FY2018, FY2019 Economic Outlook

- Despite the ongoing expansion of the global economy, keep a close eye upon protectionism and risks of higher interest rates -

May 17, 2018

Mizuho Research Institute

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Key points of our forecast

- The global economy is forecast to remain on an expansion track in 2018 and continue to follow firm footing in 2019. However, the growth momentum will gradually moderate due to the slowdown of the Chinese economy and peak-out of the IT cycle.

- Even though Jan-Mar quarter growth fell sharply for Japan, the US and Europe, the slowdown should prove to be temporary and start to pick up from the Apr-Jun quarter mainly in the US where policy measures such as tax cuts are expected to have effect.

- The risks to growth are the spread of protectionism, rise in long-term interest rates, escalation of Middle East tensions, and rise in crude oil prices.

- As for protectionism, the US is exerting stronger external pressures regarding trade principally toward China. Should US-China trade frictions escalate, it would serve as negative pressures not only upon the US and China but upon the global economy as well.

- There are risks of the rise in US long-term interest rates due to mounting inflation expectations stemming from the rise in crude oil prices and concerns regarding supply constraints. The rise in US long-term interest rates will lead to the rise of capital outflow pressures from the stock market and emerging market (EM) countries and serve as downside risks upon the economy.

- Turning to the Japanese economy in FY2018 and FY2019, despite a gradual moderation of growth, the economy should continue to follow a gradual recovery. Keep a close eye upon the shift of corporate business sentiment toward a cautious stance and appreciation of the yen reflecting US trade policy, and the rise in crude oil prices along with geopolitical risks.

- While the rise in labor costs and raw material prices will serve as upward pressures upon Japan’s core CPI, the achievement of the 2% inflation target looks unlikely, thus keeping the Bank of Japan (BOJ) from shifting its monetary policy stance.

I. General Overview

The global economy continues to expand despite a temporary slowdown

(1) Overview of the global economy: our outlook on global growth remains unchanged from MHRI's *Economic Outlook* in March

- The global economy will continue to expand in 2018, due in part to US policy support. Despite a slight fall of growth in 2019, the global economy will remain on a firm footing.

[Outlook on the global economy]

(Y-o-y % change) (Y-o-y % change) (% point)

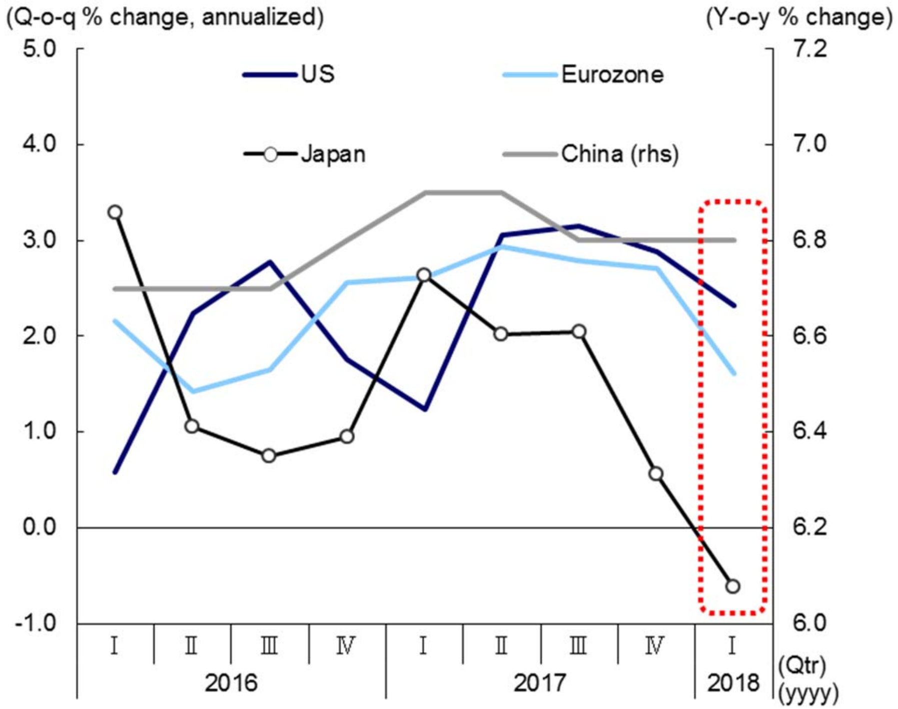
Calendar year	2015 (Actual)	2016 (Actual)	2017 (Actual)	2018 (Forecast)	2019 (Forecast)	2018 (Forecast in Mar 2018)	2019 (Forecast in Mar 2018)	2018 (Breadth of change from forecast in Mar 2018)	2019 (Breadth of change from forecast in Mar 2018)
Total of forecast area	3.6	3.4	3.9	4.1	4.0	4.1	4.0	-	-
Japan, US, Eurozone	2.4	1.5	2.2	2.3	2.1	2.4	2.1	-0.1	-
US	2.9	1.5	2.3	2.8	2.6	2.8	2.6	-	-
Eurozone	2.1	1.8	2.4	2.2	1.8	2.2	1.8	-	-
Japan	1.4	1.0	1.7	1.0	1.1	1.4	1.1	-0.4	-
Asia	6.2	6.2	6.2	6.2	6.0	6.2	6.0	-	-
China	6.9	6.7	6.9	6.5	6.4	6.5	6.4	-	-
NIEs	2.1	2.3	3.2	2.9	2.5	2.9	2.5	-	-
ASEAN5	4.9	4.9	5.3	5.3	5.1	5.3	5.1	-	-
India	7.6	7.9	6.4	7.3	7.3	7.3	7.3	-	-
Australia	2.5	2.6	2.3	2.8	2.7	2.8	2.7	-	-
Brazil	-3.5	-3.5	1.0	2.3	2.6	2.3	2.6	-	-
Mexico	3.3	2.9	2.0	2.0	2.4	2.1	2.4	-0.1	-
Russia	-2.8	-0.2	1.5	1.6	1.5	1.7	1.5	-0.1	-
Japan (FY)	1.4	1.2	1.5	1.1	0.9	1.3	0.8	-0.2	0.1
Crude oil price (WTI, USD/bbl)	49	43	51	68	72	65	72	3	-

Note: 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) Overall view of the global economy: the economic recovery continues despite a temporary slowdown in Jan-Mar

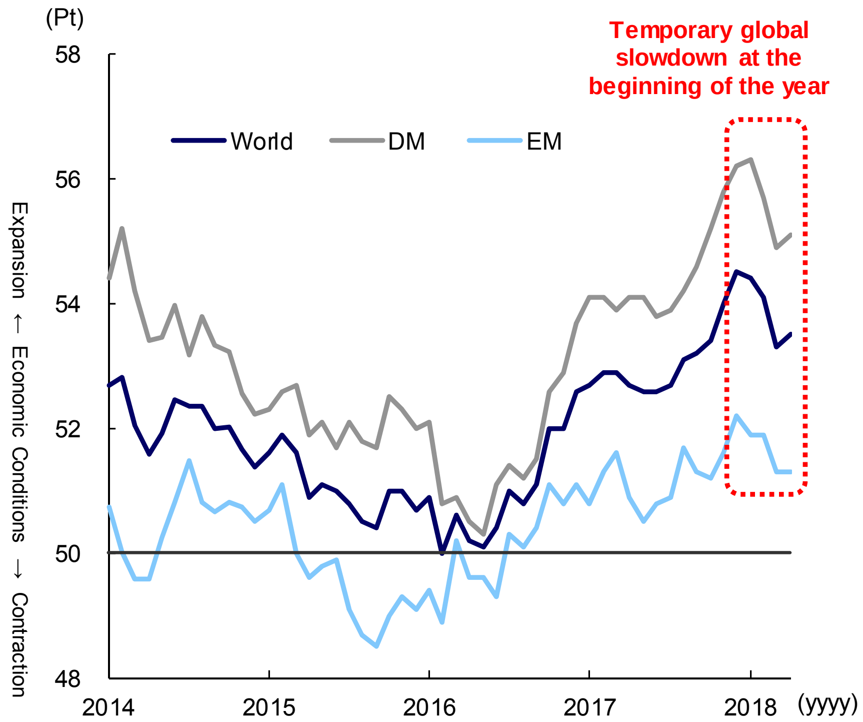
- GDP growth for the Jan-Mar quarter fell across the board for Japan, the US and the Eurozone while China's economic growth maintained resilience and flattened out.
  - Despite the temporary downturn in business sentiment for manufacturers in the Jan-Mar quarter, there were signs of a bottoming out in April.
  - The Jan-Mar quarter is considered to have been a soft patch and we forecast a recovery in the Apr-Jun quarter mainly in the US.

[Quarterly GDP growth rates for Japan, US, Eurozone, China]



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

[Global manufacturing PMI]

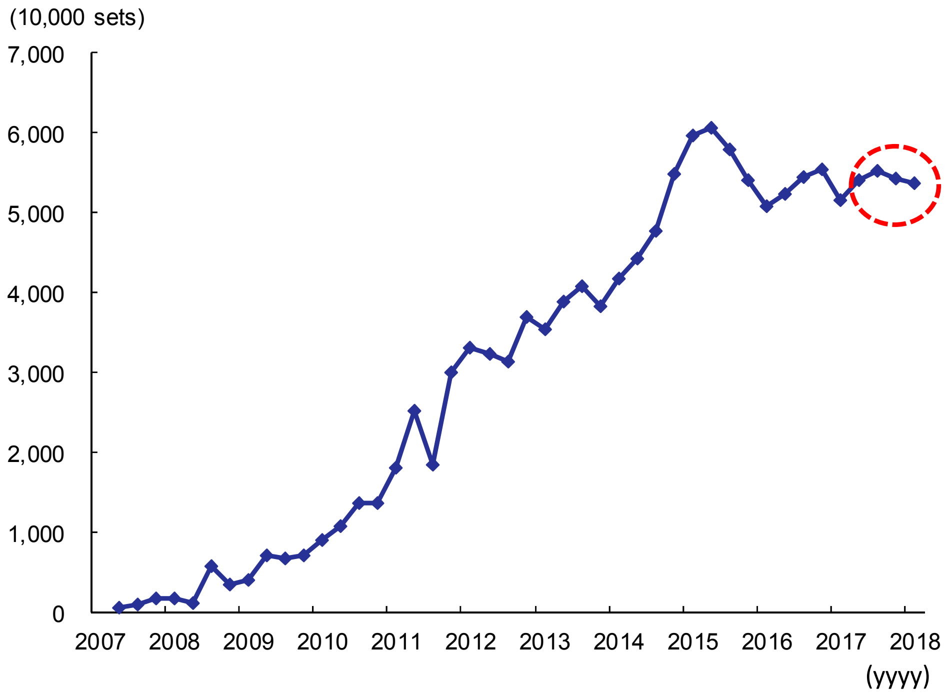


Source: Made by MHRI based upon Markit

State of the IT cycle: despite the underwhelming state of the smartphone market, semi-conductor demand is firm

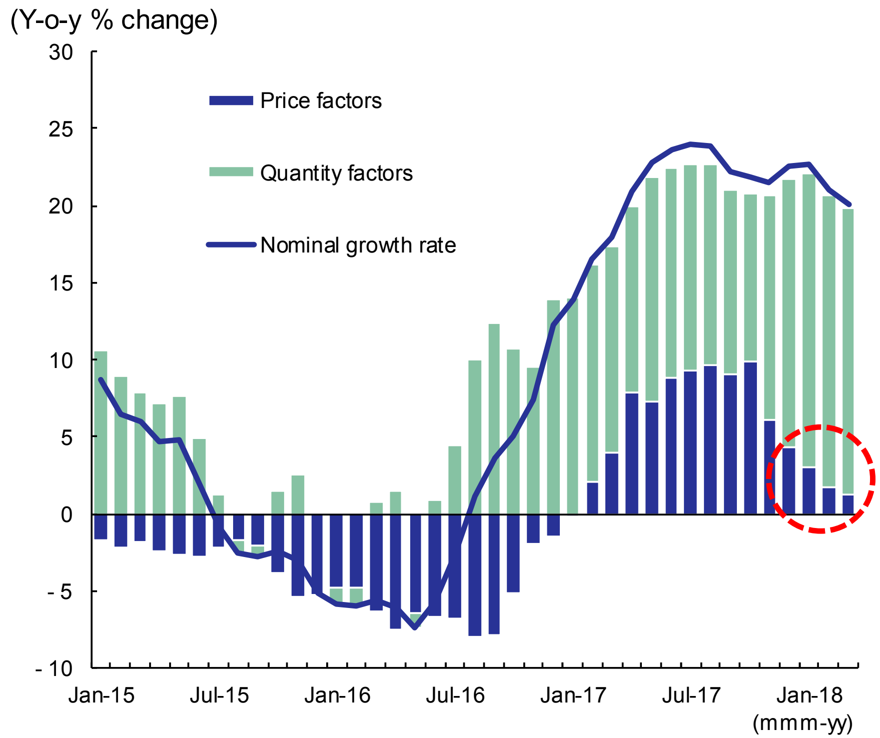
- iPhone shipments in the Jan-Mar quarter, a closely watched indicator of the IT cycle, turned out to underwhelm. The smartphone market will remain lackluster.
  - However, due in part to the lukewarm expectations, the market assessment is that “conditions are no worse than anticipated”.
- The growth rate for global sales of semi-conductors has peaked out somewhat due to the weak demand for smartphones. However, this is mainly due to the reduction in price hikes, and growth is firm on a real base.

[iPhone shipments]



Source: Made by MHRI based upon Bloomberg

[Global semi-conductor sales]



Source: Made by MHRI based upon CEIC Data

(3) Protectionism: the US administration is oriented toward an "America First" trade policy

- The Trump administration's view on trade being a zero-sum game of "trade deficit = defeat" is conflated with its strong disappointment in the WTO trade dispute resolution system.
  - Considerable time has been taken during Trump's first year in office to repealing Obamacare (failure) and tax system reforms (success), while small steps have been taken in trade policy with the withdrawal from the TPP and NAFTA renegotiations.
  - An "America First" trade policy will be a major agenda item in 2018, Trump's second year in office when the mid-term elections will take place.

[President Trump's Trade Policy Agenda: Five Pillars]

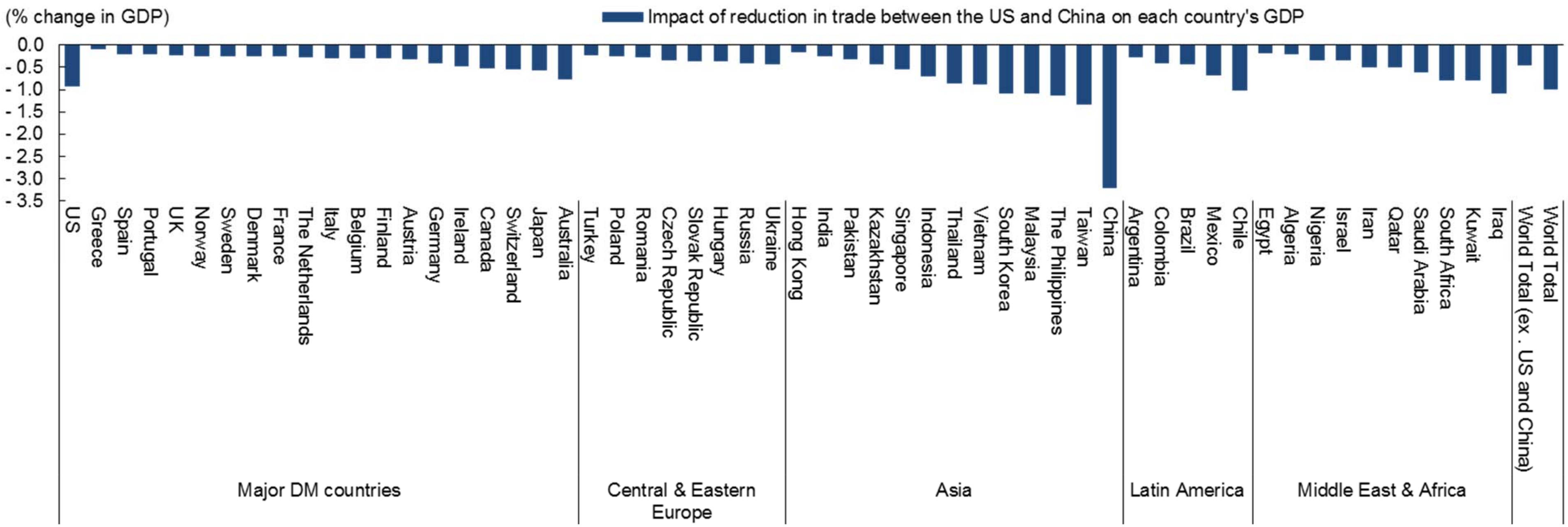
2017 (Reference)	2018	
Defend US national sovereignty over trade policy	**Supporting national security**	● December 2017 National Security Strategy: "A strong economy protects the American people, supports, our way of life, and sustains American power." and "the United States will no longer turn a blind eye to violations, cheating, or economic aggression." ● Our trade policy will fulfill these goals by using all possible tools to preserve our national sovereignty and strengthen the U.S. economy
Strictly enforce US trade laws	**Strengthening the US economy**	● Make it easier for American companies to succeed in global markets through tax reforms and reduced regulatory burdens that strengthen the US economy
	Negotiating better trade deals	● We have launched aggressive efforts to revise our trade agreements with our NAFTA partners and with South Korea ● Furthermore, we intend to actively pursue new and better trade deals with potential partners around the world ➢ Relationship with post-Brexit UK, and relationship with TPP-11 member countries with which the US has no FTA (5 countries including Japan)
Negotiate new and better trade deals	**Aggressive enforcement of US Trade Laws**	● History shows that not all countries adopt policies that promote true market competition ● We also have an aggressive trade enforcement agenda designed to prevent countries from benefiting from unfair trading practices. We will use all tools available – including unilateral action where necessary – to support this effort ➢ Trade Act Section 301 (unilateral measures), Section 201 (safeguards), anti-dumping, countervailing duties, Trade Expansion Act Section 232 (security grounds), etc.
Use leverage to open foreign markets	**Reforming the multilateral trading system**	● The Trump Administration wants to help build a better multilateral trading system and will remain active in the World Trade Organization (WTO) ● However, at the same time, there is distortion in the dispute settlement system and unfair advantages provided to countries like China, with some members using the WTO as a bulwark in defense of market access barriers, dumping, subsidies, and other market distorting practices. ● The United States will not allow the WTO – or any other multilateral organization – prevent the US from taking actions that are essential to the economic well-being of the American people

Source: Made by MHRI based upon USTR (2018) "2018 National Trade Estimate" (February 28)

In the event trade frictions escalate, its impact will spread to Asia

- The impact on both the US and Chinese economies cannot be dismissed if escalation of retribution between both countries escalate. However, note that it will have a relatively larger impact on China.
- China is showing some concessions such as the reduction in import duties, including on cars, because it understands the impact on the Chinese economy.
- However, it is still uncertain if China can reach a point that will ultimately satisfy the US. A full-blown trade war between the US and China would inevitably lead to downward pressure on the global economy, particularly Asia.

[Impact on the GDP of each country if US-China trade is reduced by 20%]
(Where it is difficult for both countries to switch to alternative domestic products)



Note: Analysis based on the economic structure from, 2014 to 2016. Includes the multiplier effect for each country. Assumes the sharp reduction in imported products cannot be met by alternative domestic products in the US and China.

Source: Made by MHRI based upon United Nations and the World Bank

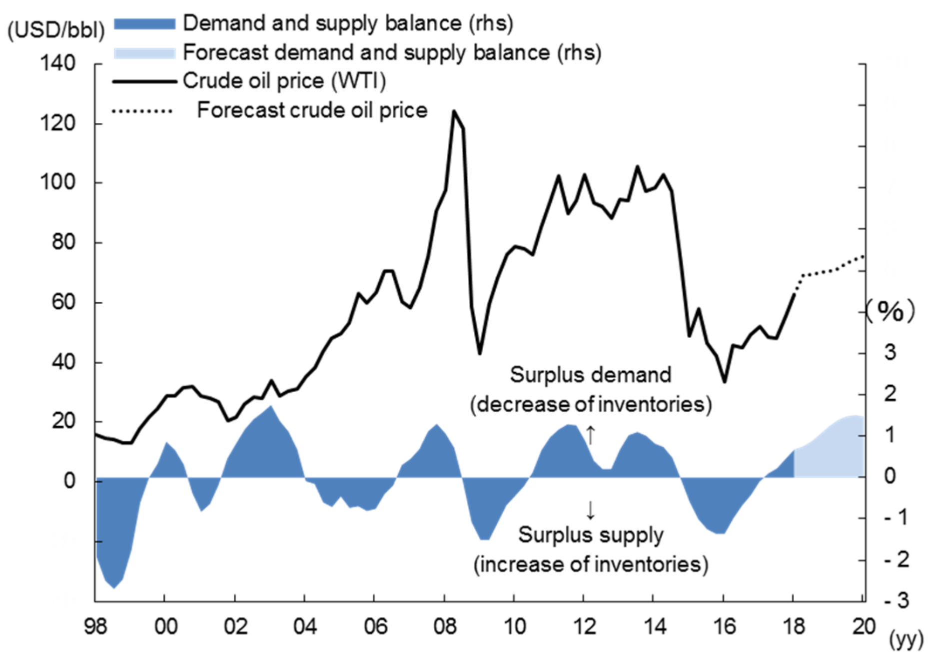
(4) Higher commodity prices and the impact on inflation and interest rates: we forecast crude oil prices to continue rising

- There has been an overall rise in commodity markets since 2016.
  - Despite limited upside for prices at times since the beginning of 2018, aluminum prices have surged due to US sanctions targeted at major Russian aluminum producers.
- Reflecting geopolitical risks, crude oil prices have also reached record highs since 2014.
  - Amid progress in cutting surplus inventories, US attacks upon Syria triggered the rise in crude oil prices. Furthermore, uncertainty surrounding the Iran nuclear deal has led to a further rise.
  - Given the OPEC and Russia's ongoing stance to cut production, crude oil prices should continue to rise in 2018 and 2019.

[Commodity prices]

Source: Made by MHRI based upon Thomson Reuters

[Crude oil price and demand and supply balance]

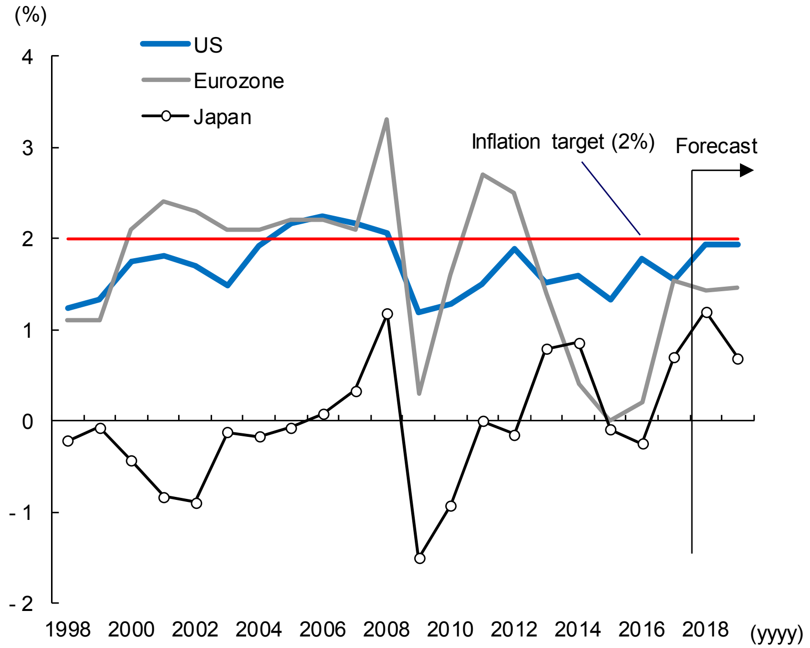


Note: The demand and supply balance is the 12-month moving average.
Source: Made by MHRI based upon Thomson Reuters and EIA

The rise of inflation expectations due to higher oil prices, etc. will push up US long-term interest rates

- 10Y US Treasury yields have risen above 3% for the first time in four years. This is attributed to the rise of inflation expectations along with factors such as the rise of crude oil prices.
- However, inflation is not perceived as accelerating. As central banks around the world continue to take an accommodative monetary policy stance or progress cautiously on their exit strategies, the rise in long-term yields should be limited.

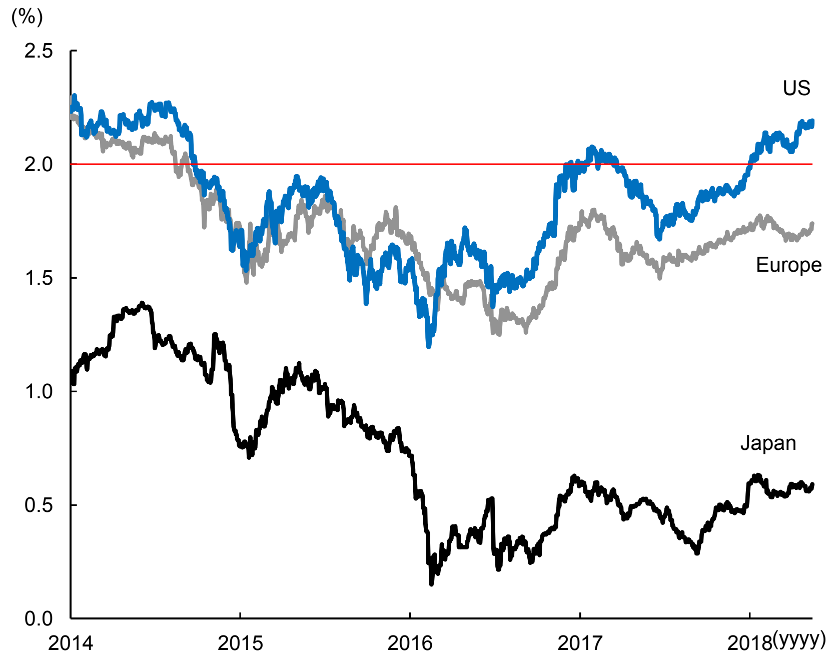
[Rate of price increases in Japan, the US and Eurozone]



Note: Price indices focused on by each central bank. Japan: CPI y-o-y (general index, excluding fresh food, excluding impact of consumption tax increase); US: PCE Deflator y-o-y (General index excluding energy and food); Eurozone: CPI y-o-y (General index). Forecasts by MHRI

Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, US Department of Commerce and Eurostat

[Inflation expectations in the Japanese, US and German bond markets]



Note: 10Y BEI for Japan and the US; 5-year forward 5 year inflation swap for Europe

Source: Made by MHRI based upon Bloomberg

II. The Japanese Economy

Japan returns to a moderate recovery track

The Japanese economy: the economy will remain on recovery track, driven by the expansion of the overseas economies and strength of domestic demand

- According to the *First Preliminary Quarterly Estimates of GDP* (“*1st QE*”) for the Jan-Mar quarter of 2018, the Japanese economy contracted for the first time in nine quarters (-0.6% q-o-q p.a.). Even though the contribution to growth by external demand edged up, private sector demand all weakened such as the slight decline of personal consumption and capital investment. The results indicate that Japan’s economic recovery has come to a pause.

- In FY2018, while the driving force of the IT sector will gradually weaken, we forecast a gradual recovery of exports supported by the firm demand for IoT-related goods and solid demand for capital goods. In addition to the overseas economic recovery, capital investment should follow firm footing, supported by investment related to the 2020 Tokyo Olympic Games and productivity improvement. Even though the decline of fresh food prices and mild acceleration of wage hikes will serve as tailwinds upon personal consumption, the rise in energy prices will weigh down upon real wages, thus keeping personal consumption subdued. The pace of economic growth in FY2018 is forecast to stand at +1.1%.

- In FY2019, economic growth is forecast to contract to +0.9%, given downward pressures due to the consumption tax hike in October, and forecasts of a cyclical slowdown of capital investment. Even so, the Japanese economy will maintain growth in positive territory for the fifth consecutive year.

- Turning to the risks to MHRI’s economic outlook, it will be necessary for the time being to keep a close eye upon the impact of the protectionist trade policy of the US. The Trump administration’s hardline stance could lead to the appreciation of the yen and a shift of corporate business sentiment to a cautious stance. The rise in crude oil prices accompanying the escalation of Middle East tensions also requires close attention.

Japan: forecast on growth for FY2018 (+1.1%), FY2019 (+0.9%)

- Despite a slowdown in FY2018 and FY2019, the economy should remain on a gradual recovery track.
  - Export growth should ebb in FY2018 along with the slowdown of the IT sector and the Chinese economy. Capital investment will remain firm reflecting investment related to the 2020 Tokyo Olympic Games.
    - ✓ The decline of the carry-over from FY2017 has led to a downward revision of 0.2 points from the pervious forecast (March).
  - The October consumption tax hike will weigh on the growth rate in FY2019. Furthermore, given the additional drag stemming from the cyclical slowdown of capital investment, we forecast a growth rate of +0.9% in FY2019.

[Outlook on the Japanese economy]

		2016 FY	2017	2018	2019	2017 Jan-Mar	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	1.5	1.1	0.9	0.7	0.5	0.5	0.1	-0.2	0.5	0.3	0.2	0.3	0.4	0.4	-0.6	0.2
	Q-o-q % ch p.a.	—	—	—	—	2.6	2.0	2.0	0.6	-0.6	2.2	1.2	0.9	1.3	1.5	1.5	-2.2	0.7
Domestic demand	Q-o-q % ch	0.4	1.1	0.8	0.9	0.6	0.8	-0.0	0.2	-0.2	0.5	0.3	0.2	0.3	0.5	0.6	-1.0	0.2
Private sector demand	Q-o-q % ch	0.4	1.3	1.0	0.9	0.7	0.7	0.1	0.3	-0.3	0.6	0.2	0.3	0.4	0.6	0.7	-1.4	0.1
Personal consumption	Q-o-q % ch	0.3	0.8	0.6	0.6	0.5	0.7	-0.7	0.2	-0.0	0.3	0.2	0.2	0.2	0.4	1.4	-2.6	0.5
Housing investment	Q-o-q % ch	6.2	-0.3	-3.4	0.8	1.2	0.9	-1.6	-2.7	-2.1	-1.1	0.4	0.7	1.6	2.0	1.1	-5.1	-4.6
Capital investment	Q-o-q % ch	1.2	3.0	2.8	2.4	0.6	0.8	1.0	0.6	-0.1	1.3	0.7	0.6	0.5	0.6	1.0	0.4	0.3
Inventory investment	Q-o-q contribution, % pt	(-0.3)	(0.1)	(0.1)	(-0.1)	(0.1)	(-0.1)	(0.4)	(0.1)	(-0.1)	(0.1)	(-0.1)	(0.0)	(0.0)	(0.0)	(-0.5)	(0.5)	(-0.1)
Public sector demand	Q-o-q % ch	0.5	0.7	0.3	0.9	0.2	1.1	-0.5	-0.1	0.0	0.1	0.4	-0.0	0.2	0.2	0.5	0.1	0.3
Government consumption	Q-o-q % ch	0.5	0.4	0.7	0.9	0.2	0.2	0.0	-0.0	0.0	0.3	0.2	0.3	0.2	0.3	0.2	-0.1	0.4
Public investment	Q-o-q % ch	0.9	1.5	-1.1	1.4	-0.0	4.7	-2.6	-0.4	0.0	-0.6	1.2	-1.4	0.1	-0.1	1.5	1.1	-0.1
External demand	Q-o-q contribution, % pt	(0.8)	(0.4)	(0.2)	(-0.0)	(0.1)	(-0.3)	(0.5)	(-0.1)	(0.1)	(0.1)	(0.0)	(-0.0)	(0.0)	(-0.1)	(-0.3)	(0.5)	(0.0)
Exports	Q-o-q % ch	3.6	6.2	3.9	2.4	2.1	-0.1	2.0	2.2	0.6	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.4
Imports	Q-o-q % ch	-0.8	4.0	2.8	2.7	1.6	1.8	-1.3	3.1	0.3	0.5	0.5	0.8	0.5	1.1	2.0	-1.8	0.3
GDP (nominal)	Q-o-q % ch	1.0	1.6	1.0	1.4	0.1	0.9	0.8	0.1	-0.4	0.6	0.4	0.1	0.3	0.6	0.4	0.1	0.0
GDP deflator	Y-o-y % ch	0.1	0.1	0.0	0.5	-0.3	0.1	0.1	0.5	0.5	0.1	-0.1	-0.2	0.0	0.2	0.1	1.1	0.9
Domestic demand deflator	Y-o-y % ch	0.6	0.5	1.0	0.9	0.4	0.5	0.6	0.9	0.9	1.0	1.2	0.9	0.7	0.7	0.5	1.1	1.2

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

Japan: the underlying trend of consumer prices (excluding food and energy) will likely remain around 0.5%

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

		2016 FY	2017	2018	2019	2017 Jan-Mar	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
Industrial production	Q-o-q % ch	1.0	4.1	2.4	1.5	0.2	1.8	0.5	1.6	-1.4	2.0	0.5	0.3	0.3	0.8	1.3	-1.2	-0.5
Ordinary profits (Lower line: excludes impact of special factors)	Y-o-y % ch	10.0 7.3	7.4 13.8	0.7	0.1	26.6	22.6	5.5 17.9	0.9	2.0	2.6	0.3	0.1	-0.5	1.6	2.7	-2.9	-0.8
Nominal compensation of employees	Y-o-y % ch	2.4	2.3	2.1	1.7	1.4	2.2	2.2	1.9	3.2	2.7	2.1	1.9	1.7	1.7	1.8	1.6	1.6
Unemployment rate	%	3.0	2.7	2.6	2.7	2.9	2.9	2.8	2.7	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7
New housing starts	P.a., 10,000 units	97.4	94.6	92.1	95.2	97.2	98.7	95.5	94.8	89.2	90.6	91.1	91.0	96.5	99.9	98.8	93.5	87.9
Current account balance	P.a., JPY tril	21.0	21.7	16.8	16.3	21.4	20.0	23.2	23.6	18.4	17.5	16.8	15.9	15.4	14.8	13.0	17.4	18.3
Domestic corporate goods prices	Y-o-y % ch	-2.4	2.7	2.2	1.7	0.9	2.1	2.8	3.3	2.5	2.8	2.8	1.8	1.4	0.8	0.7	2.7	2.6
Domestic corporate goods prices (ex consumption tax)	Y-o-y % ch	-	-	-	0.8	-	-	-	-	-	-	-	-	-	-	-	0.8	0.8
Consumer prices, ex fresh food	Y-o-y % ch	-0.2	0.7	1.2	1.2	0.2	0.4	0.6	0.9	0.9	1.1	1.3	1.2	1.1	0.8	0.7	1.7	1.6
Consumer prices, ex fresh food (ex consumption tax)	Y-o-y % ch	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	0.7	0.6
Consumer prices, ex fresh food and energy	Y-o-y % ch	0.3	0.2	0.5	0.9	0.1	0.0	0.1	0.3	0.5	0.4	0.5	0.6	0.5	0.5	0.5	1.4	1.4
Consumer prices, ex fresh food and energy (ex consumption tax)	Y-o-y % ch	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5
Uncollateralized overnight call rate	%	-0.06	-0.07	-0.05	-0.05	-0.06	-0.07	-0.06	-0.06	-0.07	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Yield on newly-issued 10-yr JGBs	%	-0.05	0.05	0.05	0.05	0.07	0.04	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Nikkei average	JPY	17,520	20,984	23,400	24,700	19,241	19,503	19,880	22,188	22,366	22,000	23,000	24,000	24,500	25,000	24,700	24,200	24,700
Exchange rate	JPY/USD	108	111	106	104	114	111	111	113	108	108	107	106	105	105	104	104	103
Crude oil price (WTI nearest term contract)	USD/bbl	48	54	70	74	52	48	48	55	63	69	70	70	71	72	73	75	76

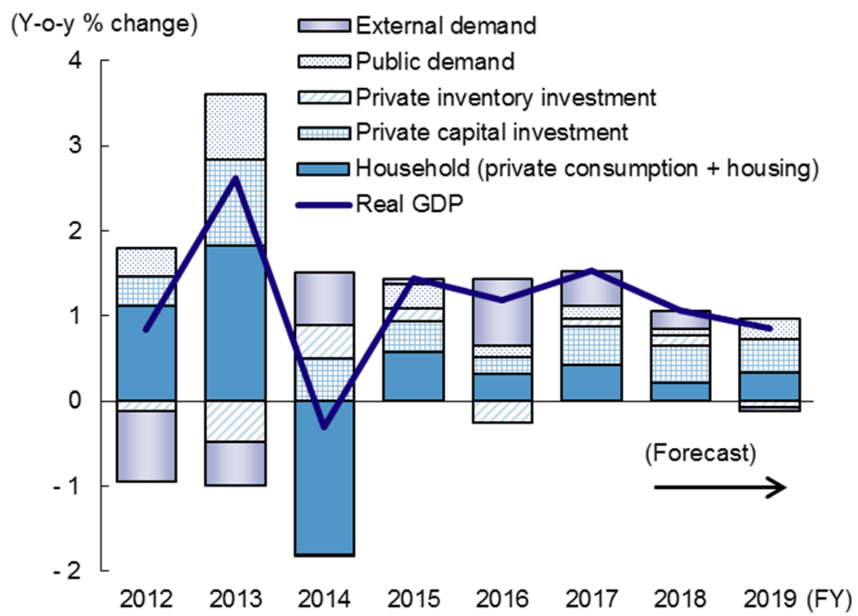
Notes: 1. Figures in the shaded areas are forecasts.The readings above may differ from public releases because the rates of change are calculated by MHRI
2. Ordinary profits are based upon the *Financial Statements Statistics of Corporations by Industry* (all industries basis) (ex finance & insurance)
3. Quarterly data on the unemployment rate, new housing starts and current account balance are seasonally-adjusted
4. 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

Outline of forecast: firm in FY2018, but a slowdown in FY2019 due to the consumption tax hike

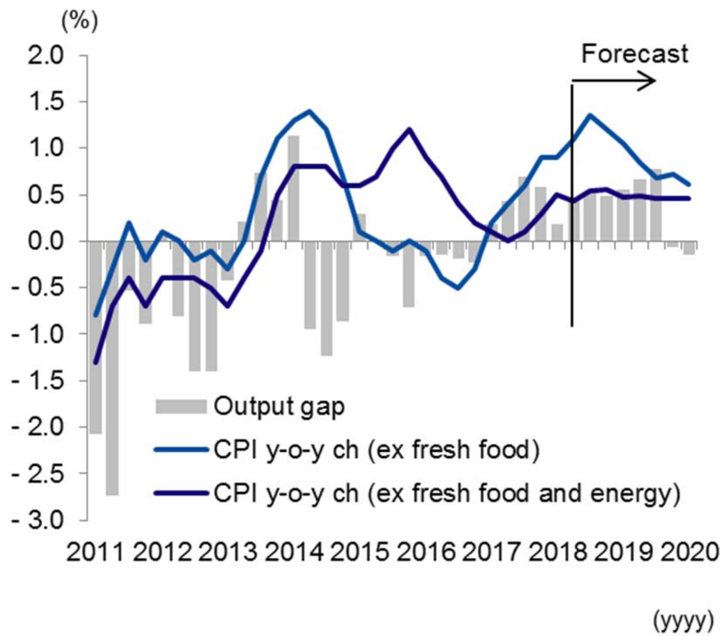
- We forecast growth of +1.1% in FY2018. Despite the slowdown of exports and consumption, we forecast the recovery momentum to be on a par with the potential growth rate due to factors such as the steady growth of capital investment.
- Growth in FY2019 should be moderate (+0.9%) due to factors such as the consumption tax hike (a decline in real incomes) and the slowdown in capital investment.
- Core CPI will be boosted by energy prices. On an ex. energy basis, while the strong yen will serve as a drag, improvements in the output gap and the transfer of labor costs to prices to a certain degree should boost inflationary pressures, resulting in growth around 0.5%.

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



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

[Forecast output gap and Consumer Price Index]

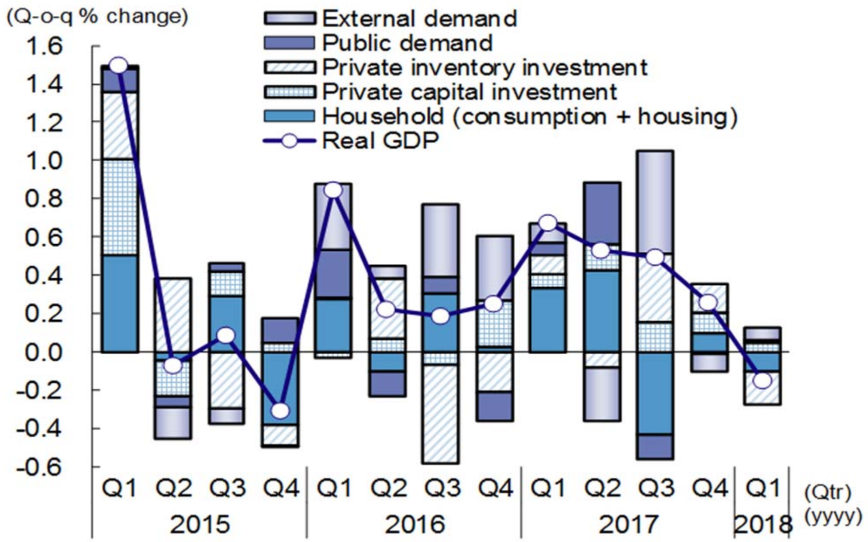


Note: Output gap estimated by MHRI. Consumer Price Index excludes consumption tax.
Source: Made by MHRI based upon Ministry of Internal Affairs and Communications and Cabinet Office

Current status and forecast: negative growth only temporary

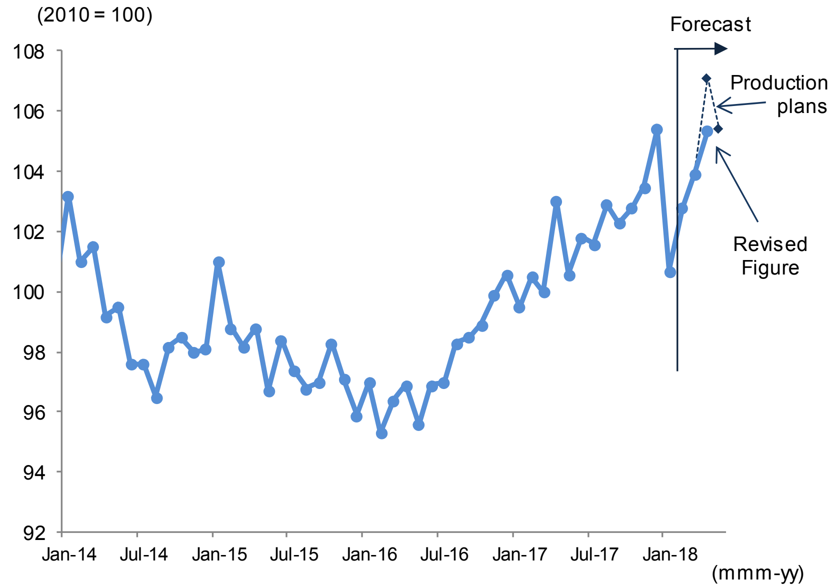
- ❑ Japan's real GDP contracted (-0.6% q-o-q p.a.) in the Jan-Mar quarter of 2018, recording negative growth for the first time in nine quarters. The contribution from exports was slightly positive, but private sector demand was weak across the board with slight declines in consumption and capital investment.
- ❑ The economy will most likely return to recovery track from the Apr-Jun quarter.
  - Even though industrial production (q-o-q ch) dipped into negative territory for the first time in 2 years in the Jan-Mar quarter, production plans suggest a substantial increase in production in the Apr-Jun quarter.
  - Even though the pace of output should ease due to mounting inventory adjustment pressures mainly with respect to electronic parts & devices, industrial production should remain in positive territory reflecting the expansion of the global economy.

[Real GDP]



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

[Industrial production index]

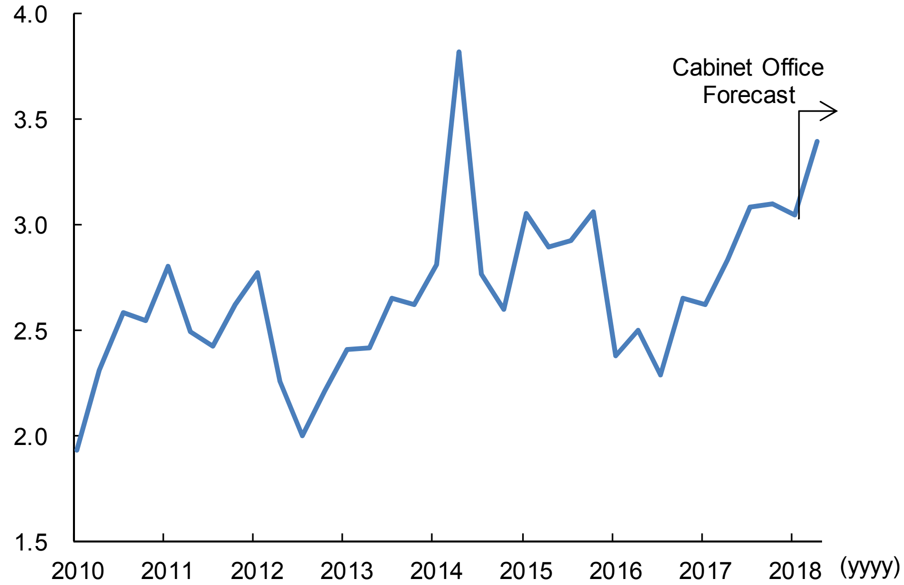


Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

Exports and fixed investment: the driver of exports is gradually shifting from IT-related goods to capital goods

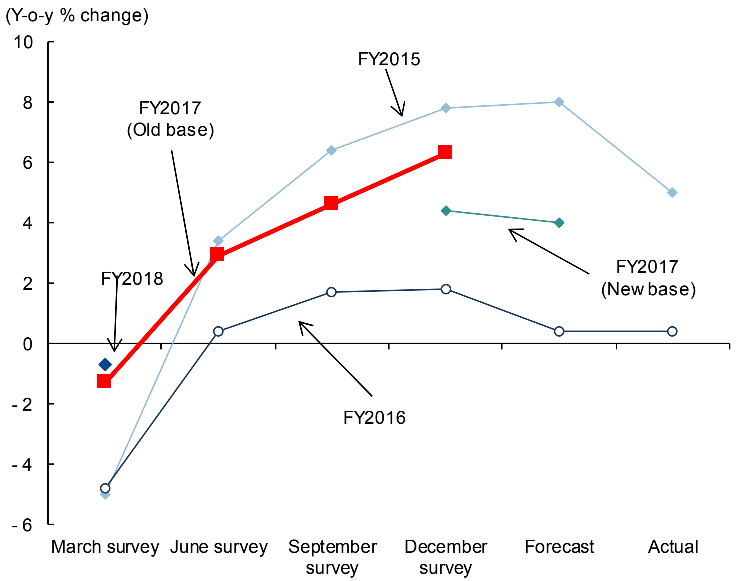
- ❑ While the driving force of the IT sector to boost exports will gradually weaken, we forecast firm demand for automobile use and data center installations.
- ❑ The strength of general machinery such as industrial robots and semi-conductor manufacturing equipment will also serve to push up exports.
  - ▪ We forecast an ongoing rise in overseas orders for machinery, a leading indicator of machinery exports.
    - ✓ The boost to US fixed investment from tax cuts is also favorable for Japan's exports.
- ❑ In addition to the overseas economic recovery, fixed investment should follow firm footing, supported by investment related to the 2020 Tokyo Olympic Games and productivity improvement.
    - ✓ As of March, fixed investment plans for FY2018 were slightly stronger than usual. Plans have been boosted by the manufacturing sector, particularly large and medium-sized enterprises.

[Machinery orders from overseas]



Note: Readings for he Jan-Mar quarter of 2018 are based upon data for the Jan-Feb period.
Source: Made by MHRI based upon Cabinet Office, *Orders Received for Machinery*

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

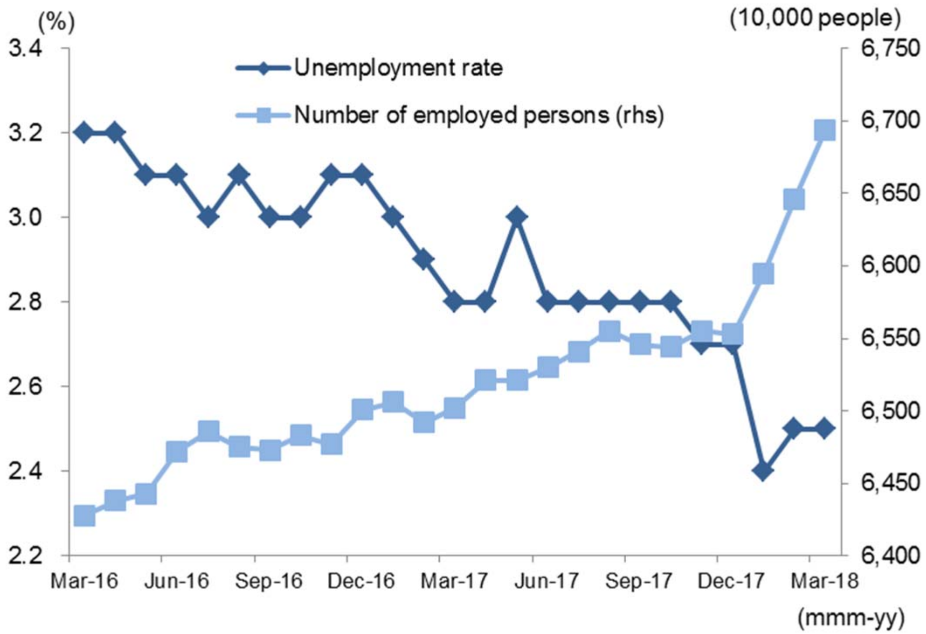


Note: Includes land purchasing expenses and excludes software and R&D investment.
Source: Made by MHRI based upon Bank of Japan

Employment and consumption: the labor market is growing tighter. Meanwhile, consumption remains virtually flat

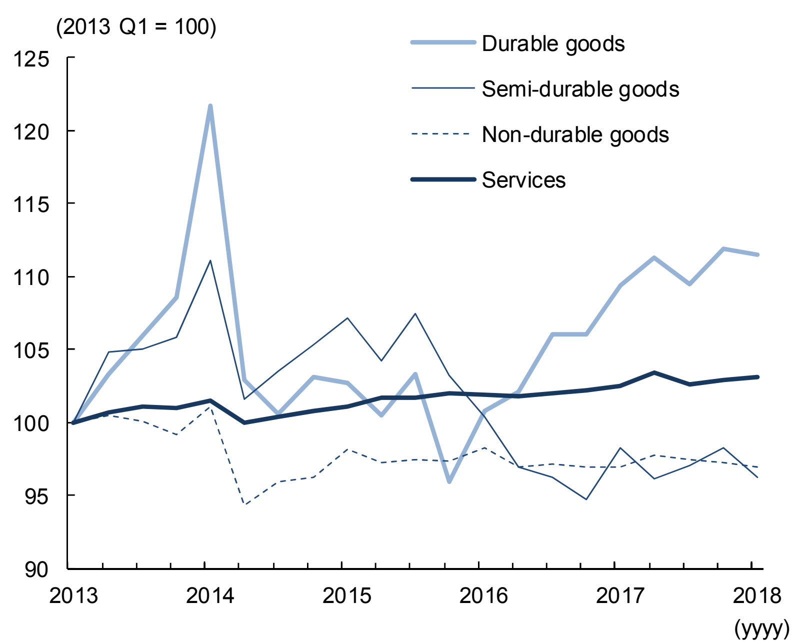
- The March unemployment rate remained a low 2.5%.
  - The breakdown indicates a substantial increase in the number of employed persons for the third consecutive month to 66.94 million (up 480,000 m-o-m), to a record high.
    - ✓ The figures have been boosted by the increase in part-timers, self-employed and casual workers.
- Jan-Mar quarter personal consumption (GDP base) was virtually flat at -0.0% q-o-q.
  - Even though services consumption continued to follow a gradual recovery, consumption of goods was weighed down by temporary factors such as colder temperatures and surge of fresh food prices.

[Unemployment rate and the number of workers]



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

[Real consumption by form (GDP base)]

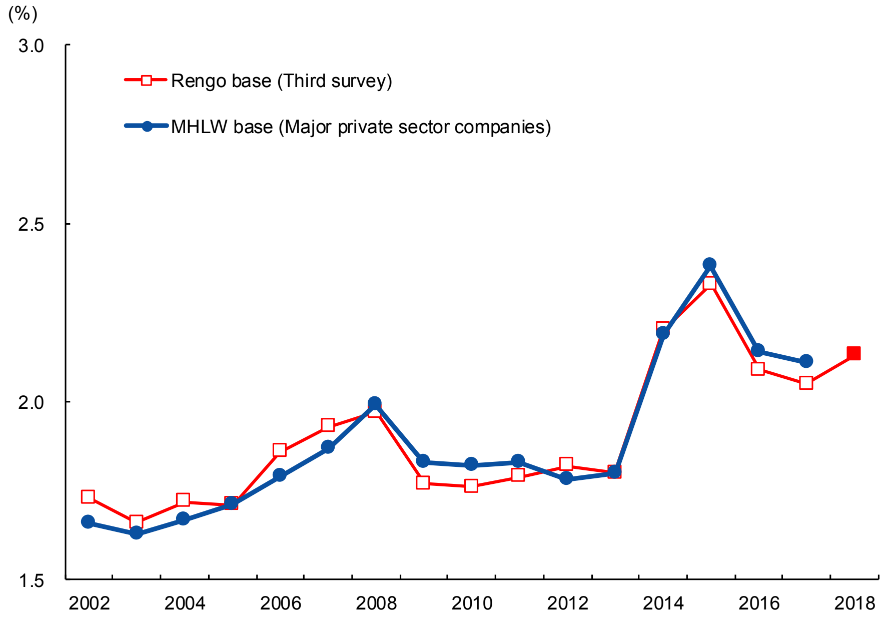


Source: Made by MHRI based upon Cabinet Office, *Preliminary Quarterly Estimates of GDP.*

Employment and consumption: despite a slight acceleration of wage hikes, the rise in energy prices push down real incomes

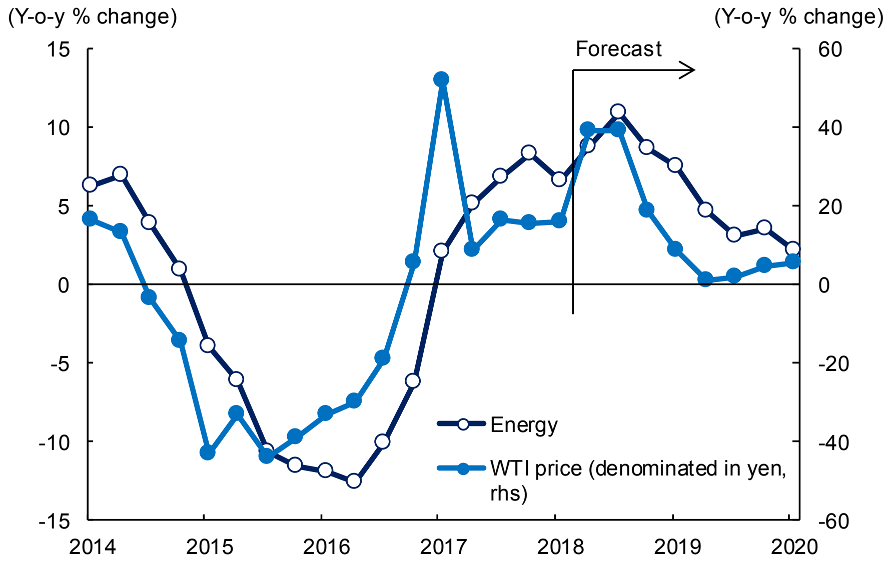
- The stabilization of surging fresh food prices and the upturn of the 2018 wage hike rate from last year will serve as tailwinds upon consumption.
  - The Japanese Trade Union Confederation (Rengo) base wage hike rate on a consolidated basis (third survey) turned out to be +2.13%, up from the same period last year (+2.05%).
    - ✓ There has been a boost from the tight labor market, the rise in consumer prices and favorable corporate earnings. However, this did not lead to a major acceleration of the wage hike rate.
- On the other hand, the rise in energy prices will push down real incomes for the near term. Even though consumption should follow firm footing, an acceleration is unlikely.

[Spring wage hike rate]



Note: Rengo base (Third Survey) refers to the figure calculated at the end of March each year by the Japanese Trade Union Confederation (Rengo).
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare (MHLW), *Survey on agreements for wage increases at major private sector companies* and Japanese Trade Union Confederation (Rengo), *Results of Spring Survey of Standard of Living Offensive*

[Outlook on energy prices]

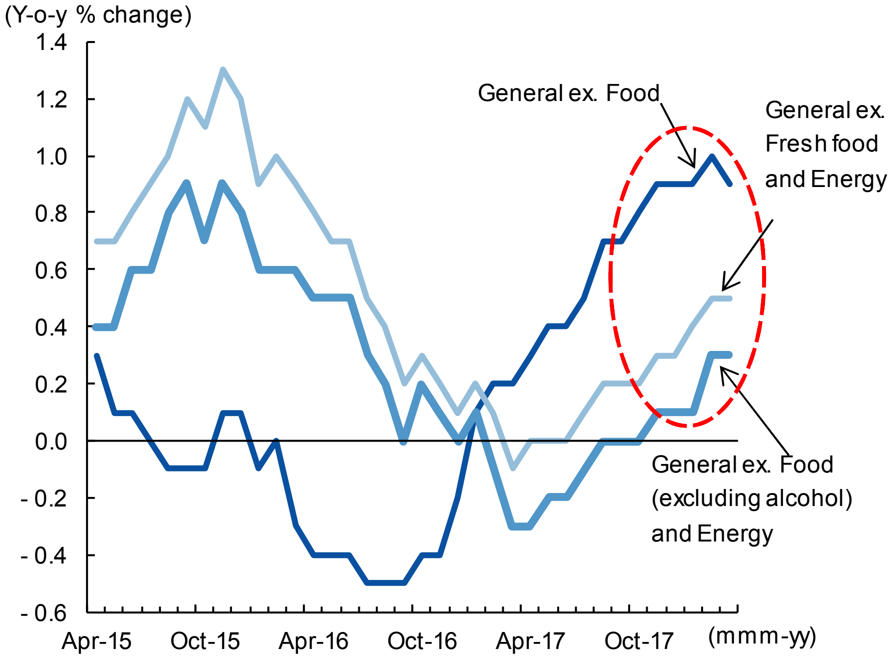


Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Consumer Price Index*

Prices: core CPI is gradually rising

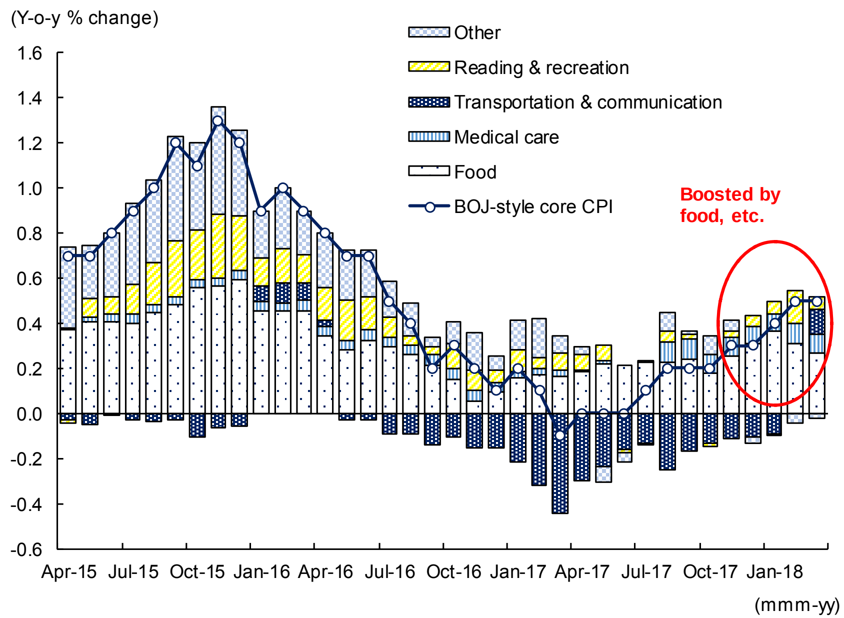
- The core CPI is gradually rising, reflecting the rise in crude oil prices.
  - Even though crude oil prices are subsiding in a reaction to last year's surge, the rise in crude oil prices is expected to accelerate again.
- The BOJ-style core CPI (general index excluding fresh food and energy) is also rising.
  - There has been a boost from items such as food (food and eating out), mobile phone charges, hotel charges, charges for overseas package tours, and forwarding charges.
  - However, temporary factors have also provided a boost (such as the rebound from last year's drop in mobile phone prices, and the rise in tour costs associated with the Pyeongchang Olympics).

[Consumer Price Index]



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

[Factor contribution to BOJ-style core CPI]

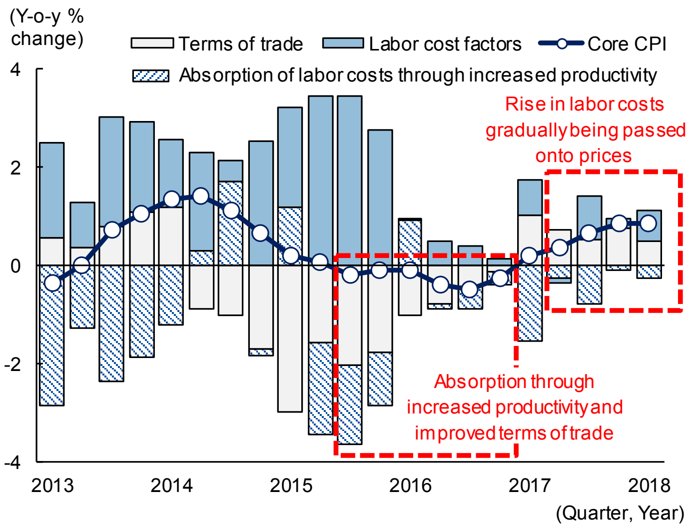


Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Consumer Price Index*

Prices: the core CPI forecast to rise due to higher labor costs and price of raw materials

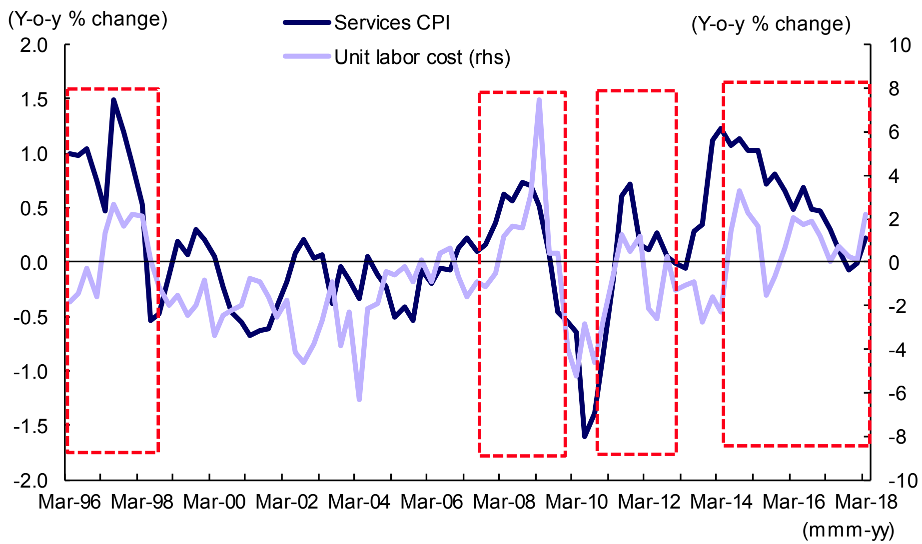
- Amid the deterioration of Japan's terms of trade, increased labor costs are gradually being transferred to sales prices.
  - Given the rise of labor costs due to labor shortages, we anticipate costs to be increasingly transferred onto prices, particularly in the service sector (meals outside the home, etc.).
    - ✓ In the past, service prices have tended to rise when there is a rise in unit labor costs.
- While the appreciation of the yen since the beginning of the year has had a negative impact, oil prices are anticipated to rise and lead to a gradual rise in core CPI.
  - We forecast core CPI of +1.2% for FY2018 (c.f., +1.1% in March) and +1.2% for FY2019 (c.f., +1.2% in March).

[Factor contribution to core CPI]



Note: 1. Factor contribution calculated based on the following equation
CPI = (CPI/ GDP deflator) x (hourly wage x GDP deflator/unit labor cost) x (1/labor productivity)
Each were deemed as absorption factors through terms of trade, labor cost and increased productivity
2. Prices are the 2015 standard core CPI adjusted for consumption tax (adjusted for the consumption tax increase in 2014)
Source: Made by MHRI based upon Cabinet Office, Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare

[Unit labor cost and service CPI]

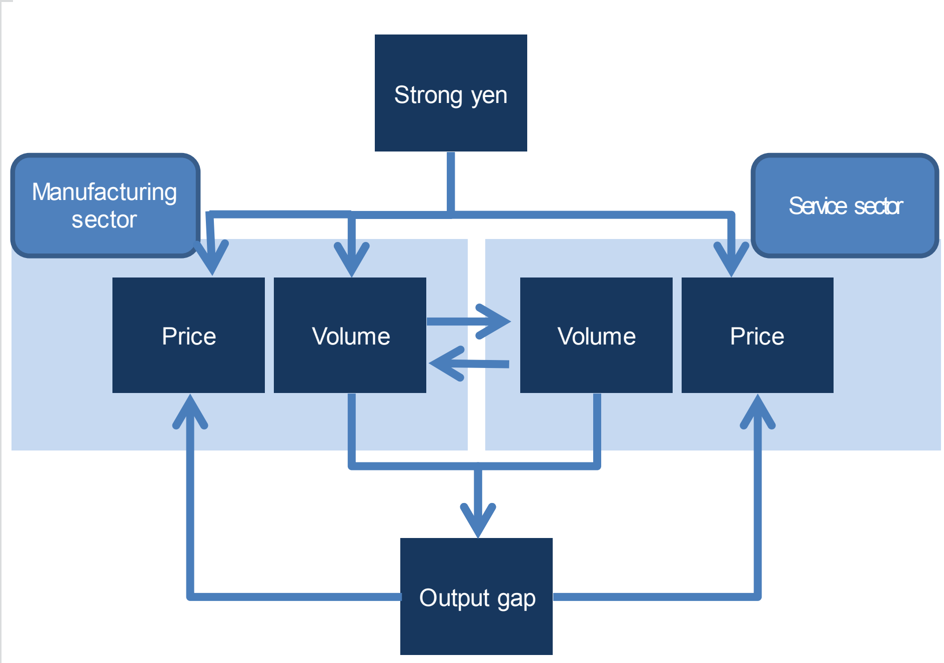


Note: Service CPI excludes the impact of rent, systemic factors (school fees and medical treatment, etc.) and consumption tax
Source: Made by MHRI based upon Cabinet Office and Ministry of Internal Affaires and Communications

Risk factors: a 10% appreciation of the yen pushes down FY2018 corporate earnings by 0.2 trillion yen

- In the event the yen appreciates by 10% (when converted to the JPY/USD rate about 98 yen = 1 dollar) from the Apr-Jun quarter of 2018, the impact on FY2018 operating profits would be -0.2 trillion yen.
  - For manufacturers, output price and volume factors would contribute negatively (-3.7 trillion yen). For non-manufacturers, the input price factor would have a positive contribution (+3.5 trillion yen).
  - However, the appreciation of the yen is also a negative factor on a volume base for non-manufacturers. Firms may turn cautious in decisions on wage hikes and investment based upon the assumption that the improvement in profits is temporary.

[Strong yen's path of impact on corporate profits]



Note: The path of the strong yen's impact on corporate profits anticipated according to MHRI's corporate profit model (11 estimated equations, 11 defined equations)

Source: Made by MHRI based upon Ministry of Finance, *Financial Statement Statistics of Corporations by Industry, Quarterly*

[Impact of a 10% appreciation of the yen on FY2018 operating profits]

(Trillion yen)

	Output price factors	Input price factors	Volume factors	Total
Manufacturers	- 6.5	4.6	- 1.8	- 3.7
Non-manufacturers	- 5.5	10.4	- 1.4	3.5
Total	- 12.0	15.0	- 3.2	- 0.2

Note: Calculated according to MHRI's corporate profit model. The impact on FY2018 financial results if the yen's effective exchange rate increases by 10% q-o-q in the April-June 2018 quarter and other factors are constant. Compared to the baseline scenario of no change in external factors (foreign exchange rate, oil price, global production, etc. are constant from January to March quarter)

Source: Made by MHRI based upon Ministry of Finance, *Financial Statement Statistics of Corporations by Industry, Quarterly*

[Reference] Higher oil prices and a change in tone of overseas economies will serve as a negative impact on corporate earnings

- The rise of crude oil prices and fall of global production will push down corporate earnings for both manufacturers and non-manufacturers.
  - A 10% rise in the price of crude oil will have a -5.6% point impact (around -3.2 trillion yen) on corporate earnings, while a 1% cut in global production will have an impact of -3.2% points (around -1.8 trillion yen).
- Higher oil prices and a change in tone of overseas economies together with a stronger yen present risks of deterioration in profits and loss of momentum of economic recovery.

[Impact on operating profits from a 10% appreciation of the yen, 10% rise in the price of crude oil and 1% cut in global production]

	10% appreciation of the yen	10% rise in oil price	1% cut in global production
Manufacturers	-28.3%Pt (-3.7 tn yen)	-12.4%Pt (-1.6 tn yen)	-8.2%Pt (-1.1 tn yen)
Non-manufacturers	+8.0%Pt (+3.5 tn yen)	-3.6%Pt (-1.6 tn yen)	-1.8%Pt (-0.8 tn yen)
Total	-0.4%Pt (-0.2 tn yen)	-5.6%Pt (-3.2 tn yen)	-3.2%Pt (-1.8 tn yen)

Note: Calculated according to MHRI's corporate profit model. The impact on FY2018 financial results if the yen appreciates by 10%, crude oil price rises by 10% and global production increases by 1% q-o-q in the April-June 2018 quarter. Compared to the baseline scenario of no change in external factors (foreign exchange, oil price, global production, etc. are constant from January to March quarter)

Source: Made by MHRI based upon Ministry of Finance, *Financial Statement Statistics of Corporations by Industry, Quarterly*

BOJ: monetary policy adjustment will not be possible amid elusive achievement of price target

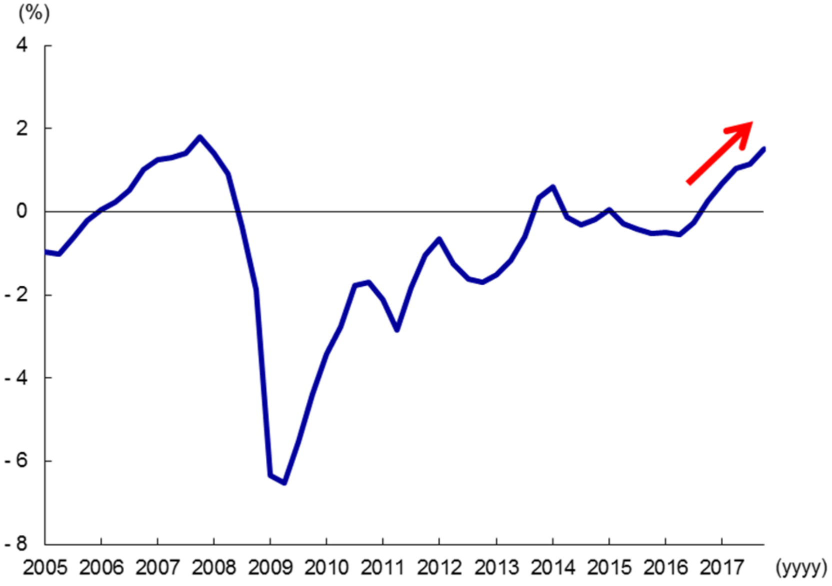
- ❑ We expect monetary policy to remain unchanged. While the forecast to achieve the price target around FY2019 has been maintained, a downward revision to the price outlook seems likely given significant downside risk. Monetary policy is unlikely to be changed ahead of the Abe administration's decision on the consumption tax in the second half of the year.
- ❑ Releases and communications by the BOJ will need to be watched closely. Amid the ongoing economic recovery, the output gap has improved to its highest level since the previous interest rate hike in 2007. In the event the rise of inflation increases the effect of monetary easing, the BOJ may consider policy adjustments.

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

	Real GDP	CPI (All items less fresh food)	Excluding the effects of the consumption tax hike
FY2017	+1.8 to +1.9 (+1.9)	+0.7	
Forecast made in January 2018	+1.8 to +2.0 (+1.9)	+0.7 to +1.0 (+0.8)	
FY2018	+1.4 to +1.7 (+1.6)	+1.2 to +1.3 (+1.3)	
Forecast made in January 2018	+1.3 to +1.5 (+1.4)	+1.3 to +1.6 (+1.4)	
FY2019	+0.7 to +0.9 (+0.8)	+2.0 to +2.3 (+2.3)	+1.5 to +1.8 (+1.8)
Forecast made in January 2018	+0.7 to +0.9 (+0.7)	+2.0 to +2.5 (+2.3)	+1.5 to +2.0 (+1.8)
FY2020	+0.6 to +1.0 (+0.8)	+2.0 to +2.3 (+2.3)	+1.5 to +1.8 (+1.8)

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

[Output gap (BOJ estimates)]

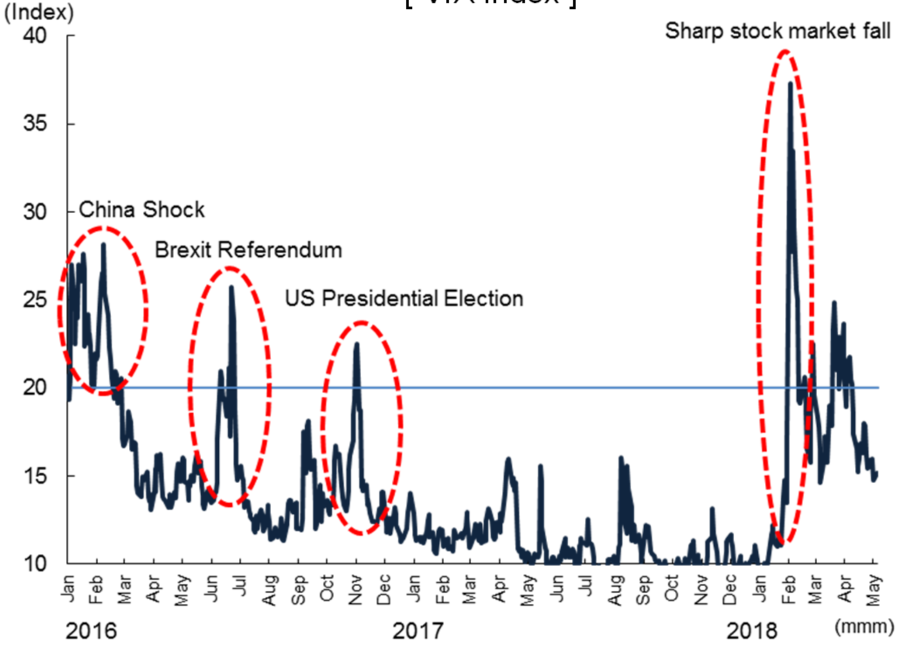


Source: Made by MHRI based upon Bank of Japan

Financial markets: market fluctuation risks will tend to rise due to concerns regarding US trade policy

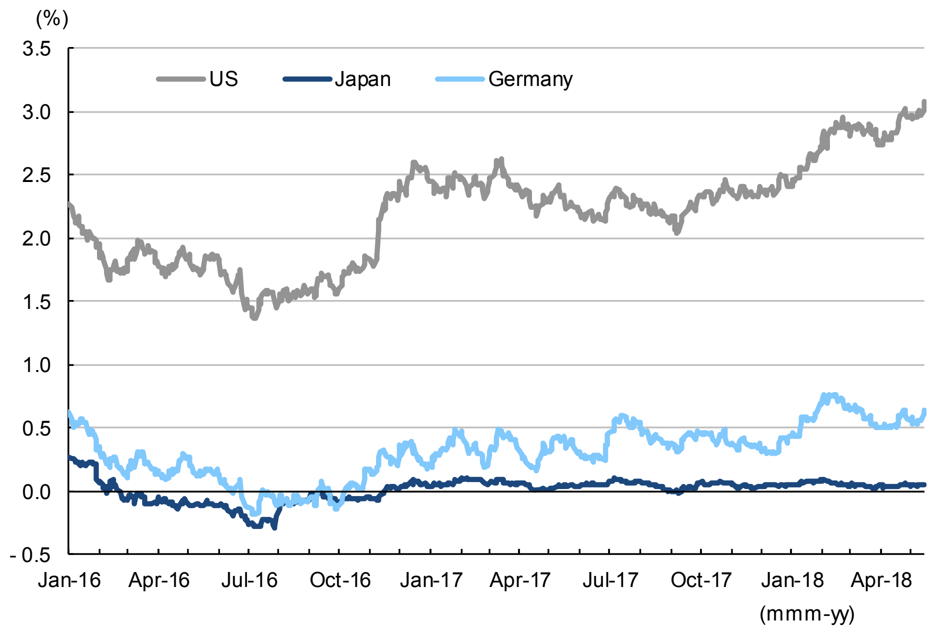
- Even though the VIX index, an indicator of investor sentiment, fell subsequent to a rise due to the sharp fall of stock prices, the index remains higher than it was in 2017.
- Concerns regarding US trade policy will tend to increase and we expect this will curb US interest rate hikes. However, given the tendency for market fluctuation risks to rise, it will be necessary to keep a close eye upon the risk of a sharp stock market fall stemming from a temporary rise in US long-term interest rates.

[VIX index]



Note: The VIX Index is an indicator of investor anxiety conveyed by the volatility of the S&P500 stock index option prices.
Source: Made by MHRI based upon Bloomberg

[10Y Government bond yields in Japan, the US and Germany]

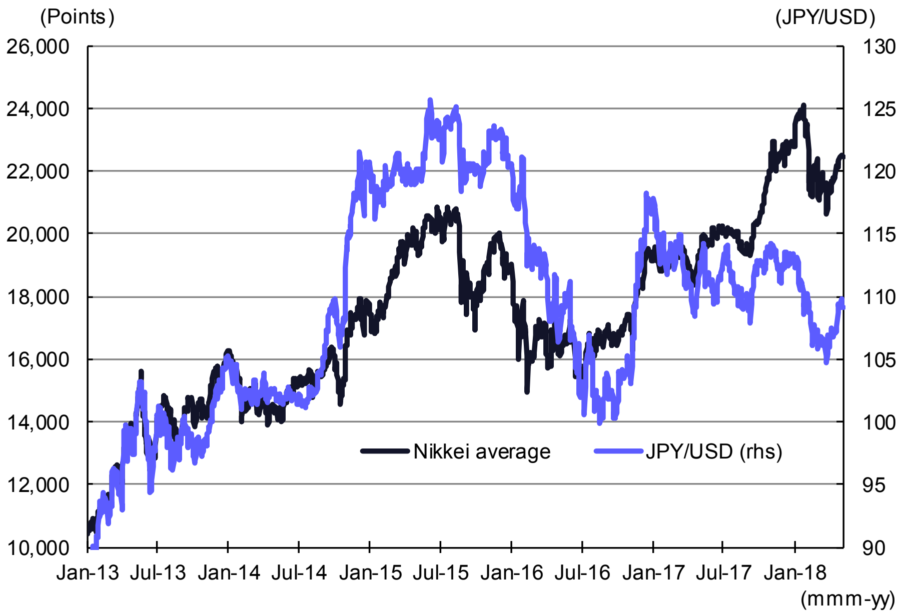


Source: Made by MHRI based upon Bloomberg

Japanese stocks: stock prices to rise in the second half of the fiscal year due to expectations toward the improvement of corporate earnings

- Even though Japanese stock prices have fallen considerably since the beginning of 2018 due to the appreciation of the yen, concerns regarding the protectionist shift of US trade policies and domestic political uncertainties, the market has recovered somewhat with the recent turnaround of the JPY/USD exchange rate. The Nikkei average has risen to the 22,000-level.
- Although a near term rise is unlikely due to concerns regarding the appreciation of the yen, we anticipate the rise of expectations for upward revisions in earnings in the second half of the fiscal year as long as a significant appreciation of the yen can be avoided.
  - The forecast PER for current stock prices is low (around14x) even based on the forecast EPS for FY2018 that factors in a strong yen to a certain extent. Thus, a further downturn of stocks seems unlikely.

[Nikkei average and JPY/USD exchange rate]



Source: Made by MHRI based upon Bloomberg materials

[Price matrix for Japanese stocks]

Nikkei Average (Points)	Forecast FY2018 EPS				
	Market forecast 3.5% increase in profits (JPY126)	10% increase (JPY134)	±0% (JPY122)	5% decrease (JPY116)	10% decrease (JPY110)
PER 13X	20,400	21,700	19,700	18,700	17,700
PER 14X	21,900	23,300	21,200	20,200	19,100
PER 15X	23,500	25,000	22,700	21,600	20,500
PER 16X	25,100	26,700	24,300	23,000	21,800

Current price level

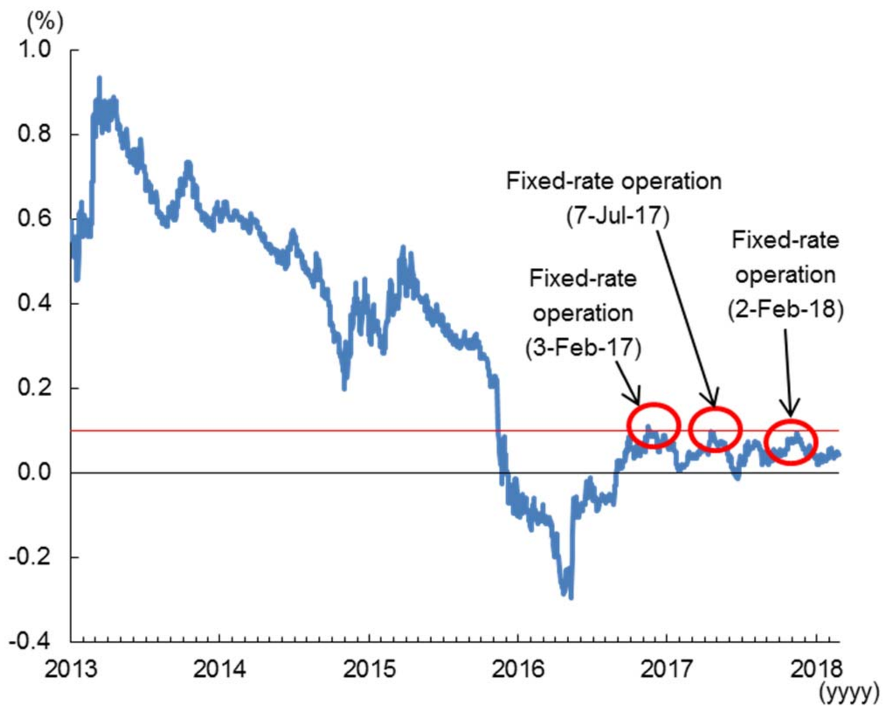
Note: Using the TOPIX FY2018 forecast EPS, taking the NT ratio to be 12.4 times. The rate of increase in profits is compared to the TOPIX FY2017 forecast EPS as of the end of April

Source: Made by MHRI based upon Thomson Reuters

Japanese yields: 10Y JGB yields below 0.1%. Concerns regarding BOJ policy shift are receding

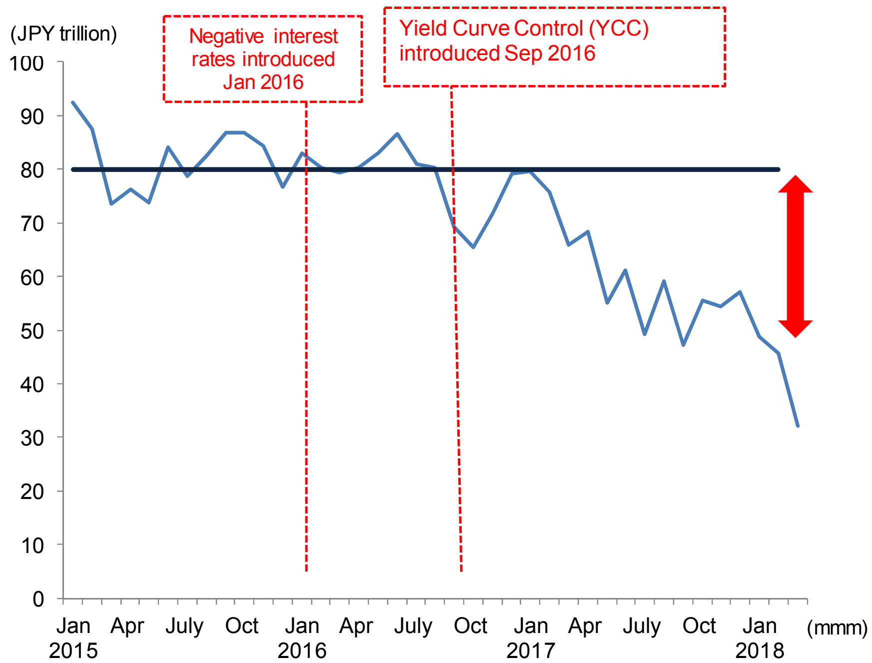
- We forecast that 10Y JGB yields will remain below 0.1% due to the BOJ's yield curve control. Even though the BOJ is reducing the size of its outright purchases of JGBs, it is difficult to make policy adjustments amid lingering risks of the appreciation of the yen. Speculation on a BOJ policy shift are receding at the moment.
  - We expect the BOJ will deal with any upward pressure on yields through fixed-rate operations ahead of the Government's decision on the consumption tax hike in 2018.
  - Reference to the 80 trillion yen target for the BOJ's outright purchase of JGBs could be deleted in the second half of the year.

[JGB yields]



Source: Made by MHRI based upon Bloomberg

[Amount of increase in the BOJ's JGB outright purchases]

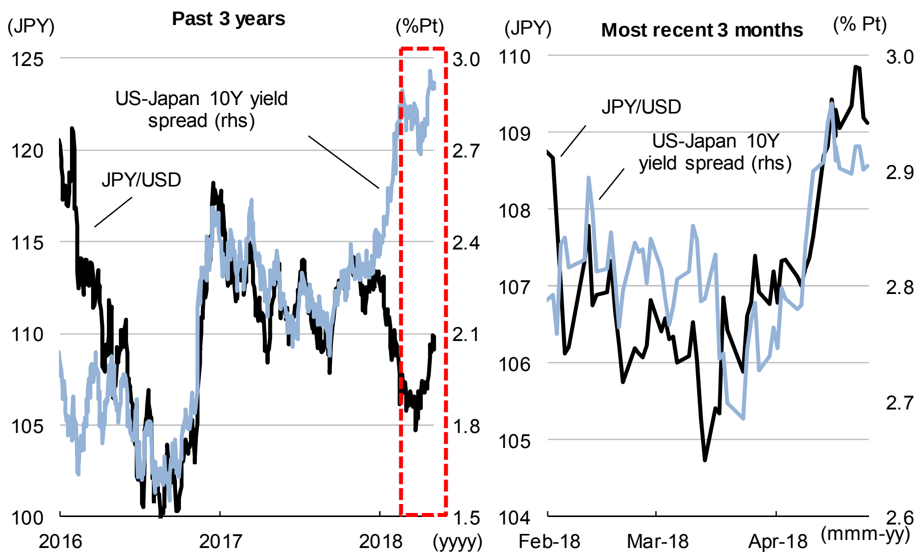


Note: Annualized base (3mma)
Source: Made by MHRI based upon Bank of Japan

Foreign exchange: dollar strengthens because of higher US yields, but there are concerns about a weakening of the dollar due to shifts in monetary policy stance in Japan and Europe

- The yen has weakened against the dollar due to the widening Japan-US yield spread. The yen could strengthen in the second half of the year as the rise of US interest rates stalls.
  - The JPY/USD has broken above 110 yen on the back of a widening Japan-US yield spread caused by the rise in the expected inflation rate due to the higher price of crude oil.
  - Japan continues to be listed in the *Report on Foreign Exchange Polices of Major Trading Partners of the US*. Heightened US pressure to correct the strong dollar remains a strong yen risk.
- We forecast a moderate appreciation of the euro against the dollar due to the firmness of the European economy and the suspension of asset purchases in the second half of the year.
  - Discussions on an early normalization of monetary policy have receded for the moment, given a cautious outlook stance at the ECB Governing Council.

[JPY/USD and US-Japan long-term yield spread]



Source: Made by MHRI based upon Bloomberg

[*Report on Foreign Exchange Policies of Major Trading Partners of the United States* (April 2018)]

Evaluation criteria	Significant bilateral trade surplus with the US		Material current account surplus	Persistent, one-sided foreign currency intervention
Main criteria	Large and disproportionate share	Bilateral goods surplus of at least USD20 bn	Current account surplus exceeds 3% of GDP	Net purchases of foreign currency exceeds 2% of GDP over a 12 month period
Units	–	(USD bn)	(%)	(%)
China	✔	375	1.4%	-0.6%
Japan		69	4.0%	0.0%
Germany		64	8.1%	-
India		23	-1.5%	2.2%
South Korea		23	5.1%	0.6%
Switzerland		14	9.8%	6.6%

Source: Made by MHRI based upon US Treasury, *Foreign Exchange Policies of Major Trading Partners of the United States*

III. The Asian Economies

Pace of economic expansion will gradually moderate until 2019

The Asian Economies: the pace of economic growth is forecast to moderate until 2019

- In China, economic conditions are stable, growing at the same pace as the previous quarter for the third consecutive quarter in the Jan-Mar quarter of 2018. However, inventories are rising and adjustment pressures are increasing.

- Looking forward, we forecast that China will guide the pace of economic growth to a soft landing while addressing its structural problems such as excessive capacity and debt in accordance with policies set forth at the National People's Congress of the People's Republic of China (March 2018).

- As for the Asian economies (ex. China), the growth rates in the Jan-Mar quarter were generally firm. However, we forecast a slowdown in exports, which have thus far served as the driver of growth, as orders in each country have already peaked.

- In terms of the outlook for the Asian economies (ex. China), we forecast the pace of overall economic expansion to slow down, particularly in relation to exports due to China's moderate slowdown and a peaking out of the IT cycle. By country and region, we expect a pronounced slowdown in NIEs, which are benign. On the other hand, the Indian economy is more likely to recover in 2018 as the economic slowdown of 2017 that was caused by temporary factors such as the abolition of high-denomination bank notes runs its course.

- In view of the foregoing, we forecast the pace of Asia's economic growth as a whole to moderate in 2019.

Asia: ASEAN is firm and India is stable compared to China and the NIEs

- China: we forecast a gradual decline of the growth rate amid progress of structural adjustments to address excess capacity and debt.
- NIEs: we forecast a decline in the growth rate, particularly in relation to exports due to China's gradual slowdown and a peaking out of the IT cycle.
- ASEAN: despite a moderate slowdown of exports, the decline of growth should be small due to support by domestic demand, as the NIEs have a lower dependence on exports.
- India: the Indian economy will pick up in 2018, given the fading impact of factors such as the abolition of high-denomination bank notes. In 2019, the Indian economy will remain on stable footing supported mainly by domestic demand, given its low dependence upon exports.

[Outlook on the Asian economies]

(Units: %)

	2014	2015	2016	2017	2018	2019
Asia	6.4	6.2	6.2	6.2	6.2	6.0
China	7.3	6.9	6.7	6.9	6.5	6.4
NIEs	3.5	2.1	2.3	3.2	2.9	2.5
South Korea	3.3	2.8	2.9	3.1	3.0	2.6
Taiwan	4.0	0.8	1.4	2.9	2.5	2.4
Hong Kong	2.8	2.4	2.2	3.8	3.0	2.4
Singapore	3.9	2.2	2.4	3.6	3.3	2.6
ASEAN5	4.6	4.9	4.9	5.3	5.3	5.1
Indonesia	5.0	4.9	5.0	5.1	5.2	5.3
Thailand	1.0	3.0	3.3	3.9	3.5	2.9
Malaysia	6.0	5.0	4.2	5.9	5.4	5.0
The Philippines	6.1	6.1	6.9	6.7	6.6	6.5
Vietnam	6.0	6.7	6.2	6.8	7.0	6.6
India	7.0	7.6	7.9	6.4	7.3	7.3
Australia	2.5	2.5	2.6	2.3	2.8	2.7
(Reference) Asia ex. China and India	4.2	3.8	3.9	4.5	4.4	4.2
(Reference) Asia ex. China	5.4	5.4	5.7	5.3	5.7	5.6

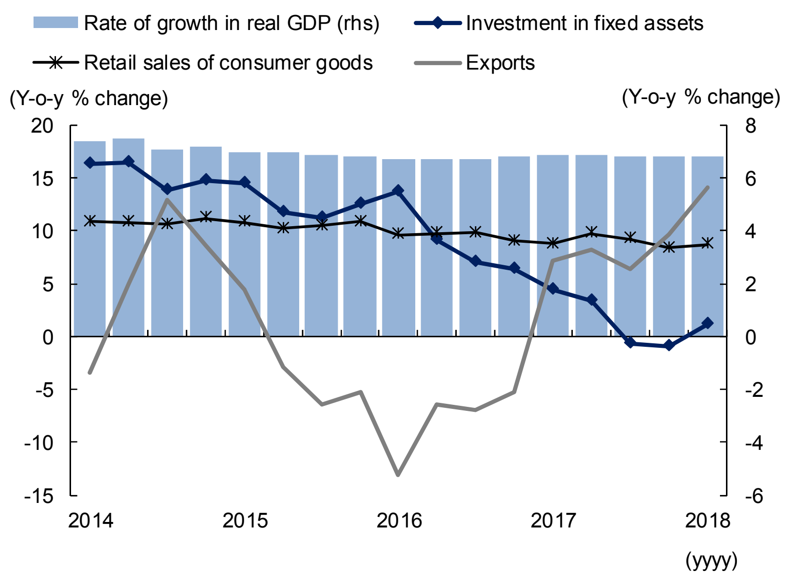
Note: Real GDP growth rate (y-o-y). Shading denotes estimates. Average figures are calculated from the 2016 GDP share from the IMF (purchasing power parity base)

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

China: although the growth rate has been stable to date, a gradual decline in likely going forward

- China's real GDP grew stably at +6.8% y-o-y in the Jan-Mar quarter of 2018, recording stable growth for the third consecutive quarter.
  - Even though the contribution by external demand turned negative for the first time in five quarters due to a substantial increase of imports, final consumption and total capital formation served to support growth.
  - However, adjustment pressures are growing, given the contraction of the positive level of the production-inventory balance around March.
- Looking forward, China's economic growth should gradually slow down amid the progress of structural reforms based on the policies set forth at the National People's Congress of the People's Republic of China (March 2018) (see next page).
  - Economic stimulus measures may be reinforced in the event downside risks intensify due to excessive structural adjustments or escalation of trade frictions with the US.

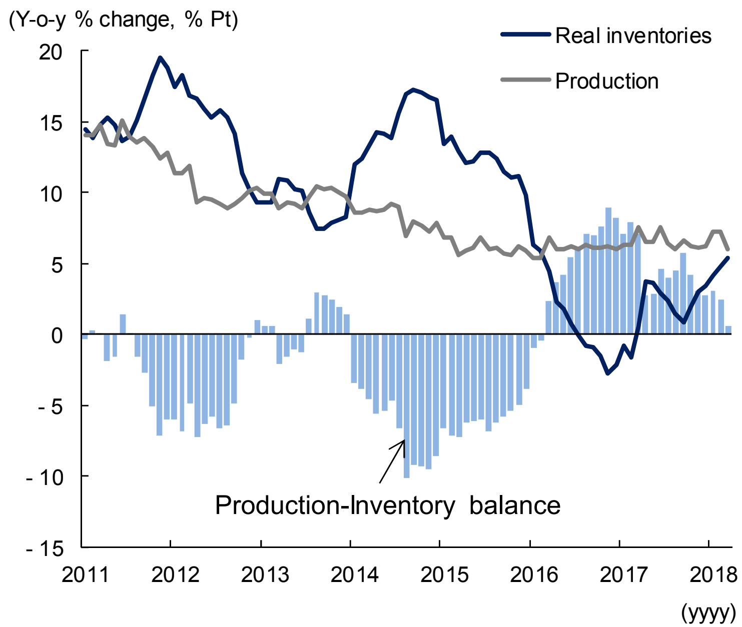
[Rate of growth in real GDP and major indicators]



Note: Retail sales of consumer goods is the retail sales index, investment in fixed assets is the fixed asset investment price index, converted to real figures (estimated by MHRI). Exports are nominally denominated in dollars

Source: Made by MHRI based upon National Bureau of Statistics China, General Administration of Customs, P.R. China

[Production-inventory balance]



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

China: Structural reforms to progress with policies that allow for a lower pace of growth in 2018

- The National People's Congress of the People's Republic of China was held on March 5, 2018. Policy measures for 2018 were announced in the Government Work Report presented by Premier Li Keqiang.
  - The policy measures set forth the continuation of government policies which balance the promotion of reforms with economic stability, reflecting lingering structural problems and unstable economic and financial conditions.
  - Even though the 2018 growth target was left unchanged from last year, the reference to "strive to achieve a better result" was deleted, effectively allowing for a lower pace of growth.
    - ✓ While the fiscal deficit relative to GDP has been lowered, there has been no change to the proactive stance towards fiscal policy such as the increase in the amount of special local government bonds.
  - There are plans to strengthen the following initiatives during the next 3 years: (1) prevent and eliminate financial risk, (2) alleviate poverty, and (3) prevent environmental pollution.

[Main political goals for 2018]

	Numerical target	c.f. 2017 target
Real GDP growth	around +6.5%	(→)
Fixed asset investment (nominal)	(Not stated)	–
Total retail sales of consumer goods (nominal)	around +10.0%	(↓)
Consumer Price Index (CPI)	around +3.0%	(→)
Money Supply (M2)	* Maintain last year's real growth rate	–
Total social financing		–
New urban jobs	11 million or more	(→)
Registered urban jobless rate	within 4.5%	(→)
Surveyed urban unemployment rate (*newly established)	within 5.5%	–
Fiscal deficit	2.6% of GDP	(↓)
	2.38 trillion yuan	(→)
Cull overcapacity	Coal: around 150 million ton	(↓)
	Steel: around 30 million ton	(↓)
	Coal-fired thermal power: facilities that do not meet standards	–

Source: Made by MHRI based upon First Session of the 13th National People's Congress (China Internet Information Center, March 5, 2018)

[Proposed political campaigns in 2018]

1.	Deepen supply side structural reforms
2.	Accelerate construction of innovation-driven nation
3.	Deepen reforms in fundamental and key areas (Reform of state capital and SOEs, support the development of private enterprises, and improve the property rights system and mechanisms for market-based reforms, etc.)
4.	Initiatives to fight three critical battles ((1) prevent and eliminate financial risk; (2) alleviate poverty; and (3) prevent environmental pollution)
5.	Implement strong rural revitalization strategy
6.	Solid progress in the coordinated regional development strategy
7.	Actively increase consumption and promote effective investment
8.	Create a new landscape in all-around opening up (Advance international cooperation under the Belt and Road Initiative, promoting inward foreign investment and imports)
9.	Do more to ensure and improve people's well-being

Source: Made by MHRI based upon First Session of the 13th National People's Congress (China Internet Information Center, March 5, 2018)