FY2017, FY2018 Economic Outlook

- Even though the global economy is continuing to grow, the “new normal” is a world of low inflation and low interest rates -

August 15, 2017

Mizuho Research Institute

Key points of our forecast

- The global economy should follow a gradual expansion path in 2017 and 2018, driven by the recovery of the developed market economies and upturn of commodity-producing economies. However, the recovery momentum will gradually moderate as the Chinese economy slows down and the IT cycle runs its course.
- Inflationary pressures are not expected to rise despite the global economic recovery. The decline of the labor share due to technological innovation, globalization and structural-institutional factors are serving as a drag upon the rise of wages and inflation.
- Despite the ebb of IT-related demand, iPhones, in-vehicle devices and Internet of Things (IoT) will serve to support demand. However, the expansion of China's semiconductor output capacity may lead to a supply glut from 2018.
- On the political front, risks related to Europe should ebb slightly. On the other hand, US congressional developments related to issues such as the debt ceiling and the course of the "Russiagate" scandal are destabilizing factors. Geopolitical risks such as the situation surrounding North Korea will also linger.
- Keep a close eye upon financial market dislocation as Europe and the US progress on their exit strategies. In particular, note the risk of the negative impact upon the global economy stemming from the rise of capital outflow pressures from emerging market (EM) countries where capital inflows are continuing.
- The Japanese economy is picking up in FY2017. In addition to the recovery of overseas economies, the increase of capital investment related to the 2020 Tokyo Olympic Games and rise of productivity will serve as positive factors. Despite the slowdown of external demand, the Japanese economy will maintain growth above 1% in FY2018 due to the strength of domestic demand.
- Japan's core inflation rate will fail to reach 1% and the improvement of the underlying trend in inflation excluding the impact of energy prices will remain moderate. The Bank of Japan (BOJ) will most likely keep monetary policy on hold.

I. General Overview

The global economy will gradually expand, but low inflation is the new normal

(1) Overview of the global economy: the global economy should recover in 2017 and keep growing at the same pace in 2018

- Although growth in the forecast area is likely to expand towards 2018, the impact of the Chinese economic slow down and ebb of the IT cycle are risk factors.
  - While the growth rates for the US and Brazil has been subject to slight downward revisions due to recent economic trends, growth rates for the Eurozone, Japan and China have been revised upward.

[Outlook on the global economy]

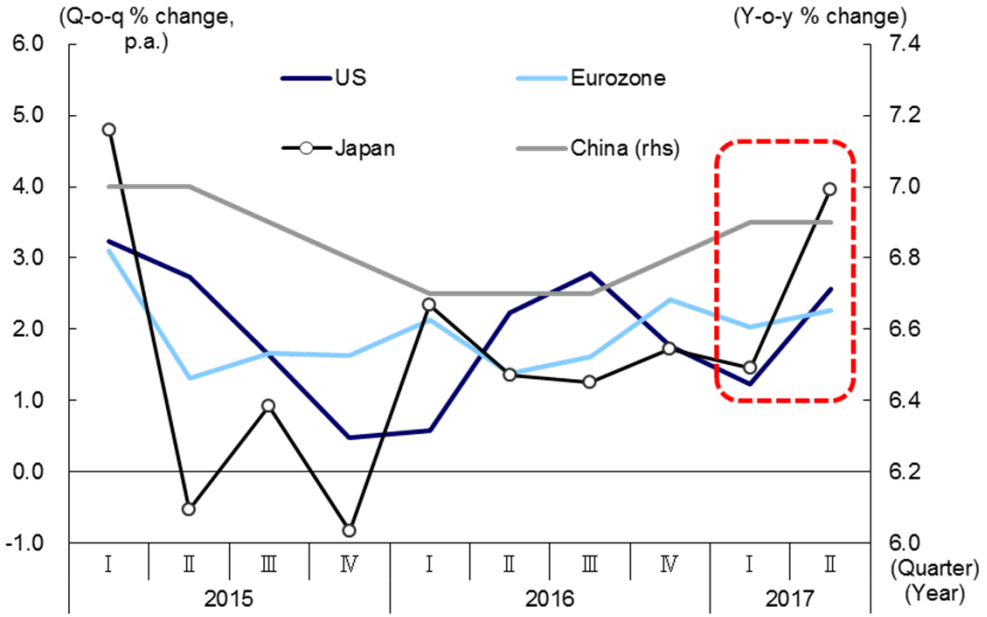
	(Y-o-y % change)				(Y-o-y % change)		(% point)	
Calendar year	2015 (Actual)	2016 (Actual)	2017 (Forecast)	2018 (Forecast)	2017 (Forecast in June)	2018 (Forecast in June)	2017 (Breadth of change from June)	2018 (Breadth of change from June)
Total of forecast area	3.5	3.4	3.8	3.8	3.7	3.8	0.1	-
Japan, US, Eurozone	2.3	1.5	2.0	1.9	1.9	1.9	0.1	-
US	2.9	1.5	2.1	2.2	2.2	2.2	-0.1	-
Eurozone	2.0	1.8	2.0	1.8	1.7	1.7	0.3	0.1
Japan	1.1	1.0	1.7	1.2	1.3	1.4	0.4	-0.2
Asia	6.2	6.2	6.1	6.1	6.1	6.1	-	-
China	6.9	6.7	6.8	6.4	6.6	6.4	0.2	-
NIEs	2.0	2.3	2.6	2.4	2.5	2.5	0.1	-0.1
ASEAN5	4.8	4.9	5.0	5.1	5.0	5.1	-	-
India	7.5	7.9	7.1	7.5	7.1	7.5	-	-
Australia	2.4	2.4	2.2	2.8	2.2	2.8	-	-
Brazil	-3.8	-3.6	0.5	1.9	0.6	2.0	-0.1	-0.1
Mexico	2.6	2.3	1.9	2.1	1.9	2.1	-	-
Russia	-2.8	-0.2	1.0	1.5	1.0	1.5	-	-
Japan (FY)	1.3	1.3	1.7	1.2	1.4	1.3	0.3	-0.1
Crude oil price (WTI, USD/bbl)	49	43	50	52	51	53	-1	-1

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) Overview of the global economy: the global economy is doing well

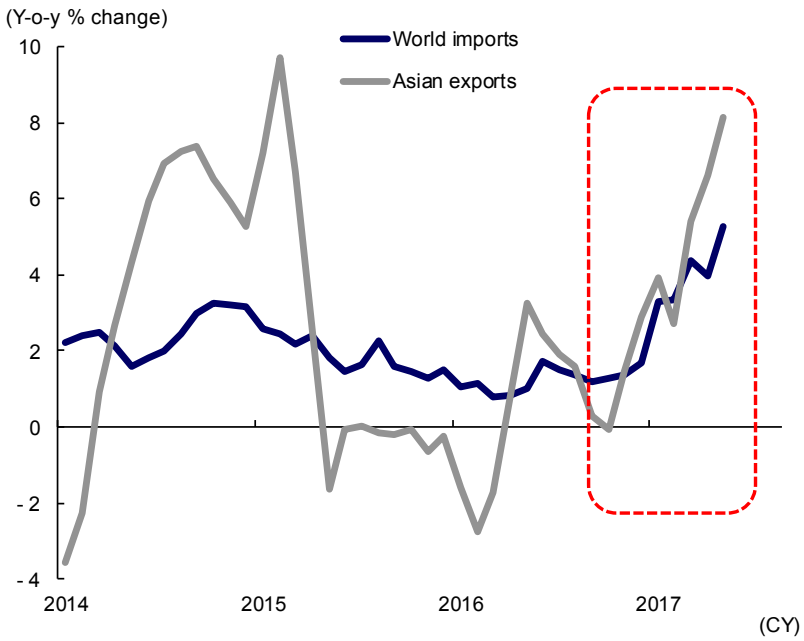
- The US has turned around from a soft patch, and the global economy is steadily recovering.
  - The rate of growth in real GDP (Apr-Jun quarter) has improved for Japan, the US and Europe, while China has maintained y-o-y growth at the same level as the previous quarter.
  - Among the '3Ls' of 'Low growth, Low inflation and Low interest rates', improvements have been evident in 'growth'.
- Global trade volumes have increased with the turn around in the Chinese economy and improvements in the IT cycle.
  - Global trade, which had been notably sluggish, is improving due to factors such as increased Asian exports.

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



Source: Made by MHRI based upon Markit

[Change in global trade volumes and Asian exports]

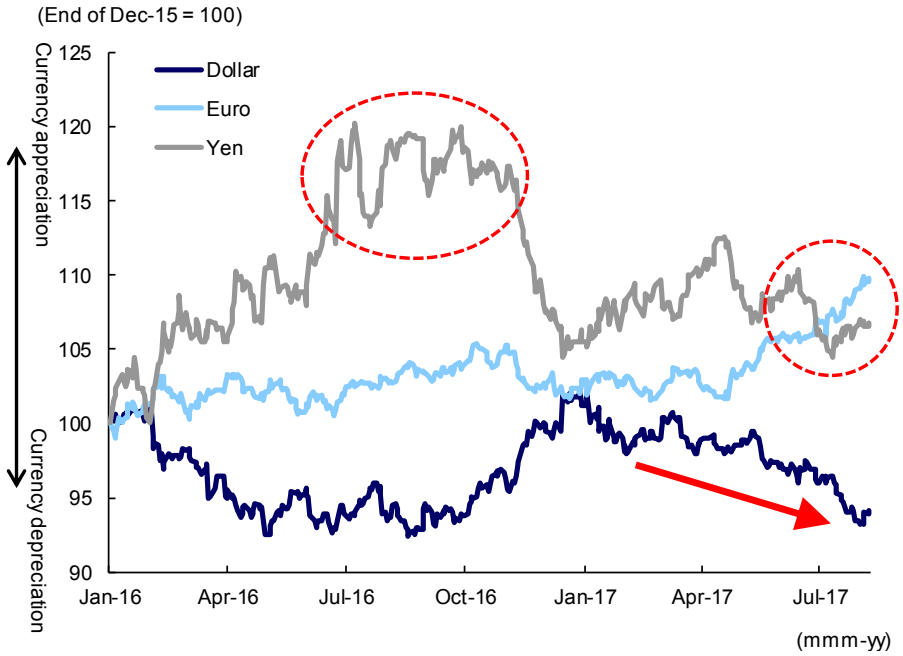


Source: Made by MHRI based upon CPB

Change in standalone appreciation of the yen

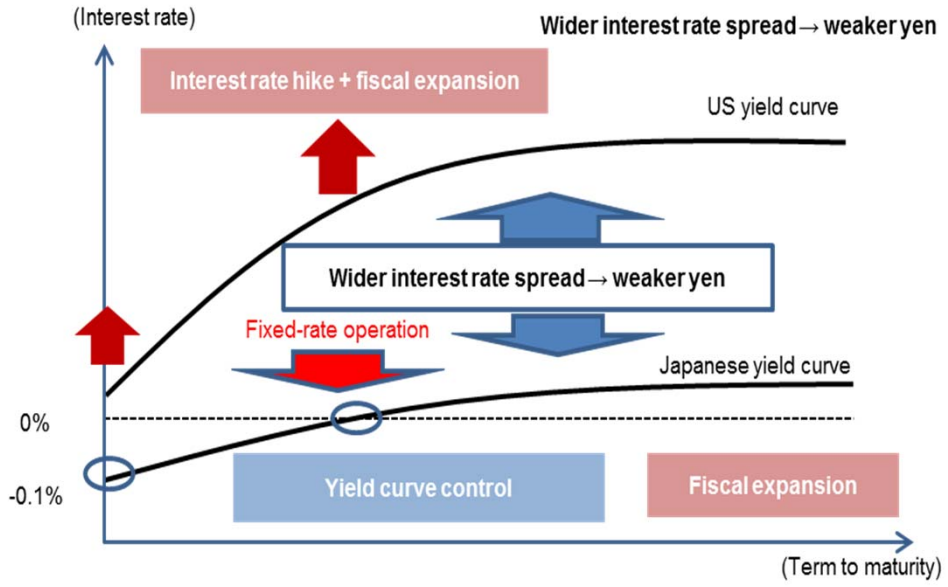
- The yen has broken away from its standalone appreciation during 2016 and is enjoying a depreciation.
  - Although the pause in the dollar's rise has underpinned the US economy, the yen is also at weaker levels than last year in terms of the effective exchange rate and this is boosting Japan's economy.
  - The BOJ is oriented toward a "high pressure economy" by signaling to the market that Japan is opting for a different direction in monetary policy from the US and Europe which are moving toward an exit.

[Nominal effective exchange rates (US Dollar, Euro, Yen]



Source: Made by MHRI based upon Bloomberg

[Widening Japan-US interest rate spread reflects difference in policy mix]

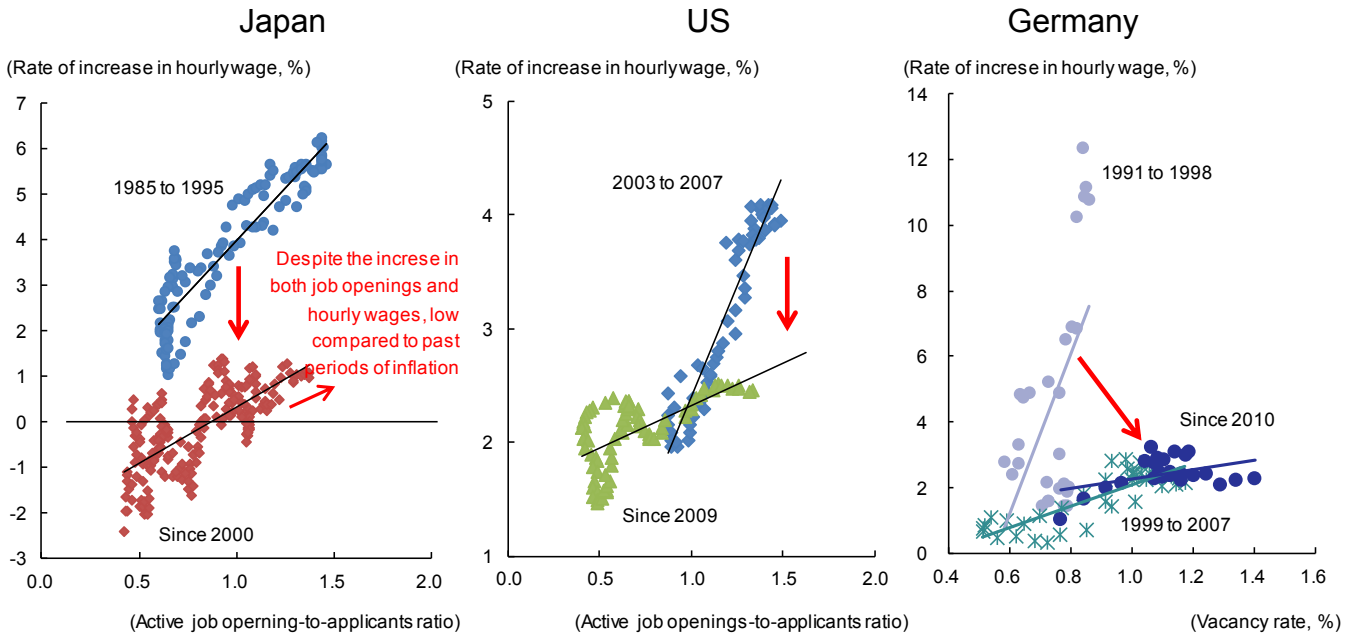


Source: Made by MHRI

Structural shifts are making it difficult for wage growth rates to rise around the world

- The relationship between the rate of wage increases and labor demand and supply is changing in major countries, making it more difficult for wage growth rates to rise than in the past.
  - The active job openings-to-applicants ratio type Phillips Curve has flattened for Japan, the US and Germany, suggesting that upward pressures on wages relative to improvements in labor demand and supply are declining.
  - Japan experienced structural shifts with the burst of the bubble in the 1990s, while the US and Europe underwent structural shifts since the financial crisis of the late 2000s.

[Active job openings-to-applicants ratio type Phillips Curve]

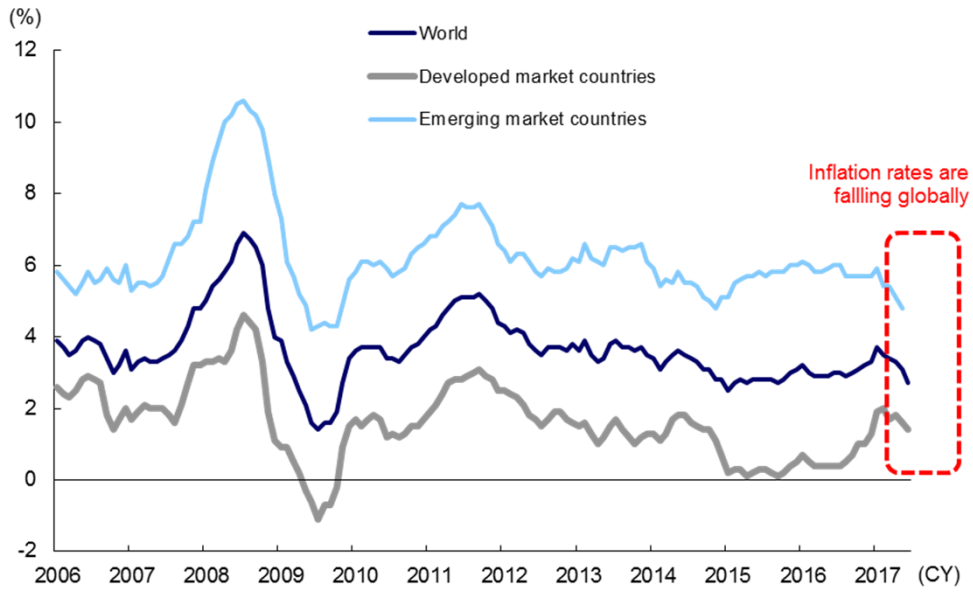


Note: Japan: Hourly wage is the 12-month moving average of the y-o-y change in the total cash earnings/total hours worked for all workers at firms with 30 or more employees. The lag from active job openings-to-applicants ratio to hourly wage is set at about 9 months (the number of hours lag is also set at a high level of correlation)
US: Hourly wage is for production and managed workers. The 12-month moving average of the y-o-y rate of increase is taken as the base with a 12-month lag from 2003 to 2007. The period from 2009 to the present plots a 24-month lag. The active job openings-to-applicants ratio plots the figure for that month (no lag or lead) calculated by MHRI
Germany: Hourly wage is the base salary less various allowances, lagging the vacancy rate by four quarters.
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare, US Department of Labor and German Bundesbank

Long-term yields remain low in the absence of the rise of inflationary pressures

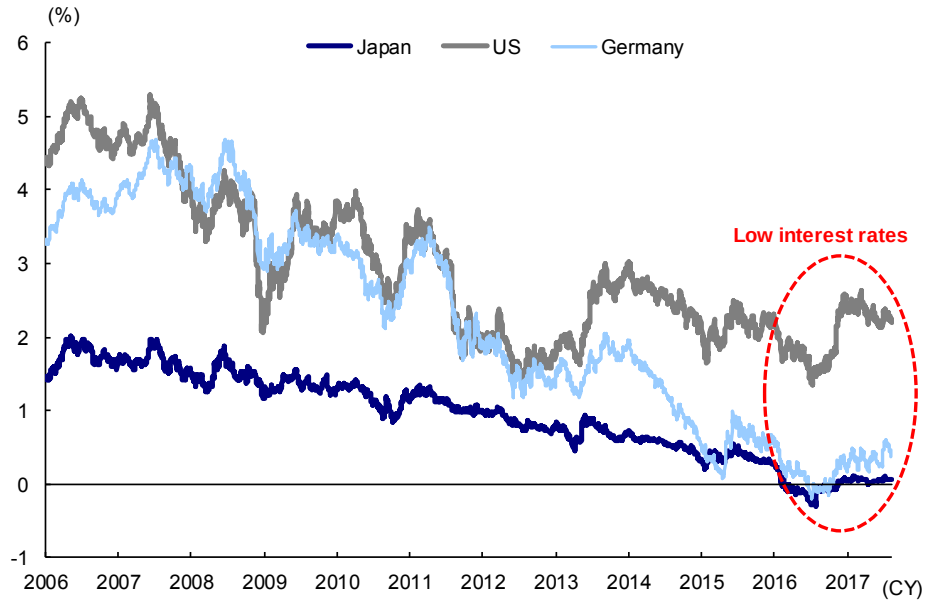
- Despite the recovery in the global economy, there has recently been greater scope for the inflation rate to decline.
  - Wage rises have been sluggish, and expected inflation rates are struggling to rise in developed market countries.
  - Monetary policy is likely to have an easing bias for all countries given the weak inflationary pressures.
  - Monetary easing while expected inflation rates struggle to rise mean that yields, including long-term yields, remain low.
  - Among the '3Ls" there has been improvement in growth, but the other two of low inflation and low interest rates persist.

[Global inflation rates]



Note: The rate of increase in the consumer price general index including energy and food.
Source: Made by MHRI based upon IMF

[Long-term yields in Japan, the US and Germany]

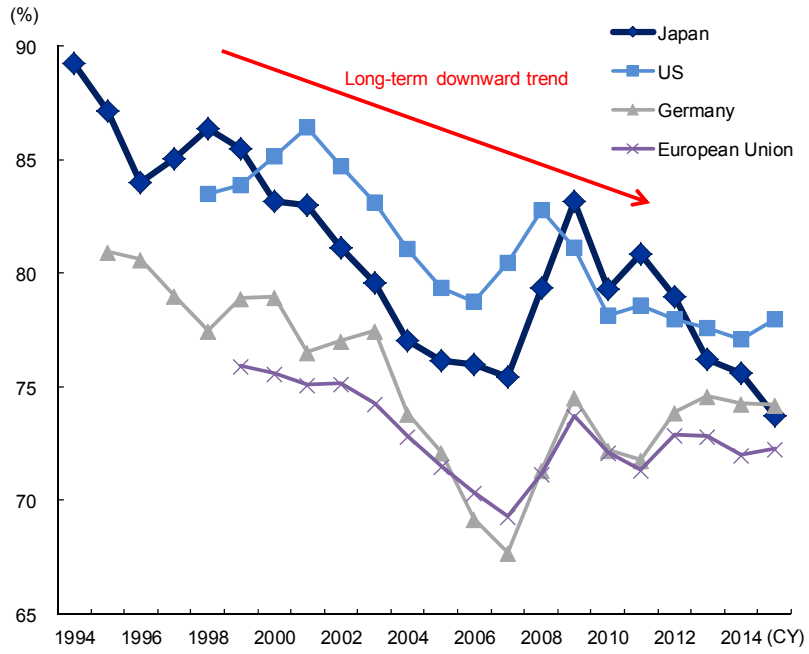


Source: Made by MHRI based upon Bloomberg

Labor distribution rate has long-term downward trend, due to technical innovation, globalization and institutional factors

- Labor's share of income (also referred to as the labor distribution rate) is in long-term decline. This is attributed to technological innovation, globalization and institutional factors.
  - According to IMF analysis, capital-labor substitution (the decline in relative prices of investment goods due to technological innovation) accounts for about half the decline in the labor distribution rate in developed countries. In emerging markets, the expansion of capital intensive industries due to international division of labor is reportedly the main cause of decline in the labor distribution rate.
  - In recent years, factors such as the response to the 'Winner takes all' market structure, the progress of the "gig economy', and the uncertainty of R&D may have fostered a decline in the labor distribution rate (an increase in allocation towards capital).

[International comparison of labor's share of income]



Note: Labor's share of income excludes individual companies
(employee remuneration/(employee remuneration + corporate income)
Source: Made by MHRI based upon OECD

[Global factors reducing labor's share of income distribution]

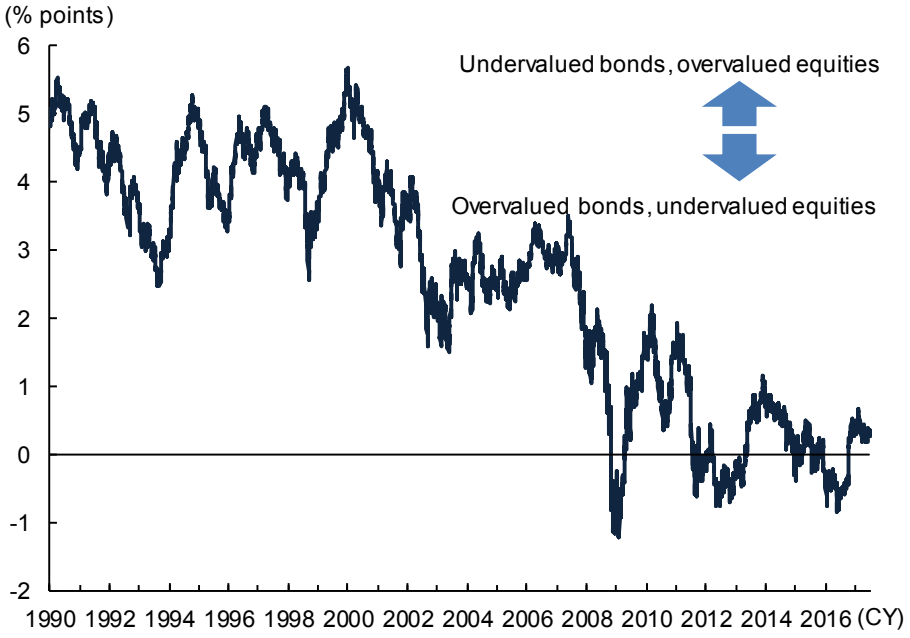
Technology innovation factors	Notes
Capital for labor substitution	**Automation of simple tasks, etc. According to the IMF, this explains half the decline in the rate of income distribution to labor in developed countries**
Development of the "Winner takes all" market structure	Increase in the allocation to capital by concentrating on added value for some companies that are leading in the construction of eco-systems and industry clusters
Progress of the gig economy	The increase in workers accepting one-off jobs through the internet has reduced the negotiation power of workers (it becomes hard to receive protection under labor legislation, and also hard to form labor unions)
Increase own equity capital to prepare for R&D	The increased importance of R&D promotes a build up in internal reserves to deal with such uncertainties
Globalisation factors	**Notes**
Expansion of capital intensive industries due to international division of labor	**According to the IMF, the biggest factor contributing to the decline in the rate of income distribution to labor in emerging market countries**
Reduced negotiaion power of workers due to globlalisation	
Systemic factors	**Notes**
Reduced negotiation power of workers due to change in governance	Reduced negotiation power of workers due to change in corporate governance to a shareholder focus and reduction the rate of unionization of workers
Increase own equity capital to prepare for uncertainties about antimonopoly laws	Promoting the build up in internal reserves due to uncertainty about antimonopoly laws in the software area

Source: Made by MHRI

Stock markets are firm with a tendency for a Goldilocks situation, but there is also risk of a temporary decline

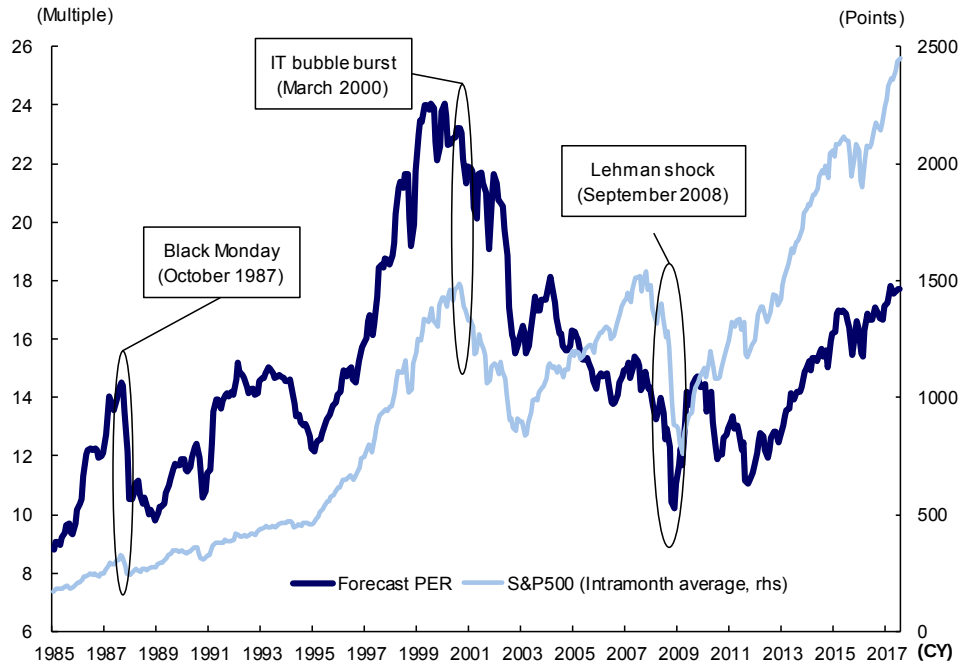
- High stock prices are being supported by the lower interest rate conditions fostered by accommodative monetary policy, in what is a Goldilocks situation of being “just right”.
  - The yield spread, which indicates the sense of relative values in bonds and stocks, suggests that stocks are still undervalued and makes them susceptible to upward pressure.
- To the extent that US stocks tend to be overvalued, we also need to watch for the risk of a temporary decline.
  - It is important to remember that past corrections such as Black Monday and the collapse of the IT bubble occurred when PER reached overvalued levels.

[Yield spread]



Note: Yield spread is the 10Y UST yield minus the distribution yield on the S&P500 index
Source: Made by MHRI based upon Bloomberg

[Forecast PER for the S&P500]

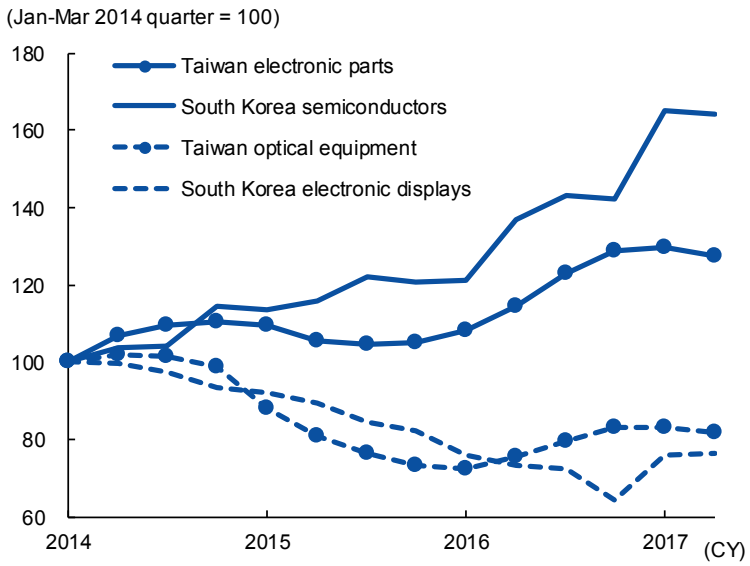


Note: Forecast PER is the 12 month forward forecast PER
Source: Made by MHRI based upon Datastream

(3) Verifying the IT cycle: IT related indices in South Korea and Taiwan are peaking out

- Shipments of mainstay IT products from Taiwan have peaked out in 2017.
  - The lull in China's smartphone boom, and the sluggish growth in sales of current iPhone models appear to have affected exports of parts.
  - Shipments of semi-conductors from South Korea also peaked out in the Apr-Jun quarter. However, there are broad uses other than Chinese made smartphones and iPhones, and the level itself is high.
- The shipment-inventory balance suggests Taiwan is entering a period of slight adjustment with growth in inventories surpassing shipments. The positive level has contracted in South Korea.
- Despite a rebound due to sales of new model iPhones from the latter half of this year, we anticipate a lack of momentum and forecast IT exports from South Korea and Taiwan to slow in 2018.

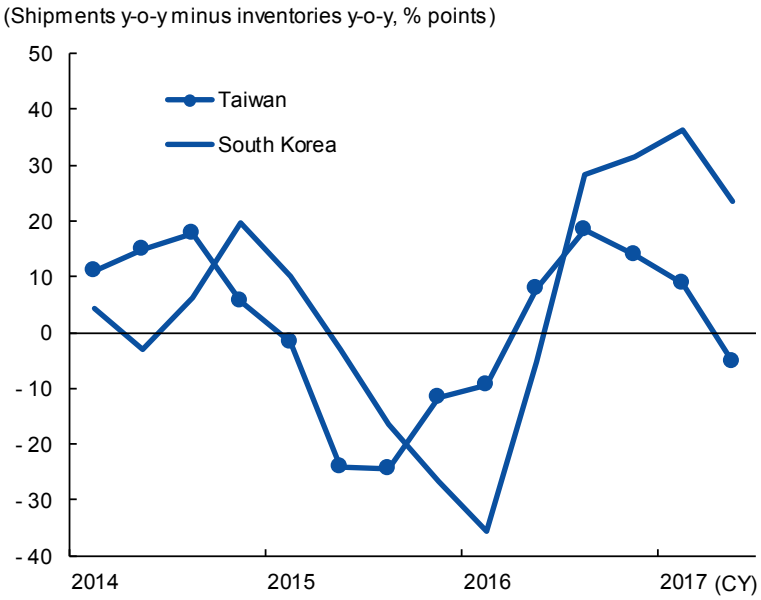
[South Korea and Taiwan IT products export volume index (seasonally-adjusted)]



Note: Seasonally-adjusted by MHRI. Taiwan's "electronic parts" includes semi-conductors and "optical equipment" includes flat panel televisions

Source: Made by MHRI based upon each country's statistics

[Shipment-Inventory balance for IT equipment (shipments y-o-y minus inventory y-o-y)]

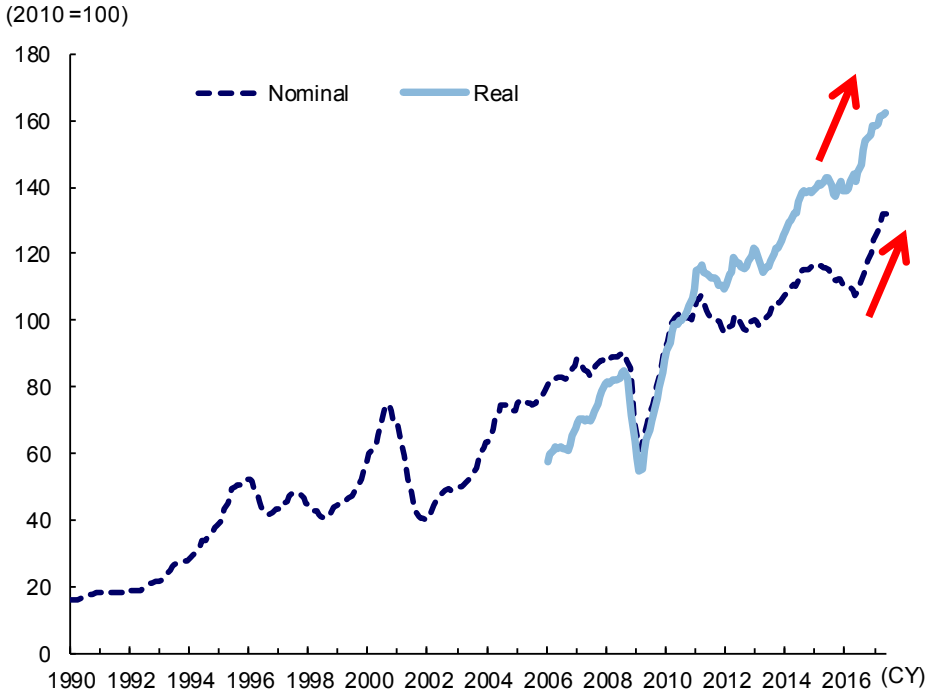


Source: Made by MHRI based upon each country's statistics

IT: Despite the ebb of IT-related demand, iPhones, in-vehicle devices and IoT will serve to support demand

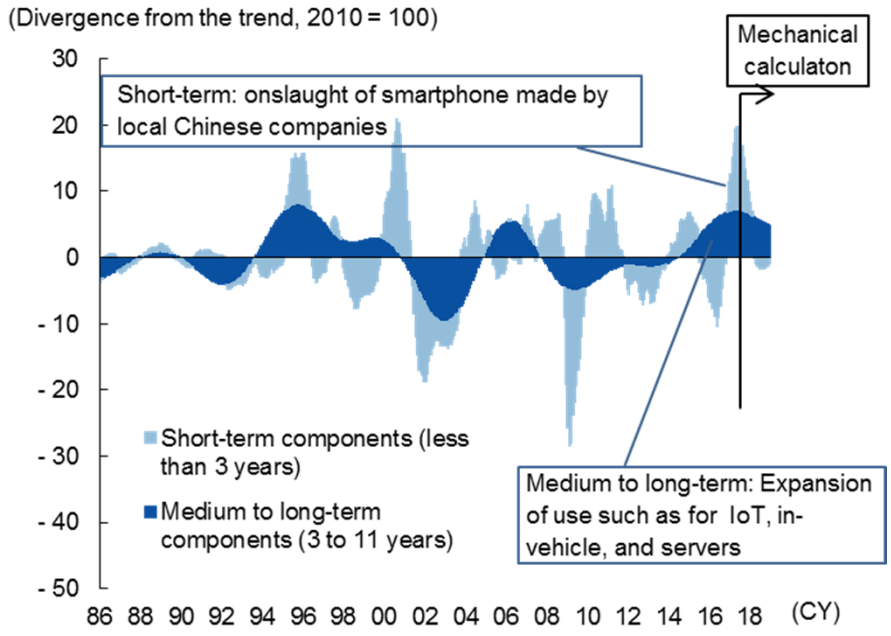
- The growth of global semi-conductor sales have slowed slightly, but remain on an upward trend.
- The factor contribution for semi-conductor sales as short-term and medium to long-term components suggests a moderate slowdown in future.
  - Both short-term and medium to long-term components contributed to an increase from the second half of 2016.
  - We expect short-term components to peak out, but sales should be underpinned by sales of the new iPhone. There is no need to be overly concerned since medium to long-term components will continue to boost sales for the near term.

[Global semi-conductor sales]



Note: Converted into real terms and adjusted for seasonal factors by MHRI
Source: Made by MHRI based upon CEIC Data and Datastream

[Factor contribution to global semi-conductor sales by period (Wavelet frequency analysis)]

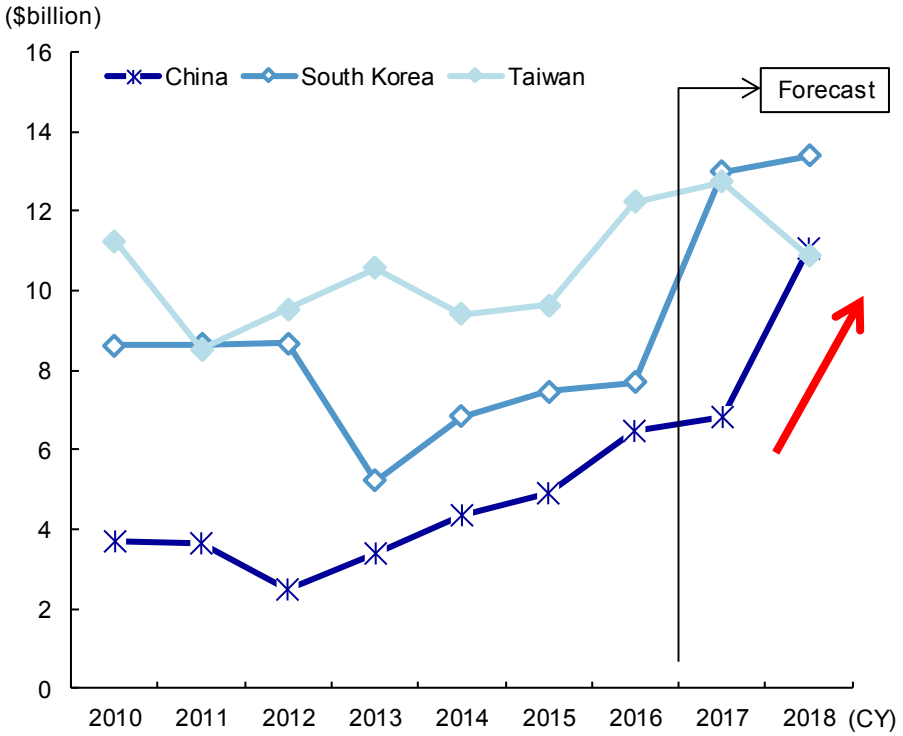


Note: Analyzed using the conversion to the real figure by MHRI and the seasonally-adjusted figure
Source: Made by MHRI based upon CEIC Data and Datastream

IT: risk of a semi-conductor oversupply from 2019 due to excessive production capacity in China

- There are concerns about a semi-conductor oversupply problem from 2019 due to increased production in China.
  - Semi-conductor production capacity is increasing in China due to government policy. In particular, sales of semi-conductor manufacturing equipment is forecast to grow 6.1% y-o-y in 2018. Investment levels rival that of South Korea and Taiwan.
  - Many semi-conductor plants being built in China are scheduled to start production about the same time in 2018. There is risk of oversupply from 2019.

[Sales of semi-conductor manufacturing equipment (China, South Korea, Taiwan)]



Source: Made by MHRI based upon SEMI

[Plans to increase semi-conductor production capacity in China]

Location	Company	Details	Construction	Start of production
Beijing/ Tianjin	SMIC	Foundry	2016	2018
	Silex	MEMS	2016	
Shanghai/ Ningbo	SMIC	Foundry, Analog	2016	2018
	Hua Li Micro	Foundry	2016	2018
Nanjing	TSMC	Foundry	2016	2018
	Yangtze River Storage Technology	DRAM	2017	
	Tacoma	Analog, Logic, Opto		
Jiangsu	Aucksun	IGBT	2016	
Xi'an	Samsung	3D NAND (Phase 2)		
Hefei	Powerchip	Foundry	2015	2017
	GigaDevice	DRAM & Flash		
Xiamen/ Shenzhen	SMIC Shenzhen	Foundry	2016	2018
	UMC	Foundry	2015	2016
	Fujian Jin Hua	DRAM	2016	2018
Wuhan	XMC	3D NAND	2016	Late 2017/ early 2018
Chongqing/ Chengdu	Alpha & Omega	Power semiconductor		
	Globalfoundries	Foundry	2017	2018/2019

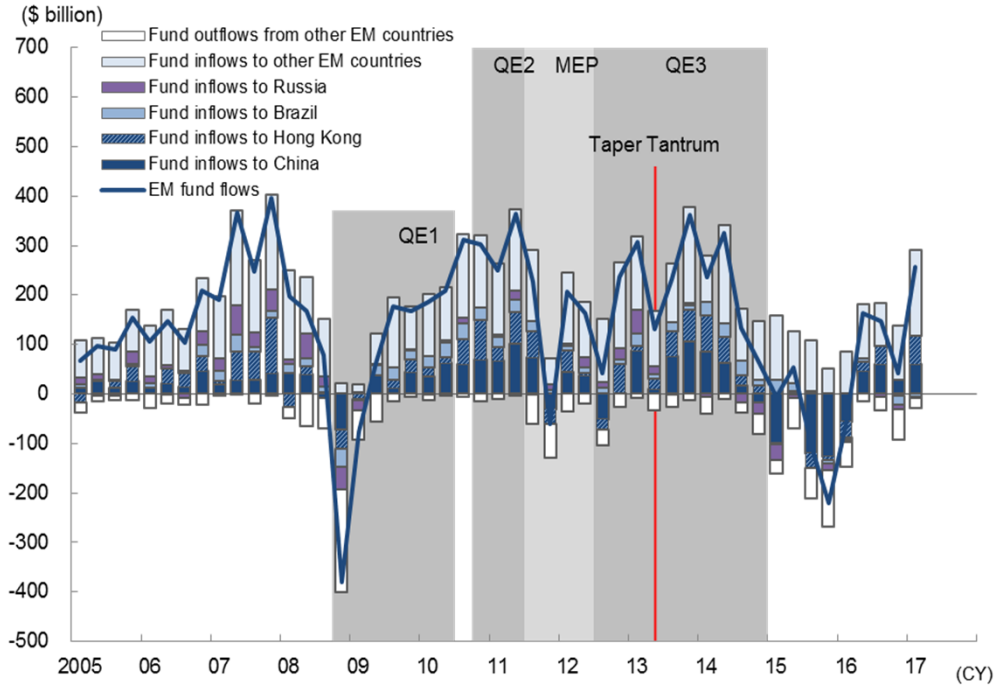
Note: Names in red are Chinese companies. The diagonal line through construction period and period to commence production indicates not yet decided or unknown

Source: Made by MHRI based upon SEMICON Japan 2016 and various media reports

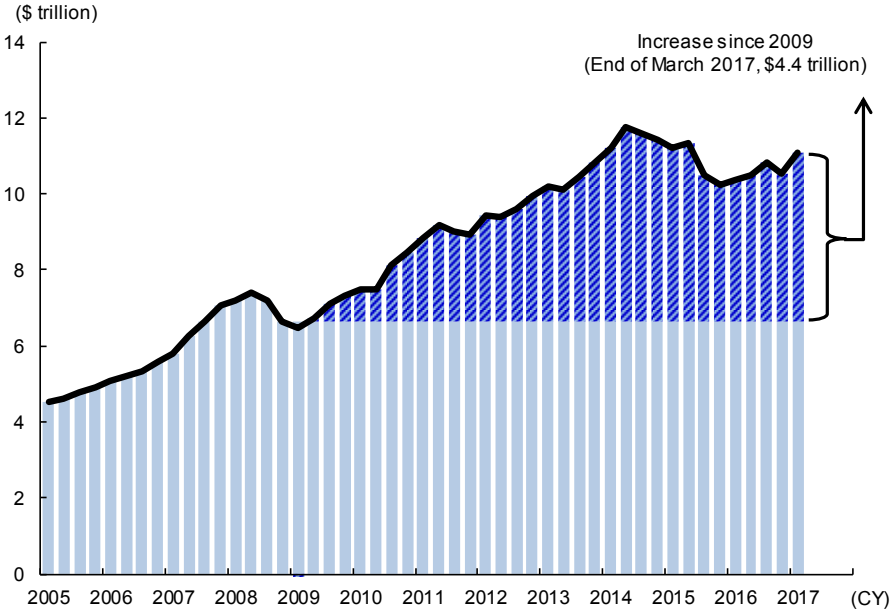
(4) Emerging Markets: while developed market countries have resorted to non-conventional monetary easing, capital flows into emerging markets are growing

- Capital flows into emerging markets have grown since US QE1 at the end of 2008, and has recently been in the order of $4.4 trillion.
  - There have also been periods when inflows have temporary stopped or there have been outflows at times such as the “Taper Tantrum” in 2013 and the “Renminbi shock” in 2015.
  - The return of funds flowing into emerging markets has continued since 2016.

[Fund flows into emerging markets]



[Balance of capital flows into emerging markets]

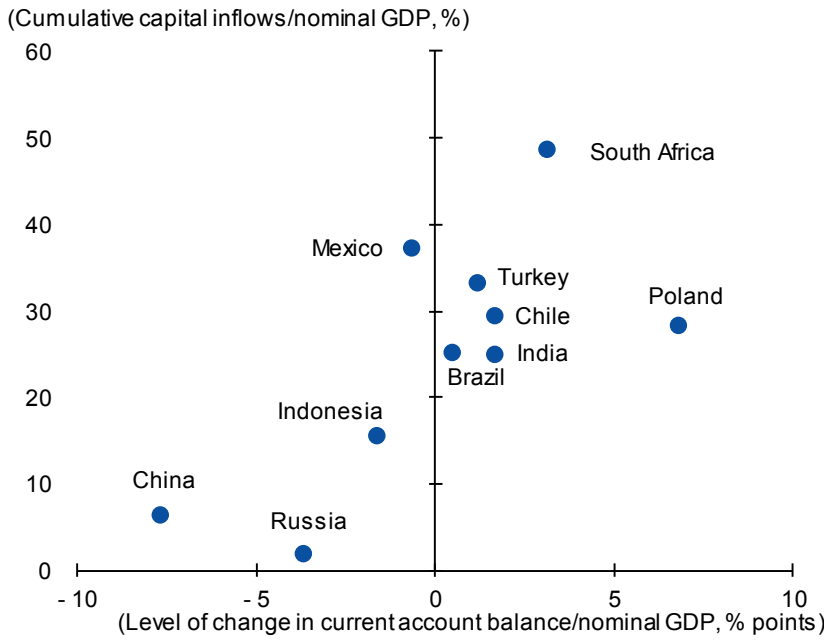


Note: Total of investment into domestic securities, and other domestic investments
EM countries refer to the total of 29 countries: China, Hong Kong, Brazil, Russia, Argentina, Bulgaria, Chile, Colombia, Croatia, Czech Republic, Hungary, India, Indonesia, Macedonia, Mexico, Mongolia, Morocco, the Philippines, Poland, Romania, Singapore, South Africa, South Korea, Taiwan, Thailand, Turkey, Ukraine, Uruguay and Vietnam
Source: Made by MHRI based upon IMF and Thomson Reuters, etc.

Emerging Markets: capital inflows while being selective based on the level of risk seen in the current account balance

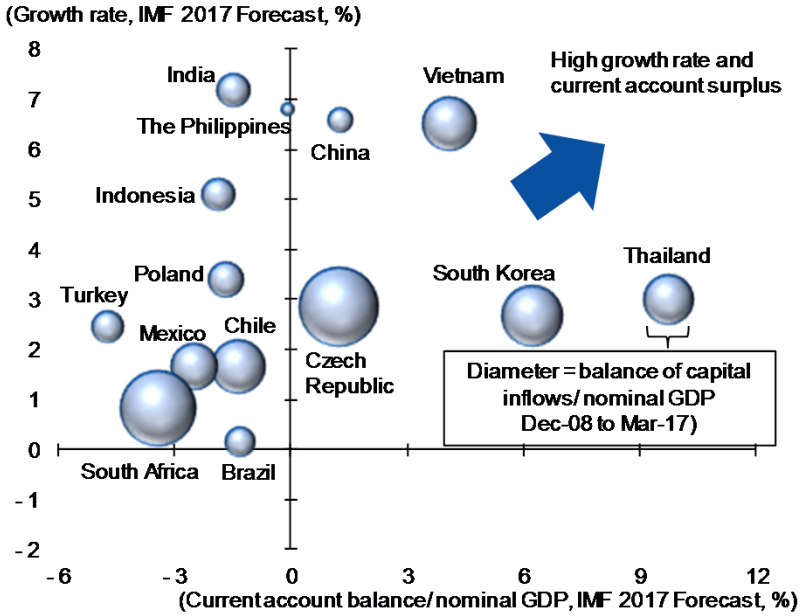
- Since the end of 2008, the capital flows into EM countries have tended to be concentrated on countries with improving current account balances.
  - The focus of attention upon risks with respect to current account deficit countries led to capital outflows at the time of Taper Tantrum in 2013.
- Monetary tightening in the US and Europe will be moderate, and the risk of a credit crunch originating in developed countries will be averted.
  - Capital inflows will continue to be concentrated on EM countries such as Vietnam, Thailand and South Korea, where growth rates are comparatively high and current account balances are forecast to be good.
  - By contrast, countries with low growth and large current account deficits such as Turkey, South Africa and Brazil will be avoided.
    - ✓ In particular, South Africa has significant accumulation of capital inflows and are thus subject to large potential outflow pressures.

[Level of change in current account balance and cumulative size of capital inflows (2008 to 2017)]



Source: Made by MHRI based upon IIF and each country's statistics

[Growth rate and the current account balance, cumulative size of capital inflows]



Note: Growth rate and current account balance forecasts are from the IMF
Source: Made by MHRI based upon IMF and each country's statistics

Emerging Markets: Turkey and South Africa warrant monitoring from an overall assessment of risk

- Apart from the current account balance, Turkey and South Africa warrant monitoring from an overall assessment of risk.
  - In Turkey, one year has passed since the failed coup d'état, but political and economic turmoil have not subsided and there is risk of the President expanding fiscal spending to pander to the masses.
  - In South Africa, where the economy is sluggish, the President dismissed the finance minister who enjoyed the market's trust, and political uncertainty is growing.
  - Both countries have enjoyed capital inflows while the dollar has been weak, and stock prices are at record highs, but there is large risk of potential shift to capital outflows.

[Risk assessment of major emerging market (EM) countries]

	Overall assessment	Businses conditions	Inflation Rate	Current account balance	Policy scope	Foreign currency reserves	Geopolitics, internal affairs, diplomacy	Private-sector debt
Turkey	D	C	D	D	C	D	C	C
South Africa	C	C	C	D	C	D	C	A
Brazil	B	C	A	C	C	B	C	B
Mexico	B	C	A	C	B	D	B	B
China	B	C	A	A	C	B	B	D
India	B	B	B	C	C	B	B	B
Indonesia	B	C	A	C	C	B	B	B
The Philippines	B	B	A	C	B	C	C	---
Russia	B	C	A	A	C	B	C	B
Thailand	B	C	B	A	B	B	C	B
Malaysia	B	B	A	A	C	D	B	B
Vietnam	B	C	A	A	C	D	A	---
South Korea	B	C	B	A	A	B	C	B
Taiwan	B	C	B	A	B	B	A	---

Note: General assessment based on assessment of each element. The assessment for both each element and the general assessment are in five categories: A (good), B (comparatively good), C (weak, of some concern), D (very weak, pronounced concerns), E (in crisis)
Source: Made by MHRI

II. The Japanese Economy

In FY2017, Japan is enjoying a well-balanced recovery driven by both domestic and external demand

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 Apr-Jun quarter of 2017 revealed that the Japanese economy recorded growth in positive territory for the sixth consecutive quarter for the first time in 11 years. Even though exports took a dip in a reaction to the rapid recovery thus far, the recovery of personal consumption and capital investment, and the progress of economic stimulus measures served to push up growth.
- 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 +1.7% from the previous fiscal year (+1.3%).
- In FY2018, domestic demand such as personal consumption will remain on solid footing despite the slowdown of exports. In FY2018, the 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.
- The core inflation rate will rise temporarily to almost 1%, 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 mild.

Japan: forecast on growth for FY2017 (+1.7%) and FY2018 (+1.2%)

- The pace of economic growth is forecast to rise to +1.7% in FY2017 (revised upward by 0.3% points from the June forecast).
  - 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. Despite the alleviation of uncertainties regarding political and economic developments overseas, we need to keep a close eye upon a slower-than-expected growth of the Chinese economy.
- The pace of economic growth is forecast at +1.2% in FY2018 (revised downward by 0.1%points from the June forecast). Despite the decline in external demand, domestic demand is firm.

[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	1.7	1.2	0.3	0.4	0.4	1.0	0.2	0.1	0.2	0.4	0.4	0.4	0.3
	Q-o-q % ch p.a.	--	--	--	--	1.3	1.7	1.5	4.0	0.7	0.5	0.9	1.4	1.4	1.4	1.2
Domestic demand	Q-o-q % ch	1.2	0.5	1.7	1.2	-0.1	0.1	0.2	1.3	0.1	0.1	0.2	0.4	0.4	0.3	0.3
Private sector demand	Q-o-q % ch	1.2	0.8	1.9	1.3	-0.1	0.3	0.3	1.3	0.2	0.3	0.1	0.4	0.4	0.4	0.4
Personal consumption	Q-o-q % ch	0.6	0.7	1.5	1.1	0.4	0.1	0.4	0.9	0.1	0.1	0.2	0.3	0.4	0.3	0.3
Housing investment	Q-o-q % ch	2.8	6.5	2.0	-1.7	2.8	0.3	0.9	1.5	-0.2	-0.8	-1.3	-0.2	-0.5	0.7	0.2
Capital investment	Q-o-q % ch	0.6	2.5	4.7	1.6	0.0	2.2	0.9	2.4	0.1	0.6	0.5	0.5	0.4	0.3	0.3
Inventory investment	Q-o-q contribution, % pt	0.4	-0.4	-0.2	0.1	-0.4	-0.2	-0.2	0.0	0.1	0.1	-0.1	0.1	0.1	0.0	0.1
Public sector demand	Q-o-q % ch	1.2	-0.3	1.0	1.0	0.0	-0.5	0.1	1.3	-0.0	-0.3	0.3	0.4	0.4	0.3	0.2
Government consumption	Q-o-q % ch	2.0	0.4	0.7	1.1	0.2	0.0	-0.1	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Public investment	Q-o-q % ch	-1.9	-3.2	2.2	0.7	-0.8	-2.5	0.6	5.1	-1.0	-2.4	0.3	0.8	0.9	0.3	0.0
External demand	Q-o-q contribution, % pt	0.1	0.8	0.1	-0.0	0.4	0.3	0.1	-0.3	0.1	-0.0	0.1	-0.0	-0.1	0.0	-0.1
Exports	Q-o-q % ch	0.7	3.2	3.9	1.6	2.1	3.1	1.9	-0.5	0.6	0.6	0.5	0.3	0.3	0.3	0.2
Imports	Q-o-q % ch	0.2	-1.4	3.6	1.9	-0.2	1.4	1.3	1.4	0.3	0.6	0.2	0.5	0.8	0.2	0.5
GDP (nominal)	Q-o-q % ch	2.7	1.1	2.0	1.6	0.1	0.5	-0.0	1.1	1.0	-0.1	-0.3	0.7	1.2	0.3	-0.2
GDP deflator	Y-o-y % ch	1.5	-0.2	0.2	0.5	-0.1	-0.1	-0.8	-0.4	0.7	0.3	0.3	0.4	0.4	0.5	0.6
Domestic demand deflator	Y-o-y % ch	0.0	-0.4	0.5	0.5	-0.8	-0.3	0.0	0.4	0.8	0.4	0.6	0.6	0.6	0.5	0.5

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	4.4	1.7	1.6	1.8	0.2	1.9	0.8	0.6	0.5	0.5	0.3	0.2	0.2
Ordinary profits (Lower line: excludes impact of special factors)	Y-o-y % ch	4.9	10.0 (7.3)	8.2 (10.9)	2.5	11.5 (-5.8)	16.9	26.6	16.4	1.5 (14.0)	7.5	7.3	4.3	3.4	1.6	0.9
Nominal compensation of employees	Y-o-y % ch	1.5	2.0	1.7	1.7	2.3	2.2	1.0	1.7	1.7	1.7	1.6	1.5	1.7	1.8	1.8
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	95.2	92.6	98.0	95.3	97.5	100.2	94.7	93.4	92.5	91.1	90.9	93.1	95.8
Current account balance	P.a., JPY tril	17.9	20.4	21.3	21.4	19.4	20.6	21.7	18.9	19.9	22.1	23.4	19.4	18.9	23.0	23.4
Domestic corporate goods prices	Y-o-y % ch	-3.3	-2.3	1.7	0.7	-3.8	-2.1	1.0	2.1	2.6	1.4	0.7	0.9	0.8	0.6	0.4
Consumer prices (ex fresh food)	Y-o-y % ch	-0.0	-0.2	0.7	0.7	-0.5	-0.3	0.2	0.4	0.7	0.8	0.8	0.7	0.7	0.6	0.5
Consumer prices (ex fresh food and energy)	Y-o-y % ch	0.9	0.3	0.2	0.4	0.4	0.2	0.1	0.0	0.2	0.3	0.4	0.5	0.5	0.4	0.3
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	0.3	0.3	0.3	0.2
Uncollateralized overnight call rate	%	-0.00	-0.06	-0.05	-0.05	-0.06	-0.06	-0.06	-0.07	-0.05	-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	20,200	20,700	16,497	17,933	19,241	19,503	20,200	20,400	20,600	20,800	21,000	20,600	20,300
Exchange rate	JPY/USD	120	108	112	113	102	110	114	111	112	112	114	115	113	112	111
Crude oil price (WTI nearest term contract)	USD/bbl	45	48	50	52	45	49	52	48	49	51	52	53	52	51	50

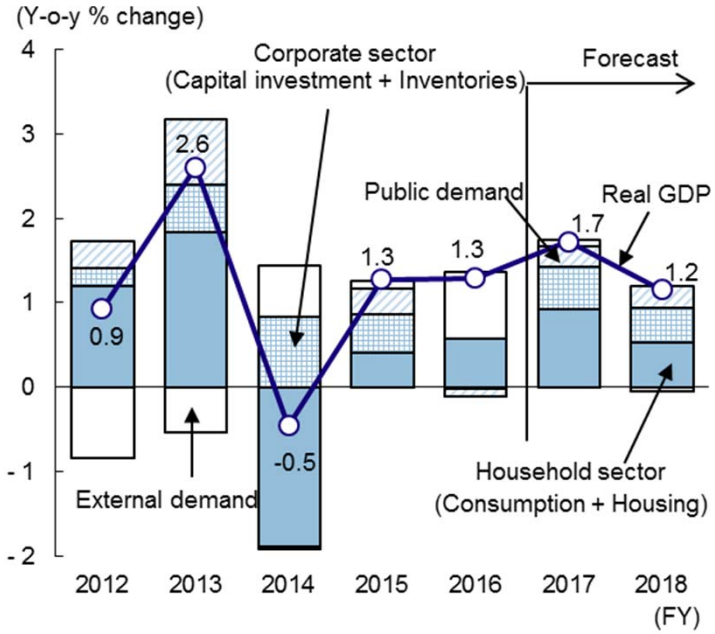
Notes: 1. Figures in the shaded areas are forecasts.The readings above may differ from public releases because the rates of change are calculated by MHRI.
2. Ordinary profits are based upon the *Financial Statements Statistics of Corporations by Industry* (all industries basis) (ex finance & insurance).
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 10Y 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.

Current state and forecast: recovery in both domestic and external demand for the Japanese economy in FY2017, domestic demand will also be firm in FY2018

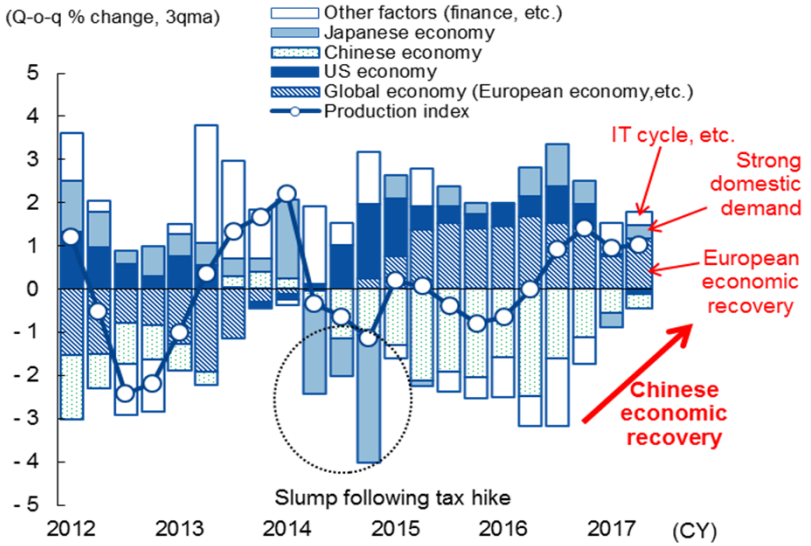
- The real GDP growth rate for the Apr-Jun quarter of 2017 was +4.0% q-o-q (annualized), which was the sixth consecutive quarter of positive growth. Domestic demand substantially boosted the growth rate.
- The Japanese economy is forecast to grow +1.7% in FY2017. Together with ongoing moderate expansion of overseas economies, economic stimulus measure are being implemented and sentiment is recovering.
- Growth of +1.2% is forecast for FY2018. Although external demand will fall, domestic demand will be firm.
- In September 2017, the sustained economic recovery will be the second longest since World War II, surpassing the Izanagi Boom (the period of economic recovery from November 1965 to July 1970, 57 months. In January 2019, the sustained economic recovery will become the longest since WWII, surpassing the Izanami Boom (the period of economic recovery from February 2002 to February 2008, 73 months).

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



Source: Made by Mizuho Research Institute (MHRI) based upon Cabinet Office, *Quarterly Estimates of GDP*

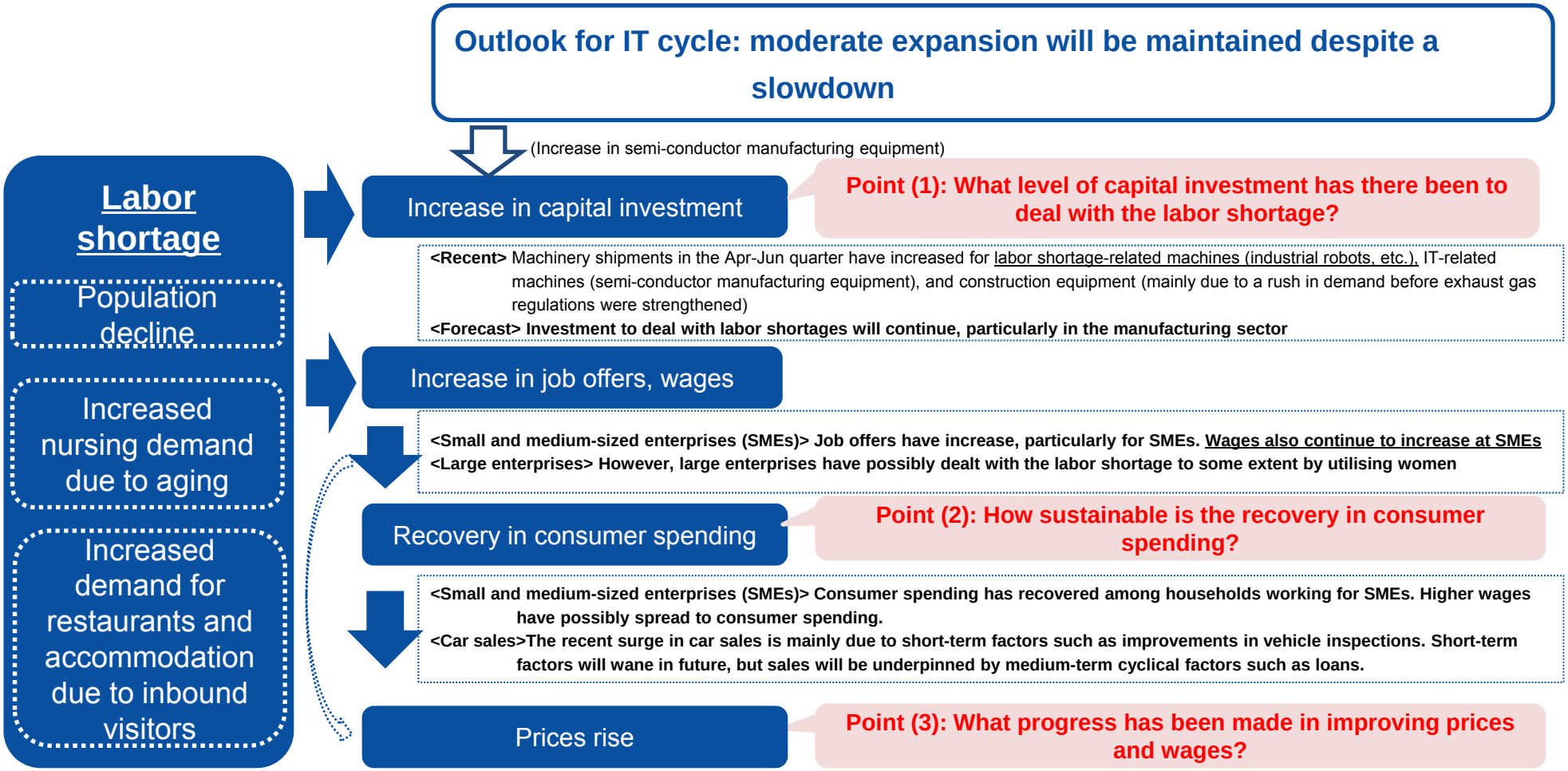
[Level of contribution by factor to the indices of industrial production (model base contribution)]



Note: 3-quarter backward moving average base. The factor contribution to the structural shock for each factor on the y-o-y change for production (Japan) was calculated using a dynamic factor model (a hybrid with FAVAR) that includes factors such as the global economy (mainly Europe), the US economy, the Chinese economy, the Japanese economy, and other factors.

Source: Made by MHRI based upon CEIC, INDB and CPB, etc.

Key points in our outlook on Japan: is there a virtuous cycle of domestic demand recovery leading to higher prices?

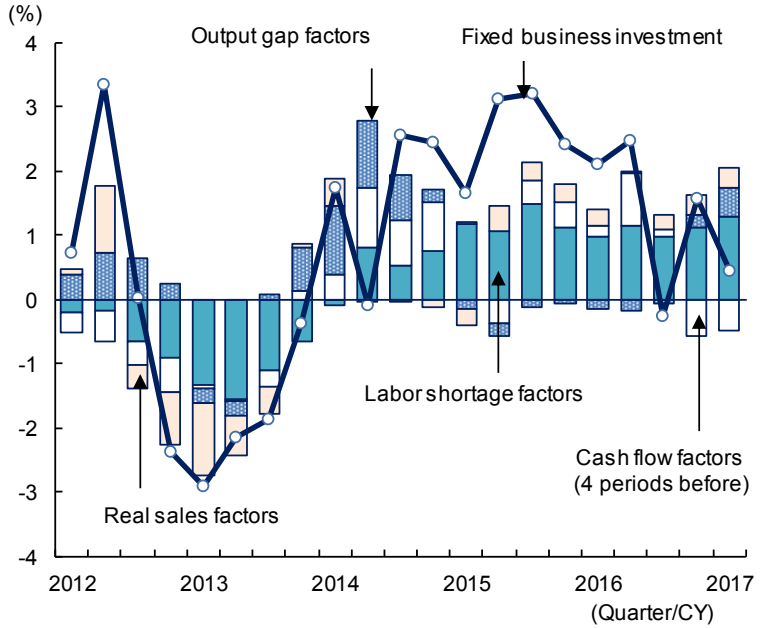


Source: Made by MHRI

Point (1): What level of capital investment has there been to deal with the labor shortage?

- Shipment of capital goods in the Apr-Jun quarter were boosted labor shortage-related equipment (industrial robots, etc.), IT-related equipment (semi-conductor manufacturing equipment), and construction equipment (mainly due to a rush in demand before exhaust gas regulations were strengthened).
- We forecast a counter-reaction for construction equipment, but labor shortage related investment should be firm.
  - Quantitatively, Japan's labor shortage will boost fixed business investment in the manufacturing sector in particular.
  - Fixed business investment in 2017 and 2018 will record increases in equipment investment because of the recovery in overseas economies and need for labor-saving machinery & equipment, while intellectual property such as R&D will also be firm.

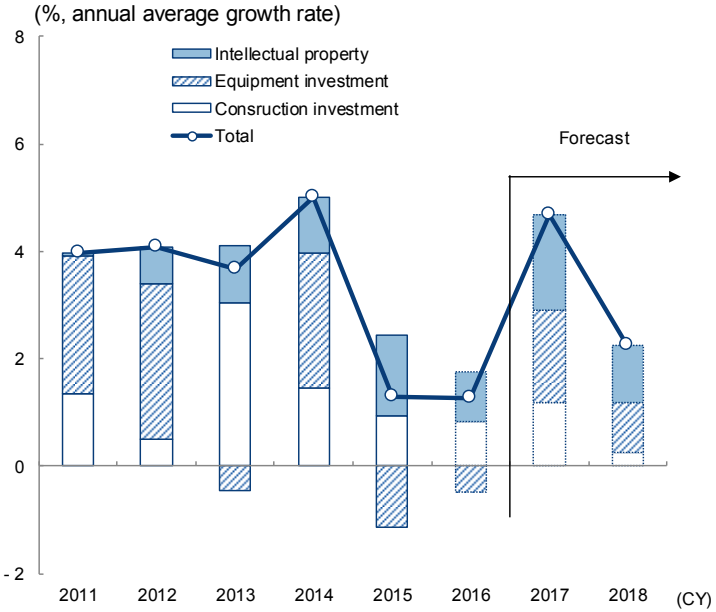
[Factor contribution to fixed business investment (manufacturing)]



Note: Fixed business investment (difference) regresses towards the Employment Conditions DI (level and difference), cash flow (difference), output gap (difference), and real sales (difference) and these estimates were used to calculate the factor contribution.

Source: Made by Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Quarterly,* Bank of Japan, *Short-Term Economic Survey of Enterprises in Japan (Tankan), Output Gap and Potential Growth Rate*

[Outlook on fixed business investment (CY base)]



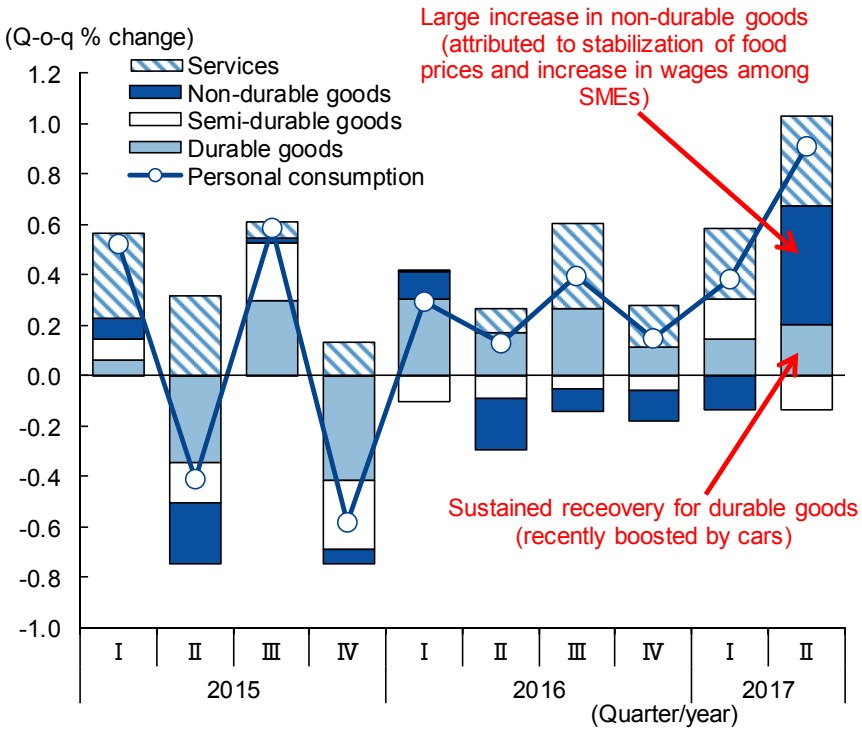
Note: 1. Fixed business investment details are only released on a calendar year base, so this chart presents the calendar year base figures.
2. Intellectual property refers to software investment and R&D, etc.

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

Point (2): How sustainable is the recovery in consumer spending? – car sales remain firm after peaking out

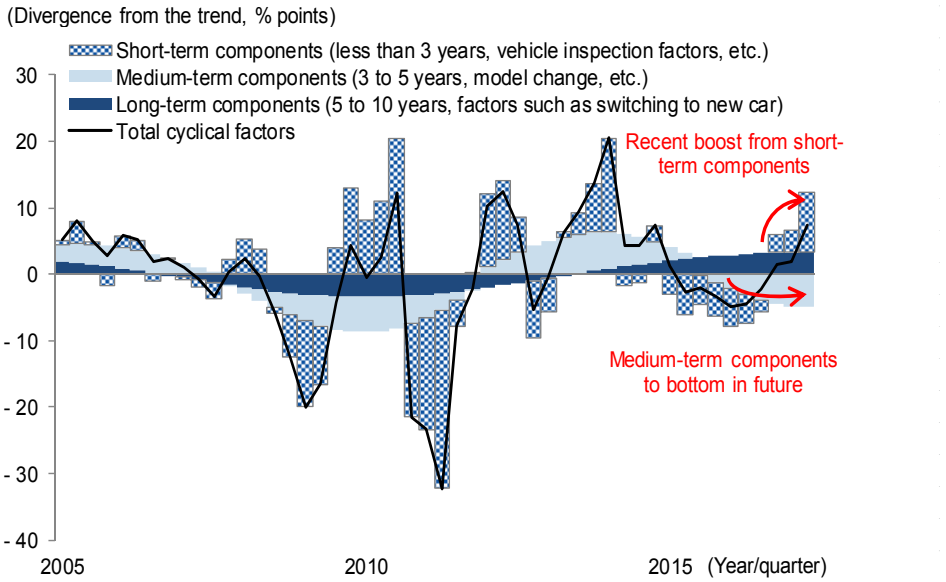
- In the Apr-Jun quarter, personal consumption was boosted by the sustained recovery in durable goods and upturn in non-durable goods.
- In terms of durable goods, industry statistics indicate a substantial increase in new car sales of +8.0% q-o-q, which lifted personal consumption.
  - The pace of increase in car sales is thought to have peaked, but forecast to remain firm.
  - The recent surge in car sales is mainly due to short-term factors such as improvements in vehicle inspections. Even though short-term factors will fade (July car sales have already fallen, suggesting that the market has peaked out), sales will be underpinned by medium-term cyclical factors such as model changes.

[Factor contribution by form of consumption expenditures]



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

[Factor contribution to number of new car sales by period (Wavelet frequency analysis)]



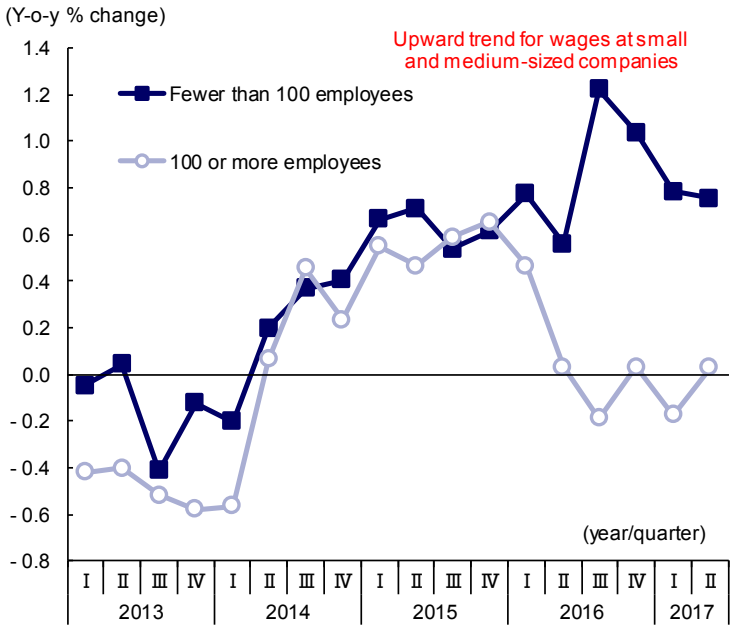
Note: 1. Total of ordinary, compact and mini vehicles
2. Seasonally-adjusted by MHRI

Source: Made by MHRI based upon Japan Automobile Dealers Association, Japan Light Motor Vehicle and Motorcycle Association

Point (2): How sustainable is the recovery in consumer spending? – signs of virtuous cycle by households working for SMEs due to SME's wage increase

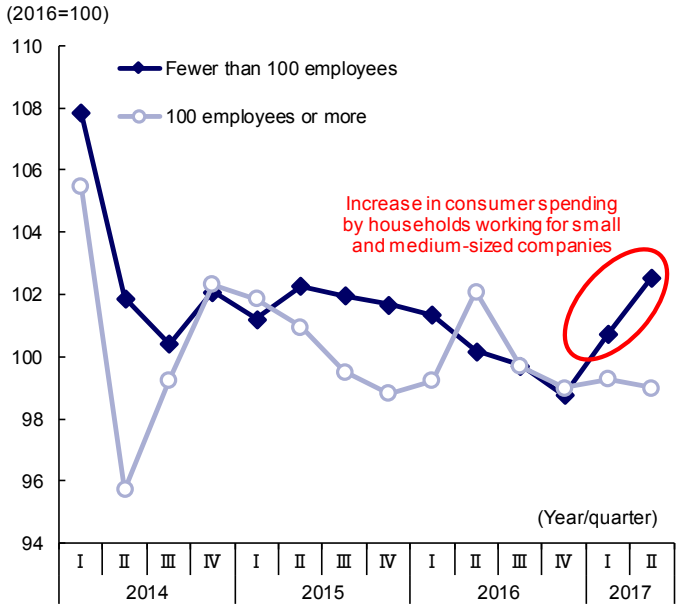
- The increase in wages at SMEs could be linked to the recovery in personal consumption.
  - Wages are rising at SMEs due to the tight labor market.
  - Consumption (in real terms) by households working for SMEs (fewer than 100 employees) is recovering . The ongoing increase in scheduled cash earnings at SMEs may have boosted consumption.
- However, although wages at large enterprises increased due to factors such as the Abe administration's calls for wage increases in 2014 to 2015, wage growth has been sluggish since 2016.
  - The increase in job offers at large enterprises has also been small. Companies have managed to deal with the labor shortage to a certain degree by internal reallocation of positions and by utilizing women.

[Scheduled cash earnings (full-time) by size of enterprise]



Source: Made by MHRI based upon Ministry of Health, Labour and Welfare, *Monthly Labor Survey*

[Consumer spending by size of place of work]

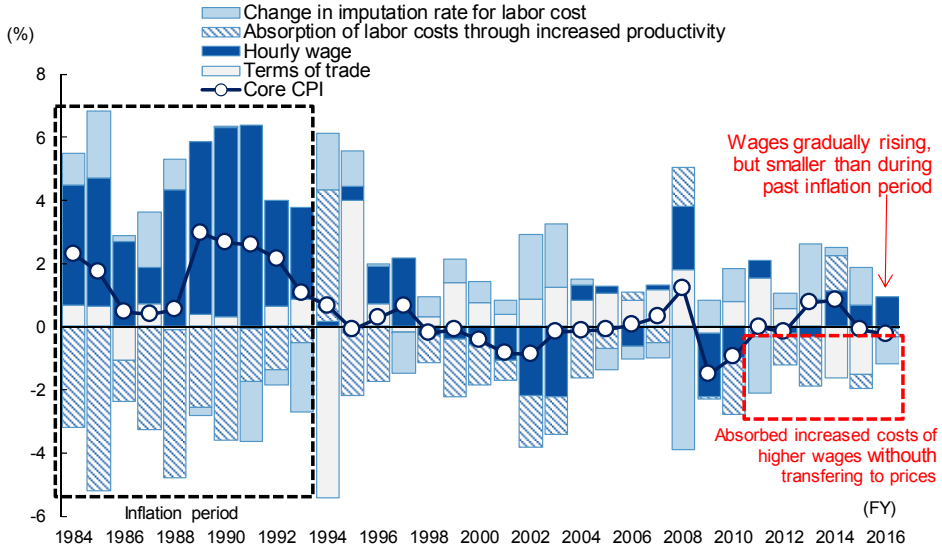


Note: Converted to real terms and adjusted for seasonal factors by MHRI
Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*

Point (3): What progress has been made in improving prices and wages? – wages rising gradually, but still lacking strength

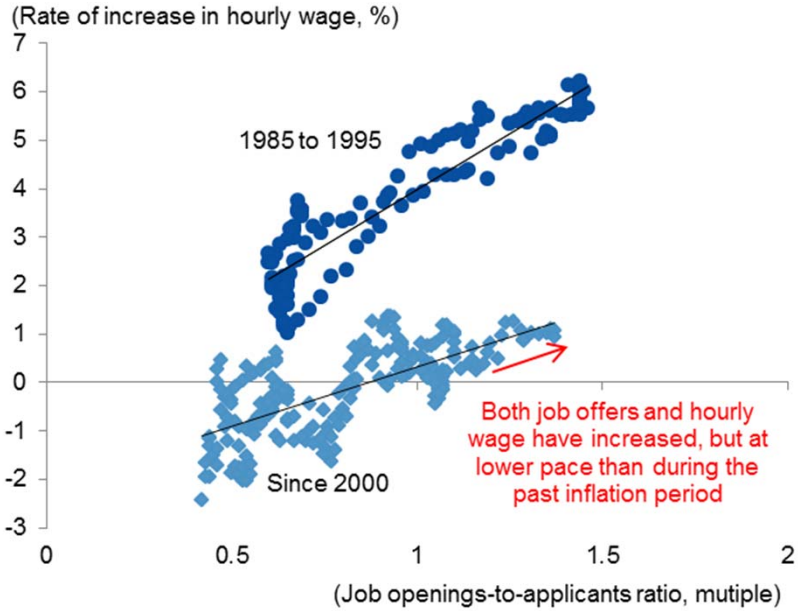
- Even though wages have been rising gradually, the rise lacks the strength to push up prices when compared to the bubble period.
  - Wage growth has turned positive y-o-y since FY2014, but it remains small. Considering that the labor shortage is on a par with the bubble period, the pace of wage rise lacks strength.
  - The pace of wage rise is within the scope that can be absorbed by increased productivity and improvements in the terms of trade. The rise is not being passed on to prices.

[Factor contribution to core CPI]



Note: 1. Factor contribution calculated based on the following equation
CPI = (CPI/ GDP deflator) x hourly wage x (1/labor distribution rate) x (1/labor productivity)
terms of trade factors *change in imputation rate for labor cost* *absorption through increased productivity*
2. Calculated using 2005 standard GDP up until FY1993, and 2011 standard GDP from FY1994. Prices are the 2015 standard core CPI adjusted for consumption tax (adjusted for consumption tax increases in 1997 and 2014)
Source: Made by MHRI based upon Cabinet Office, Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare

[Job openings-to-applicants ratio and rate of increase in hourly wages]

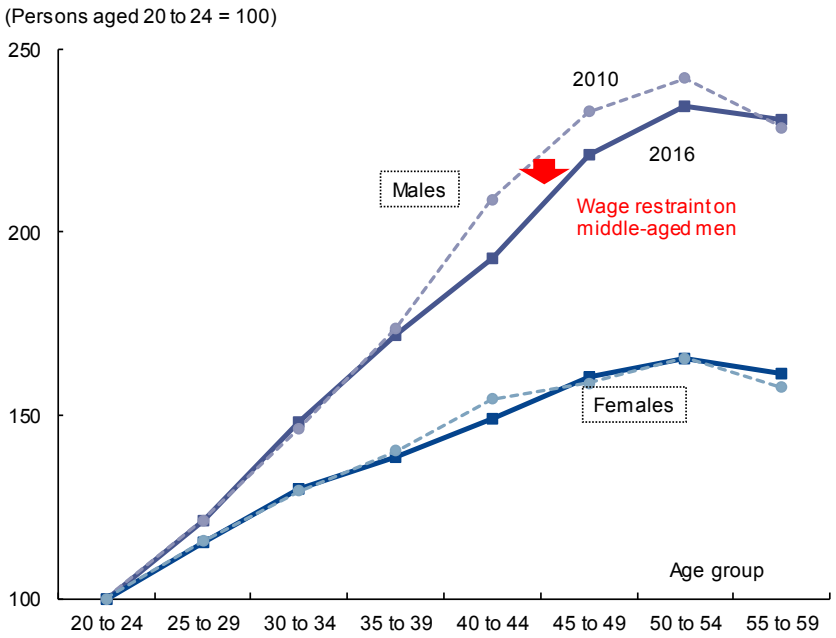


Note: Hourly wage is the 12-month moving average of the y-o-y change in the total cash earnings/total hours worked for all workers at firms with 30 or more employees. The lag from active job openings-to-applicants ratio to hourly wage is set at about 9 months (the number of hours lag is also set at a high level of correlation)
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare *Employment Security Bureau Report on Employment Service, Monthly Labour Statistics*

Point (3): Prices and wages – unique Japanese factors holding back wage rises even with the labor shortage

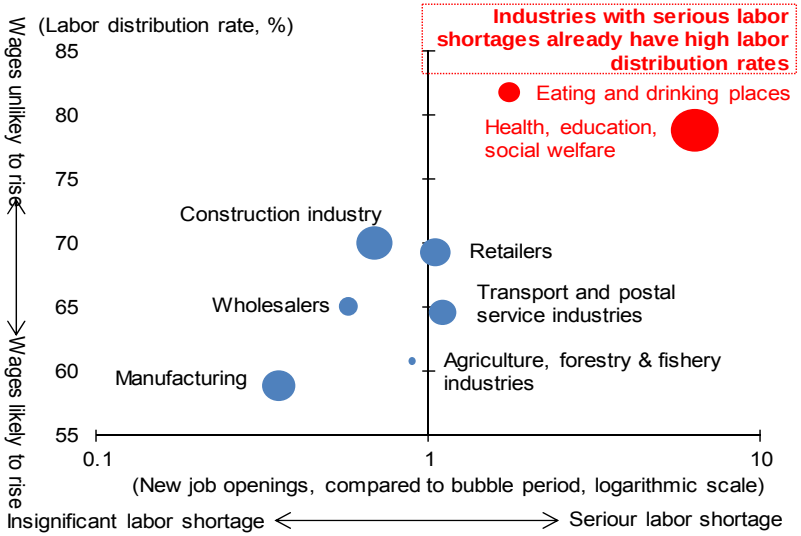
- The structural changes due to the aging society are holding back wage rises even with the labor shortage.
  - Companies have suppressed the wage curve for middle and old age men to deal with the rise of the retirement age (delaying retirement, reemployment), which is holding back wage rises even with the labor shortage.
  - The labor distribution rate is high in industries where demand for labor is rising, so it is hard to implement large wage increases to solve the labor shortage.
    - ✓ Labor shortages are pronounced in industries with high labor distribution rates such as health, education, social welfare (such as nursing care) and eating and drinking establishments.

[Wage curves by gender]



Note: Indexed taking the scheduled cash earnings of persons aged 20 to 24 as 100. The solid lines show 2016 and the dotted lines show 2010.
Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Basic Survey on Wage Structure*

[Number of new job openings to applicants by industry (compared to the bubble period) and labor distribution rate]

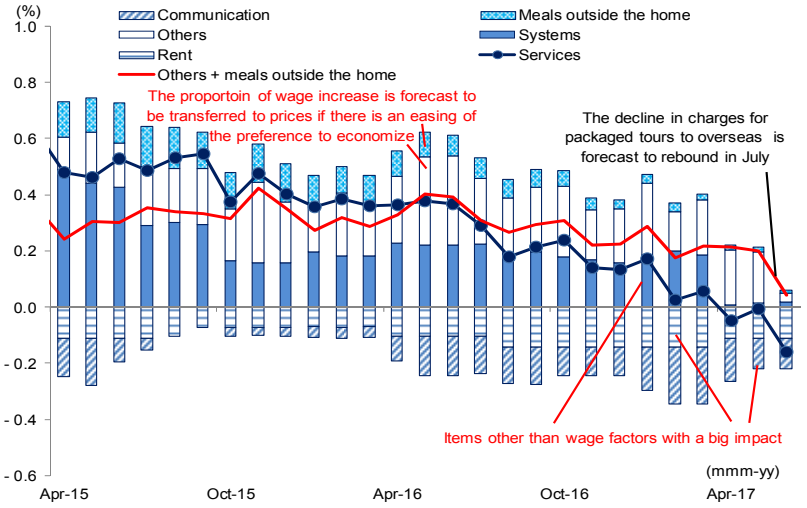


Note: The change in industry categories due to the change in industry classification has been adjusted by MHRI. The size of the circles is relative to the average number of new job openings to applicants for all industries from 2013 to 2016
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare *Employment Referrals for General Workers, and* Ministry of Finance, *Financial Statements Statistics of Corporations by Industry*

Point (3): Prices and wages – even if wages rise there is a bottle neck preventing the transfer to prices

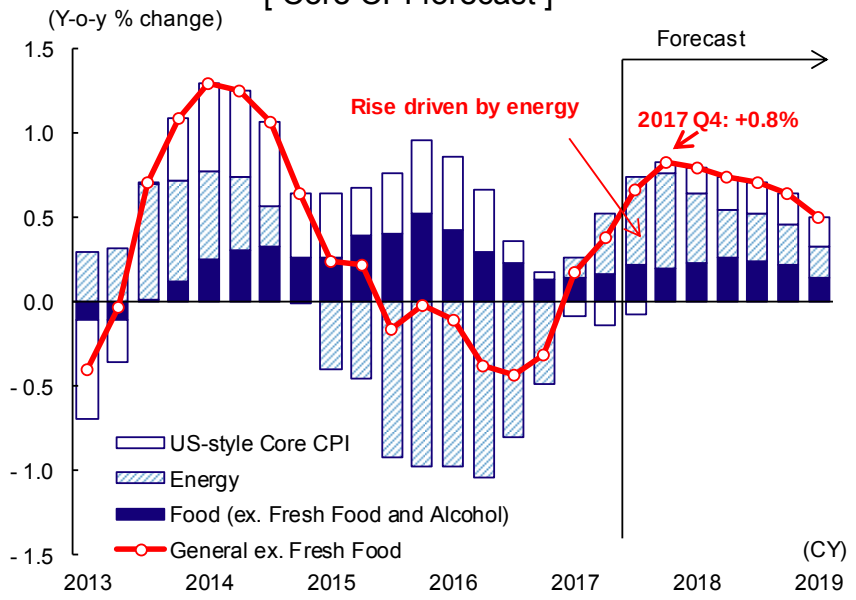
- For communications costs, rent and items for which prices are determined systematically, any wage rise is unlikely to be passed onto prices.
  - We expect that wage rises will be passed onto prices for some items as the preference towards economizing eases. However, even if wages rise, it is unlikely to be passed onto prices for communications costs, rent and items for which prices are determined systematically. Therefore, the upward pressure on overall services prices will be limited.
- The rise in energy prices will push up core CPI to just under 1% in the second half of 2017. However, the improvement in US-style Core CPI will be moderate.
  - A small downward revision from the June forecast. The downward revision is attributed to factors such as lower service prices, and changes in the predicted price of crude oil and foreign exchange rates.
    - ✓ We forecast Core CPI of +0.7% y-o-y in FY2017 (c.f., June forecast of +0.8%), and +0.7% in FY2018 (c.f., June forecast of +0.7%).

[Factor contribution to service price]



Note: The main items for system factors and other factors are as follows.
System factors: insurance premiums, administrative related charges, school fees, transportation fares, and medical treatment, etc.
Other factors: domestic services, and recreational services such as charges for tours, etc.
Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Consumer Price Index*

[Core CPI forecast]



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

BOJ: policy to be left unchanged. Benefiting from the monetary policy differences with the US and Europe

- We expect current policy to be maintained for the foreseeable future. The BOJ will pay close attention to overseas conditions and price trends following improvements in the output gap. While the assessment is that the "momentum" towards the price stability target is being maintained, the forecast timing to achieve the target could be further delayed from about FY2019.
- The post of BOJ Governor, when Governor Kuroda's current term of office expires in April 2018, is gaining attention. The strategy is to maintain the monetary policy differences as the US and Europe head towards the exit as long as possible while there is a virtuous cycle of a weak yen.

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

(Y-o-y % change)

	Real GDP	CPI (All iems less fresh food)	
			Excluding the effects of the consumption tax hike
FY2017	+1.5 to +1.8 (+1.8)	+0.5 to +1.3 (+1.1)	
Forecast made in April 2017	+1.4 to +1.6 (+1.6)	+0.6 to +1.6 (+1.4)	
FY2018	+1.1 to +1.5 (+1.4)	+0.8 to +1.6 (+1.5)	
Forecast made in April 2017	+1.1 to +1.3 (+1.3)	+0.8 to +1.9 (+1.7)	
FY2019	+0.7 to +0.8 (+0.7)	+1.4 to +2.5 (+2.3)	+0.9 to +2.0 (+1.8)
Forecast made in April 2017	+0.6 to +0.7 (+0.7)	+1.4 to +2.5 (+2.4)	+0.9 to +2.0 (+1.9)

Note: Forecasts of the Majority of Policy Board Members. Figures in parentheses indicate the median of the Policy Board members' forecasts (point estimates)

Source: Made by MHRI based upon Bank of Japan materials

[BOJ Policy Board Members and their terms of office]

		Previous position	Term of Office Ends (5 year term)
Governor	Haruhiko Kuroda	Asian Development Bank, President	Apr-2018
Deputy Governor	Kikuo Iwata	Gakushuin University, Professor	Mar-2018
	Hiroshi Nakaso	Bank of Japan, Executive Director	Mar-2018
Policy Board Member	Yutaka Harada	Waseda University, Professor	Mar-2020
	Yukitoshi Funo	Toyota Motor Corporation, Senior Advisor	Jun-2020
	Makoto Sakurai	Sakurai & Associates International Finance Research Center, President	Mar-2021
	Takako Masai	Shinsei Bank, Executive Officer, General Manager of Financial Research Division	Jun-2021
	Hitoshi Suzuki	Bank of Tokyo-Mitsubishi UFJ, Advisor	Jul-2022
	Goushi Kataoka	Mitsubishi UFJ Research and Consulting Co., Ltd., Senior Economist	Jul-2022

Source: Made by MHRI based upon Bank of Japan materials

III. The Asian Economies

Growth rate in the overall Asian economies to be flat through 2018

The Asian Economies: growth rate to be flat overall through 2018

- China maintained the same high growth rate as the previous quarter in the Apr-Jun quarter of 2017, with ongoing recovery since the second half of 2016. The increase in inventories played a considerable part in lifting the growth rate.

- We forecast downward pressure on the Chinese economy due to cyclical inventory adjustment pressures, the negative impact of reforms upon structural excessive production capacity and excessive debt, and tighter financial regulatory oversight to prevent financial risk. On the other hand, as the government will curb rapid adjustments and excessive tightening, the decline in the growth rate will be gradual.

- There was a clear polarization within the Asian economies (ex. China) between countries experiencing acceleration and slowdown in the Apr-Jun quarter. While the recovery thus far has been driven mainly by exports, the slowdown of South Korea and Taiwan, both heavily dependent upon IT, signal a peak-out of the IT cycle.

- In terms of the outlook for Asian economies (ex. China), although export growth will be sluggish due to the slowdown of the Chinese economy and the peak-out of the IT cycle, we expect these economies will be underpinned by exports to the US and Europe, which are expected to follow an economic recovery. Price stability will have a positive impact on consumption in ASEAN 5 and India. Although we expect a temporary slowdown of the Indian economy due to special factors, the economy should accelerate from 2018.

- Looking forward, the growth rate for Asia as a whole should flatten out in 2018 despite a gradual slowdown of the Chinese economy due to a slight acceleration of other countries.

Asia: other countries will offset China's slowdown

- Although the Chinese economy will be subject to downward pressures due to cyclical inventory adjustment pressures, adjustment pressures upon structural excessive production capacity and excessive debt, and tighter financial regulatory oversight to prevent financial risk, China's slowdown should turn out to be mild as the government refrains from rapid adjustments and tightening.
- Although NIEs will see a slowdown in exports particularly to China and for IT related goods, NIEs countries will be underpinned by exports to the US and Europe, and the decline in the growth rate will be small.
- ASEAN5 will maintain a certain degree of export growth, particularly to the US and China, domestic demand will also expand due to price stability, and economic growth will gradually accelerate.
- The Indian economy will temporarily slow in 2017 due to factors such as the abolition of high-denomination bank notes at the end of the previous year, but accelerate in 2018.

[Outlook on the Asian economies]

	2014 (Actual) (%)	2015 (Actual) (%)	2016 (Actual) (%)	2017 (Forecast) (%)	2018 (Forecast) (%)	2017 (Previous: June forecast) (%)	2018 (Previous: June forecast) (%)	2017 (Change from June forecast) (% points)	2018 (Change from June forecast) (% points)
Asia	6.4	6.2	6.2	6.1	6.1	6.1	6.1	-	-
China	7.3	6.9	6.7	6.8	6.4	6.6	6.4	0.2	-
NIEs	3.5	2.0	2.3	2.6	2.4	2.5	2.5	0.1	- 0.1
South Korea	3.3	2.8	2.8	2.8	2.7	2.7	2.8	0.1	- 0.1
Taiwan	4.0	0.7	1.5	2.1	2.0	2.3	2.3	- 0.2	- 0.3
Hong Kong	2.8	2.4	2.0	3.4	1.4	2.7	1.4	0.7	-
Singapore	3.6	1.9	2.0	2.6	2.5	2.5	2.5	0.1	-
ASEAN5	4.6	4.8	4.9	5.0	5.1	5.0	5.1	-	-
Indoensia	5.0	4.9	5.0	5.1	5.2	5.1	5.2	-	-
Thailand	0.9	2.9	3.2	3.3	3.2	3.3	3.2	-	-
Malaysia	6.0	5.0	4.2	5.0	5.0	5.0	5.0	-	-
The Philippines	6.1	6.1	6.9	6.3	6.6	6.3	6.6	-	-
Vietnam	6.0	6.7	6.2	6.3	6.4	6.1	6.4	0.2	-
India	7.0	7.5	7.9	7.1	7.5	7.1	7.5	-	-
Australia	2.8	2.4	2.4	2.2	2.8	2.2	2.8	-	-
(Reference) Asia ex. China and India	4.1	3.7	3.9	4.1	4.1	4.0	4.1	0.1	-
(Reference) Asia ex. China	5.4	5.4	5.7	5.5	5.7	5.4	5.7	0.1	-

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: the decline in exports to China and of IT related goods will be mitigated by exports to the US and Europe. Consumption conditions will improve with price stability.

- There were clear differences between countries experiencing acceleration and slowdown in the Apr-Jun quarter of 2017.
  - Singapore, Vietnam and Hong Kong accelerated, China and Indonesia were flat, and South Korea and Taiwan slowed as IT exports paused.
- Exports, which have led the upturn of the Asian economies, will slow down mainly with respect to exports to China and IT, but will be underpinned by exports to the US and Europe.
  - The environment for consumer spending will improve, with price stability such as lower inflation rates in India, Vietnam, Malaysia and Thailand, and a pause in the upward trend in Indonesia and the Philippines.
    - ✓ The bad weather factors have run their course, and we expect domestic currencies of emerging market countries and oil prices to remain steady. We also expect inflation risks to fall.

[Real GDP growth (quarterly)]

(Q-o-q % change, annualized)

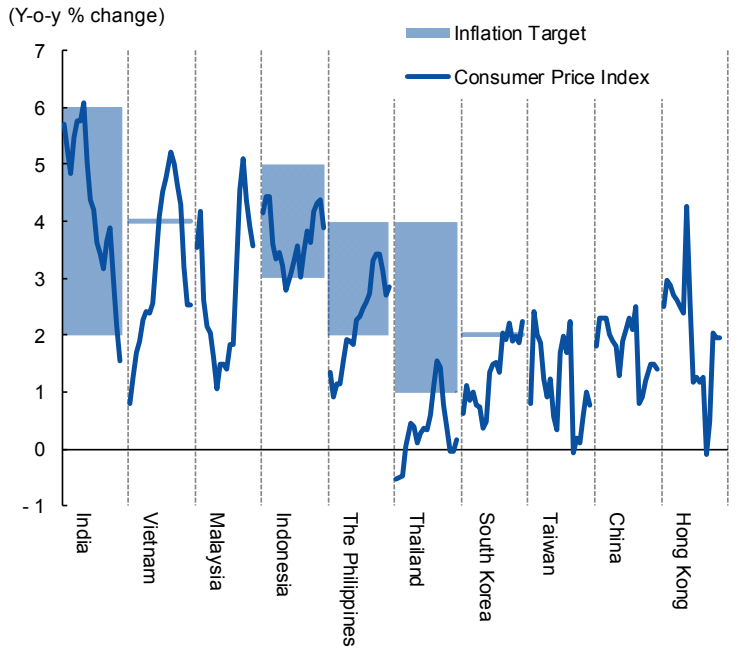
	2016				2017	
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
South Korea	2.0	3.7	1.9	2.0	4.3	2.4
Taiwan	4.8	1.4	3.1	1.4	3.8	0.6
Hong Kong	- 1.2	6.0	3.2	5.0	2.8	4.1
Singapore	- 0.5	0.8	- 0.4	12.3	- 2.1	2.2
Thailand	3.9	4.3	1.7	2.1	5.2	N.A.
Malaysia	3.1	4.3	5.7	5.1	7.5	N.A.
The Philippines	5.6	7.9	6.0	7.3	4.3	N.A.

(Y-o-y % change)

China	6.7	6.7	6.7	6.8	6.9	6.9
Indonesia	4.9	5.2	5.0	4.9	5.0	5.0
Vietnam	5.5	5.8	6.6	6.7	5.2	6.2
India	9.1	7.9	7.5	7.0	6.1	N.A.

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

[Inflation rates (Jan-2016 to Jun-2017)]



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

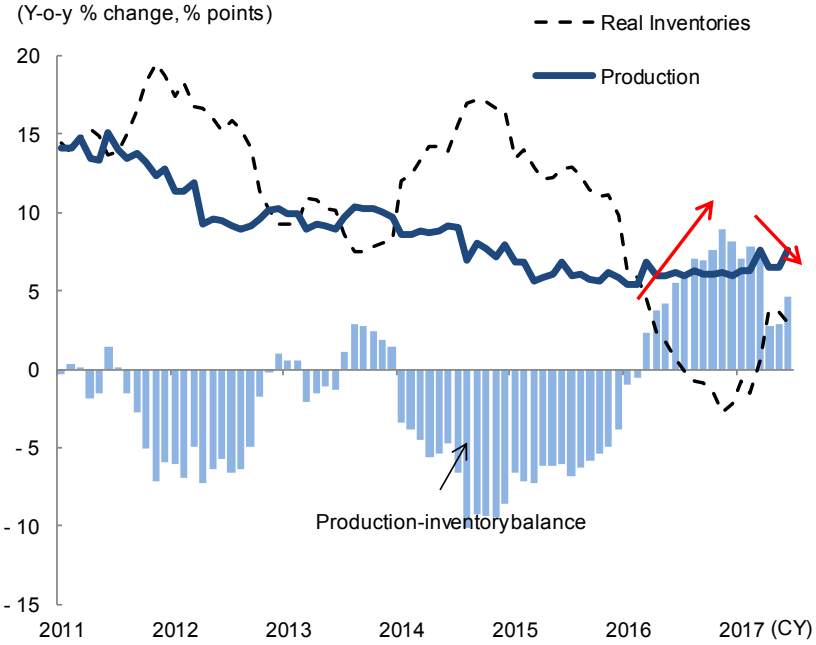
China: the recovery continues in the first half of 2017, but the economy is likely to slow due to inventory adjustments etc.

- The sense of recovery has intensified since the second half of 2016, and the Apr-Jun growth rate remained high at +6.9% y-o-y.
  - This is attributed to expansion of policy focus areas such as the high-tech sector, and the increased demand for labor savings investment. The industrial sector appears to have been the driver. The Li Keqiang Index, which indicates the trends in the industrial sector, is at high levels but recently appears to have peaked out.
- The production-inventory balance has been contracting since peaking at the end of 2016, and we expect a shift into an inventory adjustment phase in 2018.
  - The inventory build-up in areas such as cars, electronic equipment, and communications, has led to a sharp contraction in the positive production-inventory balance since April.

[Rate of growth in real GDP and the Li Keqiang Index]

Note: Li Keqiang index is a composite index of three equally-weighted factors: the y-o-y growth rate in the 3-moving average of China's financial institution long-term loan balance, electricity production and railway freight volume.
Source: Made by MHRI based upon the People's Bank of China, China Electric Power Enterprise Federation, National Bureau of Statistics China, China Railway Corporation and the National Railway Administration China

[Production-inventory balance]

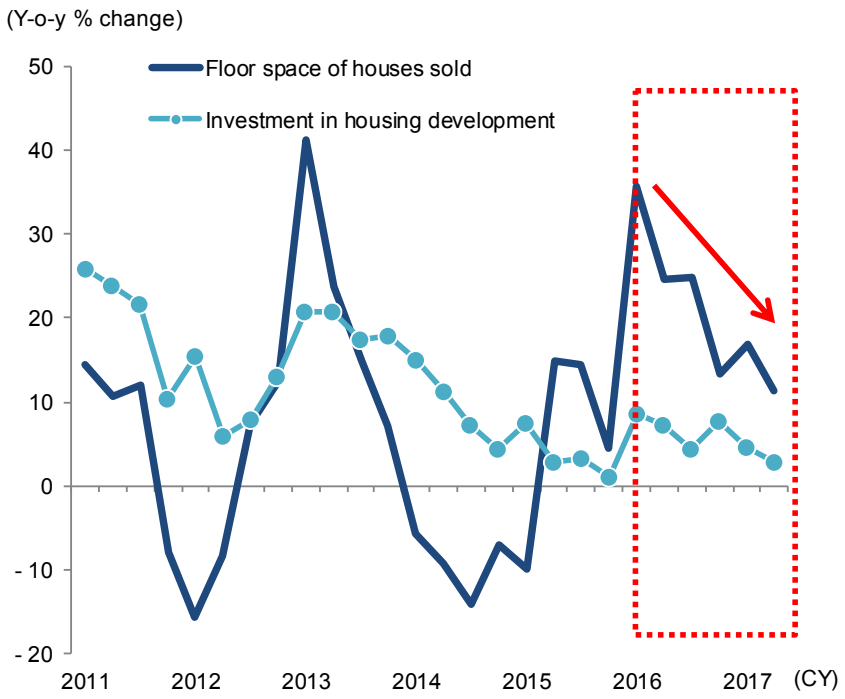


Note: The production – inventory balance = production (y-o-y) minus inventory (y-o-y). Inventory is converted into real terms using PPI
Source: Made by MHRI based upon National Bureau of Statistics China

China: the impact of the policy to curb real estate investment is gradually becoming evident

- Stronger regulations to curb housing investment in September to October 2016 and about March 2017 has led to sluggish growth in both housing sales and (real) investment in housing development.
- Looking at price by city, growth is sluggish in Tier 1 and Tier 2 cities, which face increased tightening, whereas growth in Tier 3 cities, where there are inventories, has accelerated. The policy to curb investment and eliminate inventories appears to be successful.

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



Note: Investment in housing development is converted into real terms using the fixed asset investment price index (construction)
Source: Made by MHRI based upon National Bureau of Statistics China and CEIC Data

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

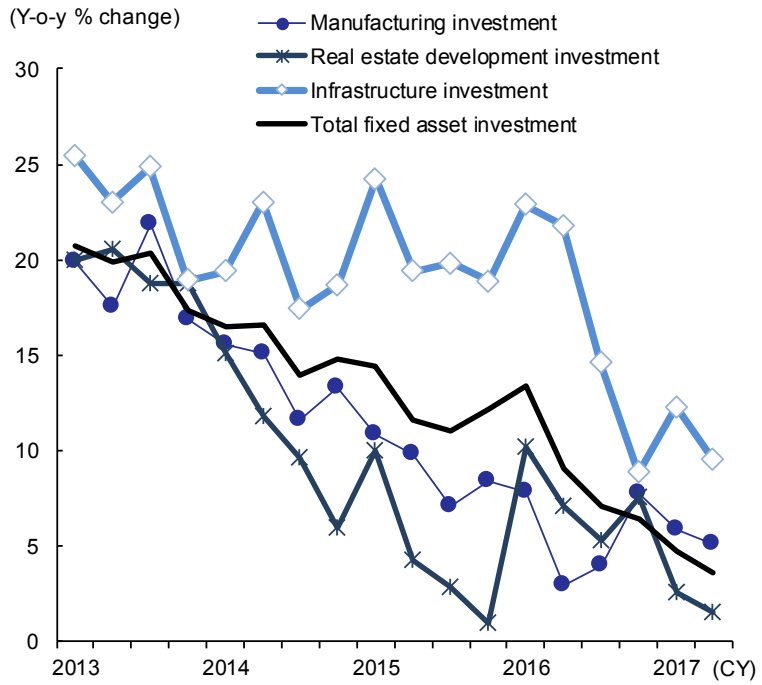
Heat Map				
	Housing policy stance	New house sales price for 70 cities		
		Tier 1 Cities	Tier 2 Cities	Tier 3 Cities
		(Y-o-y % change)	(Y-o-y % change)	(Y-o-y % change)
Jun-15	Accommodative	3.1	-5.3	-6.5
Jul-2015	Accommodative	6.9	-4.2	-5.9
Aug-2015	Accommodative	10.5	-3.0	-4.9
Sep-2015	Accommodative	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

Note: Investment in housing development is converted into real terms using the fixed asset investment price index (construction)
Source: Made by MHRI based upon National Bureau of Statistics China

China: no signs of improvement in capital efficiency, and future investment will need to be suppressed

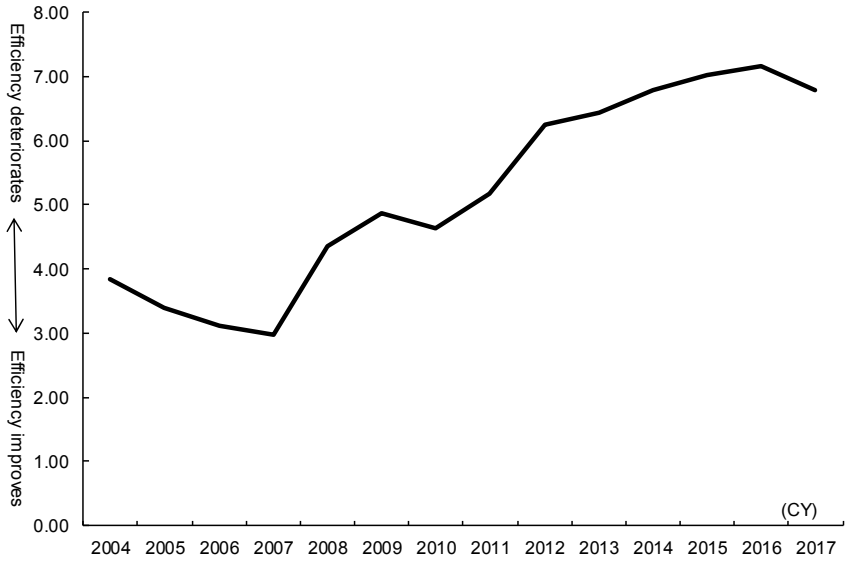
- Investment in fixed assets continued to decline on a real basis, but growth in infrastructure investment remains high.
  - Manufacturers, which have made progress in deleveraging, particularly in basic materials, continue to curb investment. The growth in infrastructure investment also fell after peaking in the first half of 2016, but it still remains at close to 10% on a real basis and is mitigating the downward pressure on the economy.
- Capital efficiency has not notably improved, with substantial deterioration since 2008. Capital efficiency still needs to improve.
  - The marginal capital coefficient surged with the 4 trillion renminbi in economic stimulus measures following the Lehman Shock, and although finally falling in 2017, it remains at high levels.

[Investment in fixed assets by industry (real)]



Note: Made real using the fixed asset investment price index
Source: Made by MHRI based upon National Bureau of Statistics China

[Capital efficiency (marginal capital coefficient calculation)]

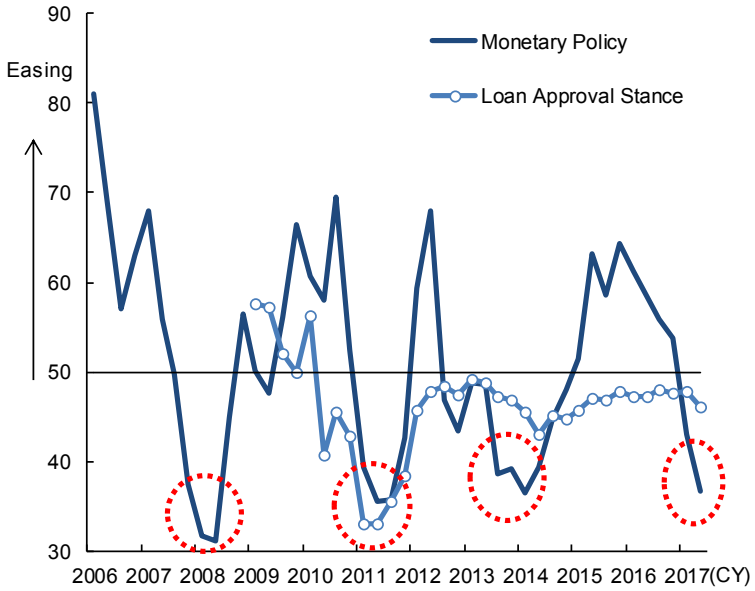


Note: 1. Marginal capital coefficient = ΔK/ ΔY. ΔK is the y-o-y difference in total capital formation (made real using the fixed asset price index), ΔY is the y-o-y difference in real GDP (created from the 2015 nominal figure and the real growth rate)
2. 2017 is calculated by multiplying the y-o-y change for January to June by the 2016 figure.
Source: Made by MHRI based upon National Bureau of Statistics China

China: stronger financial supervision was reconfirmed at the National Financial Workers Conference

- The Chinese government has maintained a slogan of prudent monetary policy, but monetary policy is shifting towards a more 'neutral' stance.
  - Apart from fostering higher short-term interest rates, strong interbank trading regulations and other measures have tightened the funding conditions for companies.
- At the National Financial Workers Conference ("NFWC") in July, there was a proposal that finance should serve the real economy together with policies to prevent financial risk. This will slow down investment.
  - In terms of risk prevention, the NFWC decided upon the following: facilitate the steady disposal of zombie companies in a bid to achieve the ultimate task to deleverage state-owned companies, curb the expansion of local government debt, and establish a cabinet committee on financial stability under the State Council to correct the administrative sectionalism in supervision of banks, securities companies and insurance companies.

[Bankers confidence index]



Note: Weighted average with the monetary policy index taking an 'easing' as 100 and 'neutral' as 50, and the loan approval index taking 'easing' as 100,and 'no change' as 50

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

[Four major principles of the National Financial Workers Conference]

① Return to the basic principle
・Finance should serve economic and social development

② Optimize the structure
・Improve the financial market and financial products

③ Strengthen supervision
・Deleveraging state-owned companies is the most important issue
・Control local government debt growth and strengthen responsibilities to deal with risks
・Establish a cabinet committee on financial stability under the State Council
・The central bank to play a stronger role in macro prudential management and guarding against systemic risks

④ Follow market rules
・Further open up its financial markets, promoting internationalization of the renminbi, and liberalization of capital transactions, etc.

Source: Made by MHRI based upon Xinhua website (July 15, 2017)

China: further consolidation of Secretary-General Xi's authority ahead of the 19th National Congress of the CPC

- Close allies of Secretary-General Xi are gradually being appointed to important posts. There are signs of further consolidation of power, which is likely to be conducive to making reforms.
  - Secretary-General Xi was conferred with the status of "core" of the Communist Party of China (CPC) at the sixth plenary session of the Central Committee (October 2016), which had previously only been conferred on Mao Zedong, Deng Xiaoping and Jiang Zemin.
  - Chongqing city's top official, Sun Zhengcai, was dismissed (July 2017) and succeeded by Xi's trusted friend Chen Min'er
  - The post of Party Chairman, not used since Mao Zedong, is expected to be restored at the forthcoming National Congress, while actual extension of the retirement age is likely to be tested.

[Major personnel movements]

Current Position	Name	Age	Notes
Secretary-General (Head of State)	Xi Jinping	64	・Obtained the "Core" title ・Also forecast to propose the restoration of the post of "Chairman"
Members of the Standing Committee of the Central Political Bureau of the Communist Party of China (CPC) (Comprising 7 members including the Secretary-General)	Li Keqiang	62	・ Premier ・ Rumors of a possible change in leadership
	Wang Kishan	69	・Secretary-General Xi's right hand man to lead anti-corruption measures ・Also forecast to be appointed to a responsible position by delaying retirement
Members of the CPC Central Bureau Political Committee (Comprising 25 members including the Standing Committee Members)	Li Zhanshu	66	・ Reportedly one of Secretary-General Xi's closest aides ・ Could be promoted to the Standing Committee
	Wang Yang	62	・ A practical Vice Premier ・ Also forecast to be a candidate for Premier
	Ho Chunhua	54	・Head of Guangdong Province. Close Associate of former Head of State Hu Jintao who is post Xi generation ・Also forecast to be candidate for Standing Committee
Members of the CPC Central Committee (approximately 200 members)	Chen Min'er	56	・New post Xi generation star appointed head of Chongqing ・Certain to be promoted to the Central Bureau Political Committee, with some suggesting he could skip to the Standing Committee
Candidates for the CPC Central Committee (approximately 160)	—	—	—
General Members of the CPC (approximately 89 million)	Cai Qi	61	・ Promoted to head of Beijing (May 2017) ・ Xi is expected to select him for Central Bureau Political Committee
	Ying Yong	59	・ Promoted to No. 2 in Shanghai (January 2017) ・ Xi is likely to select him for Central Bureau Political Committee

Note: Shaded names are of persons considered to be close to the President.
Source: Made by MHRI based upon various media reports

[Moves to consolidate authority in President Xi Jinping]

○ Secretary-General Xi Jinping conferred with the status of "core" of the Communist Party of China at the sixth plenary session of the Central Committee (October 24-27, 2016)
・ Only 3 leaders in China's history have been referred to as the "Core": Mao Zedong, Deng Xiaoping, and Jiang Zemin

○ An announcement was made that Chongqing city's top official, Sun Zhengcai, is to be investigated on suspicion of serious violation of laws (July 2017). Mr. Sun was dismissed as Secretary of the Chongqing City Communist Party
・ He was succeeded by Chen Min'er, who is said to be a confidant of Head of State Xi

○ There are reports forecasting the submission of a plan for organizational reform with a newly appointed post of "Chairman of the Party's Central Committee (Party Chairman)" at the Beidaihe closed-door summit*
・ "Party Chairman" is a post that has only be held by Mao Zedong

○ Revising the usual custom of retiring after age 68 is also expected to be discussed at Beidaihe*
・ The proposal is thought to take account of retaining Wang Kishan (69) who is Xi's right hand man
・ It is also said to be strategic preparation to allow a third term for Xi, who will be 69 at the time of the next National Congress in 2022

(* A closed-door meeting of senior leaders of the Communist Party held from late July to early August each year to exchange views on important domestic and international issues with retired Party leaders.)

Source: Made by MHRI based upon various media reports

(Reference) Key political events

	2017		2018	
US	Oct	Beginning of 2018 accounting year	Feb	Fed Chair Yellen's term of office ends
	Oct-Nov*	Limit on how long US Treasury can delay before re-emergence of debt ceiling problem	Nov	Mid-term elections
Europe	Sep	General election (Germany)	H1	General elections (Italy)
Japan			Apr	BOJ Governor Kuroda's term of office ends
			Sep	LDP general election
			Dec*	Lower house members' terms of office end
			Year end	Emperor's abdication, New Emperor's enthronement (Possibly March 2019)
Asia	Autumn	19th National Congress of the Communist Party of China (China)	May*	Legislative election (Malaysia)
			Autumn	3rd Plenary Session of the CPC Central Committee (China)
			This year	General election (Thailand)
Other			Mar	Presidential election (Russia)
			July	Presidential election (Mexico)
			Oct	Presidential election (Brazil)

* Approximate date

Source: Made by MHRI