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FY2015, FY2016 Economic Outlook

- The slowdown is temporary. Even though the global economy will follow a gradual recovery, watch the rise of risks regarding China -

August 18, 2015

Mizuho Research Institute

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Building the future with you

Key points of our forecast

- Although the pace of global economic recovery has moderated due to a temporary stagnation of the US economy, the slowdown of the Chinese economy, and the fall of growth among commodity-exporting countries, the global economy is forecast to pick up gradually from the second half of 2015.

- While we expect the US to start its interest rate hike in September 2015, the path of rate increases is likely to be shallow, thus keeping the rise of US long-term interest rates moderate. On the other hand, the expansion of the interest rate differential should continue to keep the dollar strong.

- The Chinese economy will continue to follow a mild downtrend under structural adjustment pressures. However, note that the rise of downside risks to the economy, such as the stock market fall and soft economic indicators, are also a source of concern for the global economy.

- In the event of a sharp slowdown of the Chinese economy, it would have a significant impact upon the Japanese economy and the export-dependent economies of Asia.

- The Japanese economy's dip into negative growth in the Apr-Jun quarter will only be temporary. Looking forward, the Japanese economy should gradually pick up driven by the "Triple Merits" ((1) a weak yen and rise of the stock market, (2) support by fiscal policy, and (3) low crude oil prices).

- Despite a temporary dip of Japan's inflation into negative territory, the inflation rate should climb to around 1.5% in the second half of FY2016. Although expectations of additional monetary easing to achieve the target would continue, market players may turn cautious regarding the exit from monetary easing.

Overview – the global economy should follow a gradual expansion despite concerns regarding the US interest rate hike and the Chinese economy

- We expect the global economy (the weighted average of countries and regions included in MHRI's forecast) to slow in 2015 (+3.2%) from the year before (2014: +3.5%). In 2016, the pace of global economic growth should rise to +3.6%, due to the continuation of a mild expansion among the developed economies and the alleviation of downward pressures upon commodity-exporting economies stemming from the fall of crude oil prices.

- Despite a temporary slowdown of the US economy, it should pick up and grow around the upper half of the +2%-level. Japan is forecast to keep growing around the upper half of the +1%-level to +2% in FY2016 given the benefits of a weaker yen and low crude oil prices, and the last-minute rush of demand prior to the consumption tax hike. The eurozone economy should continue to follow a gradual expansion supported by monetary easing and low crude oil prices.

- The emerging economies will continue to lack power as an engine of global economic growth. In addition to the ongoing slowdown of the Chinese economy, the pace of economic growth of Russia and Brazil will dip into negative territory in 2015.

- Although our main scenario outlook is a gradual recovery of the global economy, downside risks will linger such as the deeper than expected downturn of the Chinese economy and the risks of an US economic downturn due to factors such as the strong dollar and low crude oil prices. In addition, it will be necessary to keep a close eye upon the possibility that eurozone political issues and geopolitical risks may lead to financial market turmoil and global economic slowdown.

Despite a temporary slowdown, the global economy should gradually expand from the second half of 2015

[Outlook on the global economy]

Calendar year	2013 (Actual)	2014 (Actual)	2015 (Forecast)	2016 (Forecast)	2015 (June forecast)	2016 (June forecast)	2015 (breadth of revision from June)	2016 (breadth of revision from June)
	(Y-o-y % change)				(Y-o-y % change)		(% point)	
Total of forecast area	3.3	3.5	3.2	3.6	3.3	3.8	-0.1	-0.2
Japan, US. Eurozone	0.8	1.5	1.7	2.1	1.8	2.2	-0.1	-0.1
US	1.5	2.4	2.3	2.6	2.4	2.8	-0.1	-0.2
Eurozone	-0.3	0.9	1.3	1.6	1.4	1.6	-0.1	—
Japan	1.6	-0.1	0.7	1.7	1.1	2.0	-0.4	-0.3
Asia	6.4	6.4	6.2	6.2	6.3	6.2	-0.1	—
China	7.7	7.4	7.0	6.7	7.0	6.7	—	—
NIEs	2.9	3.3	2.2	2.7	2.9	3.0	-0.7	-0.3
ASEAN5	5.1	4.6	4.5	4.5	4.8	4.8	-0.3	-0.3
India	6.4	7.1	7.5	7.8	7.5	7.8	—	—
Australia	2.1	2.7	2.3	2.6	2.3	2.6	—	—
Brazil	2.7	0.1	-2.0	-0.5	-1.2	0.8	-0.8	-1.3
Russia	1.3	0.6	-4.0	0.3	-4.0	0.5	—	-0.2
Japan (FY)	2.1	-0.9	1.2	2.0	1.8	2.0	-0.6	—
Crude oil price (WTI, USD/bbl)	98	93	51	58	58	67	-7	-9

Note: The total of the forecast area is calculated upon the 2012 GDP share (PPP) by the IMF.
Sources: Made by MHRI based upon releases by the International Monetary Fund (IMF) and statistics of relevant countries and regions.

The Japanese economy – return to a recovery track. The "Triple Merits" will continue to prop up the economy

- In the Apr-Jun quarter of 2015, Japan's economic growth rate fell into negative territory for the first time in three quarters. Personal consumption and exports fell sharply while capital investment also flattened out. However, the contraction in the Apr-Jun quarter stems from temporary factors (such as the backlash to the surge of exports early this year, downward pressures upon consumption due to the unseasonable weather and the delayed timing of summer bonus payments).

- From the Jul-Sep quarter of 2015, the Japanese economy should return to a recovery track on the back of the four following factors: (1) the ebb of temporary negative pressures, (2) support by the "Triple Merits" (the weak yen/stock market rise, emergency economic stimulus measures, and low crude oil prices), (3) improvement of labor market conditions, and (4) corporate governance reforms. However, amid lingering inventory adjustment pressures, the slowdown of emerging market economies will also serve as a drag and keep the pace of recovery tepid for some time. FY2015 growth forecast: +1.2%.

- In FY2016, a last-minute rush of demand prior to the consumption tax hike (in April 2017) will emerge in the second half of the fiscal year. The rise of personal consumption and housing investment should lead to strong growth (FY2016: +2.0%).

- Given the sharp fall of crude oil prices, the y-o-y change of the core CPI will dip into negative territory toward the summer to autumn of 2015. From then onward, energy prices should rise at a faster pace amid the gradual rise of the underlying inflation rate, lifting the inflation rate to around 1.5% in the latter half of the forecast horizon. Even so, inflation will likely fall short of the Bank of Japan's (BOJ) outlook that inflation will reach around 2% "around the first half of FY2016".

The Japanese economy: a return to a gradual recovery track. The economy will accelerate due to a last-minute rush of demand in the second half of FY2016

[Outlook on the Japanese economy]

		2013	2014	2015	2016	2014		2015				2016				2017
		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	2.1	-0.9	1.2	2.0	-0.3	0.3	1.1	-0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.7
	Q-o-q % ch p.a.	--	--	--	--	-1.3	1.4	4.5	-1.6	1.8	1.9	2.2	1.7	1.7	2.1	2.7
Domestic demand	Q-o-q % ch	2.5	-1.4	1.2	1.8	-0.4	0.0	1.1	-0.1	0.4	0.3	0.5	0.3	0.4	0.6	0.9
Private sector demand	Q-o-q % ch	2.3	-2.1	1.5	2.3	-0.8	-0.0	1.5	-0.4	0.6	0.6	0.8	0.4	0.4	0.7	1.2
Personal consumption	Q-o-q % ch	2.5	-3.1	0.7	2.0	0.3	0.3	0.3	-0.8	0.7	0.5	0.3	0.2	0.4	0.6	1.7
Housing investment	Q-o-q % ch	9.3	-11.7	2.9	6.2	-6.3	-0.6	1.7	1.9	2.8	-2.1	2.0	1.1	4.4	0.6	1.0
Capital investment	Q-o-q % ch	4.0	0.5	4.0	3.6	-0.0	0.2	2.8	-0.1	1.0	1.5	1.3	0.6	0.6	0.7	0.8
Inventory investment	Q-o-q contribution, % pt	-0.5	0.5	0.1	-0.1	-0.6	-0.2	0.5	0.1	-0.2	-0.0	0.2	0.0	-0.1	0.0	-0.3
Public sector demand	Q-o-q % ch	3.2	0.8	0.4	0.1	0.6	0.3	0.0	0.8	-0.3	-0.4	-0.4	0.3	0.2	0.2	0.3
Government consumption	Q-o-q % ch	1.6	0.4	1.0	0.9	0.3	0.3	0.3	0.4	0.1	0.2	0.2	0.3	0.2	0.2	0.3
Public investment	Q-o-q % ch	10.3	2.0	-2.2	-3.2	1.7	0.3	-1.2	2.6	-1.9	-3.0	-3.1	0.3	0.3	0.1	0.2
External demand	Q-o-q contribution, % pt	-0.5	0.6	-0.0	0.2	0.1	0.3	-0.1	-0.3	0.1	0.1	0.0	0.1	0.1	-0.0	-0.3
Exports	Q-o-q % ch	4.4	7.9	1.2	6.6	1.8	2.8	1.6	-4.4	2.0	1.8	1.5	1.5	1.6	1.7	1.6
Imports	Q-o-q % ch	6.7	3.6	1.1	5.4	0.9	0.9	1.8	-2.6	1.3	0.9	1.2	1.1	1.2	1.8	3.0
GDP (nominal)	Q-o-q % ch	1.8	1.6	2.7	2.2	-0.7	0.8	2.2	0.0	1.1	0.3	-0.3	1.2	1.0	0.3	-0.2
GDP deflator	Y-o-y % ch	-0.3	2.5	1.5	0.3	2.1	2.4	3.5	1.6	2.6	1.9	-0.0	0.3	0.2	0.2	0.3
Domestic demand deflator	Y-o-y % ch	0.4	2.1	0.2	0.8	2.3	2.1	1.5	0.1	0.2	0.2	0.4	0.5	0.8	1.1	1.0

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

Japan: core inflation will rise to around 1.5%. The underlying inflation rate will rise.

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

		2013	2014	2015	2016	2014		2015				2016				2017
		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	3.2	-0.4	1.4	4.0	-1.4	0.8	1.5	-1.4	1.0	1.1	1.2	0.8	0.8	1.0	1.3
Ordinary profits	Y-o-y % ch	20.9	5.1	11.8	8.6	7.4	12.1	-1.0	8.8	11.7	9.4	17.0	9.9	8.7	7.4	8.3
Nominal compensation of employees	Y-o-y % ch	1.0	1.7	1.7	2.2	2.2	1.8	1.4	0.8	2.6	1.9	1.4	2.1	2.3	2.3	2.0
Unemployment rate	%	3.9	3.5	3.3	3.3	3.6	3.5	3.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
New housing starts	P.a., 10,000 units	98.7	88.0	91.7	95.1	86.1	88.0	89.6	95.3	89.0	90.8	91.3	95.6	95.9	96.9	91.7
Current account balance	P.a., JPY tril	1.5	7.9	15.9	14.7	2.0	10.7	15.5	16.8	15.0	18.9	12.2	18.8	14.6	16.4	8.4
Domestic corporate goods prices	Y-o-y % ch	1.9	2.8	-1.7	1.3	4.0	2.4	0.4	-2.2	-2.0	-2.1	-0.5	0.7	1.2	1.6	1.7
Consumer prices (ex fresh food)	Y-o-y % ch	0.8	2.8	0.1	1.3	3.2	2.7	2.1	0.1	-0.2	-0.1	0.5	0.7	1.3	1.5	1.5
Consumer prices (ex fresh food, ex consumption tax)	Y-o-y % ch	0.8	0.8	0.0	1.3	1.2	0.7	0.1	0.0	-0.2	-0.1	0.5	0.7	1.3	1.5	1.5
Consumer prices (ex food (ex alcohol) and energy, ex consumption tax)	Y-o-y % ch	0.2	0.5	0.6	0.7	0.6	0.4	0.4	0.4	0.6	0.7	0.6	0.6	0.6	0.8	0.8
Uncollateralized overnight call rate	%	0.04	0.02	0〜0.10	0〜0.10	0.03	0.07	0.02	0.01	0〜0.10	0〜0.10	0〜0.10	0〜0.10	0〜0.10	0〜0.10	0〜0.10
Yield on newly-issued 10-yr JGBs	%	0.69	0.48	0.40	0.65	0.53	0.44	0.34	0.40	0.45	0.45	0.45	0.60	0.65	0.65	0.70
Nikkei average	JPY	14,424	16,272	20,700	21,900	15,562	16,705	18,175	20,049	20,400	20,800	21,500	21,700	21,900	22,000	22,100
Exchange rate	JPY/USD	100	110	125	130	104	115	119	121	124	126	128	129	130	130	131
Crude oil price (WTI nearest term contract)	USD/bbl	99	81	52	60	97	73	49	58	46	51	55	57	59	61	63

Notes: 1. Figures in the shaded areas are forecasts.The readings above may differ from public releases because the rates of change are calculated based upon actual results.
2. Ordinary profits are based upon the *Financial Statements Statistics of Corporations by Industry* (all industries) (ex finance & insurance, and production, transmission and distribution of electricity).
3. Quarterly data on the unemployment rate, new housing starts and current account balance are seasonally-adjusted. The number of new housing starts are seasonally-adjusted monthly data converted into quarterly averages (converted into annualized terms).
4. Of the finance-related indices, the uncollateralized overnight call rate refers to the rate at the end of term, the yield on newly-issued 10-yr JGBs refers to the average of the end-of-month rates during the relevant term, and all others are averages during the relevant terms.

Sources: Made by MHRI based upon Cabinet Office, *Preliminary Quarterly Estimates of GDP*, Ministry of Economy, Trade and Industry, *Indices of Industrial Production*, Ministry of Finance, *Financial Statements Statistics of Corporations by Industry, Quarterly*, Ministry of Internal Affairs and Communications, *Labor 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.

Financial markets: a mild yen depreciation and rise of stock markets even after the US interest rate hike

- In contrast to the ebb of jitters regarding Greece, note the rise of concerns on the US interest rate hike and the Chinese economy. The US is forecast to start raising interest rates in September 2015. The path of the rate hikes are expected to be shallow, and the continuation of an accommodative monetary policy stance in Japan and Europe should keep the stock and bond markets on solid grounds.

- The BOJ may implement a further bout of monetary easing in the event of a downturn of sentiment evident in, for example, outlooks on inflation. Even though the yen should remain weak against the dollar due to the gap in monetary policy between the US and Japan, the pace of yen weakening is expected to be moderate. Japanese stocks are predicted to rise, reflecting corporate business results and favorable demand and supply conditions.

- Turning to domestic long-term interest rates, the BOJ's massive government bond purchases is keeping the volatility of interest rates subdued, restraining the rise of interest rates for the time being. Looking forward, domestic interest rates may gradually be subject to upward pressures amid the rise of the stock market and US interest rates. However, fluctuations in overseas interest rates and speculation on the BOJ's exit policy may lead to the rise of volatility.

Financial markets: the dollar should strengthen to the JPY130-level and the Nikkei average should rise to the JPY22,000-level in the second half of FY2016

[Outlook on the financial markets (August 2015)]

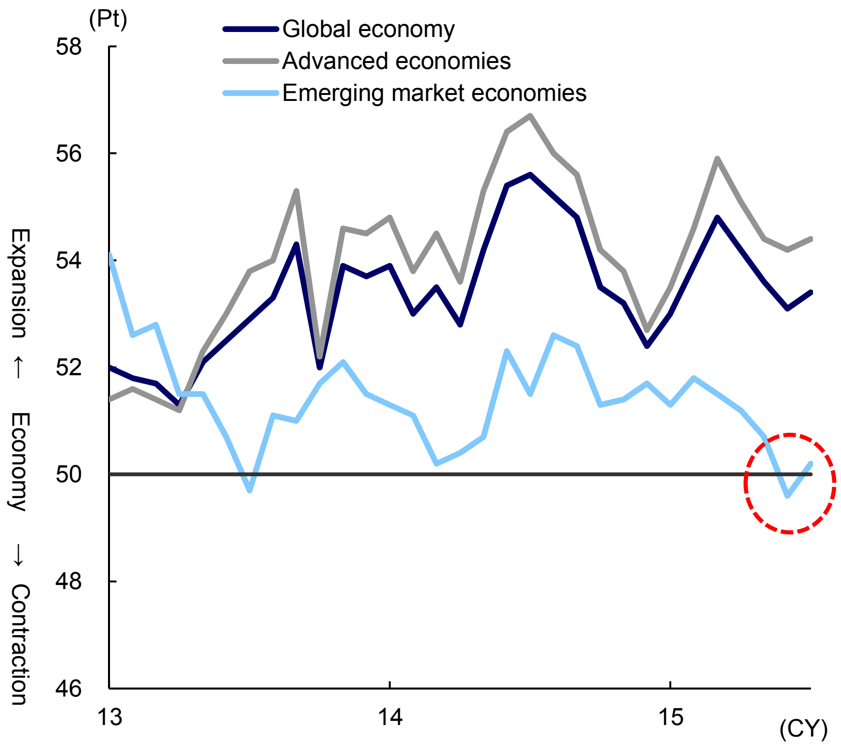
		2014 FY	2015 FY	2016 FY	2015 Jan-Mar	2015 Apr-Jun	2015 Jul-Sep	2015 Oct-Dec	2016 Jan-Mar	2016 Apr-Jun	2016 Jul-Sep	2016 Oct-Dec	2017 Jan-Mar
Japan													
Uncollateralized O/N call rate	(end-of period rate, %)	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1	0～0.1
Euroyen TIBOR	(3-mo, %)	0.20	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Interest rate swaps	(5-yr, %)	0.26	0.25	0.26	0.24	0.27	0.25	0.25	0.25	0.25	0.25	0.25	0.30
Newly-issued JGBs	(10-yr, %)	0.48	0.40	0.65	0.34	0.40	0.45	0.45	0.45	0.60	0.65	0.65	0.70
Nikkei average	(JPY)	16,272	20,700	21,900	18,175	20,049	20,400	20,800	21,500	21,700	21,900	22,000	22,100
US													
Federal funds rate	(end-of-period rate, %)	0～0.25	0.75～1.00	2.00～2.50	0～0.25	0～0.25	0.25～0.50	0.50～0.75	0.75～1.00	1.00～1.25	1.25～1.50	1.50～1.75	2.25
Newly-issued government bonds	(10-yr, %)	2.33	2.36	2.80	1.96	2.16	2.30	2.50	2.50	2.60	2.70	2.75	3.00
Dow Jones average	(USD)	17,191	17,900	18,500	17,806	18,007	17,600	17,800	18,000	18,200	18,400	18,600	18,800
Eurozone													
ECB key policy interest rate	(end-of-period rate, %)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
German government bonds	(10-yr, %)	0.90	0.70	0.70	0.35	0.53	0.80	0.80	0.75	0.70	0.60	0.60	0.70
Forex													
JPY/USD exchange rate	(JPY/USD)	110	125	130	119	121	124	126	128	129	130	130	131
USD/EUR exchange rate	(USD/EUR)	1.27	1.07	1.02	1.13	1.11	1.09	1.05	1.03	1.03	1.02	1.02	1.01
Crude oil (WTI futures)	(USD/bbl)	81	52	60	49	58	46	51	55	57	59	61	63

Notes: The shaded areas are forecasts. The forecasts are averages of the relevant periods. However, the uncollateralized overnight call rate, federal funds rate and ECB policy interest rates are end-of-period rates.
Euroyen TIBOR (360-day basis). 5-yr swaps (fixed interest rate toward 6-mo LIBOR. Forex rates are based upon New York closing rates.
Source: Made by MHRI based upon Bloomberg.

The global economic recovery is stalling.
Rise of concerns regarding the slowdown of emerging market economies

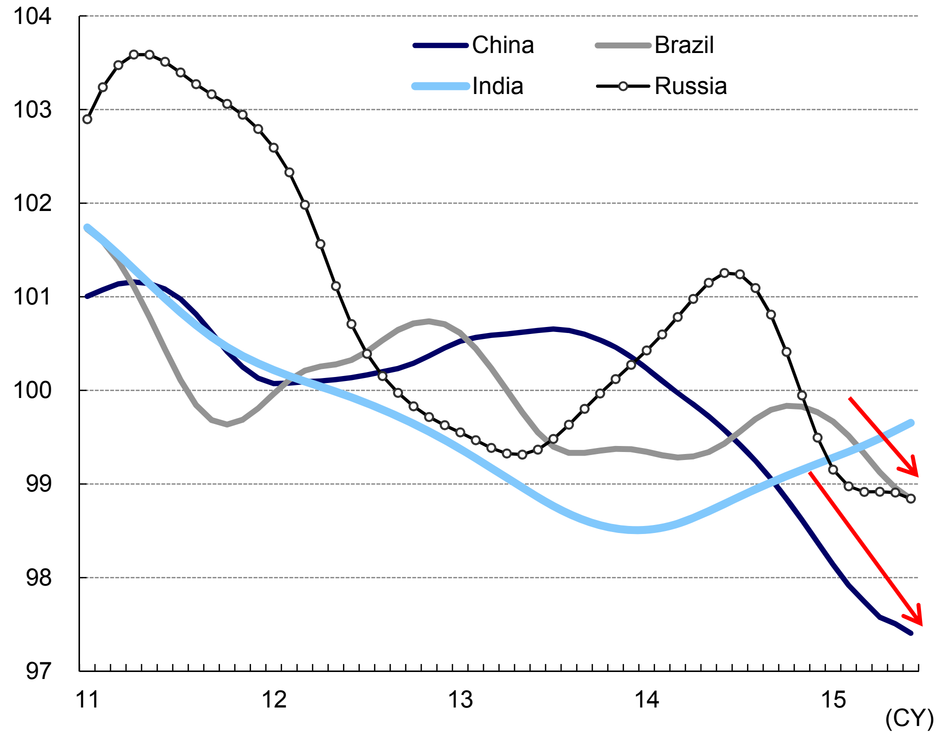
- The global economy stalled in the first half of 2015 due to fall of US growth and the slowdown of the Chinese economy.
  - Despite signs of recovery in the US economy, note the rise of concerns regarding the slowdown of the emerging market (EM) economies.

[Composite PMI of advanced and emerging market economies]



Source: Made by MHRI based upon Markit.

[OECD Leading Indicators (BRICs)]

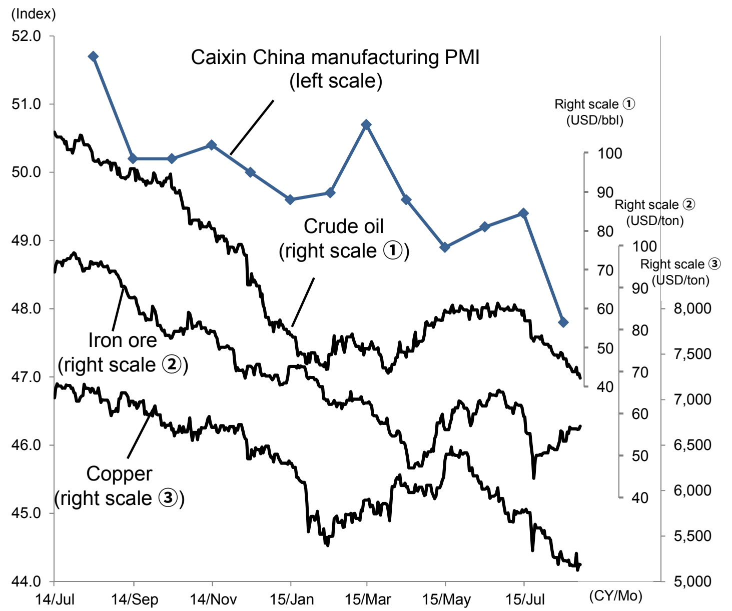


Source: Made by MHRI based upon OECD.

A crude oil double dip

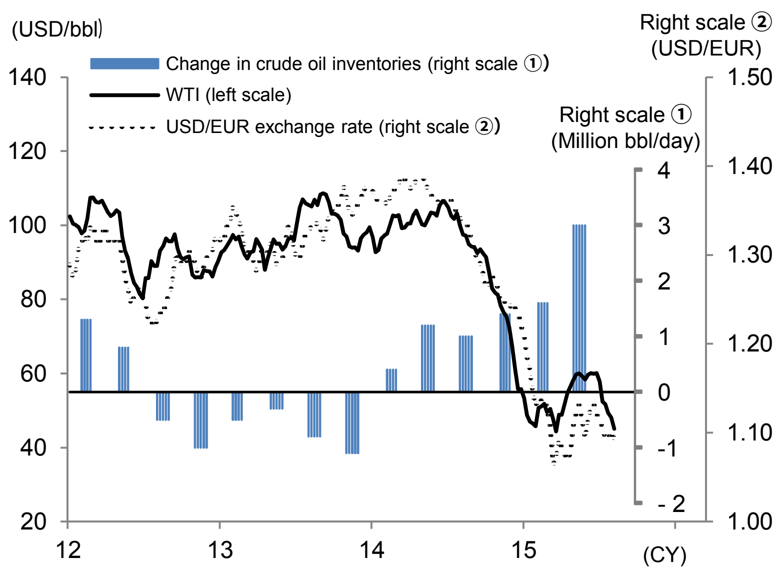
- Commodity market conditions are generally soft, reflecting the slowdown of emerging market economies.
  - The crude oil market fell once again to the USD40-level.
  - Crude oil producers are keeping output high even amid the slowdown of emerging market economies. There is a crude oil supply glut of 3 million bbl/day.
  - The strong dollar is also serving as negative pressures upon crude oil prices.
- Inventory adjustment by the US will be a key point in the future course of the crude oil market.
  - In the event of more output cuts by the US, it may lead to a significant progress of output adjustment by halting the OPEC's production hike to gain a larger market share.

[Business conditions in China and the commodity market]



Note: Crude oil expressed in terms of WTI, iron ore in terms of China's import price, and copper in terms of LME 3-mo futures
Source: Made by MHRI based upon Bloomberg.

[Crude oil market conditions, crude oil supply-demand and financial market conditions]

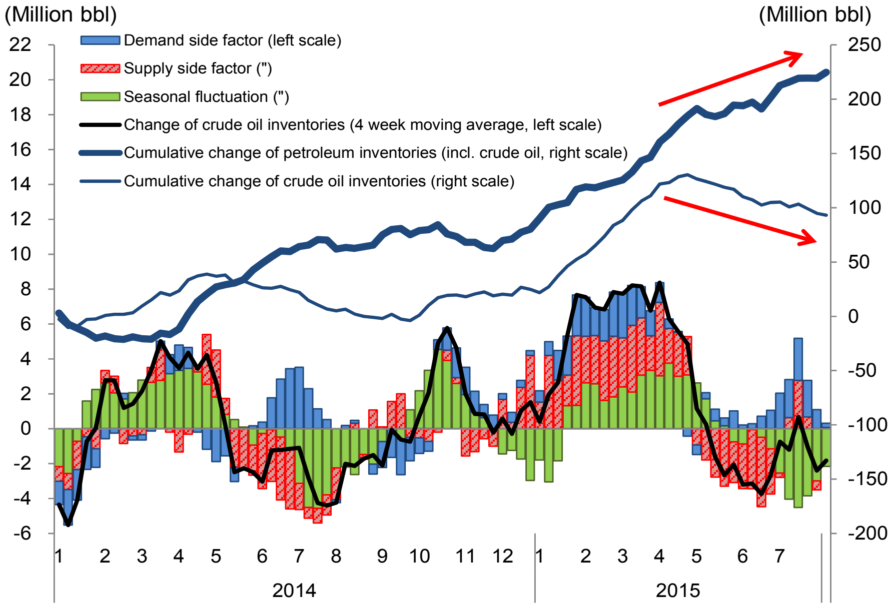


Sources: Made by MHRI based upon Bloomberg, IEA.

Crude oil prices will hover low, maintaining an advantageous environment for the global economy

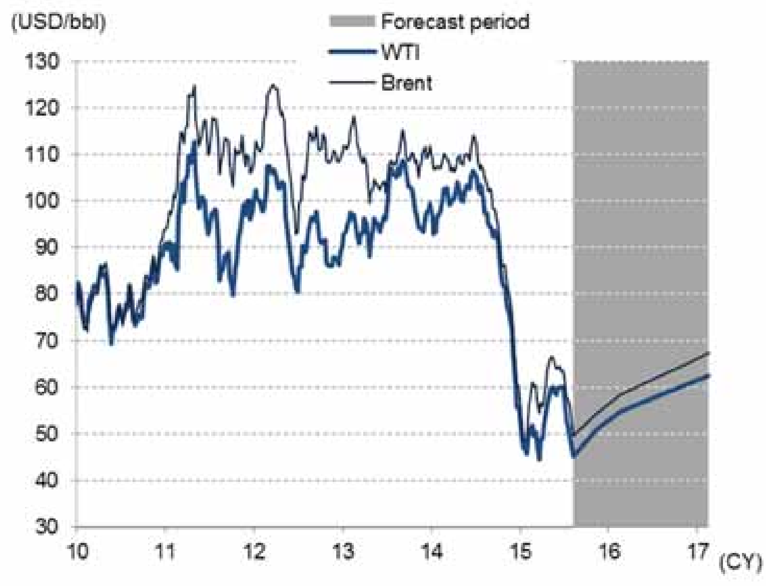
- The inventory adjustment process of crude oil in the US is progressing at a slow pace.
  - Despite the high level of US crude oil production, there are signs that the rise of output is coming to a pause.
  - Even though the rise of crude oil inventories is pausing, overall petroleum inventories including downstream petroleum products are continuing to increase.
- Although the crude oil market will avoid a further plunge, price levels are forecast to remain at a low level.
  - Until mid-2016, the WTI is forecast to trend around the USD50-level.
  - The expansion of Iran's oil production along with the lifting of economic sanctions will also serve as a drag upon the recovery of the crude oil market.

[Factors behind the fluctuation of US crude oil inventories]



Note: Cumulative change of inventories refer to cumulative changes since the beginning of 2014.
Source: Made by MHRI based upon EIA.

[Crude oil market forecast]



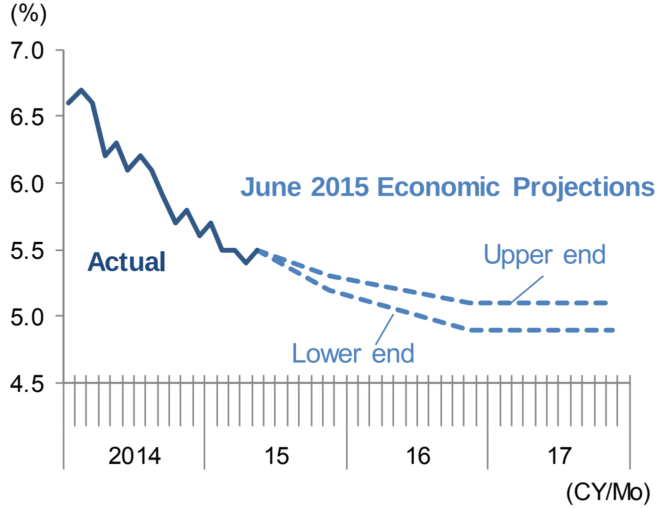
Source: Made by MHRI based upon Bloomberg.

(1) US rate hike and its impact: the FOMC will commence rate hikes for the first time in a decade in September 2015

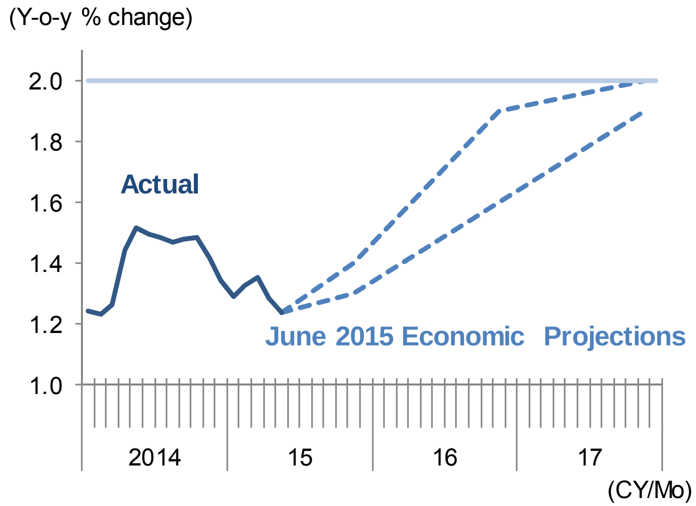
- In September, the odds are high that US monetary policy will shift into a rate hike cycle for the first time since 2004.
  - The dramatic improvement of employment and expectations toward the upturn of inflation due to the tightening of supply-demand are serving as rate-hike incentives.
  - — According to forecasts by FOMC participants (June 2015), the unemployment rate is predicted to fall further and the core inflation rate should continue to pick up.
  - However, the US rate hike may be postponed in the event the financial markets remain unstable due to uncertainties regarding the Chinese economy.

[FRB Economic Projections (June 2015)]

[Unemployment rate]



[Core PCE inflation]



Note: The broken lines represent the projections (central tendency) for the Oct-Dec quarters of each year.
Source: Made by MHRI based upon releases by the FRB.

The FOMC kept monetary policy unchanged in July. Upgrade of labor market assessment indicates that the timing of the rate hike is drawing closer

[Comparison of FOMC statements (then (2004) and now (July 2015))]

●Shifts in forward guidance at the time of commencement of the previous interest rate hike (2004)

March	the Committee believes that it can be patient in removing its policy accommodation.	Shift from a "waiting" stance Comment on the pace of interest rate hike on the premise of a rate hike
May	The Committee perceives the upside and downside risks to the attainment of sustainable growth for the next few quarters are roughly equal. Similarly, the risks to the goal of price stability have moved into balance. At this juncture, with inflation low and resource use slack, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured.	
June	The Federal Open Market Committee decided today to raise its target for the federal funds rate The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters are roughly equal. With underlying inflation still expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured.	Commencement of interest rate hike even when risk assessments are not entirely balanced

●The latest FOMC statement (July 2015)

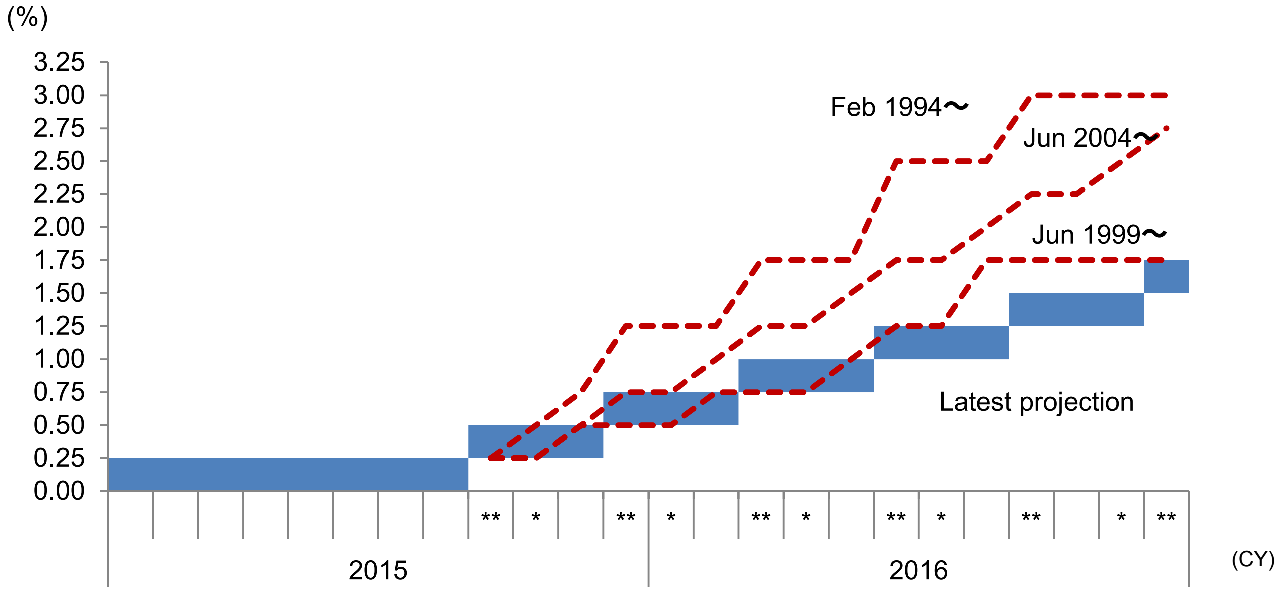
Assessment of current conditions	Labor market	The labor market continued to improve, with solid job gains and declining unemployment. On balance, a range of labor market indicators suggests that underutilization of labor resources has diminished [somewhat (deleted)] since early this year.	Omission of "somewhat"
	Housing sector	the housing sector has shown additional improvement	Addition of "additional"
Risk assessment		The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced. Inflation is anticipated to remain near its recent low level in the near term, but the Committee expects inflation to rise gradually toward 2 percent over the medium term as the labor market improves further and the transitory effects of earlier declines in energy and import prices dissipate.	Even though risk assessments are not entirely balanced, it does not serve as an impediment to a rate hike
Necessary conditions for an interest rate hike		The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen some further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.	Addition of "some". Why? "nearly met to rate-hike condition"

Source: Made by MHRI based upon releases by the FRB.

The path of US interest rate hikes should be extremely "shallow" in order to monitor its impact upon the economy and financial markets

- The pace of interest rate hikes will most likely be around 1% per annum. This is the slowest pace in comparison with rate hikes since 1990 when the Federal Reserve started to place emphasis upon its dialogue with the financial markets.
  - Even though the IMF urged a postponement of the rate hike until 2016, Federal Reserve Chairman Janet Yellen expressed a negative stance to this view (July 15th) – in order to avoid a sharp interest rate hike later.

[Forecast on the federal funds rate (comparison with rate hike cycles since 1990)]

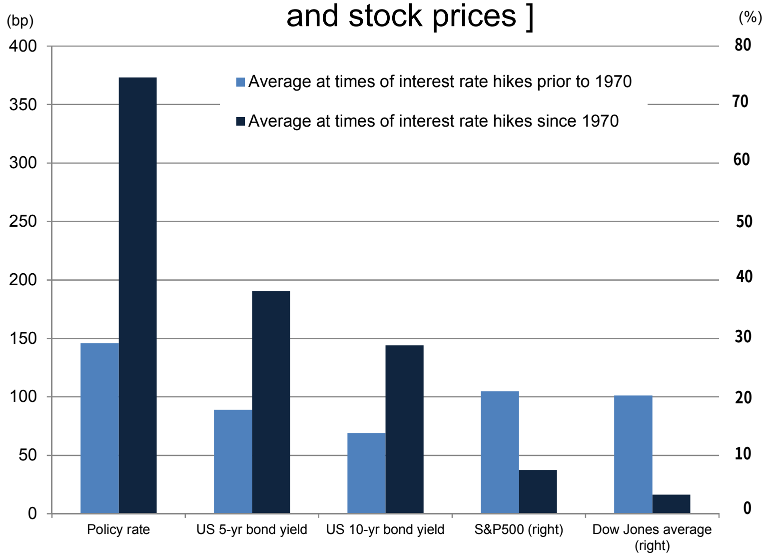


Notes: * indicates the months when the FOMC is convened. ** indicates the month when FRB Governor Janet Yellen's press conference is convened after the FOMC meeting.
The graph above plots the breadth of rate hikes (by the broken line) in past interest rate hike cycles, with September 2015 as the starting point.
Source: Made by MHRI based upon releases by the FRB.

The market's early factoring of medium-term interest rate hike may spark the rise of interest rates

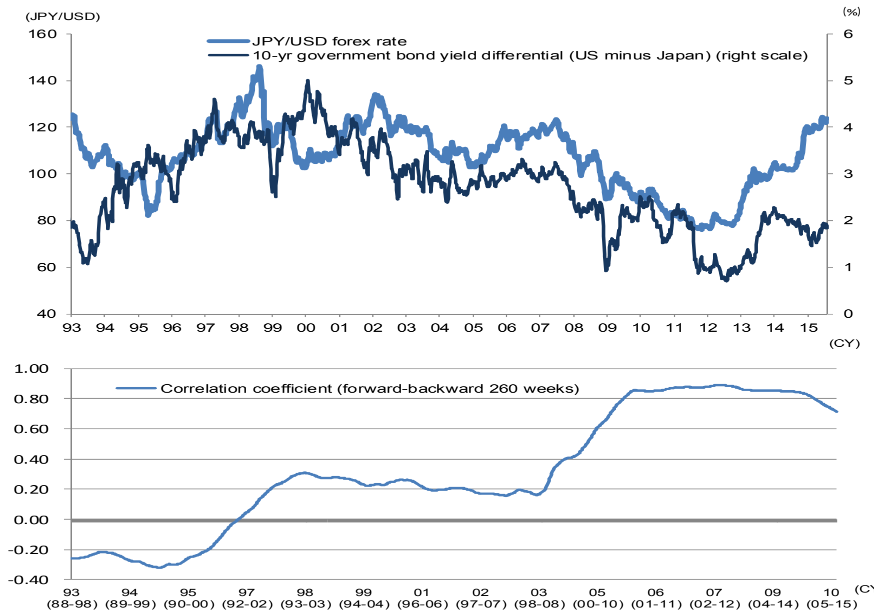
- Since 1970 onward when interest rates were raised in large steps, US government bond yields rose in wider steps while the rise of the stock market was limited than in the period up to 1970.
  - — In the event of the market's early factoring of a medium-term interest rate hike, it may lead to a surge of US government bond yields and fall of stock prices.
  - — On the other hand, in the event the rise of interest rates are implemented in smaller steps as in the period up to 1970, the rise of US government bond yields would be limited in contrast to the rise of stock prices.
  - — Given the high correlation between the Japan-US interest rate differential and the JPY/USD exchange rate since the mid-2000s, the rise of the yield on US government bonds may lead to a further weakening of the yen.

[Breadth of interest rate hikes and the fluctuation of interest rates and stock prices]



Note: The "policy rate" refers to the official discount rate up to Sep 1982, and the federal funds rate from Oct 1982.
The differences between levels before and after interest rate hikes and differences between the monthly average of the month when the rate hike were started and the monthly average when the rate hike was ended for bond yields and stock prices.
Sources: Made by MHRI based upon Bloomberg, FRB.

[The trends and correlation of the Japan-US interest rate differential and the JPY/USD exchange rate]



Sources: Made by MHRI based upon Bloomberg.

Risks of capital outflow from emerging market economies accompanying the US interest rate hike

- It is necessary to take note of the risks of the US rate hike triggering an acceleration of capital outflows from emerging market economies with fragile fundamentals.
  - At risk are countries with current account deficits, high inflation and foreign reserve shortages.

[Fragile emerging market economies in terms of economic indicators]

Country	Current account balance (% of GDP)		Foreign currency reserve (to short-term external debt)	Real GDP growth rate (%)				Inflation rate (%)	
	2014	2015 (IMF forecast)	(multiple)	2014	(Y-o-y ch, % pt)	2015 (IMF forecast)	(Y-o-y ch, % pt)	2014	(Y-o-y ch, % ch)
Turkey	-5.7	-4.2	1.1	2.9	-1.2	3.1	0.3	8.9	1.4
South Africa	-5.4	-4.6	2.3	1.5	-0.7	2.0	0.5	6.1	0.3
Colombia	-5.0	-5.8	3.9	4.6	-0.4	3.4	-1.2	2.9	0.9
Algeria	-4.3	-15.7	131.2	4.1	1.4	2.6	-1.5	2.9	-0.3
Brazil	-3.9	-3.7	6.3	0.1	-2.6	-1.0	-1.2	6.3	0.1
Iraq	-3.5	-9.6	—	-2.4	-9.0	1.3	3.7	2.2	0.4
Indonesia	-3.0	-3.0	2.4	5.0	-0.6	5.2	0.2	6.4	0.0
Mexico	-2.1	-2.2	2.1	2.1	0.7	3.0	0.9	4.0	0.2
India	-1.4	-1.3	3.7	7.2	0.3	7.5	0.3	6.0	-4.0
Pakistan	-1.2	-1.3	4.9	4.1	0.4	4.3	0.2	8.6	1.3
Poland	-1.2	-1.8	2.8	3.3	1.6	3.5	0.2	0.0	-0.9
Chile	-1.2	-1.2	2.6	1.8	-2.5	2.7	0.9	4.4	2.5
Argentina	-0.9	-1.7	0.96	0.5	-2.4	-0.3	-0.8	—	—
Egypt	-0.8	-3.3	1.3	2.2	0.1	4.0	1.9	10.1	3.2
Bangladesh	-0.1	-0.6	—	6.1	0.0	6.3	0.2	7.0	-0.5
Kazakhstan	1.6	-4.1	4.2	4.3	-1.7	2.0	-2.3	6.7	0.9
China	2.0	3.2	5.6	7.4	-0.4	6.8	-0.6	2.0	-0.6
Nigeria	2.2	0.7	3.8	6.3	0.9	4.8	-1.6	8.1	-0.4
Russia	3.1	5.4	4.2	0.6	-0.7	-3.8	-4.5	7.8	1.1
Thailand	3.8	4.4	2.8	0.7	-2.2	3.7	3.0	1.9	-0.3
Iran	3.8	0.8	—	3.0	4.9	0.6	-2.4	15.5	-19.2
Venezuela	4.3	-4.7	0.74	-4.0	-5.3	-7.0	-3.0	62.2	21.5
Philippines	4.4	5.5	4.9	6.1	-1.1	6.7	0.6	4.2	1.2
Malaysia	4.6	2.1	1.0	6.0	1.3	4.8	-1.2	3.1	1.0
Vietnam	5.4	4.8	—	6.0	0.6	6.0	0.0	4.1	-2.5
South Korea	6.3	7.1	3.2	3.3	0.3	3.3	0.0	1.3	0.0
UAE	12.1	5.3	1.0	3.6	-1.6	3.2	-0.5	2.3	1.2
Taiwan	12.3	12.4	2.6	3.7	1.5	3.8	0.1	1.2	0.4

Note: The shaded economic indicators show concerns regarding fragileness. The shaded countries are countries with concerns.
Sources: Made by MHRI based upon IMF, World Bank, Bloomberg.

Risks of capital outflow from Asia due to US interest rate hike: currency protection measures have been upgraded since then-Fed Chairman Bernanke's congressional testimony

- The risks of capital outflow from Asia have ebbed since the Jan-Mar quarter of 2013 prior to then-Fed Chairman Ben Bernanke's testimony to Congress (May 2013).
  - Fundamentals such as the current account balance of major countries and regions of Asia have generally improved due to the fall of crude oil prices. Foreign currency reserves have also improved to above-adequate levels.
- Even so, Malaysia, Vietnam and Indonesia have become less resistant, providing reasons to be concerned that the outflow of capital might lead to currency-weakening pressures.
  - In particular, note that political risks are rising sharply in Malaysia, given the deterioration of its current account balance due to the fall of crude oil prices and slush fund allegations involving a state-owned investment fund.

[Current account balance, inflation rate of major countries and regions of Asia]

	Current account balance (% of nominal GDP)		Inflation rate (Y-o-y % change)	
	2013 Jan-Mar Qtr	2015 Jan-Mar Qtr	2013 Jan-Mar Qtr	2015 Apr-Jun Qtr
China	2.1	3.4	2.4	1.4
South Korea	4.1	7.0	1.6	0.5
Taiwan	8.7	16.8	1.8	-0.7
Indonesia	-2.6	-1.8	4.5	7.1
Thailand	-1.8	7.9	3.1	-1.1
Malaysia	5.6	3.6	1.5	2.2
Philippines	5.7	4.8	3.2	1.7
Vietnam	7.4	-3.0	6.9	1.0
India	-3.6	-0.2	10.7	5.1

Note: Shading indicates an improvement.
Source: Made by MHRI based upon statistics of relevant countries and regions, CEIC data.

[Foreign currency reserves of major countries and regions of Asia]

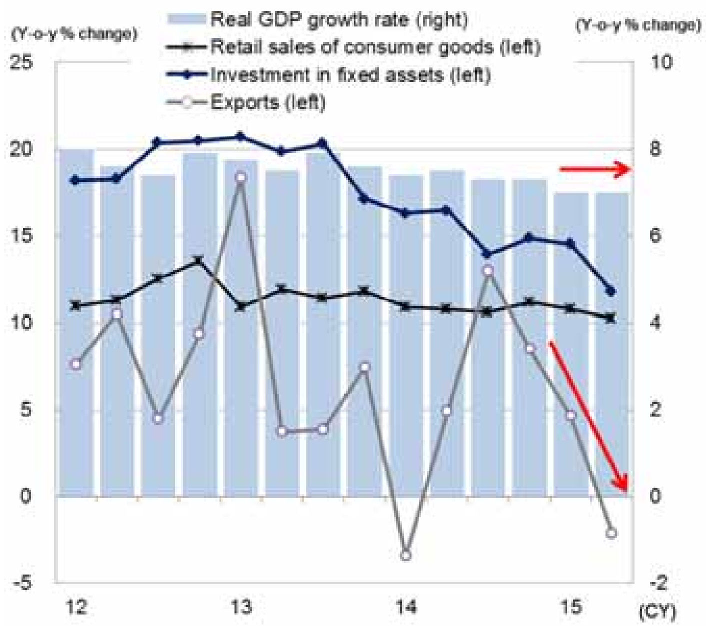
	Foreign currency reserve	
	Ratio to imports (Adequate level = 3)	Ratio to outstanding short-term external debt (Adequate level =1)
	2015 Apr-Jun Qtr	2014 Oct-Dec Qtr
China	24.4	5.6
South Korea	9.1	3.2
Taiwan	19.6	2.6
Indonesia	8.0	2.4
Thailand	8.7	2.8
Malaysia	5.8	1.0
Philippines	15.2	4.9
Vietnam	3 or lower	NA
India	9.7	3.7

Notes: 1. Shading indicates that levels are above those considered adequate.
2. Imports do not include services.
3. Data on Vietnam are estimates.
Source: Made by MHRI based upon statistics of relevant countries and regions, CEIC data.

The risks of China's economic downturn: despite flat economic growth, business conditions are tepid

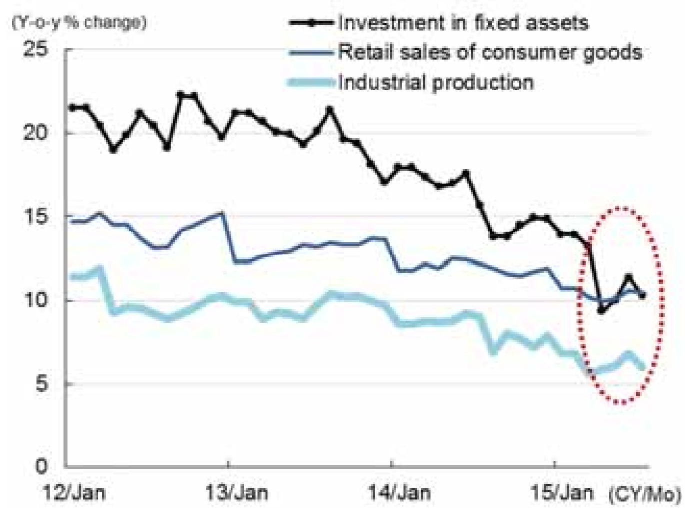
- Although the rate of China' s real GDP growth in the Apr-Jun quarter was unchanged from the previous quarter at +7.0% y-o-y, business conditions are tepid.
  - The Apr-Jun quarter saw a downturn of investments, retail sales and exports. Despite the downturn, GDP growth was unchanged most likely because of the sharp rise of stock trading fees due to speculative trading (falling under services consumption).
- On a single month basis in July, key economic indicators slowed from the previous month. Even though indicators have not broken through previous lows, they are weakening.
  - In July, exports (nominal, USD-denominated) fell -8.3% y-o-y, falling deeper into negative territory from the Apr-Jun quarter.

[China: rate of real GDP growth]



Notes: 1. "Retail sales of consumer goods" and "Investment in fixed assets" are converted into real terms by the retail price index and the fixed asset price index (estimated by MHRI). Exports are on a nominal dollar base.
2. Exports in the Jan-Mar qtr of 2013 may be overstated due to false reporting.
Sources: Made by MHRI based upon National Bureau of Statistics of China, Administration of Customs of the People's Republic of China.

[China: key economic indicators]

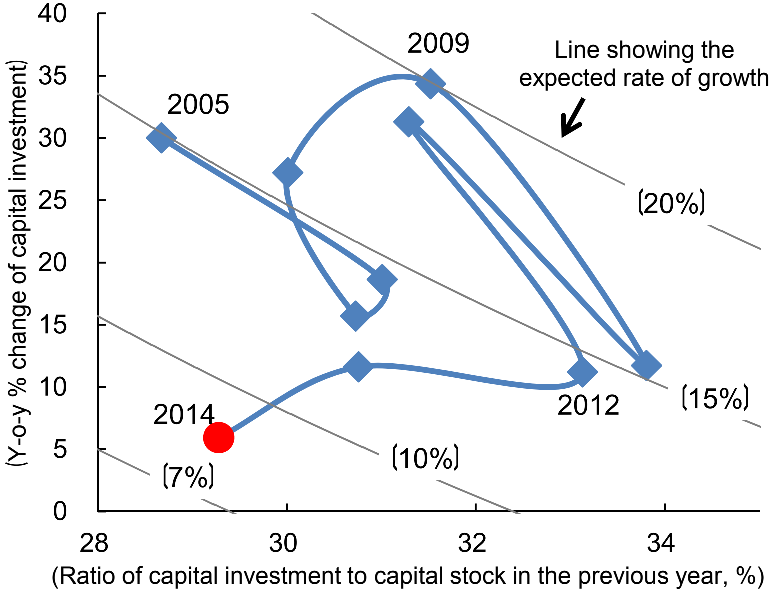


Notes: 1. Readings for January and February are changes over the year-ago of the Jan-Feb period.
2. "Investment in fixed assets" is the cumulative total from the beginning of the year converted into a single month basis.
3. "Industrial production" (real terms), "retail sales of consumer goods", "investment in fixed assets" and "exports" (nominal terms)
Source: Made by MHRI based upon National Bureau of Statistics of China.

Downward pressures upon China's economy are not expected to abate anytime soon. More pump-priming expected to avoid a loss of momentum

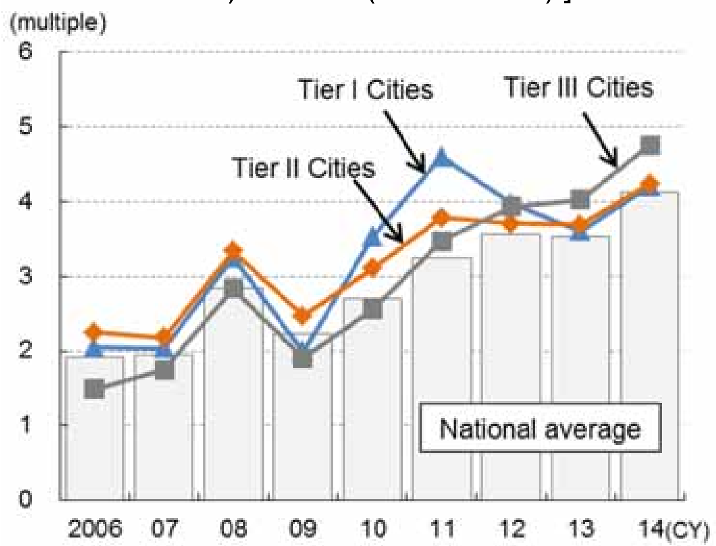
- ❑ The weak autonomous recovery of investment is serving as downward pressures upon the economy, leading to prospects that China's economy will continue to slow down.
  - More time should be necessary to resolve the excess production capacity. There is still a large housing glut in provincial cities.
- ❑ The slight weakening of employment provides reasons to believe that personal consumption will gradually slow down.
- ❑ Turning to exports, even though the US economic recovery and yuan weakening will serve to propel exports, export growth will still be slow.
- ❑ In order to avoid a loss of momentum, more pump-priming measures (mainly fiscal policy measures) are expected to alleviate the slowdown.
  - Real GDP forecast: 2015 (+7.0% y-o-y), 2016 (+6.7% y-o-y)

[China: fixed investment stock cycle]



Note: Estimated by the benchmark year method with 1995 as the benchmark year.
Source: Made by MHRI based upon National Bureau of Statistics of China.

[China: housing construction in progress (in floor area) to sales (in floor area)]

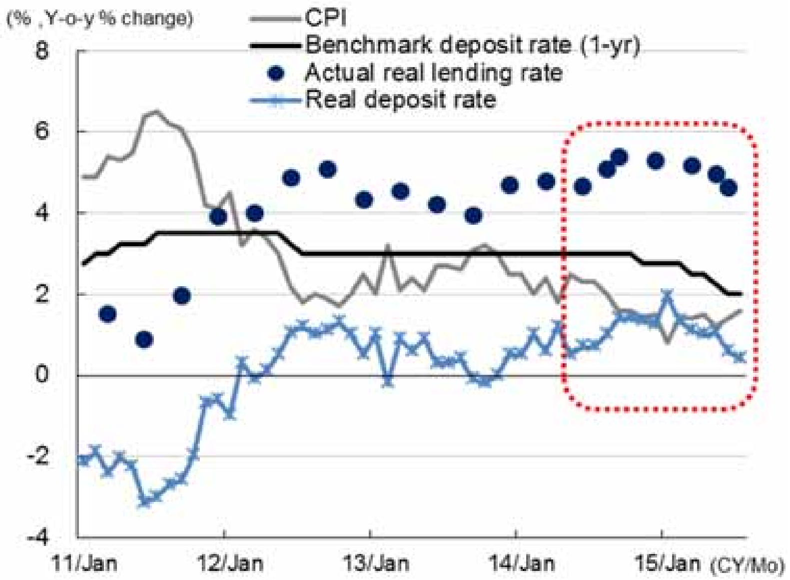


Note: 1. Housing construction in progress (floor area) = construction (floor area) minus completed construction (floor area)
2. "Tier I Cities" refer to the four cities including Beijing, Shanghai, Guangzhou, and Shenzhen
"Tier II Cities" refer to the five cities including Nanjing, Hangzhou, Hefei, Ningbo, and Xiamen
"Tier III Cities" refer to the five cities including Haikou, Guiyang, Kunming, Yinchuan, and Urumqi
Source: Made by MHRI based upon National Bureau of Statistics of China.

China will step up measures to prop up the economy mainly through fiscal policy

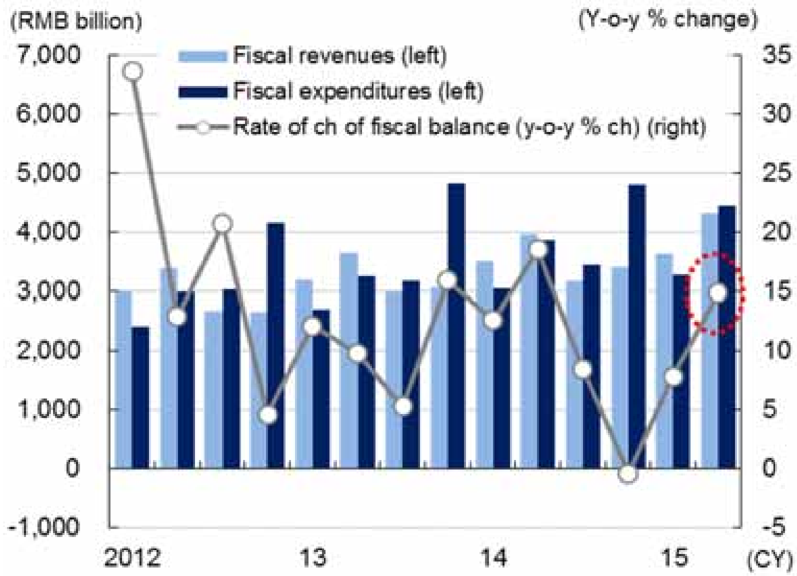
- China is continuing to take monetary easing measures, reflecting the weakness of the economy.
  - Real lending rates are still high, providing leeway for further interest rate cuts. The reserve deposit rate is also a high 18.5% (major banks), leaving room for more rate cuts.
- Having said so, a sharp interest rate cut will likely be avoided since the real deposit interest rate may fall to nearly 0% reflecting the mild rise of inflation due to the rise of prices such as pork. There is also the need to avoid reigniting a speculative housing boom in large cities.
- Given China's slack in production capacity, monetary policy will only have limited effect to spur investment. Thus, fiscal policy measures will be strengthened to prop up the economy.
  - The rise of fiscal expenditures is accelerating. Since May, measures to secure infrastructure investment funds such as the issuance of local government bonds are gathering pace.

[China: CPI, real deposit rate, actual real lending rate]



Note: The actual lending rate is the monthly average of the lending rate to non-financial corporations (normally announced by the People's Bank of China every three months). Real interest rates are calculated as follows: nominal interest rate minus % ch of CPI
Source: Made by MHRI based upon People's Bank of China, National Bureau of Statistics of China.

[China: fiscal expenditures]



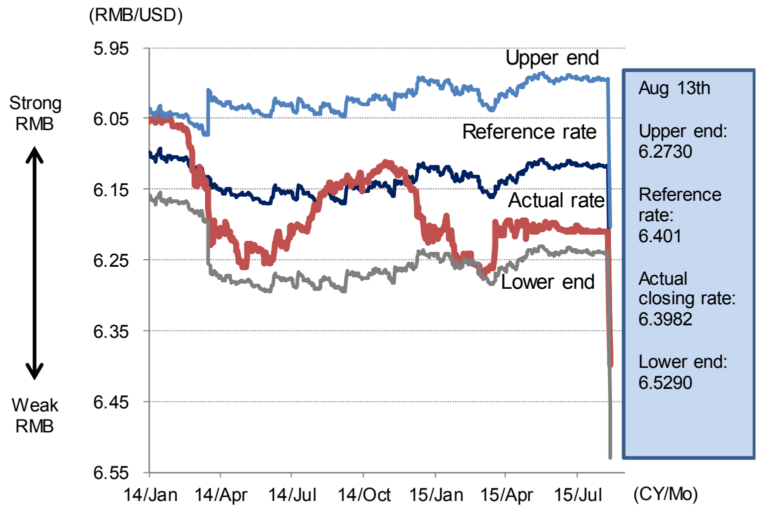
Source: Made by MHRI based upon Ministry of Finance of the People's Republic of China.

China’s renminbi devaluation will prop up exports

- On August 11th, the People’s Bank of China (PBOC) stepped forward to implement a *de facto* devaluation of the renminbi (RMB). In addition to making the renminbi more market-driven, it appears that the move was aimed at boosting exports.
  - On August 11th, the PBOC lowered the renminbi dollar reference rate 1.9% from the day before (August 10th), and continued to lower the reference rate 4.7% from the 10th until August 13th. The actual rate fell 3.0% compared to the 10th.
  - The PBOC explained that it has already corrected the prolonged deviation between the reference rate and the actual rate by making the reference rate more closer to market forces.

  ― Until then, it appears that the PBOC had supported its currency through interventions amid renminbi-selling pressures reflecting speculation on the US interest rate hike.
  - Toward the end of 2015, the renminbi should weaken around 5% from August 10th, due mainly to the US interest rate hike. The PBOC stated explicitly that it would intervene in the event of a sharp weakening of the renminbi. In 2016, exports should gradually pick up and the trade surplus should widen, leading to a gradual strengthening of the renminbi around 1% per annum.

[RMB/USD exchange rate]



Note: The latest readings are as of August 13, 2015.
Source: Made by MHRI based upon Bloomberg.

[Recent comments on the level and direction of the renminbi]

Comments regarding the level	
IMF (June 29th)	･The real effective exchange rate of the renminbi is no longer undervalued.
PBOC (August 13th)	･Accumulated depreciation pressure of around 3% has been released through renminbi decline . The currency’s adjustment of the distortion is “basically already completed,”
Comments regarding the direction of the forex market	
PBOC (August 13th)	･The renminbi could return to appreciation in future. The maintenance of China’s current account surplus and the emergence of sanguine signs on the future course of the economy provide "strong support" for the renminbi ･The renminbi will return to appreciation after the foregoing distortion is adjusted ･Reports that a 10% depreciation of the renminbi is necessary to boost exports are groundless. China had a large trade surplus of more than USD300 billion in the period from January to July this year ･The PBOC will act when the market’s volatility is excessive ･PBOC is able to keep renminbi basically stable at a balanced level

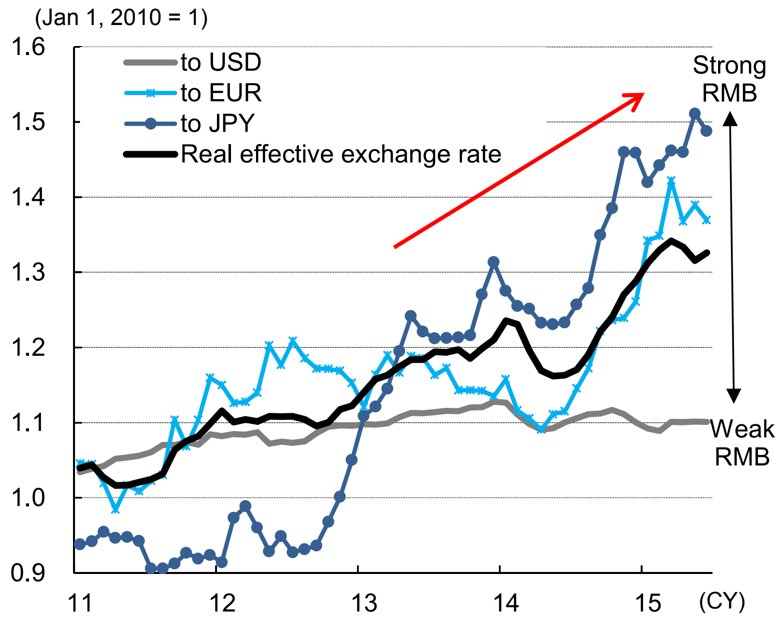
Source: Made by MHRI based upon IMF, *2015 External Sector Report – Individual Economy Assessments*. June 29, 2015, PBOC August 13, 2015.

Despite the recovery of China's exports, the pace of recovery will be slow

- Even though exports will follow a recovery path, the pace of recovery will be slow.
  - The rate of economic growth of China's major trading partners such as the US will gradually pick up.
  - A gradual recovery is predicted also with respect to exports of IT products. To some extent, sales of new smartphones and operating systems (OS) will stimulate demand to replace old models.
  - The weakness of the renminbi will also serve to boost exports to a certain extent.

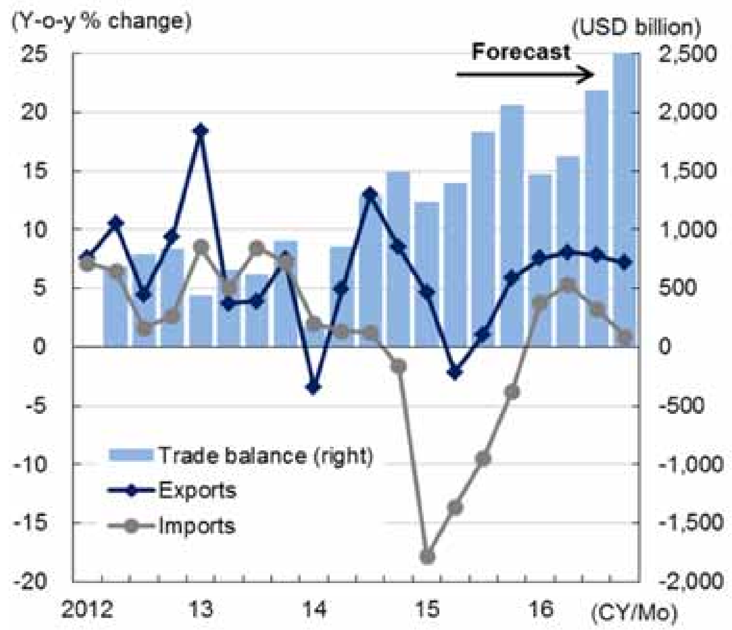
  — The real effective exchange rate of the renminbi has been climbing since the second half of last year, serving as downward pressures upon exports.
  - However, export growth should flatten out due to the slumping commodity-exporting countries and the ebb of demand for IT products.

[Real effective exchange rate of the renminbi]



Sources: Made by MHRI based upon FRB, BIS.

[China: forecast on exports]

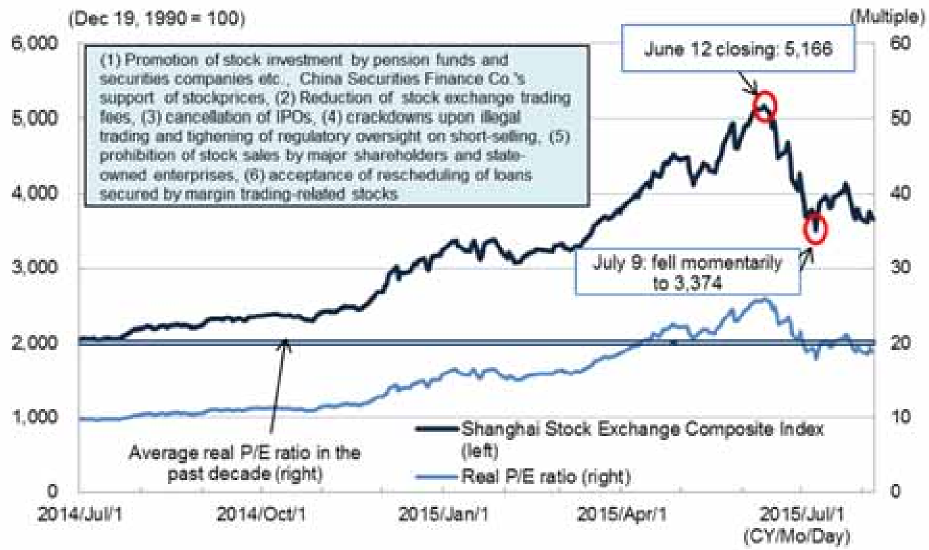


Source: Made by MHRI based upon Administration of Customs of the People's Republic of China.

Despite China's frantic efforts to halt the stock market plunge, the risks of a further market slide are lingering

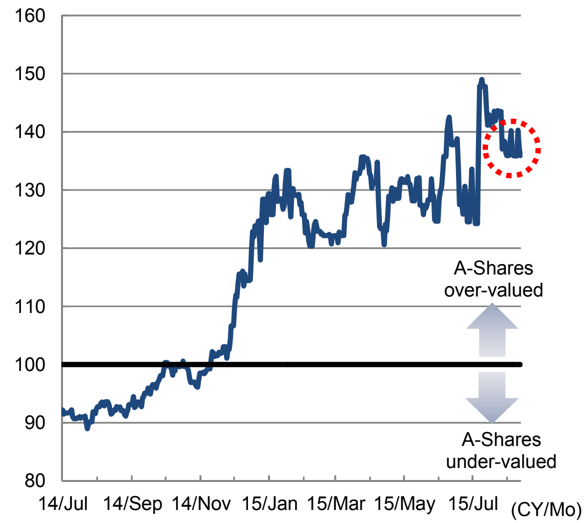
- The stock market which had deviated from the fundamentals has fallen sharply since mid-June. On July 9th, the Shanghai Stock Exchange Composite Index fell at one point to 3,374.
- The stock market remains rocky despite signs of recovery due to the government's support and tighter short-selling regulations.
- The risks of yet another stock market crash still linger, triggered by the deterioration of the economy, external shocks as well as speculation on the scale-down of market support measures.
  - The Hang Seng China AH Premium Index still indicates that A-Shares are over-valued. As of August 12, 2015, the percentage of outstanding balance of margin loans to overall market capitalization stood at 3.1% (compared with the 2014 averages of Japan (0.8%) and the US (2.3%)), of which margin debt balance was 99.7%, indicating leeway for deleveraging.

[Shanghai Stock Exchange Composite Index and market support measures]



Note: Average real P/E ratio in the past decade refers to the 2005-2014 average. The latest readings of the Shanghai Stock Exchange Composite Index and real P/E ratio are as of August 12, 2015.
Source: Made by MHRI based upon Bloomberg.

[Hang Seng China AH Premium Index]

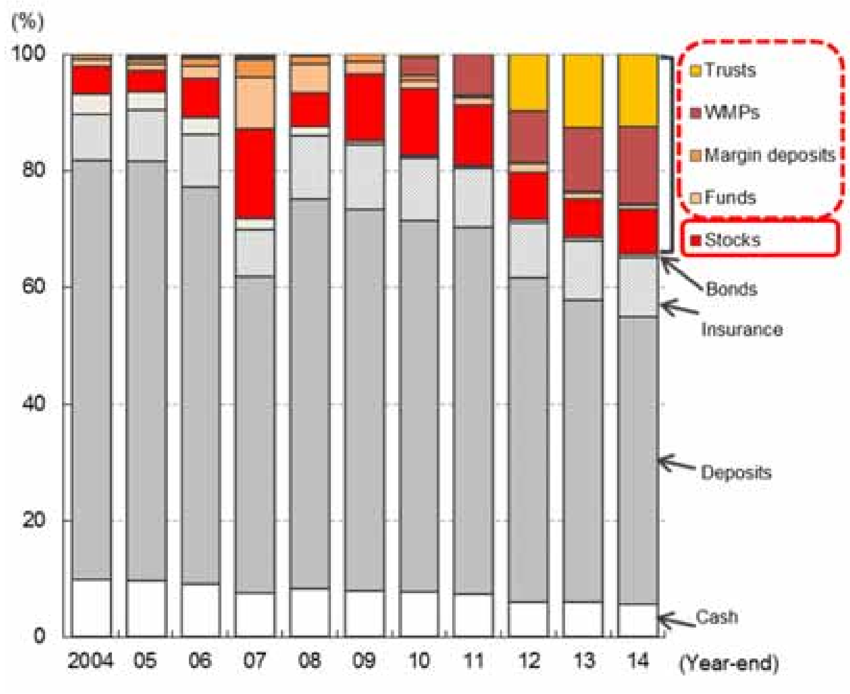


Note: The Hang Seng China AH Premium Index measures the price difference of A-shares over H-shares for selected companies with both A-share and H-share listings. A reading over 100 indicates that A-shares are over-valued in comparison to H-shares. The latest readings are as of August 12, 2015.
Source: Made by MHRI based upon Bloomberg.

In the event of another stock market rout in China, watch out for its negative wealth effect upon consumption

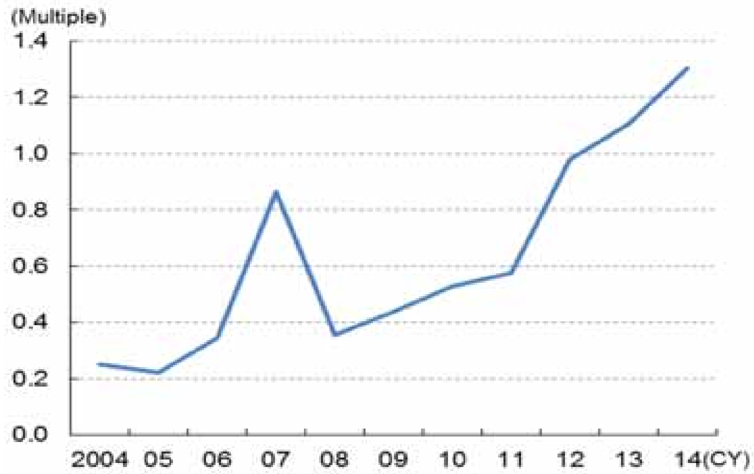
- The Shanghai Stock Exchange Composite Index is currently approximately 1.2 times from the end of 2014. If stock prices are maintained at this level, its impact upon the economy would be benign.
- However, in the event of a stock market plunge, note the risks of a slowdown of personal consumption stemming from the negative wealth effect and deterioration of consumer confidence.
  - The percentage of stocks, wealth management products (WMPs) and trusts in household financial assets stood at 35% as of the end of 2014. When excluding assets other than stocks from the foregoing, the percentage would be approximately 11%. In view of the fact that stock prices rose approximately 1.6 times (at the peak) from the end of 2014, the odds are high that this percentage has grown larger. The ratio of outstanding risk assets to income is also rising meaning the higher chances of the negative wealth effect.

[China: breakdown of household financial assets]



Source: Made by MHRI based upon Chinese Academy of Social Sciences.

[China: ratio of outstanding risk assets to disposable income]



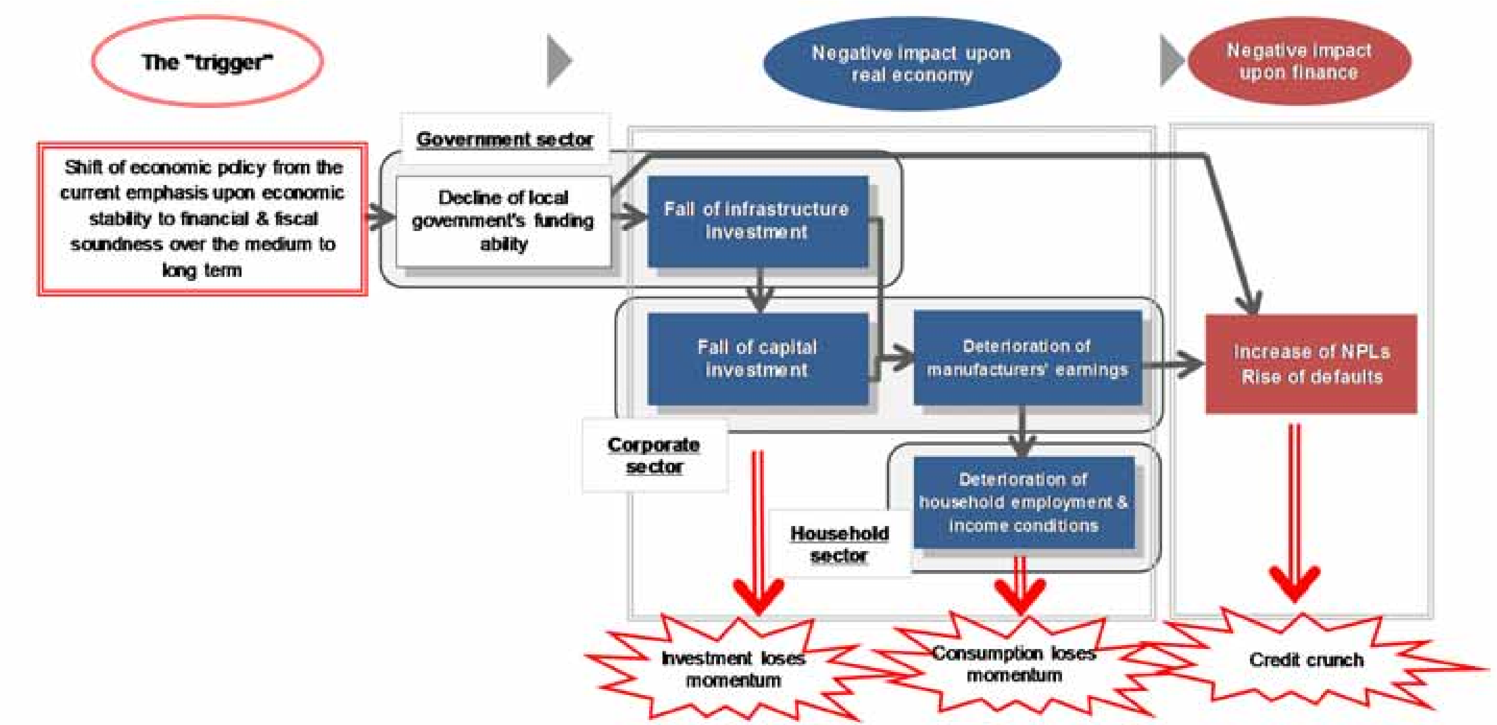
Notes: 1. The nationwide annual disposable income is calculated by multiplying the per capita disposable income of urban areas and the per capita net income of rural areas by the population of the respective areas.
2. Risks assets refer to bonds, stocks, funds, margin deposits, wealth management products (WMPs) , and trusts in the left hand graph above. Note that certain portion of WMPs are invested in safe assets such as deposits (for example, the ratio of investment of WMPs in deposits was 6.6% as of the end of 2014).

Source: Made by MHRI based upon Chinese Academy of Social Sciences.

Note the risks of China's economic slowdown over the medium to long term as a result of the prolongation of measures to stabilize the economy

- In the event the Chinese government continues to take monetary/fiscal policy measures to "stabilize current economic conditions", there are risks that it will lead to a further aggravation of excessive investment and debt. The risk scenario of the Chinese economy would unfold by a situation where the government would no longer be able to ignore "the improvement of medium to long-term monetary/fiscal soundness", leading to the reduction of support in ways such as infrastructure investment, resulting in economic slowdown and financial destabilization.
  - Since the longer the government continues to take potent economic stimulus measures, the more serious the subsequent fallout, the Chinese government faces the task of resolving its excessive investment and debt while maintaining social stability.

[Channels of contagion to the economy and financial markets in the case of the risk scenario]

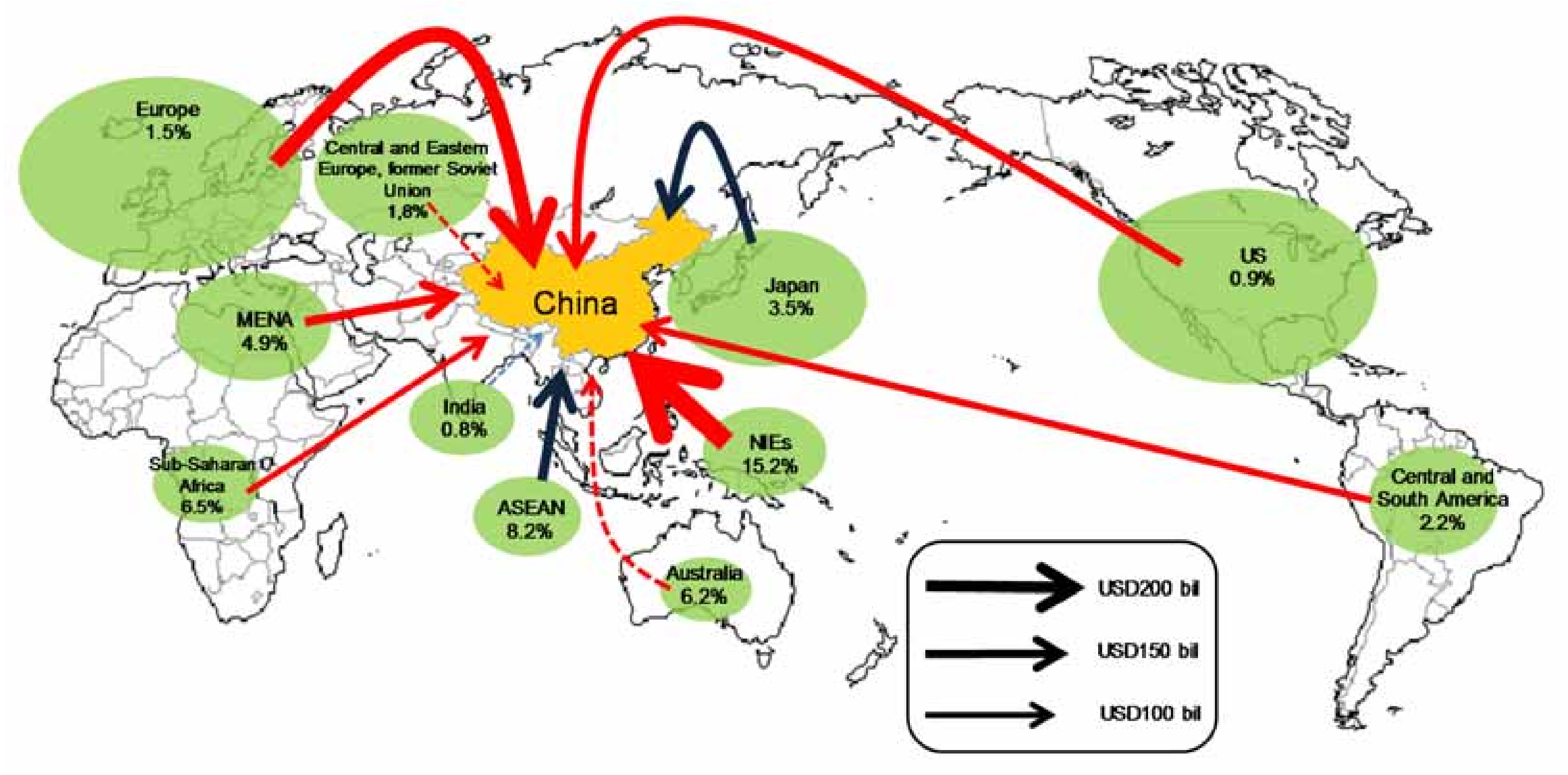


Source: Made by MHRI.

China risks faced by the global economy: the fall of China's imports would deal a direct blow upon emerging market economies

- In addition to the rise of dependence upon China among emerging market economies such as Asia, the Middle East and Africa, Australia is an advanced economy having a high degree of dependence upon China
  - The effects are being felt already as shown by the year-on-year fall of China-bound exports by Australia, Central and Eastern Europe and the former Soviet Union in 2014.

[The global structure of China's imports (2014)]



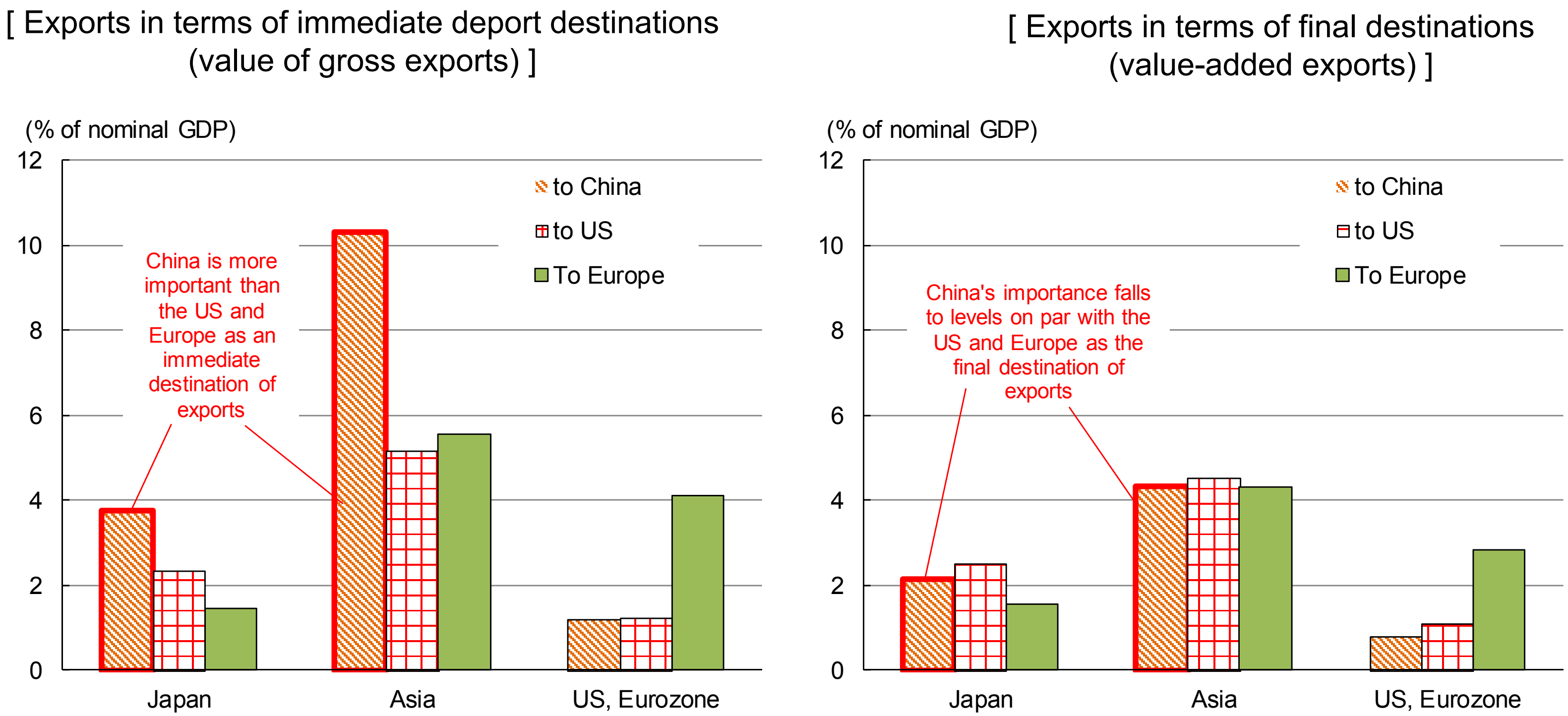
Note: China-bound exports of each of the regions are based upon the value of China's imports. The dark blue line indicates that the pace of increase has accelerated from the previous year, the red line indicates that the pace of increase has slowed from the previous year, and the broken red line indicates a decrease from the previous year. The values of each of the regions are the percentage of China-bound exports in nominal GDP.

Sources: Made by MHRI based upon IMF.

The importance of China as the final destination of exports is on par with the US and Europe

- In terms of immediate export destinations (conventional trade data), China is more important than the US and Europe. However, it should be noted that this is largely due to China's processing trade where products are assembled in China for exports to other countries.
- A look at final export destinations shows that China's importance would be on par with the US and Europe.
  - 2011, which is the most recent year in which data on final export destination is available, falls within the period of China's rapid economic growth. The odds are high that China's importance has ebbed from 2012 onward.

[Export dependence of Japan, Asia, US & Eurozone (2011)]



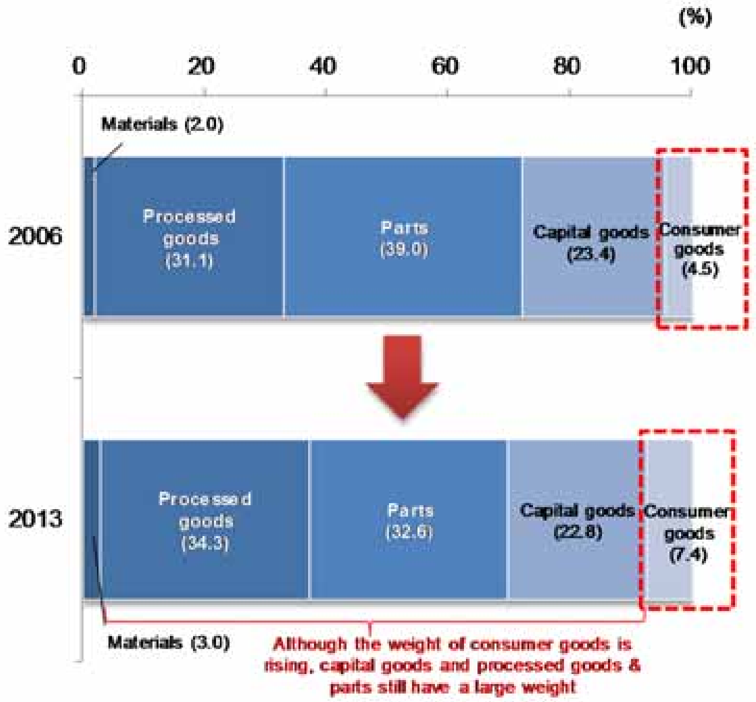
Note: 1. Asia includes the NIEs (South Korea, Taiwan, Hong Kong, Singapore), ASEAN5 (Thailand, Indonesia, Malaysia, Philippines, Vietnam), India.
2. There is a high possibility that China's importance has fallen since 2012. In fact, in terms of immediate export destinations, Japan's exports to the US have overtaken those to China in 2014.

Sources: Made by MHRI based upon OECD, *Trade-in Value Added (TiVA) 2015,* IMF.

The impact of China's economic slowdown upon Japan: investment slowdown due to excess capacity will continue to push down exports

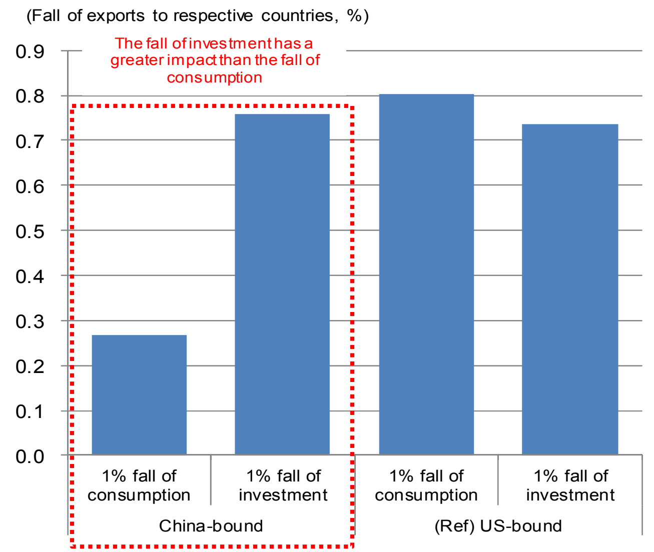
- The chances are slim that the slowdown of consumer spending reflecting China's stock market rout will lead to a further downturn of Japan's exports. That said, given the slowdown of investment reflecting the ongoing production capacity slack, Japan's exports to China should remain sluggish.
  - A closer look at Japan's exports to China reveals a larger weight of consumer goods along with the rise of China's income level. However, note that capital goods and processed goods & parts still have a large weight.
  - A trial calculation of the impact of the fall of China's demand upon Japan's exports indicates that the slowdown of investment has a larger impact than the slowdown of consumption.

[Breakdown of China-bound exports



Source: Made by MHRI based upon Ministry of Economy, Trade and Industry, *RIETI-TID2013.*

[Impact of the fall of China's demand upon Japan's exports (difference in impact according to components of demand)]



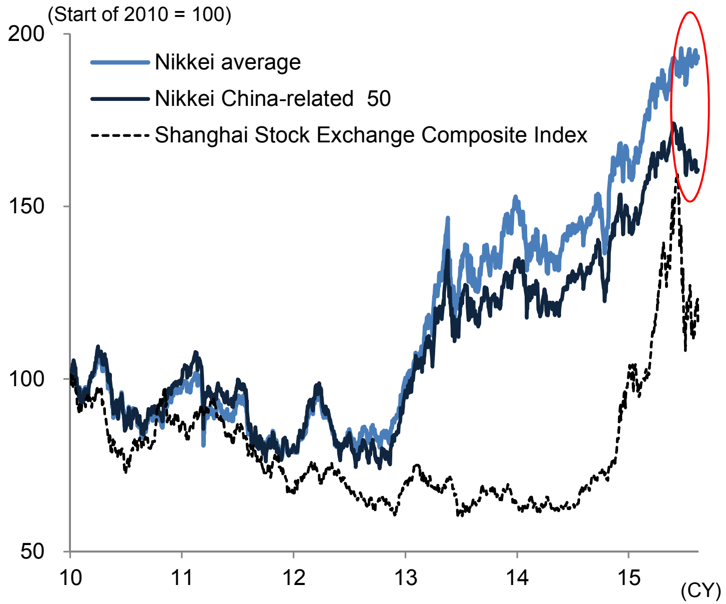
Note: By calculating the production inducement effect upon the World Input-Output Tables (WIOT), the amount of export fall was calculated by deducting the amount of inward-bound production (note that the fall of exports includes the fall of exports to intermediate countries).

Sources: Made by MHRI based upon Timmer, M.P. et. al. (2015) *An Illustrated Guide to the World Input-Output Database: the Case of Global Automotive Production.*

The impact of China's economic slowdown upon other markets: the rise of downside risks upon the Chinese economy would ripple through to the Japanese stock market

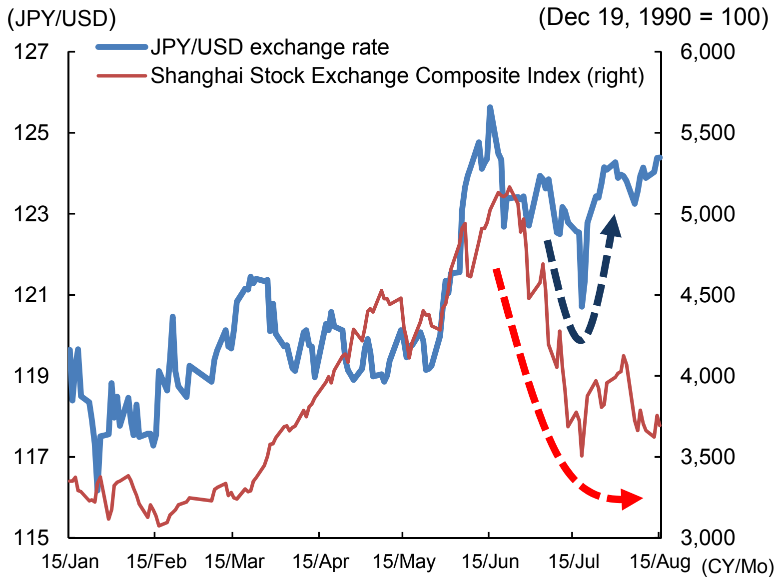
- Even though a temporary turmoil in China's financial markets would only have a limited impact upon the Japanese stock market, the rise of downside risks upon the Chinese economy accompanying China's stock market rout would serve as downward pressures upon the Japanese stock market.
  - China-related stocks are underperforming in comparison to the Nikkei average reflecting downside risks to the Chinese economy. In the event of a further rise of downside risks upon the economy, it could send downward pressures upon a broad range of Japanese stocks. Moreover, concerns regarding the ripple effect of China's economic downturn could strengthen the Japanese yen.
  - — However, in the event China's financial market turmoil turns out to be short-lived, the impact upon Japan's stock market would be limited as in the current juncture. Also in terms of the currency exchange rate, even though the yen may strengthen temporarily as a result of risk aversion, it would return back to pre-turmoil levels along with the normalization of the financial markets.

[Stock market trends in Japan and China]



Sources: Made by MHRI based upon Bloomberg.

[The JPY/USD exchange rate and the Shanghai Stock Exchange Composite Index]

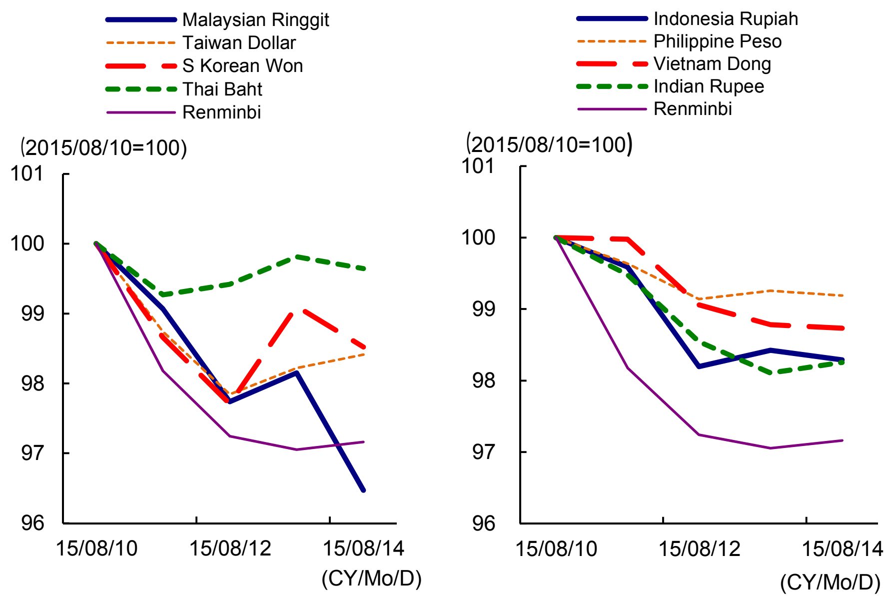


Sources: Made by MHRI based upon Bloomberg.

The impact of the renminbi devaluation upon Asia: countries across Asia search for monetary easing

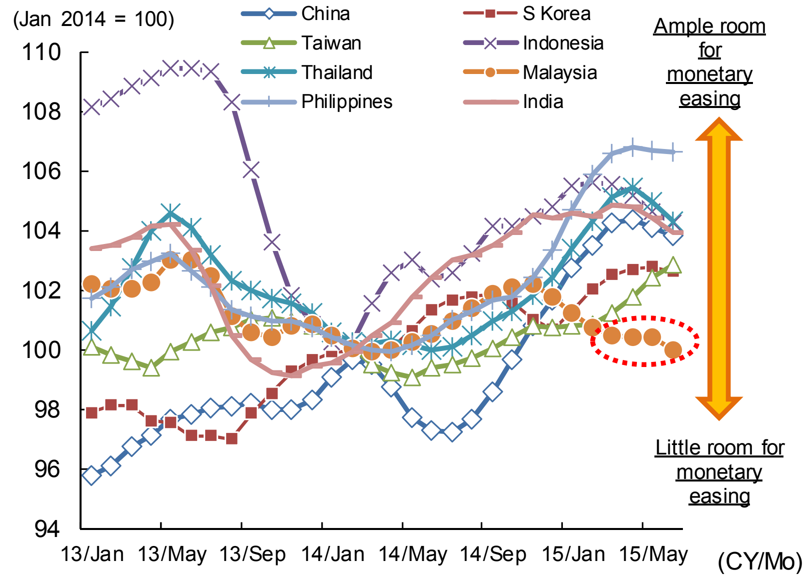
- Ever since the renminbi (RMB) devaluation on August 11th, the rise of expectations toward currency weakening are sending other Asian currencies lower against the US dollar.
- If the Asian currencies continue to weaken at a slower pace than the renminbi, they may be driven to take monetary easing steps.
  - The Financial Conditions Index (FCI, refer to the right hand chart below) indicates that many countries still have room for further monetary easing, and that they would be able to offset the impact upon exports.
  - China's renminbi devaluation prompted Vietnam to weaken its currency the dong on August 12th. The move was a de facto devaluation by widening the trading band within which the dong can be traded with the US dollar.
- However, in the event of an escalation of a currency war, the currencies of countries such as Malaysia (having little room for monetary easing) and Vietnam (which takes a dollar-peg) would become relatively stronger due to capital outflow pressures and lead to a negative impact upon exports.

[FX rate of Asian currencies to the USD]



Source: Made by MHRI based upon Bloomberg.

[Financial Conditions Index (Asia)]



Note: The Financial Conditions Index: simple average of real interest rates and the real effective exchange rate.

Sources: Made by MHRI based upon BIS, statistics of relevant countries and regions, CEIC data.

Japan's inflation and the future course of monetary easing by the BOJ: the rise of service prices is the key to stable rise of inflation

- The rise of service prices is the key to the stable rise of inflation.
  - From around the turn of FY2015, the rise of prices of food and restaurants reflecting the weak yen has been pushing up inflation. The UTokyo Daily Price Index which covers food products and daily necessities rose to approximately +1% y-o-y.
  - — More price hikes of food products are expected, contributing to the rise of the core inflation rate for some time.
  - However, past trends show that the rise of food price alone will not lead to the stable rise of inflation. The rise of service prices is the key.

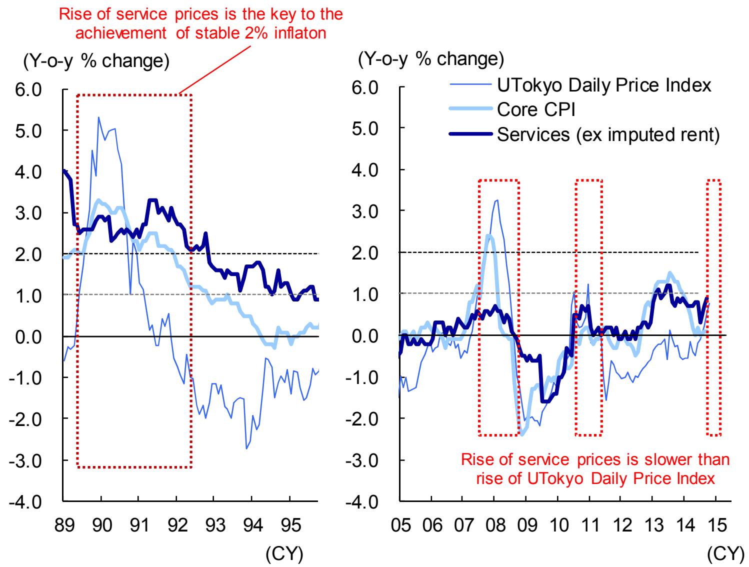
[Food products whose prices were raised (or are scheduled to rise) in FY2015]

	Mo	Day	Item	Rise of prices (breadth)
2015	Apr	1	Tomato ketchup	4～13%
			Milk, yoghurt	2～6%
			Major donut chains	10~11 yen in 14 out of 48 items
			Butter, cheese	Butter 2.6～3.1%, cheese 6.8～8.2%
		Early Apr	Edible oil (serveral companies)	Price/kilogram 20 yen (1 maker), more than 30 yen (others)
		15	Major *gyudon* (beef bowl) chains	*Gyudon* (normal size) 291 yen→350 yen
		22	Hamburger chains	10～40 yen
	May	1	Hamburger chains	10～70 yen in 90% of all items
	Jun	1	Take-away *bento* (meals)	3% average rise in 10 prefectures
		1	Milk-based beverages of major makers	90 yen→100 yen (first time in 23 years since 1992)
	Jul	1	*Ochazuke-nori*, rice toppings 66 items	5～10%, *ochazuke-nori* 1 packet:220 yen→238 yen
		1	Household-use flour, pasta	Flour 18 items: 1～3%, pasta 79 items: 1~8%
		1	Bread, sweet buns	2～5%
		7	Chocolates of major companies 24 items	10～20% in 10 items, 2～12% reduction in quantity in 14 items
		14	Chocolates 8 items	100 yen→110 yen
	Aug	1	Household-use and business-use sauces 63 items	4～10% (first time in 25 years since1990)
		19	Household-use seasonings	6～12%
	Sep	1	Domestic whiskey	9～44%
		1	Beverages	Fruit juices etc., 15～82 yen in five items
	Oct	1	Household-use and business-use sauces 63 items	4～10% (first time in 25 years since1990)

Food prices are continuing to rise in the Jul-Sep quarter onward

Source: Made by MHRI based upon media reports.

[The UTokyo Daily Price Index and the CPI]



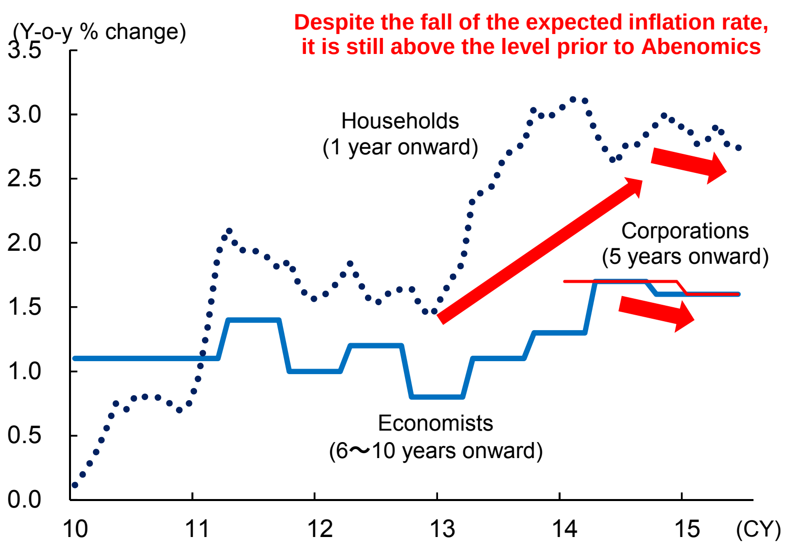
Note: The impact of the consumption tax hike is excluded for 2014. The impact of the consumption tax hike is based upon the assumption of a 2.0% rise of the core CPI and a 1.9% rise of services (ex imputed rent), assuming that prices of all items taxed rise by the consumption tax hike. However, the month of April takes into consideration the application of the tax rate prior to the hike for items subject to transitional treatment.

Sources: Made by MHRI based upon UTokyo Daily Price Index Project, Ministry of Internal Affairs and Communications, *Consumer Price Index.*

Japan's core inflation rate rose to around 1.5%. Underlying inflation has also improved

- The core CPI (y-o-y ch) will dip temporarily into negative territory. From then onward, it will rise to around 1.5% due to rebound of energy prices and the weak yen.
  - From around the summer to fall of 2015, the impact of the fall of energy prices will surpass the impact of the rise of food prices, pushing the core inflation rate slightly into negative territory. The core inflation rate will rise from the second half of FY2015 due to the rebound of energy prices and the weak yen.
- Note that the underlying trend of the inflation rate is continuing to improve at a gradual pace, as shown by the y-o-y change of the US-style core CPI. However, inflation will fall short of the BOJ's target of 2%.
  - The expected inflation rate has definitely risen since the start of Abenomics. Despite a slight decline at the moment, it is still above levels prior to Abenomics. Even so, a sharp rise of inflation is unlikely any time soon. It will take time for inflation to stabilize at 2%.

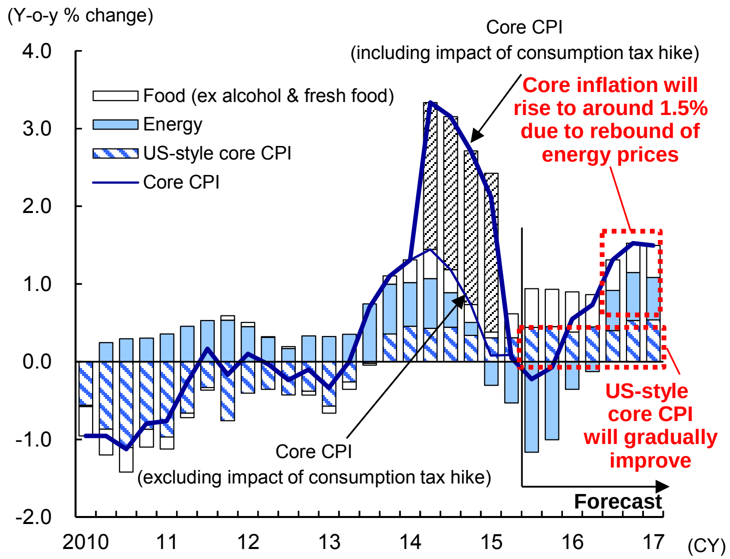
[Expected inflation rate (corporations, households, economists)]



Note: Weighted average of responses to queries on the expected inflation rate of corporations and households. Note that the expected inflation rate among households are said to have an upward bias. Surveys of corporations are on a quarterly basis, households on a monthly basis and economists on a semi-annual basis.

Sources: Made by MHRI based upon Bank of Japan, *Short-term Economic Survey of Enterprises in Japan (Tankan),* Cabinet Office, *Consumer Confidence Survey*, *Consensus Economics*.

[CPI (total, ex fresh food)]



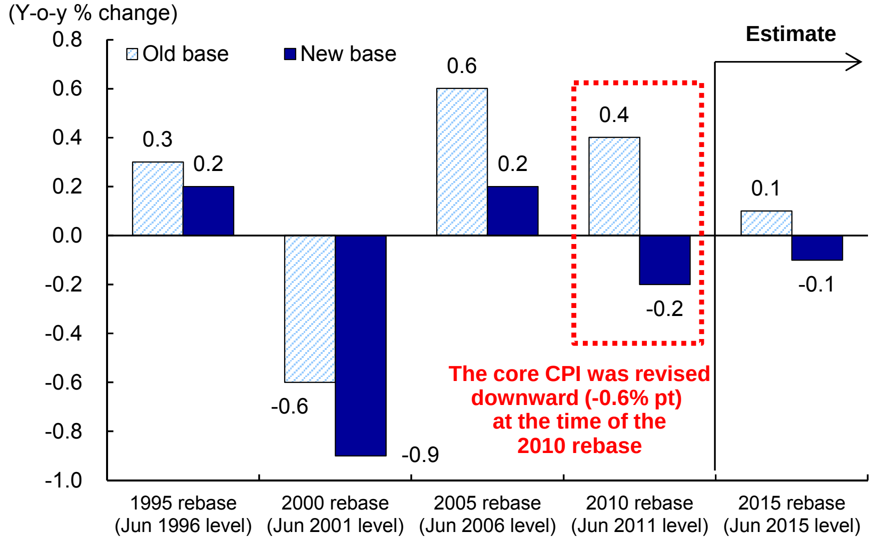
Note: The breakdown excludes the impact of the consumption tax hike. The US-style core CPI is the CPI excluding energy and food (ex alcohol).

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

(Reference) The impact of the CPI base revision (base year 2015, to be implemented in August 2016) will be benign

- The impact of the rebase of the consumer price index (CPI) scheduled in August 2016 will be benign.
  - The core CPI was revised down by 0.6% pt at the time of rebase in 2011, since the (1) index reset factor (-0.40% pt) and the (2) re-weight factor (-0.15% pt) had a large impact. In contrast, the impact of the two foregoing factors based upon currently-available data would be small in the case of the 2016 revision: (1) index reset factor (-0.17% pt) and the (2) re-weight factor (-0.03% pt).
  - The qualitative adjustment of rent and the calculation of actual price hikes using POS data would push the y-o-y rate of inflation higher.

[Y-o-y change in core CPI at the time of past base revisions (comparison of old and new base)]



Note: The graph above sets forth the y-o-y change of the core CPI under both the old and new bases for June of the year following the change to the new base year.
Estimates by MHRI for the rebase from 2010 to 2015 (for June 2015).
Sources: Made by MHRI based upon releases by the Ministry of Internal Affairs and Communications.

[Impact of the 2015 rebase upon core CPI]

Factor	Impact
① Reset of index	-0.17% point (-0.40% point)
② Re-weighting	-0.03% point (-0.15% point)
③ Revision of basket of goods	benign (-0.06) % point%
④ Reset of model	The final components of the reset are scheduled to be announced in July 2016 (＋0.01% point)
Basic stance in construction of index	**Issues**
⑤ Adjustment for rent quality	There are estimations that adjustments for rent quality would push up the CPI by around 0.2%. However, given its difficulty, this issue may be shelved for future discussion
⑥ Utilization of POS and internet data	Although the use of POS data is currently limited to PCs and cameras, its expansion to cover food items etc may enable the reflection of the effective price hikes

Note: The estimate is based upon currently-available data, so the results need to be considered with a degree of latitude. The figures in parentheses are the estimated figures for the impact of the 2010-base revision.
Sources: Made by MHRI based upon releases by the Ministry of Internal Affairs and Communications.

Despite the BOJ's "wait-and-see" stance on inflation, it may take more monetary easing steps in the event of a downturn of sentiment

- The BOJ maintained its outlook on the achievement of its price target in the first half of FY2016. The BOJ's assessment is that the economic downturn is only temporary and that underlying price trends are improving steadily.
  - BOJ Deputy Governor Hiroshi Nakaso stated that firms' "price-setting has also been shifting from a low-price strategy to raising sales prices while increasing value-added" (July 27th).
- In the absence of a sharp economic downturn, we expect the BOJ to refrain from further easing during the year and take to the sidelines to watch inflation trends from the autumn season onward. That said, the central bank may ease in the event of a downturn of sentiment evident in, for example, outlooks on inflation.
  - Among the potential monetary easing measures are the extension of maturities of purchased government bonds and increase of ETF purchases.

[Comments by BOJ Deputy Governor Hiroshi Nakaso]

	BOJ Deputy Governor Hiroshi Nakaso (July 27th)
Outlook for Economic Activity	● The current weakness in exports and production is temporary. According to the June *Tankan* (*Short-Term Economic Survey of Enterprises in Japan*) , firms seem to have increased their fixed investment. [F]irms consider the current weakness in exports and production as temporary. ● Private consumption is expected to maintain its resilience. Consumer sentiment has evidently been picking up on the back of moves to increase wages. Despite the effects of the bad weather, retail sales has been resilient.
Outlook for Prices	● The negative contribution to the CPI (by the decline in energy prices) will be largest this summer. [A]s the negative contribution of energy prices dissipates, this alone will push up the year-on-year rate of increase in the CPI for the first half of next fiscal year by about 1 percentage point. ● In particular, the recent changes in firms' wage- and price-setting behavior are drawing specific attention. Moreover, their price-setting has also been shifting from a low-price strategy to raising sales prices while increasing value-added. [T]he temperature of the economy is gradually rising.

Source: Made by MHRI based upon BOJ.

[The BOJ's purchases of JGBs and amount of JGB issues]

(JPY trillion)

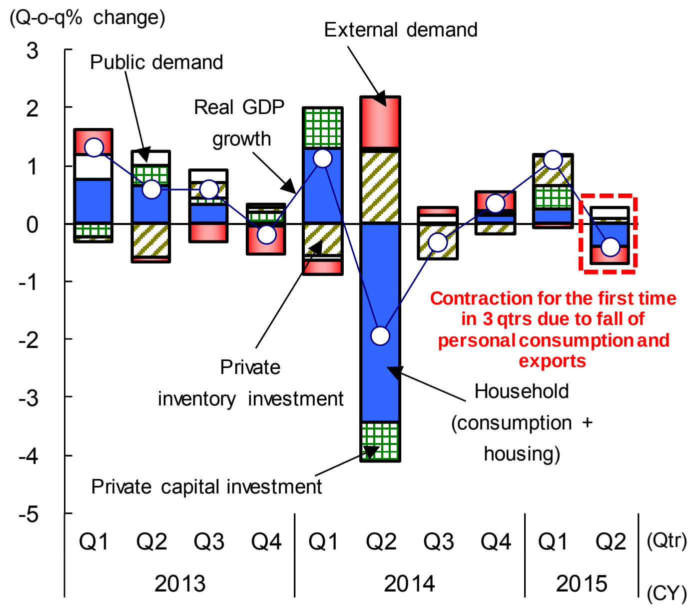
Remaining period until maturity	Monthly total	JGB issues (monthly average)	Percentage purchased by BOJ
Up to 1 year	0.3	0.0	–
Over 1 year to 5 years	4.7	5.0	93%
Over 5 years to 10 years	2.4	2.6	92%
Over 10 years	1.9	2.8	69%
Total	9.3	10.4	89%

Note:. The annual amount of JGB issues I based upon FY2015. The amount of annual issues for liquidity supply bids are assumed to be JPY2.4 trillion for bonds "over 5 years to 10 years" and JPY7.2 trillion for bonds "over 10 years". Excludes floating rate bonds, inflation indexed bonds. JGB purchases: July 2015.
Source: Made by MHRI based upon BOJ.

Japan: in the Apr-Jun quarter, the Japanese economy contracted for the first time in three quarters. Look forward to a recovery propelled by four factors

- Japan's real GDP contracted -0.4% q-o-q (-1.6% p.a.) in Apr-Jun quarter of 2015, contracting for the first time in three quarters.
  - Japan's economic recovery came to a pause as shown by the sharp fall of personal consumption and exports, and the flattening of capital investment.
- Looking forward, the economy should return to a recovery track on the back of the four following factors: (1) the ebb of temporary negative pressures, (2) support by the "Triple Merits", (3) improvement of labor market conditions, and (4) corporate governance reforms.
  - The decline of exports in the Apr-Jun quarter was due largely to a backlash to the surge of exports to the ASEAN and the US at the beginning of the year. Moreover, bad weather factor and delayed timing of summer bonus payments had an impact upon the fall of personal consumption.

[Real GDP growth (contribution by components of demand)]



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

[Four factors leading to the recovery of the Japanese economy]

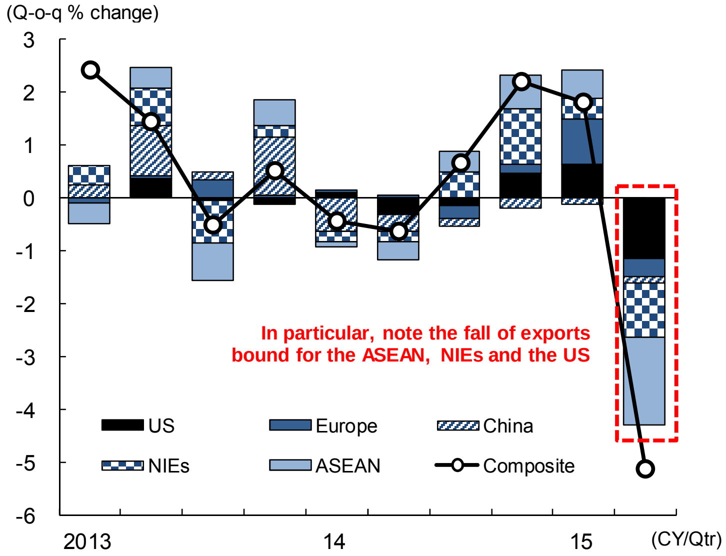
Factors	Comments
(1) The temporary negative pressures which dragged down growth in the Apr-Jun qtr will ebb	Because the contraction in the Apr-Jun qtr stems largely from temporary factors, the economy should pick up from the Jul-Sep qtr. However, the pace of recovery will be tepid for some time due to lingering inventory adjustment pressures
(2) The Triple Merits will support economic growth	The "Triple Merits" are estimated to push up growth by approximately 1%. In fact, public investment increased in the Apr-Jun qtr due to the effect of economic stimulus measures. In addition to the capital investment-related subsidies, the impact of cheaper crude oil led to the sharp rise of capital investment plans for FY2015. However, thus far, factors such as the stagnation of consumption propensity in the high income bracket is serving to offset the positive impact of the Triple Merits.
(3) Improvement of labor market conditions will contribute to recovery of consumer spending	Although the y-o-y change of real wages is predicted to dip into negative territory again in the second half of FY2016, real labor compensation will remain in positive territory due to the rise of employment of women and seniors. Labor market conditions will pave the way toward the recovery of consumer spending
(4) Corporate governance reforms will promote postive corporate behaviour	Existing research indicates that the improvement of corporate governance quality leads to the rise of corporate value. However, there is the risk of corporations curbing investment and wages in order to raise capital efficiency as in the period from the mid-1990s to the 2000s. Moreover, note the possibility that overseas business expansion may accelerate for the improvement of profitability on a consolidated basis

Source: Made by MHRI.

Factor (1) The contraction is only temporary; the fall of exports will be short-lived and should pick up

- The current fall of exports is due partially to temporary factors.
  - In the Apr-Jun quarter of 2015, ASEAN-bound exports served as the most prominent drag upon exports. Exports to the US and the NIEs also fell sharply. China-bound exports remain weak.
  - — Exports to ASEAN rose in the Jan-Mar quarter of 2015 and fell in the Apr-Jun quarter due to special factors (refer to the right hand chart below).
  - — Exports to the NIEs appears to have been affected by the downturn of re-export items. Even so, exports of key items such as electronic parts and general machinery held up well.
- Turning to US-bound exports, note that the main pillar of exports - automotive exports – have already recovering. Exports – mainly to the US – should recover along with the recovery of the US economy.

[*Export Volume Index* (contribution by geographic destinations)]



Note: Adjusted for seasonal factors by MHRI. Contributions based upon weight of export value in 2010.
Sources: Made by MHRI based upon Ministry of Finance, *Trade Statistics.*

[Background factors behind the fluctuation of exports in the Q1 to Q2 2015]

<Contributions to exports to ASEAN5 (change from Q1 toQ2 2015>

(% pt)

	Total exports	Raw materials	General machinery	Electrical machinery	Others
ASEAN5	-12.6	-1.8	-4.3	-2.0	-4.5
Indonesia	-2.6	-0.7	-1.1	-0.4	-0.4
Thailand	-5.1	-0.8	-1.8	-0.9	-1.7
Malaysia	-1.6	-0.0	-0.1	-0.3	-1.1
Philippines	-1.5	-0.3	-0.1	-0.4	-0.7
Vietnam	-1.8	-0.0	-1.2	0.0	-0.6

<Special factors in ASEAN-bound exports>

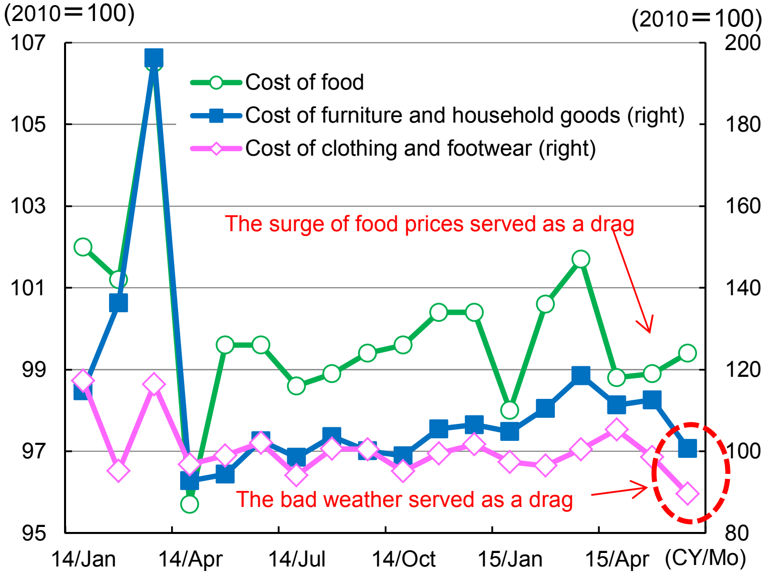
"General machinery" bound for Thailand	Exports of engines fell in the Apr-Jun qtr along with the rise/fall of production reflecting the model changes of pick-up trucks (Nov 2014, May 2015)
"Others" bound for Thailand	Gold exports from Japan to Thailand increased due to the rise of speculative gold investment in Thailand due to the fall of the Thai baht-denominated gold market reflecting the strengthening of the Thai baht in early 2015. From May onward, the strength of the baht was corrected, leading to the recovery of the gold market and fall of gold exports to Thailand
"General machinery" bound for Vietnam	Sharp rise and reactionary fall of machine tool exports to mobile phone factories (machine tool exports in Jan-Mar 2015: +1094% y-o-y)

Sources: Made by MHRI based upon Ministry of Finance, *Trade Statistics,* interviews with manufacturers, local media reports etc.

Factor (1) Since personal consumption only fell temporarily in the Apr-Jun quarter due to the bad weather and surge of food prices, look forward to a recovery

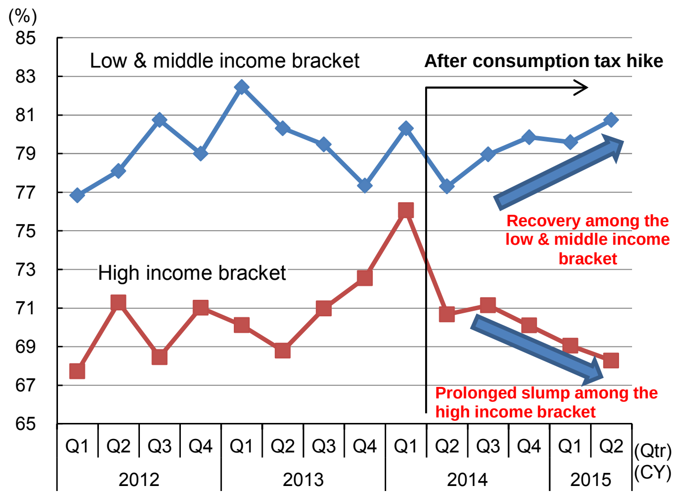
- In the Apr-Jun quarter of 2015, personal consumption fell for the first time in four quarters. (1) The bad weather in western Japan in June, (2) surge of food prices, and (3) later timing of summer bonus payments appear to have had an impact.
  - In June, the bad weather conditions in western Japan led to the softening of spending on durable goods such as air conditioners and semi-durable goods such as summer clothing. Furthermore, spending on nondurable goods also weakened due to the surge of prices of food including fresh food due to the weaker yen and bad weather.
- Looking forward, personal consumption should pick up as the foregoing factors fade. However, the prolongation of spending curbs by the high income bracket of consumers is a source of concern.
  - Given the ongoing slump of consumption propensity in the high income bracket in FY2014, this is serving as a major factor behind the sluggish recovery of consumer spending.

[Consumption expenditures by items (real terms)]



Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey.*

[Consumption propensity by income bracket (consumption expenditures/disposable income)]



Note: The low & middle income bracket is the average of the 1st to 3rd quintiles
The high income bracket is the average of the 4th and 5th quintiles.

Source: Made by MHRI based upon Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey.*

Factor (2) The “Triple Merits”: lift GDP growth rate by 1%

- The following “Triple Merits” is estimated to lift the Japanese economy by approximately 1% in FY2015: (1) weak yen and stock market rise accompanying monetary easing (2) fiscal policy measures such as the emergency economic stimulus measures, and (3) sharp fall of crude oil prices.
  - Up to the Apr-Jun quarter, public investment rose as a result of fiscal policy measures ((2)). FY2015 capital investment plans rose sharply due to support toward corporations such as subsidies for energy-saving efforts, and the fall of crude oil prices ((3)) among other factors.

[Impact of the “Triple Merits” (additional monetary easing, fiscal policy, lower crude oil prices) upon real GDP (simulation results)]

Triple Merits	Boost to growth rate (%Pt) FY2014	Boost to growth rate (%Pt) FY2015	Assessment of conditions
Additional moneary easing (QQE2)	0.07	0.21	◯ Corporate earnings are improving ・Positive impact upon exports and personal consumption is not clearly evident (however, the estimation of the positive impact is small to start out with)
Boost export volume via weaker yen	0.03	0.15	
Boost personal consumption through rise of stock prices (wealth effect)	0.04	0.06	
Fiscal policy (economic stimulus measures)	0.00	0.23	
Measures for households (stimulus for consumer spending, housing market)	0.00	0.03	・The impact of the Premium-added Vouchers should start to appear from the Jul-Sep qtr
Measures for businesses (subsidies for capital investment)	0.00	0.09	・The energy-saving investment should start from the Jul-Sep qtr
Public demand (government spending)	0.00	0.11	**◯ Public investment rose in the Apr-Jun qtr**
Fall of crude oil prices	0.06	0.66	◯The trade balance improved greatly. Gasoline prices also fell **◯ Capital investment plans among large enterprises are robust** **・Positive impact upon personal consumption is not clearly evident**
Total	0.13	**1.10**	

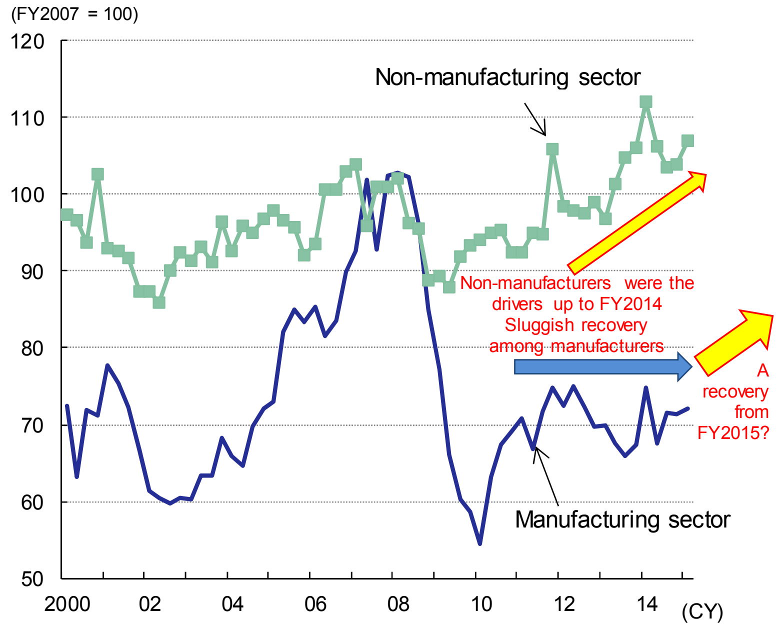
Notes: 1. The impact of additional monetary easing upon personal consumption only includes the wealth effect due to the rise of stock prices and does not include the impact through the improvement of consumer confidence.
2. The impact of the weaker yen and rise of stock prices calculates the impact of the change of the foreign exchange rate and stock prices from MHRI’s Economic Outlook in September 2014 (approximately 10% weakening of the yen, approximately 10% rise of stock prices).
3. The impact of the fall of crude oil prices calculates the impact of the change of crude oil prices from the Economic Outlook in September 2014 based upon the MHRI Macromodel.

Sources: Made by MHRI based upon various sources.

Factor (2) The "Triple Merits": capital investment will also pick up in the manufacturing sector

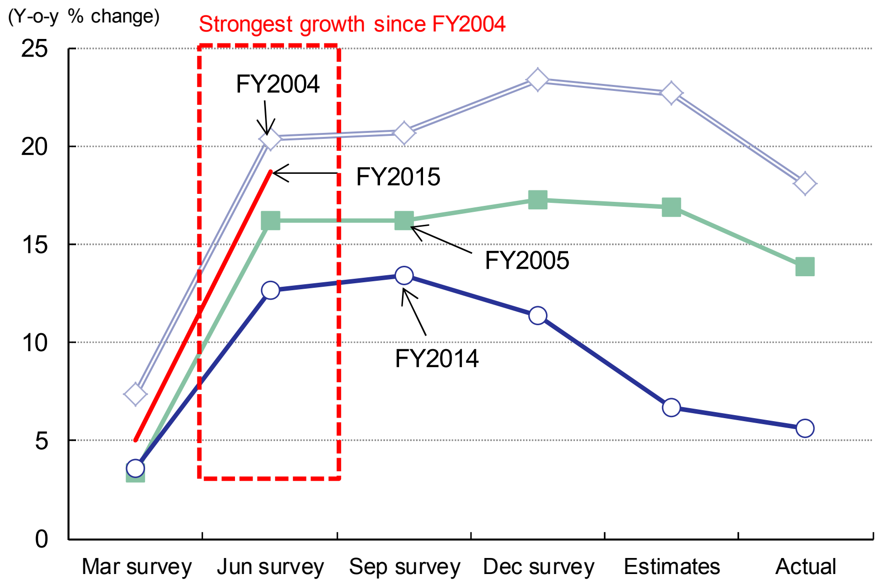
- Up to FY2014, the non-manufacturing sector was the driver of the capital investment recovery. In FY2015, on the other hand, capital investment plans in the manufacturing sector (as of June) rose sharply.
  - Capital investment among non-manufacturers recovered to levels prior to the collapse of Lehman Brothers by FY2014. In contrast, capital investment among manufactures has not returned to pre-Lehman Shock levels.
  - According to the Bank of Japan's (BOJ) *Short-term Economic Survey of Enterprises in Japan* (*Tankan*) (June 2015 survey), capital investment plans grew +18.7% y-o-y among large manufacturers, marking the strongest growth since FY2004. Even though the plans may be pushed back, the results provide reasons to expect that the pace of capital investment recovery will speed up in the manufacturing sector.

[Trends in real capital investment (tangible fixed assets)]



Note: Adjusted for seasonal factors.
Source: Made by MHRI based upon Cabinet Office, *Preliminary Quarterly Estimates of Gross Capital Stock of Private Enterprises.*

[Capital investment plans (large manufacturers)]



Note: Large enterprises, manufacturers. Includes land-purchasing costs and excludes investment in software. Pre-revision basis up until the December 2014 survey. Post-revision basis from the March 2015 survey.
Source: Made by MHRI based upon Bank of Japan, *Short-term Economic Survey of Enterprises in Japan (Tankan).*

(Reference) Possibility of a FY2015 supplementary budget – it would be possible to secure financial resources (approximately JPY3 trillion) without the issuance of additional government bonds

- ❑ As financial resources for the FY2015 supplementary budget, it is estimated that approximately JPY3 trillion would be available without issuing additional government bonds.
  - ▪ Approximately JPY1.6 trillion is available from the FY2014 budget settlement's surplus and approximately JPY1.8 trillion would be available through the reduction of expenditures in the FY2015 initial budget.
  - — In the event there is an uptick in FY2015 tax revenues at the time of compilation of the supplementary budget, this could be utilized as additional financial resources.
- ❑ The purpose of the supplementary budget is to spread the benefits of "Abenomics" to provincial areas and SMEs.
- ❑ If all progresses as usual, the supplementary budget would be passed in early February 2016, and its economic impact would start to appear around the spring season of 2016.
  - ※ Note that the FY2015 supplementary budget is not taken into account in MHRI's latest *Economic Outlook* (considered as an upside risk).

[Financial resources available the FY2015 Supplementary Budget]

Item		Breakdown of financial resources
FY2014 settlement's surplus (general account) (Note 1)		JPY1.6 tril
Reduction of FY2015 expenditures (Note 2)	of which are national debt service expenditures	JPY1.5 tril
	of which are contingency reserves	JPY0.1 tril
	Others	JPY0.2 tril
Total		JPY3.4 tril

Notes: 1. The amount when allocating the total amount to the supplementary budget by enactment of a special law to exempt application of Article 6 of the Finance Act (which) allocates more than ½ of net surplus to resources for government bond redemption).
2. Assumed to be around the same as the FY2014 supplementary budget.
Sources: Made by MHRI based upon releases by the Ministry of Finance.

[Size of budgets in past fiscal years]

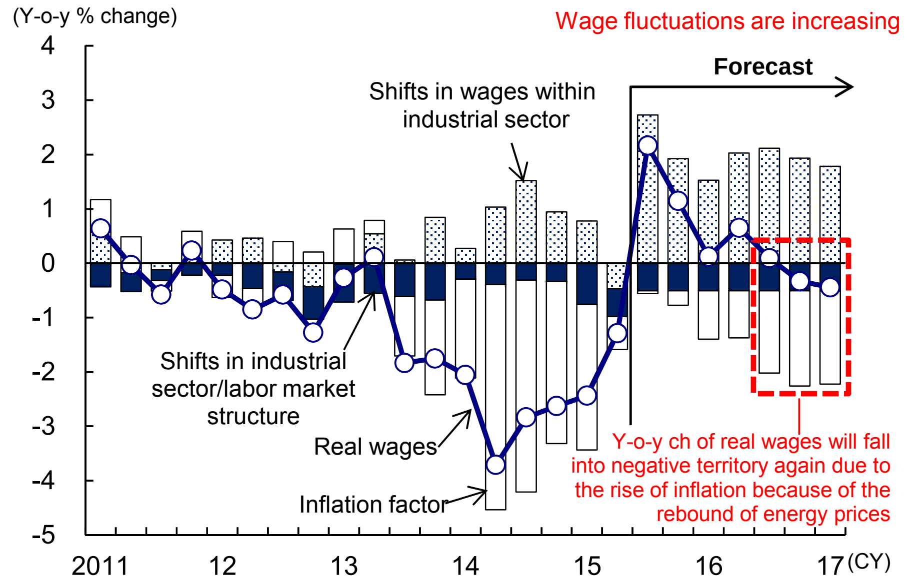
	Initial budget	Supplementary budget	Settlement	Overview of supplementary budget
FY2008	JPY83.1 tril	JPY5.8 tril	JPY89.2 tril	Livelihood support measures (implementation of flat-rate payments)
FY2009	JPY88.5 tril	JPY14.0 tril	JPY107.1 tril	Emergency economic stimuus measures (to address the Lehman Shock)
FY2010	JPY92.3 tril	JPY4.4 tril	JPY100.5 tril	Social security, regional revitalization measures
FY2011	JPY92.4 tril	JPY15.1 tril	JPY110.0 tril	Measures for reconstruction and restoration from the Great East Japan Earthquake
FY2012	JPY90.3 tril	JPY10.2 tril	JPY107.8 tril	Measures for reconstruction from the Great East Japan Earthquake and disaster prevention (2nd Arrow of Abenomics)
FY2013	JPY92.6 tril	JPY5.5 tril	JPY106.0 tril	Measures for reconstruction, measures to reduce impacts on low-income earners (to ease the impact of the consumption tax hike)
FY2014	JPY95.9 tril	JPY3.1 tril	JPY104.7 tril	Livelihood assistance and regional revitalization measures
FY2015	JPY96.3 tril	?	?	Measures for low-income earners, regional revitalization?

Sources: Made by MHRI based upon releases by the Ministry of Finance

Factor (3) Environment ripe for a recovery of consumer spending: increase of real wage income due to the rise of employment of women and seniors

- ❑ Even though the year-on-year change in real wages (per capita) will turn positive for the first time in five years in FY2015, it will dip into negative territory again in FY2016.
  - ▪ Since the rise of inflation due to the rebound of energy prices will outpace the rise of nominal wages in FY2016, the year-on-year change of real wages will dip into negative territory.
  - — Even though the rise of wages will continue to expand in FY2016, it will not be able to keep up with the rise of inflation since nominal wages will remain under downward pressures stemming from the rise of the ratio of part-time workers.
- ❑ However, real wage income will continue to rise above the previous year in FY2016 due to the rise of employment of women and seniors. Labor market conditions are ripe for a recovery of consumer spending.

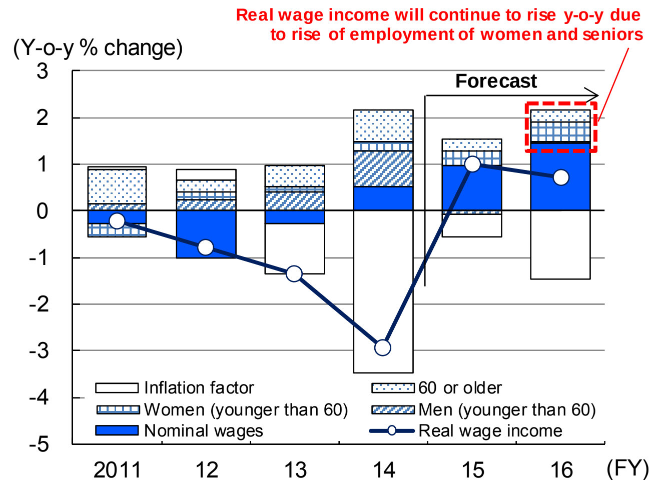
[Forecast on real wages]



Notes: 1. The totals of the contributions and the overall total do not match due to rounding off.
2. The shifts in industrial sector/labor market structure from the Jul-Sep qtr of 2015 are assumed to be flat from the Apr-Jun qtr of 2015.

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

[Forecast on real wage income]



Notes: 1. Since the gender-based and age-based data during the Mar to Nov period of 2011 are not released, data for this period is supplemented by linear interpolation.
2. Data on "60 or older" is compiled by a proportional division of regular employees by data on age-based employees in the *Labor Force Survey* of the Ministry of Internal Affairs and Communications.
3. Wage income (no. of employees ✕ nominal wages) converted into real terms by the CPI (general, ex. Imputed rent)

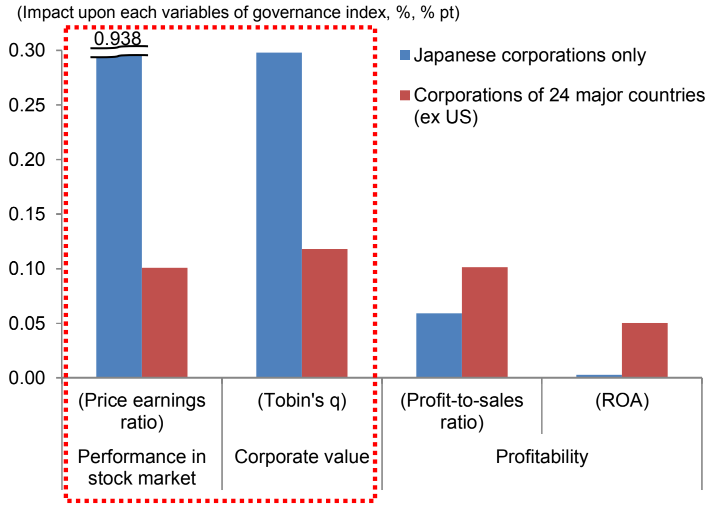
Sources: Made by MHRI based upon Ministry of Health, Labor and Welfare, *Monthly Labor Survey,* Ministry of Internal Affairs and Communications, *Labor Force Survey, Consumer Price Index.*

Factor (4) Corporate behavior is turning positive: while corporate governance reforms are having a positive impact, note that there are risks

- Existing research based upon international data of listed corporations reveals that the higher the quality of corporate governance, the higher the corporate value and profitability.
  - The results indicate that corporations having higher qualities of governance have higher levels of stock market performance and corporate value (*) (the same results were derived in research focusing solely upon Japanese corporations).

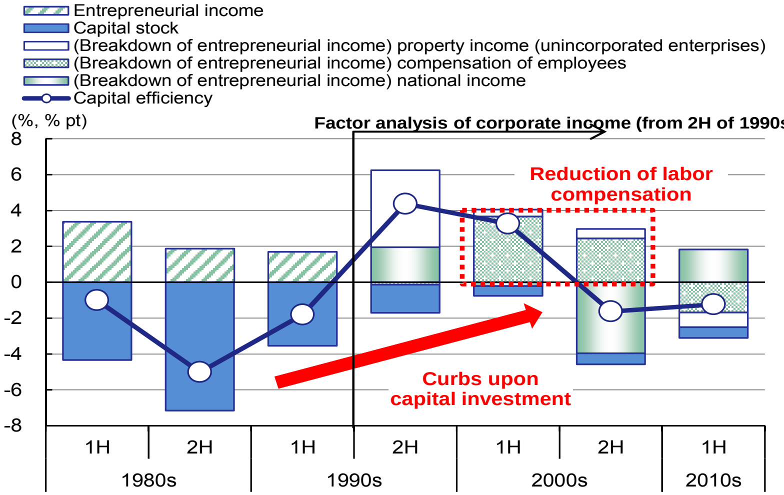
    (*) Calculated according to Tobin's q ratio where *Tobin's q = Total Market Value of Firm / Total Asset Value of Firm*
- However, an excessive emphasis upon capital efficiency and business efficiency would risk falling into a diminishing equilibrium by curbing investment and wages.
  - During the period from the mid-1990s to the 2000s, the focus of attention upon the "Three Excesses" (excessive labor, capacity, debt) led to curbs upon capital investment and the reduction of employment and wages.

[Impact of corporate governance upon corporate value & profitability]
(results of analysis in existing research)



Note: The governance index is compiled upon evaluation of items (total of 55 items) regarding corporate governance.
Sources: Made by MHRI based upon Krafft, J. et.al. (2013) , *Corporate governance, value and performance of firms: New empirical results on convergence from a large international database*.

[Factor decomposition of the change of capital efficiency (corporate income/capital stock)]



Notes: 1. Factor decomposition of the rate of change (average annual rate) of capital efficiency (entrepreneurial income/capital stock).
2. Property income (unincorporated enterprises) generally refers to payments from the corporate sector to other sectors, of which a large part is comprised of interest payments by financial corporations (banks etc.) to the household sector.
Source: Made by MHRI based upon Cabinet Office, *National Accounts.*

(Reference) Key political events

	2015		2016		2017	
US			Nov	US presidential election		
Europe			by end of year	Irish general elections	Mar	Netherlands general elections
	Oct	Portugal general elections			Apr-May	French presidential election
	Dec	Spain general elections			Jun	French legislative elections
					Sep	Germany general elections
Japan	Sep	LDP presidential election	Summer	Upper House election	Apr	Consumption tax hike
Asia	Oct	Fifth Plenary Session of the CPC Central Committee China	Jan	Taiwan presidential & legislative elections	by end of year	Hong Kong election of Legislative Council President
	Nov ~	Myanmar general elections	around Mar	NPC (13th 5-Year Plan scheduled), China	around Dec	South Korean presidential election
	end of year	launch of ASEAN Economic Community (AEC)	Apr	South Korean national assembly election	Autumn	19th National Congress of the Communist Party of China
	by end of year	launch of AIIB	May	Philippines presidential & congressional elections		
			around Sep	Australia upper house ahd lower house elections		
			Autumn	Sixth Plenary Session of the CPC Central Committee (China)		
			by end of year	Vietnam Communist Party Congress		
			by end of year	India upper house election		
			by end of year	Hong Kong Legislative Council election		
Others	Oct	Argentina general elections	Aug	Brazil summer Olympic Games		
			Sep	Russia lower house election		

Source: Made by MHRI based upon media reports.