate)]

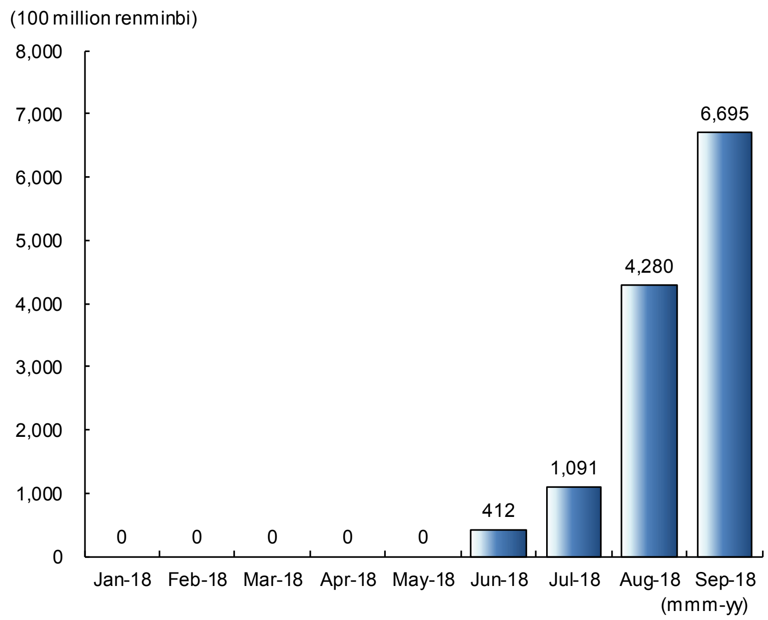


Note: Small cars have engines smaller than 1.6 liters
Source: Made by MHRI based upon China Association of Automobile Manufacturers (CAAM)

China: the government is supporting the economy through monetary and fiscal policies

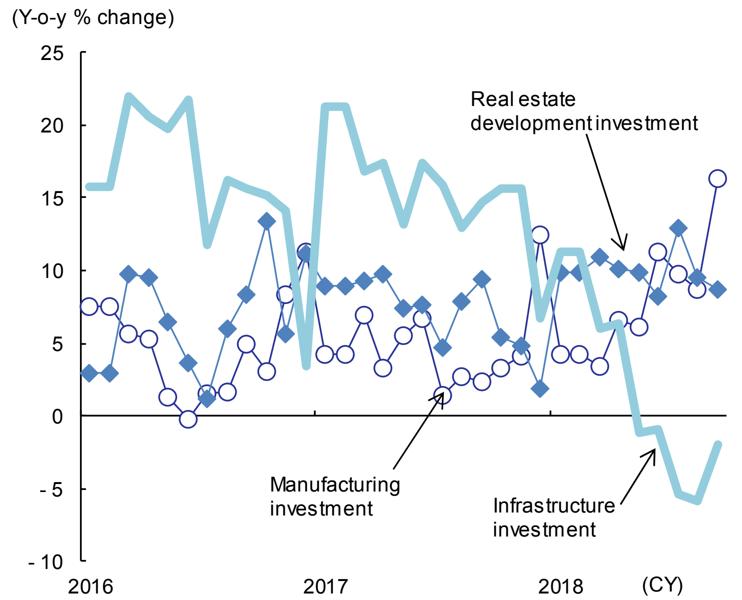
- Amid China's reinforcement of monetary and fiscal measures, the deterioration of investment is being halted, thus serving to support the economy.
  - The issuance of local government bonds has surged subsequent to a decision in August to accelerate the issuance of local government bonds, which are used mainly to finance infrastructure investment.
    - ✓ The decrease in infrastructure investments started to narrow in September.
    - ✓ Note that investment by manufacturers is recovering, particularly for basic materials sectors that continue to record firm profits (chemicals, non-ferrous metals, etc.).
  - The deposit reserve requirement ratio has already been cut three times in 2018 (four times, if including limited target) in a bid to improve the financial positions of small and medium-sized companies.

[Issuance of local government bonds]



Source: Made by MHRI based upon Ministry of Finance of the People' Republic of China

[Breakdown of fixed asset investment (nominal)]



Source: Made by MHRI based upon National Bureau of Statistics of China

MIZUHO