FY2017, FY2018 Economic Outlook

- The global economy will continue to grow throughout 2018 -

November 16, 2017

Mizuho Research Institute

Key points of our forecast

- Our economic outlook sees that global economy will remain on growth track in 2018. Despite a slowdown of the Chinese economy, the above-potential growth of developed market (DM) economies, recovery of commodity-producing economies, and - in Asia - the upturn of ASEAN domestic demand and the Indian economy should serve as underpinnings.

- The global economy is robust, with overall real GDP growth firm albeit a slight decline among the DM economies in the Jul-Sep quarter. A virtuous cycle is taking hold, namely the expansion of the economy is driving the rise of stock prices and the stock market rise is serving as a further engine of the economy. However, note that there are risks of a US stock market adjustment.

- Global semiconductor sales is following an uptrend. Demand for semiconductors in new forms such as computer servers should keep global IT demand on solid footing for some time.

- As for risk factors, keep a close eye upon the military situation in North Korea and political upheaval in Europe. The escalation of the North Korea crisis would raise yen-appreciation risks and also serve as downside risks through supply chain disruptions upon the global economy, should the situation spiral into military conflict.

- Following a landslide victory of Japan's ruling coalition in the lower house election, the measures in its policy platform such as its project to "revolutionize" human resource development will materialize under the continuation of Abenomics. Even though free preschool education is an appropriate measure, this should serve as an opportunity to review the entire system and nature of preschool education.

- FY2017 will turn out to be a year of well-balanced economic recovery for Japan with both domestic and external demand serving as drivers. Even though exports are forecast to slow down in FY2018, the firm growth of domestic demand should maintain Japan's growth above its potential. Japan's exit from its post-Bubble slump may come into view.

- Japan's core inflation rate will rise temporarily to the 1%-level, given the expansion of the breadth of the y-o-y change in positive territory. On the other hand, the underlying trend in inflation excluding the impact of energy prices will remain moderate.

I. General Overview

The global economy will remain on firm footing

(1) Key points of our outlook: the global economy will remain on firm footing in 2018

- Although growth in the forecast area is likely to expand towards 2018, the impact of the Chinese economic slowdown and geopolitical risks should be watched closely.
  - Given the upward revision of economic growth for the Eurozone, Asia and Brazil reflecting recent economic trends, we have also made a slight upward revision of our forecast on overall global growth in 2018.

[Outlook on the global economy]

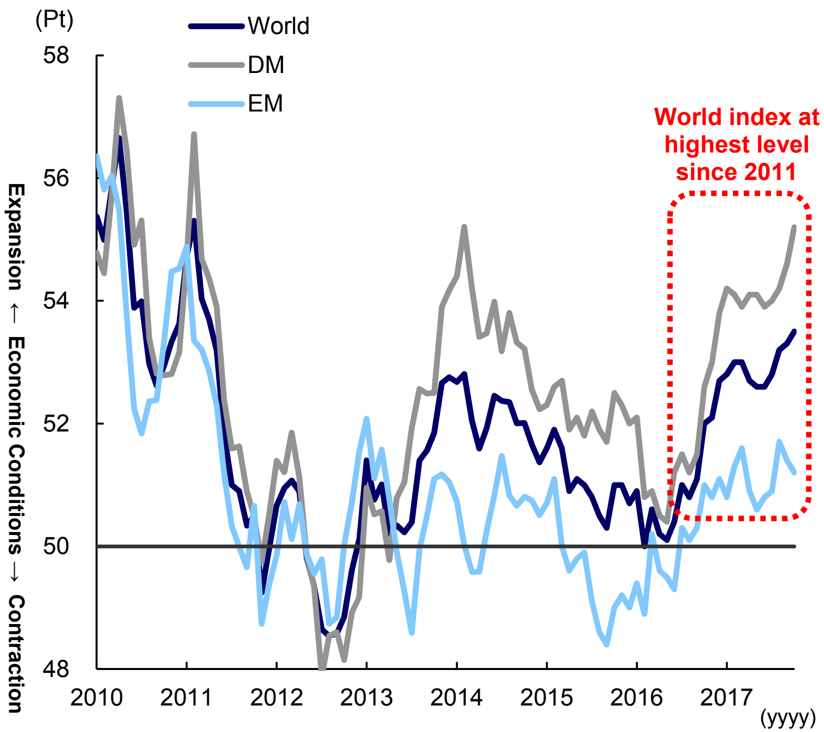
Calendar year	2015 (Actual)	2016 (Actual)	2017 (Forecast)	2018 (Forecast)	2017 (Forecast in September)	2018 (Forecast in September)	2017 (Breadth of change from September)	2018 (Breadth of change from September)
	(Y-o-y % change)				(Y-o-y % change)		(% point)	
Total of forecast area	3.5	3.4	3.8	3.9	3.8	3.8	-	0.1
Japan, US, Eurozone	2.3	1.5	2.1	2.0	2.1	1.9	-	0.1
US	2.9	1.5	2.2	2.2	2.2	2.2	-	-
Eurozone	2.1	1.8	2.3	1.9	2.2	1.8	0.1	0.1
Japan	1.1	1.0	1.5	1.4	1.4	1.4	0.1	-
Asia	6.2	6.2	6.1	6.0	6.0	6.0	0.1	-
China	6.9	6.7	6.8	6.4	6.8	6.4	-	-
NIEs	2.0	2.3	3.0	2.5	2.6	2.4	0.4	0.1
ASEAN5	4.8	4.9	5.2	5.2	5.1	5.1	0.1	0.1
India	7.5	7.9	6.6	7.3	6.6	7.3	-	-
Australia	2.4	2.5	2.3	2.8	2.3	2.8	-	-
Brazil	-3.8	-3.6	0.7	2.0	0.6	1.9	0.1	0.1
Mexico	3.3	2.9	2.0	2.0	2.0	2.1	-	-0.1
Russia	-2.8	-0.2	1.5	1.5	1.0	1.5	0.5	-
Japan (FY)	1.3	1.3	1.5	1.2	1.5	1.2	-	-
Crude oil price (WTI, USD/bbl)	49	43	51	59	49	51	2	8

Note: The total of the forecast area is calculated upon the 2015 GDP share (PPP) by the IMF.
Sources: Made by Mizuho Research Institute (MHRI) based upon releases by the International Monetary Fund (IMF) and statistics of relevant countries and regions.

(2) Overall view of the global economy: global economy remains robust

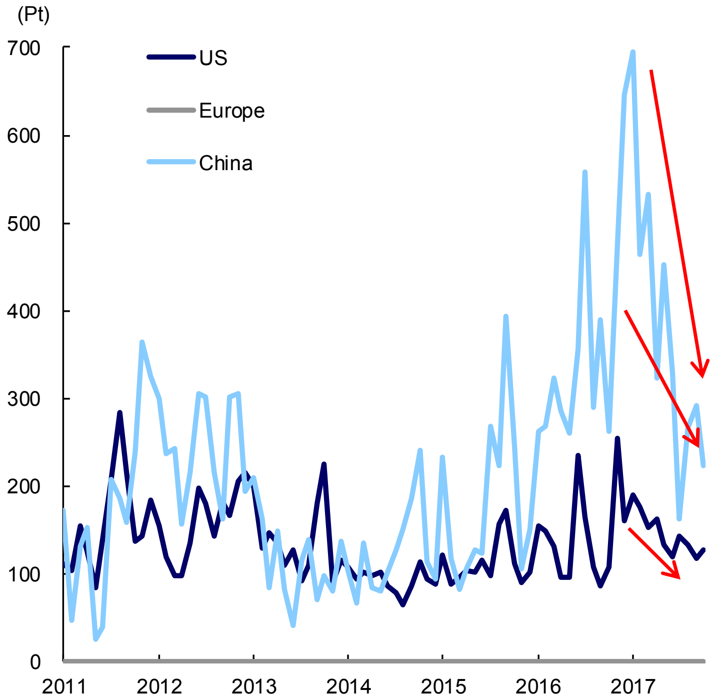
- The global economy is improving, led by developed market (DM) countries. Manufacturing sentiment has recovered to its highest level since 2011.
  - Although the rate of growth in real GDP fell across the board for major countries such as Japan, the US and Europe in the Jul-Sep quarter, overall growth remained firm.
  - The Economic Policy Uncertainty Index is falling for the US, Europe and China. The rise of the stock market and ebb of political risks are also serving to underpin the economy.
    - ✓ However, geopolitical risks such as North Korea and the risk of political turmoil in Europe still linger and require close monitoring.

[Global manufacturing PMI]



Source: Made by MHRI based upon Markit

[Economic Policy Uncertainty Index]

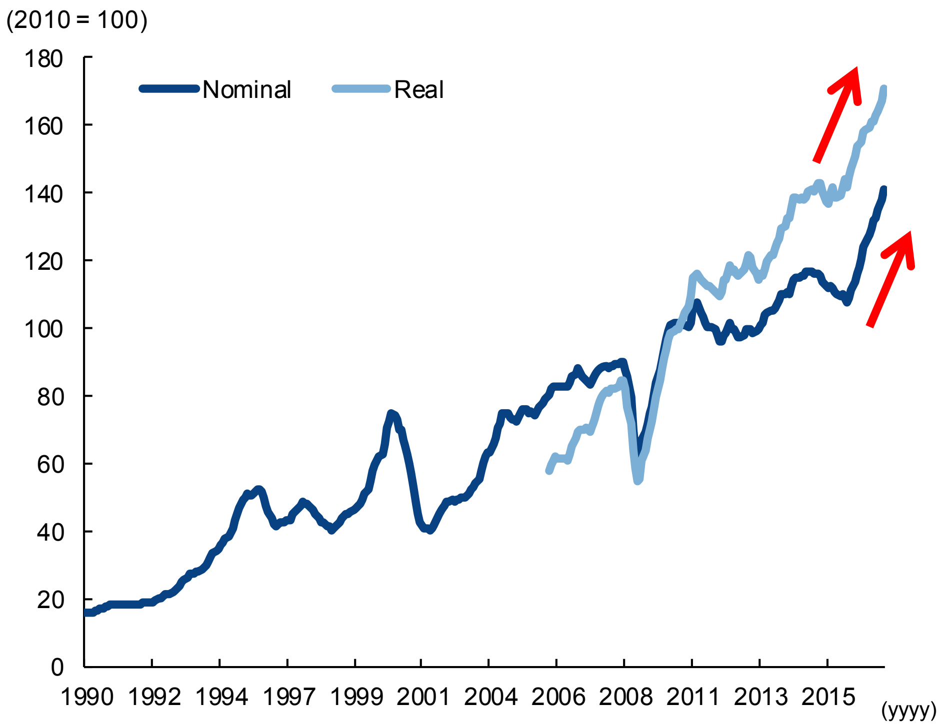


Source: Made by MHRI based upon Economic Policy Uncertainty

Global semiconductor sales continue to rise

- Global semiconductor sales have continued to rise. We forecast the market to remain firm for the near term.
  - Demand for new applications such as for servers is firm.
  - Looking forward, there is the risk that the price falls due to increased production capacity may lead to a slowdown of nominal sales from the second half of 2018. However, the increase in demand for applications such as for servers means growth should be firm on a real basis.
    - ✓ Considering supply constraints on certain parts for the iPhone X, the recovery in demand for smartphones should be moderate.

[Global semiconductor sales]



Note: The graph on the left hand side is converted into real terms and adjusted for seasonal factors by MHRI. The right hand graph is converted into real terms by MHRI.

Source: Made by MHRI based upon CEIC Data and Datastream

Global stock prices continue to rise on the back of improved corporate earnings. The rise of the stock market is driving a virtuous cycle of the economy

- Global stock prices continue to rise. This rise is pronounced in emerging market (EM) countries and in the US. Japanese stocks were lagging, but have regained momentum since September.
- The stock market rise stems mainly from the improvement in corporate earnings reflecting the recovery of the global economy. The trend continues to improve.

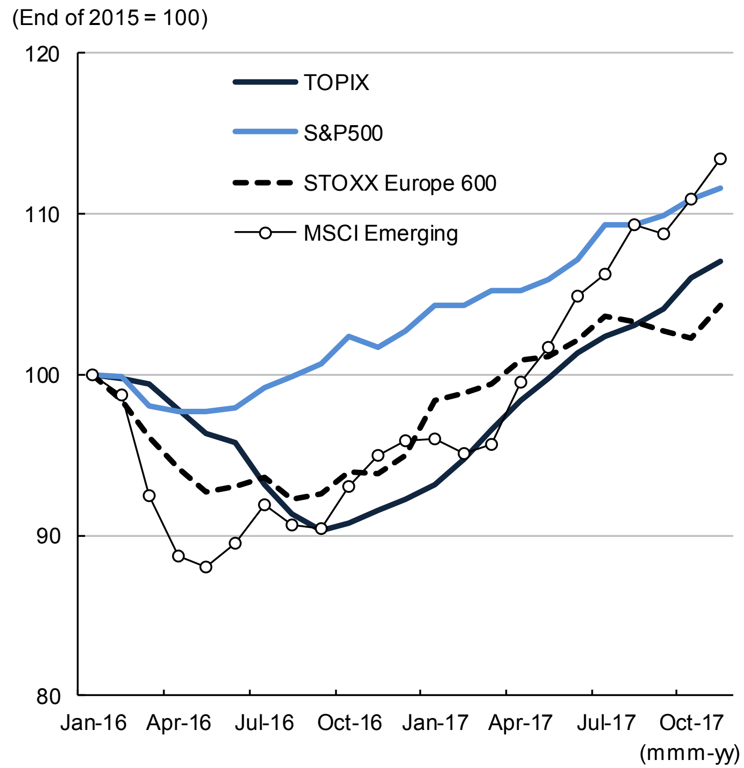
[Countries that set new record highs in 2017]

		Country
DM		US
		Canada
		UK
		Germany
		Norway
		Denmark
		Estonia
		Latvia
		Lithuania
		South Korea
		New Zealand
EM	Europe	Russia
		Hungary
	Middle East	Turkey

		Country
EM	Asia	Bangladesh
		Pakistan
		India
		Indonesia
		The Philippines
	Central and South America	Mexico
		Costa Rica
		Argentina
		Chile
		Jamaica
		Venezuela
		Brazil
	Africa	South Africa
		Egypt
		Mauritius
		Ghana
		Tunisia

Note 1: Based upon closing prices during the period where such information was available through Bloomberg. As at November 8, 2017
2: DM and EM breakdown according to the IMF. The regions for EM countries are based upon classifications by the Ministry of Foreign Affairs
Source: Made by MHRI based upon Bloomberg, IMF, Ministry of Foreign Affairs

[Forecast EPS (12-month forward) for major stock price indices]

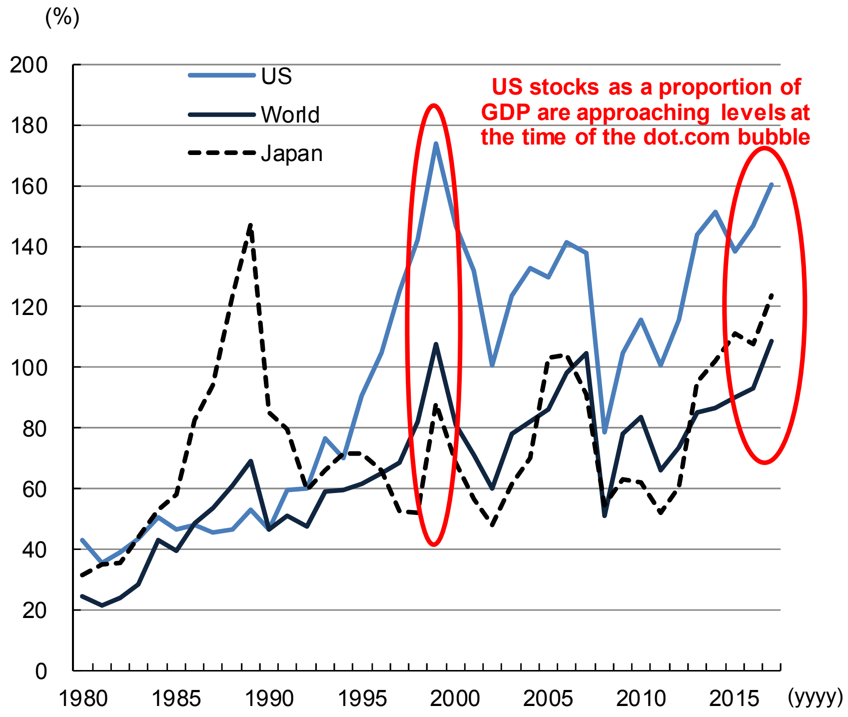


Source: Made by MHRI based upon Datastream

Ratios of market capitalization are approaching bubble period levels worldwide. The US is particularly overvalued

- Ratios of market capitalization to GDP are in excess of pre-Lehman shock levels worldwide, with the US gradually approaching levels at the time of the dot.com bubble. Japan is also approaching the levels of the late 1980s.
- US stocks are notably overvalued, particularly in terms of valuation. They are underpinned by the low interest rate environment. A large rise in yields is a risk factor.

[Ratio of market capitalization to GDP]



Note: Market capitalization for 2017 is as at the end of October. GDP is calculated using IMF forecasts

Source: Made by MHRI based upon WFE, Bloomberg, Tokyo Stock Exchange, IMF, Cabinet Office

[Forecast EPS (12-month forward) for major stock price indices]

US stocks seem overvalued even by global comparisons

Index	Change since the beginning of the year (%)	Forecast PER (multiple)	Forecast PBR (multiple)
TOPIX	18.1	14.8	1.3
S&P500	15.6	18.1	3.0
STOXX Europe 600	9.6	15.2	1.8
MSCI Emerging	30.6	12.6	1.6

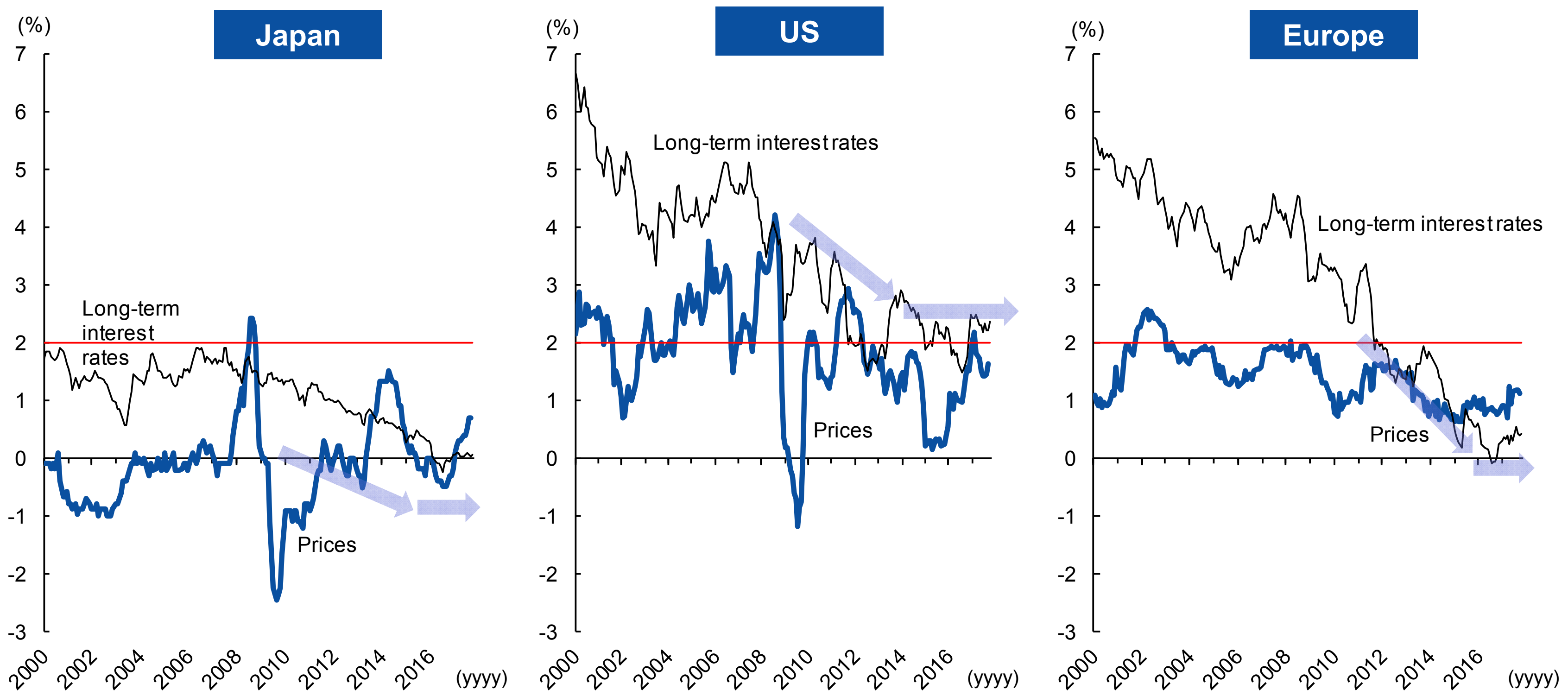
Note: Forecast PER and forecast PBR are 12-month forward forecasts. As at November 3

Source: Made by MHRI based upon Datastream and Bloomberg

Yields are not rising amid tepid price trends in Japan, the US and Europe

- Price trends are weak in Japan, the US and Europe and long-term yields remain at low levels.
  - Given the tepid price trends in Japan, the US and Europe, conditions are still not conducive to a rise of expected inflation rates.
  - Although the US has hiked interest rates and scaled down its reinvestment policy and Europe has tapered its monetary easing policy, long-term interest rates remain low in Japan, the US and Europe.

[Long-term interest rates and prices of Japan, the US, and Germany]

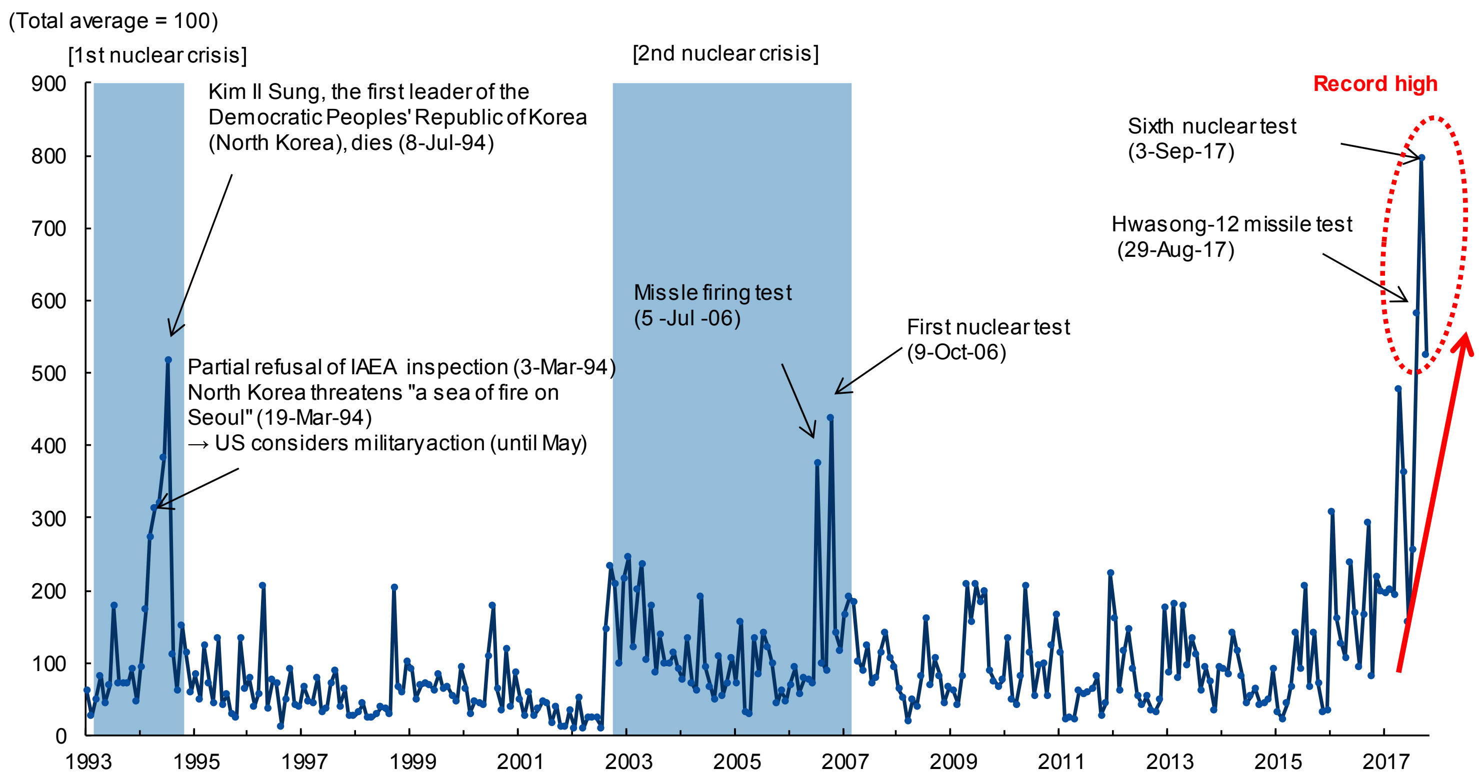


Note: Long-term yields refer to the 10Y government bond yields of each country, and Germany with respect to Europe. Prices refer to the general consumer price index excluding fresh foods adjusted for the consumption tax hike for Japan, the PCED deflator for the US, and the Core CPI for Europe.
Source: Made by MHRI based upon Bloomberg, Ministry of Internal Affairs and Communications, US Department of Commerce, Eurostat

(3) North Korea risk: “North Korea Risk Index” surpasses the levels at the time of the first and second nuclear crises

- The North Korea Risk Index, calculated by MHRI, has surpassed the previous record set in August 2017 (the August level itself was the highest since the first nuclear crisis of July 1994). The Index rose in September to almost double the previous peak due to factors such as North Korea’s missile tests.

[North Korea risk index (calculated by MHRI)]



Notes: 1. Taking the aggregate of the number of articles with the criteria that such articles include the Japanese language equivalents of the (1) the term “North Korea”, and (2) the terms “security” or “nuclear”, and (3) the terms “opacity”, “uncertainty” or “risk”.
2. The articles appeared in the following media: Asahi, Sankei, Nikkei, Mainichi and Yomiuri

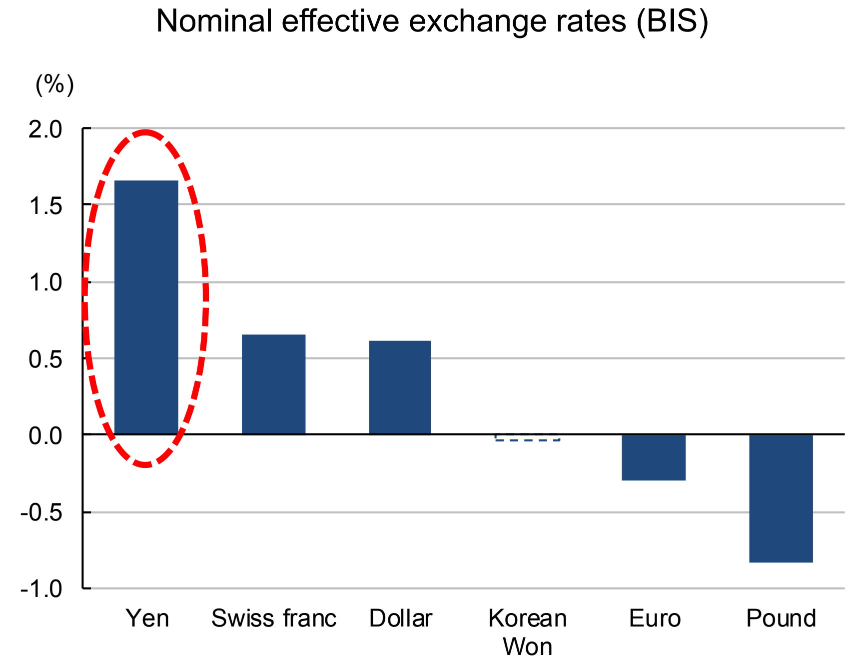
Source: Made by MHRI

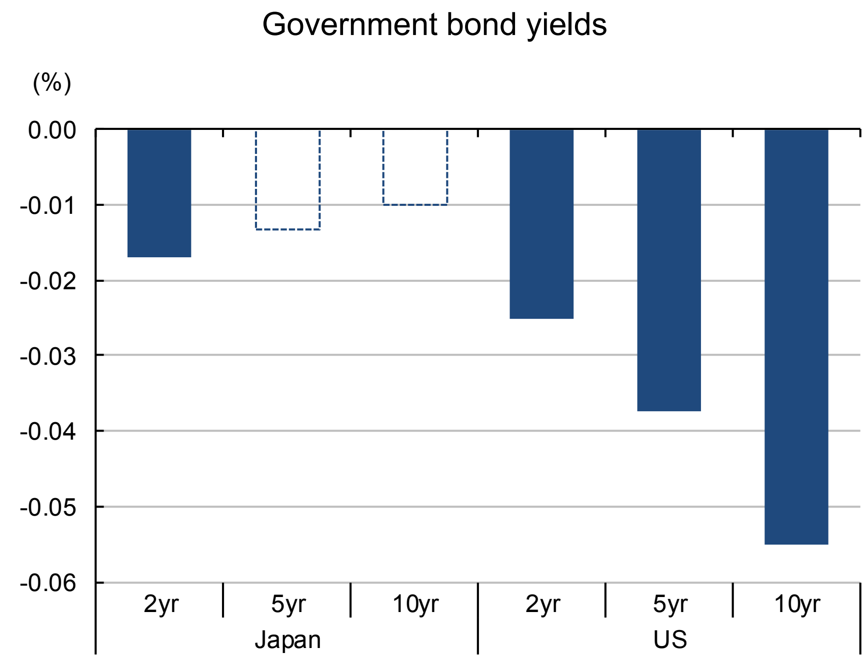
North Korea risk: the yen is the currency most likely to increase in value

- We expect the Japanese yen to increase in value if the situation in North Korea deteriorates.
  - We predict the yen will be the major currency most likely to increase in value given the financial market impact on days when North Korea has been a major news item ("News days") and on the assumption of a comparative increase in the weight of the "North Korean shock".
    - ✓ On the other hand, the decline in JGB yields (as well as the economic stimulus effect) would be limited.

[Impact of North Korea risk on the financial markets]

(Impact in the event there is a North Korea shock which serves to push up the price of gold by 1%)





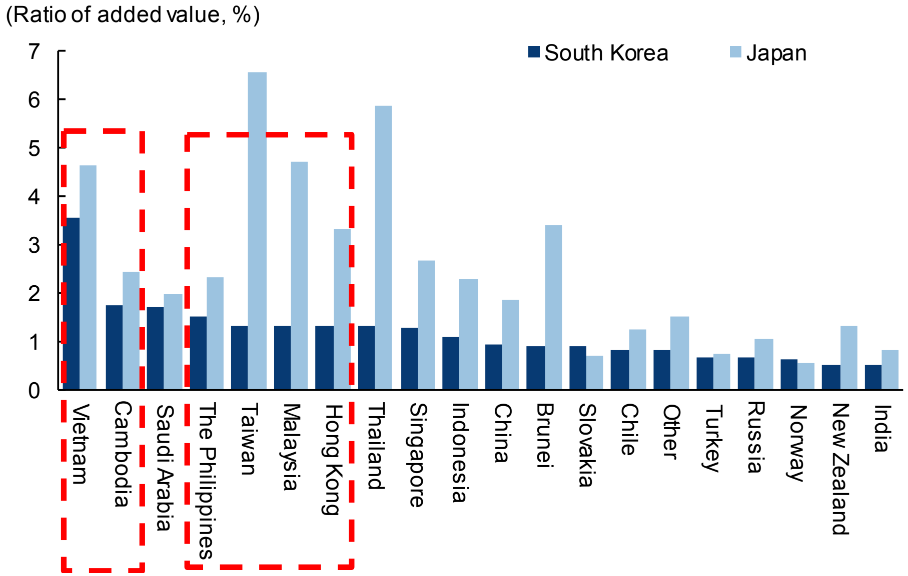
Notes: 1. Hypothesizing that the "North Korean shock" increasingly spread (with the spread of other structural shocks constant) in the financial markets on the 35 days ("News days") during the period from April 2009 to September 2017 when there was major news about North Korea to identify the market impact of such shock. Estimated with the generalized method of momentum (GMM) using two variables of the gold price and each FX, showing the impact when there was a shock such as 1% rise in the gold price.
(Reference) R. Rigobon and B. Sack (2005), *The effects of war risk on US financial markets*, Journal of Banking & Finance, 29 (7), pp.1769-89
2. The dotted line indicates where there was not a 10% level of significance (According to a recentered Bootstrap to fulfil the momentum requirements with random resampling of the News days. In the case of all assets, the constraints on excessive identification of the momentum conditions were not rejected (calculating the test statistic based on the similar Bootstrap).

Source: Made by MHRI based upon Bloomberg and BIS

North Korea risk: South Korea plays a crucial part in the East Asian supply chain such as for electrical equipment

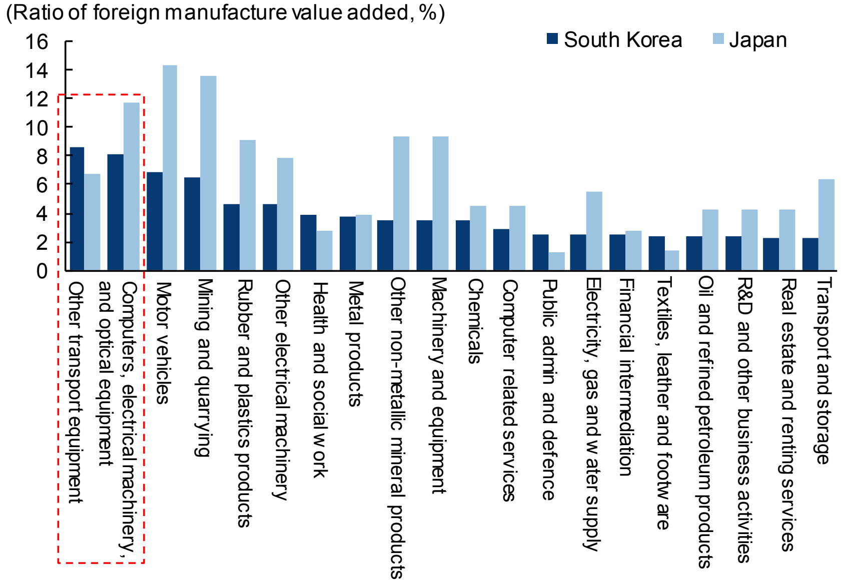
- In the event of military conflict, South Korea may be subject to attacks, which would raise concerns regarding the supply chain.
- South Korea plays a crucial part in the East Asian supply chain for countries such as Vietnam and Cambodia.
  - However, the ratio of local production in the value added originating from South Korea is small compared to Japan.
- By industry, South Korea provides a certain level of value added in sectors such as electrical machinery, transport equipment and mining and quarrying.
  - The level of value added originating from South Korea surpasses Japan for other transport equipment, and is about the same level as Japan for electrical machinery such as computers.

[Ratio of each country's value added originating from South Korea and Japan]



Note: Top 20 countries
Source: Made by MHRI based upon OECD Trade in Value Added (TiVA)

[Ratio of foreign manufacture value added from South Korea and Japan]



Note: Top 20 industries
Source: Made by MHRI based upon OECD Trade in Value Added (TiVA)

II. The Japanese Economy

Its economic recovery is well-balanced between domestic and external demand, providing signs of a true dawn

(1) The Japanese economy: economic recovery driven by the expansion of the overseas economies and strength of domestic demand

- The *First Preliminary Quarterly Estimates of GDP* (“*1st QE*”) for the Jul-Sep quarter of 2017 revealed that the Japanese economy recorded growth in positive territory for the seventh consecutive quarter for the first time in 17 years. Even though domestic demand fell in a reaction to the rise in the Apr-Jun quarter, net exports served to push up growth, reflecting the increase of IT-related exports.

- The Japanese economy will pick up in FY2017. The recovery of overseas economies, the improvement of the domestic inventory cycle, the rise of capital investment related to the 2020 Tokyo Olympic Games and productivity improvement, and the implementation of public investment accompanying Japan’s economic stimulus measures will serve to push up growth. Even though the rise of energy prices will serve as downward pressures upon personal consumption, the Japanese economy will continue to recover due to purchases to replace durable goods and wage hikes mainly among small and medium-sized companies. The pace of economic growth in FY2017 is forecast to rise to +1.5% from the previous fiscal year (+1.3%).

- In FY2018, domestic demand will remain on solid footing despite the slowdown of exports. In FY2018, the Japanese economy is projected to grow +1.2%.

- Despite the alleviation of uncertainties regarding political and economic developments overseas, keep a close eye upon a slower-than-expected growth of the Chinese economy and risks related to North Korea.

- The core inflation rate will rise temporarily to the 1%-level, given a faster year-on-year rise of energy prices. On the other hand, the improvement of the underlying trend in inflation excluding the impact of energy prices will remain moderate.

Japan: forecast on growth for FY2017 (+1.5%) and FY2018 (+1.2%)

- The pace of Japan's economic growth is forecast to rise to +1.5% in FY2017. (Unchanged from our forecast in September. Weaker-than-expected domestic demand was offset by external demand which turned out to be stronger than expected).
  - The upward revision is attributed to factors such as the recovery in overseas economies, improvement in the domestic inventory cycle, increase in investment related to the 2020 Tokyo Olympic Games and productivity improvements, and the implementation of public investment accompanying Japan's economic stimulus measures. However, it will be necessary to keep a close eye upon the possibility of a slower-than-expected growth of the Chinese economy and geopolitical risks regarding North Korea.
- The pace of economic growth is forecast at +1.2% in FY2018 (unchanged from our forecast in September). Despite the slowdown of external demand, domestic demand will remain on firm footing.

[Outlook on the Japanese economy]

		2015	2016	2017	2018	2016		2017				2018				2019
		FY				Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
GDP (real)	Q-o-q % ch	1.3	1.3	1.5	1.2	0.2	0.4	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.2	0.3
	Q-o-q % ch p.a.	--	--	--	--	0.9	1.6	1.0	2.6	1.4	1.1	1.3	1.3	1.3	0.9	1.3
Domestic demand	Q-o-q % ch	1.2	0.5	1.2	1.2	-0.1	0.1	0.1	0.9	-0.2	0.3	0.3	0.4	0.3	0.3	0.4
Private sector demand	Q-o-q % ch	1.2	0.8	1.2	1.3	-0.2	0.3	0.2	0.7	0.0	0.4	0.4	0.4	0.3	0.3	0.4
Personal consumption	Q-o-q % ch	0.6	0.7	0.9	0.8	0.4	0.1	0.4	0.7	-0.5	0.2	0.2	0.3	0.3	0.3	0.3
Housing investment	Q-o-q % ch	2.8	6.6	1.8	-0.9	2.9	0.3	0.9	1.1	-0.9	-0.1	-0.8	-0.2	-0.3	0.5	0.1
Capital investment	Q-o-q % ch	0.6	2.5	2.9	2.8	-0.1	1.9	0.5	0.5	0.2	1.3	1.3	0.5	0.5	0.4	0.4
Inventory investment	Q-o-q contribution, % pt	0.4	-0.4	-0.1	0.1	-0.5	-0.2	-0.2	0.0	0.2	0.0	-0.1	0.1	0.0	0.0	0.1
Public sector demand	Q-o-q % ch	1.2	-0.4	1.1	1.0	0.2	-0.5	0.0	1.6	-0.6	0.1	0.2	0.4	0.4	0.3	0.3
Government consumption	Q-o-q % ch	2.0	0.4	0.7	1.1	0.3	0.0	-0.0	0.6	-0.1	0.2	0.3	0.3	0.3	0.3	0.3
Public investment	Q-o-q % ch	-1.9	-3.2	2.5	0.7	-0.4	-2.7	0.1	5.8	-2.5	-0.4	0.0	0.7	0.7	0.1	0.3
External demand	Q-o-q contribution, % pt	0.1	0.8	0.4	0.0	0.4	0.3	0.1	-0.2	0.5	-0.1	-0.0	-0.0	-0.0	-0.1	-0.1
Exports	Q-o-q % ch	0.7	3.2	4.8	2.0	2.1	3.0	1.9	-0.2	1.5	0.7	0.3	0.6	0.5	0.2	0.0
Imports	Q-o-q % ch	0.2	-1.3	2.5	2.1	0.1	1.2	1.4	1.4	-1.6	1.1	0.4	0.8	0.7	0.6	0.4
GDP (nominal)	Q-o-q % ch	2.7	1.1	1.5	1.1	0.0	0.5	-0.0	0.6	0.6	0.2	0.2	0.1	0.4	0.5	0.3
GDP deflator	Y-o-y % ch	1.5	-0.2	-0.1	-0.1	-0.1	-0.0	-0.8	-0.4	0.1	-0.1	0.2	-0.2	-0.3	-0.0	0.0
Domestic demand deflator	Y-o-y % ch	0.0	-0.4	0.5	0.4	-0.8	-0.3	0.0	0.3	0.5	0.4	0.6	0.4	0.5	0.4	0.3

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 the lower half of the 0%-level

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

		2015	2016	2017	2018	2016		2017				2018				2019
		FY				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	-0.9	1.1	4.5	1.9	1.6	1.8	0.2	2.1	0.4	1.3	0.3	0.4	0.3	0.3	0.2
Ordinary profits (Lower line: excludes impact of special factors)	Y-o-y % ch	4.9	10.0 (7.3)	11.2 (13.9)	3.3	11.5 (-5.8)	16.9	26.6	22.6	5.7 (18.2)	10.4	6.3	4.5	4.4	2.4	2.1
Nominal compensation of employees	Y-o-y % ch	1.5	2.0	2.1	2.0	2.3	2.2	1.0	2.1	2.1	2.4	1.9	2.0	1.9	2.1	2.0
Unemployment rate	%	3.3	3.0	2.8	2.8	3.0	3.1	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8
New housing starts	P.a., 10,000 units	92.1	97.4	96.0	93.7	98.0	95.3	97.5	100.2	95.6	94.6	93.6	92.2	92.0	94.2	97.0
Current account balance	P.a., JPY tril	17.9	20.4	22.4	20.0	19.4	20.6	21.7	19.1	24.5	21.4	24.1	19.8	16.9	19.4	23.3
Domestic corporate goods prices	Y-o-y % ch	-3.3	-2.3	2.6	1.8	-3.8	-2.1	1.0	2.1	2.9	3.1	2.4	2.0	2.5	1.9	1.0
Consumer prices (ex fresh food)	Y-o-y % ch	-0.0	-0.2	0.7	1.0	-0.5	-0.3	0.2	0.4	0.6	0.9	1.0	1.0	1.1	1.0	0.9
Consumer prices (ex fresh food and energy)	Y-o-y % ch	0.9	0.3	0.2	0.5	0.4	0.2	0.1	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.5
Consumer prices (ex food (ex alcohol) and energy)	Y-o-y % ch	0.6	0.2	0.0	0.3	0.2	0.1	-0.1	-0.2	-0.1	0.1	0.2	0.2	0.3	0.3	0.4
Uncollateralized overnight call rate	%	-0.00	-0.06	-0.05	-0.05	-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	%	0.29	-0.05	0.05	0.05	-0.13	-0.01	0.07	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Nikkei average	JPY	18,841	17,520	21,000	23,100	16,497	17,933	19,241	19,503	19,880	22,000	22,600	22,800	23,000	23,200	23,500
Exchange rate	JPY/USD	120	108	112	115	102	110	114	111	111	113	114	115	115	115	115
Crude oil price (WTI nearest term contract)	USD/bbl	45	48	52	60	45	49	52	48	48	56	55	58	63	61	57

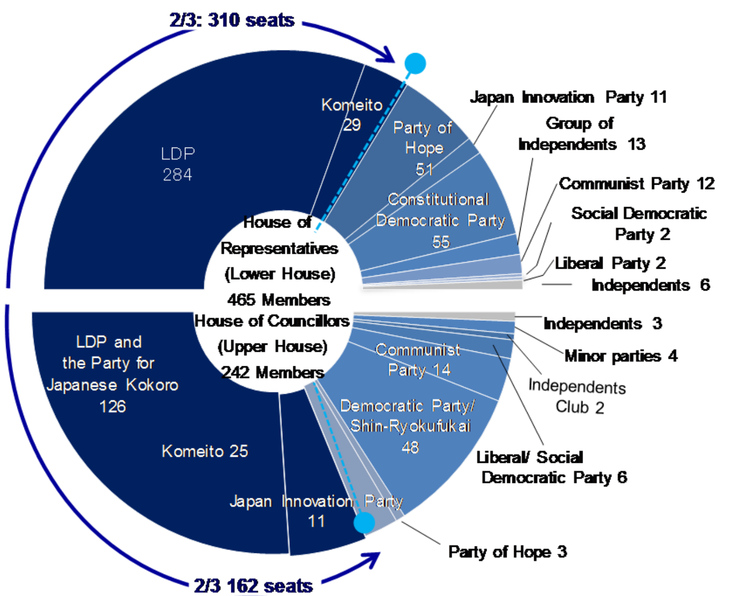
Notes: 1. Figures in the shaded areas are forecasts.The readings above may differ from public releases because the rates of change are calculated by MHRI.
2. Ordinary profits are based upon the *Financial Statements Statistics of Corporations by Industry* (all industries basis) (ex finance & insurance).
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 Cabinet Office, *Preliminary Quarterly Estimates of GDP*, Ministry of Economy, Trade and Industry, *Indices of Industrial Production*, Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Quarterly*, Ministry of Internal Affairs and Communications, *Labour Force Survey, Consumer Price Index*, Ministry of Land, Infrastructure, Transport and Tourism, *Current Survey on Construction Statistics*, Bank of Japan, *Balance of Payments*, *Corporate Goods Price Index*, *Financial and Economic Statistics Monthly, Foreign Exchange Rates*, Japan Bond Trading Co., Ltd., *Latest Daily JGB Rates*, Nikkei Inc. and Bloomberg.

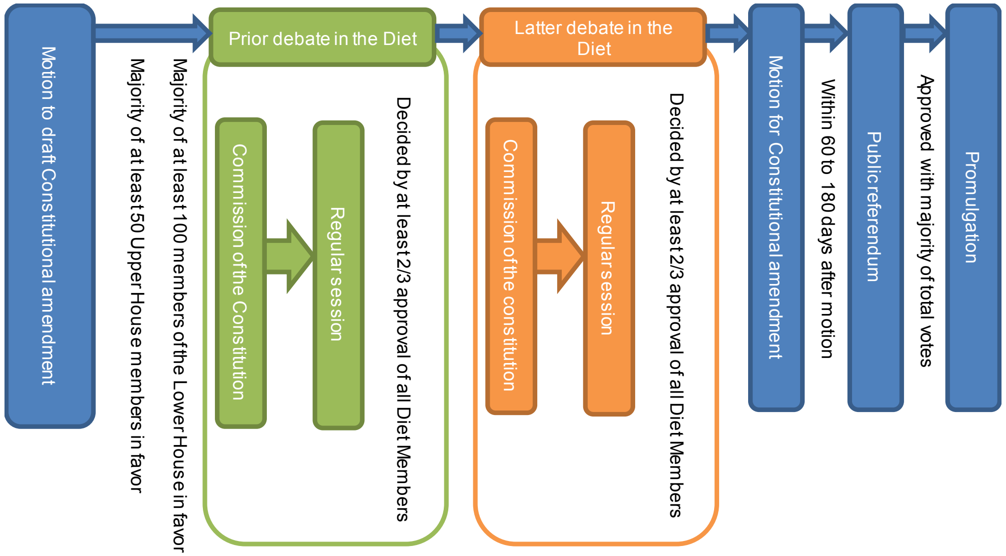
(2) LDP/Komeito have overwhelming win and the Constitutional Democratic Party of Japan becomes lead opposition party

- The LDP/Komeito ruling coalition secured 313 seats, more than 2/3 of the seats, in the Lower House election. The fourth Abe administration was sworn in on November 1 (with the reappointment of all Cabinet Ministers).
  - The LDP secured 284 seats in its own right, more than required for an absolute majority (261 seats).
    * An absolute majority: sufficient seats for the ruling party to chair all 17 standing committees of the Lower House and pass bills without the support of other parties.
  - Despite the decline in the number of seats held by the Party of Hope's representatives, the Constitutional Democratic Party of Japan surged ahead to become the leading opposition party.

[Number of seats in the Lower and Upper Houses by party at the opening of the Special Diet Session]



[Constitutional amendment process]



Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *kokumin tōhyō seido* [Referendum System]

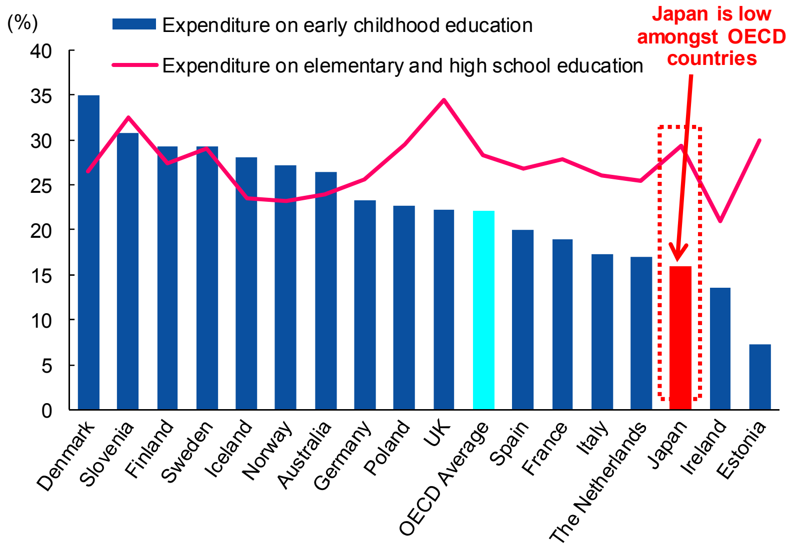
Note: In the Lower House, the Constitutional Democratic Party (CDP) refers to "Constitutional Democratic Party of Japan and Citizens Club", Party of Hope refers to "Party of Hope and Independents Club, Social Democratic Party (SDP) refers to "Social Democratic Party and Citizens League"
In the Upper House, minor parties refers to the two seats of the "Independents Club", and the two seats of the "Wind of Okinawa". The presidents of both houses are included in their respective party numbers

Source: Made by Mizuho Research Institute Ltd. (MHRI) based upon the Upper House, Strength of Political Groups in the Houses of Councillors (as of November 1, 2017) and the Lower House, Strength of the In-House Groups in the House of Representatives (As of October 31, 2017)

Revolution in human resources development: free early childhood education is an appropriate policy

- The government is revising the use of consumption tax. The consumption tax increase of about 2 trillion yen is to be used to finance free education.
- Free early childhood education itself is an appropriate policy. However, improving the quality of education is even more important.
  - Data on expenditure per child indicates that Japan spends a large amount on elementary and high school education, but Japan is below the OECD average for spending on early childhood education.
  - Education also accounts for a large proportion of the economic burden of child rearing in Japan.

[International comparison of expenditure per child (relative to per capita GDP)]



Note: Data for 2013
Source: Made by MHRI based upon OECD, *Education at a Glance (2016)*, OECD.Stat

[Breakdown of economic burden of child rearing]

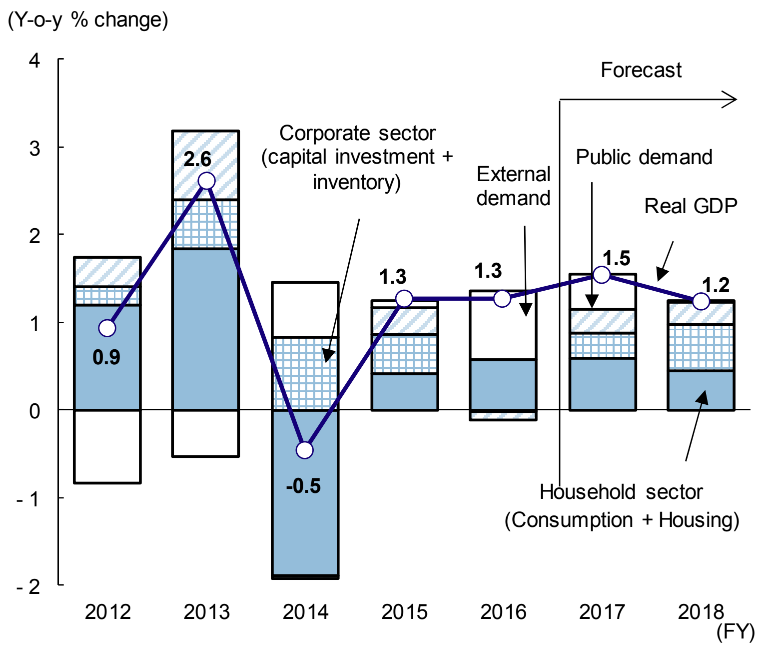
	Japan	France	Sweden	UK
1	Educational expenses other than school such as *juku* (tutoring services)	Clothing expenses	Costs of lessons other than tutoring services	Clothing expenses
2	Pre-school related expenses	Cost of lessons other than tutoring	Clothing expenses	Pre-school related expenses
3	School fees	Cost of leisure and recreation	Cost of leisure and recreation	Food expenses
4	Cost of lessons other than *juku* (tutoring services)	Food expenses	Communications expenses (mobile phones, etc.)	Cost of leisure and recreation
5	Food expenses	Pre-school related expenses	Pre-school related expenses	School fees

Note: Based on a survey of the economic burden in each country and presenting the ranked breakdown of the top five factors for each country (as at FY2015)
Source: Made by MHRI based upon Cabinet Office, *2015 Survey Report on international attitudes towards a low birthrate society* (Japanese only)

Current status and outlook: Japanese economic recovery in both domestic demand and external demand in FY2017. Domestic demand to remain firm in FY2018

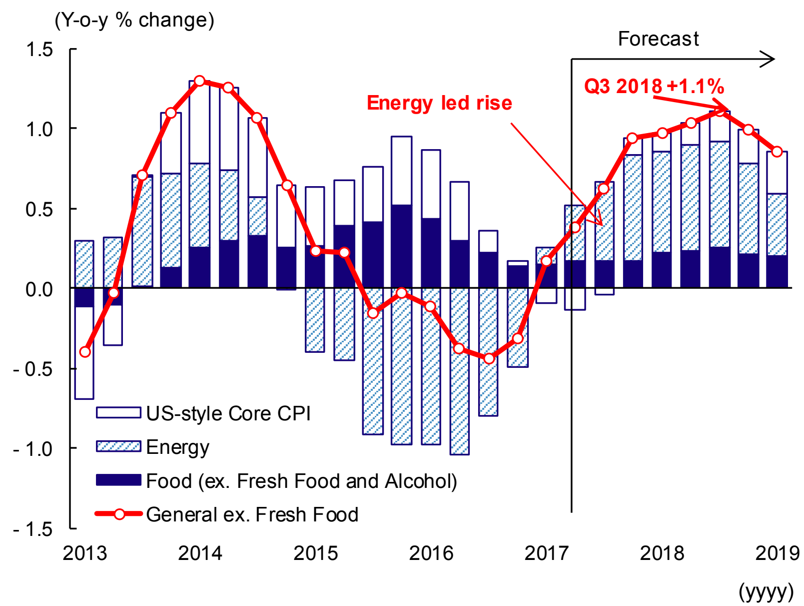
- The rate of growth in real GDP was +1.4% y-o-y (annualized) in the Jul-Sep quarter of 2017, the first seven consecutive quarters of positive growth in about 17 years. Even though domestic demand fell due to a backlash to the increase in Apr-Jun quarter, overall growth received a substantial boost from the increase in export demand.
- We forecast 1.5% growth for Japan in FY2017. The economy will recover, given the ongoing moderate expansion of overseas economies and progress in implementation of economic stimulus measures.
- We forecast 1.2% growth for Japan in FY2018. Although we expect export demand to slow, domestic demand should be firm.
- Core CPI (FY2017: +0.7%; FY2018: +1.0%) is rising, particularly in relation to energy prices. However, on a quarterly base, we expect growth to peak in the Jul-Sep quarter of 2018.

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



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

[Consumer Price Index forecast]



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

MIZUHO

Key points concerning the Japanese economy

- Key point (1) Is the Japanese economy nearing a ‘true dawn’? - Employment, the output gap and price trends are all improving. This could signify a ‘true dawn’, but not all issues have been resolved.
- Key Point (2) Good corporate earnings and its ripple effect – Earnings are boosted by the global economic recovery and improvement of market conditions. Looking forward, this should support consumer spending and tax revenues.

[Comparison of trends in macro economic indices during periods of economic expansion]

			IT Boom (Q1 1999 to Q4 2000)	Izanami Boom (Q2 2002 to Q1 2008)	This time (Since Q1 2013)
GDP Demand items	Real GDP	(Rate of change in annual rate)	2.4	1.7	1.4
	Real consumption (%)		1.7	1.1	0.6
	Real capital investment (%)		6.2	3.0	3.2
Employment	Real employee compensation (%)		1.1	0.5	0.8
	Number of employees (%)		0.6	0.6	1.1
	Nominal wages (%)		-0.5	-0.5	0.2
Supply and Demand	Output gap (%)	(Level)	-0.7	1.9	0.6
	Fixed business investment DI (% pt)		9.0	0.0	-0.2
	Unemployment rate (%)		4.7	3.9	2.9
Prices	Core CPI (%)	(Rate of change in annual rate)	-0.4	0.0	0.4
	Core Core CPI (%)		-0.6	-0.4	0.3
Corporate sector	Current profits (tn yen)	(Change in annual rate)	2.4	0.9	1.9
Fiscal conditions	Tax revenues (tn yen)		3.5	1.4	2.9
Financial market	Nikkei Average (%)	(Rate of change in annual rate)	1.4	3.9	18.1
	Household financial assets (%)		3.4	1.4	3.0

Key Point (1) Is the Japanese economy nearing a ‘true dawn’?

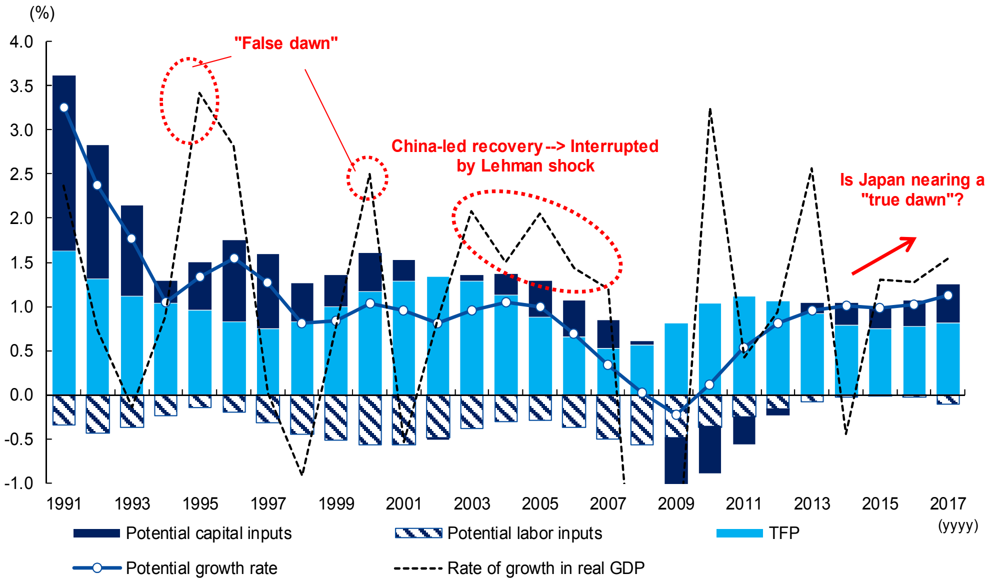
Key Point (2) Good corporate earnings and its ripple effect

Note: The bar graph for each index is based on the standardized figure after standardizing (standard deviation) of all indices.
Source: Made by MHRI based upon Cabinet Office, *National Accounts*

Key Point (1): is the Japanese economy nearing a 'true dawn'?

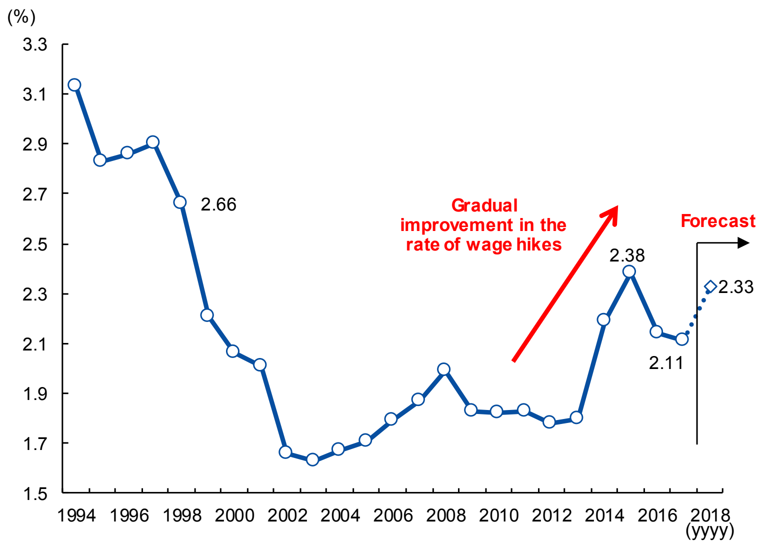
- In a speech in October, BOJ Deputy Governor Hiroshi Nakaso said, "*This time around, there seem to be more reasons to believe that the true dawn is near*".
  - Factors that are conducive to the growth strategy (labor market reforms) such as (1) the maintenance of the basic price momentum, (2) recent improvements in productivity, and (3) the tight labor market are the basis for our confidence that the Japanese economy is on the brink of a "true dawn".
- Although current conditions are closer to a "true dawn" than past periods of economic recovery, the recovery in consumer spending is an issue.
  - The increase in the rate of wage hikes is quite different from past recovery periods. A return to pre-deflation levels is likely to take considerable time.
    - ✓ We forecast wages to rise 2.33% in 2018. Favorable 2017 earnings and a higher CPI, particularly energy, will contribute to higher wages.

[Rate of growth in real GDP and the potential growth rate]



Note: Potential growth rate estimated by MHRI
Source: Made by MHRI based upon Cabinet Office, *National Accounts*

[Rate of increase in spring wage hikes]



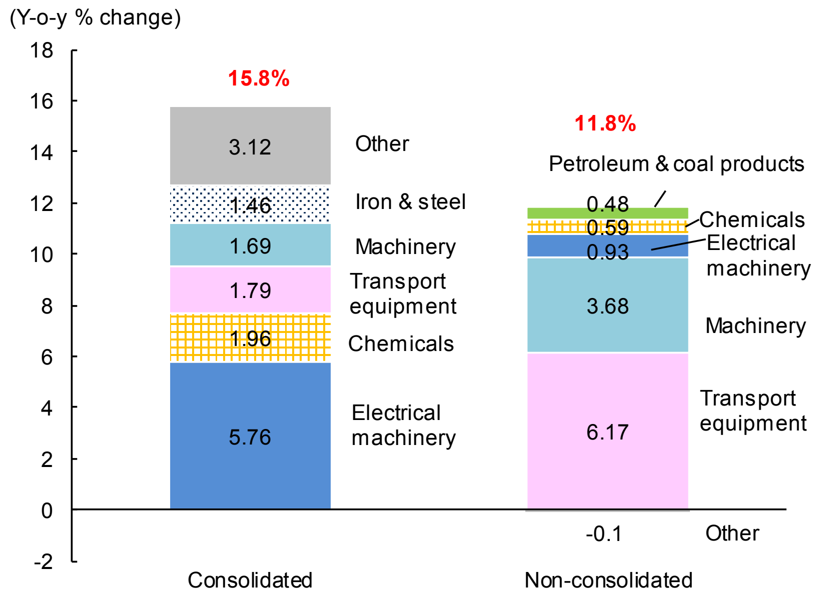
Note: 2018 is forecast by MHRI
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare, *Survey on agreements for wage increases at major private sector companies*

MIZUHO

Key Point (2): strong corporate earnings and the ripple effect: favorable earnings for both machinery and basic materials

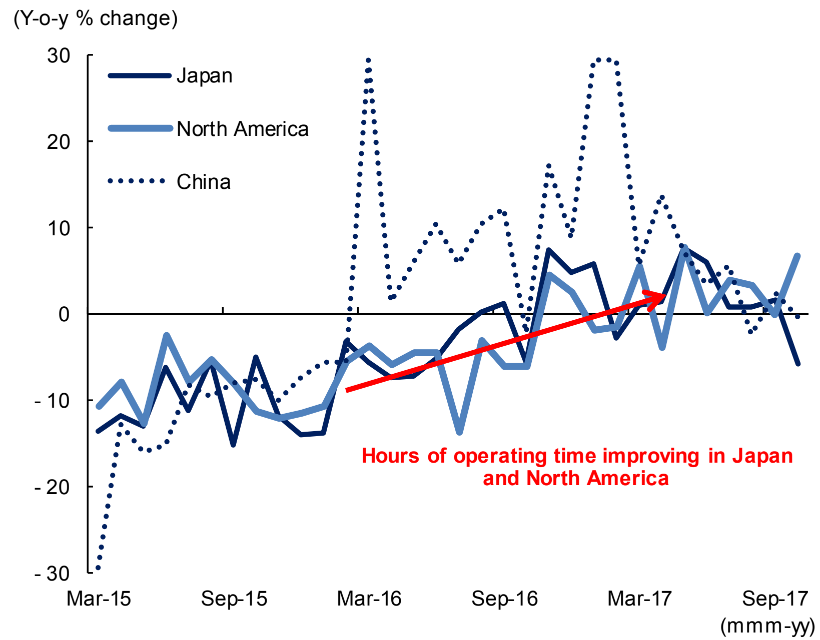
- A major feature of FY2017 corporate earnings is its strength in both the machinery and basis materials sectors.
  - The strong results for machinery related sectors are attributed to improvements in the IT cycle and the global recovery in capital investment. In addition to the rise of investment in industrial robots for labor saving purposes, the increase in hours of operating time for construction equipment also suggests an increase in construction investment.
  - Basic material sectors have benefited from market improvements fostered by the tight demand and supply.

[Ordinary profits of manufacturers (FY2017 company projections, factor contribution by industry)]



Note: Calculation (y-o-y change) for companies with data as of November 15 (consolidated: 1,456 companies, non-consolidated 440 companies)
Source: Made by MHRI based upon Nikkei NEEDS

[Hours of operating time for construction equipment (Monthly KOMTRAX data)]

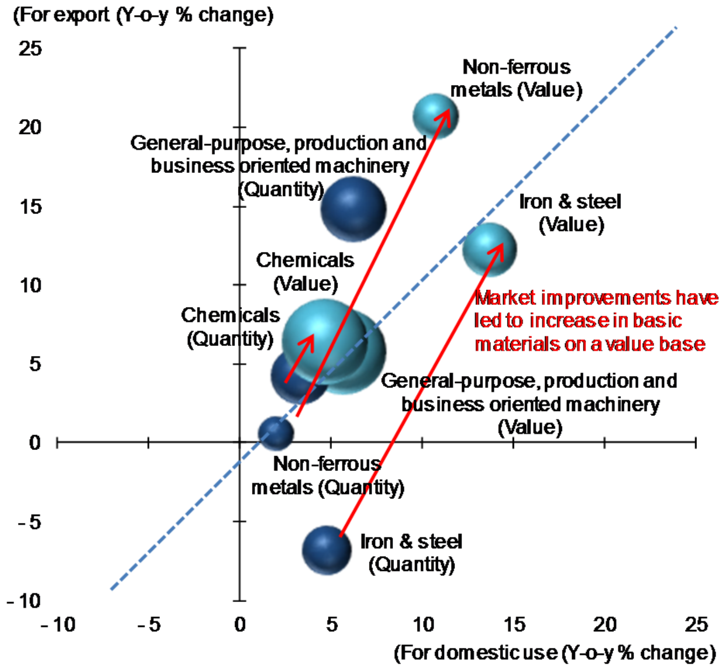


Note: Monthly average hours of machine use per unit of KOMTRAX-installed Komatsu construction equipment (excluding mini and mining equipment)
Source: Made by MHRI based upon Komatsu Ltd, *Monthly KOMTRAX Data*

Key Point (2): In the basic materials sector, the improvement of market conditions due to supply constraints have pushed up earnings

- Market conditions are underpinned by supply constraints such as stricter environmental regulations in China, which have pushed up first half earnings in particular.
  - Supply constraints due to tighter controls on illegal steel bars have led to improvements in the Asian markets, which has pushed up the export price of iron & streel. Despite some recent weakness in steel markets, the market has remained firm with reduced production of crude steel since November.
  - Demand for chemicals remains firm with tight supply caused by periodic maintenance in Asia that has contributed to market improvements.

[Growth in quantity and value for domestic use and exports (Apr-Sep 2017)]



Source: Made by MHRI based upon Bank of Japan, *Short-term Economic Survey of Enterprises in Japan* (*TANKAN*) and Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

[Factors pushing up earnings in basic materials sector]

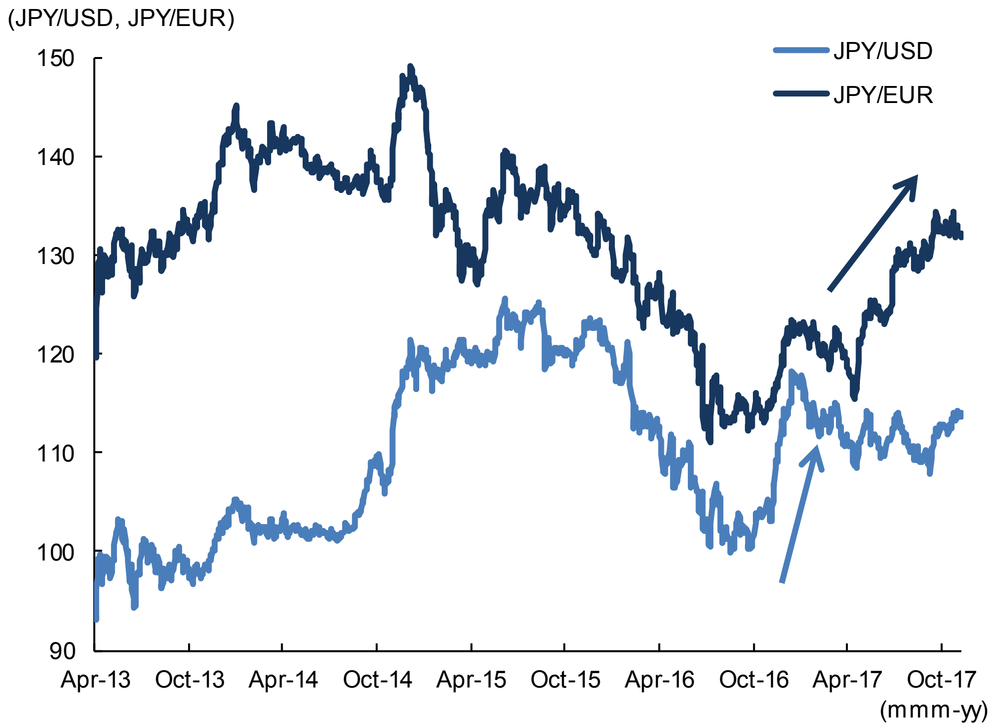
Iron & steel	• Demand for iron & steel is firm, particularly for domestic cars • China's exports have fallen due to China's tighter controls on illegal steel bars, contributing to the improvement of Asian markets
Chemicals	• Market underpinned by firm demand and supply constraints • The improvement of the IT cycle has been beneficial for manufacturers involved in electronics related components

Source: Made by MHRI

Key Point (2): the weaker yen against the dollar and euro boosted listed company earnings by about 1 trillion yen in FY2017

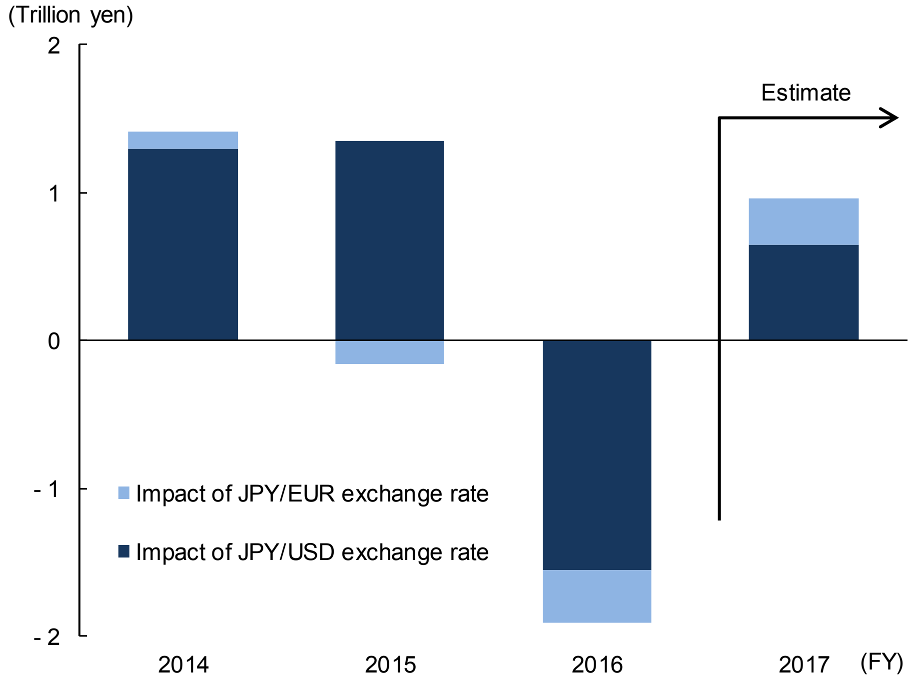
- The yen has weakened against the euro as well as the dollar.
  - Simple estimations suggest the weaker yen has boosted the FY2017 profits of listed companies by approximately 1 trillion yen.

[JPY/USD and JPY/EUR exchange rates]



Source: Made by MHRI based upon Bloomberg

[Impact of change in JPY/USD and JPY/EUR exchange rates on listed company earnings]



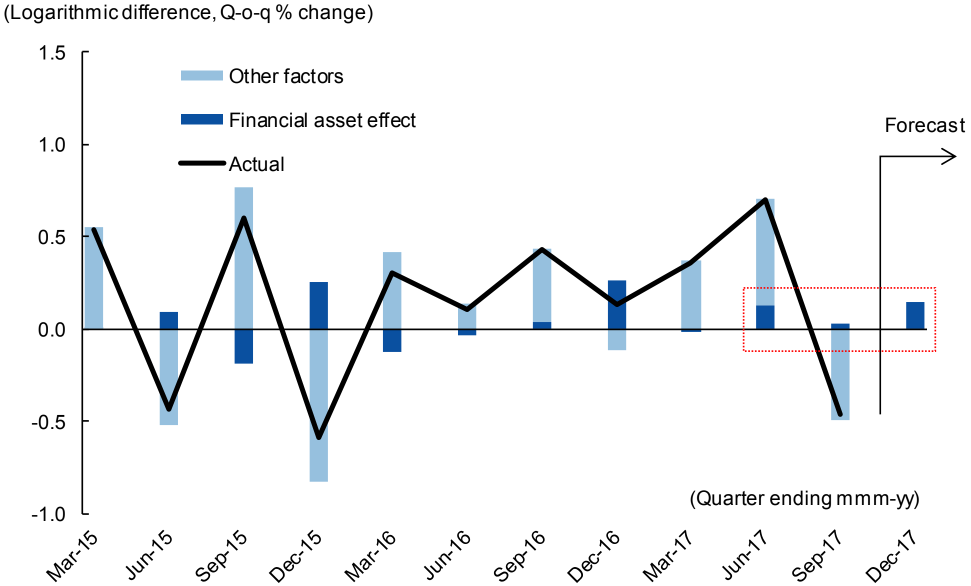
Note: Calculated according to a survey of the impact of change in the JPY/USD and JPY/EUR on each company's earnings (USD/JPY: 292 companies, JPY/EUR: 131 companies. The number of companies surveyed was limited, so this should be taken into consideration when interpreting the results. The exchange rate for FY2017 used has been forecast by MHRI.

Source: Made by MHRI based upon Toyo Keizai Inc, *Japan Company Handbook, Wide Version (2017 Winter)*, and Bloomberg

Point (2): wealth effect and stock market rise spurred by improved earnings contributed to recovery in consumer spending

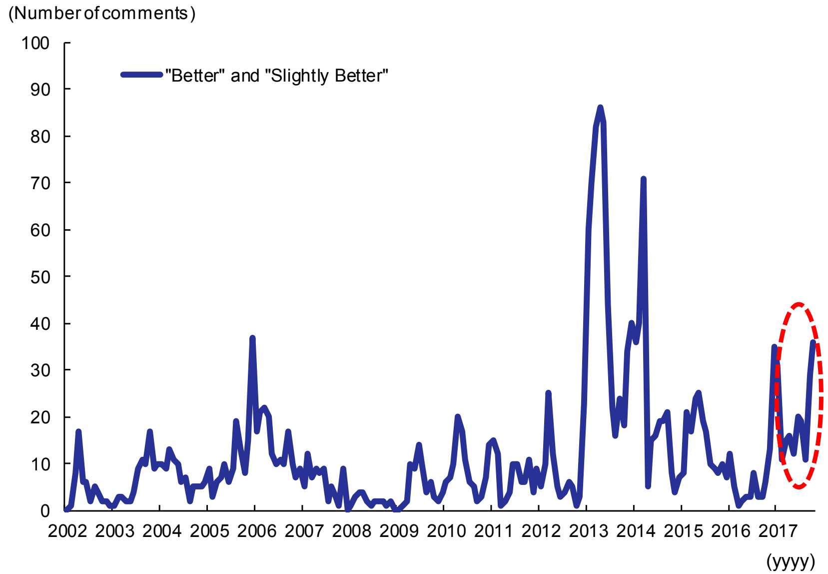
- Our consumption function analysis indicates that consumer spending was boosted to a certain degree by the wealth effect.
  - We anticipate that the wealth effect will boost consumer spending in Q4 2017.
- According to the trends in number of comments in the *Economy Watchers Survey*, the number of references to the wealth effect and high-end consumption has risen to levels at the beginning of 2006.

[Decomposition of consumption function]



Note 1: Converted to real figure by estimating the error correction model and using the private sector final consumption expenditure deflator for financial assets.
2: Jul-Sep 2017 quarter and Oct-Dec 2017 quarter forecast using the Nikkei Average
Source: Made by MHRI based upon various materials

[Number of comments about asset effect and high consumption expenditure (Current Economic Conditions)]

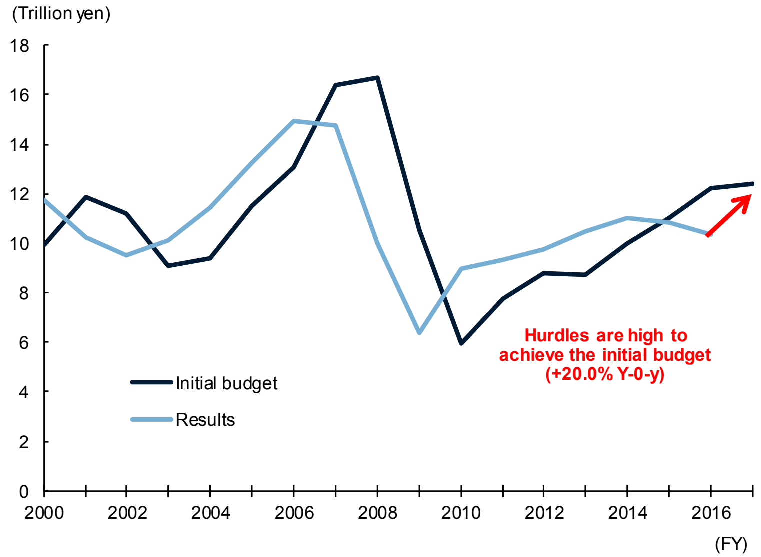


Note: Of the references to asset effect and high consumption expenditures, counting the sentences in the current economic conditions that indicated "better" and "slightly better"
Source: Made by MRHI based upon Cabinet Office, Economy Watchers Survey

Point (2): an upswing in tax revenues is unlikely despite good earnings due to the already anticipated high corporation tax

- According to media reports, the FY2017 supplementary budget is expected to be approximately 1 trillion yen. MHRI's estimates also indicate that up to 0.8 trillion yen of the supplementary budget may be funded without the issuance of JGBs.
  - About 1.5 trillion yen in funds should be derived from the surplus funds from FY2016 and the reduction in FY2017 legislated expenses (debt servicing costs, etc.)
  - Although an increase in tax revenues is anticipated from taxes other than corporation tax, corporation tax will possibly decline.
    - ✓ FY2017 corporate earnings are going well, but the tax revenues from corporation tax were set high in the initial budget (+20.0% y-o-y), making it difficult target to achieve.
  - Furthermore, it is highly likely that construction bonds will be issued to fund the public works section of the supplementary budget.
- We expect the FY2017 supplementary budget to incorporate expenses related to EPA and the "human resources development revolution".

[Trend in initial budget for corporation tax and results (FY2000 to FY2016)]



Source: Made by MHRI based upon Ministry of Finance

[Anticipated funding source for FY2017 supplementary budget]

Item	Breakdown (tn yen)
Surplus from FY2016 results (General account)*1	0.4
Tax revenue (ex. Corporation tax)*2	0.6
Corporation tax*3	-1.3
Reduction in legislated expenses*4	1.1
Total	0.8

Note 1: Net surplus under Article 6 of the Fiscal Act
2: Portion of increase in FY2017. Tax revenues forecast to be about 0.6 trillion yen higher than FY2017 initial budget.
3: Difference between the calculation of corporation tax for FY2017 and the initial budget. Forecast to be about 1 trillion yen below the 12.3 trillion yen in the initial budget.
4: The average reduction in government debt servicing cost during the past 5 years (FY2012 to FY2016). The government debt servicing cost has been 0.9 to 1.5 trillion yen below the initial budget during this period on an actual basis.

Source: Made by MHRI based upon Ministry of Finance

BOJ: policy unchanged for near term. A second round of Comprehensive Assessment may be possible depending upon the outcome of the spring wage negotiations

- We expect monetary policy to remain unchanged for the near term. Given the Abe administration's plan to raise the consumption tax in October 2019, it will be difficult for the Bank of Japan (BOJ) to move towards a full-fledged exit such as through an interest rate hike at least until the consumption tax hike.
- If the spring wage negotiations reveals moves to raise wages and the yen looks likely to remain weak due to the monetary policy differences with the US and Europe, there could be a second round of Comprehensive Assessment under the new BOJ Governor. The arguments will include the status of the price target, long-term interest rate levels and ETF purchases.

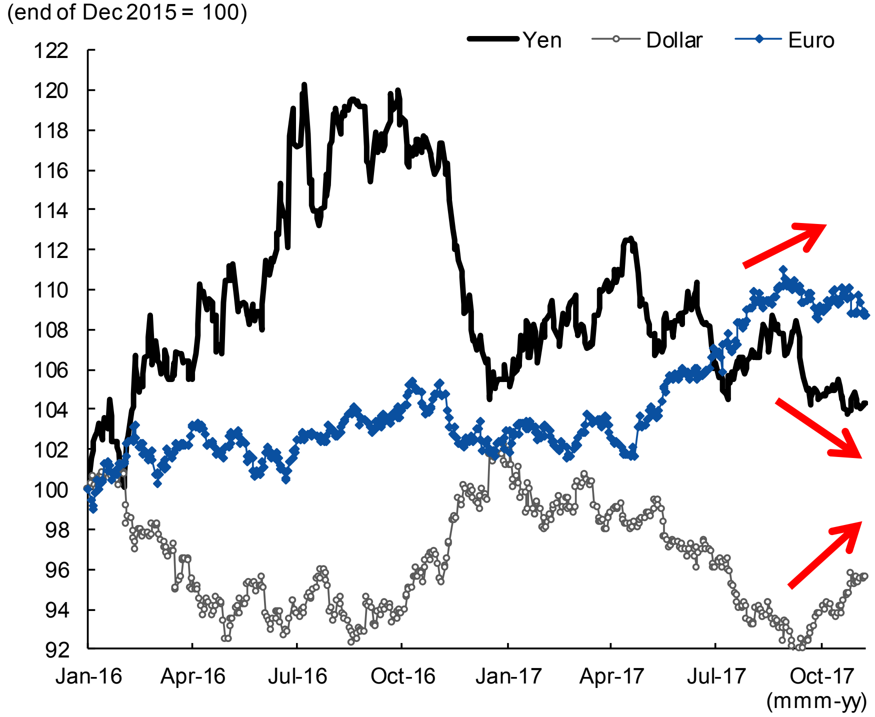
[*Outlook for Economic Activity and Prices* (October 2017)]

Y-o-y % change)

	Real GDP	CPI (All items except fresh food)	Excluding impact of consumption tax hike
FY2017	+1.7 to +2.0 (+1.9)	+0.7 to +1.0 (+0.8)	
Forecast made in July 2017	+1.5 to +1.8 (+1.8)	+0.5 to +1.3 (+1.1)	
FY2018	+1.2 to +1.4 (+1.4)	+1.1 to +1.6 (+1.4)	
Forecast made in July 2017	+1.1 to +1.5 (+1.4)	+0.8 to +1.6 (+1.5)	
FY2019	+0.7 to +0.8 (+0.7)	+2.0 to +2.5 (+2.3)	+1.5 to +2.0 (+1.8)
Forecast made in July 2017	+0.7 to +0.8 (+0.7)	+1.4 to +2.5 (+2.3)	+0.9 to +2.0 (+1.8)

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

[Effective exchange rate]

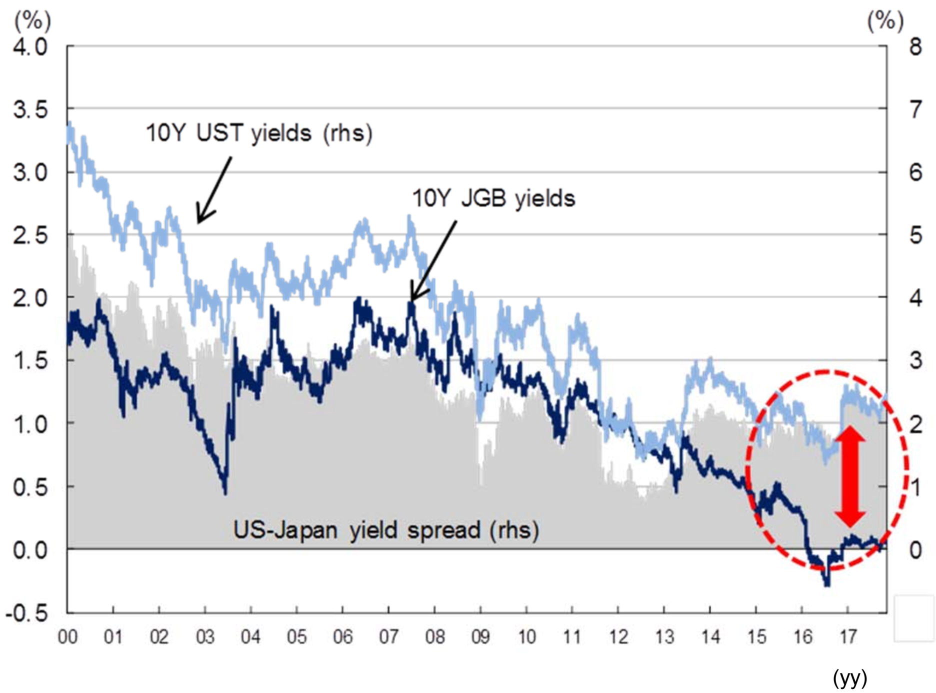


Source: Made by MHRI based upon Bank of Japan

Japanese interest rates: 10Y JGB yields at 0 to 0.1%. Need to watch the BOJ's response when overseas yields rise

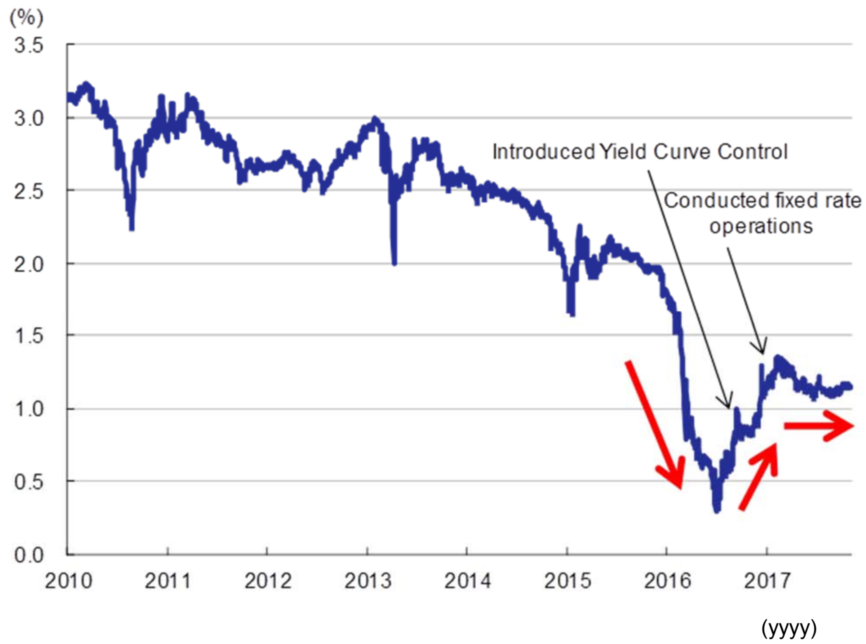
- 10Y JGB yields are trading between 0% and 0.1% under the BOJ's yield curve control.
  - Although the 10Y JGB forward rate rose when US yields rose following the US presidential election, the forward rate has been flat since the BOJ conducted fixed rate operations in February. The market has priced in the prospect that the BOJ's yield curve control will suppress price fluctuations for a long time.
  - In the event the BOJ judges that the risk of a strong yen has subsided as spreads between JGB yields and overseas yields widen as US and European monetary policies progress toward normalization, the BOJ is likely to raise the target for 10Y JGB yields in 2018. The BOJ's actions during periods of increase in overseas yields needs to be watched closely.

[US and Japanese 10Y government bond yields]



Source: Made by MHRI based upon Bloomberg

[10Y forward 10Y JGB yields]

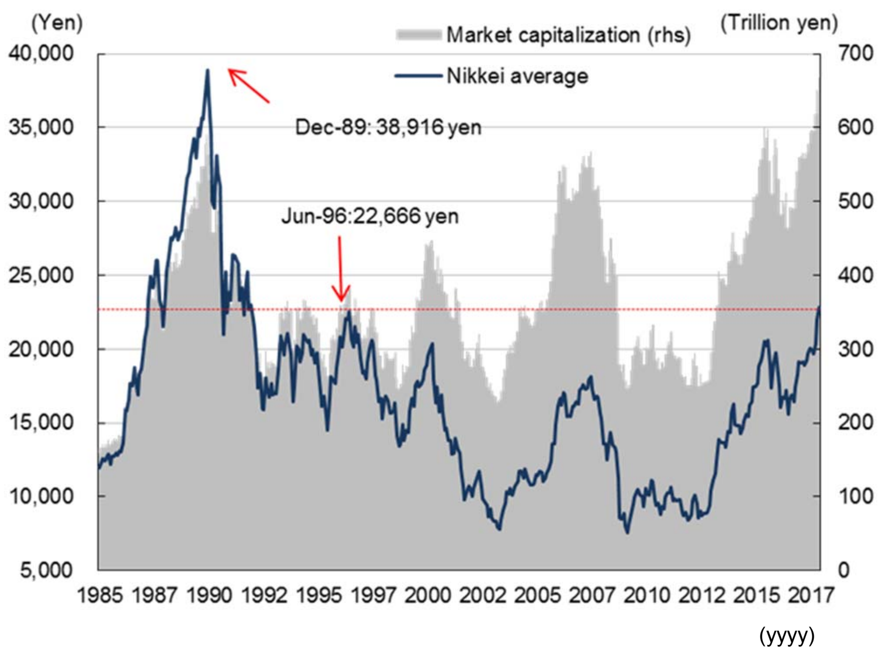


Source: Made by MHRI based upon Bloomberg

Japanese stocks: foreign investor buying driving the market to its highest level since January 1992

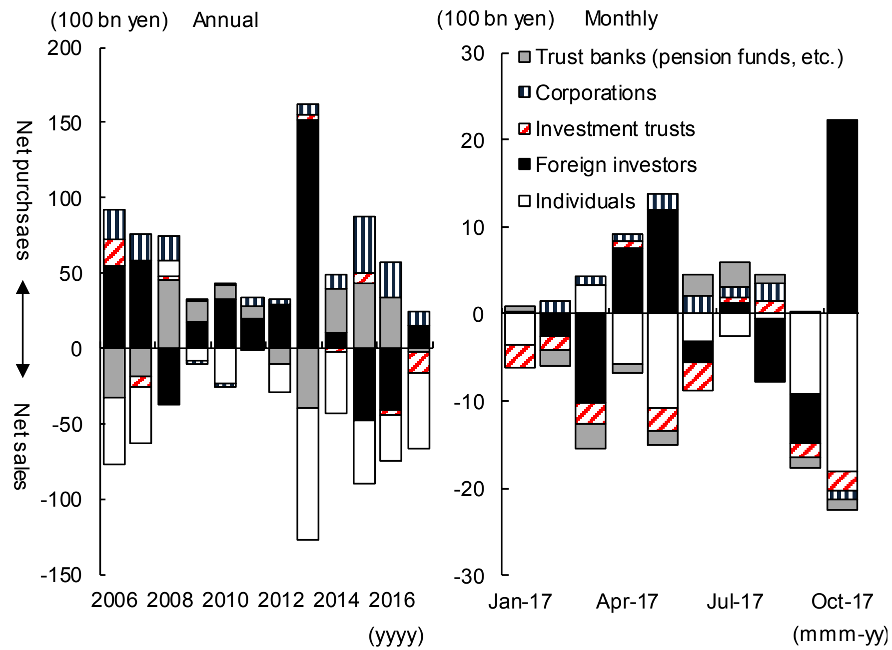
- The Nikkei average has risen to its highest level since 1992. In terms of market capitalization, the market has surpassed the Nikkei average record at the end of December 1989.
  - The continuation of *Abenomics* and strong improvement in corporate earnings have boosted the valuation of Japanese stocks with purchases led by foreign investors.
- Despite short-term pauses in the upward trend, we expect the upward stock price trend to continue in FY2018 reflecting ongoing improvement in corporate earnings.

[Long-term trend for Nikkei average and market capitalization of TSE 1st Section]



Note: Market capitalization is Tokyo Stock Exchange 1st Section (Ordinary stocks)
Source: Made by MHRI based upon Nikkei Financial-QUEST

[Trading trends in Japanese stocks (physicals) by investor type]

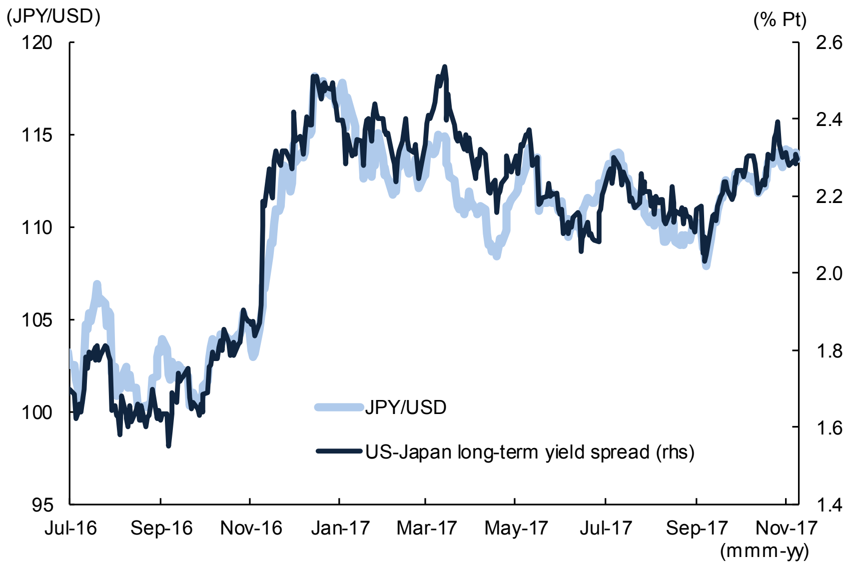


Note: Annual data for 2017 is the cumulative monthly data up until October
Source: Made by MHRI based upon Tokyo Stock Exchange

Foreign exchange: limited upside for the dollar with the gradual rise in US yields. Concerns about a strong yen due to deterioration of the North Korean situation

- The upside for the dollar is limited due to the sluggish rise of US yields. If tensions surrounding North Korea intensify, there would be concerns about the appreciation of the yen due to a risk-off trend.
  - As the growth in US prices lacks strength and the rise in US yields is only gradual, the upward pressure on the dollar is limited.
  - Japan continues to be listed on the Monitoring List in the *Foreign Exchange Policies of Major Trading Partners of the United States* report (released October 17). There could be increased pressure for correction of the strong dollar in future US-Japan trade negotiations.
- The euro temporarily depreciated against the dollar following the ECB Governing Council meeting (October 26). The turmoil surrounding the Catalonian independence movement is also a temporary euro-sell factor.
  - Euro-strengthening pressures may rise again amid the rise of expectations toward further tapering by the ECB.

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



Source: Made by MHRI based upon Bloomberg

[*Foreign Exchange Policies of Major Trading Partners of the United States* (October 2017)]

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 $20 bn	Current account surplus exceeds 3% of GDP	Net purchases of foreign currency exceeds 2% of GDP over a 12 month period
Units	–	($'bn)	(%)	(%)
China	✔	357	1.3%	-2.7%
Japan		69	3.7%	0.0%
Germany		63	7.7%	-
South Korea		22	5.7%	0.3%
Switzerland		13	10.3%	8.7%

Notes: 1. The evaluation criteria for the 5 countries on the Monitoring List. The figures are for the period from July 2016 to June 2017.
2. From the previous report (April 2017) a new measure was introduced to add and retain on the Monitoring List any major trading partner that accounts for a large and disproportionate share of the overall US trade deficit even if that economy has not met two of the three criteria (targeted at China).

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

III. The Asian Economies

The growth rate in Asian economies as a whole is firm despite the slowdown in China

The Asian Economies: the growth rate in Asian economies as a whole is firm despite the slowdown in China

- In the Jul-Sep quarter, the Chinese economy maintained firm growth, falling only slightly from the previous quarter. Despite the dip in investment due to adjustments to excessive production capacity, growth was underpinned by inventory investment, government expenditure and consumer spending.

- The Xi Jinping administration, which consolidated its power base through the National Congress of the Communist Party of China, is stepping up its reforms to restrain speculative activity and adjust excessive production capacity. The Chinese economy is forecast to gradually moderate in 2018, albeit at a pace which still ensures its plan to double income during the period from 2010 to 2020.

- The Asian economies (ex. China) accelerated in the Jul-Sep quarter. Even though exports had been flattening out, they are picking up particularly for IT-related goods. There are also upbeat movements in the ASEAN5 and India also in domestic demand.

- In terms of the outlook for the Asian economies (excluding China), even though China's economic slowdown will serve as downward pressures, the slowdown of exports should remain benign due to the strength of IT-related demand in the DM economies. In the ASEAN5, infrastructure investment and the positive effect of economic integration should push up demand within the region, leading to the stable growth of the economy. In India, the pace of economic growth in 2018 should accelerate mainly in consumer spending, given the fading impact of temporary factors which surfaced in 2017.

- As a result of the foregoing, the Asian economy as a whole should follow firm footing in 2018, with its slowdown being benign, as the countries and regions of Asia (ex. China) offset the moderation of the Chinese economy.

Asia: other countries to offset the slowdown in China

- China: in view of China's reforms to curb investment and adjust excessive production capacity, we expect a gradual slowdown of the Chinese economy, albeit at a pace which ensures its plan to double income by 2020.
- NIEs: although NIEs' exports will slow down, particularly to China on which they are heavily dependent, exports to the US and Europe will serve as underpinnings and keep the decline of NIEs' growth rate subdued.
- ASEAN5: despite a slight slowdown of exports, demand within the region will grow and keeping the economy on a stable growth track.
- India: the Indian economy will temporarily slow down in 2017 due to factors such as the abolition of high-denomination bank notes at the end of the previous year. In 2018, the rate of economic growth will accelerate as the impact of the temporary factors recedes.

[Outlook on the Asian economies]

(Units: %) (Units: % points)

	2014 (Actual)	2015 (Actual)	2016 (Actual)	2017 (Forecast)	2018 (Forecast)	2017 (Change from September forecast)	2018 (Change from September forecast)
Asia	6.4	6.2	6.2	6.1	6.0	0.1	-
China	7.3	6.9	6.7	6.8	6.4	-	-
NIEs	3.5	2.0	2.3	3.0	2.5	0.4	0.1
South Korea	3.3	2.8	2.8	3.1	2.8	0.3	0.1
Taiwan	4.0	0.7	1.5	2.6	2.3	0.5	0.3
Hong Kong	2.8	2.4	2.0	3.5	1.9	0.1	0.5
Singapore	3.6	1.9	2.0	2.6	2.5	-	-
ASEAN5	4.6	4.8	4.9	5.2	5.2	0.1	0.1
Indonesia	5.0	4.9	5.0	5.1	5.2	-	-
Thailand	0.9	2.9	3.2	3.5	3.1	-	-
Malaysia	6.0	5.0	4.2	5.5	5.2	-	-
The Philippines	6.1	6.1	6.9	6.4	6.6	-	-
Vietnam	6.0	6.7	6.2	6.7	6.6	0.4	0.2
India	7.0	7.5	7.9	6.6	7.3	-	-
Australia	2.8	2.4	2.5	2.3	2.8	-	-
(Reference) Asia ex. China and India	4.1	3.7	3.9	4.3	4.2	0.1	0.1
(Reference) Asia ex. China	5.4	5.4	5.7	5.3	5.6	-	-

Note: Real GDP growth rate (y-o-y). Average figures are calculated from the 2015 GDP share from the IMF (purchasing power parity base)
Source: Made by MHRI based upon statistics of the relevant countries

Asia: exports are strong and are expected to remain firm in 2018

- The Asian economies generally grew at a faster pace in the Jul-Sep quarter of 2017. Exports, which had levelled out, has recently been favorable particularly for IT-related goods.
  - However, China's economic growth has slowed slightly due to the drop in investment caused by the deleveraging policy.
- Despite forecasts of a moderate slowdown of the Chinese economy in 2018, the DM economies and IT-related demand are firm, which should mitigate the slowdown of exports of the countries of Asia.
  - The shadow over 2018 export conditions should be limited compared to the slump in 2016 mainly among the DM countries.
  - Although IT-related exports are likely to moderate from the current high growth, they should remain on a gradual uptrend due to the expansion of demand for servers and higher specifications and functions of smartphones.

[Rate of growth in real GDP]

(Q-o-q % change, annualized)

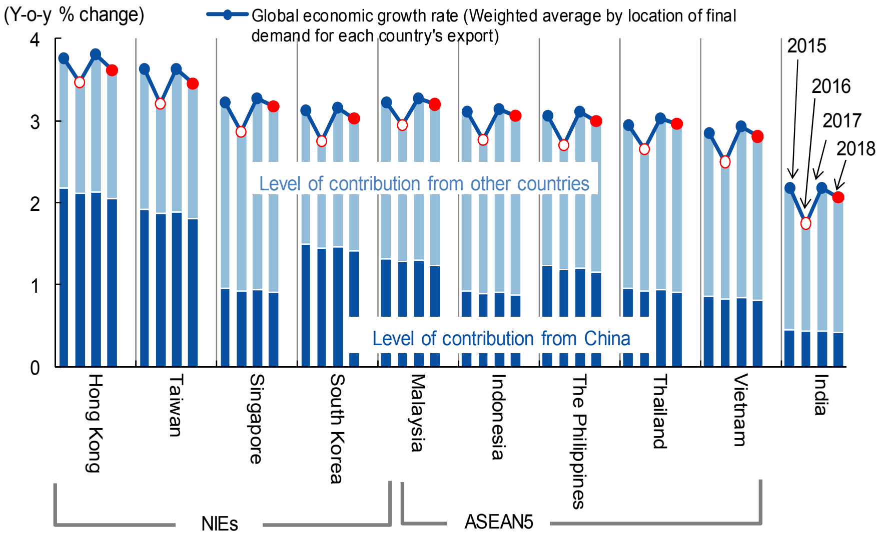
	2016				2017		
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
South Korea	2.0	3.7	1.9	2.0	4.3	2.4	5.8
Taiwan	4.8	1.4	3.1	1.4	3.5	0.5	7.5
Hong Kong	-1.2	6.0	3.2	5.0	2.8	4.5	2.0
Singapore	-0.5	0.8	-0.4	12.3	-2.0	2.4	6.3
Thailand	4.0	3.8	2.0	2.1	5.3	5.4	
Malaysia	3.1	4.3	5.7	5.1	7.5	5.2	
The Philippines	6.0	7.3	6.3	7.1	5.2	7.2	

(Y-o-y % change)

China	6.7	6.7	6.7	6.8	6.9	6.9	6.8
Indonesia	4.9	5.2	5.0	4.9	5.0	5.0	5.1
Vietnam	5.5	5.8	6.6	6.7	5.2	6.3	7.5
India	9.1	7.9	7.5	7.0	6.1	5.7	

Source: Made by MHRI based upon each country's and region's statistics, and CEIC Data

[Export environment - by country (2015 to 2018)]



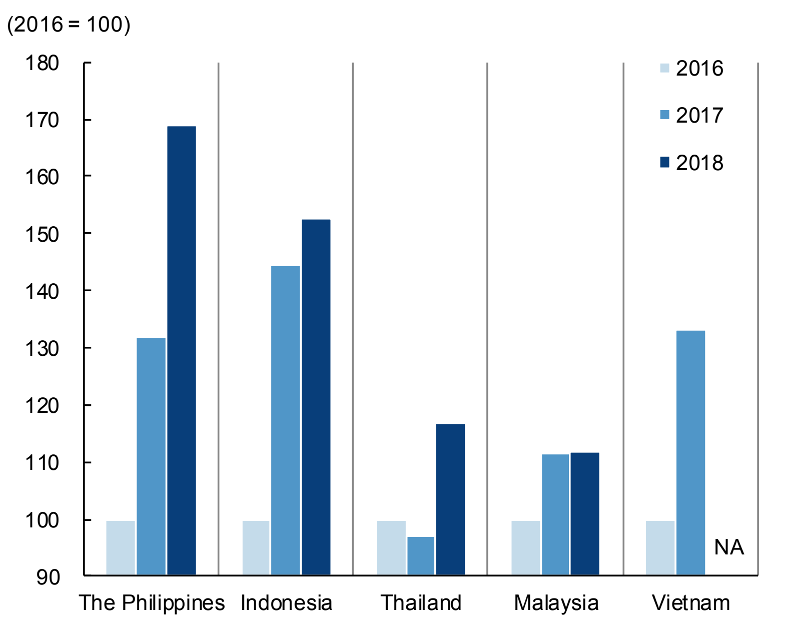
Note: The global economic growth rate is the weighted average of value added production ratio by region for each country's final demand (assumed to be a constant from 2014). The forecast growth rate for 2017 to 2018 uses the MHRI forecast for Japan, the US, the Eurozone and China, and IMF forecasts for other countries.

Source: Made by MHRI based upon OECD *Trade-in Value Added (TiVA)* and IMF *World Economic Outlook*

Asia: autonomous increase in demand in ASEAN5

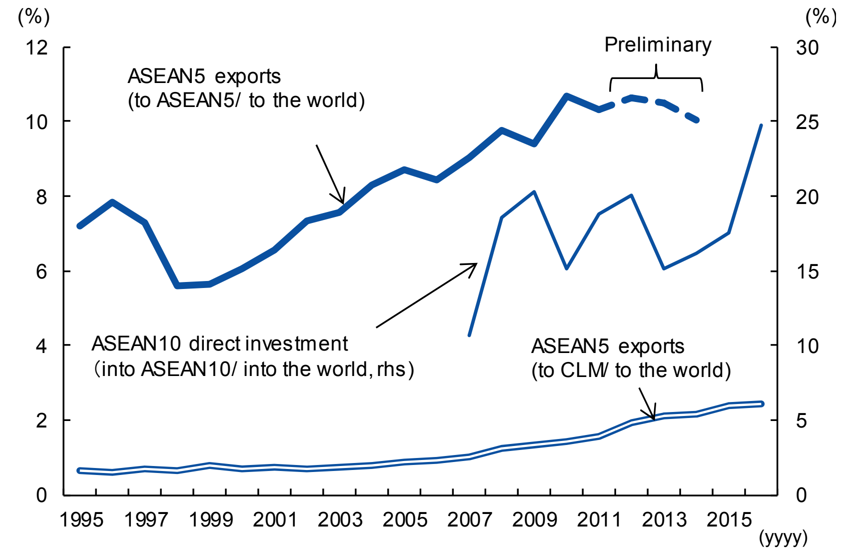
- ASEAN5 growth should trend stably due to the self-sustained expansion of demand within the region despite a slight slowdown of exports.
  - Amid the large demand for infrastructure, countries such as the Philippines and Thailand possessing fiscal leeway are compiling budgets earmarking ample spending for public investment.
  - Given the integration of ASEAN, the ratio of exports and direct investment within the region are increasing, and there is a rising tendency of the mutual spread of demand.
    - ✓ The CLM (Cambodia, Laos and Myanmar) are gaining a larger presence as new markets.
- Turning to India, even though consumer spending temporarily slowed in 2017 due to factors such as the abolition of high-denomination bank notes, we expect a recovery in 2018 along with the fading impact of such special factors.

[Public investment (government budget)]



Source: Made by MHRI based upon each country's budget materials and CEIC Data

[ASEAN exports and direct investment (to ASEAN/ to the world)]



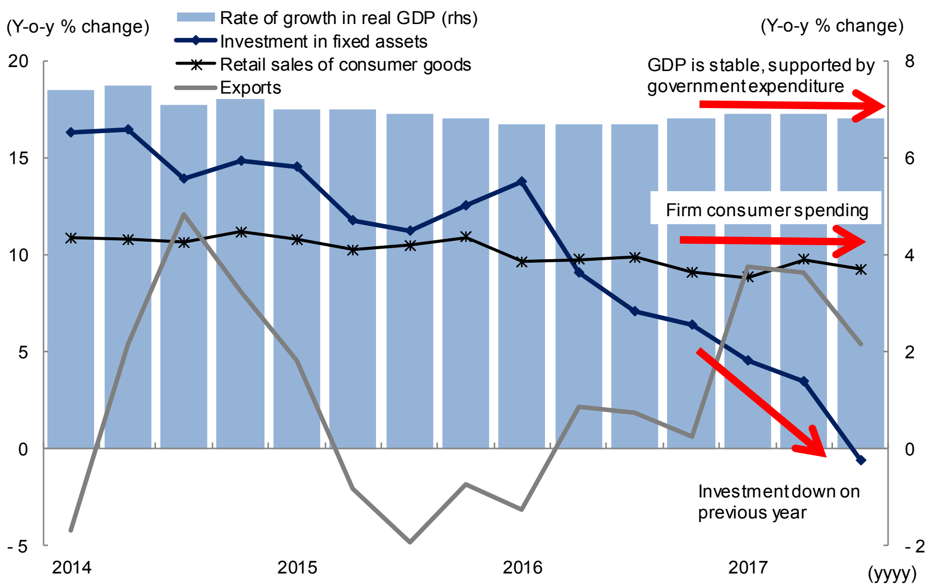
Note: Exports to ASEAN5 are on a location of final demand base. Exports to CLM are on a customs clearance base

Source: Made by MHRI based upon OECD *Trade-in Value Added (TiVA)*, IMF *Direction of Trade and* ASEAN Secretariat

China: even though acceleration of reforms following the Communist Party National Congress will be a drag upon growth, the strength of the IT sector will serve as underpinnings

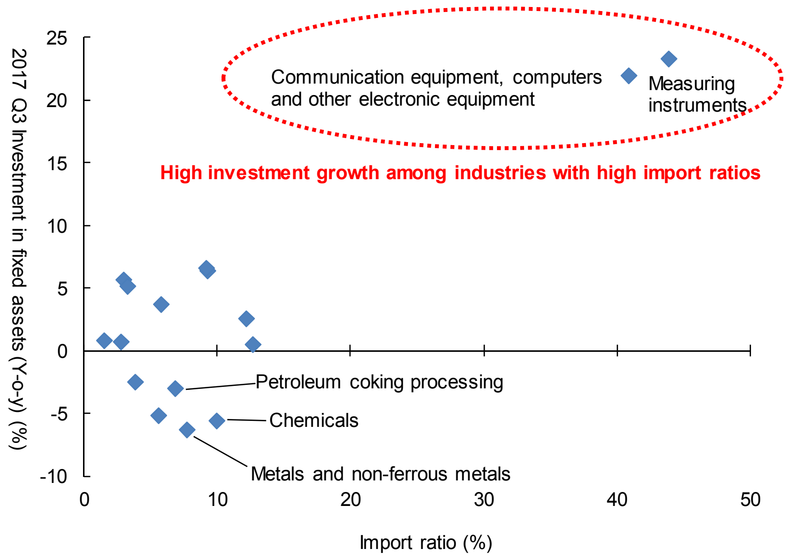
- China's real GDP grew +6.8% y-o-y in the Jul-Sep quarter of 2017 (c.f., Apr-Jun quarter: +6.9%), remaining on solid grounds despite a slight slowdown.
  - Investment in real terms fell (-0.6% y-o-y) due to curbs on investment and cuts to deal with overcapacity, recording negative growth for the first time since 2004. However, the growth rate was underpinned by the rise of inventories and expansion of government spending thought to be for improving people's welfare. Personal consumption remains firm albeit a slight slowdown due to the poor summer weather.
- We expect investment to remain sluggish due to the acceleration of reforms following the Communist Party National Congress in October. However, investment among high tech industries such as the IT sector will continue to expand.
  - Judging from the high import ratios of industries which are forecast to step up investment, such as communications equipment, computers and other electronic equipment and measuring instruments, the odds are high that the rise of imports from DM countries will continue for some time.

[Rate of growth in real GDP]



Note: Retail sales of consumer goods is the retail sales index, investment in fixed assets is the fixed asset investment price index, exports is the export price index converted to real figures (estimated by MHRI)
Source: Made by MHRI based upon National Bureau of Statistics China

[(Nominal) Investment in fixed assets (manufacturing) and import ratio]

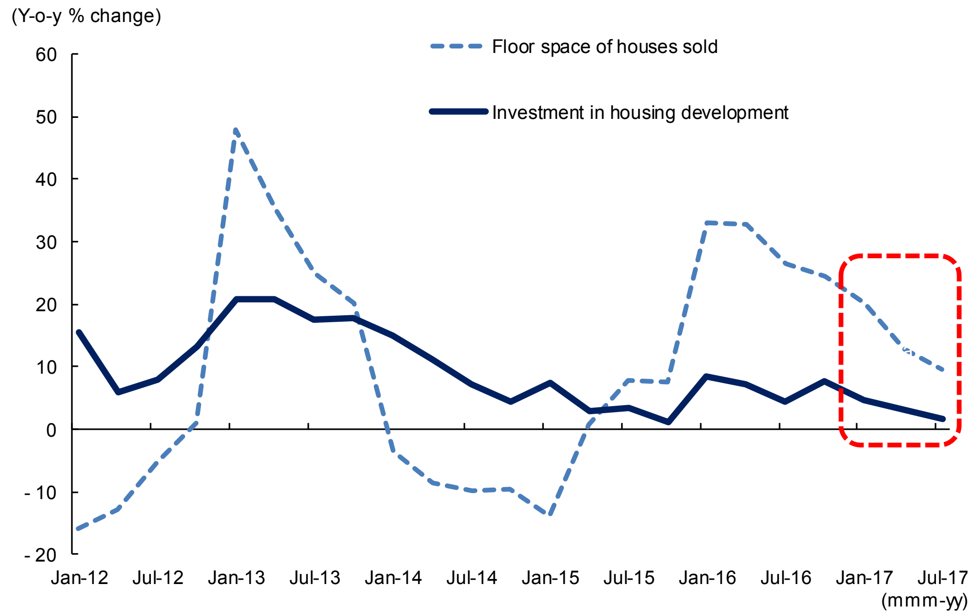


Note: Import ratio = imports/ (intermediate inputs + final demand – exports) x 100, created from the 2012 input-output table
Source: Made by MHRI based upon National Bureau of Statistics China

China: housing investment is also slowing along with the correction in housing sales

- Housing sales and investment should continue to slow down, reflecting tighter regulations on property purchases.
  - Housing sales is slowing on a nationwide level. Price corrections are progressing in Tier 1 and Tier 2 cities, while Tier 3 cities are showing signs of peaking out.
  - Housing investment should continue to slow down, particularly in Tier 1 cities. We also expect a downturn in Tier 3 cities as demand slows.
    - ✓ Given signs of the rising land purchases by developers accompanying the progress of inventory adjustments in regional cities, there are upside risks in investment.

[Floor space of houses sold and real investment in housing development]



Note: Investment in housing development is made real using the deflator that weights the average for the fixed asset investment price index (construction and installation investment) using the amount of investment by real estate use 2016

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

[New house sales price for 70 cities (by city)]

Heat Map

	Housing policy stance	New house sales price for 70 cities		
		Tier 1 Cities (Y-o-y % change)	Tier 2 Cities (Y-o-y % change)	Tier 3 Cities (Y-o-y % change)
Sep-2015	Accommodative	13.9	-1.8	-3.9
Oct-2015	Accommodative	16.1	-1.0	-3.3
Nov-2015	Accommodative	18.2	-0.2	-2.7
Dec-2015	Accommodative	19.9	0.5	-2.3
Jan-2016	Accommodative	22.4	1.3	-1.8
Feb-2016	Accommodative	25.6	2.2	-1.2
Mar-2016	Tightening	29.5	3.5	-0.6
Apr-2016	Tightening	31.5	5.0	0.2
May-2016	Tightening	29.8	6.4	0.8
Jun-2016	Tightening	28.5	7.3	1.3
Jul-2016	Tightening	27.1	8.4	1.8
Aug-2016	Tightening	28.2	10.0	2.4
Sep-2016	Tightening	29.4	12.4	3.7
Oct-2016	Tightening	28.5	13.7	4.8
Nov-2016	Tightening	26.8	13.8	5.7
Dec-2016	Tightening	25.0	13.6	6.2
Jan-2017	Tightening	22.7	13.2	6.6
Feb-2017	Tightening	20.0	12.8	6.9
Mar-2017	Tightening	16.9	12.2	7.3
Apr-2017	Tightening	14.4	11.2	7.7
May-2017	Tightening	12.3	10.4	8.3
Jun-2017	Tightening	10.0	9.9	8.8
Jul-2017	Tightening	8.4	9.2	9.2
Aug-2017	Tightening	4.8	7.6	8.8
Sep-2017	Tightening	1.6	5.5	7.8

Note 1: The figure from January 2012 to present is shown as green for the lower 10% and red for the upper 10%. The floor space of inventory relative to the sales floor area is shown as red for the lower 10% and green for the upper 10%.

2: The city classifications are based on the National Bureau of Statistics China

Source: Made by MHRI based upon National Bureau of Statistics China, CEIC Data, and Wind

MIZUHO

China: Xi administration consolidated its power base through the National Congress. Anticipation of further reforms

- Xi Jinping's position as "General Secretary" was reconfirmed through the plenary session that followed the National Congress. President Xi Jinping and Premier Li Keqiang were joined by five new members appointed to the Politburo Standing Committee.
  - Since many of the new members of the Standing Committee are close to President Xi, many view this as a better environment for Xi to wield power.
- Although the Xi administration is maintaining growth sufficient to achieve the target of doubling GDP, painful reforms could be implemented at an early stage.
  - The end of 2018 marks the 40th anniversary of China's reform and opening, and the pace could be accelerated to demonstrate the progress in reforms.

[Second line up of personnel in Xi administration
(Standing Committee of the Central Political Bureau of the CPC)]

Name	Age	New position
Xi Jinping	64	❑ General Secretary of the CPC Central Committee ❑ Chairman of the Central Military Commission
Li Keqiang	62	● Premier of the State Council
Li Zhanshu	67	● (Former Director of the Central Committee's General Office)
Wang Yang	62	● Vice Premier of the State Council
Wang Huning	62	❑ Secretary of the Secretariat of the Central Committee
Zhao Leji	60	❑ Secretary of the Central Commission for Discipline Inspection
Han Zheng	63	● (Former Secretary of the Shanghai Municipal Committee)

Note 1: "☐" refers to positions announced at the 19th National Congress (including ongoing positions)
2: "●" refers to positions at the time of the 19th National Congress, and may be subject to future moves
Source: Made by MHRI based upon various materials

[Future key events indicated following the Plenary Session]

Year	Event	Details
2018	40th anniversary since opening up	Continue to promote the modernization of the national government system and function and implement necessary measures for reform in all areas.
2019	70th anniversary of the founding of the nation	Continue to implement the mission set forth in the 13th five-year plan (2016-2020), and formulate new plans for future development.
2020	Finish building the moderately prosperous society	The strength of the party and the nation will be combined to completely eliminate poverty, to fulfil our promise. Work towards improving and ensuring people's wellbeing, while continuing to strengthen people's sense of fulfilment, happiness and security and promoting common prosperity for everyone.
2021	100th anniversary of the establishment of the Communist Party of China	Completely eradicate factors that would undermine the soundness of the party, and foster a bright and correct political climate. Use the positive energy of the powerful party to gather the magnificent strength that measures the development and progress of China across the entire society.

Source: Made by MHRI based upon People's Daily Online <(http://cpc.people.com.cn/19th/GB/414745/414893/index.html>