
FY2016, FY2017, FY2018 Economic Outlook

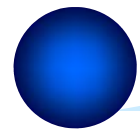
- While the global economy is on growth track, US policy agenda and European political developments are risk factors -

February 14, 2017

Mizuho Research Institute

Key points of our forecast

- ❑ The global economy is forecast to follow an expansion track in 2017 and 2018, driven by the recovery of the US economy and upturn of the commodity-producing economies.
- ❑ The current global economic recovery stems from (1) the improvement of the IT cycle, (2) the upturn of China's imports along with the recovery of its domestic demand, and (3) the rise of commodity prices.
- ❑ The sustainability of the expansion depends upon the direction of US policy measures and rests upon the premise that due fiscal expansion and deregulation are implemented.
- ❑ The pursuit of excessively protectionist policies would serve as downside risks to the global economy. "Border adjustment" by the US may have a negative impact upon the global economy via the decline of exports.
- ❑ Even though the US policy mix (fiscal expansion and interest rate hike) is a dollar-strengthening factor, an excessive strengthening of the dollar may lead to greater EM risks through capital flight and rise of interest rates.
- ❑ Given a number of key events such as the German and French elections and Brexit notification, European political developments also provide sources of concern.
- ❑ The Japanese economy will pick up in FY2017. The recovery of overseas economies, the improvement of the inventory cycle, and the implementation of public investment along with the economic stimulus measures will serve as positive factors. Japan's economic growth will continue in FY2018 as the driver of growth shifts from external to domestic demand.
- ❑ Japan's core inflation rate will rise to the 1%-level. However, 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 while gradually reducing the amount of government bond purchases.



I. The Global Economy

The global economy is growing

(1) Overview of the global economy: the global economy is projected to expand in 2017 and 2018

- While we expect higher growth rates in the forecast area in 2018, US policies and European political developments may cause swings.
 - We have upwardly revised our 2017 forecast for the global economy as a whole, particularly for the US and Eurozone, based on the recent strength of the economy.
 - We expect the pace of recovery in the global economy to accelerate for the second consecutive year in 2018 due to the recovery momentum being maintained in developed market (DM) countries and Asia, as well as the recovery in commodity-producing countries.

[Outlook on the global economy]

Calendar year	(Y-o-y % change)					(% point)			
	2014 (Actual)	2015 (Actual)	2016 (Actual)	2017 (Forecast)	2018 (Forecast)	2016 (Forecast in Dec)	2017	2016 (Breadth of change from Dec)	2017
Total of forecast area	3.6	3.4	3.3	3.8	3.9	3.3	3.7	-	0.1
Japan, US, Eurozone	1.6	2.2	1.6	1.9	1.9	1.5	1.7	0.1	0.2
US	2.4	2.6	1.6	2.3	2.3	1.6	2.2	-	0.1
Eurozone	1.2	2.0	1.7	1.5	1.6	1.6	1.3	0.1	0.2
Japan	0.3	1.2	1.0	1.3	1.4	1.0	1.1	-	0.2
Asia	6.4	6.1	6.0	6.0	6.1	6.0	6.0	-	-
China	7.3	6.9	6.7	6.5	6.4	6.7	6.5	-	-
NIEs	3.5	2.0	2.1	2.2	2.5	2.0	2.2	0.1	-
ASEAN5	4.6	4.8	4.9	4.9	5.0	4.8	4.7	0.1	0.2
India	7.0	7.2	7.0	7.5	7.5	7.0	7.6	-	-0.1
Australia	2.8	2.4	2.4	2.2	2.7	2.4	2.5	-	-0.3
Brazil	0.1	-3.8	-3.4	1.0	2.0	-3.4	1.0	-	-
Russia	0.7	-2.8	-0.2	1.0	1.5	-0.7	1.0	0.5	-
Japan (FY)	-0.4	1.3	1.2	1.4	1.3	1.2	1.2	-	0.2
Crude oil price (WTI, USD/bbl)	93	49	43	57	65	43	55	-	2

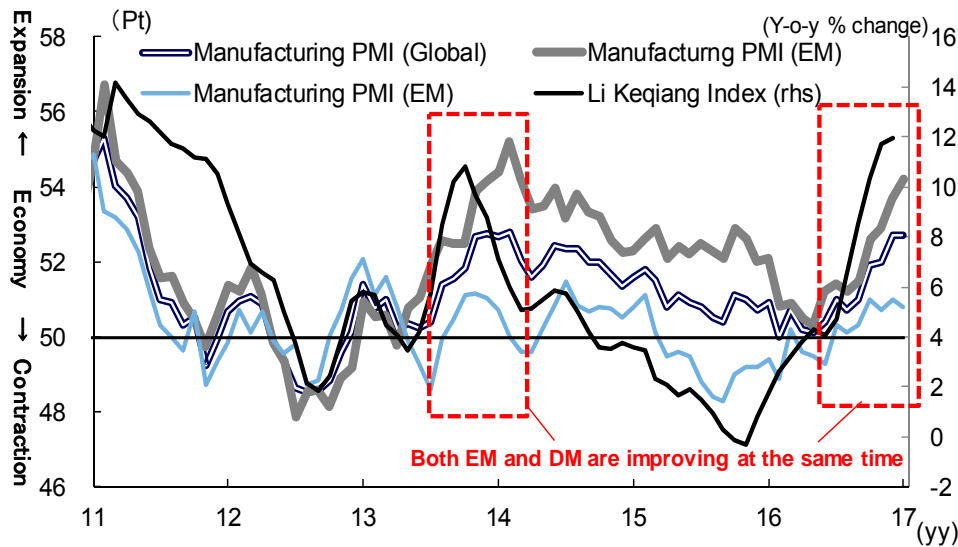
Note: The total of the forecast area is calculated upon the 2014 GDP share (PPP) by the IMF.

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 recovery is gaining momentum

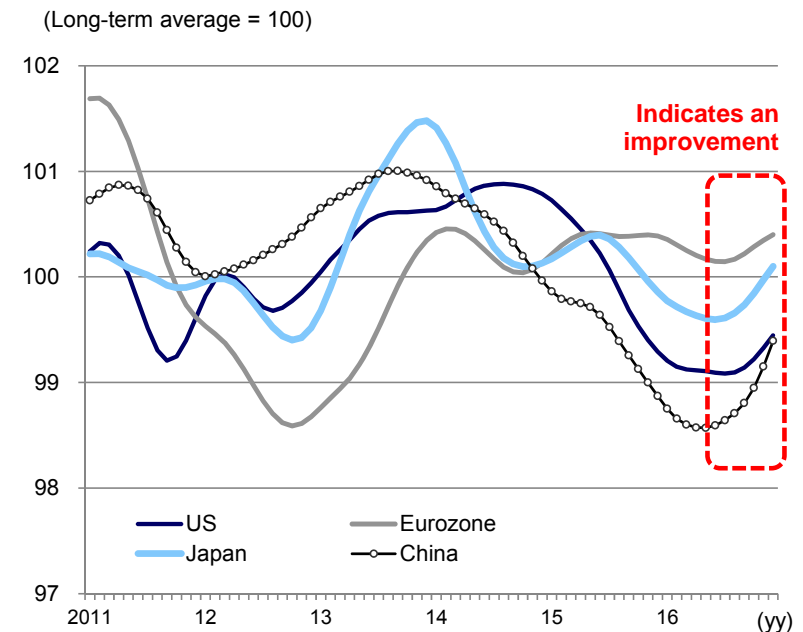
- Oct-Dec quarter real GDP growth rates indicate the overall global economy is firm.
 - Corporate business sentiment among manufacturers continues to improve on a global scale. The Global Manufacturing PMI recovered to the level last recorded in the first half of 2014.
 - The OECD Leading Indicators also point to an improvement going forward. The improvement should continue as long as risk factors such as the uncertainties regarding the Trump administration do not materialize. The global economy will be affected largely by China's economic recovery gauged by the Li Keqiang Index.

[The Global Manufacturing PMI and the Li Keqiang Index]



Source: Made by MHRI based upon Markit

[OECD Leading Indicators]

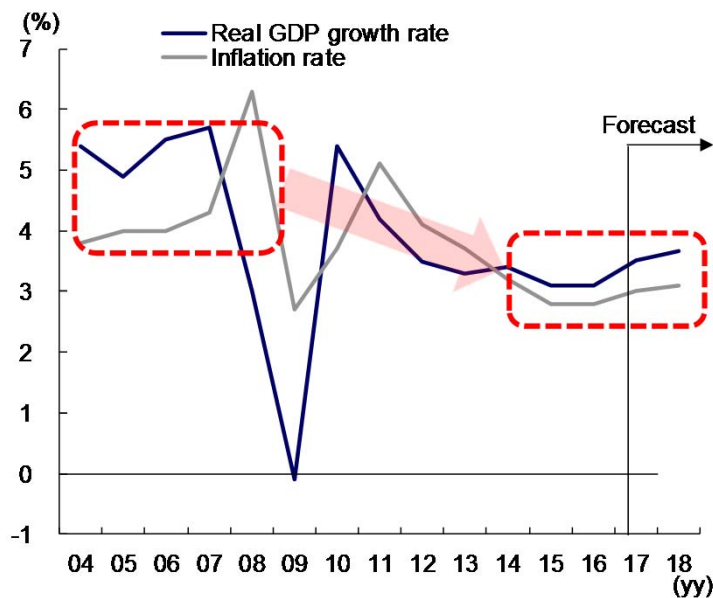


Source: Made by MHRI based upon OECD

Despite the 3Ls (low growth, low inflation, low interest rates), economic growth and long-term interest rates are showing signs of change

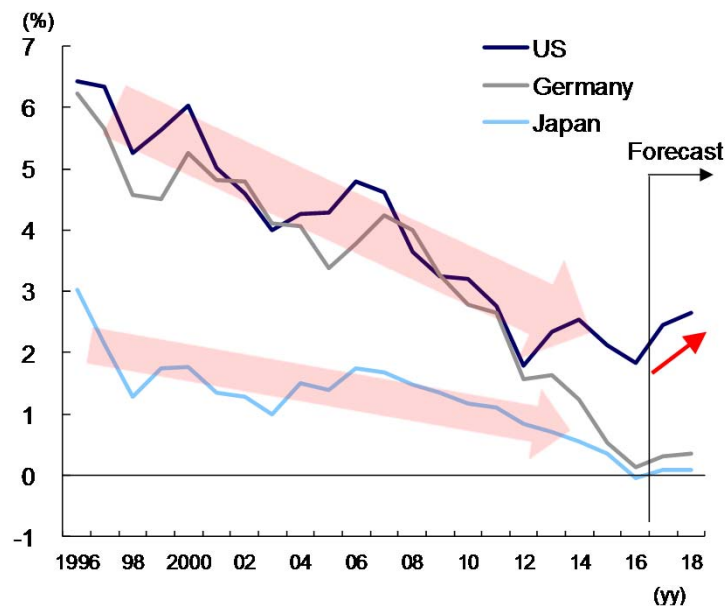
- Despite prospects of a global economic recovery in 2017 and 2018, the 3Ls (low growth, low inflation, low interest rates) will persist.
 - Global economic growth and inflation rates remain below levels prior to the financial crisis of 2008 that was triggered by the collapse of Lehman Brothers.
 - Even so, the rise of economic growth is forecast to accelerate gradually, and may even emerge out of the doldrums due to factors such as a stronger-than-expected growth of the US economy.
 - Long-term interest rates bottomed out in 2016. The long-term interest rate is gradually rising as the US enters a rate hike phase.

[Global economic growth and inflation rate]



Note: The inflation rate refers to the CPI. The inflation rate forecast is based upon the IMF.
Source: Made by MHRI based upon IMF

[DM long-term interest rates]



Note: Long-term interest rates refer to the yields on 10-yr government bonds of each of the countries. Forecasts are by MHRI.
Source: Made by MHRI based upon Bloomberg

Policy: the global economy is being underpinned by fiscal policy amid rising awareness of monetary policy limitations

- Given the limited impact of monetary policy to lift the economy, fiscal policy is boosting the economy, particularly in the US.

[The impact of monetary and fiscal policies on the economy in 2017 and 2018]

Region	Monetary Policy	Level of impact	Fiscal Policy	Level of impact
US	2017 rate hikes in June and December. However, if inflation increases more than expected, interest rate hikes could start in March (or April), with 3 rate hikes during 2017.	×	President Trump has proposed large tax cuts, and increased defence spending and infrastructure investment on the expenditure side.	○
Europe	Quantitative easing to continue throughout 2017. The amount of bond purchases to be reduced from 60 billion euro in 2018. Policy interest rates left unchanged.	△	While there are differences in the policy directions between each country, fiscal policy is forecast to remain neutral in the Eurozone as a whole in 2017 and 2018.	—
Japan	Policy is forecast to remain unchanged for the near term. The amount of outright purchases of JGBs will be gradually reduced. There could be discussion about changing the target interest rate once the CPI exceeds 1%.	—	Progress has been made in implementing the economic stimulus measures (in the order of 28 trillion yen) decided in autumn 2016. Additional measures are also possible with the prospect of the lower house being dissolved.	△
China	Higher market interest rates will be encouraged due to the sense of overheating in the bond and housing markets and to curb an outflow of capital, but rate hikes will be delayed with consideration for economic conditions.	—	Given difficulties in monetary easing, the economy will be underpinned in 2017 by “more proactive and efficient fiscal policy”.	△
Other EM	With ongoing expectations of US interest rate hikes, countries subject to strong pressure from capital outflows will be cautious about additional easing.	—	As many countries have limited scope to expand, and there are also concerns that stimulating imports will lead to capital outflow, the overall fiscal policy stance is cautious.	—

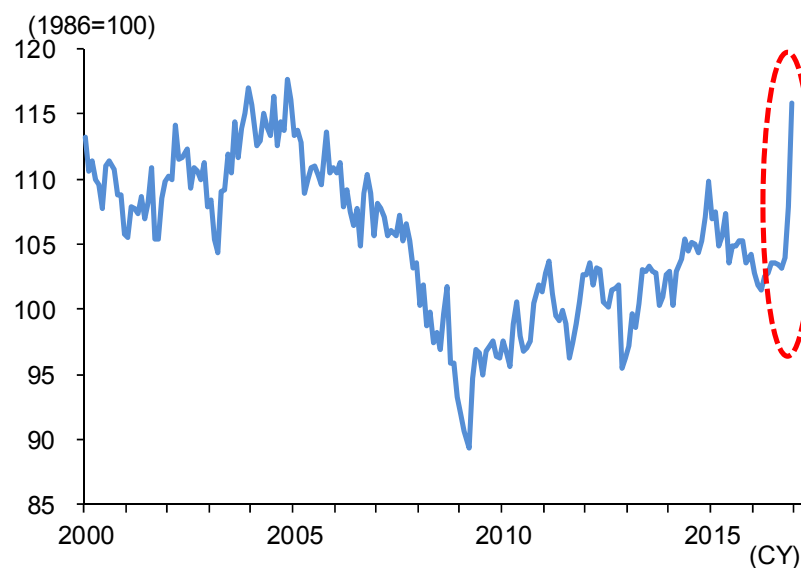
Note: In terms of the level of impact, O indicates a large positive impact, △ indicates there is an impact, but it is limited, - indicates there is no significant impact; and x indicates a negative impact on the economy

Source: Made by MHRl

US: companies are showing signs of regaining their animal spirits

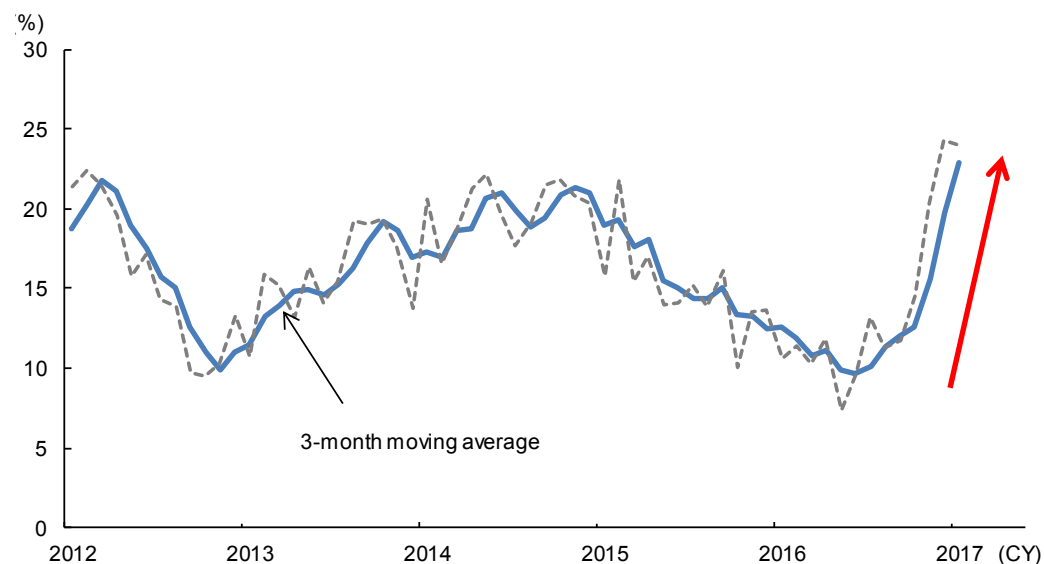
- Investment sentiment of companies has turned positive due to expectations toward the Trump administration's economic policies.
 - The improvement in business sentiment has spread to a wide range of industries. There has been a substantial rise in the Small Business Optimism Index compiled by the National Federation of Independent Business, USA (NFIB).
 - ✓ The data indicates that many small business owners think now is a good time to expand their business due to expectations for the economic outlook and their own company sales.
 - ✓ Small business owners appear to expect resolution of major constraints on their business such as regulations and tax issues.
 - The 6-month forward capital investment forecast of companies is clearly on an upward trajectory.

[Small Business Optimism Index]



Source: Made by MHRI based upon the National Federation of Independent Business, USA (NFIB)

[6-month forward capital investment forecast]

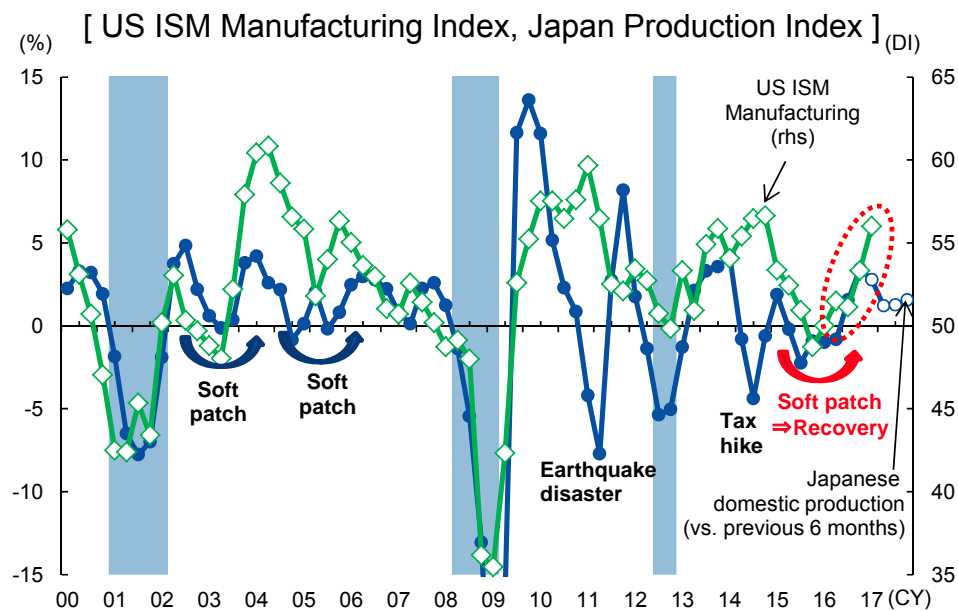


Note: The 6-month forward capital investment forecast is a single synthetic index taking a principal component analysis and weighting the results of Federal Bank Surveys in the districts of New York, Philadelphia, Richmond, Kansas City and Dallas.

Source: Made by MHRI based upon FRB

Japan: the improvement in US business sentiment will also have positive ripple effects upon the Japanese economy

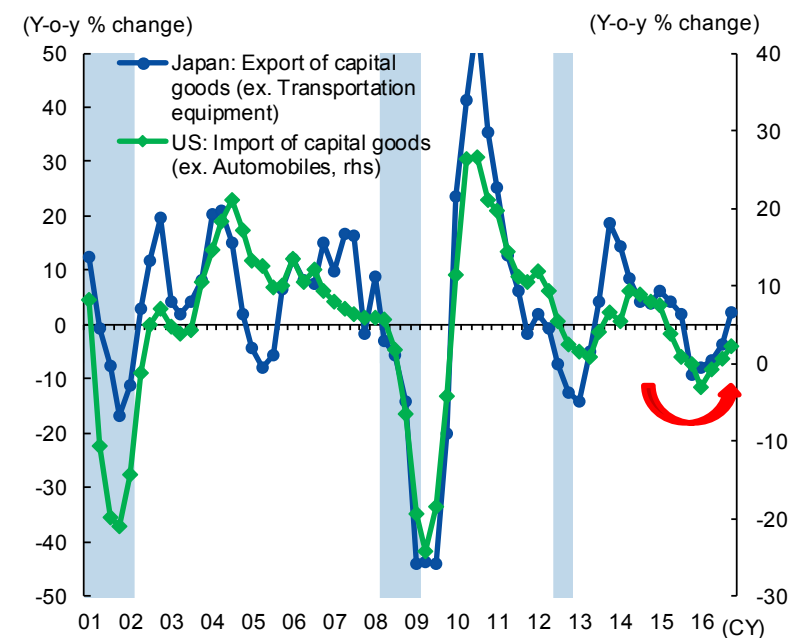
- US business sentiment has improved due to expectations for deregulation and large-scale tax cuts under the Trump administration. We expect this will also have a positive impact on Japanese exports and production.
 - The US ISM Manufacturing Index exceeded 55 at the beginning of 2017. Based on past trends, Japanese production could also experience high levels of growth.
 - ✓ The improvement in US business sentiment will lead to increased investment in the US, which is expected to foster Japanese capital goods exports.
 - ✓ In addition, the recent improvement of US business sentiment not only reflects the Trump effect, but also the recovery of China's industrial sector and a bottoming out of commodity-producing countries. We forecast that these factors will also boost Japan's economic recovery.



Note: Japanese domestic production for 2017 and beyond is forecast by MHRI. The ISM manufacturing index for January to March is the January figure.

Source: Made by MHRI based upon US Institute for Supply Management and Japan Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

[US capital goods imports, Japan capital goods exports]

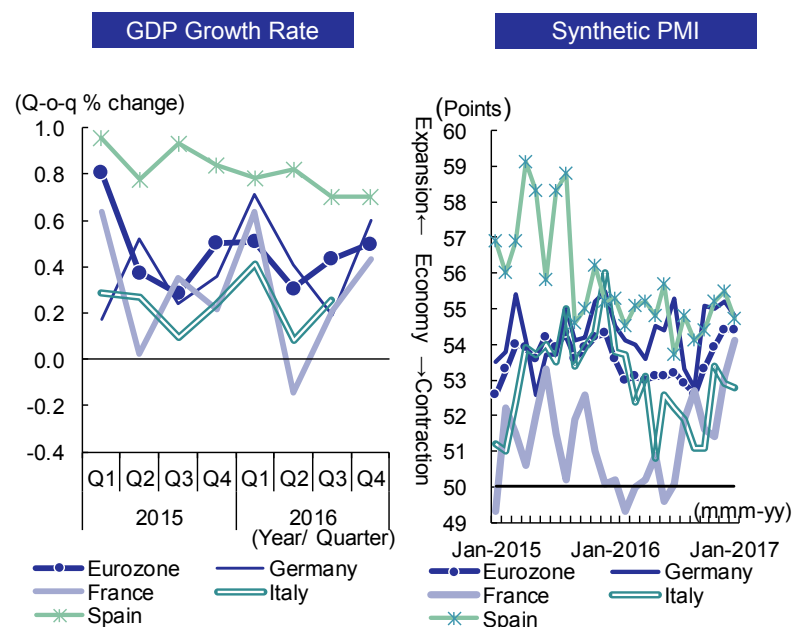


Source: Made by MHRI based upon Ministry of Finance, *Trade Statistics*

Eurozone: the economy is continuing to recover

- The Eurozone GDP growth rate accelerated slightly to +0.5% q-o-q in the Oct-Dec quarter of 2016, indicating a solid economic recovery.
 - The economic recovery appears to have been led by increased consumer spending and exports. On the other hand, it appears that fixed investment has been sluggish.
 - ✓ Western Europe is continuing to grow strongly given the rise of growth rates in Germany and France. Italy has possibly slowed down.
 - The economic recovery in the Eurozone has continued unabated in 2017. The Eurozone synthetic PMI remained at high levels in January.
 - ✓ There is strong momentum in the manufacturing sector in particular, and business conditions appear to have improved because of the export recovery and the increase in related orders.

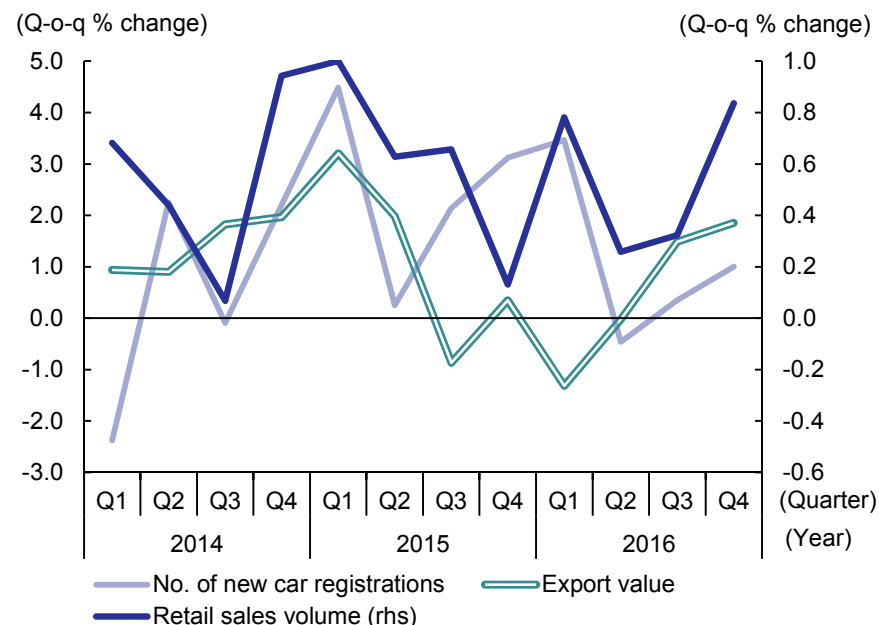
[Eurozone GDP and PMI]



Note: 50 is the contraction-expansion threshold of the PMI. Germany's GDP growth rate for Oct-Dec 2016 is reverse calculated from the previously announced calendar year growth rate

Source: Made by MHRI based upon Eurostat and Markit

[Eurozone domestic and external demand related indices]



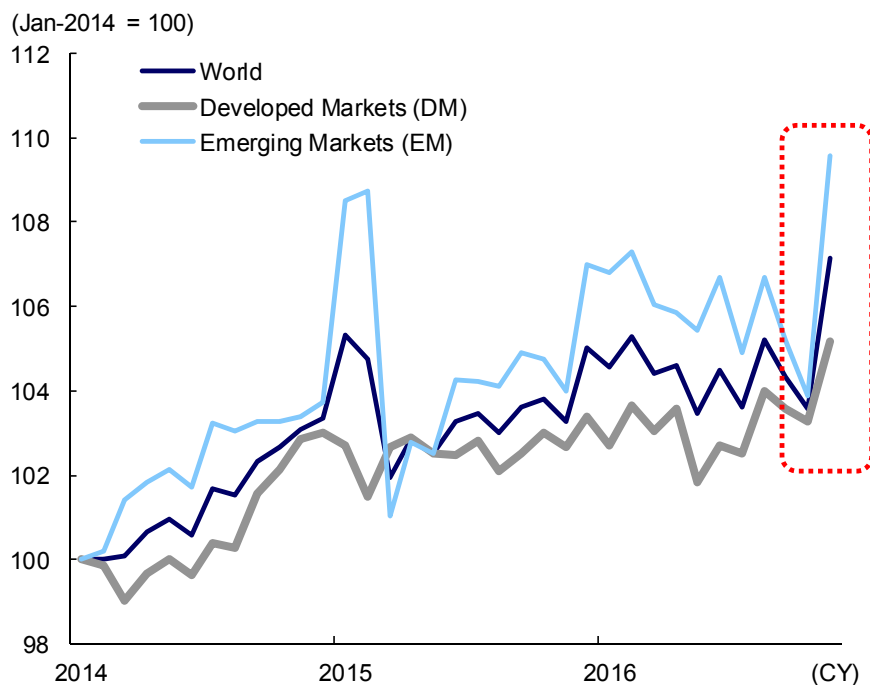
Note: Export amount is the amount of goods and services exported on the basis of the balance of payments

Source: Made by MHRI based upon Eurostat and ECB

(3) Global recovery: contribution from the improved IT cycle and recovery in Chinese imports

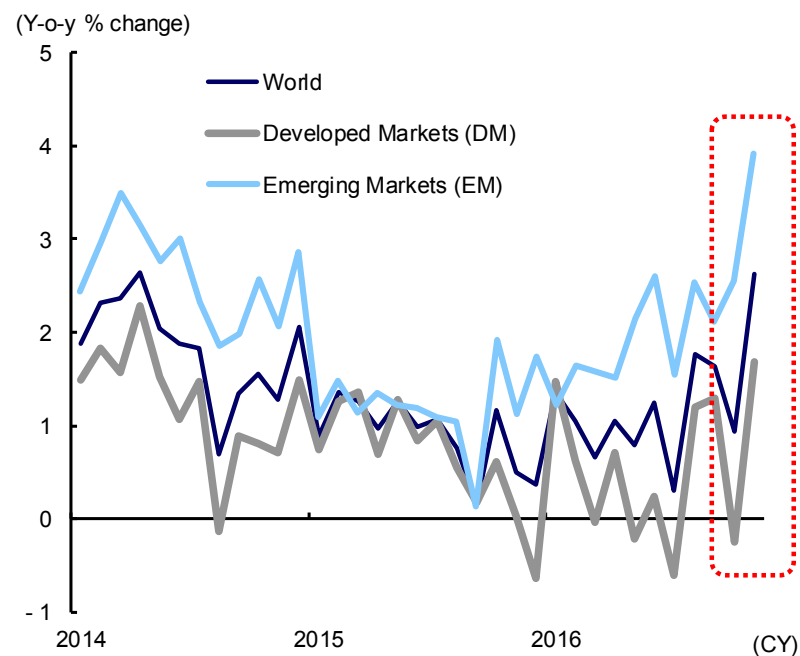
- Exports and production have been recovering since the end of 2016 for both DM and EM economies.
 - The current global economic recovery stems from (1) improvement of the IT cycle, (2) the upturn of China's imports along with the recovery of its domestic demand, and (3) the rise of commodity prices. However, the key point is the sustainability of the recovery momentum.

[Trends in global export volumes]



Source: Made by MHRI based upon CPB Netherlands Bureau for Economic Policy and Analysis

[Trends in global production]

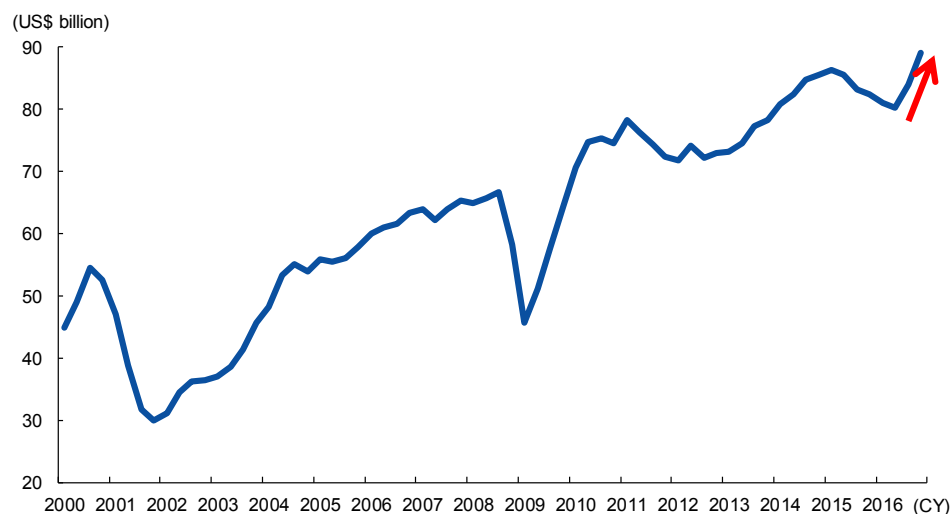


Source: Made by MHRI based upon CPB Netherlands Bureau for Economic Policy and Analysis

IT Cycle: the period of improvement in the IT cycle to continue during 2017

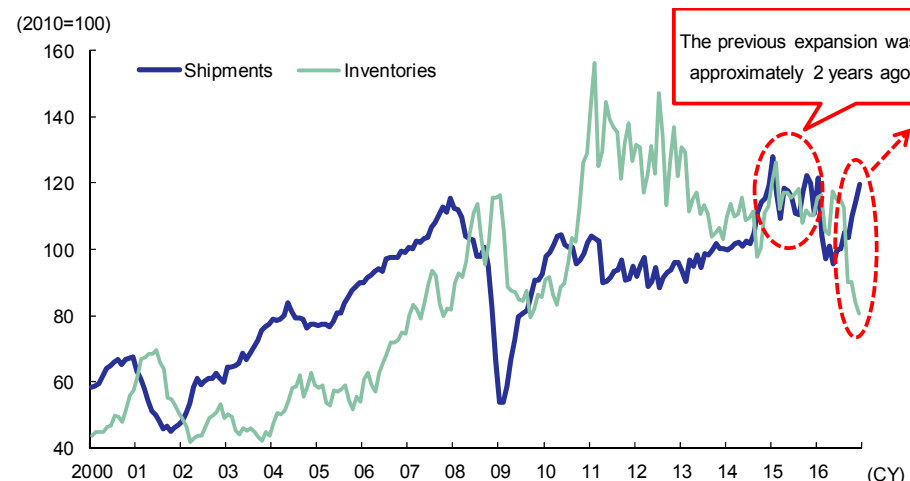
- ❑ Global sales of semi-conductors surged in the second half of 2016. The global IT market is showing signs of improvement.
- ❑ The shipment index for Japanese electronic parts and devices also improved from the second half of 2016.
 - There has also been a large recent drop in the inventory index, leading to a substantial improvement in the shipment-inventory balance. There is further scope for the rise of production and shipments.
- ❑ We forecast the period of increased shipments to continue during 2017.
 - The inventory cycles (refer to the graphs on the following page), indicate that past cycles lasted for 3 to 4 years. Shipment expansion cycles (from the 4th quadrant to the 1st quadrant) usually last for about 2 to 3 years.
 - Shipments rose y-o-y for the first time in four quarters in Oct-Dec 2016, emerging out of the adjustment period. We forecast the expansion cycle to continue during 2017.

[Global semi-conductor sales]



Note: Seasonally-adjusted by MHRI
 Source: Made by MHRI based upon Datastream

[Trends in electronic parts and devices]

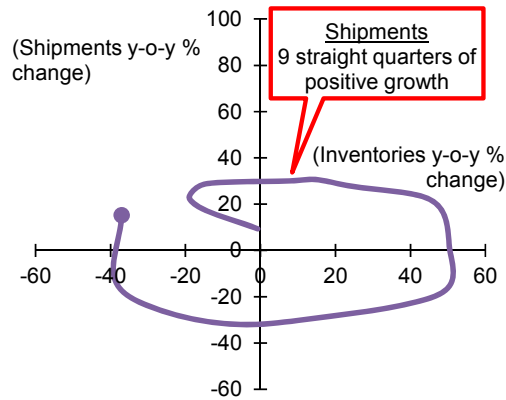


Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

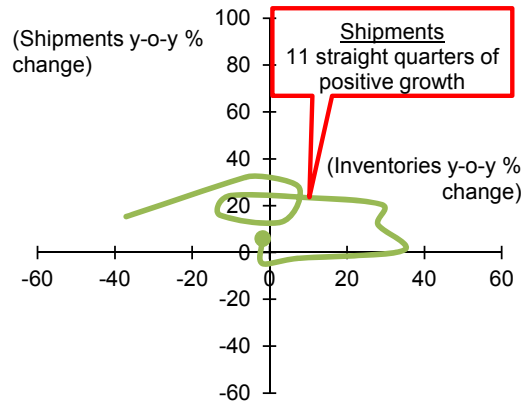
IT: past inventory cycles indicate cycles of about 3 to 4 years, with periods of increased shipments lasting 2 to 3 years

[Inventory cycle for electronic parts and devices]

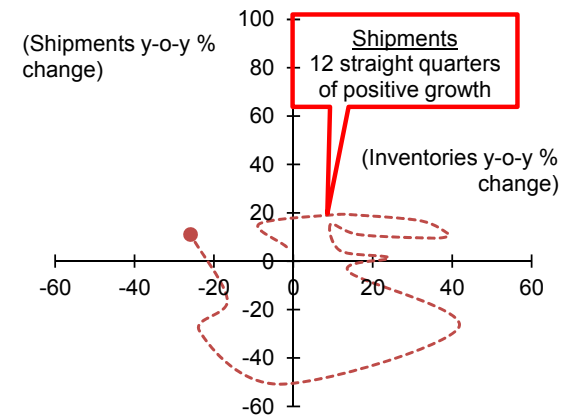
<1999 Q1 to 2002 Q2>



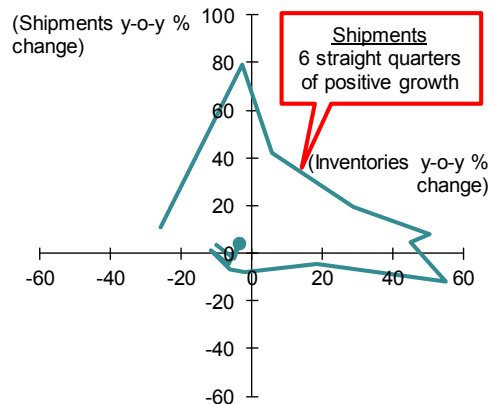
<2002 Q3 to 2005 Q3>



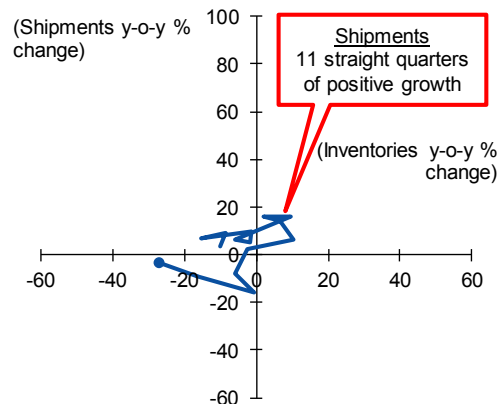
<2005 Q4 to 2009 Q4>



<2010 Q1 to 2013 Q2>



<2013 Q3 to 2016 Q4>



<From 2017 Q1>

Towards a new cycle



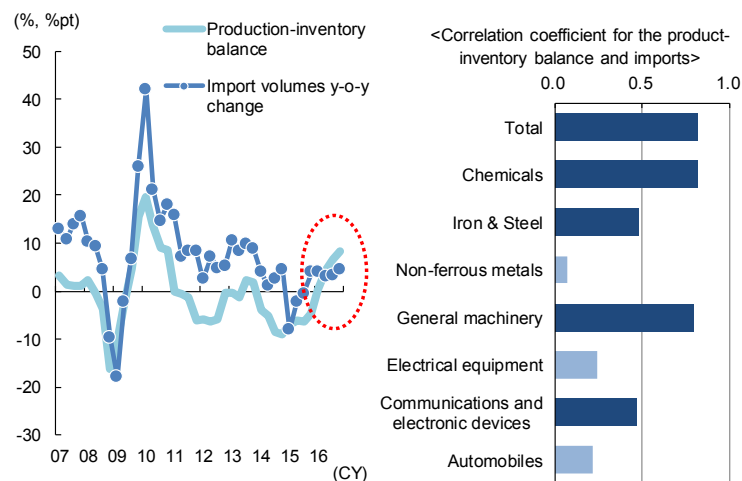
- Based on past cycles, we expect shipments to continue increasing for about 2 years
- However, the growth rate may not be as high as in the past

Note: One cycle is defined as the period following a shift in the y-o-y change in shipments from positive to negative until the y-o-y change in shipments turns positive once again.
 Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Indices of Industrial Production*

China: a clear recovery in imports due to progress in production and inventory adjustments

- ❑ China's import volumes were positive y-o-y for five consecutive quarters up until the Oct-Dec 2016 quarter.
 - In addition to the increase in primary goods, machinery and transport equipment have contributed to the rise of imports since the second half of 2016.
 - ✓ The recovery in imports has stemmed from the progress in production and inventory adjustments, housing investment, increased demand for IT-related components for mobile telephones and labor-saving investment.
- ❑ Concerns regarding China's economic downturn are fading. Imports will be firm for the near term as inventory levels continue to be restored.
 - The synthetic economic index comprised of major indices bottomed out in late 2016, and is continuing to follow a gradual uptrend.
 - Based on past cycles, the improvement in the production-inventory balance in 2017 will lead to the ongoing restoration of inventory levels and rise of imports.

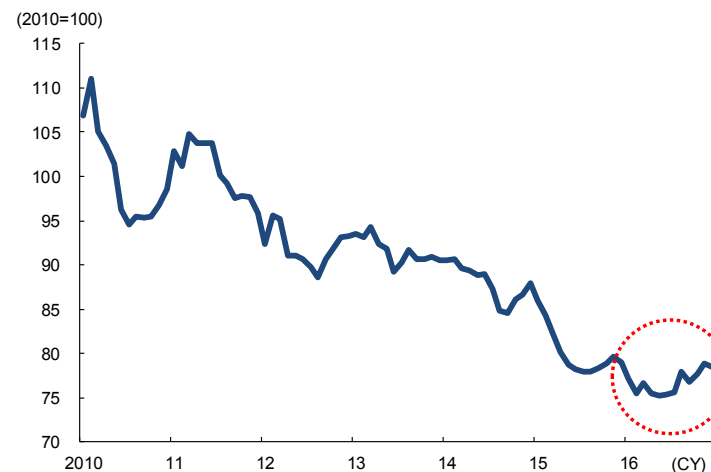
[China's production-inventory balance and import volumes]



Note: 1. The production-inventory balance = y-o-y ch of production minus y-o-y ch of inventories. Inventories are converted into real terms by the PPI.
 2. Due to data constraints, integrated-circuits are used for the import value for the correlation coefficient of communications and electronic devices

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

[Synthetic economic index for major Chinese indices (estimate)]



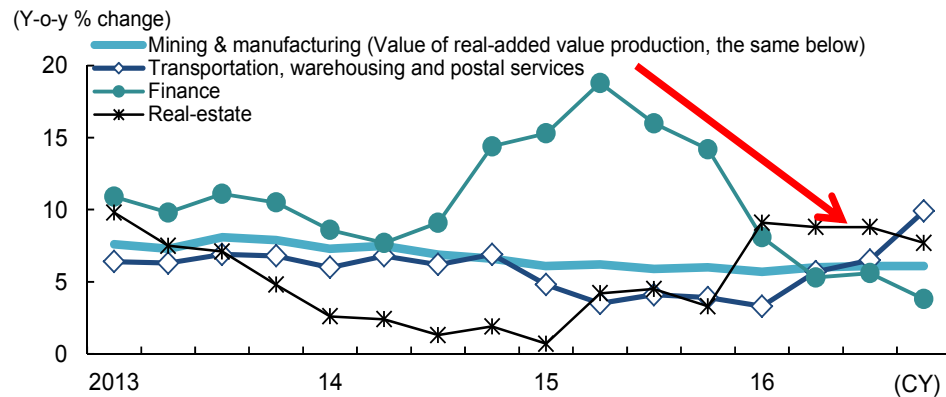
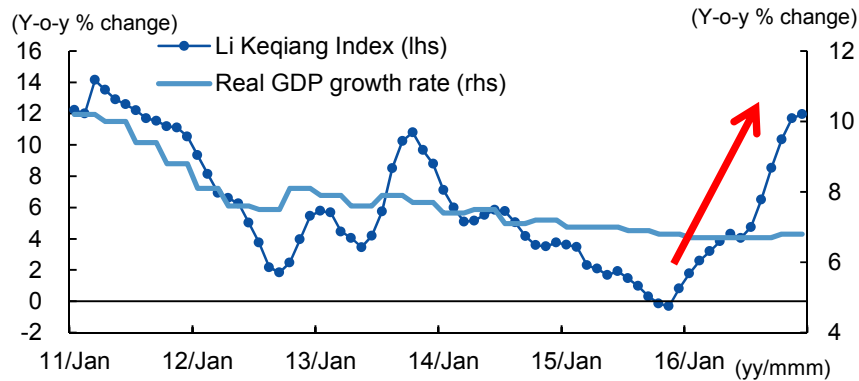
Note: Composed in accordance with the method used in Japan's Indexes of Business Conditions (Coincident Index) for China's real retail sales, nominal imports, real fixed asset investment, production, ratio of job offers to applicants, and nominal corporate profits since 2001.

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

China: Li Keqiang Index surged due to easing of restrictions in coal production and acceleration in housing loans

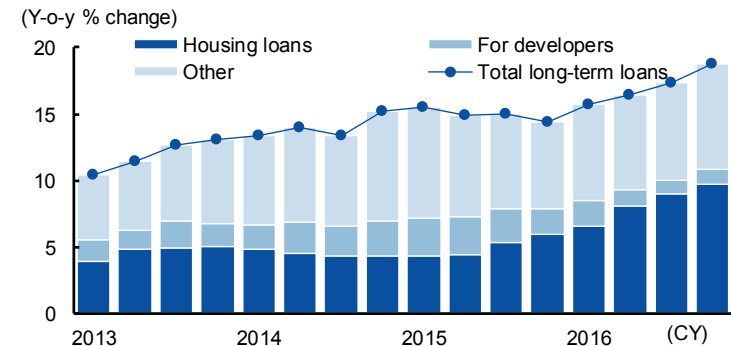
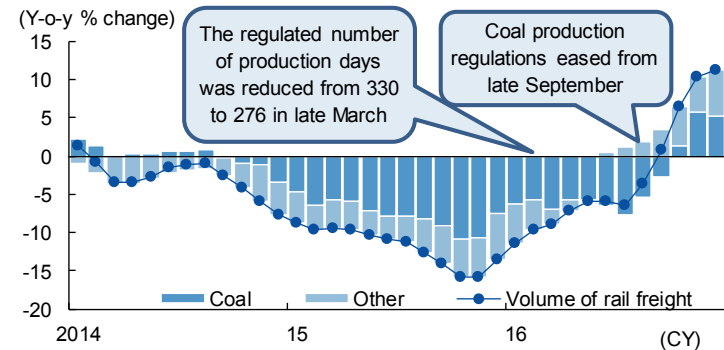
- ❑ 2016 real GDP grew +6.7% y-o-y according to China's official data releases,. In contrast, the Li Keqiang Index has been trending higher than the GDP data.
 - The Li Keqiang Index - a synthetic index comprised of railway cargo volume, loans, and electricity consumption – surged due to the easing of coal mine work day restrictions which was implemented to address the rise of coal prices, and the acceleration in house sales (loans) under bubble-like conditions.
 - ✓ The downturn in the growth rate for the financial sector in counter-reaction to the 2015 stock bubble has weighed on GDP.

[The Li Keqiang Index and real GDP]



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

[Component data of the Li Keqiang Index]

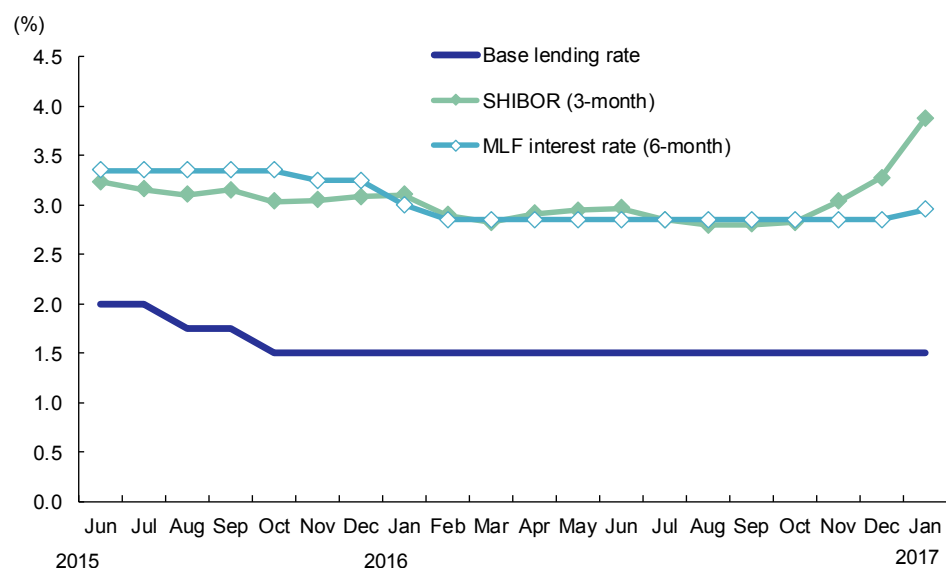


Source: Made by MHRI based upon the People's Bank of China, National Railway Administration, China and CEIC Data

China: the economy will be underpinned by fiscal policies, given growing constraints on monetary easing

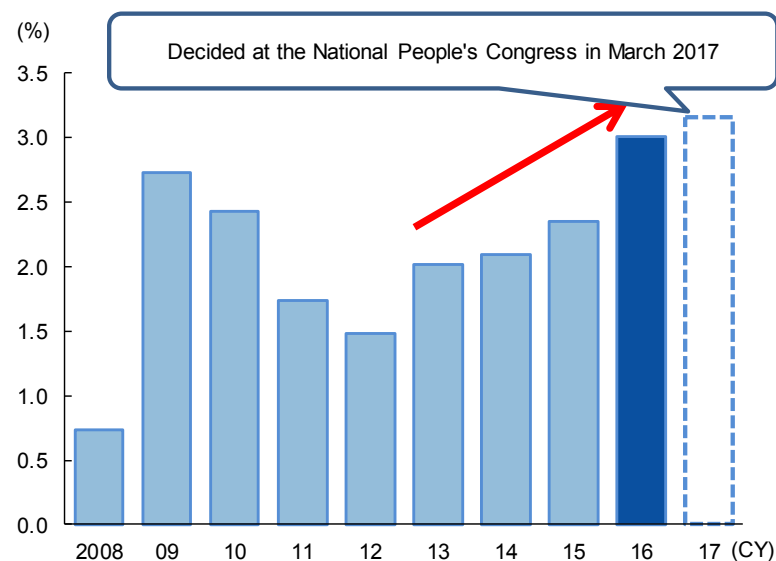
- ❑ Monetary easing has become difficult to implement due to the need to progress in deleveraging and suppress capital outflows. Even though a hike in the base lending rate is being avoided due to the weak momentum for economic recovery, interbank rates are being guided higher.
- ❑ As a result, emphasis is shifting to fiscal policy to underpin the economy.
 - The Central Economic Work Conference resolved that “fiscal policy should be more proactive and effective” in 2017. The fiscal deficit to GDP ratio could be raised above the 3% set for 2016 (budget base).
 - Furthermore, there is risk of being forced to make substantial hikes in interest rates due to the rise of capital outflows stemming from a faster pace of US interest rate hikes.

[Interest rate trends]



Source: Made by MHRI based upon CEIC Data and the People's Bank of China

[Fiscal deficit to GDP ratio]



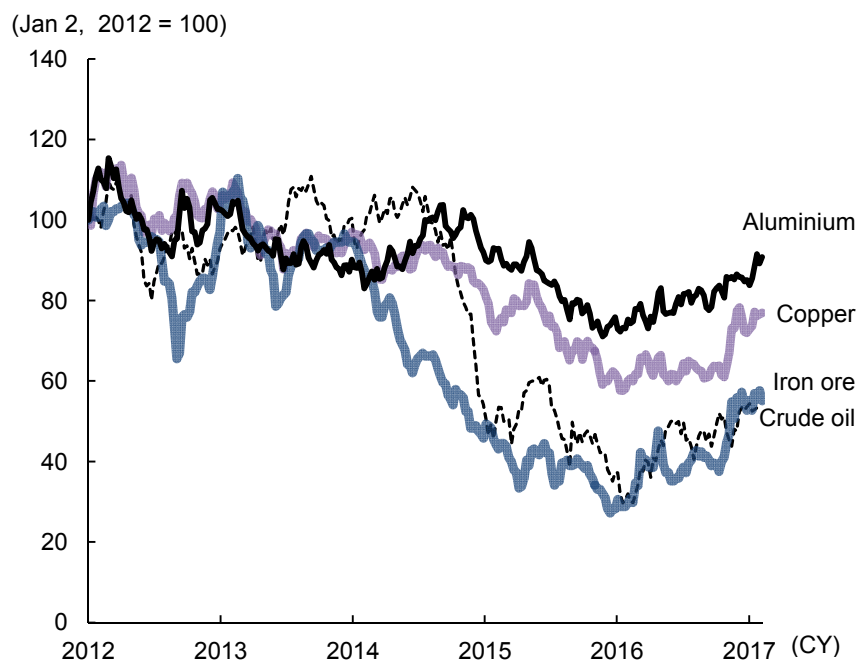
Note: 2016 is budget base.

Source: Made by MHRI based upon Ministry of Finance, China and CEIC Data

Commodity prices: prices of major commodities have gradually risen, and financial market sentiment has also improved

- ❑ Commodity prices have gradually risen since the second half of 2016 when EM business sentiment started to improve.
- ❑ The deterioration of sentiment in the financial markets, which had caused commodity prices to fall, has also eased.
 - The decline in the crude oil price from late 2015 to early 2016 weighed on stocks of EM countries.
 - The recovery in the crude oil market in the latter half of 2016 has put an end to the forecast deterioration in financial market stemming from the fall of crude oil prices.

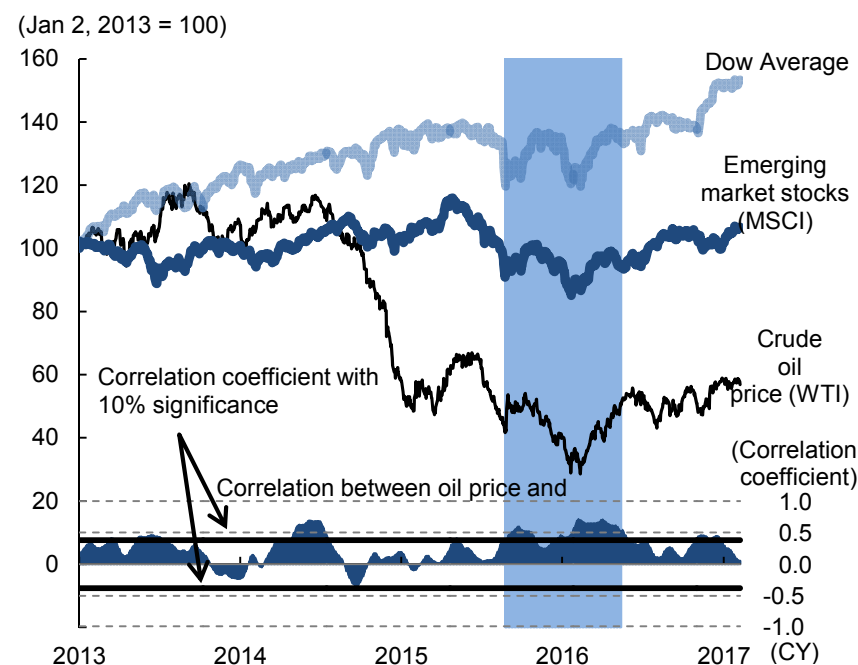
[Commodity prices]



Note: Copper and aluminium refer to LME 3-month prices. Iron ore refers to the import price for iron ore from Australia and China. Crude oil refers to the WTI.

Source: Made by MHRI based upon Thomson Reuters

[Crude oil price and stock prices]



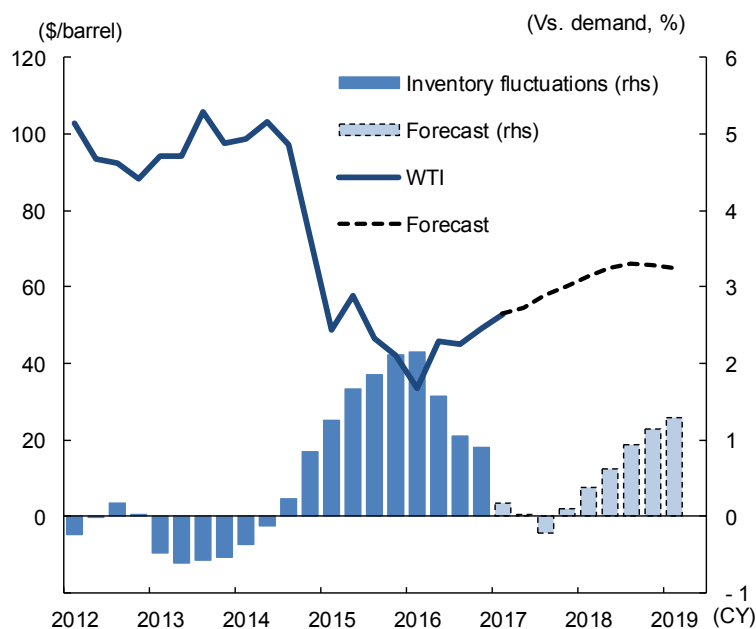
Note: The observation period for the correlation coefficient is 20 days. The above chart shows the 60-day moving average for the correlation coefficient.

Source: Made by MHRI based upon Thomson Reuters

Commodity prices: oil markets to rise due to OPEC production cuts

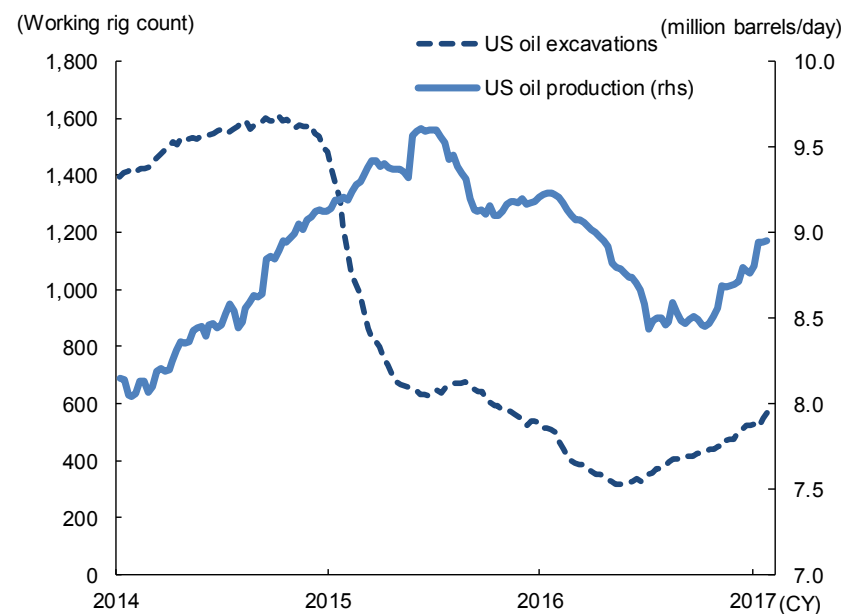
- ❑ The oil price has recovered to \$50/barrel levels due to OPEC production cuts.
 - OPEC and non-OPEC countries such as Russia have agreed to cut oil production by close to 1.8 million barrels per day.
 - ✓ The actual cut in production is forecast to be significant, at about 1.6 million barrels per day, which will lead to equilibrium in the demand and supply balance for crude oil.
- ❑ We forecast the crude oil price to be firm at \$50/barrel levels in 2017, with a moderate rise to mid \$60/barrel levels in 2018.
- ❑ However, there is risk of lower prices should the US substantially increase production, and there are concerns that this would also have an impact on the financial markets.

[Forecast oil price]



Note: Inventory fluctuations are represented as four-quarter moving averages
 Source: Made by MHRI based upon Thomson Reuters and EIA

[US oil production]



Source: Made by MHRI based upon EIA and Baker Hughes Inc.

(4) Policies of the new US administration and their impact: pledges being honored quickly through executive orders

- ❑ The Trump administration has quickly implemented its campaign pledges through measures such as executive orders soon after assuming office.
 - Since the action that can be taken is mainly through executive orders they are driven by protectionism and strict immigration policies.
 - ✓ Plans to exit the TPP and renegotiate NAFTA were announced quickly.

[19 Actions to be taken by the US President on his First Day in office (January 20, 2017)]

I. Clean up the political corruption and special interest collusion	II. Actions to protect American workers	III. Restore security and the constitutional rule of law
① Propose a constitutional amendment to impose term limits on all members of Congress	① Announce intent to renegotiate NAFTA or withdraw from the deal under Article 2205	① Cancel every unconstitutional executive action, memorandum and order issued by President Obama
② A hiring freeze on all federal employees to reduce the federal workforce through attrition (exempting military, public safety and public health)	② Announce the withdrawal from the Trans-Pacific Partnership (TPP) [Commence negotiations of bilateral agreements instead]	② Begin the process of selecting a replacement for Justice Scalia from one of the 20 judges on my list, who will uphold and defend the US Constitution
③ A requirement that for every new federal regulation, two existing regulations must be eliminated	③ Direct the Secretary of the Treasury to label China a currency manipulator	③ Cancel all federal funding to sanctuary cities (Cities that have preferential policies towards immigrants)
④ A 5-year ban on White House and Congressional officials becoming lobbyists after they leave government service	④ Direct the Secretary of Commerce and US Trade Representative to identify all foreign trading abuses that unfairly impact American workers and direct them to use every tool under American and international law to end those abuses immediately	④ Begin removing the more than two million criminal illegal immigrants from the country and cancel visas to foreign countries that won't take them back
⑤ A lifetime ban on White House officials lobbying on behalf of a foreign government	⑤ Lift the restrictions on the production of \$50 trillion worth of job-producing American energy reserves, including shale, oil, natural gas and clean coal	⑤ Suspend immigration from terror-prone regions where vetting cannot safely occur.
⑥ A complete ban on foreign lobbyists raising money for American elections	⑥ Lift the Obama-Clinton roadblocks and allow vital energy infrastructure projects, like the Keystone Pipeline, to move forward	[⑥ Direct the Department of Defense and the Chairman of the Joint Chiefs of Staff to develop a comprehensive plan to protect America's vital infrastructure from cyber attacks and all other form of attacks]
	⑦ Cancel billions in payments to U.N. climate change programs and use the money to fix America's water and environmental infrastructure	

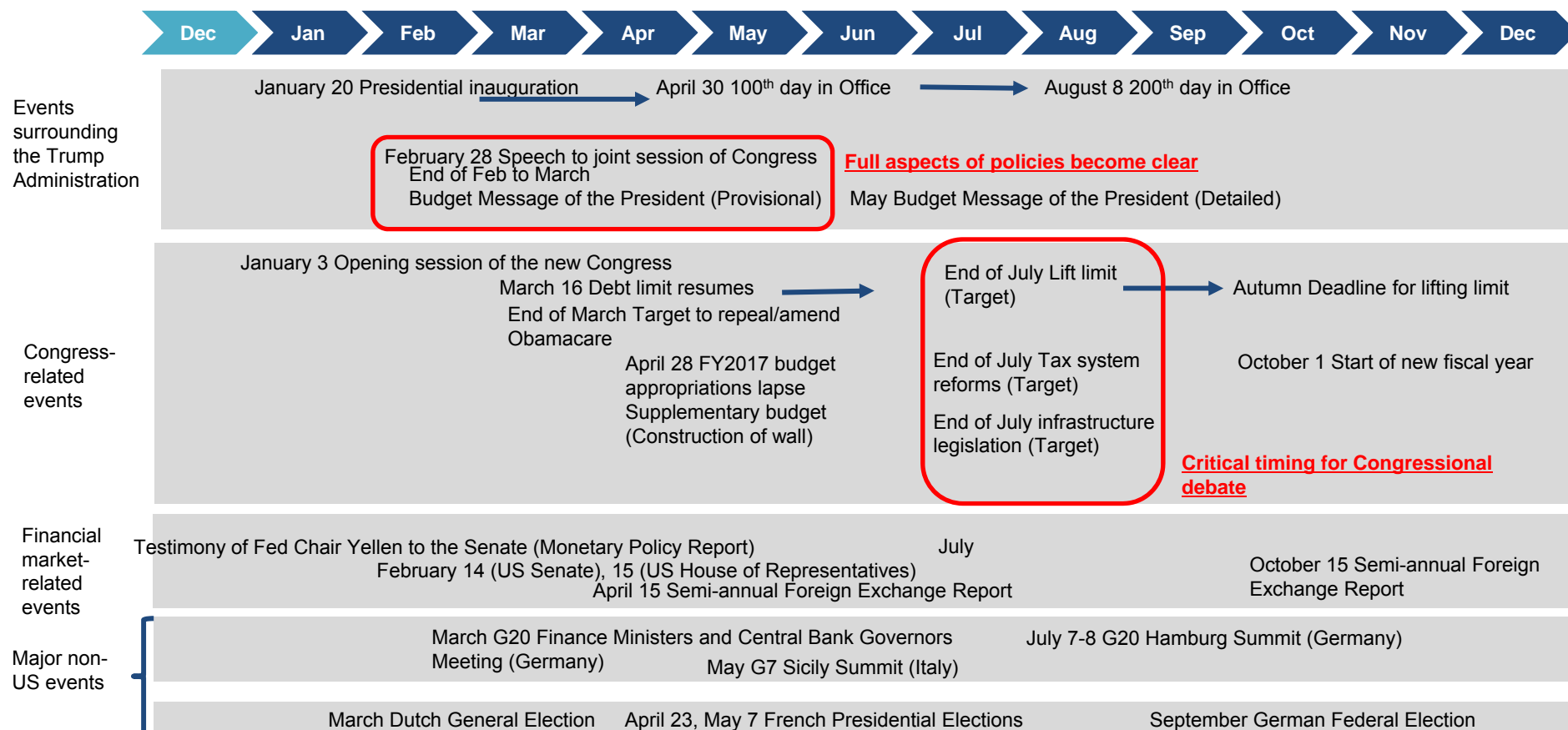
Note: Announced on October 22, 2016. However, sections in parentheses (part of II. ② and III. ⑥) were mentioned in a video message on November 21. Items shaded in red have already been implemented (as of January 31).

Source: Made by MHRI based upon Whitehouse materials

US: full aspects of policies announced by end of March, with end of July the critical timing for Congressional debate

- ❑ Policies such as tax system reforms and lifting the debt ceiling are targeted for release by the end of July.
 - Based on President Trump's speech to the joint session of Congress, full aspects of policies such as Trumponomics should become clear by the end of March.

[Forthcoming political schedule]



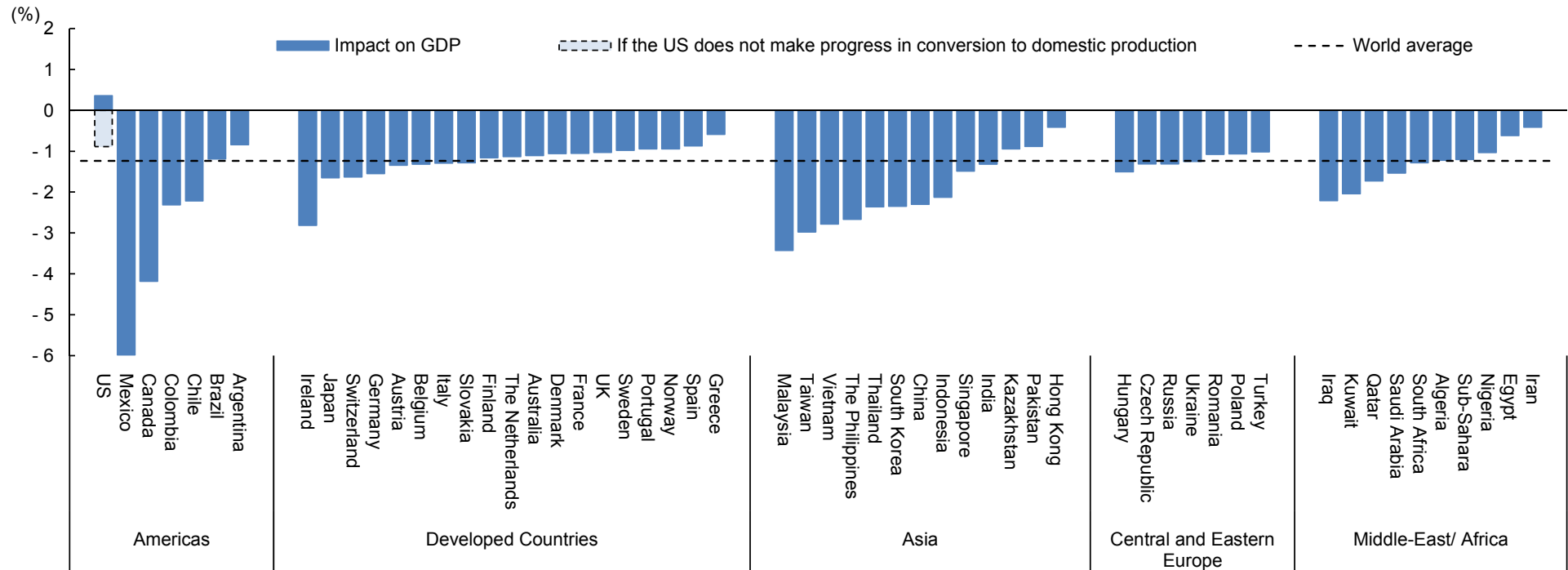
Note: Includes forecasts

Source: Made by MHRI based upon various reports

Impact on the global economy: US protectionism has downside risk for the global economy

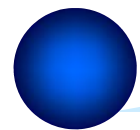
- ❑ Assuming US imports fall by 10% due to US protectionist policies, it would depress the global economy by more than 1%.
 - There would be an enormous impact on NAFTA members Mexico and Canada.
 - In addition, our calculations suggest even in Asia, where there is heavy dependence on the US, there are countries that would face downward pressures on their GDP in excess of 2%.
- ❑ Since the switch to domestic production is likely to boost US GDP, we anticipate an increase in international criticism.
 - However, if the conversion to domestic production does not progress, the protectionist stance would also be negative for the US economy.

[Impact on the GDP of each country assuming the total value of US imports fall by 10%]



Note: Calculated on the basis that US imports fall by 10% and are replaced by the same amount of domestic production. Includes the impact on world trade to countries other than the US, each country's consumption and investment, US exports, consumption and investment. World average includes data for countries not shown in this list. Furthermore, Sub-Saharan excludes the data for South Africa and Nigeria.

Source: Made by MHRI based upon various reports



II. The Japanese Economy

Economic recovery in FY2017

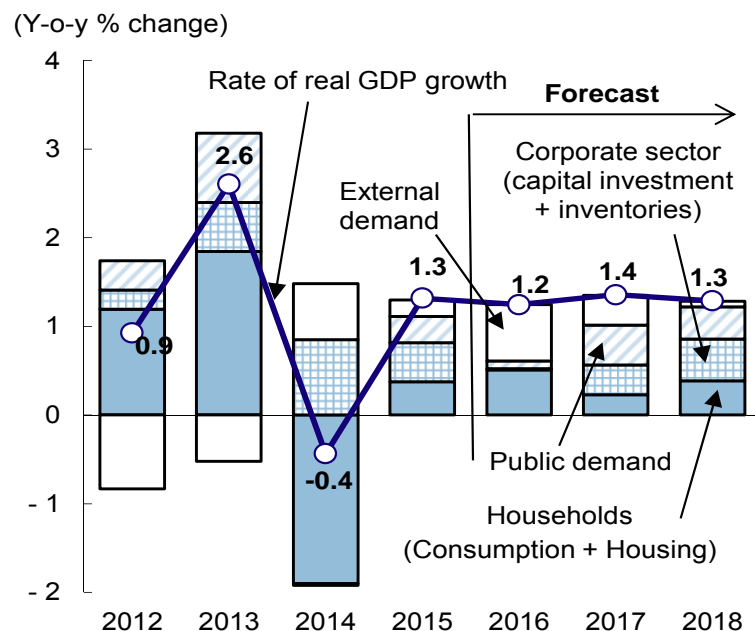
The Japanese economy: the economy is picking up, reflecting the upturn of overseas economies

- ❑ The *First Preliminary Quarterly Estimates of GDP* (“1st QE”) for the Oct-Dec quarter of 2016 revealed that the Japanese economy recorded growth in positive territory for the fourth quarter in a row. Despite the sluggish recovery of personal consumption, economic conditions are picking up mainly with respect to exports and capital investment, reflecting the upturn of the overseas economies.
- ❑ 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 personal consumption will continue to lack strength, adjustment pressures upon durable goods will ease, and serve to maintain the recovery. The pace of economic growth in FY2017 is forecast to rise to +1.4% from the previous fiscal year (+1.2%).
- ❑ The Japanese economy will continue to grow above its potential rate of growth as the engine of growth shifts from external demand to domestic demand. Personal consumption will also be boosted by the improvement of real wages. FY2018 economic growth is projected to stand at +1.3%.
- ❑ There are still significant downside risks due to uncertainties regarding political and economic developments overseas. Keep a close eye upon protectionists developments in the US, direction of major elections in Europe and economic policy following the National Congress of the Communist Party of China.
- ❑ Given the upturn of the year-on-year (y-o-y) change of energy prices into positive territory, the core inflation rate should rise to the 1%-level in the second half of FY2017. On the other hand, the improvement of the underlying trend in inflation excluding the impact of energy prices should only remain modest.

Japanese economy to recover in FY2017 due to the upturn in overseas economies and improved inventory cycle

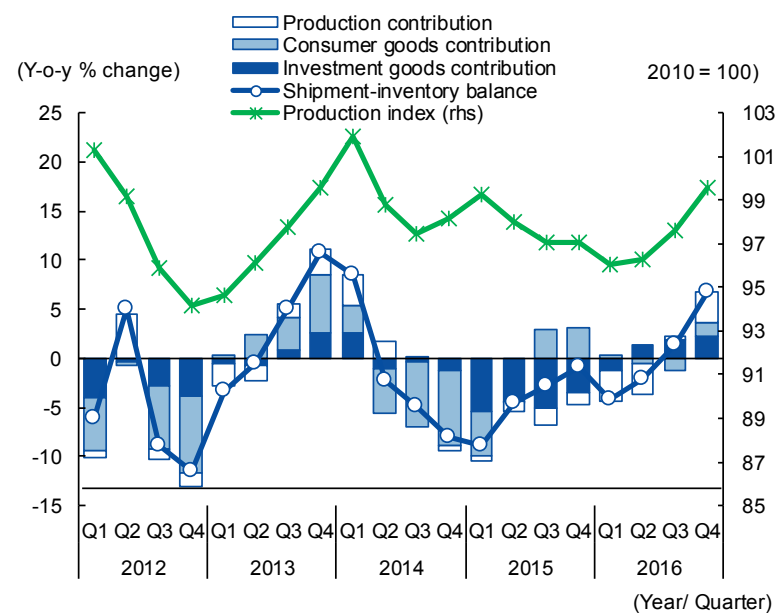
- ❑ Real GDP (Oct-Dec) was +1.0% q-o-q (annualized), the fourth straight quarter of positive growth.
- ❑ The Japanese economy is forecast to grow +1.4% in FY2017. The economy will recover due to the recovery in overseas economies and the improvement of the domestic inventory cycle.
 - However, uncertainty in relation to overseas political and economic conditions means there is still large downside risk. Keep a close eye on matters such as the protectionist stance of the US, the outlook for key elections in Europe, and China's economic policy.
- ❑ The Japanese economy is forecast to grow +1.3% in FY2018. Despite the high possibility of a cyclical downturn, growth is likely to stay above the potential rate of growth given the shift of the engine of growth to domestic demand..

[Factor contribution to growth rate for real GDP]



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

[Inventory-shipment balance and production]



Note: Inventory-Shipment Balance = Shipments y-o-y minus inventory y-o-y.

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

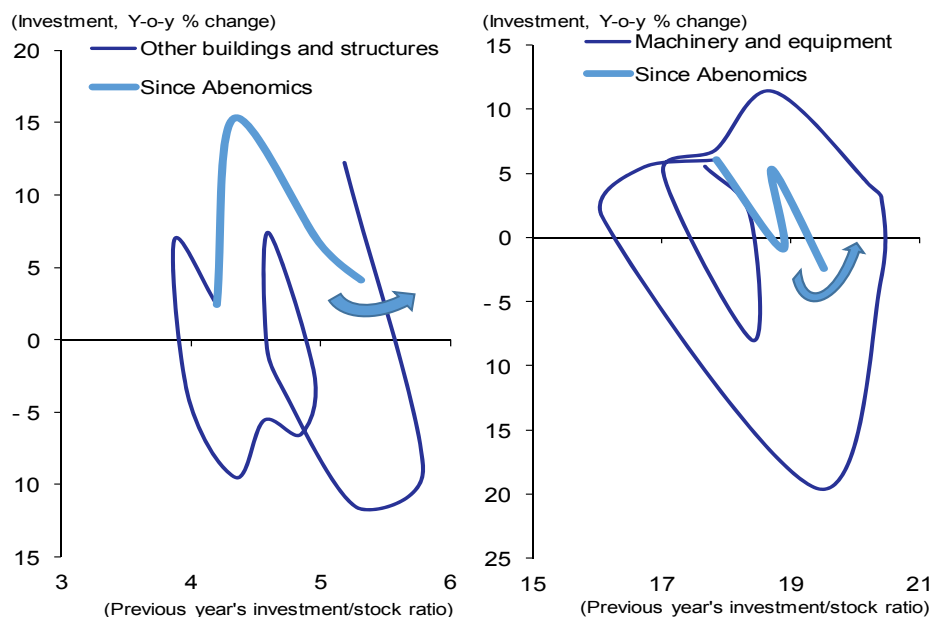
Capital investment: investment boosted by the Olympics, inbound visitors, logistics enhancements and increased productivity

- Investment in buildings and structures in sectors such as real-estate companies, wholesale and retail companies, transport and postal services has increased since 2013.
 - In addition to the upturn of the real estate market, it appears that the redevelopment of the Tokyo metropolitan area ahead of the 2020 Tokyo Olympic Games, investment in retail/service establishments in response to the increase of inbound visitors and highly functional warehouses to enhance logistics are increasing.
- Despite the lack of strength in machinery and equipment investment, we expect investment to remain firm due to investment for rationalization and labor saving measures to deal with the labor shortage.
 - The value of shipments and orders of industrial robots is growing.

[Capital stock cycle]

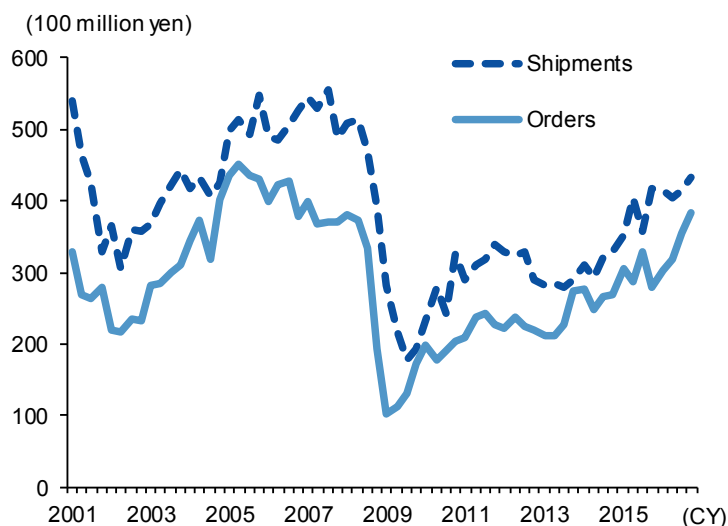
Buildings and structures

Machinery and equipment



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

[Value of domestic shipments of industrial robots and value of private sector orders]



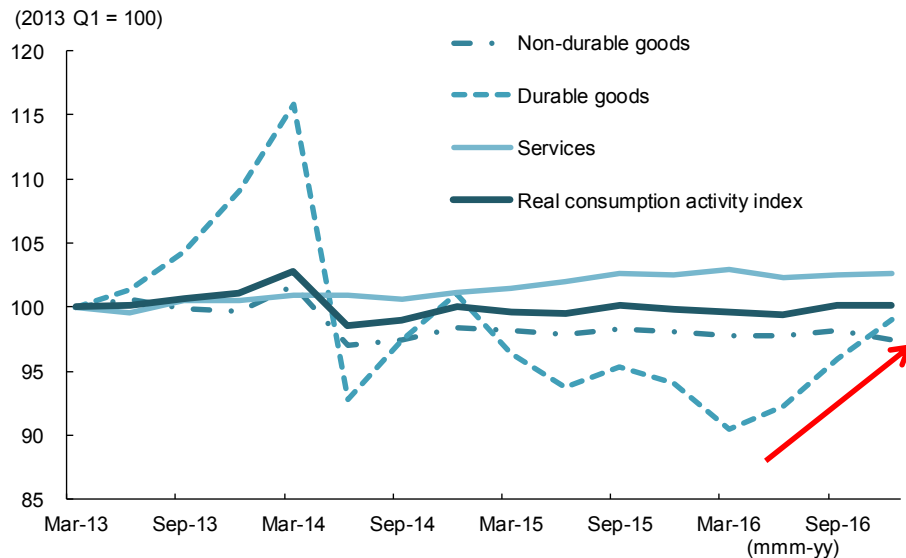
Note: Seasonally-adjusted by MHRI

Source: Made by MHRI based upon Cabinet Office, *Orders Received for Machinery*, and Japan Robot Association statistics

Personal consumption: consumer spending will continue to pick up at a gradual pace

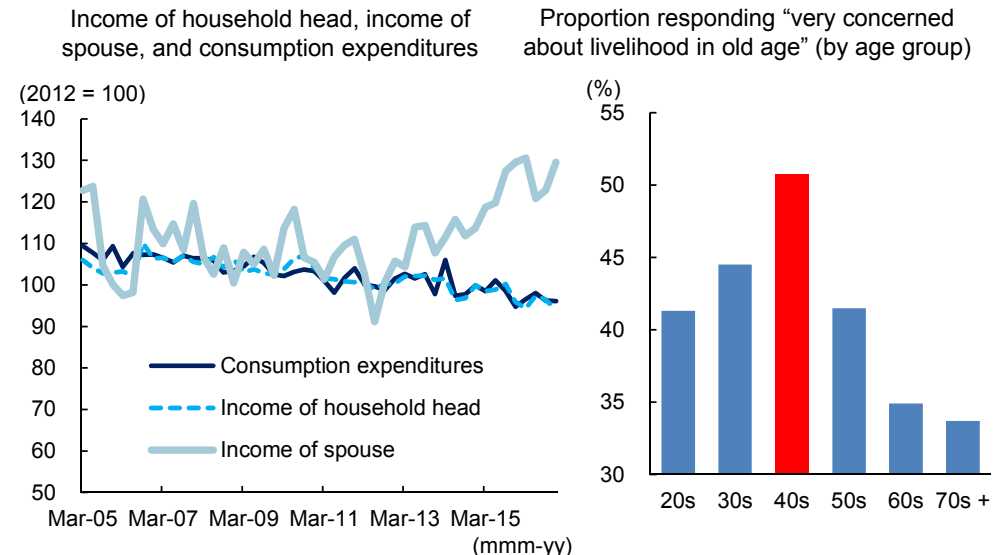
- ❑ The alleviation of pressure to reduce stocks of durable goods and higher stock prices have contributed to improved consumer sentiment, and a recovery in consumer spending.
 - The Consumption Activity Index remained positive at +0.1% q-o-q in the Oct-Dec quarter of 2016, given an upturn of durable goods despite downward pressures due to weather factors.
- ❑ Personal consumption should continue to recover in FY2017 and FY2018. Even so, strong concerns for livelihoods in old age and the decline of real wages will keep the recovery in personal consumption subdued. In contrast, from FY2018 onward, the recovery of real wages should serve as tailwinds for the recovery of consumer spending.
- ❑ The increased participation by women in the work force is unlikely to lead to an increase in consumer spending over the long term.
 - Incomes of spouses aged in their 40s has increased in recent years. However, such incomes are apparently being diverted to savings due to concerns about old age.

[Consumption Activity Index]



Source: Made by MHRI based upon Bank of Japan, *Consumption Activity Index*

[Income of spouses and old age concerns]

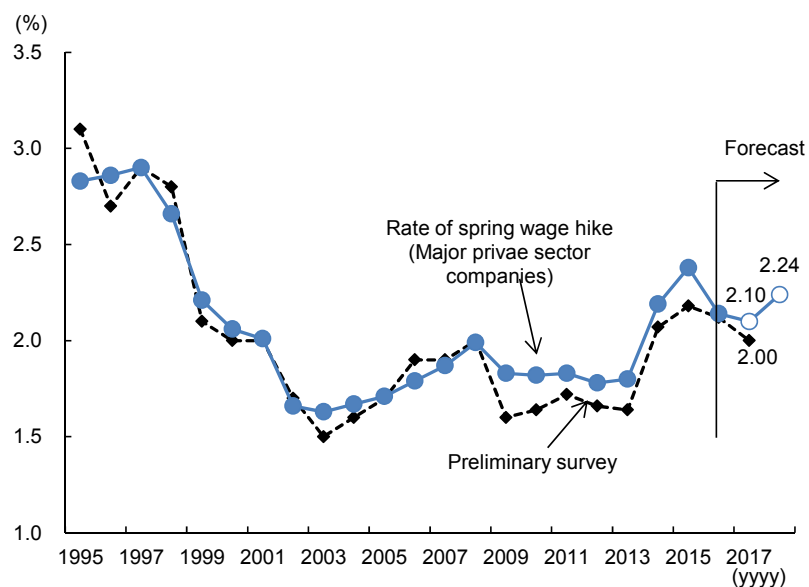


Note: Real values and seasonal-adjustments calculated by MHRI
 Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*, *Consumer Price Index* and Bank of Japan, *Public Opinion Survey on Household Financial Assets and Liabilities*

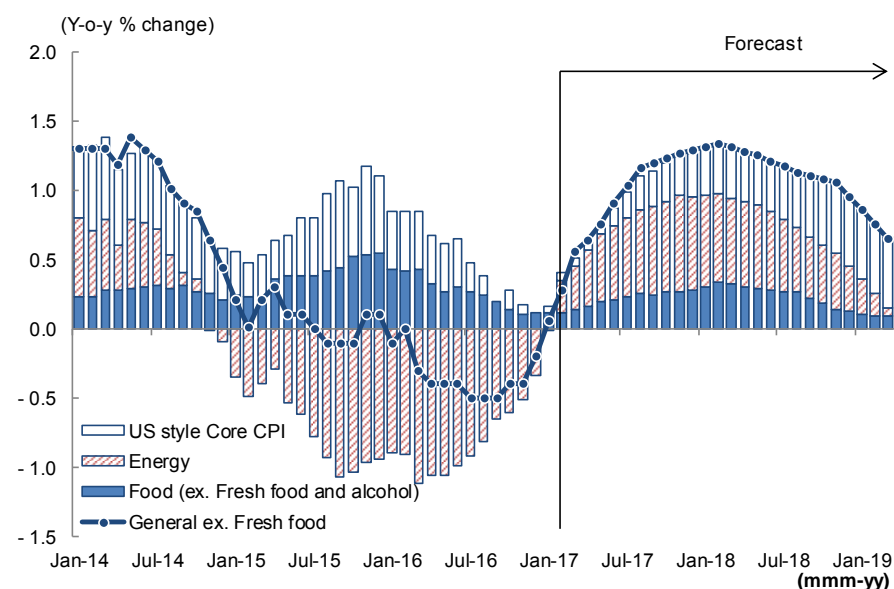
Wages and Prices: overseas political uncertainties will curb wage hikes in 2017. Upturn of base wages only from 2018

- ❑ Employers will likely remain cautious about raising base wages in 2017, given uncertainties regarding overseas political developments and other factors. An upturn in base wages is expected only from 2018.
 - In 2017, we do not forecast an increase in base wages despite forecasts of improvement in profits. Any return of profits to employees is likely to be through bonuses.
 - As for 2018, we expect the rate of wage hikes to improve due to expected easing of overseas political uncertainties as well as increased earnings and rise of prices in 2017.
- ❑ Prices to rise in 2017, particularly energy prices. The decline in the value of real wages will hold back consumer spending in 2017.

[Spring wage hike forecasts]



[Factor contribution to core Consumer Price Index]



Note: 1. 2017 figure forecast by MHRI.

2. Preliminary survey conducted by the Institute of Labour Administration.

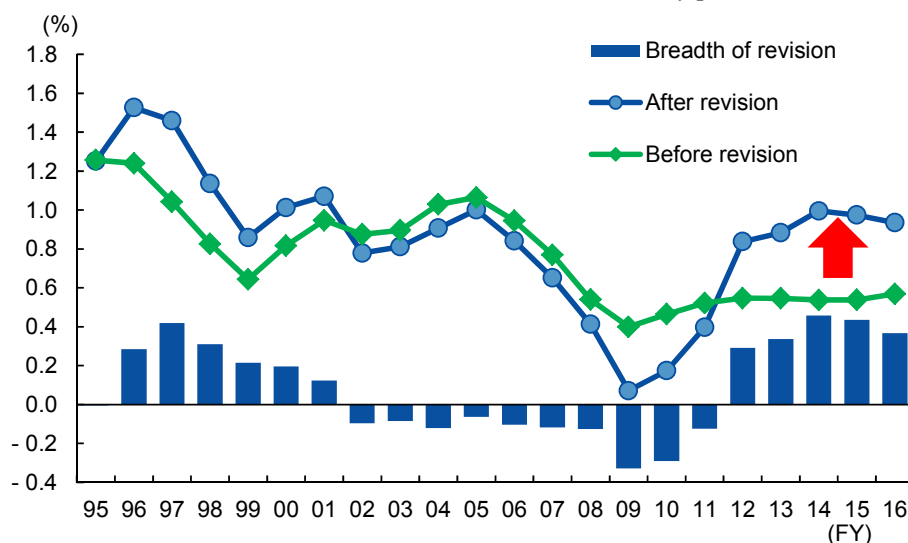
Source: Made by MHRI based upon Ministry of Health, Labour and Welfare, *Survey on agreements for wage increases at major private sector companies* (in Japanese), Institute of Labour Administration, *Forecast for 2017 wage hikes - Survey of 504 labor and management personnel and experts* (in Japanese)

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

Impact of the GDP standard revision: upward revision to the potential growth rate and the equilibrium yield curve

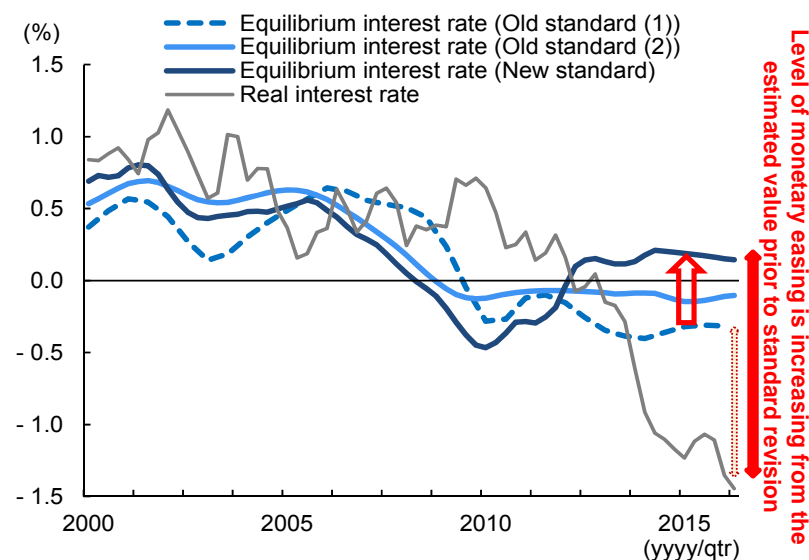
- ❑ There has been a recent upward revision in the potential growth rate to +0.9% (previously estimated at +0.5%) due to the GDP standard revision.
- ❑ The real equilibrium interest rate (natural yields) has also been upwardly revised on the back of the rise in the potential growth rate. The 10 year rate has been upwardly revised by 0.2 to 0.5% points.
 - The level of monetary easing was much stronger than anticipated. There are two suggestions for monetary policy (① appears to be more consistent in logic).
 - ✓ ① The boost to prices from monetary easing is smaller than previously anticipated. The merits of easing have declined, yet the demerits have stayed the same, so easing should be reduced based on the trade-offs between merits and demerits.
 - ✓ ② Prices have not risen despite the strong level of monetary easing, so there should be further easing.

[Potential growth rate (comparison of before and after revision of standard)]



Note: Estimated from the "Production function approach"
 Source: Made by MHRI based upon Cabinet Office, *National Accounts*

[Real equilibrium interest rate (comparison of before and after revision of standard, 10Y rate)]

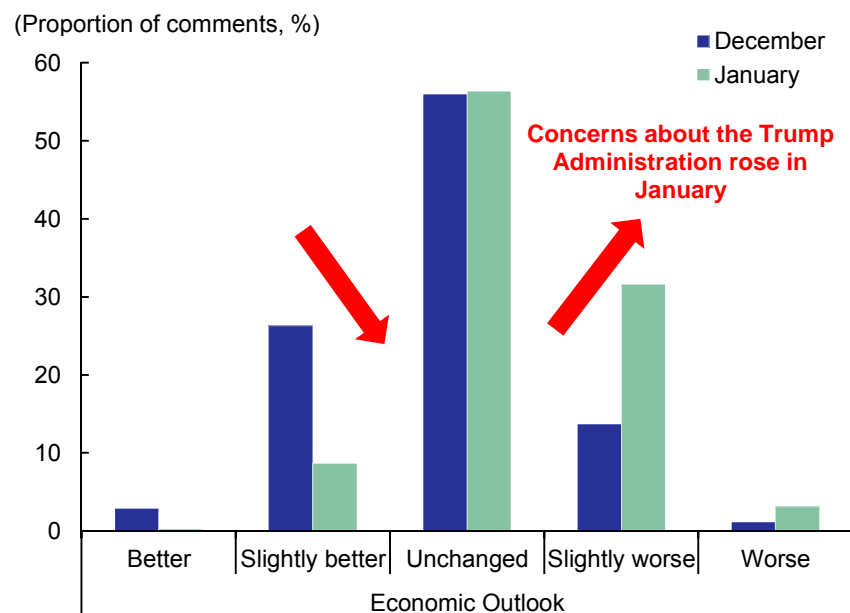


Note: Estimated based on Imakubo et al. (2015) "The natural yield curve: its concept and measurement" Old standard (1) uses the potential growth rate estimated by the BOJ, while old standard (2) and new standard use the potential growth rate (left hand graph) estimated by MHRI. The real equilibrium interest rate is the real interest rate that is neutral for the economy.
 Source: Made by MHRI based upon Cabinet Office, *National Accounts* and Bank of Japan materials

Risks: protectionism would have negative effects, particularly for automobiles

- ❑ The spate of protectionist comments and actions following the inauguration of the Trump administration are raising concerns about the Trump administration in Japan.
- ❑ Were US protectionism to become a reality and US imports decline, it would be a blow to the Japanese economy, particularly automobiles.
 - The near term concerns are the GOP's proposed "Border Tax adjustments" and political pressures to correct a strong dollar (= a strong yen). Furthermore, in the event of sector-by sector US-Japan FTA negotiations, the possibility of voluntary export restraints and import targets may not be ruled out.

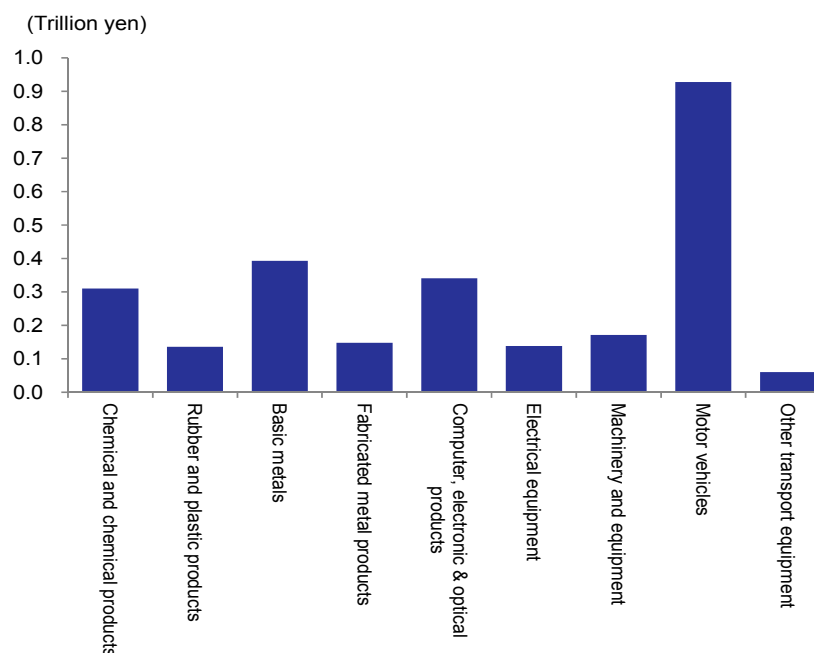
[The proportion of responses for the DI for future conditions that referred to the "US" or "President"]



Note: The proportion of responses relating to the DI for future conditions that made reference to the "US" or "President". The total number of responses that made reference to the "US" or "President" was 175 in December 2016 and 392 in January 2017..

Source: Made by MHRI based upon Cabinet Office, *Economy Watchers Survey*

[Impact on the value of production by Japanese industry in the event of a 10% decline of US imports (from the world)]



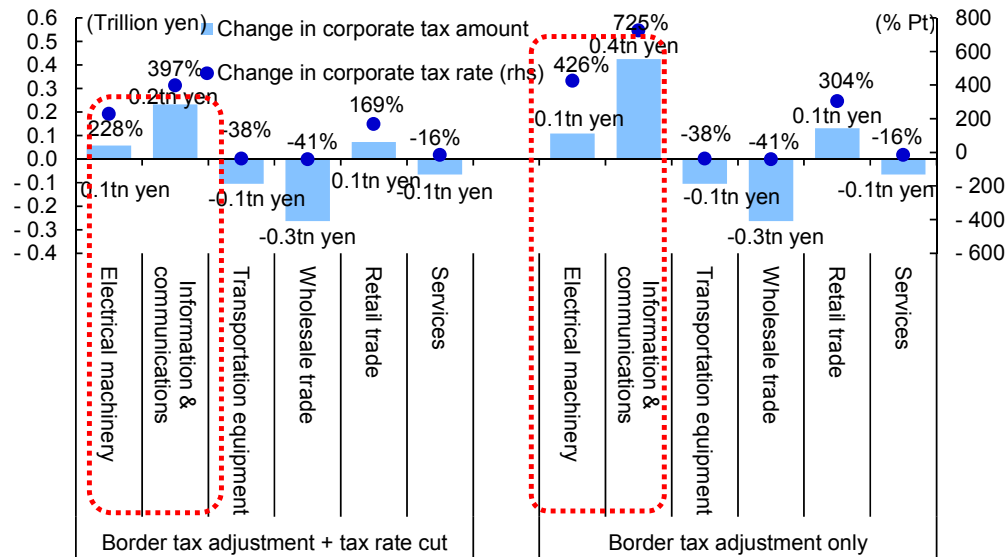
Note: As at 2014. Using the foreign exchange rate in that year converted to yen.

Source: Made by MHRI based upon "World Input-Output Database", etc.

Risks: GOP's proposed "border tax adjustment" could weigh on after-tax profits, particularly for automobile companies

- The GOP is proposing the introduction of "border tax adjustments" (to exempt exports from the tax base and include imports in the tax base). If this becomes a reality, some industries will suffer substantial downward pressure on after-tax profits (consolidated base).
 - The impact of 'border tax adjustment' on Japanese industry as a whole would not be large. However, there would be substantial impact on industries that import components such as information and communications equipment and electrical machinery. In addition, there would be a large negative impact on automobile manufacturers, if their sales subsidiaries are also included (estimated at about 1 trillion yen).
 - ✓ Transportation equipment (manufacturing only) would be affected positively by "border tax adjustments", but they would be subject to an increased burden in the order of 1 trillion yen if import and sales subsidiaries (mainly wholesalers) are included.

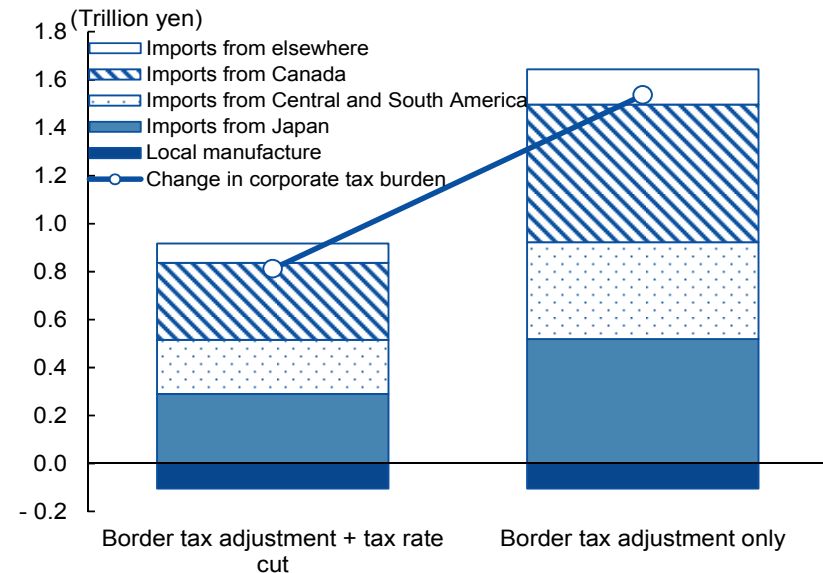
[Impact on corporate tax amounts and rates of Japanese companies located in the US from US corporate tax reforms (estimate)]



Note: Assumes the corporate tax rate reduced from 35% to 20%. Estimate based on 2014 data.

Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *Basic Survey on Overseas Business Activities*

[Impact on total corporate tax amount of Japanese automobile companies located in the US (including import and sales subsidiaries)]



Note: The overall figures are on the high side because the amount of imports from each country include importers that are non-Japanese automobile companies.

Source: Estimated by MHRI based upon Ministry of Economy, Trade and Industry, *Basic Survey on Overseas Business Activities*

BOJ Monetary Policy: no near term change to policy, but a gradual reduction in the size of outright purchases

- We expect that monetary policy will be left unchanged in the near term. The BOJ will be monitoring the impact of the government’s fiscal spending and growth strategy.
 - Despite the increase in the forecast growth rate in the *Outlook for Economic Activity and Prices* (“*Outlook Report*”), the outlook for prices is unchanged. There is an ongoing view that the “momentum” to achieve the price target is being maintained, but the timing to reach the price stability target is likely to be pushed back.
- JGB holdings grew by 78 trillion yen in 2016, below the 80 trillion yen target. We forecast a gradual decline in the increase in JGB holdings from FY2017. This could also involve an absence of clarity about the amount of increase in outright purchases with a gradual reduction in size.
 - We forecast the bond market to remain firm due to the BOJ’s yield curve controls. However, the market will remain sensitive to reductions in the size of outright purchases of JGBs.

[Outlook on Economic Activity and Prices (January 2017)]

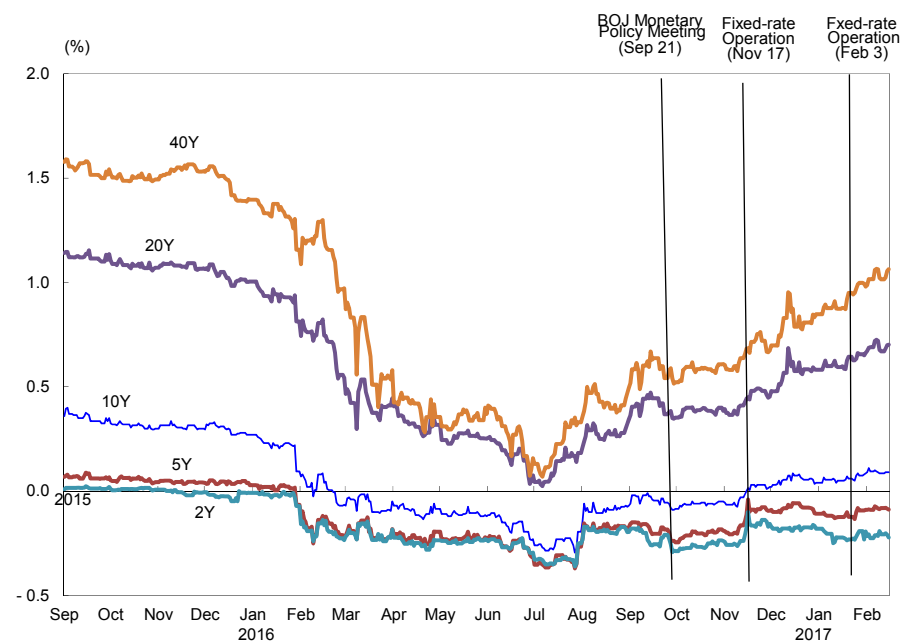
(Y-o-y % change)

	Real GDP	CPI (All items ex. Food)
FY2016	+1.2 to +1.5 (+1.4)	-0.2 to 0.1 (-0.2)
Forecast made in October	+0.8 to +1.0 (+1.0)	-0.3 to -0.1 (-0.1)
FY2017	+1.3 to +1.6 (+1.5)	+0.8 to +1.6 (+1.5)
Forecast made in October	+1.0 to +1.5 (+1.3)	+0.6 to +1.6 (+1.5)
FY2018	+1.0 to +1.2 (+1.1)	+0.9 to +1.9 (+1.7)
Forecast made in October	+0.8 to +1.0 (+0.9)	+0.9 to +1.9 (+1.7)

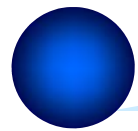
Note: Forecasts of the majority of Policy Board members. Figures in brackets indicate the median of the Policy Board members' forecasts (point estimates)

Source: Made by MHRI based upon Bank of Japan materials

[JGB yields]



Source: Made by MHRI based upon Bloomberg



III. Asian Economies

**Sustained growth due to export recovery, despite slowdown in
China**

Asian Economies: Asia also recovering because of China's improved production-inventory balance and the recovery in Chinese imports

- ❑ In the Oct-Dec quarter of 2016, China's real GDP growth rate stood at +6.8% y-o-y, a slight acceleration from the previous quarter (+6.7% y-o-y). Imports have clearly recovered with the improvement in the production-inventory balance due to progress in production adjustments and increase of housing investment and IT-related demand for domestic mobile telephones.
- ❑ Apart from the slowdown in housing investment due to policies to curb housing purchases, the ongoing adjustment for industries with excess production capacity are negative factors. On the other hand, the positive impact of support from fiscal policies such as infrastructure investment and the improvements in the production-inventory balance should contribute to the stability of the Chinese economy.
- ❑ With the exception of downturns caused by temporary factors, the Asian economies (ex. China) picked up in the Oct-Dec quarter of 2016 driven by IT and commodity exports.
- ❑ Apart from the ongoing recovery in exports, particularly to the US, domestic demand has been firm in ASEAN countries such as the Philippines and Vietnam, which have been successful in areas such as investment promotion policies. In 2018, we expect a slight acceleration of growth of the Asian economies including China. However, there are concerns that the recovery could be dampened if the protectionist stance of the US intensifies.

Export recovery until 2018, with slight acceleration in Asian economies

- We forecast slight acceleration in Asian economies up until 2018 with the upturn in exports to the US in particular.
 - In China, in addition to ongoing adjustments to excess production capacity, the measures to curb housing purchases will weigh on investment from 2017 and we forecast a gradual slowdown in the growth rate.
 - We forecast a moderate acceleration for NIEs with an increased upturn in exports, particularly to the US, up until 2018.
 - AESAN5 is expected to recovery to +5.0% in 2018 due to the export recovery, as well as increased fiscal spending and revenues due to the recovery in the price of crude oil.
 - In India, following acceleration in 2017 in counter-reaction to the abolition of high-denomination bank notes in 2016, we forecast the growth rate to level off in 2018.

[Outlook on the Asian economies]

	(%)						(%)	
	2013 (Actual)	2014 (Actual)	2015 (Actual)	2016 (Forecast)	2017 (Forecast)	2018 (Forecast)	2015 (Previous: December Forecast)	2016 (Forecast)
Asia	6.5	6.4	6.1	6.0	6.0	6.1	6.0	6.0
China	7.8	7.3	6.9	6.7	6.5	6.4	6.7	6.5
NIEs	2.9	3.5	2.0	2.1	2.2	2.5	2.0	2.2
South Korea	2.9	3.3	2.6	2.7	2.4	2.8	2.6	2.4
Taiwan	2.2	4.0	0.7	1.4	2.3	2.6	1.3	2.1
Hong Kong	3.1	2.7	2.4	1.5	1.6	1.6	1.5	1.5
Singapore	4.7	3.3	2.0	1.8	1.6	2.3	1.3	1.7
ASEAN5	5.0	4.6	4.8	4.9	4.9	5.0	4.8	4.7
Indonesia	5.6	5.0	4.9	5.0	5.1	5.2	5.0	4.9
Thailand	2.7	0.9	2.9	3.1	3.0	3.0	3.1	2.9
Malaysia	4.7	6.0	5.0	4.1	4.1	4.6	4.1	4.1
The Philippines	7.1	6.2	5.9	6.8	6.4	6.3	6.6	5.7
Vietnam	5.4	6.0	6.7	6.2	6.3	6.4	6.1	6.2
India	6.3	7.0	7.2	7.0	7.5	7.5	7.0	7.6
Australia	2.1	2.8	2.4	2.4	2.2	2.7	2.4	2.5
(Reference) Asia ex. China and India	4.2	4.1	3.7	3.8	3.8	4.1	3.7	3.7
(Reference) Asia ex. China	5.1	5.4	5.2	5.2	5.5	5.7	5.2	5.5

Note: 1. Real GDP growth rate (y-o-y) .

2. Average figures are calculated from the 2014 GDP share from the IMF (purchasing power parity base)

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

Asia: recent economic recovery, and forecast for ongoing recovery in exports

- The growth rates for Oct-Dec 2016 were generally firm apart from slowdowns attributed to special factors.
 - Looking at the countries that slowed down, Taiwan was weighed down by the increase of imports due to firm domestic and external demand. The state of the economy itself was strong. In Indonesia, although government spending slowed down, private-sector demand was firm. In South Korea, consumer spending slowed down and construction investment declined due to mortgage loan regulations.
- Asian export orders continued to rise. Despite a slight slowdown for Taiwan the level remains high, and we forecast an ongoing recovery in exports.
 - In countries other than China, even though China-bound exports are predicted to moderate reflecting forecasts of China's economic slowdown, exports should expand due to the US economic recovery and firm IT related demand.

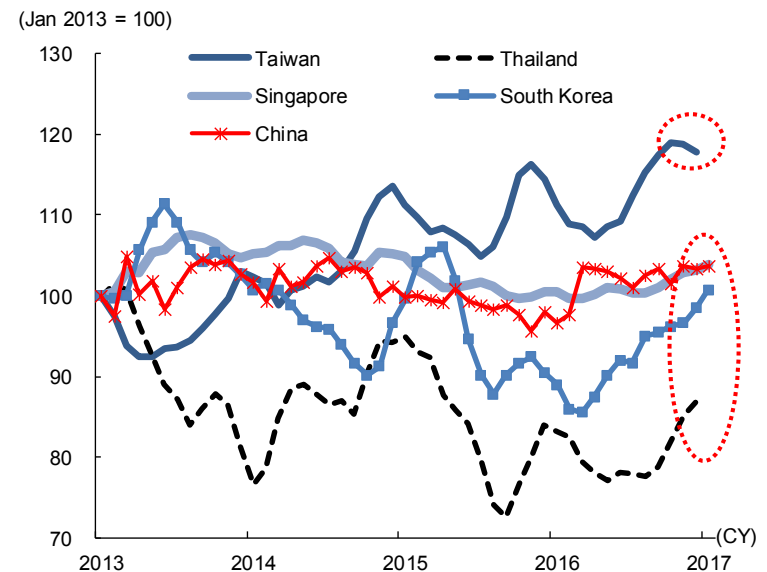
[Real GDP growth rate]

	(Q-o-q % change)					
	2015		2016			
	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
South Korea	5.0	2.7	2.1	3.2	2.5	1.6
Taiwan	-0.0	0.1	4.9	0.2	3.9	1.9
Hong Kong	1.9	0.8	-2.1	6.3	2.5	N.A.
Singapore	2.3	6.2	0.2	0.4	-1.9	9.1
Thailand	3.7	3.4	3.9	3.0	2.2	N.A.
Malaysia	3.5	5.0	4.2	2.7	6.1	N.A.
The Philippines	5.8	8.1	5.2	8.3	6.1	7.1

	(Y-o-y % change)					
China	6.9	6.8	6.7	6.7	6.7	6.8
Indonesia	4.8	5.2	4.9	5.2	5.0	4.9
Vietnam	6.9	7.0	5.5	5.8	6.6	6.7
India	7.6	7.2	7.9	7.1	7.3	N.A.

Source: Made by MHRI based upon statistics of each of the relevant countries and regions, and CEIC Data

[Export orders received by Asian countries]



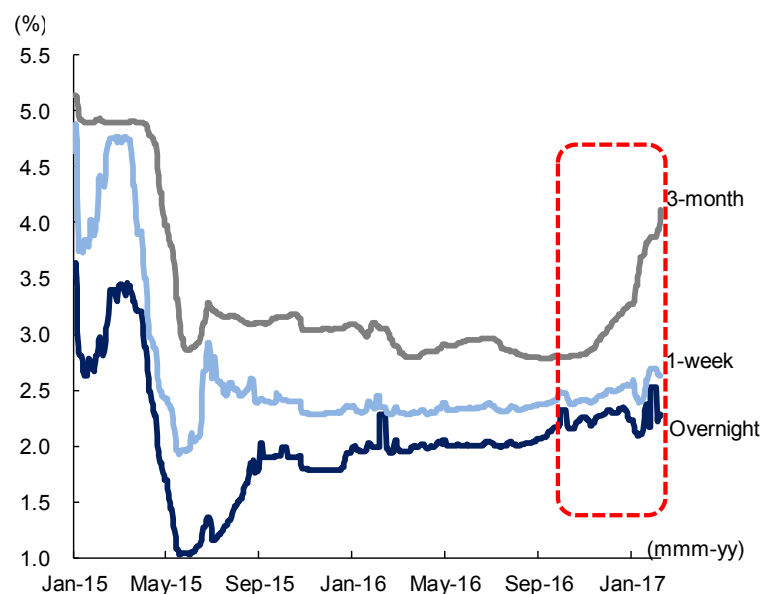
Note: Taiwan shows the orders received index. Others are sentiment indices based on surveys such as PMI

Source: Made by MHRI based upon statistics of each of the relevant countries and regions, and CEIC Data

China: new financial risks are smoldering with growing vulnerability to higher interest rates

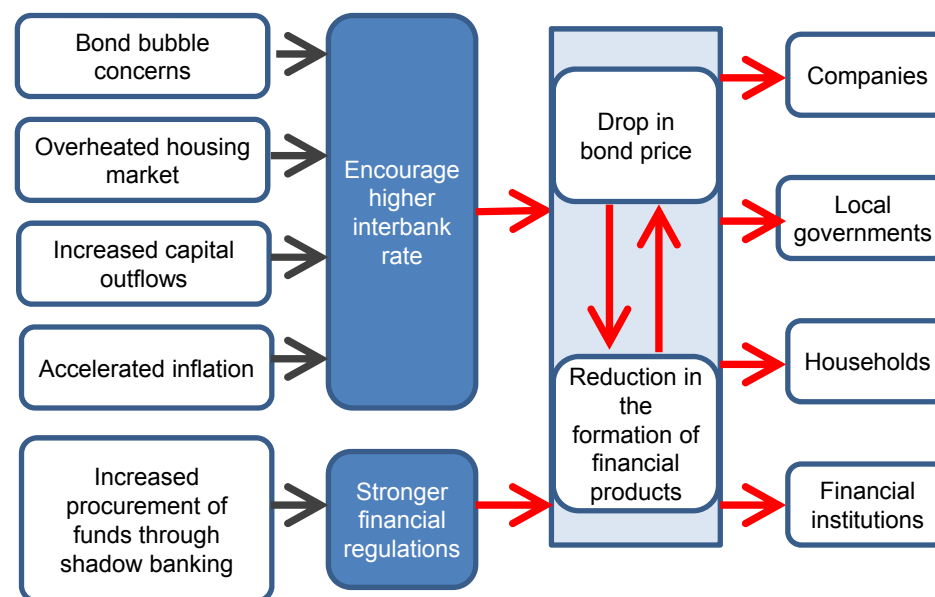
- ❑ With corporate debt as a proportion of GDP at about 170% and continuing to grow, the return on investment is falling and the vulnerability to higher interest rates is growing.
- ❑ Under such circumstances, the Chinese authorities have recently started to encourage interest rates higher to deal with issues such as concerns about a bond bubble, an overheated housing market, increased capital outflows and acceleration of inflation. Financial regulations are also being strengthened to curb increased procurement of funds through shadow banking tools such as wealth management products.
- ❑ There are concerns that a sharp rise of interest rates due to acceleration in the pace of US interest rate hikes and accelerated inflation, and market over-reaction to stronger financial regulations would have a major impact on the bond market and wealth management products, and lead to adverse impacts upon financial institutions and the real economy.
 - At the Central Economic Work Conference, convened at the end of 2016, the Chinese government indicated “Preventing financial risk is a priority for 2017”.

[Shanghai Interbank Offered Rate (SHIBOR)]



Source: Made by MHRI based upon Bloomberg

[Overview of financial risk]



Source: Made by MHRI

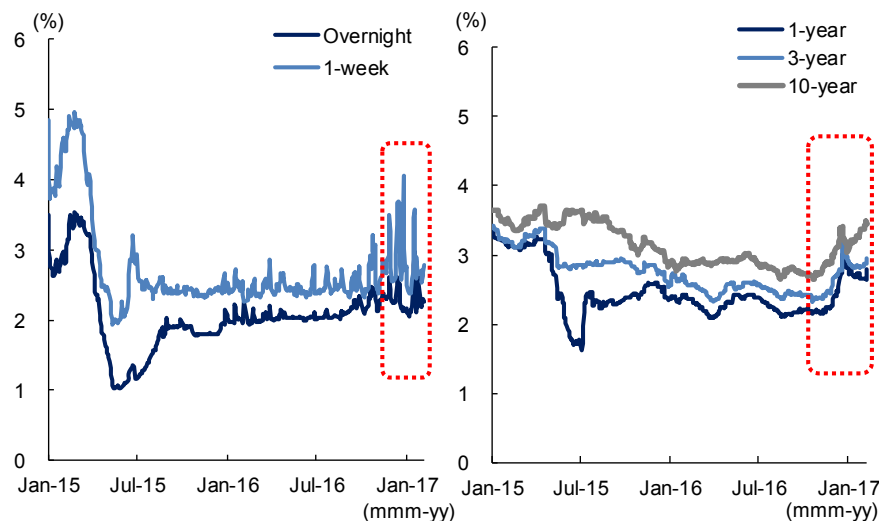
China: signs of irregularities such as a sharp drop in bond prices are already present. The impact on wealth management products requires monitoring

- ❑ There are already signs of irregularities in the bond market. Given the rise of expectations for monetary tightening due to the acceleration of inflation, bond prices plummeted at the end of 2016.
 - Furthermore, unwinding of highly leveraged bond repo transactions is spreading, leading to a steeper fall of bond prices.
 - There are concerns that financial institutions could be burdened with even greater losses if bond prices plummet in over-reaction to US interest rate hikes.
- ❑ Given that approximately 40% of all wealth management products are related to bonds, a decline in bond prices will also have an impact on wealth management products.
- ❑ Furthermore, it will be important to monitor the possible downward pressure on bond prices from stronger regulation of wealth management products.

[Bond yields]

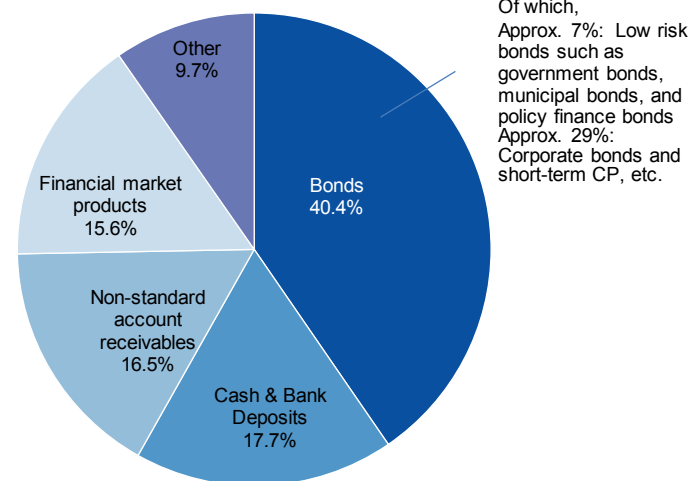
[Interbank bond repo rate]

[Government bond yield]



Source: Made by MHRI based upon Wind

[Breakdown of investments into wealth management products (as of end of June 2016)]



- Note:
1. Non-standard account receivables are not traded on a stock exchange or in the interbank markets and refers to various types of beneficiary rights, loan assets and trust loans, etc.
 2. Financial market products are negotiable deposits, bank acceptance, etc.

Source: Made by MHRI based upon the Financial Registration Custody Center, Chinese Bank Financial Product Market Report (2016 H1)

(Reference) Key political events

	2017		2018	
US			Feb	FRB Chair Yellen's term of office ends
			Nov	Mid-term election
Europe	Mar	Netherlands: Legislative election	1H	Italy: General election
	Apr-May	France: Presidential election		
	Jun	France: Legislative election		
	Sep	Germany: Legislative election		
Japan			Apr	BOJ Governor Kuroda's term of office ends
			Sep	LDP Presidential election
			Dec	Lower House members' term of office end
Asia	Mar	Hong Kong: Chief Executive election	around May	Malaysia: Legislative election
	Autumn	China: 19th National Congress of the Communist Party of China	Autumn	China: 3rd Plenary Session of the CPC Central Committee
	By year end	South Korea: Presidential election	By year end	India: Upper house election
			By year end	Thailand: General election
Others	May	G7 Summit (Italy, Sicily)	Mar	Russia: Presidential election
	Jul	G20 Summit (Germany, Hamburg)	Jul	Mexico: Presidential election
			Oct	Brazil: Presidential election

Source: Made by MHRI

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