
Mid- to Long-term Economic Outlook

-Forecast on the global economy up to 2020 based on a long-term perspective-

July 24, 2015

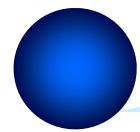
Mizuho Research Institute

■ Will Japan fall into a recession?

- Demographic decline: will a full-fledged population decline trigger a recession?
- Long-term stagnation: can Japan overcome the lingering stagnation after the collapse of the bubble economy?
- Industrial hollowing: can Japanese firms maintain their competitive edge?
- Decline of Japan's presence: how can Japan stop losing presence?
- JGB crash: can Japan continue to digest JGBs stably?

Outlook on Japan and the global economy up to 2020

- Driven by recovery in the growth potential of advanced economies, global economic growth is expected to rise slightly. The expansion of infrastructure investment mainly in Asia (33 trillion dollars in the coming decade) will fuel world economic growth.
- Looking at the global political and economic situation, the current framework lacks a clear leader due to the rising presence of China following the unipolar concentration of power in the US. Note the risks stemming from growing tensions between the US and China.
- Emerging economies centered on Asia remain a source of growth, and from a long-term perspective, Africa is a promising area given its increasing population.
- Although the US raised interest rates in 2015, the pace of increase is slower than in the past and its peak is low. Japan and Eurozone are expected to maintain or expand their easy monetary policy for the time being and begin raising interest rates from 2018.
- Risks include the creation of a bubble economy caused by lingering excess liquidity and geopolitical disruptions. Looking at the situations in the respective countries or regions, the main risks are a sharp economic slowdown in China triggered by a real estate market crash and capital flight from emerging economies following the US's adoption of its exit strategy.
- Japan will realize economic growth in the upper 1% range in real terms by virtue of the dual effects of Abenomics and the Tokyo Olympic Games. The trade deficit will persist, but the current balance surplus is expected to recover to 20 trillion yen by 2020.
- Given the surplus position in the current balance, a JGB crash is unlikely; but maintaining financial discipline is of critical importance.



I. The Global Economy (Overview)

~ **Advanced economies move forward while growth in emerging economies slows down** ~

Global economic growth will rise toward the latter half of 2010 but decelerate later on

[Outlook on the global economy]

	(Y-o-y % change)								
	2013	2014	2015	2016	2017	2018	2019	2020	
	Calendar year								
Global real GDP growth rate	3.4	3.4	3.3	3.8	4.0	4.0	3.8	3.8	
Total of Japan, US, Eurozone and Asia	3.6	3.8	3.9	4.1	4.0	3.9	3.7	3.8	
Japan, US, Eurozone	1.2	1.5	1.8	2.2	1.9	1.9	1.6	1.7	
US	2.2	2.4	2.4	2.8	2.6	2.4	1.7	2.0	
Eurozone	▲ 0.5	0.9	1.4	1.6	1.5	1.5	1.5	1.4	
Japan	1.6	▲ 0.1	1.1	2.0	0.6	1.1	1.5	1.6	
Asia	6.4	6.4	6.3	6.2	6.2	6.2	6.1	6.1	
China	7.7	7.4	7.0	6.7	6.6	6.5	6.3	6.2	
NIEs	2.9	3.3	2.9	3.0	2.8	2.7	2.2	2.3	
ASEAN5	5.1	4.6	4.8	4.8	4.9	4.9	4.8	4.9	
India	6.4	7.1	7.5	7.8	8.0	8.1	8.1	8.2	
Japan (FY)	2.1	▲ 0.9	1.8	2.0	0.2	1.5	1.5	1.6	
Crude oil price (WTI, USD/bbl)	98	93	58	67	74	79	81	82	
Forex (JPY/USD)	98	106	123	129	132	133	131	126	
Forex (USD/EUR)	1.33	1.33	1.10	1.03	0.99	0.99	1.05	1.13	
Forex (RMB/USD)	6.15	6.13	6.12	6.09	6.04	5.97	5.89	5.79	

Note: The total of Japan, the US, Europe and Asia is calculated based on the 2012 GDP share (PPP) by the IMF.

Source: Created by Mizuho Research Institute (MHRI) based on the International Monetary Fund (IMF), HAVER Analytics, CEIC and statistics of relevant countries and regions.

Stock prices and long-term interest rates will gradually rise. ECB and BOJ will raise interest rates in FY2018

[Outlook on the financial markets]

	2011 FY	2012 FY	2013 FY	2014 FY	2015 FY	2016 FY	2017 FY	2018 FY	2019 FY	2020 FY
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	0.10	0.25	0.25
Euroyen TIBOR (3-mo, %)	0.33	0.31	0.22	0.20	0.17	0.17	0.17	0.20	0.50	0.50
Interest rate swap (5-yr, %)	0.50	0.35	0.40	0.26	0.25	0.26	0.27	0.40	0.60	0.70
Newly-issued JGBs (10-yr, %)	1.05	0.78	0.69	0.48	0.50	0.65	0.75	0.90	1.10	1.25
Nikkei average (JPY)	9,183	9,649	14,424	16,272	20,800	21,800	22,200	22,700	23,200	24,000
US										
Federal funds rate (end-of-period rate, %)	0.3	0~0.25	0~0.25	0~0.25	0.75~1.00	2.00~2.50	3.50	3.75	3.50	3.00
Newly-issued government bonds (10-yr, %)	2.76	1.76	2.54	2.33	2.34	2.80	3.50	3.80	3.60	3.30
Eurozone										
ECB key policy interest rate (end-of-period rate, %)	1.25	0.75	0.25	0.05	0.05	0.05	0.05	0.25	0.75	0.75
German government bonds (10-yr, %)	2.65	1.48	1.67	0.90	0.45	0.80	1.20	1.45	1.80	1.80
Forex										
JPY/USD exchange rate (JPY/USD)	80	95	103	110	125	129	132	133	129	125
USD/EUR exchange rate (USD/EUR)	1.39	1.30	1.37	1.27	1.08	1.03	0.98	1.00	1.08	1.14
JPY/EUR exchange rate (JPY/USD)	111	123	141	139	135	133	130	133	139	142
Crude oil (WTI futures) (USD/bbl)	95	94	98	93	58	67	74	79	81	82

Note: Stock price, interest rate, and foreign exchange rate are the annual year average (Japan's fiscal year); crude oil price is the calendar year average; and policy interest rate is as of the fiscal year end.

Source: Created by MHRI.

Long-term interest rates and foreign exchange rates are expected to reflect differences in monetary policy among the US, Japan and Eurozone

[Comparison of the major financial and economic indicators in Japan, the US and Eurozone]

		(%)						
		2014	2015	2016	2017	2018	2019	2020
Policy interest rate (end-of year rate)	US	0~0.25	0.50~0.75	1.50~1.75	3.25	3.50	3.75	3.00
	Eurozone	0.05	0.05	0.05	0.05	0.25	0.75	0.75
	Japan	0~0.10	0~0.10	0~0.10	0~0.10	0.10	0.25	0.25
Interest rate differential (Policy interest rate)	Interest rate differential between Japan and US	0~0.15	0.50~0.65	1.50~1.65	3.25	3.40	3.50	2.75
	Interest rate differential between Germany and US	0~0.20	0.45~0.70	1.45~1.70	3.20	3.25	3.00	2.25
Long-term interest rate (10-year government bonds)	US	2.53	2.20	2.70	3.30	3.80	3.65	3.40
	Eurozone	1.23	0.40	0.60	1.10	1.40	1.70	1.80
	Japan	0.55	0.40	0.60	0.70	0.85	1.05	1.20
Interest rate differential (10-year government bonds)	Interest rate differential between Japan and US	1.98	1.80	2.10	2.60	2.95	2.60	2.20
	Interest rate differential between Germany and US	1.30	1.80	2.10	2.20	2.40	1.95	1.60
Inflation rate	US	1.4	1.3	1.6	1.7	1.8	2.0	2.1
	Eurozone	0.0	0.1	1.2	1.4	1.6	1.7	1.8
	Japan	0.8	0.0	1.3	1.3	1.4	1.4	1.4
Supply-demand gap (Share of GDP)	US	▲ 2.6	▲ 2.0	▲ 1.3	▲ 1.0	▲ 0.7	▲ 0.9	▲ 0.9
	Eurozone	▲ 2.8	▲ 2.4	▲ 1.8	▲ 1.4	▲ 1.0	▲ 0.8	▲ 0.7
	Japan	▲ 2.2	▲ 1.4	▲ 0.4	▲ 1.3	▲ 1.0	▲ 0.6	▲ 0.5
Current account balance (Share of GDP)	US	▲ 2.4	▲ 2.9	▲ 3.3	▲ 3.5	▲ 3.8	▲ 4.0	▲ 4.1
	Eurozone	2.1	2.9	2.4	2.1	2.0	1.7	1.4
	Japan	1.6	2.8	2.5	3.0	3.0	3.3	3.5
Forex (JPY/USD)		106	123	129	132	133	131	126
Forex (USD/EUR)		1.33	1.10	1.03	0.99	0.99	1.05	1.13

Note: Policy interest rate: year-end Long-term interest rate and foreign exchange rate: year average. Inflation rate, supply-demand gap, current balance: calendar year basis (Japan: fiscal year basis)

Inflation rate: Price index monitored by central banks in their respective countries. Japan: YoY change in the CPI (general ex fresh food, ex impact of the consumption tax hike)

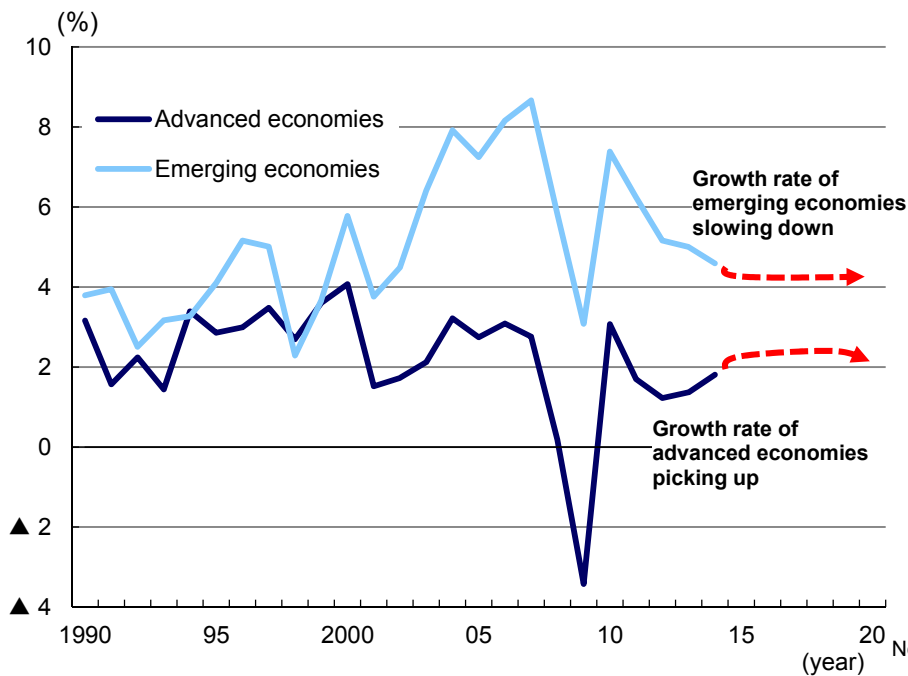
US: YoY change in the PCE deflator (general ex energy and food) Eurozone: YoY change in the CPI (general)

Source: Created by MHRI.

Economic growth rates will recover in advanced economies but slow down in emerging economies toward the latter half of 2010

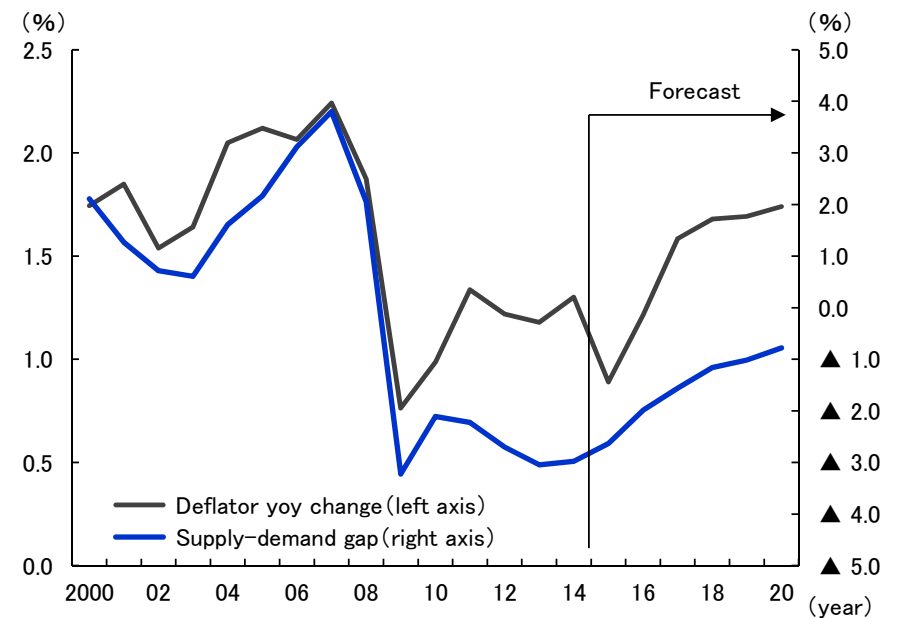
- Advanced economies will overcome stagnation and improve their growth potential, but emerging economies such as China will lose their power to lead the global economy.
 - The supply-demand gap, which widened after the financial crisis in advanced economies, will gradually narrow due to higher economic growth rates.
 - The deflationary trend has strengthened with the current drop in crude oil prices, but the inflation rate is expected to gradually recover in the future.

[Economic growth rates of advanced and emerging economies]



Source: Created by MHRI based on the International Monetary Fund (IMF).

[YoY change in the GDP gap and GDP deflator in advanced economies]



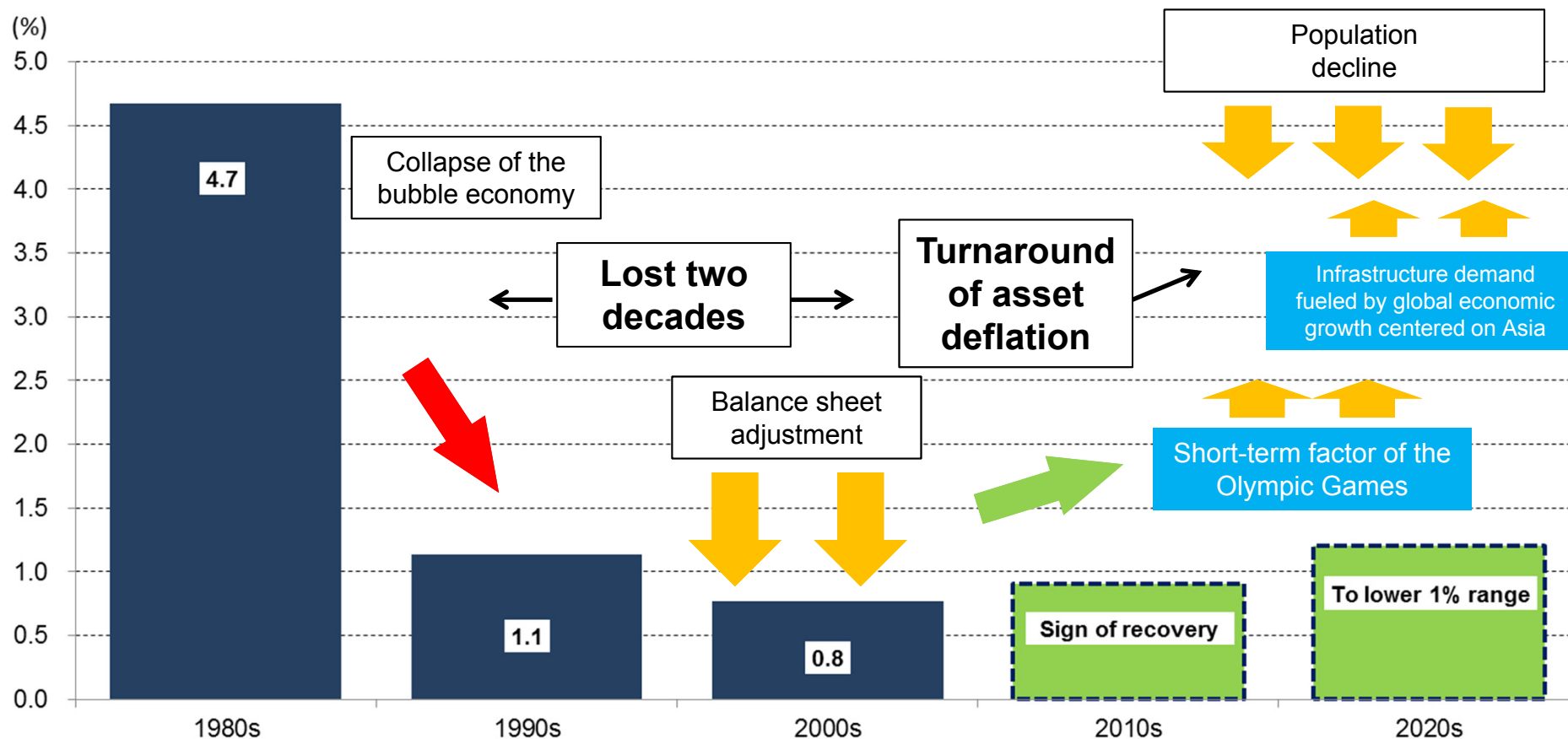
Note: Advanced economies of the supply-demand gap are derived by synthesizing the 2012 GDP share (PPP) of the US, Eurozone, Japan, UK, South Korea, Canada, Australia and Taiwan by indexing their real GDP based on the 2012 standard. Potential GDP is calculated using the HP filter. Advanced economies of the GDP deflator are based on the IMF.

Source: Created by MHRI based on the International Monetary Fund (IMF) and statistics of relevant countries and regions.

Emerging from the balance sheet adjustment phase after the collapse of the bubble economy, Japan will follow a stable growth track

- There will be no downward pressure stemming from balance sheet adjustment. Even though the population decline in the 2020s will serve as a drag, Japan's economy will grow in the lower 1% range supported by external demand.

[Image of Japan's real GDP annual average growth rate (calendar year basis)]



Source: Created by MHRI based on the Cabinet Office and others.

Japan: An economic growth rate over 1% is likely even after FY2021 due to the growth strategy/legacy of the Tokyo Olympic Games and the expansion of Asian markets

[Long-term trends of major indicators (5-year average)]

		Period average								
		81~85	86~90	91~95	96~00	01~05	06~10	11~15	16~20	21~25
GDP (real)	Y-o-y % ch	4.4	5.0	1.3	0.8	1.2	0.2	0.9	1.3	1.1
GDP (nominal)	Y-o-y % ch	5.9	6.4	2.0	0.2	▲ 0.2	▲ 1.0	0.9	2.2	1.9
Consumer prices (ex fresh food)	Y-o-y % ch	2.5	1.4	1.3	0.3	▲ 0.4	▲ 0.2	0.7	1.6	1.4
Consumer prices (ex fresh food, ex consumption tax)	Y-o-y % ch							0.3	1.3	1.4
Current account balance (share of nominal GDP)	%				2.4	3.2	3.7	1.5	3.1	3.4
Primary balance (share of nominal GDP)	%	▲ 2.1	1.7	▲ 1.6	▲ 4.3	▲ 4.4	▲ 4.0	▲ 5.2	▲ 2.4	▲ 2.0
Yield on newly issued 10-yr JGBs	%		5.4	4.6	2.0	1.3	1.4	0.7	0.9	2.3
Exchange rate	JPY/USD	236	142	112	117	116	102	103	130	124
Crude oil price (WTI nearest term contract)	USD/bbl	30	19	19	22	38	77	88	77	84

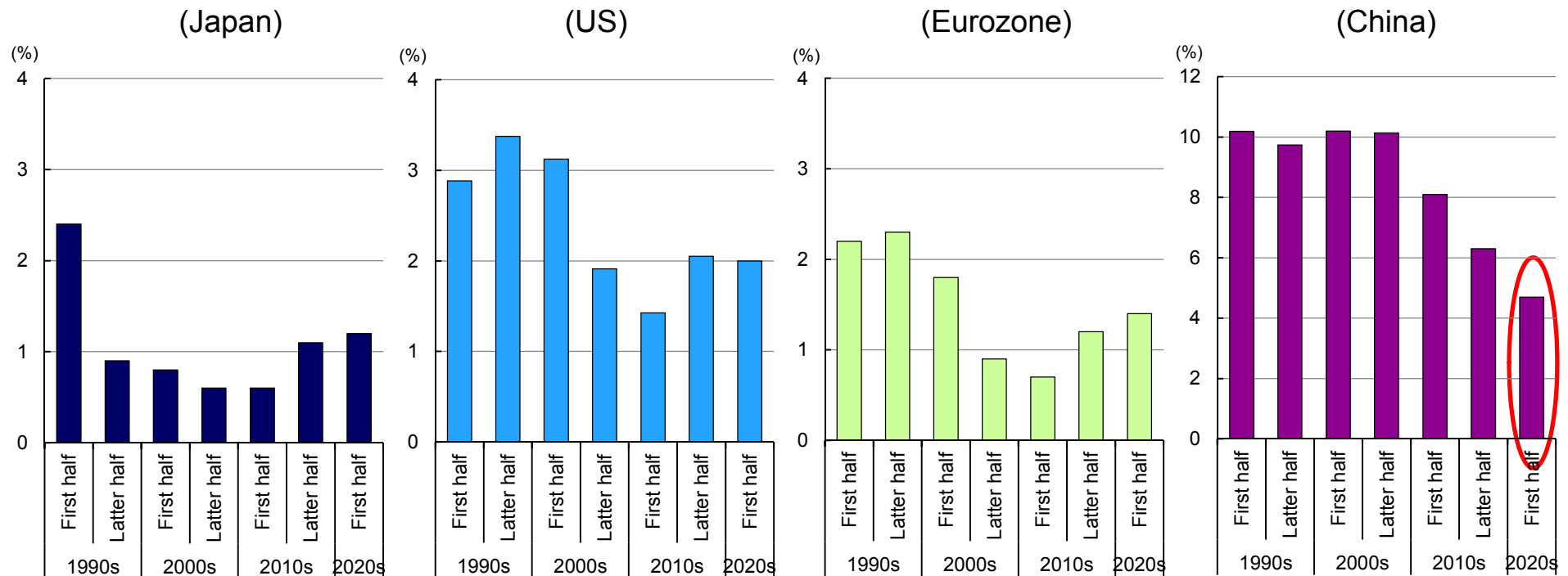
Note: Figures in the shaded areas are forecasts.

Source: Created by MHRI based on the Cabinet Office, *National Accounts*, Ministry of Internal Affairs and Communications, *Consumer Price Index*, Ministry of Finance and Bank of Japan, *Balance of Payments Statistics*, among others.

The potential growth rate of advanced economies, which slumped after the Lehman Shock, will recover

- Japan, the US and Eurozone will see their potential growth rate improve compared with the early half of 2010.
- Despite downward pressures upon Japan stemming from demographic decline, its potential growth rate will rise due to the alleviation of balance sheet adjustment pressures and the recovery of external demand.
- China advocating the “New Normal” will see its potential growth rate gradually deteriorate to around 4% toward the 2020s.

[Potential growth rates of major countries and regions]

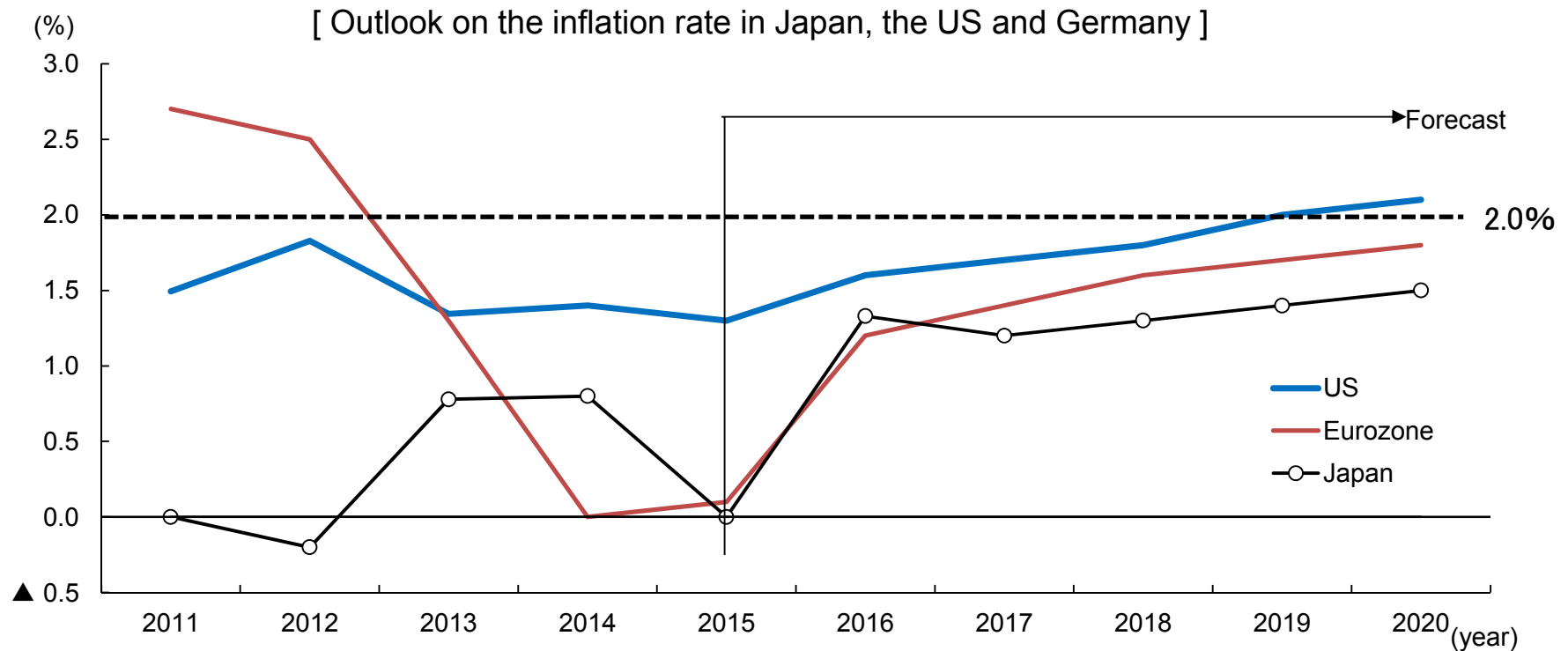


Note: Potential growth rates are estimates by MHRI.

Source: Created by MHRI based on the statistics of relevant countries and regions.

Prices will rise gradually in Japan, the US and Europe. However, the inflation rate will not reach 2% in Japan and the Eurozone

- Prices will increase gradually in Japan, the US and Europe, but the 2% target is a hurdle too high to achieve.
 - The inflation rate in the US will reach 2% in the latter half of the 2010s, but Japan and the Eurozone will not be able to achieve their 2% inflation target.



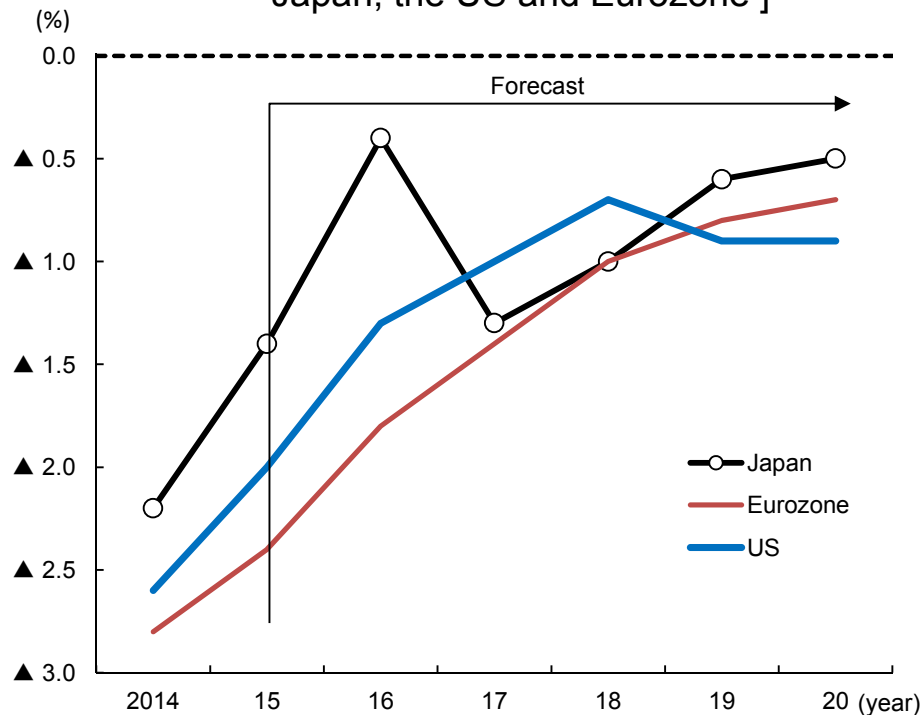
Note: Price index monitored by central banks in their respective countries.
 Japan: YoY change in the CPI (general ex fresh food, ex impact of the consumption tax hike)
 US: YoY change in the PCE deflator (general ex energy and food) Eurozone: YoY change in the CPI (general)
 Forecasts are by MHRI.

Source: Created by MHRI based on the Ministry of Internal Affairs and Communications, the US Department of Commerce, and Eurostat.

The supply-demand gap in Japan, the US and Eurozone will linger. The current account deficit in the US is expected to expand

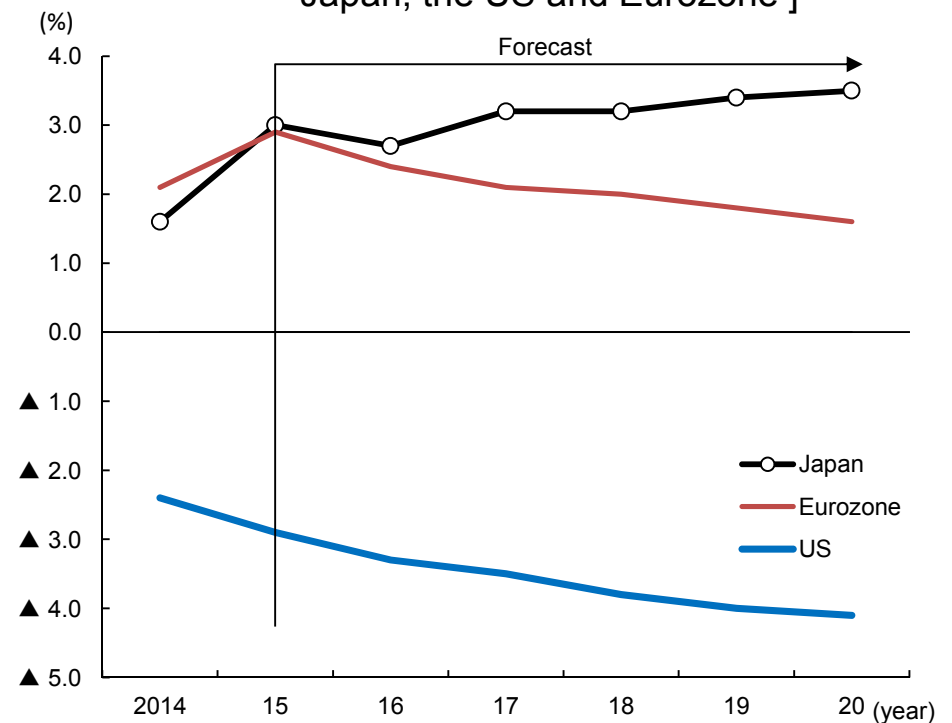
- The supply-demand gap will persist in Japan, the US and the Eurozone. Given weak inflationary pressures, interest rates will tend to hover low.
- The current account deficit in the US is expected to expand. Japan's current account surplus is forecast to expand gradually.

[Outlook on the supply-demand gap (GDP share) in Japan, the US and Eurozone]



Source: Created by MHRI based on the International Monetary Fund (IMF) and statistics of relevant countries and regions.

[Outlook on the current balance (GDP share) in Japan, the US and Eurozone]

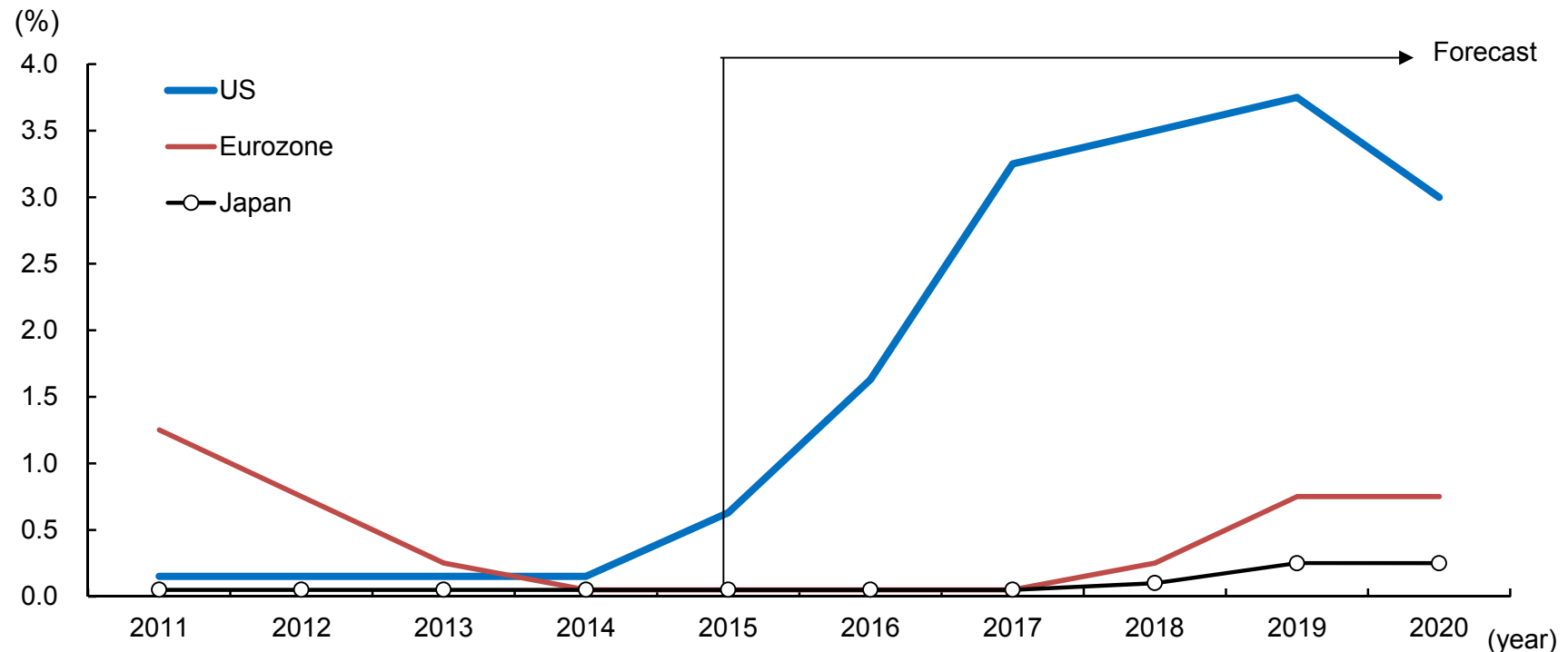


Source: Created by MHRI based on the International Monetary Fund (IMF) and statistics of relevant countries and regions.

The hike in policy interest rates will begin in the US. Interest rates will rise in the Eurozone and Japan from 2018

- The US will raise interest rates in September 2015, but the pace of increase will be slower than in the past. In the Eurozone, the ECB will terminate its quantitative easing in September 2016 and start raising interest rates from 2018. The BOJ's exit strategy will be launched from 2018 after monitoring the impact of the consumption tax hike on the economy in FY2017.

[Outlook on policy interest rates in Japan, the US and Eurozone]

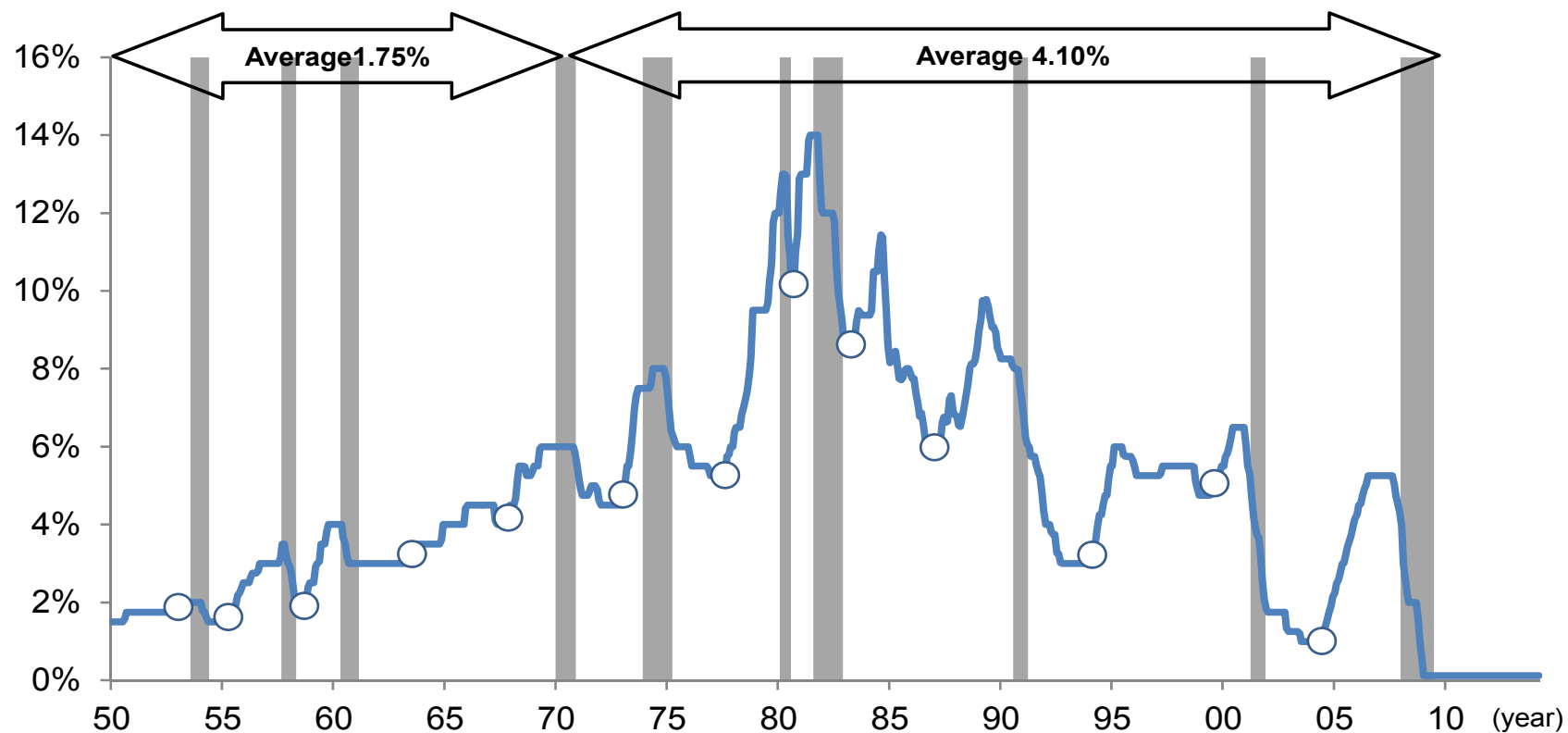


Source: Created by MHRI based on Bloomberg.

The average interest rate hike in the US up to 1970 was a historical low level of 1.7

- From the end of WWII to 1970: Interest rates were lifted 5 times, and the average interest rate hike was 1.75%.
Since 1970: Interest rates have been raised 8 times, with an average interest rate increase of 4.1%.

[Policy interest rates in post-WWII US]



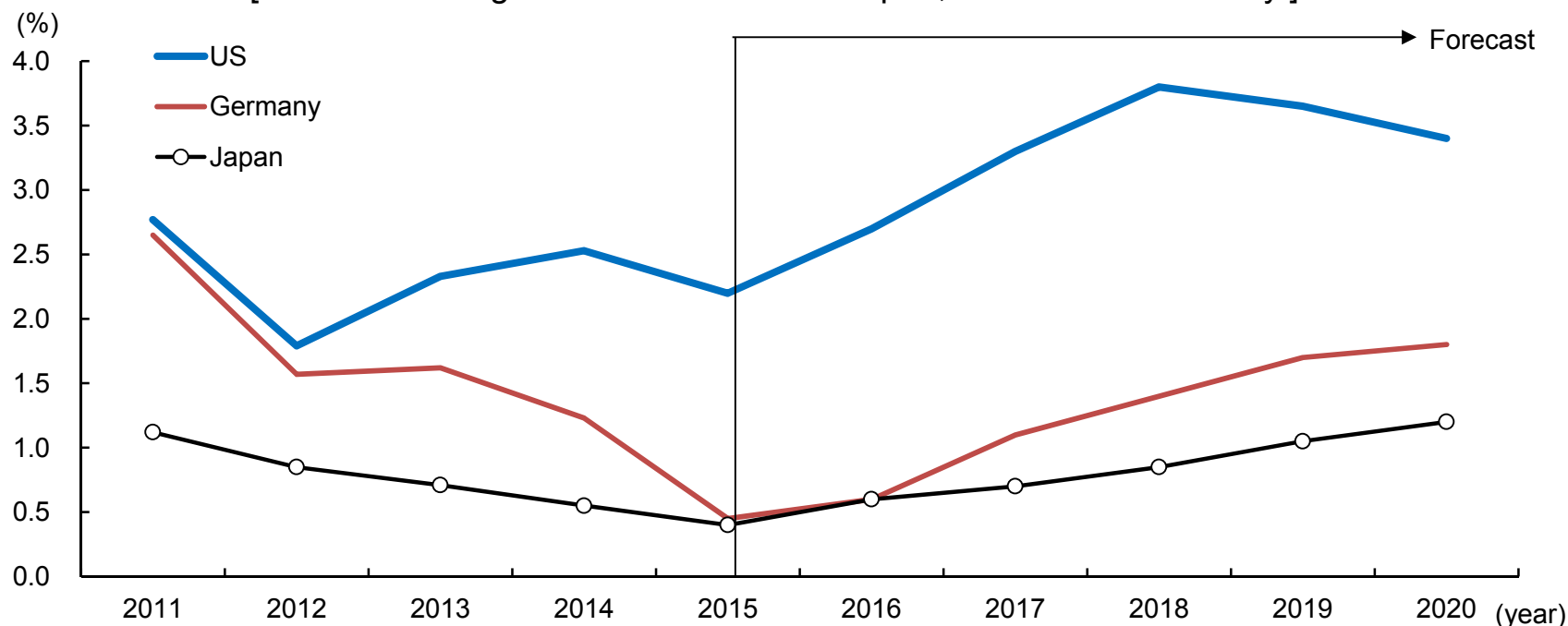
Note: Official discount rate before September 1982, Federal funds target rate from October 1982. Circles indicate the outset of interest rate hikes, and the shaded areas indicate economic recessions.

Source: Created by MHRI based on the FRB.

Long-term interest rates in Japan, the US and Europe: rates will rise to the 3% level in the US but remain below 2% in Japan and Europe

- Reflecting a cautious stance on lifting the easy monetary policy by central banks in Japan, the US and Europe, the pace of increase of long-term interest rates is slow.
 - Purchases of government bonds by the ECB and BOJ will curb the rise of interest rates. Amid the gradual pace of US interest rate hikes, demand for US government bonds will restrain the rise of US interest rates.
- However, attention should be paid to interest rate volatility due to low liquidity caused by central banks' purchase of government bonds.

[Outlook on long-term interest rates in Japan, the US and Germany]



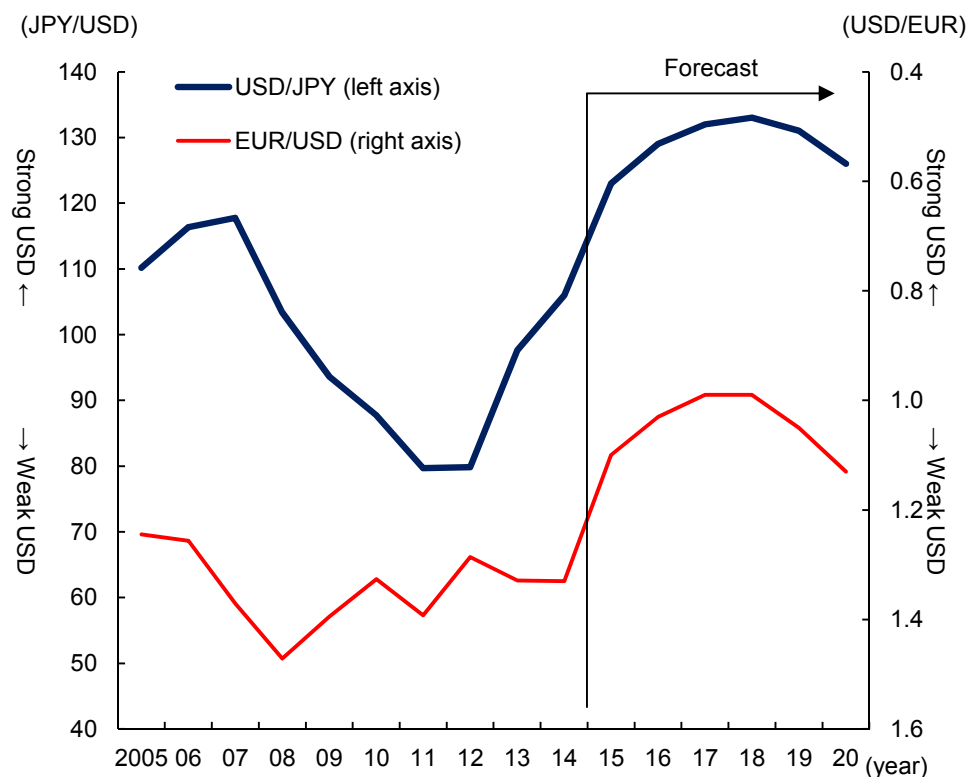
Note: Yields on 10-yr government bonds in Japan, the US and Germany.
Source: Created by MHRI based on Bloomberg.

The US dollar will strengthen up to 2018, with the JPY/USD exchange rate around the 130 yen level and the USD/EUR exchange rate close to parity

○As for the JPY/USD and USD/EUR exchange rates, the dollar will strengthen up to 2018 reflecting differences in the monetary policies of the three areas and will weaken thereafter.

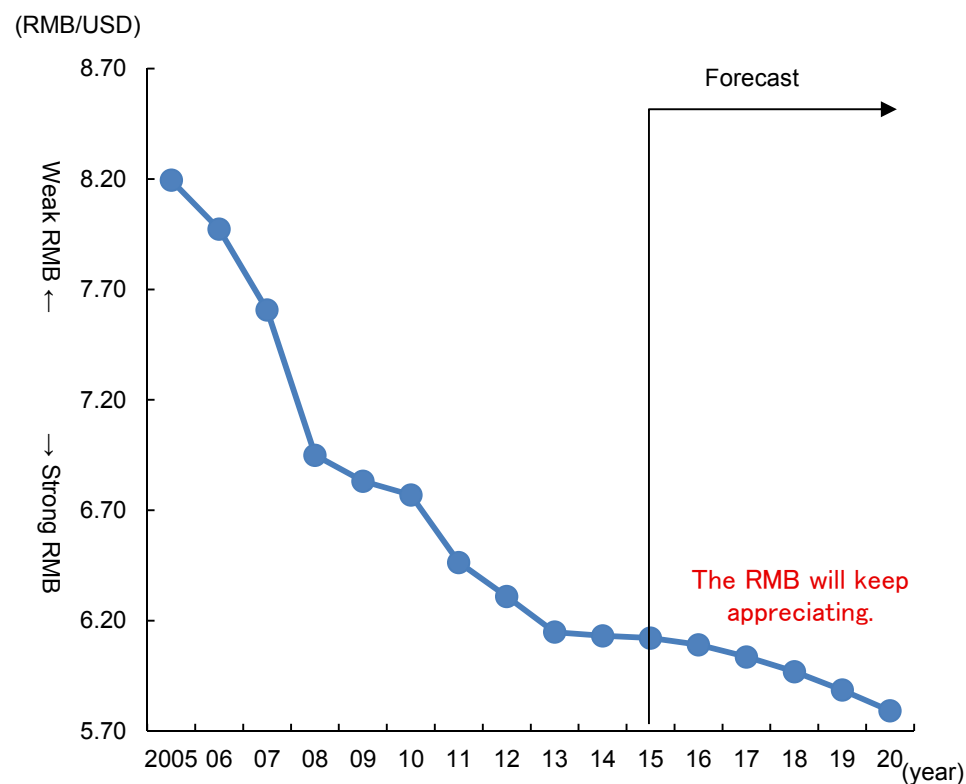
○Turning to the RMB/USD exchange rate, the RMB will gradually strengthen up until 2020.

[Outlook on foreign exchange rates (JPY/USD, USD/EUR)]



Source: Created by MHRI based on Bloomberg.

[Outlook on foreign exchange rates (RMB/USD)]

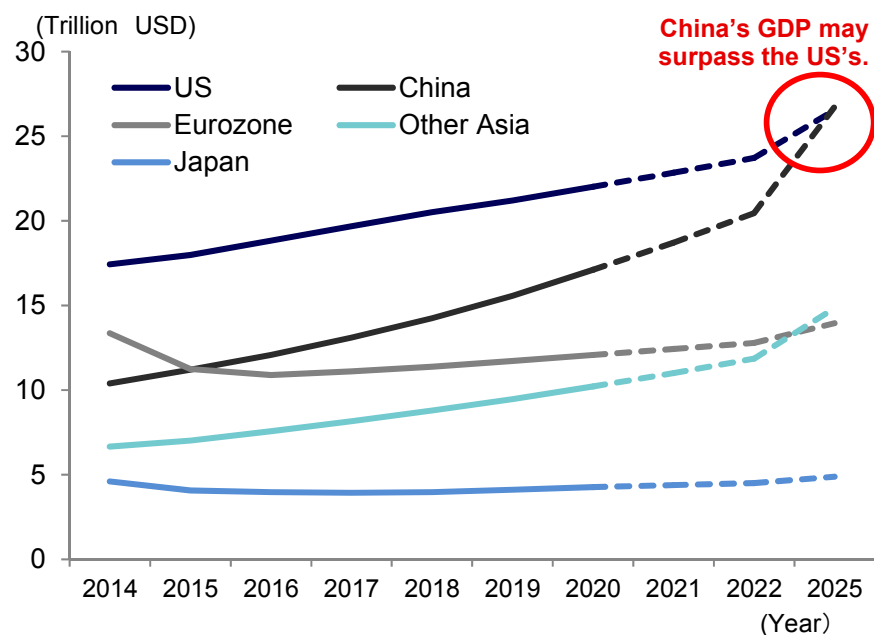


Source: Created by MHRI based on Bloomberg.

China's presence is growing both politically and economically

- The world lacks a clear leader given a shift from a unipolar global power structure centering around the US along with the rise of emerging economies.
 - Given its growing presence, China is shifting from a high-growth emerging economy to a global power playing a major role in the world.
 - By the mid-2020s, China's GDP may surpass the US's in terms of size.
 - A major risk is the rising tensions between the US and China over leadership in the fields of security, trade and currency.

[Nominal GDP forecast in major countries]



Note: Other Asia is the total of NIEs, ASEAN5 and India. Data after 2021 are derived by extending the average growth rate between 2018 and 2020.
 Source: Created by MHRI based on the International Monetary Fund (IMF) and statistics of relevant countries and regions.

[Nominal GDP weight forecast in 2020]

	2014	2020	2025
US	22.5	23.2	21.3
China	13.4	18.0	21.5
Eurozone	17.3	12.7	11.2
Japan	6.0	4.5	3.9
ASEAN5	2.7	3.8	4.6
NIEs	3.3	3.5	3.2
India	2.7	3.6	4.2

Note: Data after 2021 are derived by extending the average growth rate between 2018 and 2020.
 Source: Created by MHRI based on the International Monetary Fund (IMF) and statistics of relevant countries and regions.



II. The Japanese Economy



~ Despite its declining population, Japan's growth will improve through reform efforts ~

Main topics on Japan's economy

<Major issue> Will Abenomics revitalize Japan's economy and lift the country out of deflation?



Japan will achieve economic growth in the mid-1% range up to FY2020 by virtue of the ongoing accommodative monetary policy and implementation of the growth under Abenomics, in addition to the economic effects of the Tokyo Olympic Games. Year-on-year change in the core CPI will gradually and stably rise to reach the mid-1% level by FY2020.

<p>Q1 How do we see the effects of the growth strategy?</p>	<p>Japan's growth rate will be pushed up by a rise in TFP driven by measures to strengthen corporate activities, such as corporate and investment tax reductions, TPP and deregulation, as well as an increase in capital input. Increased participation of women and the elderly in the labor force will help reduce the adverse effects of the nation's population decline.</p>
<p>Q2 What do we think of the economic effects brought about by the Tokyo Olympics and its repercussions after the event?</p>	<p>The Tokyo Olympic Games will contribute to real economic growth of 0.3% on a yearly average (about 30 trillion yen in total). But after the Olympics, the economic growth rate in FY2021 and 2022 will be trimmed by 0.2% due to the loss of investment (decrease in investment in the aftermath of the Olympics will be subdued due to the higher-than-expected demand for capital stock from the legacy effect).</p>
<p>Q3 Will fiscal consolidation progress?</p>	<p>Japan's fiscal balance will be improved by growing tax revenues mainly due to the consumption tax hike and higher nominal economic growth. Nonetheless, the primary balance will not return to the black, and additional tax increases and expenditure cuts will become necessary.</p>
<p>Q4 How will Japan proceed to the exit strategy of its monetary easing of an unprecedented scale?</p>	<p>In light of the trends of the economy and prices, as well as the sustainability of JGBs purchases, change in the monetary policy will be based on a "synthetic judgment." A communication strategy with the market is also indispensable in order to restrain sudden increases in the long-term interest rates.</p>

Japan: Real GDP growth in the mid-1% range is expected after FY2018 with the implementation of the growth strategy and the impact of the Olympic Games

[Outlook on the Japanese economy]

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Period average			
		FY										01~05	06~10	11~15	16~20
GDP (real)	Y-o-y % ch	0.4	1.0	2.1	▲ 0.9	1.8	2.0	0.2	1.5	1.5	1.6	1.2	0.2	0.9	1.3
Domestic demand	Y-o-y % ch	1.4	1.8	2.5	▲ 1.5	1.5	1.8	▲ 0.5	1.3	1.5	1.6	0.8	▲ 0.2	1.1	1.1
Private sector demand	Y-o-y % ch	1.7	1.9	2.3	▲ 2.2	2.1	2.2	▲ 1.1	1.7	1.7	1.9	1.2	▲ 0.3	1.2	1.3
Personal consumption	Y-o-y % ch	1.4	1.8	2.5	▲ 3.1	1.5	1.8	▲ 1.8	1.3	1.3	1.4	1.2	0.5	0.8	0.8
Housing investment	Y-o-y % ch	3.2	5.7	9.3	▲ 11.7	2.4	5.9	▲ 9.6	1.4	0.7	▲ 2.0	▲ 1.8	▲ 7.3	1.5	▲ 0.9
Capital investment	Y-o-y % ch	4.8	1.2	4.0	0.4	3.5	3.0	2.0	3.5	3.3	3.0	1.7	▲ 1.7	2.8	3.0
Public sector demand	Y-o-y % ch	0.5	1.4	3.2	0.7	▲ 0.1	0.5	1.3	0.1	0.7	0.7	▲ 0.4	0.3	1.1	0.7
Government consumption	Y-o-y % ch	1.2	1.5	1.6	0.4	0.9	1.0	0.8	0.8	0.8	0.8	1.9	1.2	1.1	0.8
Public investment	Y-o-y % ch	▲ 3.2	1.0	10.3	2.0	▲ 4.2	▲ 1.6	3.7	▲ 3.1	0.3	0.5	▲ 7.2	▲ 3.0	1.1	▲ 0.0
External demand	Y-o-y contribution, % pt	▲ 1.0	▲ 0.8	▲ 0.5	0.6	0.2	0.1	0.6	0.2	0.0	▲ 0.0	0.4	0.4	▲ 0.3	0.2
Exports	Y-o-y % ch	▲ 1.6	▲ 1.4	4.4	8.0	5.9	6.4	6.1	5.0	4.1	3.4	6.5	2.5	3.0	5.0
Imports	Y-o-y % ch	5.4	3.6	6.7	3.7	4.1	5.2	2.7	3.9	3.7	3.4	3.2	0.2	4.7	3.8
GDP (nominal)	Y-o-y % ch	▲ 1.3	0.1	1.8	1.6	2.4	2.1	1.4	2.1	2.6	2.6	▲ 0.2	▲ 1.0	0.9	2.2
GDP deflator	Y-o-y % ch	▲ 1.7	▲ 0.9	▲ 0.3	2.5	0.6	0.1	1.2	0.6	1.1	1.0	▲ 1.5	▲ 1.2	0.0	0.8
Domestic demand deflator	Y-o-y % ch	▲ 0.5	▲ 0.8	0.4	2.1	▲ 0.1	0.7	1.6	0.9	0.9	0.9	▲ 1.0	▲ 0.8	0.2	1.0
Consumer prices (ex fresh food)	Y-o-y % ch	0.0	▲ 0.2	0.8	2.8	0.1	1.3	2.6	1.4	1.4	1.4	▲ 0.4	▲ 0.2	0.7	1.6
Consumer prices (ex fresh food, ex consumption tax)	Y-o-y % ch	0.0	▲ 0.2	0.8	0.8	0.0	1.3	1.3	1.4	1.4	1.4	▲ 0.4	▲ 0.2	0.3	1.3
Consumer price (ex fresh food (ex alcohol) and energy, ex consumption tax)	Y-o-y % ch	▲ 0.8	▲ 0.6	0.2	0.5	0.4	0.8	0.8	1.1	1.4	1.6	▲ 0.6	▲ 0.6	▲ 0.0	1.1
Current account balance (share of nominal GDP)	%	1.7	0.9	0.3	1.6	2.8	2.5	3.0	3.0	3.3	3.5	3.2	3.7	1.5	3.1

Note: Figures in the shaded areas are forecasts.

Source: Created by MHRI based on the Cabinet Office, *National Accounts*.

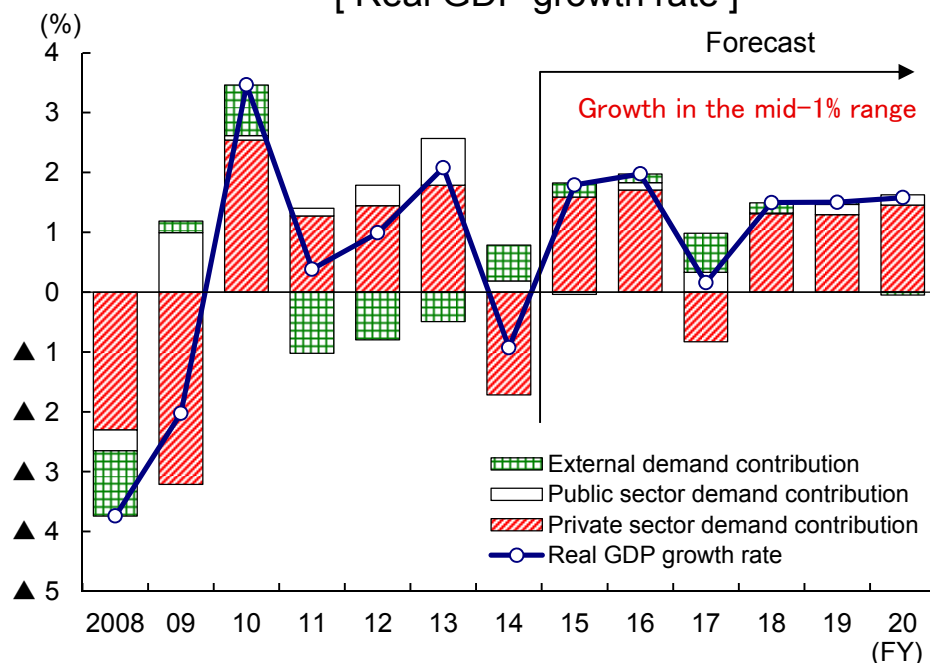
Japan: The economy will grow in the mid-1% range in real terms driven by private sector demand, and the current account surplus will recover gradually

○ Growth rate... Japan will achieve economic growth in the mid-1% range in real terms through higher domestic private sector demand.

- (1) Growth strategy stimulates capital investment ⇒ Corporate productivity improves ⇒ Virtuous cycle of real wage increases
- (2) Due to recovery in the overseas economy and the yen weakening to the 130 yen level, external demand will continue making positive contributions up until FY2008.
- (3) Despite the drop in public investment, government spending will expand on the back of the aging society and public demand will also increase gradually.

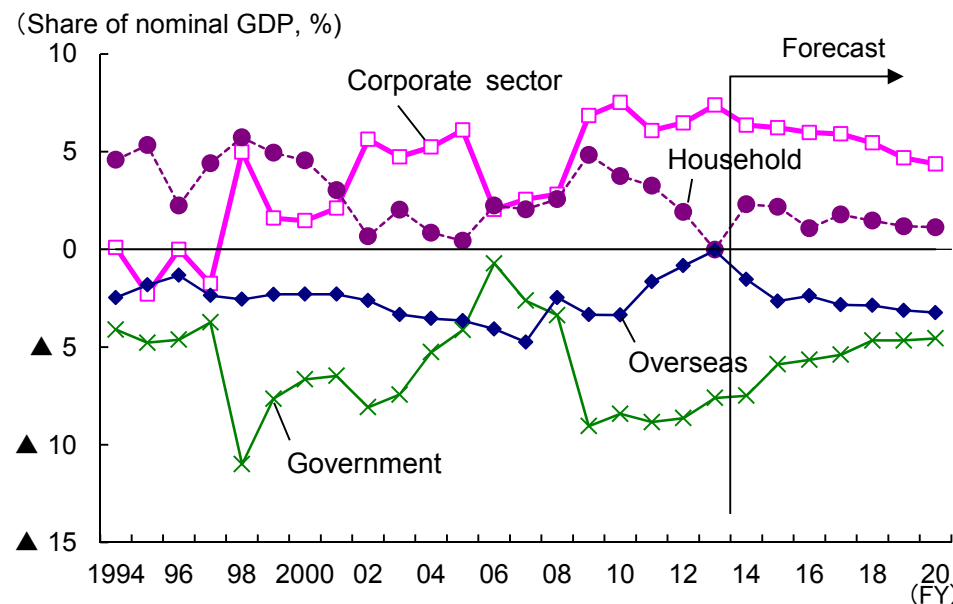
○ IS balance... Gap between excess savings (surplus) of companies and excess investment (deficit) of the government will narrow, and the current account surplus will head toward recovery.

[Real GDP growth rate]



Source: Created by MHRI based on the Cabinet Office, *National Accounts*.

[IS balance by sector]



Note: Household sector includes the self-employed.
Source: Created by MHRI based on the Cabinet Office, *National Accounts*.

Japan: Implementation of the growth strategy will raise the employment rate, boost investment and improve productivity

- Amid the population decline, Japan's potential growth rate will be lifted by a higher employment rate (labor participation rate) and productivity.
 - Increase in the employment rate will restrain the decline in labor input and the increase of capital input (stimulation of capital investment) + improvement of Total Factor Productivity (TFP) will raise labor productivity.

[Growth accounting]

(Annual average growth rate, %)

	Potential growth rate	Contribution		
		Labor	Capital	TFP
1991-1995	2.09	-0.11	1.52	0.68
1996-2000	0.88	-0.39	1.06	0.21
2001-2005	0.79	-0.50	0.49	0.79
2006-2010	0.59	-0.47	0.53	0.53

<Right after the launch of Abenomics>

2013Q1	0.44	-0.30	0.32	0.42
--------	------	-------	------	------

<The latest>

2015Q1	0.67	-0.14	0.42	0.38
--------	------	-------	------	------

<Final fiscal year of the forecast>

2020	1.30	-0.10	0.65	0.75
------	------	-------	------	------

< Alleviation of the decline in labor input >

- Improvement in the employment rate (labor participation rate) centered on female workers

<Higher contribution of TFP>

- Enhancement of productivity by promoting innovation through such measures as corporate tax cuts

<Higher contribution of capital input>

- Stimulation of capital investment to accelerate growth in capital stock

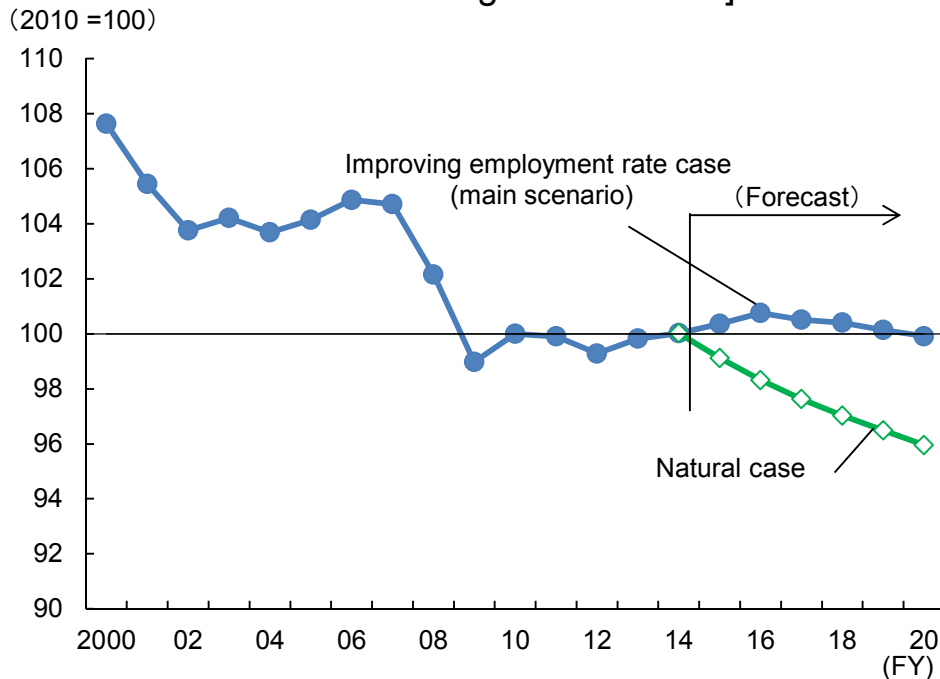
Note: Labor input in FY2020 is calculated based on the assumption that the employment rate of people aged 20 to 64 will exceed the government target of 80% (calculated based on the actual pace of the employment rate increase by gender and age group in the past).

Source: Created by MHRI based on the Cabinet Office, *National Accounts* and *Gross Capital Stock of Private Enterprises*, Ministry of Internal Affairs and Communications, *Labor Force Survey*, and Ministry of Health, Labour and Welfare, *Monthly Labour Survey*.

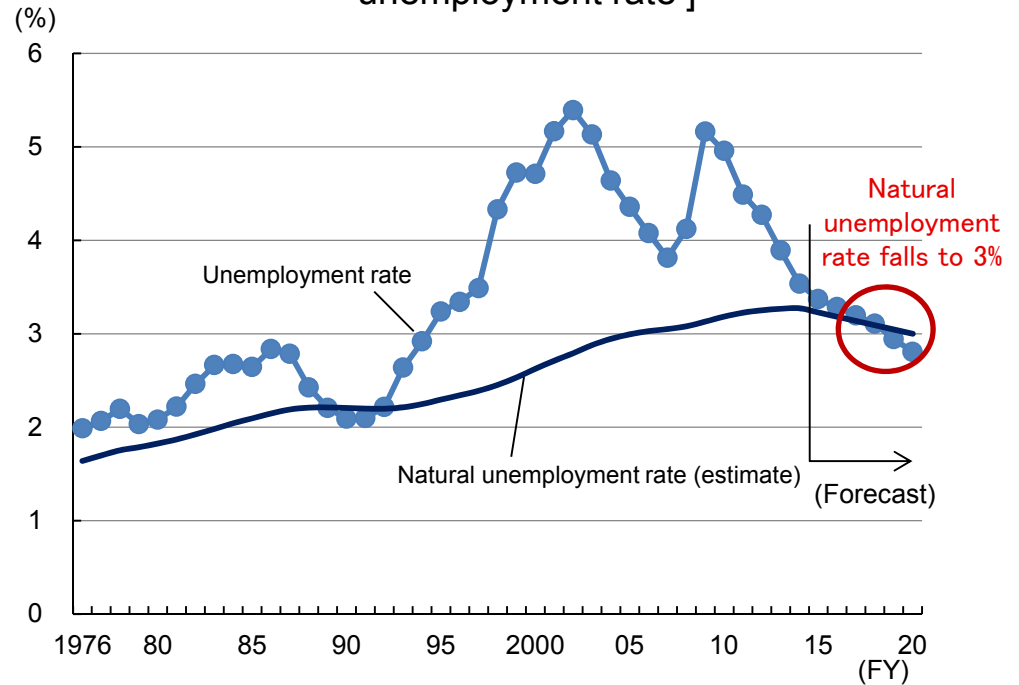
Japan: The higher employment rate of women and the elderly will relieve the downward pressure on economic growth caused by the population decline

- A shrinking population will bring about a decline in labor input by around 0.5% a year (natural case). Nonetheless, if the employment rate of women and the elderly continues to improve, the decline may be limited to around 0.1% a year (improving employment rate case).
- With the increase in labor demand, the unemployment rate will gradually decline.
 - The natural unemployment rate is expected to fall to around 3% by the virtue of improved labor conditions (higher wages, switch to regular employee status, etc.) for the purpose of securing human resources.

[Outlook on labor input (number of employees x average labor hours)]



[Outlook on the unemployment rate / natural unemployment rate]



Note: The natural case assumes a flat employment rate (number of employees / population aged over 15) and labor hours. The improving employment rate case assumes that the employment rate of people aged 20 to 64 will exceed the government target of 80% in FY2020 (calculated based on the actual pace of the employment rate increase by gender and age group in the past).

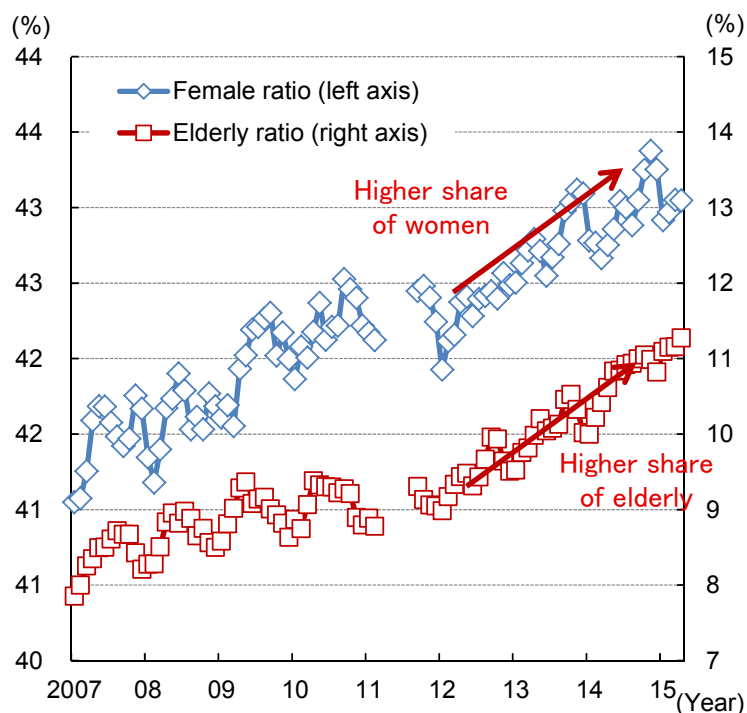
Note: The natural unemployment rate is the level of unemployment that will not accelerate wage inflation (NAIRU, Non-Accelerating Inflation Rate of Unemployment), estimated by MHRI.

Source: Created by MHRI based on the Ministry of Internal Affairs and Communications, *Labour Force Survey*, and Ministry of Health, Labour and Welfare, *Monthly Labour Survey*.

Japan: The ratio of female and elderly employees will rise steadily. Jobs will be created in the “medical, health care and welfare” sector

- The ratio of female and senior-aged (aged over 65) employees will rise steadily.
 - Female workers will significantly increase in the “medical, health care and welfare” industry, and secondary industry will also serve to absorb elderly workers.
 - Toward 2020, female and senior workers will support labor input.

[Ratio in all employees (women, elderly)]



Note 1: The elderly are people aged 65 or older.
 Note 2: Part of the 2011 statistics are missing (from March to August) due to the Great East Japan Earthquake.
 Source: Created by MHRI based on the Ministry of Internal Affairs and Communications, *Labor Force Survey*.

[Number of employees by industry (comparison between 2007 and 2015)]

	Total (in ten thousand)			Women (in ten thousand)			Elderly (in ten thousand)		
	2007	2015	Change	2007	2015	Change	2007	2015	Change
Primary industry	272	211	▲ 61	114	76	▲ 38	122	94	▲ 28
Secondary industry	1,720	1,549	▲ 171	447	391	▲ 56	112	146	34
Tertiary industries	4,419	4,563	144	2,098	2,250	152	304	466	163
Wholesale and retail trade	1,077	1,054	▲ 23	538	538	▲ 0	89	115	26
Medical, health care and welfare	579	770	191	440	578	138	25	55	30
Accommodations, eating and drinking services	380	376	▲ 4	231	232	2	29	47	18
Others	2,384	2,364	▲ 20	890	902	13	161	250	89

Note 1: The elderly are people aged 65 or older.
 Note 2: Primary industry: agriculture, fisheries and forestry; secondary industry: manufacturing, construction and mining; tertiary industry: others
 Note 3: Number of employee is the average based on the calendar year (number in 2015 is the average from January through April)
 Source: Created by MHRI based on the Ministry of Internal Affairs and Communications, *Labor Force Survey*.

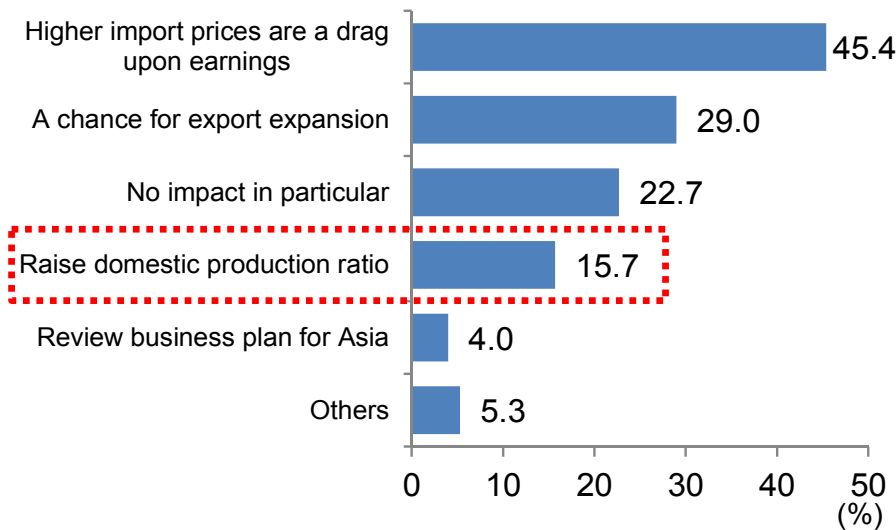
The secondary industry hired elderly workers

Female workers increased significantly in the “medical, health care & welfare” industry

Japan: A weaker yen may stimulate the return of investments to Japan

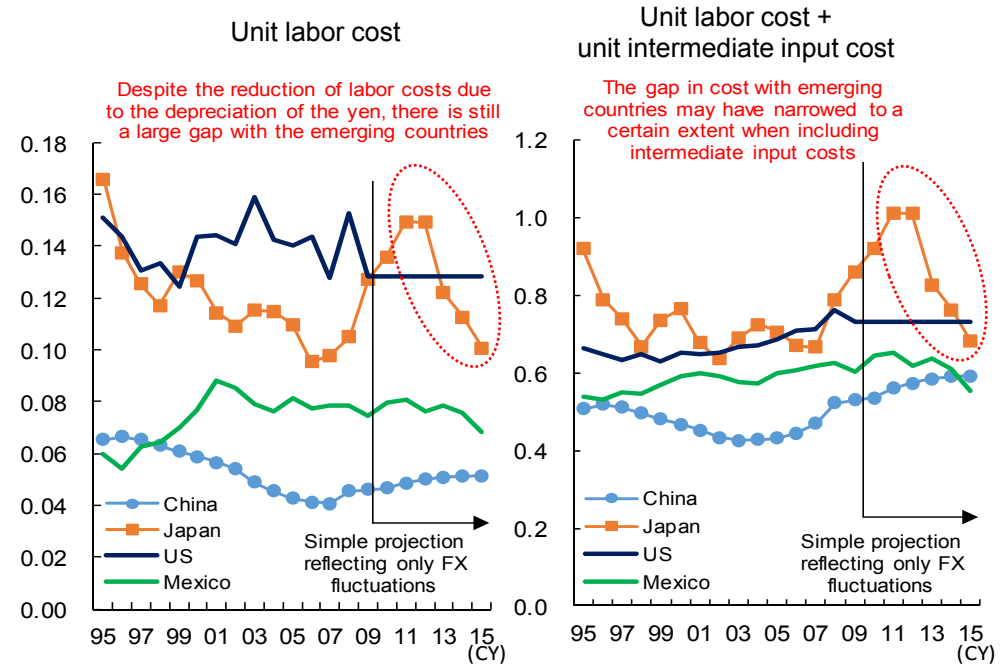
- Some companies are increasing their ratio of domestic investment due to the weakening yen.
 - The survey conducted by MHRI in February 2015 indicated an accelerating trend of investments returning to Japan due to the yen depreciation.
 - An international comparison of production costs shows that the weaker yen has significantly narrowed the gap between Japan and overseas.

[Survey Regarding Business in Asia]
 “Impact of the weak yen on your business in Asia
 (multiple answers)”



Note: This survey was sent to 4,481 MHRI member companies (in Japan) with capital over 10 million yen, and 1,158 companies returned the survey (conducted in February 2015).
 Source: MHRI's *Survey Regarding Business in Asia*.

[International comparison of unit production costs
 (transportation equipment)]



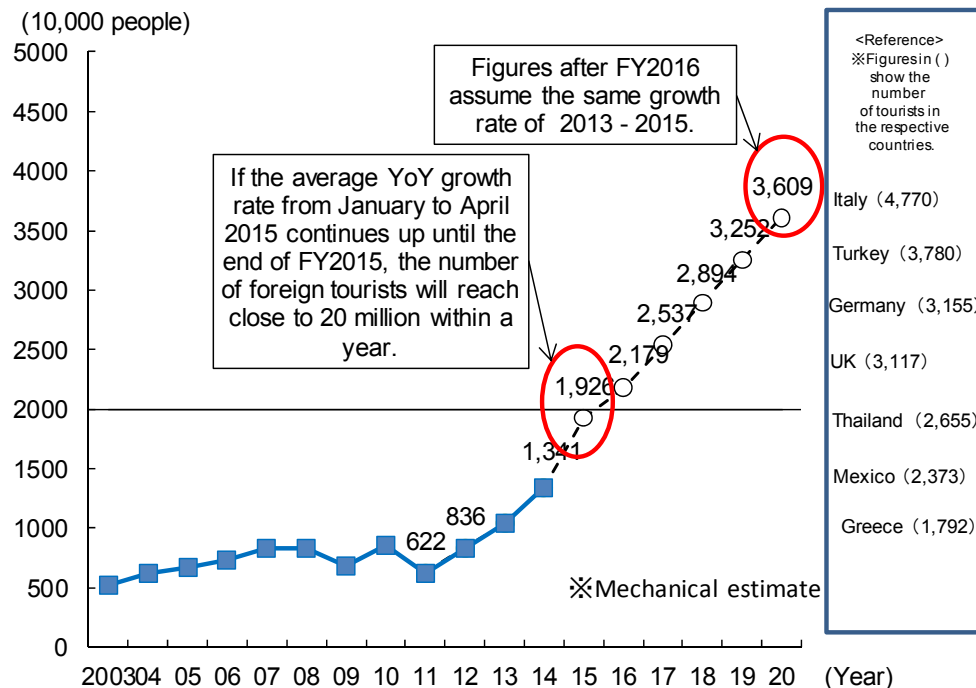
Notes: 1. Unit labor cost and unit intermediate input cost are based on US dollars.
 2. Unit labor cost = (labor cost (based on local currency) × foreign exchange rate) / (purchasing power parity (fixed on the standard year) × actual production (local currency base)). Unit intermediate input cost is calculated by the same formula. The standard year of purchasing power parity and actual production is 2005. (The said formula is based on Hooper and Larin (1989), *International comparisons of labor costs in manufacturing*).

Source: Created by MHRI based on the OECD, Timmer (ed) (2012) *The World Input-Output Database (WIOD): Contents, Sources and Methods*, Inklaar and Timmer (2012) *The Relative Price of Services*.

Japan: With foreign tourists supporting the domestic consumption market, Japan heads toward the “third opening”

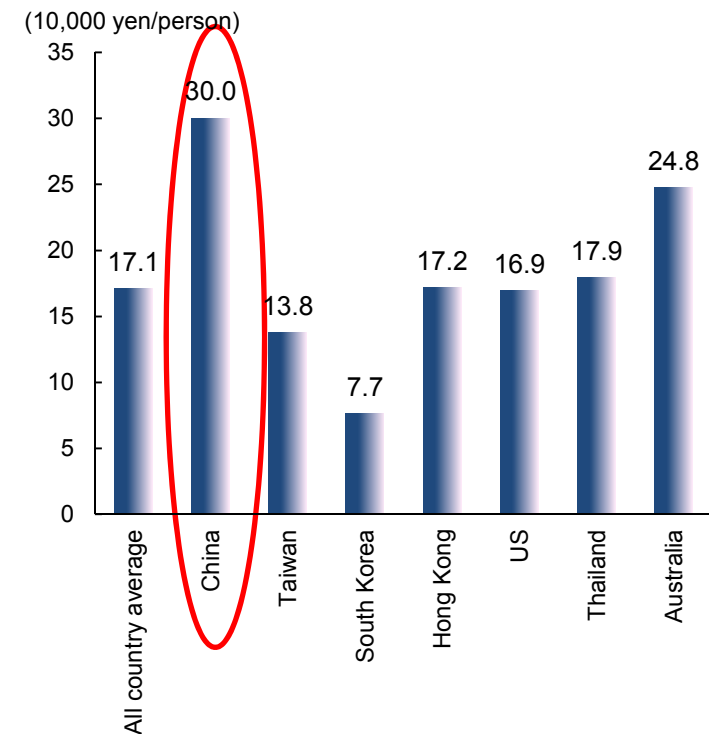
- The sharp increase in foreign tourists to Japan is equivalent to the “third opening” of the country. Four Chinese tourists spend the equivalent to the annual consumption (value) of one Japanese.
- Japan will be open to globalization by attracting foreigners to the domestic market which was geared toward domestic Japanese customers in the past.

[Mechanical estimate of foreign tourists visiting Japan]



Note: Since the figures after FY2015 are derived by mechanical calculation by MHRI, the actual results may vary significantly from the estimates.
 Source: Created by MHRI based on the Japan National Tourist Organization (JNTO).

[Consumption (value) of foreign tourists (by country)]

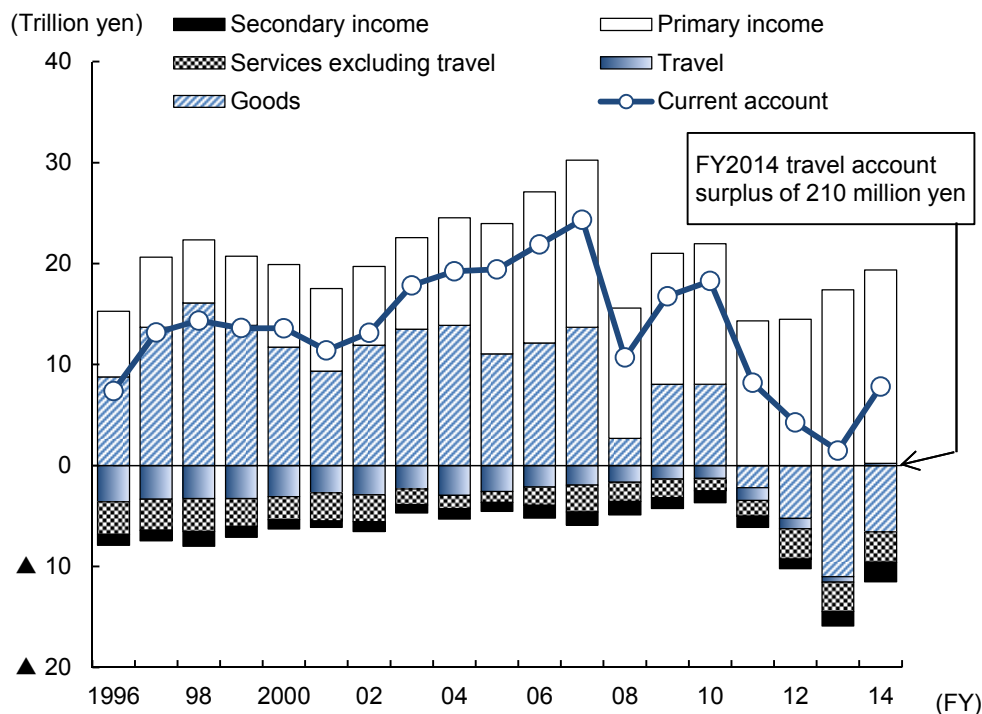


Note: The survey coverage period is from January to March 2015.
 Source: Created by MHRI based on the Japan Tourism Agency, *Consumption Trend Survey for Foreigners Visiting Japan*.

Japan: Primary income is the first pillar of the current account surplus. Income from tourism is expected to grow in the mid- to long-term

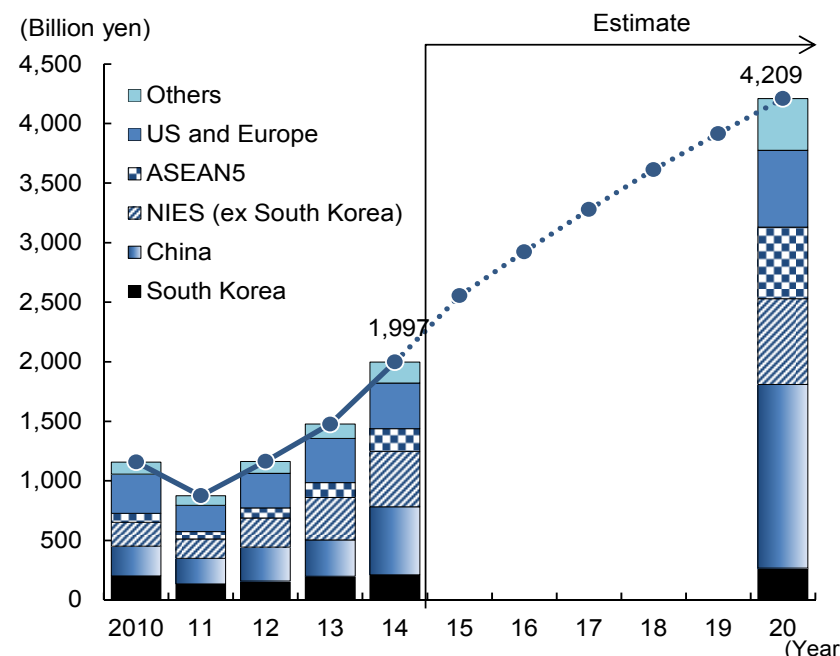
- The primary factor of the current account surplus will shift from trade balance to primary income balance.
 - Up until the mid-2000s, the trade surplus accounted for the major part of the current account surplus. The primary income balance is gaining a larger presence on the back of accumulated external assets.
 - After the trade balance fell into negative territory in FY2011, the primary income balance has played a major role in supporting the current account surplus.
 - From a mid- to long-term perspective, the service balance may show a surplus supported by the stable travel balance surplus resulting from the growing number of foreign tourists.

[Current account]



Note: Figures in the graph show the current account surplus.
Source: Created by MHRI based on Bank of Japan, *Balance of Payments Statistics*, etc.

[Estimate of inbound consumption (travel service income)]



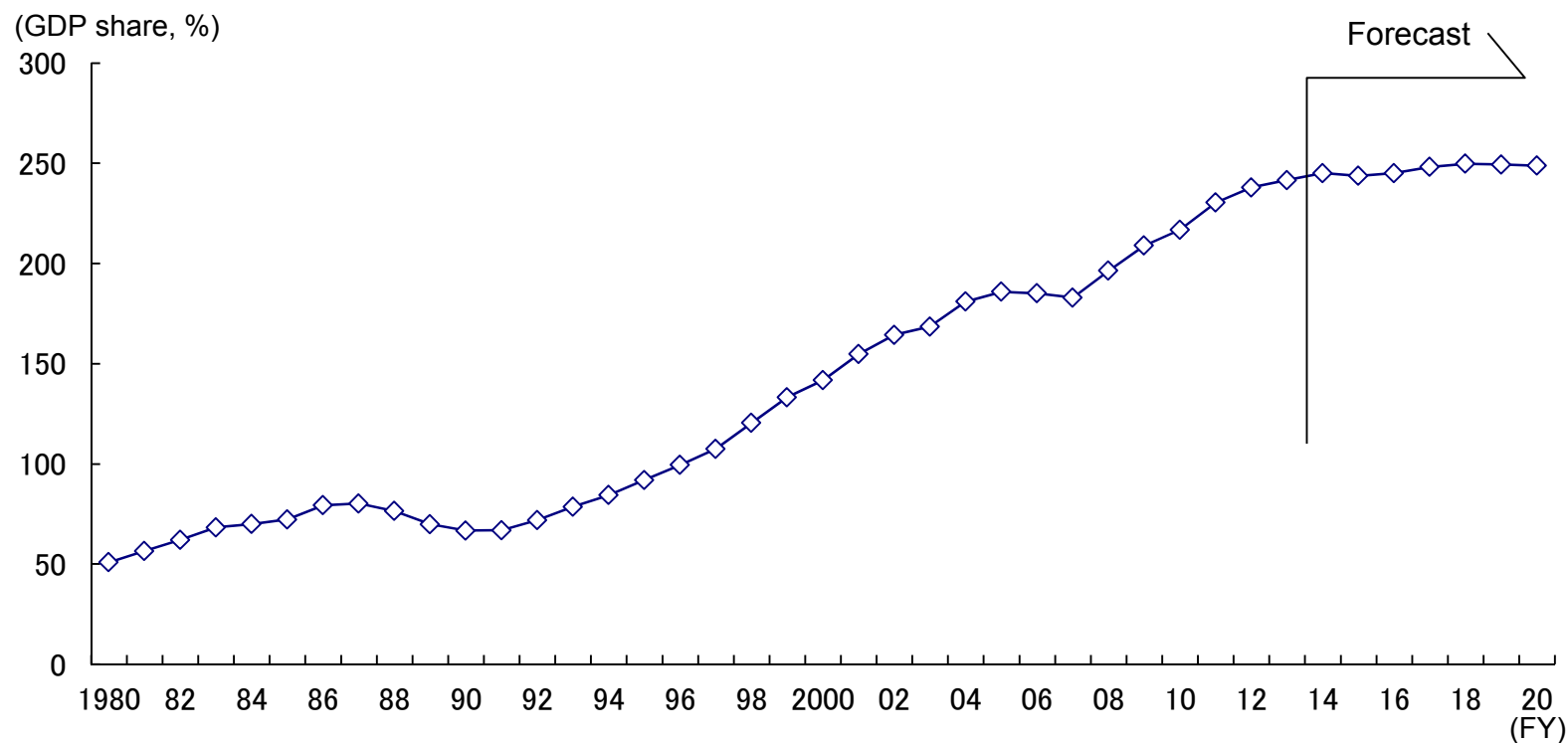
Note: Estimates after FY2015 are calculated assuming that the number of foreign visitors to Japan will reach 25 million in 2020. Number of tourists and spending of one tourist by country/region are calculated based on past trends, among others.

Source: Created by MHRI based on the Japan Tourism Agency, *Consumption Trend Survey for Foreigners Visiting Japan*, Ministry of Finance, *Balance of Payments Statistics*, etc.

Japan: Rise of government debt should come to a halt

- The rise of Japan's outstanding government debt (nominal GDP share) should come to a halt toward FY2020.

【 Outlook on the ratio of Japan's outstanding government debt to GDP 】

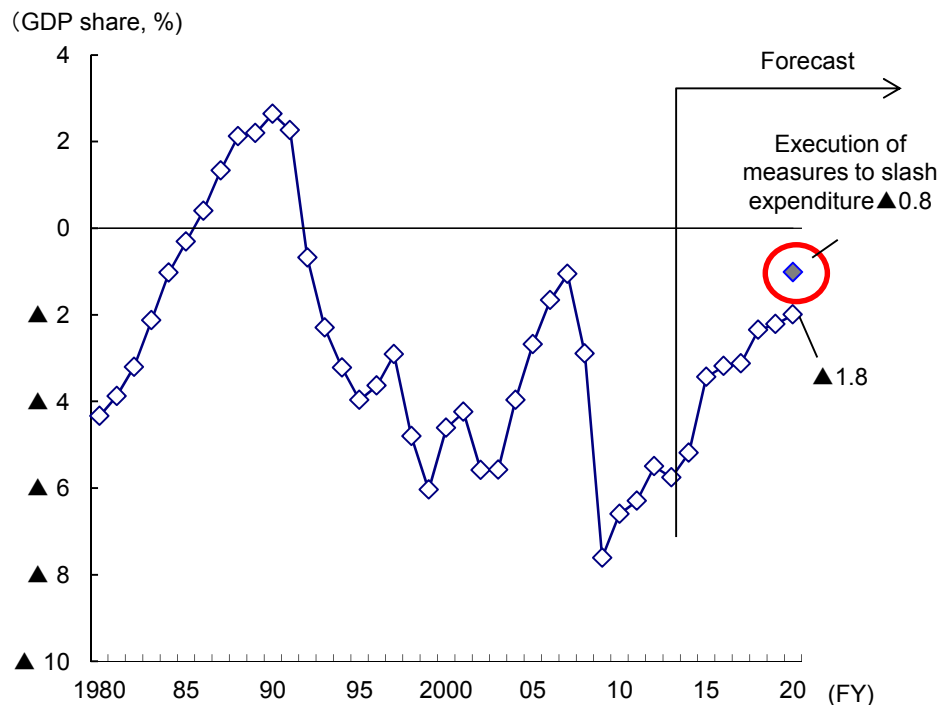


Note: Based on the general government in the SNA statistics.
Source: Created by MHRI based on the Cabinet Office and others.

JGBs can be digested domestically in Japan. Even though a crash is unlikely, financial consolidation is imperative

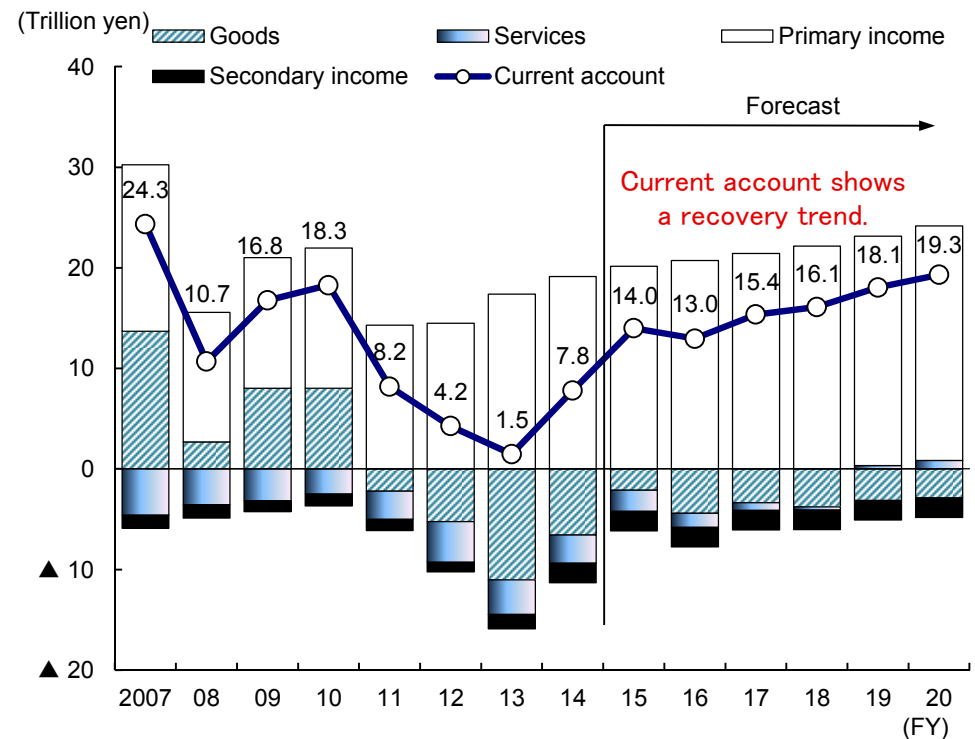
- Commitment to financial consolidation is crucial for Japan considering its heavy reliance on domestic digestion of JGBs. The focus is on financial reconstruction toward 2020 and the Bank of Japan's exit strategy.

[Outlook on the primary balance]



Note: Based on the general government (excluding the Social Security Fund) in the SNA statistics. The slash in expenditures shows the case where the government implements social security reform (worth about 5 to 6 trillion yen) estimated in the right chart.
Source: Created by MHRI based on the Cabinet Office and Ministry of Finance., etc.

[Outlook on Japan's current account balance]



Note: Figures in the graph show the current account surplus.
Source: Created by MHRI based on Bank of Japan, *Balance of Payments Statistics*, etc.

Japan: Yen appreciation has been restored significantly. Japan's six competitive disadvantages will be gradually eliminated

- The “six competitive disadvantages” of Japan will be gradually eliminated. Historically, Japan has a good record of overcoming difficulties.

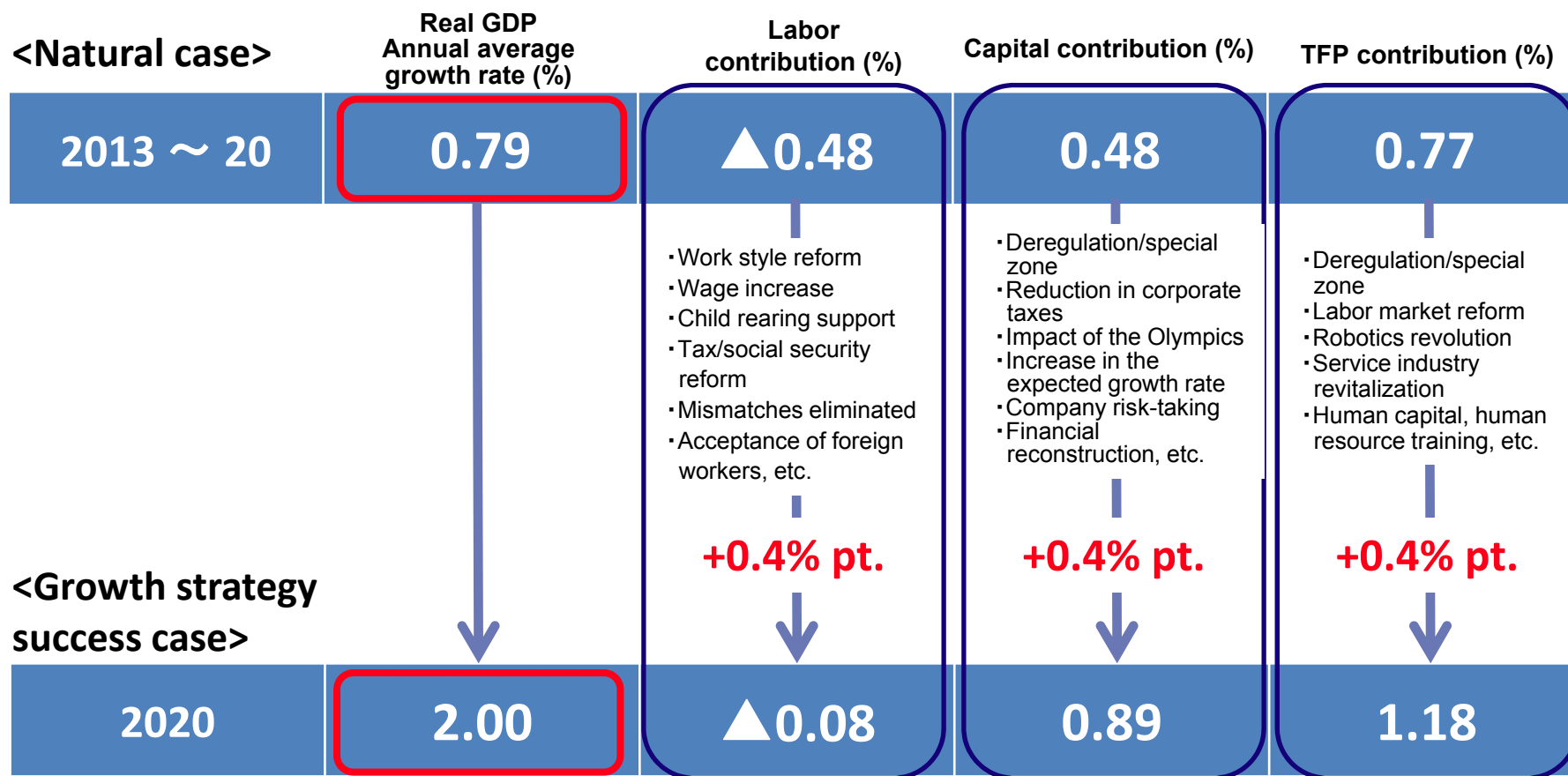
[Current status of Japan's “six competitive disadvantages”]

Item	Description	Current status
The extreme appreciation of the yen	Export companies suffer from the extreme appreciation of the yen.	The yen has significantly weakened.
High corporate tax rates	The effective corporate tax rate is the highest in the world, putting Japanese companies in disadvantageous position.	Reduce the effective tax rates.
Lack of progress in concluding free trade agreements (FTAs)	Japan is put in a unfavorable position due to delay in concluding FTAs.	Japan-US agreement is in sight.
Unfavorable labor regulations	Rigid labor market due to such factors as unclear criteria of personnel dismissal	Revision to a part of labor-related law is now under discussion.
Uncertainty surrounding electricity prices	Rise of electrical power costs due to shutdown of nuclear power plants	Partial restart of nuclear power plants will resume operation in the second half of this year.
Strict environmental regulations	Co2 reduction target toward 2020	The latest government plan has incorporated concrete measures and become more realistic.

Source: Created by MHRI.

Japan: Growth strategy is the key to achieve sustainable growth amid a declining population

[Growth strategy target]



Notes: 1. <Natural case> assumes the following: (1) Labor input is derived based on a flat actual employment rate (number of employees / population aged over 15) and labor hours in 2013, and (2) contributions of capital input and TFP are the same from 2001 through 2010.
 2. <Growth strategy success case> assumes the following: Labor input is calculated based on the employment rate of the population aged 20 to 64 increasing 5% compared with 2012. Given the labor input, the contribution of capital and TFP necessary to achieve the 2% growth rate was calculated.
 Source: Created by MHRI based on the Cabinet Office, *National Accounts* and *Gross Capital Stock of Private Enterprises*, Ministry of Internal Affairs and Communications, *Labor Force Survey*, Ministry of Health, Labor and Welfare, *Monthly Labor Survey*, etc.

Wrap-up of the overall outlook

- The advanced economies will reemerge from stagnation and their potential growth rate will recover, but the Chinese economy will continue to slow down. Given the possibility of China's economy overtaking the US in terms of size, the global economy and politics will drift into uncertain times in the absence of a clear leader.
- Although the US will start raising interest rates from 2015, the rate hikes will be shallow. Japan and the Eurozone will maintain their accommodative monetary policy stance for some time and begin lifting interest rates from 2018. Reflecting monetary policy differences, the US dollar will continue to be stronger relative to other currencies.
- Infrastructure investment centered in Asia will contribute to global economic growth. The infrastructure boom and TPP will bring about the 'era of the Pacific Rim', providing Japan with great opportunities due to its geographic position in the center of the region.
- Japan will achieve economic growth in the upper 1% range in real terms toward FY2020 based on the dual effects of Abenomics and the Tokyo Olympic Games. Despite downward pressures stemming from demographic decline and the repercussions of the Olympic Games from FY2021 onward, Japan will maintain growth in the 1% range due to the rise of its potential growth rate.
- However, the realization of the above scenarios requires steady execution of the growth strategy. Even though the chances of a JGB crash are remote since JGBs can be digested within the domestic market, Japan's commitment to fiscal consolidation is imperative.
- Among the risk factors are the creation of an economic bubble, geopolitical turmoil, slowdown of the Chinese economy, and financial market turmoil accompanying the US's exit strategy.

Conclusion

- Take advantage of the Tokyo Olympic Games to realize the “third opening” of Japan.
- In the 2020s, Japan needs to overcome the stereotyped concept that demographic decline leads to economic stagnation.
- By globalizing the domestic market that was geared primarily for the Japanese, Japan can attract demand by foreigners and realize the “third opening” focused particularly on the Asia-Pacific region.
- At the same time, Japan needs a growth strategy to transform itself and commit to self-reform.
- Amid the full-fledged demographic decline in the 2020s, the Tokyo Olympic Games will be the last chance for Japan.

(Reference) Key political events

		2015		2016		2017	
US				Nov	US presidential election		
Europe	Oct Dec	Portuguese general elections Spanish general elections		by year end	Irish general elections	Mar Apr - May Jun Sep	Dutch general elections French presidential election French parliamentary election German general elections
Japan	Sep	LDP general election		Summer	Upper house election	Apr	Consumption tax increase
Asia	Autumn Nov - year end y year end	Fifth Plenary Session of the CPC Central Committee, China Myanmar general elections Launch of the ASEAN Economic Community (AEC) Launch of the Asian Infrastructure Investment Bank (AIIB)		Jan around Mar Apr May around May around Sep around Sep Autumn by year end by year end by year end	Taiwan presidential and parliamentary elections NPC (13th 5-Year Plan scheduled), China South Korean National Assembly election Philippine general elections Singapore parliamentary election Australian upper house and lower house elections Hong Kong Legislative Council election Sixth Plenary Session of the CPC Central Committee, China Vietnamese Communist Party Congress Indian upper house election Thailand upper house and lower house elections	around Feb around Dec Autumn	Hong Kong Chief Executive election South Korea presidential election The 19th Chinese Communist Party Congress
Others	Oct	Argentine general elections		Aug Dec	Summer Olympic Games, Brazil Russian lower house election		
		2018		2019		2020	
US	Feb Nov	Expiration of the term of office of the Chair of FRB's Board of Governors, Yellen Midterm election					
Europe	First half	Italian general elections		First half Oct	European parliamentary elections Expiration of the term of office of ECB President Draghi		
Japan	Mar Apr Sep Dec	Expiration of the term of office of BOJ Deputy Governors Iwata and Nakaso Expiration of the term of office of BOJ Governor Kuroda LDP general election Expiration of the term of office of lower house members		around Spring around Summer	Nationwide local elections Upper house election	Jul	Tokyo Olympic Games
Asia	May Autumn y year end	Malaysian parliamentary election Third Plenary Session of the CPC Central Committee, China Indian upper house election		around Apr around Jul around Sep Autumn by year end	Indonesian parliamentary election Indonesian presidential election Australian upper house and lower house elections Fourth Plenary Session of the CPC Central Committee, China Indian lower house election	around Jan around Spring Autumn by year end	Taiwan presidential and parliamentary elections South Korean National Assembly election Fifth Plenary Session of the CPC Central Committee, China Indian upper house election
Others	May Oct	Russian presidential election Brazilian presidential election		May	South African presidential election		

Source: Created by MHRI based on various sources.

This publication is compiled solely for the purpose of providing readers with information and is in no way meant to buy and sell financial instruments. Although this publication is compiled on the basis of sources which we believe to be reliable and correct, Mizuho Research Institute does not warrant its accuracy and certainty. Readers are requested to exercise their own judgment in the use of this publication.