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Japan's Economic Outlook No. 181

In this report we examine four major issues facing Japan's economy after the consumption tax hike:

(1) The tax hike, (2) The need to increase wages, (3) Capex, and (4) The US exit strategy

Japan to see real GDP growth of +1.0% in FY14 and +1.5% in FY15, with nominal GDP growth of +2.6% in FY14 and +2.5% in FY15.

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Main Points

- **Main economic scenario for Japan:** In light of the first preliminary Jan-Mar GDP release (Cabinet Office), we have revised our economic growth outlook. We now forecast real GDP growth of +1.0% in comparison with the previous year for FY14 (+1.0% in the previous forecast) and +1.5% in comparison with the previous year for FY15 (+1.5% in the previous forecast). Japan's economy is expected to decline temporarily in the Apr-Jun 2014 period due to the effects of the increase in consumption tax, but then to get back on track and head toward recovery during the Jul-Sep period. Japan's economy is expected to firm up in the near future due to the following positive factors: (1) The negative factors associated with the increase in consumption tax are believed to be limited, and (2) Firming up of exports due to US economic recovery.
- **Four major issues facing Japan's economy:** In this report we examine four major issues facing Japan's economy: (1) The tax hike, (2) The need to increase wages, (3) Capex, and (4) The US exit strategy.
- **Issue (1) The tax hike:** The effects of the increase in consumption tax are believed to be limited. The tax hike initially pushed the FY14 real GDP growth rate down by -0.88% pt, but then is expected to push the FY15 real GDP growth rate up by +0.26% pt.
- **Issue (2) The need to increase wages:** As Japan's economy recovers, leading to rising demand for labor in the macro-economic sense, pay-scale increases [the increasing of the base wage] are gradually becoming more widespread amongst large corporations. This

tendency is mostly focused on general workers, and is expected to help push up prices. The raising of wages of part-time workers may very well follow as wages of general workers and prices increase.

- **Issue (3) Capex:** Analysis of recent data suggests that capex may be hitting bottom soon. However, in order for capex to enter a truly robust growth phase, the anticipated growth rate must increase, and one of the major factors in encouraging such a development would be the success of the *Third Arrow* in Abe's growth strategy.
- **Issue (4) The US exit strategy:** DIR performed a quantitative simulation on the effect the US exit strategy might have on the world economy, and results show that if the Federal Reserve takes a careful approach to its exit strategy, going at an appropriate pace in relation to the recovery of the real economy, then the world economy will also get back on the road to steady recovery.
- **Challenges facing Abenomics:** As we have mentioned before on a number of occasions, the biggest challenges faced by *Abenomics* are (1) maintaining fiscal restraint, and (2) strengthening its growth strategy. The arguments supporting this outlook focus especially on the following themes.
 - (1) **Speed up the move from savings to investment:** The effects of *Abenomics* are expected to lead to inflation, and the move from savings to investment must be encouraged.
 - (2) **Halt the decline in birthrate:** Halt the decline in the birthrate, which has plagued Japan for many years now, by aggressively promoting more contribution from women in the workforce.
- **Four risk factors facing Japan's economy:** Risks that will need to be kept in mind regarding the Japanese economy are: (1) turbulence in emerging economies, (2) China's shadow banking problem, (3) a reigniting of the European sovereign debt crisis, and (4) a surge in crude oil prices stemming from geopolitical risk.
- **BOJ's monetary policy:** We expect additional monetary easing measures by the BOJ to carry over beyond the 2015 Jan-Mar period. While there is still a chance that the BOJ might reach its price target, our outlook as of this point in time is that the growth rate in consumer prices will not reach 2%.

Our assumptions

- Public works spending will fall by -2.3% in FY14, then decline again by -10.3% in FY15. Another consumption tax hike is planned in October 2015.
- Average exchange rate of Y100.5/\$ in FY14 and Y100.0/\$ in FY15.
- US real GDP growth of +2.3% in CY14 and +3.0% in CY15.

Main Economic Indicators and Real GDP Components

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	FY13 (Actual)	FY14 (Estimate)	FY15 (Estimate)	CY13 (Actual)	CY14 (Estimate)	CY15 (Estimate)
Main economic indicators						
Nominal GDP (y/y %)	1.9	2.6	2.5	0.9	2.8	2.6
Real GDP (chained [2005]; y/y %)	2.3	1.0	1.5	1.6	1.6	1.4
Domestic demand (contribution, % pt)	2.8	0.7	0.9	1.9	2.1	0.9
Foreign demand (contribution, % pt)	-0.5	0.4	0.6	-0.3	-0.5	0.5
GDP deflator (y/y %)	-0.4	1.6	1.0	-0.6	1.1	1.1
Index of All-industry Activity (y/y %)*	1.9	0.1	2.0	0.8	1.0	1.5
Index of Industrial Production (y/y %)	3.2	4.1	6.2	-0.8	5.5	5.6
Index of Tertiary Industry Activity (y/y %)	1.3	-0.6	1.0	0.7	0.2	0.6
Corporate Goods Price Index (y/y %)	1.8	3.4	2.0	1.3	3.1	2.0
Consumer Price Index (excl. fresh food; y/y %)	0.8	2.9	1.7	0.4	2.6	1.8
Unemployment rate (%)	3.9	3.6	3.5	4.0	3.6	3.5
Government bond yield (10 year; %)	0.64	0.67	0.84	0.74	0.64	0.79
Money stock; M2 (end-period; y/y %)	3.9	4.0	4.3	3.6	4.0	4.2
Balance of payments						
Trade balance (¥ tril)	-10.9	-12.4	-10.8	-8.8	-13.3	-11.3
Current balance (\$100 mil)	79	6	337	331	-178	252
Current balance (¥ tril)	0.8	0.1	3.4	3.2	-1.8	2.5
(% of nominal GDP)	0.2	0.0	0.7	0.7	-0.4	0.5
Real GDP components (Chained [2005]; y/y %; figures in parentheses: contribution, % pt)						
Private final consumption	2.5 (1.5)	-0.4 (-0.2)	1.1 (0.6)	2.0 (1.2)	0.9 (0.6)	0.6 (0.4)
Private housing investment	9.5 (0.3)	-1.1 (-0.0)	-1.4 (-0.0)	8.9 (0.3)	3.0 (0.1)	-0.2 (-0.0)
Private fixed investment	1.7 (0.2)	6.6 (0.9)	4.9 (0.7)	-1.5 (-0.2)	7.9 (1.1)	4.8 (0.7)
Government final consumption	2.1 (0.4)	1.1 (0.2)	1.0 (0.2)	2.2 (0.4)	1.1 (0.2)	1.1 (0.2)
Public fixed investment	15.3 (0.7)	-3.6 (-0.2)	-11.4 (-0.5)	11.4 (0.5)	1.4 (0.1)	-9.7 (-0.5)
Exports of goods and services	4.7 (0.7)	7.9 (1.3)	7.8 (1.3)	1.7 (0.2)	8.7 (1.4)	7.1 (1.2)
Imports of goods and services	7.1 (-1.2)	6.1 (-0.9)	4.9 (-0.8)	3.4 (-0.6)	9.9 (-1.9)	3.5 (-0.7)
Major assumptions:						
1. World economy						
Economic growth of major trading partners	3.2	3.4	3.9	3.0	3.3	3.9
Crude oil price (WTI futures; \$/bbl)	99.1	100.0	100.0	98.0	99.7	100.0
2. US economy						
US real GDP (chained [2009]; y/y %)	2.1	2.4	3.0	1.9	2.3	3.0
US Consumer Price Index (y/y %)	1.4	1.7	2.0	1.5	1.6	1.9
3. Japanese economy						
Nominal public fixed investment (y/y %)	17.2	-2.3	-10.3	12.8	2.9	-8.6
Exchange rate (¥/\$)	100.2	100.5	100.0	97.6	101.2	100.0
(¥/€)	141.7	140.3	140.0	145.1	140.3	140.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10

Source: Compiled by DIR.

Note: Due to rounding, actual figures may differ from those released by the government.

* Excl. agriculture, forestry, and fisheries.

Estimate: DIR estimate.

Comparison with Previous Outlook

	Current outlook (Outlook 181)		Current outlook (Outlook 180 Update)		Difference between previous and current outlooks	
	FY14	FY15	FY14	FY15	FY14	FY15
Main economic indicators						
Nominal GDP (y/y %)	2.6	2.5	2.6	2.5	0.0	-0.0
Real GDP (chained [2005]; y/y %)	1.0	1.5	1.0	1.5	0.0	-0.1
Domestic demand (contribution, % pt)	0.7	0.9	0.7	0.9	-0.0	-0.1
Foreign demand (contribution, % pt)	0.4	0.6	0.2	0.6	0.1	-0.0
GDP deflator (y/y %)	1.6	1.0	1.6	1.0	0.0	0.1
Index of All-industry Activity (y/y %)*	0.1	2.0	1.2	2.0	-1.1	0.0
Index of Industrial Production (y/y %)	4.1	6.2	4.3	6.3	-0.2	-0.1
Index of Tertiary Industry Activity (y/y %)	-0.6	1.0	0.3	0.9	-0.9	0.1
Corporate Goods Price Index (y/y %)	3.4	2.0	3.4	2.1	-0.0	-0.1
Consumer Price Index (excl. fresh food; y/y %)	2.9	1.7	3.0	1.5	-0.0	0.2
Unemployment rate (%)	3.6	3.5	3.8	3.7	-0.2	-0.2
Government bond yield (10 year; %)	0.67	0.84	0.70	0.89	-0.03	-0.05
Money stock; M2 (end-period; y/y %)	4.0	4.3	4.0	4.3	-0.0	0.0
Balance of payments						
Trade balance (Y tril)	-12.4	-10.8	-11.3	-9.5	-1.1	-1.2
Current balance (\$100 mil)	6	337	183	583	-177	-246
Current balance (Y tril)	0.1	3.4	1.8	5.8	-1.8	-2.5
(% of nominal GDP)	0.0	0.7	0.4	1.2	-0.4	-0.5
Real GDP components (chained [2005]; y/y %)						
Private final consumption	-0.4	1.1	-0.2	1.0	-0.1	0.0
Private housing investment	-1.1	-1.4	-1.2	-1.4	0.0	0.0
Private fixed investment	6.6	4.9	4.9	5.0	1.7	-0.1
Government final consumption	1.1	1.0	1.5	1.0	-0.4	-0.0
Public fixed investment	-3.6	-11.4	-4.3	-11.4	0.7	-0.0
Exports of goods and services	7.9	7.8	5.9	8.3	2.0	-0.5
Imports of goods and services	6.1	4.9	4.8	5.2	1.3	-0.3
Major assumptions:						
1. World economy						
Economic growth of major trading partners	3.4	3.9	3.7	3.9	-0.3	-0.0
Crude oil price (WTI futures; \$/bbl)	100.0	100.0	100.0	100.0	0.0	0.0
2. US economy						
US real GDP (chained [2009]; y/y %)	2.4	3.0	2.7	3.1	-0.3	-0.2
US Consumer Price Index (y/y %)	1.7	2.0	1.8	2.1	-0.1	-0.1
3. Japanese economy						
Nominal public fixed investment (y/y %)	-2.3	-10.3	-3.0	-10.3	0.7	-0.0
Exchange rate (Y/\$)	100.5	100.0	100.0	100.0	0.5	0.0
(Y/€)	140.3	140.0	140.0	140.0	0.3	0.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.00	0.00

Source: Compiled by DIR.

Notes: Due to rounding, differences do not necessarily conform to calculations based on figures shown.

* Excl. agriculture, forestry, and fisheries.

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Summary

Main Economic scenario for Japan

In light of the first preliminary Jan-Mar GDP release (Cabinet Office), we have revised our economic growth outlook. We now forecast real GDP growth of +1.0% for FY14 (previous period +1.0%) and +1.5% for FY15 (+1.5%). Japan's economy is expected to decline temporarily in the Apr-Jun 2014 period due to the effects of the increase in consumption tax, but then to get back on track and head toward recovery during the Jul-Sep period. Japan's economy is expected to firm up in the near future due to the following positive factors: (1) The negative factors associated with the increase in consumption tax are believed to be limited, and (2) Firming up of exports due to US economic recovery.

Real GDP records positive growth for sixth consecutive quarter due to last minute demand

The real GDP growth rate for Jan-Mar 2014 was up by 5.9% q/q annualized (+1.5% q/q), thereby achieving positive growth for the sixth consecutive quarter, while exceeding market consensus as well (up 4.2% q/q annualized and up 1.0% q/q). Domestic demand was up 1.7 percentage points due to major growth in personal consumption associated with last minute demand, bringing in positive contribution for the sixth quarter in a row, while foreign demand fell for the third consecutive quarter by 0.3 percentage points q/q. While both imports and exports recorded growth, export growth was eclipsed by major growth in imports associated with expanding domestic demand.

The GDP deflator fell for the first time in two quarters, registering -0.2% q/q. However, looking more closely we see that the domestic demand deflator registered growth for the third consecutive quarter at +0.1% q/q, while the export deflator fell by -0.9% q/q and the import deflator rose by +0.7%. This was the reason for the drop in the GDP deflator. On a y/y basis the GDP deflator was at 0.0%, thereby leaving behind the minus range for the first time in 18 quarters. Nominal GDP was up 5.1% on an annual basis (+1.2% q/q), registering growth for the sixth consecutive quarter.

Trends by demand component: Last minute demand boosts personal consumption

Performance by demand component shows personal consumption up 2.1% q/q, its sixth consecutive quarter of growth. Real compensation of employees fell for the third consecutive quarter with figures down by 0.3% q/q. Even so, personal consumption experienced growth associated with last minute demand prior to the consumption tax hike. Personal consumption by type of goods was as follows. Durables recorded major growth at +13.7% q/q, pushing up figures for personal consumption overall. This is thought to be due mainly to certain goods, such as home electronics and automobiles, which experienced last minute demand. Meanwhile, both semi-durables (+6.4% q/q) and non-durables (+1.3%) posted high growth due to last minute demand in March just before the consumption tax hike. The scale of last minute demand compared to the previous consumption tax hike in April, 1997 when personal consumption grew +2.1% q/q during the Jan-Mar period, is about the same when considering only a simple q/q rate of change.

Housing investment grew for the eighth consecutive quarter by +3.1% q/q. Growth in housing starts peaked in Dec 2013 and have since been in a downtrend, but housing investment on a GDP basis, which is recorded on a progressive basis, continues to grow.

Capex grew for the fourth consecutive quarter by +4.9% q/q. The margin of growth was considerably larger than the previous period, with many positive factors which confirm the improvement in corporate willingness to carry out capex. Growth in capex is due to continued improvements in corporate earnings supported by the weak yen and favorable domestic demand. In addition, the increasing sense in the non-manufacturing industries that there was not enough capex being carried out,

and the gradual resolving of the manufacturing industry's sense that capex was excessive, are also thought to have encouraged growth.

Public investment was down by 2.4% q/q, the first decline it has experience in five quarters. During the first half of FY 2013 public investment continued to grow in association with implementation of the FY 2012 supplementary budget, but it appears that the effects of that budget period are gradually wearing thin. While public investment remains at a high level, this shows that the extent to which it provides support for the economy has begun to wane.

Exports recorded growth of 6.0% q/q. Exports to Asia were weak, but exports of goods centering on the U.S. grew by +5.0% q/q. In addition, export of services also won major growth at +12.4%, thereby shoring up the overall numbers for export growth. Meanwhile, imports registered major growth due to accelerating domestic demand associated with last minute demand, bringing q/q growth of +6.3%. However, as a result of the major increase in imports, the extent of contribution from foreign demand (net exports) posted negative figures for the third quarter in a row, falling by 0.3 percentage points.

Japanese economy back on growth track by Jul-Sep 2014 period

As for the outlook for the Japanese economy, the period of Apr-Jun 2014 is expected to see declines in personal consumption and housing investment for the first time in 7 quarters due to the reactionary decline occurring after last quarter's last minute demand. However, the effects of the reactionary decline are expected to hit bottom at the end of April and then begin easing up, supported by increases in base wages by major corporations feeling pressured to raise wages due to the stringent supply and demand situation for labor. Therefore possibilities are good that personal consumption will enter a growth trend in q/q terms by the Jul-Sep quarter. Exports are expected to grow as overseas economies, led by the U.S., continue to expand, and as Japan improves its global competitiveness thanks to the weak yen. Increasing exports will lead to production growth and improved earnings, and this is expected to trigger more capex. Hence we believe the Japanese economy will be back on the growth track by the Jul-Sep 2014 period.

Four major issues facing Japan's economy

In this report we examine four major issues facing Japan's economy as described below.

Issue (1) Effects of consumption tax increase

The effects of the increase in consumption tax are believed to be limited. The tax hike initially pushed the FY14 real GDP growth rate down by -0.88% pt, but then is expected to push the FY15 real GDP growth rate up by +0.26% pt.

Issue (2) The need to increase wages; price trends

As Japan's economy recovers, leading to rising demand for labor in the macro-economic sense, pay-scale increases [the increasing of the base wage] are gradually becoming more widespread amongst large corporations. This tendency is mostly focused on general workers [common laborers], and is expected to help push up prices. The raising of wages of part-time workers may very well follow as wages of general workers and prices increase.

Issue (3) Capex trends

Analysis of recent data suggests that capex may be hitting bottom soon. However, in order for capex to enter a truly robust growth phase, the anticipated growth rate must increase, and one of the major factors in encouraging such a development would be the success of the *Third Arrow* in Abe's growth strategy.

Issue (4) The US exit strategy

DIR performed a quantitative simulation on the effect the US exit strategy might have on the world economy, and results show that if the Federal Reserve takes a careful approach to its exit strategy, going at an appropriate pace in relation to the recovery of the real economy, then the world economy will also get back on the road to steady recovery.

Challenges Facing Abenomics

As we have mentioned before on a number of occasions, the biggest challenges faced by *Abenomics* are (1) maintaining fiscal restraint, and (2) strengthening its growth strategy. The arguments supporting this outlook focus especially on the following themes.

(1) Speed up the move from savings to investment

Though the effects of *Abenomics* are expected to lead to inflation, the move from savings to investment must be encouraged.

(2) Halt the decline in birthrate

Halt the decline in the birthrate, which has plagued Japan for many years now, by aggressively promoting more contribution from women in the workforce.

Four risk factors facing Japan's economy

Risks that will need to be kept in mind regarding the Japanese economy are: (1) turbulence in emerging economies, (2) China's shadow banking problem, (3) a reigniting of the European sovereign debt crisis, and (4) a surge in crude oil prices stemming from geopolitical risk.

BOJ's monetary policy

We expect additional monetary easing measures by the BOJ to carry over beyond the 2015 Jan-Mar period. While there is still a chance that the BOJ might reach its price target, our outlook as of this point in time is that the growth rate in consumer prices will not reach 2%.

1. Main economic scenario for Japan

Abenomics represents an appropriate set of economic policies in accord with global standards

In this section, we examine our main scenario for Japan's economy in light of recent developments. After hitting bottom in November 2012, Japan's economy has entered a recovery phase. We believe it will continue to expand steadily. Economic policies of the Abe administration (so-called "Abenomics") represent an appropriate set of policies with the potential of jump-starting the revival of the Japanese economy, and monetary policies in particular are yielding marked results. Japan's economy is expected to decline temporarily in the Apr-Jun 2014 period due to the effects of the increase in consumption tax, but then to get back on track and head toward recovery during the Jul-Sep period.

Japan's economy continues to improve

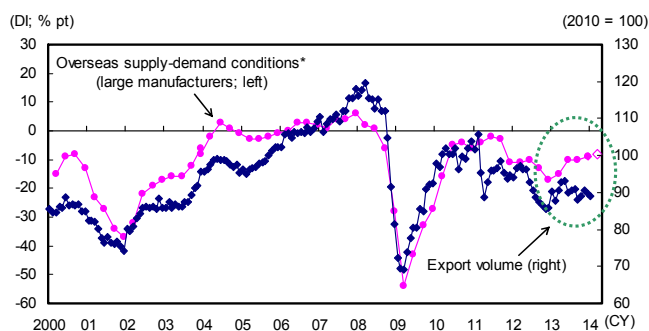
Supported in part by Abenomics, Japan's economy is on a path toward recovery. An examination of the current economic environment reveals that major economic indicators of the corporate sector have clearly turned upward.

First, as indicated in Chart 1, the diffusion index for overseas supply and demand conditions for products (large manufacturers) in the BOJ Tankan survey of corporate sentiment, which displays a close relationship with Japan's export volume index, is improving.

Second, Japan's economy has rebounded sharply in terms of the inventory cycle. As shown in Chart 2, where the y/y change in shipments is plotted along the vertical axis and inventories along the horizontal axis, the y/y change in shipments has turned positive.

Overseas Supply and Demand Conditions vs. Export Volume

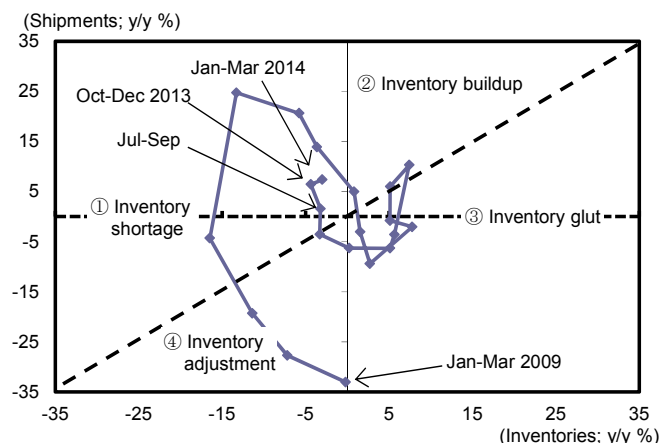
Chart 1



Source: Bank of Japan (BOJ), Cabinet Office; compiled by DIR.
*BOJ Tankan survey of corporate sentiment; "excess demand" minus "excess supply"; latest quarter=forecast.

Inventory-shipment Cycle

Chart 2



Source: Ministry of Economy, Trade, and Industry; compiled by DIR.

The US remains the driver of the world economy, not China

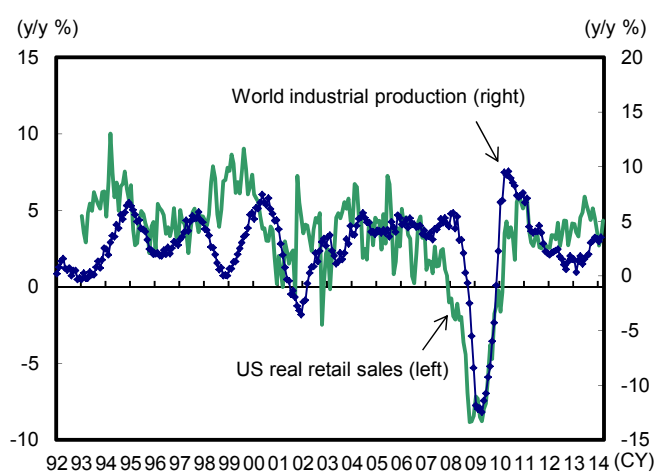
The main supporting factors for Japan's economy in the future are (1) the negative effects of the increase in the consumption tax are considered to be limited, and (2) exports are gradually getting back on track, centering on exports to the US.

The first factor mentioned above will be covered in more detail in the next section of this report, while the second factor, one influenced very much by the fact that the US remains the driver of the world economy rather than China, is one which DIR would especially like to emphasize.

As is shown in Chart 3, US retail sales are leading world industrial production on a gradual recovery. In other words, the fact of being the region of final demand for many of the world's manufactured goods gives the US a leading role in the world's economy, one which it has performed for some time now.

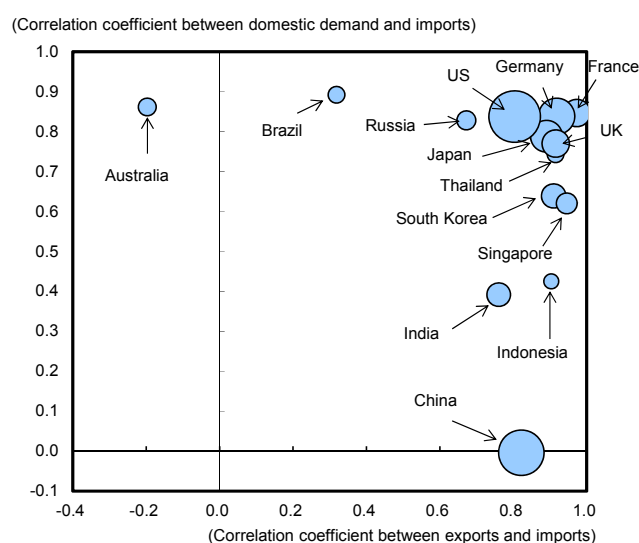
Chart 4 shows the relationship between imports and domestic demand amongst the world's leading nations, as well as the relationship between imports and exports. The horizontal axis shows the correlation coefficient between exports and imports, with the right-hand side indicating a higher correlation between exports and imports. The vertical axis shows the correlation coefficient between domestic demand and imports, with the upper-hand-side indicating a higher correlation between domestic demand and imports. The sizes of the circles indicate the percentage share of a nation's imports against imports as a whole. The chart reveals that a majority of major nations are positioned to the upper right, confirming that imports are correlated to a certain degree with both exports and domestic demand. China, however, is different. It is in the lower right-hand, suggesting that while its imports and exports are correlated, the correlation between domestic demand and imports is minimal. Recently, the problem of shadow banking in China has raised concerns that its economy will falter. If the Chinese economy rapidly deteriorates, as long as the deterioration comes from the contraction of domestic demand such as personal consumption and investments, the impact on Chinese imports and in turn the world economy should be minimal.

World Industrial Production and US Retail Sales
Chart 3



Source: Netherlands Bureau for Economic Policy Analysis, US Bureau of Economic Analysis; compiled by DIR.

Imports vs. Domestic Demand and Exports
Chart 4



Source: UN, IMF; compiled by DIR.

Notes: 1) Size of circles denotes world import share.
2) Correlation coefficients and import shares are for 2000-11 and 2012, respectively.

2. Four Major Issues Facing Japan's Economy

Four major issues facing Japan's economy

In this report we examine four major issues facing Japan's economy: (1) The tax hike, (2) The need to increase wages, (3) Capex, and (4) The US exit strategy.

2.1 Issue (1) Effects of consumption tax increase

Effects of the consumption tax increase are considered to be limited

Our first issue is the question of what the effects of the increase in consumption tax might be on Japan's economy. Fundamental economic data associated with the increase in the consumption tax are displayed in Chart 5. At this time we believe that negative effects of the tax hike will be limited. Our reasoning is based on three factors as explained in the following.

(1) Realistically speaking, the recent tax hike was fairly minor

By increasing the consumption tax the government is in effect asking citizens to bear the burden of a 3% pt portion of the consumption tax rate (around 8 tril. yen), which helps put together an economic policy of around 5.5 tril. yen. If this amount is expressed in terms of a consumption tax rate, the increase is actually closer to 2% pt, so realistically speaking the recent tax hike actually comes to only 1% pt. When considering the fact that the government is taking real steps toward financial reform and is placing needed attention on fixing the economy, the tax hike was a fairly minor one.

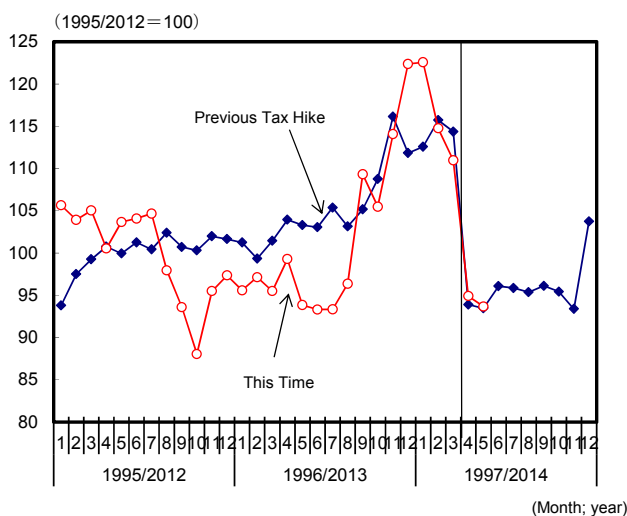
(2) Current economic conditions differ from FY97 when first consumption tax hike went into effect

Current economic conditions differ greatly when compared to FY1997 when the first consumption tax hike went into effect. First of all, the Japanese economy does not face the serious structural problems it did at that time when the effects of both Japan's financial crisis and the Asian currency crisis were felt palpably. Moreover, public spending suffered a major decline just a year and a half before the consumption tax was increased. In contrast, Japan's public spending is currently maintaining a high level.

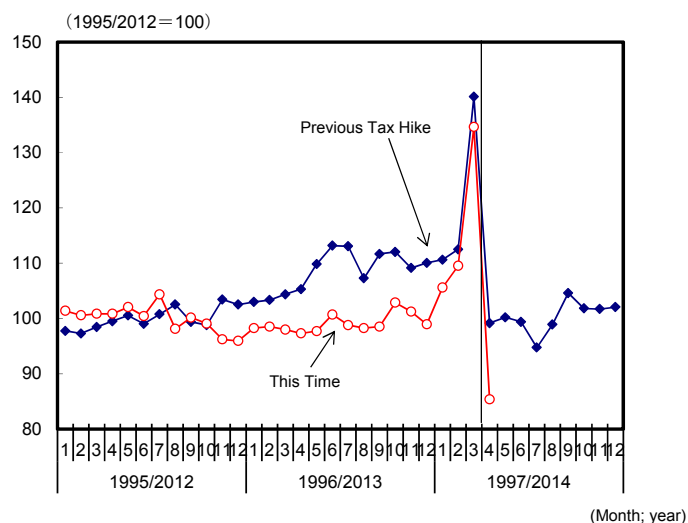
In the area of housing investment, as far as we can see considering the rate of change, last minute demand was generated at about the same level as before the last consumption tax hike. However, the impact differs greatly in macro-economic terms. The number of new housing starts around the time of the last consumption tax hike peaked at 1.7 million as compared to now when new housing starts total around 1 million (see Chart 5). The percentage of GDP accounted for by housing investments also differs from that time. In FY1996 housing investment accounted for 5.7% of GDP, while in FY2012 it was less than half this at 2.6%.

Consumption of services (purchases which cannot be stockpiled) also carried more weight this time around, helping to hold last minute demand in check to a certain degree. Consumption of services accounted for 53.0% of personal consumption in FY96 as compared to FY12 when it rose to just under 57.8% of personal consumption.

Taking these points into consideration, as long as a major financial crisis does not occur in China, chances that the recent tax hike might break the back of the Japanese economy are limited.

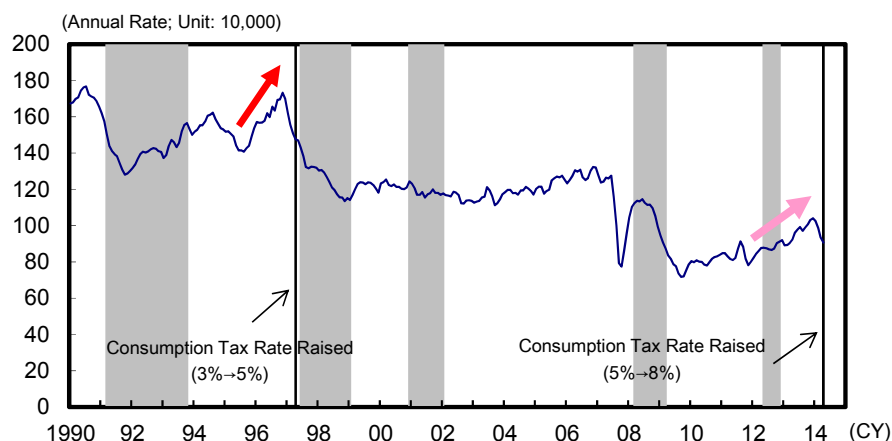
Comparison With Previous Tax Hike: New Car Sales
(Seasonally Adjusted)

Source: Japan Automobile Dealers Association statistics; compiled by DIR.
Note: Seasonally adjusted figures supplied by DIR.

Comparison With Previous Tax Hike: Home Appliance Sales
(Seasonally Adjusted)

Source: Ministry of Economy, Trade, and Industry statistics; compiled by DIR.
Note: Data from the machinery and appliances retail industry, nominal sales amount

Comparison with Previous Tax Hike: Number of New Housing Starts (Seasonally Adjusted)



Note: The shaded areas represent economic downturns. Data based on three-month moving average.
Source: Ministry of Land, Infrastructure, Transport and Tourism; compiled by DIR.

(3) Previous consumption tax hike offers educational opportunity

We would like to stress the educational opportunity offered by the previous consumption tax hike from both the consumer and corporate points of view.

From the consumer's point of view, there were some unpleasant experiences during the previous time the consumption tax was raised, such as stocking up on household electrical products only to find that prices were at a high. In response, as far as household electrical products are concerned, (1) experts in the field feel strongly that price cuts are in the offing throughout summer, and (2) combined with pre-consumption over demand under the ecopoint system between the years 2009-2011, last minute demand was limited. Looking at the percentage of personal consumption accounted for by various goods, we see that automobiles accounted for 3-4%, while household electrical products accounted for 4-5%. Home electronic products appear to have a fairly large impact on consumption overall.

From the corporate point of view as well, it appears that strategies have developed based on the experience of 1997, such as the practice of forfeiting price continuity right around the time the tax hike

goes into effect. Some concrete examples are (1) the restaurant and food services industry in which most menus were replaced by new ones in April, and (2) retail outlets which introduced new value-added merchandise during that time. These are strategies which make it difficult for consumers to determine whether or not sales prices of various items have risen as a result of the increase in the consumption tax.

Prices of snack foods and other small purchases at retail outlets

The following piece of anecdotal evidence reveals the detailed efforts which many corporations went to in order to come up with pricing plans for the recent consumption tax hike.

Before the consumption tax hike went into effect, the Japan Chamber of Commerce and Industry published and distributed 500,000 copies of a pamphlet suggesting pricing methods using snack foods and other small purchases as an example.

First, the pamphlet suggested that in the case of popular, big-selling items such as *anpan* (a Japanese style pastry filled with sweet bean paste), the price should be raised after the consumption tax hike as a means of securing earnings at a time when the number of purchases is likely to fall. The assumption here is that many people are in the habit of picking up a small item such as an *anpan* while doing other daily shopping and hence will not notice the increase in price. This way retail businesses can avoid a large decline in sales volume.

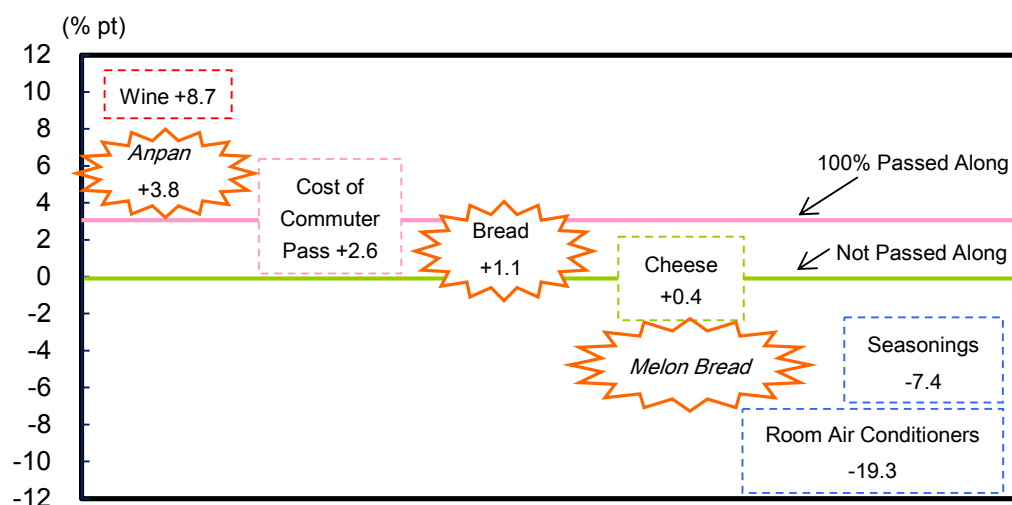
The second step focuses on small loaves of sliced white bread which many Japanese eat on a daily basis. The amount of the tax hike (3% pt) is passed along on purchases of bread. Since sales volume is high for this item, the amount of the increase in consumption tax can be easily passed along.

The third step is to keep the price of an especially popular item such as *melon bread* (traditional Japanese sweet bread) unchanged in order to continue to attract customers despite the increase in consumption tax on items overall. Put in another way, customers are encouraged to come to the store because of the reasonable price of *melon bread*, but in the course of shopping they are also urged to buy *anpan* whose price has been raised beyond the amount of the consumption tax hike. The store can maintain its profits by utilizing a strategy of this type.

The trend in consumer price (Tokyo metropolitan area) around the time of the most recent tax hike is shown in Chart 6. Changes in price after the increase in consumption tax differ considerably depending on the product – an extremely interesting phenomenon. Note that data on melon bread as appears in the chart is not actual data. It is used here purely for conceptual purposes.

Consumer Price Trend Around Time of Consumption Tax Hike (Tokyo Metropolitan Area)

Chart 6



Source: Ministry of Internal Affairs and Communications; compiled by DIR.

Notes: 1) Figures show the difference between the rate of year-to-year change as of April 2014 and the rate of year-to-year change as of March 2014.

2) The commuter pass category is made up of figures for student and adult commuter passes as made available by Japan Railways.

3) Melon bread is not a category included in the consumer price index, hence its position in the chart is a conceptual one.

Conclusion: effects of consumption tax increase limited

As we have suggested in the previous arguments, the extent of last minute demand associated with the increase in consumption tax has for the most part been as predicted. In the case of automobiles, which are seen as having experienced a larger scale of last minute demand than on the previous tax hike, reactionary decline is expected to continue to a certain extent. Even so, the level of new model sales volume in April experienced only a slight downward swing, propped up by latent demand. In consideration of past trends and scale of last minute demand, the extent of the decline was limited. It appears that the underlying strength of demand for automobiles has propped up new model sales. Downward pressure on the economy overall is also seen as being limited.

Home electronics also experienced considerable last minute demand in March in comparison to the previous months in which last minute demand was more limited in scale. Pre-consumption over demand is considered to have been a major influence here due to the advent of the ecopoint system and the transition from analog to digital media, meaning that seen in a larger context, last minute demand was fairly small in comparison to the previous tax hike. As a result, the reactionary decline may also be seen as having been on the small side.

What are the likely effects of the next consumption tax hike in Oct. 2015?

On the next increase in consumption tax planned for Oct 2015 (consumption tax rate to be raised from the current 8% to 10%) the magnitude of the reaction decline in personal consumption is expected to be relatively small, due to the large number of households which purchased durables in Apr 2014. However, a certain amount of last minute demand is expected to be generated in the areas of services, semidurables, and nondurables, so personal consumption is again expected to pick up steam during the Jul-Sept 2015 period.

In Apr 2014, some households actually found it to be more advantageous to wait on purchasing a house until after the tax hike rather than doing so before. In contrast, most households will find it to be disadvantageous to purchase a house after the next consumption tax hike in Oct 2015. Hence there is a very good possibility that housing investment will fall into considerable decline after the next tax hike.

As a result, we see the housing investment category of GDP slipping a considerable degree after the Oct-Dec period of 2015.

Considering the influence of all of the above factors, increasing the consumption tax can be seen as having pushed the growth rate in real GDP up by +0.63% pt in FY2013. The most recent tax hike pushed the growth rate in real GDP down by -0.88% pt, while the FY2015 real GDP growth rate is expected to get a boost of +0.26% from the tax hike (see Chart 7 and Chart 8).

Effects of Consumption Tax Hike on Real Personal Consumption
Chart 7



Source: Cabinet Office; compiled by DIR.

Note: Simulation result based on DIR macroeconomic model, which does not necessarily conform to standard figures in Japan's Economic Outlook No. 181.

Effects of Consumption Tax Hike on Economy
Chart 8

	Change in level (%)			
	FY13	FY14	FY15	FY16
Real GDP	0.62	-0.25	-0.00	-0.17
Real personal consumption	0.42	-0.73	-0.36	-0.65
Real housing investment	5.11	-0.73	-6.28	-6.03
	Change in growth rate (% pt)			
	FY13	FY14	FY15	FY16
Real GDP	0.63	-0.88	0.26	-0.18
Real personal consumption	0.43	-1.16	0.38	-0.29
Real housing investment	5.33	-5.66	-5.52	0.26

Source: Compiled by DIR.

Note: DIR estimates based on DIR short-term macroeconomic model.

2.2 Issue (2) The need to increase wages; price trends

As the economy expands led by personal consumption, non-manufacturing industries are faced with a lack of hiring

As Japan's economy recovers, demand for labor in the macro-economic sense also rises. Will wages increase in the future due to the stringent supply and demand situation for labor, and will this help push up prices in turn?

After hitting bottom in Nov 2012, Japan's economy is considered to have entered a recovery phase. The main feature of this recovery is an expansion in domestic demand as led by personal consumption. The last minute demand prior to the increase in the consumption tax caused a considerable acceleration of personal consumption in the last half of FY2013. The consumer-led economic expansion also influenced the labor market. Looking at data of past years we see that during periods when the percentage of GDP accounted for by personal consumption is on the rise, a relative shortage of hiring (or relatively little sense of there being a surplus of employees) tends to occur in the non-manufacturing industries (see Chart 9). This is because non-manufacturing industries such as the retail and service industries tend to be labor intensive as compared to the manufacturing industries. As a result of the continuing economic expansion led by personal consumption, a lack of hiring develops in the macro-economic sense, and the non-manufacturing industries begin to feel the pinch from stringent supply and demand of labor.

In response to the lack of hiring, the non-manufacturing industries have begun to increase the number of employees. The retail and service industries where demand has been growing for labor, women account for a large percentage of employees (a tendency which has existed for some time now). Looking at the chart, we can see the connection between the strong demand for labor in industries

where the percentage of women employees is high, and the considerable increase in the number of women workers of late (see Chart 10).

Personal Consumption and the Lack of Hiring in the Non-Manufacturing Industries

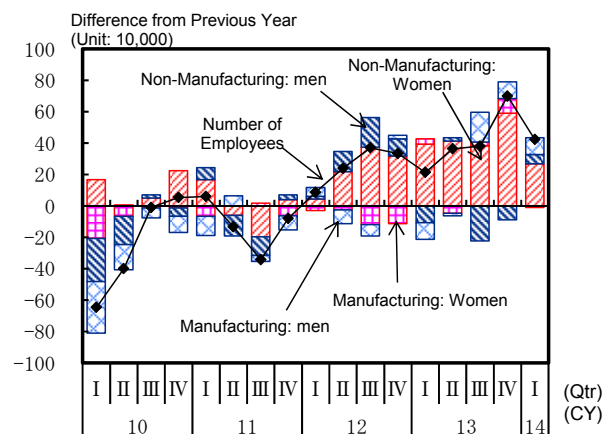
Chart 9



Source: Cabinet Office, Bank of Japan; compiled by DIR.

Number of Men and Women Employees by Industry

Chart 10



Source: Ministry of Internal Affairs and Communications; compiled by DIR.

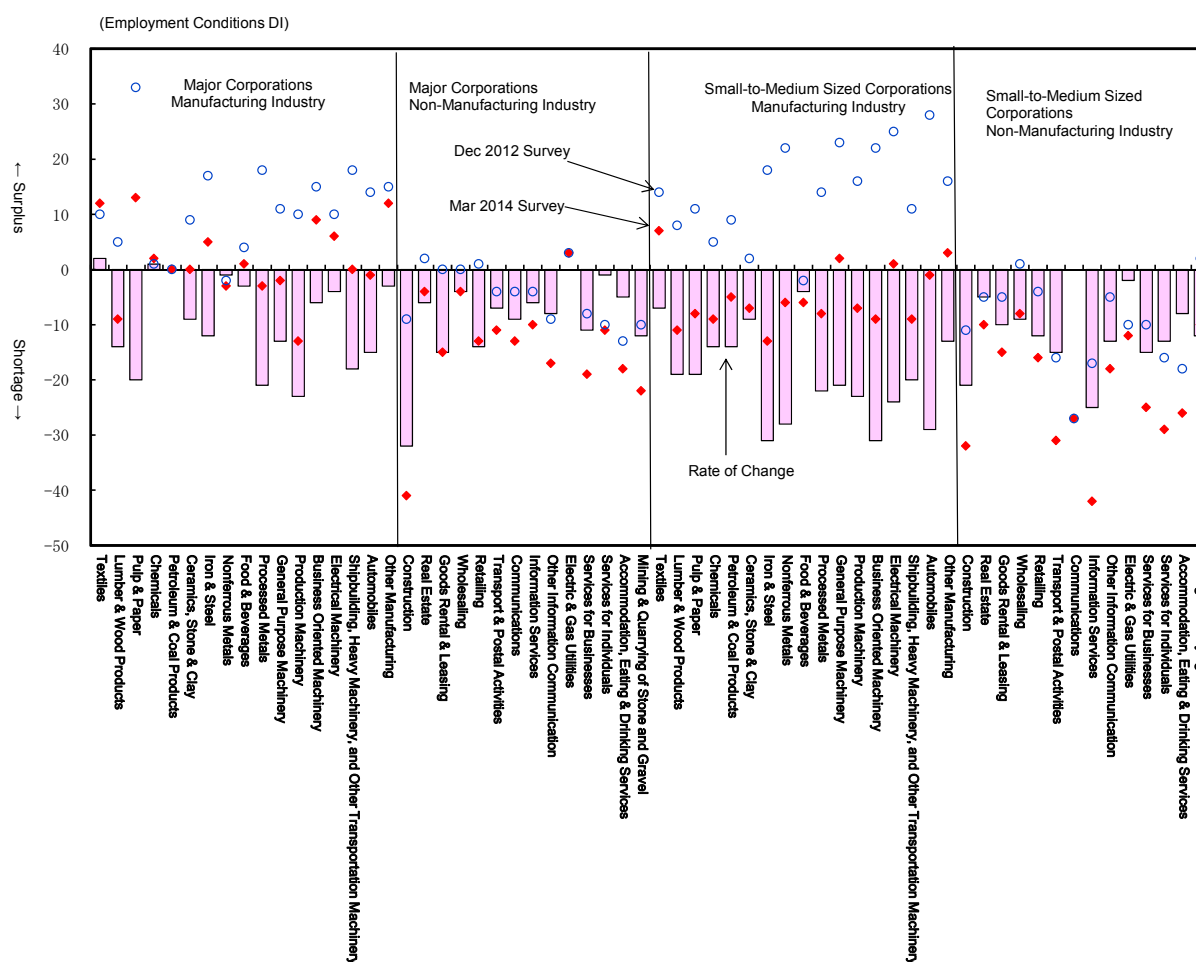
Serious manpower shortage in small-to-medium-sized corporations and non-manufacturing industries

In this section we take a closer look at the current supply and demand conditions for labor by industry and by the scale of the problem. Chart 11 shows employment conditions DI according to the BOJ Tankan survey as of Dec 2012 when the economic expansion just got underway, and more recently in Mar 2014, with changes at various intervals between these two points. As was already indicated in Chart 9, this chart also shows clearly how serious the lack of hiring has become for the non-manufacturing industries in the current personal consumption led economic expansion. Moreover, this is not limited to retail sales, services, or accommodation, eating or drinking services (industries most interrelated with personal consumption), but others as well, including business services and corporate services, where the labor shortage is worsening. In addition, industries such as those associated with public investment which are influenced by reconstruction demand and economic policy, and the construction industry, which entered a growth trend due to housing investment prior to the consumption tax hike, are also experiencing a shortage of manpower which is growing more serious.

In comparison to the non-manufacturing industries, the manufacturing industries are not experiencing as much of a stringent supply and demand situation in the area of labor. However, as the economy has gradually recovered, there is no longer the sense that there is a surplus of labor. This is especially evident in the case of small-to-medium sized corporations, which have an especially high rate of change (including in the manufacturing industries) in comparison to the previous survey. This also means that there is a lack of hiring in this sector.

Employment Conditions DI by Industry and by Scale of Business

Chart 11



Source: BOJ; compiled by DIR.

Supply and demand of labor influences wages per general worker and hourly wages for part-timers

The supply and demand of labor is becoming increasingly stringent as has been seen in points covered earlier in this section. When this occurs, it puts upward pressure on wages. Chart 12 looks at the relationship between unemployment caused by insufficient demand¹, which is closely linked with the business cycle, and wages. Here we see that in the case of general workers, wage per worker has closer linkage to supply and demand for labor than does the hourly wage. In contrast, wage per part-time worker has considerably less. In the case of part-time workers it is hourly pay which has closer linkage to demand and supply for labor. The reason for this difference is that customarily, general workers are paid a monthly or annual salary, while part-timers are paid by the hour. Generally speaking, the wage level is determined with reference to the average wage. When considering wage trends, it is important to differentiate between general workers and part-time workers, and then closely check the change in hourly pay for part-time workers.

When the ratio of part-time laborers, whose wage standard is relatively low, increases, this causes downward pressure on the average wage from a macro perspective. Currently there is a stringent supply and demand situation for labor from a macro perspective, and in this situation, the non-manufacturing industries develop a strong sense of there being a lack of hiring. So workers who were without jobs until this point are hired on as part-timers, a situation which continues at this time. As a

¹ Unemployment caused by insufficient demand is figured by subtracting structural unemployment from the overall unemployment rate. The structural unemployment rate used here is a DIR estimate.

result, the average wage from a macro perspective suffers from sluggish growth, while on an individual basis many workers are seeing growth in their own wage level.

Correlation Between Supply and Demand for Labor and Growth Rate in Wages

Chart 12



Source: Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare; compiled by DIR.

Note: Estimate period Jan 1994 through Feb 2014. Wages are scheduled wages. Unemployment caused by insufficient demand was estimated by reversing the sign in order to ensure that the correlation coefficient would be a positive value.

Prices in Japan are closely linked to hourly wages

Is there a chance that the BOJ will reach its price target (growth rate of 2%)? In considering future price trends we need to get a sense of the relationship between wages and prices. Growth rate in prices is used as a guideline when revising wages, while on the one hand, an increase in wages will of course have upward pressure on prices. In other words, these two factors are in a relationship of mutual influence – so much so that it would be hard to imagine either one of them in a growth scenario without the other.

This mutual relationship can be seen in Chart 13. Here we find that there is close linkage between Japan's CPI (excluding fresh foods, referred to as core CPI below) and hourly wages when the two are compared.

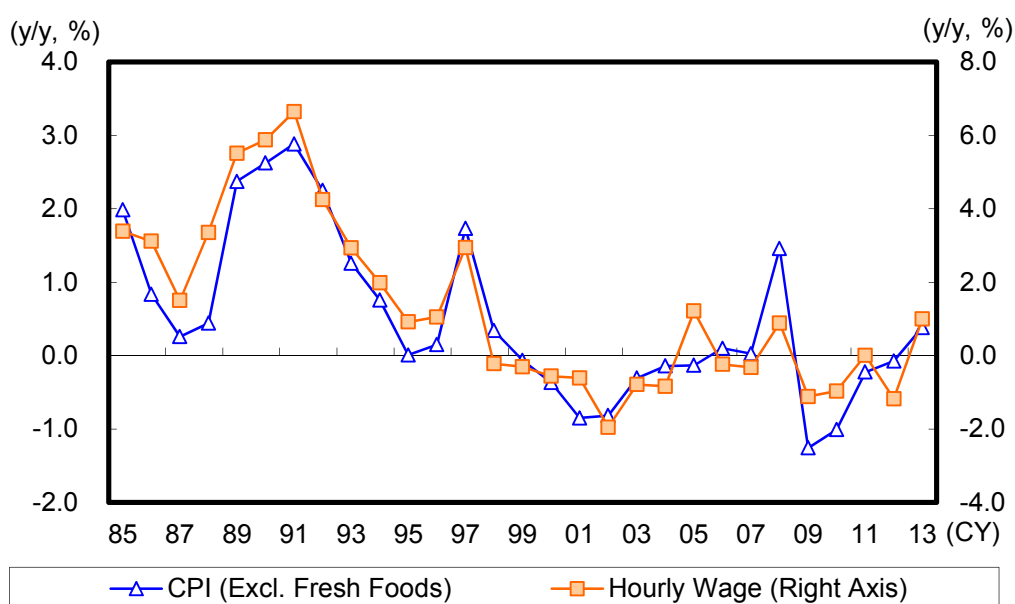
It must be kept in mind that we are speaking here of hourly wages, not wage per worker. Ever since the practice of taking two days off per week took hold in Japan working hours have been shorter than in the past. The increase in the number of part-time workers has further contributed to this new development so that from a macro perspective, working hours have decreased dramatically from what they were at one time. To a certain degree, one can explain past decreases in wages in Japan by pointing to the decrease in working hours. For this reason, in order to get a clear view of wages as counter value for labor performed, we need something other than wages per worker. Hence hourly wages become more useful for this purpose.

The close linkage between prices and hourly wage means that when prices rise, the hourly wage also has a tendency to rise. Furthermore, looking at past performance, we can see that the hourly wage has a higher growth rate than that of prices.

There is of course the opinion that if wages did not rise along with prices, it would be hard on the average citizen, but whatever the case may be, when we view this in terms of hourly wage, we can see that real wages do tend to rise when prices rise anyway.

CPI (Excluding Fresh Foods) and the Hourly Wage

Chart 13



Source: Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare; compiled by DIR.

In Japan hourly wage anticipates CPI, while in the US it is employee compensation

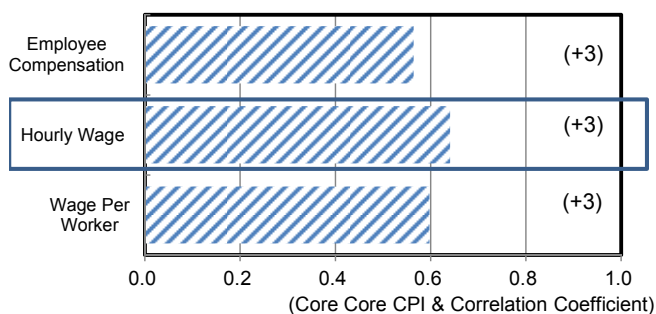
Next we investigate the relationship between wage and price in Japan further by making an international comparison.

The correlative relationship between consumer price and various coefficients, as well as leading and lagging elements, are brought together in Chart 14 and 15. Looking at the correlative relationships, we see that there is more correlation with hourly pay in Japan, while in the US, it is the correlation with employee compensation which is strongest. Employee compensation is defined here as the product of the number of employees and wage per worker. In the US, it is well known that the number of employees fluctuates greatly with the expansion and contraction of the economy. The number of employees is closely linked with the business cycle, while in contrast, prices lag somewhat in how they influence the business cycle. This is thought to be why employee compensation, a concept which includes the number of employees, and core CPI show the strongest correlation.

Then, when we look at the leading and lagging relationships, we see that in Japan, all of the coefficients anticipate consumer price, while in the US it is employee compensation with the strongest correlation which anticipates consumer price, and hourly wage lags behind consumer price – an especially interesting point.

Core Core CPI and Correlation with Each Coefficient (Japan)

Chart 14



Source: Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare; compiled by DIR.

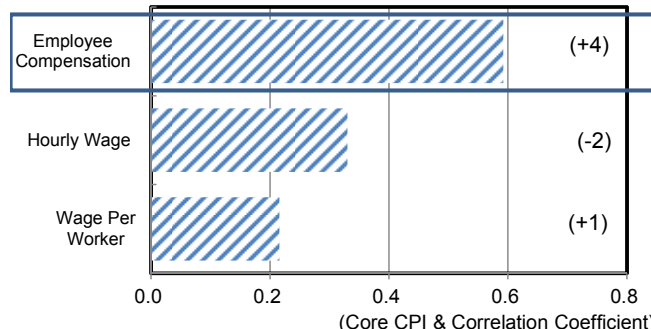
Notes: 1) Employee compensation is calculated by multiplying the number of employees by wage per worker.

2) Maximum value of timing coefficient (approx. 1-yr.) used for coefficients and core CPI values. Timeframe used is 1994 (1Q) to 2007 (1Q) so as to avoid influence of US financial crisis.

3) Figures in parenthesis represent maximum degree of lag for correlation coefficients. Numbers with plus sign mean the coefficient is leading.

Core CPI and Correlation with Each Coefficient (US)

Chart 15



Source: Haver Analytics; compiled by DIR.

Notes: 1) Employee compensation is calculated by multiplying the number of employees by wage per worker.

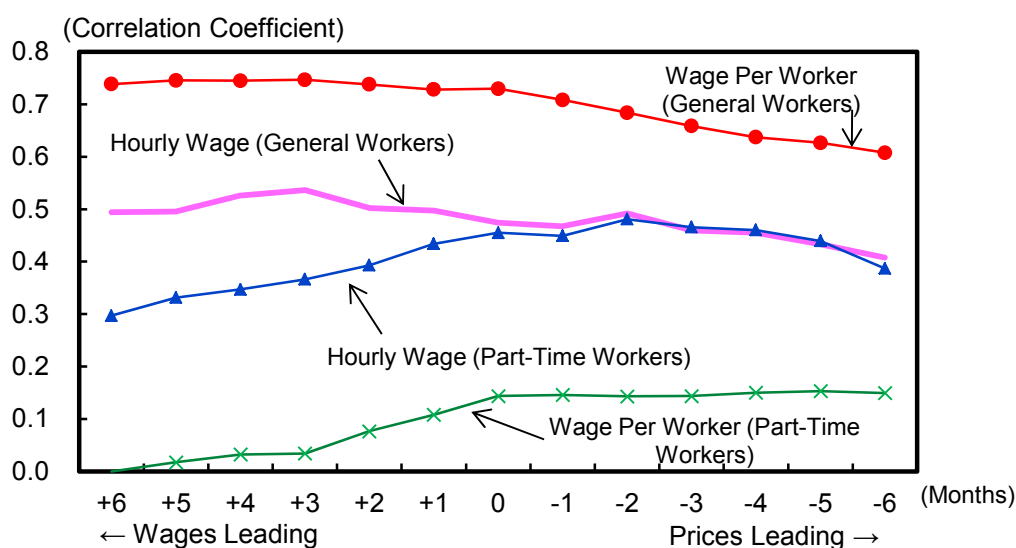
2) Maximum value of timing coefficient (approx. 1-yr.) used for coefficients and core CPI values. Timeframe used is 1994 (1Q) to 2007 (1Q) so as to avoid influence of US financial crisis.

3) Figures in parenthesis represent maximum degree of lag for correlation coefficients. Numbers with plus sign mean the coefficient is leading.

Wage per general worker anticipates price

As of this point in our argument we have confirmed that the trend in hourly wage is a more important factor than wage per worker in understanding the relationship with price. Next is the question of the relationship between the trend in wages and price having first separated general workers and part-time workers into two distinct groups (see Chart 16). In the relationship to price, general workers show stronger relationality in the area of wage per worker, while part-timers show relatively stronger relationality in the area of hourly wage. This point has already been considered in Chart 12, which examined the relationality of supply and demand of labor. Findings in this section are consistent with those. Moreover, in contrast to changes in price, changes in general worker wages tended to be in the lead by several months. In comparison, wages of part-time workers tended to lag behind prices by several months.

In more recent developments the move toward increasing the pay-scale is spreading amongst the major corporations. This is a wage hike affecting mostly general workers, and the tendency is expected to push prices up. Meanwhile, chances are good that wages of part-time workers will also rise, lagging behind wage hikes for general workers and an increase in prices.



Source: Ministry of Internal Affairs and Communications, and Ministry of Health, Labour and Welfare; compiled by DIR.

Note: Figures used for both wage per worker and hourly wage based on scheduled pay. Estimate period Jan 1994 to Feb 2014.

2.3 Issue (3) capex trends

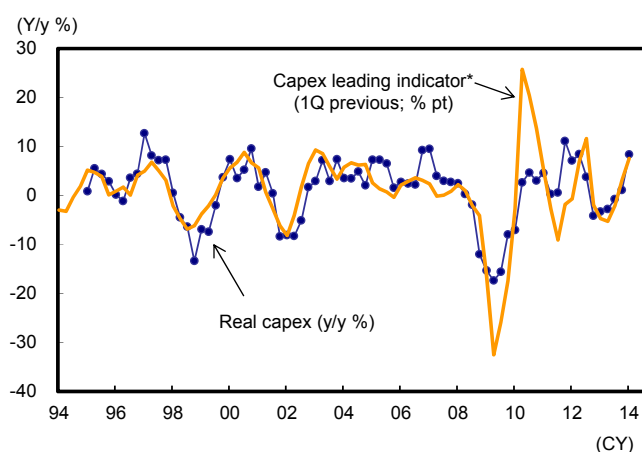
In order for capex to grow, the anticipated growth rate must increase

Evaluation of a variety of current data indicates that capex should bottom out soon. One of the positive factors as shown in Chart 17 is that the leading indicator for capex (y/y shipments – y/y production capacity), which leads the real capex figures by 1 quarter, has hit bottom.

Another factor is that the forecast achievement rate for machinery orders (private sector demand) is gradually improving. This figure leads the GDP based real capex figures by about 6 months.

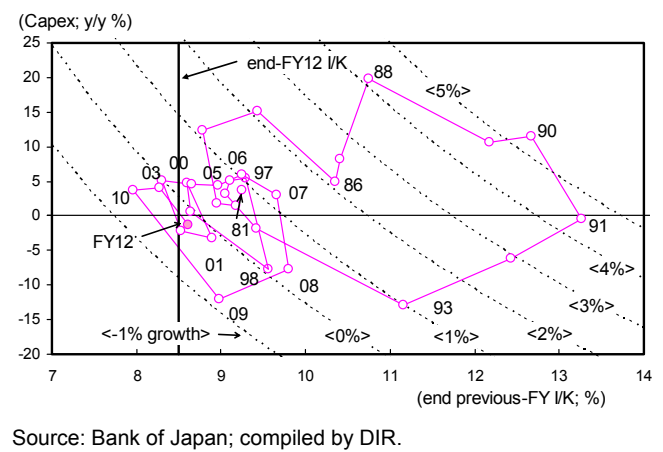
Finally, when we look at Japan's capital stock cycle (shown in Chart 18), we see that capital stock adjustment is steadily progressing. Year-to-year change in capex is located on the vertical axis, while on the horizontal axis is the previous period's ratio of capex (flow) to capital stock, forming a cycle which runs clockwise. The relationship between this clockwise cycle and the hyperbolic curve corresponding to the anticipated economic growth rate enables us to judge the current stage of capital expenditures. In 1997 and 1998 around the time when the consumption tax was raised, the sharp decline in the expectation for economic growth led to the contraction of capex. Currently, however, the adjustment of capital stock has for the most part completed. Even if companies expect the economy to grow by around 0%, capex will still increase y/y. Should the expectation for economic growth rise, further driven by the "third arrow" of Abenomics (growth strategy), capex has the potential of gaining further momentum.

Capex and Leading Indicator **Chart 17**



Source: Cabinet Office; Ministry of Economy, Trade, and Industry; compiled by DIR
 Note: Y/y shipments - y/y production capacity.

Capital Stock Cycle **Chart 18**



Source: Bank of Japan; compiled by DIR.

The key to capex growth is boosting the anticipated growth rate

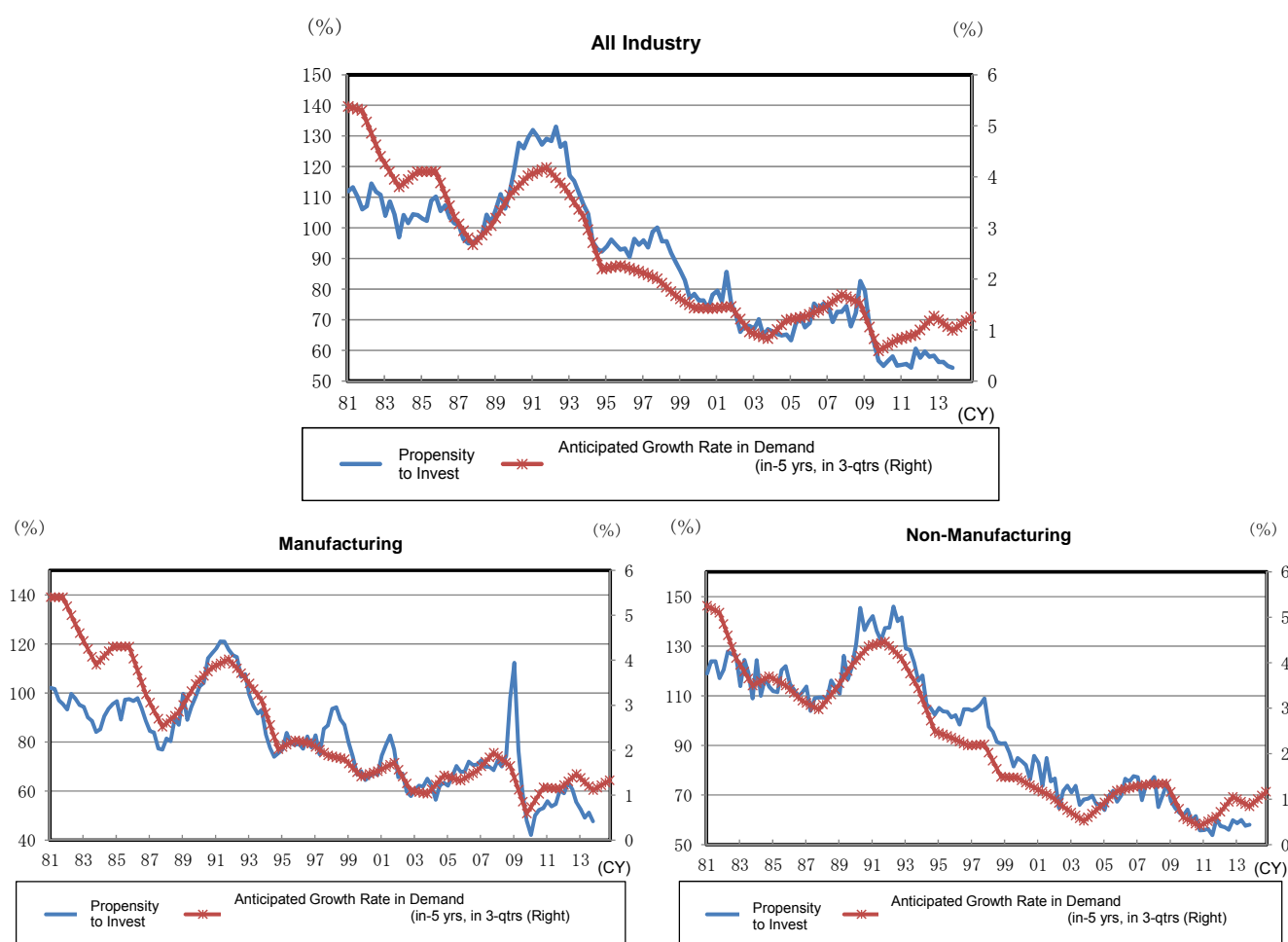
In order for capex to enter a truly robust growth phase, the anticipated growth rate must increase. Chart 19 shows changes in the anticipated growth rate and propensity to invest. Here it is confirmed that there is strong linkage between anticipated growth rate and propensity to invest, not only on an all industry basis, but for the manufacturing industries and non-manufacturing industries considered separately as well.

Corporate propensity to invest peaked in the first half of the 90s and continued to decline. During Japan’s lost decade after the bursting of the economic bubble, Japanese corporations were unable to find any brightness in Japan’s economic future, hence reigning in capex spending. Once Japanese corporations begin to feel positive again about the future of Japan’s economy, they are expected to increase capex so as not to avoid any investment opportunities in Japan.

Corporations will increase their propensity to invest when the *Third Arrow* in Abe’s growth strategy is strengthened. This would include lowering the corporate tax and an easing of regulations in areas where supervision and controls are especially tight, such as agriculture, medical treatment and elder care, and labor.

Anticipated Growth Rate and Propensity to Invest

Chart 19



Source: Ministry of Finance and Cabinet Office; compiled by DIR

Notes: 1) Propensity to Invest = capex / cash flow
 Cashflow = recurring profit x 2 + depreciation expense
 2) Seasonal adjustment of recurring profit and depreciation figures by DIR.

Anticipated growth rate has become increasingly influential on capex ever since the US financial crisis

Now using the relationship between propensity to invest and anticipated growth rate as one of our assumptions, we estimate the capital investment function – here is where an even more interesting fact emerges.

Chart 20 shows change in the coefficients over time, obtained by running a rolling regression with the estimate period used as the rolling window of values. The cash flow coefficient remains mostly flat over time, but the influence anticipated growth rate has on capex becomes stronger over time.

Looking at change in the cash flow coefficient by industry over time we see that for the non-manufacturing industries this coefficient remains mostly flat, while for the manufacturing industries a steady decline in the cash flow coefficient stands out.

Next we consider the anticipated growth rate coefficient. In the non-manufacturing industries this figure is gradually rising, while the manufacturing industries have seen this coefficient jump dramatically since the US financial crisis. This demonstrates how especially in the manufacturing industries corporations tended to look very seriously at the anticipated growth rate when making decisions on capex after the US financial crisis.

Taking into consideration the manufacturing industry's anticipated growth rate after the US financial crisis, we see that it remains at a low of 1% even after the worst of the crisis is over, and has been continually in decline. This situation makes it clear that the key to stimulating a stronger recovery in capex is to convince corporations to adopt a higher anticipated growth rate.

Change Over Time in Coefficient of Capital Investment Function

Chart 20



Source: Ministry of Finance and Cabinet Office; compiled by DIR.
 Notes: 1) Calculation used in estimate: $\log(\text{capex}) = C + \alpha * \log(\text{cash flow}) + \beta * \text{anticipated growth rate} (-3)$
 Capex and cash flow seasonally adjusted by DIR. Number of samples: 60.
 2) Shaded areas represent economic slowdowns.

Nominal value has major influence on anticipated growth rate

Now the question remains, just what can be done to increase the anticipated growth rate?

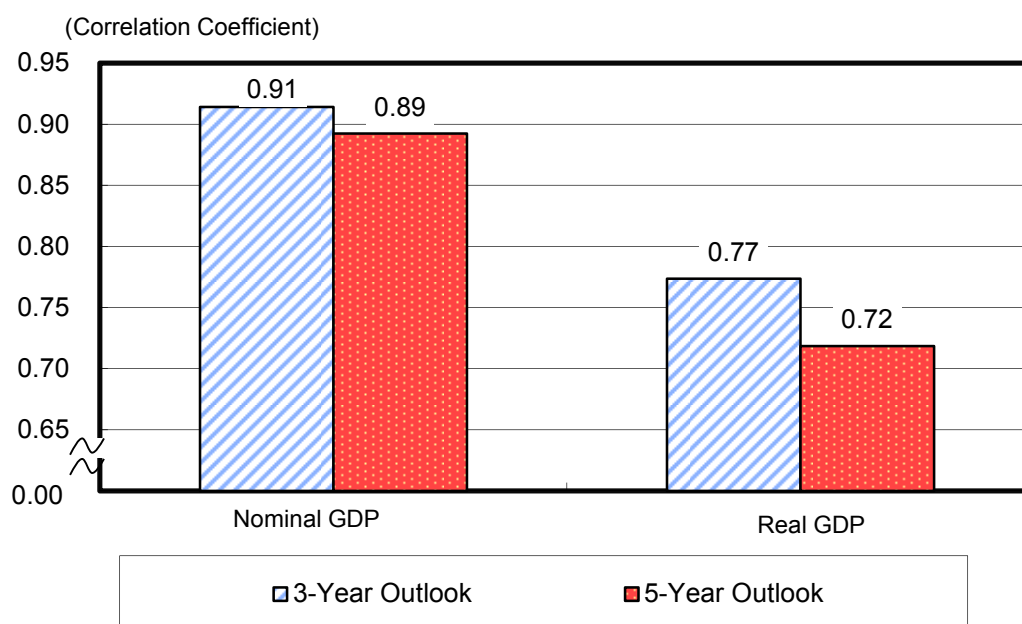
Here we take into consideration the correlation between real anticipated growth rate and nominal GDP versus real GDP. As can be seen in Chart 21, there is a stronger correlation between real anticipated growth rate and nominal GDP than there is with real GDP. Generally speaking, nominal GDP is closer to the actual business sense of corporate management than is real GDP. When the corporate sector puts together a business outlook (real anticipated growth rate) most likely they will give more weight to nominal GDP than to real GDP.

From the above considerations we can infer that the decline in capex in Japan has been largely caused by the sluggish growth rate in nominal GDP due to long-term deflation. As a result, corporate sector anticipated growth rate declined as well. The economic policy now being implemented by the Abe administration is approaching the issue from two different routes, so there is a very good chance that they will be successful in galvanizing corporate propensity to invest. First, if ample monetary easing measures can pull the Japanese economy out of the long-term deflation it has experienced, then the nominal GDP growth rate is expected to increase. Then, along with the rise in the nominal GDP growth rate, the real anticipated growth rate of corporations is also expected to improve. Secondly, decreasing the corporate tax rate and implementing regulatory easing measures should strengthen the

Third Arrow of Abe's growth strategy, and if this can be done successfully, it should have an immediate effect in raising the real anticipated growth rate of the corporate sector.

Correlation Between Anticipated Growth Rate and Real & Nominal GDP

Chart 21



Source: Cabinet Office; compiled by DIR.

Note: Sampling from years ranging from FY1981 to FY2012.

2.4 Issue (4) The US Exit Strategy

US exit strategy's influence on world economy

In considering the future of the global economy, it is necessary to pay particular attention to the direction of the US. At this time there are a few factors causing a bit of concern, but all in all, the US economy is continuing growth with a steady undertone, focusing on domestic demand. With the turnaround of the economy, the FRB is now starting to decrease the extent of its quantitative monetary easing (i.e., tapering). Some observers report that interest rates will be raised within the year.

US economic growth, which will be followed by growth in imports, will jump-start the world economy. On the other hand, the raising of US interest rates may bring pressure for a correction in global money flow, and therefore could have the effect of slowing the global economic growth rate due to the raising of interest rates and fluctuation in exchange rates in the advanced nations and emerging nations.

The question for the future will be whether, amongst all of the factors present which will influence the rest of the world, it will all come down more on the positive or the negative side. A simplified model is shown in Chart 22, which analyzes the influence which the pace of the US exit strategy and trends in US domestic demand will have on the world economy. The results of this analysis indicate that the emerging nations will be influenced by the pace of the US exit strategy, while the advanced nations will find trends in US domestic demand to be more important.

For instance, if the pace of the raising of US interest rates is moved up to the beginning of 2015 and the increase in interest rates progresses rapidly, GDP in the emerging nations will fall 0.89% below the base scenario in 2016. In comparison, the percentage of decline in the advanced nations would be only 0.09%, a rather more limited effect than in the case of the emerging nations.

Looking at the influence brought by fluctuation in US domestic demand, a slowdown of around 1.01% for the advanced nations can be assumed, while a downward swing of 0.16% can be predicted for the emerging nations. In other words, those advanced nations with a direct connection to the US will be more influenced by fluctuations in US domestic demand.

To sum up the above analysis, if the Federal Reserve takes a careful approach to its exit strategy, going at an appropriate pace in relation to the recovery of the real economy, then the world economy will also get back on the road to steady recovery.

Influence of US Exit Strategy and Growth in Domestic Demand on World Economy

Chart 22

Deviation (%) from 2016 GDP Base Scenario		Growth Rate of US Domestic Demand					
		Slower Pace		Base Scenario		Rapid	
Pace of Exit Strategy	Gradual	Advanced Nations	-0.92	Advanced Nations	0.09	Advanced Nations	1.12
		Emerging Nations	0.72	Emerging Nations	0.89	Emerging Nations	1.06
		World	-0.39	World	0.35	World	1.10
	Base Scenario	Advanced Nations	-1.01	Base Scenario		Advanced Nations	1.03
		Emerging Nations	-0.16			Emerging Nations	0.17
		World	-0.74			World	0.75
	Rapid	Advanced Nations	-1.10	Advanced Nations	-0.09	Advanced Nations	0.93
		Emerging Nations	-1.06	Emerging Nations	-0.89	Emerging Nations	-0.72
		World	-1.09	World	-0.35	World	0.40

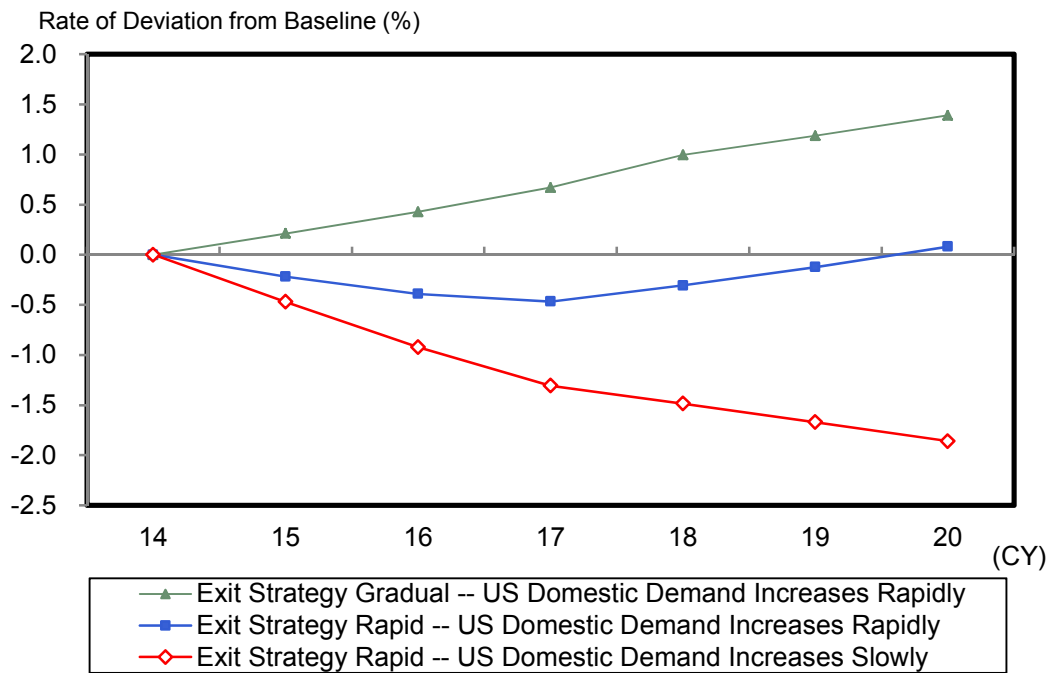
Source: Compiled by DIR.

Note: Growth rate of US domestic demand since 2014 and estimated fluctuations in term premium. The more rapidly the exit strategy progresses, the more steep the term premium's rise. Here influence of increases in term premium of the US Treasury bond on real interest of advanced nations and emerging nations was calculated, along with the influence of the growth rate in US domestic demand on world export/import volume.

Influence would be great on the “The Fragile Five”

The influence of raising the US interest rate is expected to be especially large on particular sector of emerging nations, that is, the group of nations with a current account deficit known as “the fragile five” (Indonesia, India, Brazil, South Africa, and Turkey) (see Chart 23). Nations which have financed their current account deficit with the inflow of capital from the advanced nations have relatively weak tolerance when it comes to abrupt increases in the outflow of capital. Often they cannot avoid raising interest rates as a means of stabilizing exchange rates as a means of controlling the outflow of capital, and when this happens, declines in domestic demand also become unavoidable. But if the pace of the US interest increase is gradual, the resulting rise in US domestic demand would be a big plus to “the fragile five.” If the US exit strategy progresses more rapidly, GDP in those countries would likely fall by around 2% by the year 2020.

Influence of US Exit Strategy on *The Fragile five* Chart 23



Source: IMF; compiled by DIR.

Notes: 1) *The Fragile Five*: Indonesia, India, Brazil, South Africa, and Turkey.

2) Calculations performed using simplified world model. The more rapidly the exit strategy progresses, the more steep the term premium's rise, and the more interest rates and exchange rates in *The Fragile Five* fluctuate. Growth in US domestic demand causes world export/import volume to increase. This is true also for *The Fragile Five*.

3. Challenges Facing Abenomics

Challenges Facing Abenomics

As we have mentioned before on a number of occasions, the biggest challenges faced by *Abenomics* are (1) maintaining fiscal restraint, and (2) strengthening the growth strategy. (See Japan's Economic Outlook No. 177, Assessment of Abenomics: Examination of current situation and future issues (June 3, 2013), by Mitsumaru Kumagai et al.). The arguments supporting this outlook focus especially on the following themes. (1) Speed up the move from savings to investment, and (2) Halt the declining birthrate.

3.1 Challenge (1) Speed up the move from savings to investment

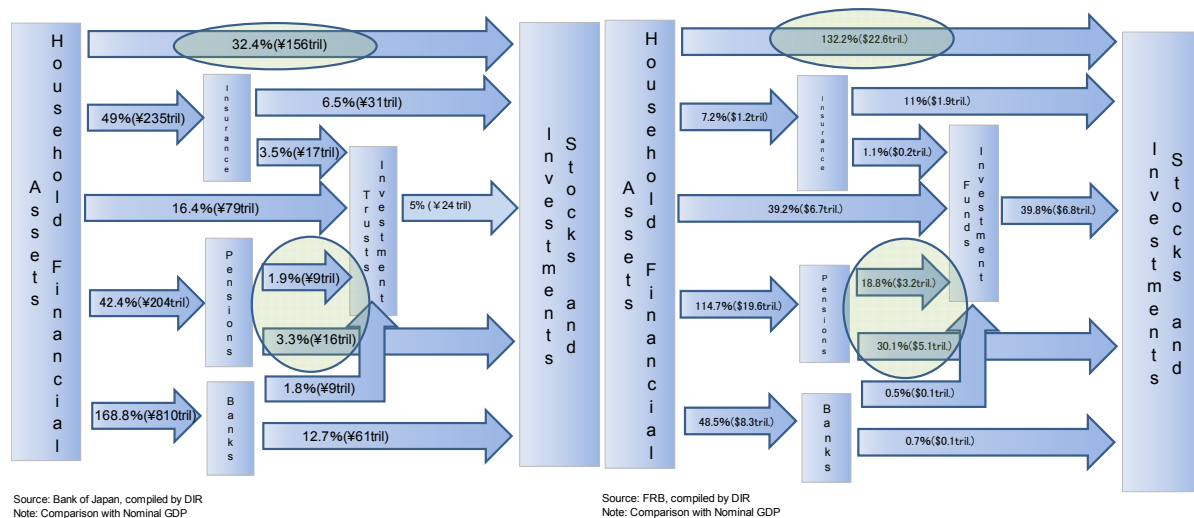
Money-flow of household financial assets in Japan and US differs greatly

In this section we consider the question of the need to move from savings to investment. Chart 24 shows a comparison of how financial assets are utilized by households in Japan and the US. There is a huge amount of financial assets held by private households in Japan. However, the extent to which investments in securities by household financial assets contributes to GDP (assets/GDP) is extremely small in comparison to the US. The reason for this discrepancy is that Japanese households keep most of their financial assets in cash and savings accounts. Moreover, long-term deflation in Japan only encouraged households to keep financial assets in the form of cash and savings. As a matter of fact, the real asset balance increased during this period. The economic climate that develops during a long-term period of deflation is one in which there is no risk of price fluctuation, therefore the holding of cash and savings, which have a high rate of liquidity, becomes a practical choice in the handling of assets. The same asset structure can be seen in the handling of pension funds. The Japan pension fund system holds a much smaller amount of investments in securities or investment funds when compared with the US Social Security system.

Once Japan moves into an inflation phase under *Abenomics* as is predicted, it will no longer be practical to keep such a large amount of financial assets in the form of cash and savings. Japanese individuals and pension funds will have to switch from savings to investment to prepare for the coming period of inflation which is expected. Japan's own version of *The Great Rotation* (the switch from bonds and risk-free assets to stocks and risk-assets) needs to happen, and it needs to happen soon.

Money-Flow of Household Financial Assets (Left: Japan, Right: US) (as of end 2013)

Chart 24



Seen from an international perspective, the asset effect in Japan is small

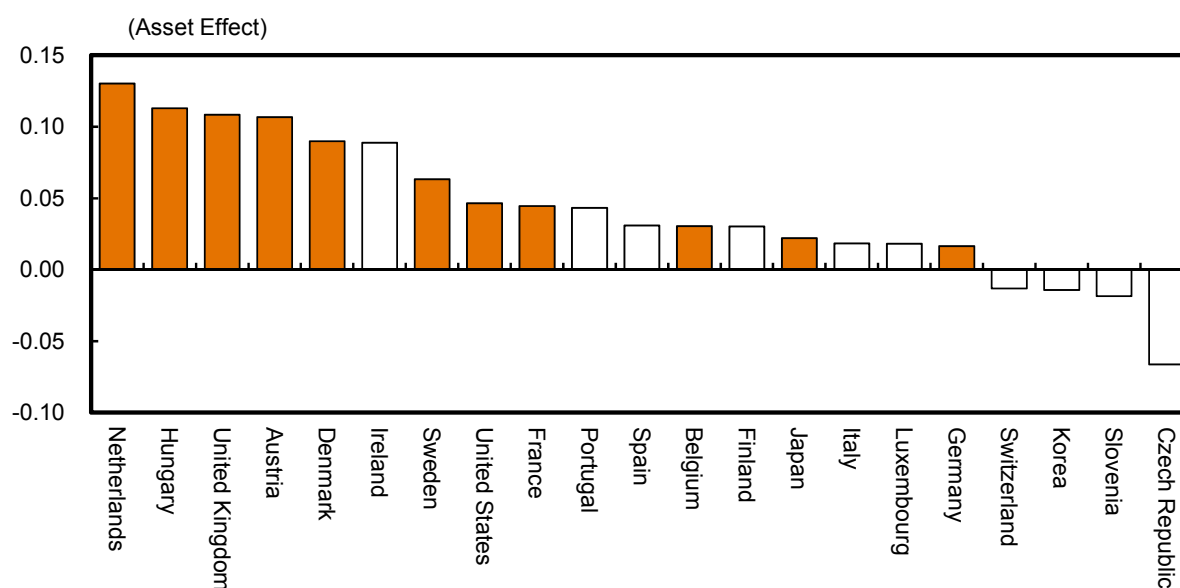
Chart 25 shows how the balance of household stock ownership influences personal consumption in the OECD member nations. This is called the “asset effect.” We can see by the results of estimates that the asset effect is not observed in some countries, but in Japan it measures significantly. This is essentially what happened when the stock market highs in Japan which accompanied the rapid weakening of the yen starting at the end of 2012 also led to an increase in personal consumption.

However, when the size of the asset effect (the elasticity value of the balance of stocks held by households in comparison to real personal consumption) measured at that time is compared with that of other countries, Japan was the second smallest of those countries in which an asset effect occurs. In other words, Japan’s asset effect is small when seen from an international perspective.

Of course, the asset effect is not a simple phenomenon. In other words, when we look at countries like the US, we cannot necessarily say in simple terms that in countries where there is a large asset effect there is also a large percentage of household financial assets that are invested in securities. But at least one of the factors which is a cause of Japan’s small asset effect is unquestionably the fact that, seen from an international perspective, the percentage of household financial assets in Japan that are invested in securities is small.

Comparison of Asset Effect Amongst OECD Member Countries

Chart 25



Source: OECD; compiled by DIR.

Note: Equation use to obtain estimates: $\ln(\text{CP}) = \alpha \times \ln(\text{YDH}) + \beta \times \ln(\text{STOCK}) + \gamma \times \ln(\text{NFA})$

CP: Real Personal Consumption, YDH: Real Household Disposable Income

STOCK: Balance of Stocks Held by Households, NFA: Net Financial Assets Other than Stocks

Data in the chart corresponds to the estimated value β in the above formula. Uncolored bars mean that the coefficient is insignificant.

Household stock ownership has a loose correlation with personal consumption. There is no correlation with income gap.

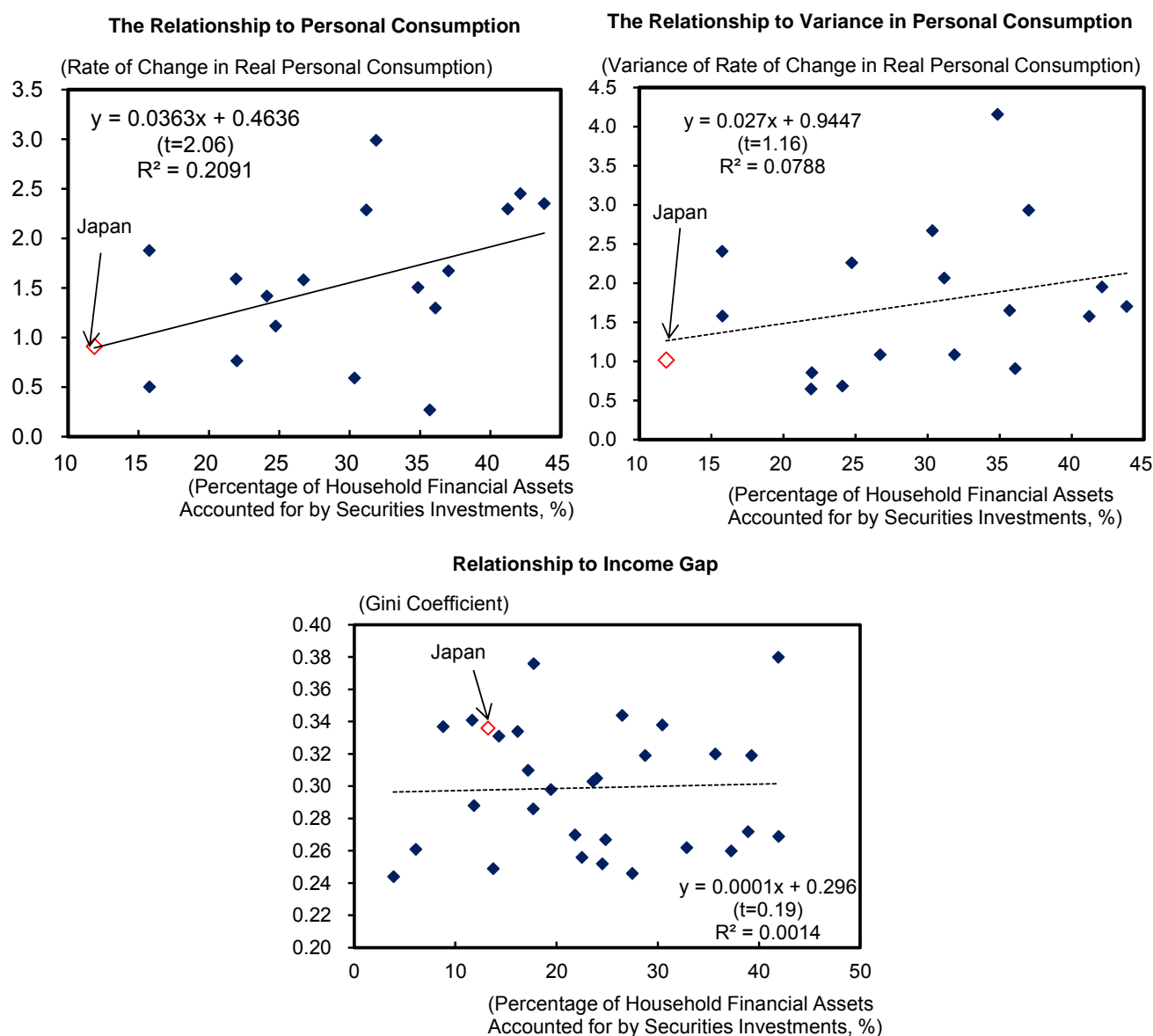
Earlier it was pointed out that the asset effect as related to personal consumption encouraged by stock ownership is not necessarily measurable in all countries. However, in examining the relation between the percentage of household stock ownership and the rate of change in real personal consumption on an international level, it is possible to confirm that there is a loose correlation (see Chart 26, top left). In other words, countries where investment in risk-assets is advanced tend also to have higher growth in personal consumption.

When the proportion of stock ownership is high, it contributes to growth in personal consumption due to the asset effect as long as stock prices are on the way up. When stock prices fall, there is a reverse asset effect which brings downward pressure on personal consumption. Is it possible that when the proportion of stock ownership grows that personal consumption can also grow more volatile? In Chart 26 (top right) we examine the variance of personal consumption. Here, we do not find that countries with a higher percentage of stock ownership necessarily exhibit wider variance in personal consumption. This is because ultimately, the factor having the greatest influence on fluctuation in personal consumption is income, and changes in income and stock ownership are not necessarily linked.

Finally, we examine the relationship between the percentage of household stock ownership and income gap (see bottom of Chart 26). Here again, we find no meaningful correlation. At least in an international comparison, we see no increase in income gap as a result of the shift of household financial assets to investment in stocks.

Relationship of Household Stock Ownership to Personal Consumption and Income Gap in OECD Member Countries

Chart 26



Source: OECD; compiled by DIR.

Note: Data in top left and top right charts is the annual average between the year 2000 and 2012. The bottom chart uses data from the year 2012.

Savings will become less attractive once Japan's economy sheds deflation

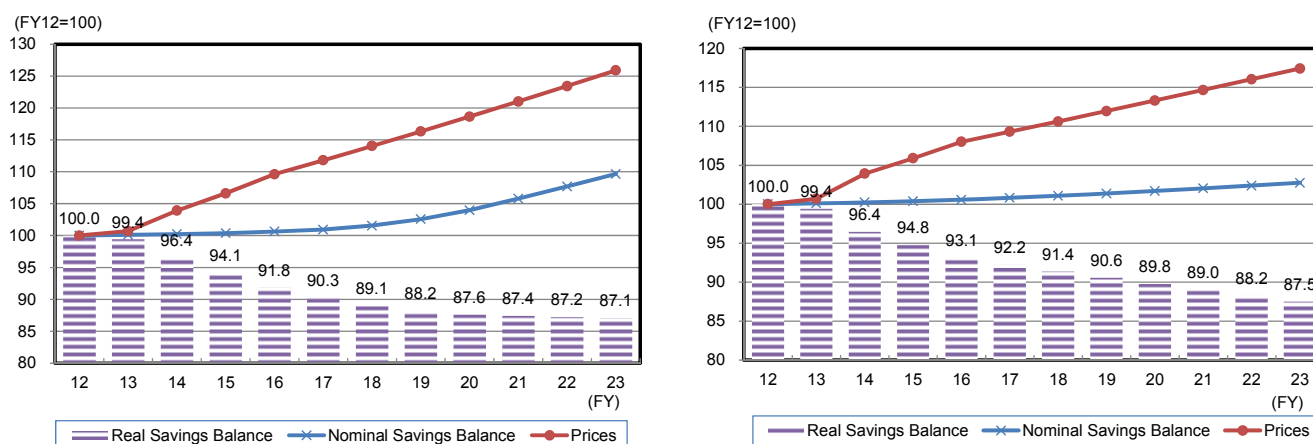
In this section we consider whether there is a danger that the value of cash and savings might decline under *Abenomics*, and if so to what extent. Chart 27 shows the results of a simulation which considers what might happen to the real balance of household savings assuming that the government's economic outlook made public in January 2014 becomes a reality. (The simulation utilizes calculations regarding the government's mid to long-term economic policy.)

Assuming that *Abenomics* produces results and the revival of the economy so often spoken of by the Abe administration actually comes to pass, the real balance of savings in Japan may decline by around 10%. The Bank of Japan is expected to raise interest rates in incremental steps at a pace that is predicted to be gradual. Therefore, interest available from savings accounts is expected to grow at a rate slower than that of inflation. Hence the economic revival scenario sees the real balance of savings declining in tandem with the progression of inflation.

Next we use a reference case produced by the Cabinet Office to look at what happens if the economy actually grows. The conclusion here as well is that the real balance of savings will decline. Our reference case sees inflation progressing at a fairly mild rate of less than 2%. If this is the case, then the BOJ would be expected to stabilize the situation by setting the call rate at a low level for the long-term in hopes of attaining its target for an increase in prices of 2%. For this reason, interest on savings accounts would feel mild upward pressure from inflation, but since the low interest policy would still continue, it is expected that interest on savings would stay at a low level. Therefore, our reference case also sees a decline in the real balance of savings. The results of the simulation mentioned earlier in this section assumes economic growth spurred on by *Abenomics*. This means that cash and savings would become significantly less attractive in comparison to a period when deflation is the norm. In order for the real asset balance either to maintain the same level or to grow, a portion of savings must be channeled into stocks and similar investment assets which provide a hedge against inflation.

To sum up the above argument, inflation is expected to progress in the future due to the effects of *Abenomics*, hence it is necessary to speed up the shift from savings to investment.

Real Balance of Household Savings (Left: Economic Revival Case, Right: Reference Case) Chart 27



Source: Cabinet Office, BOJ; compiled by DIR.

3.2 Challenge (2) Halt the decline in birth rate

The main cause of the decline in birth rate is the decline in the marriage rate

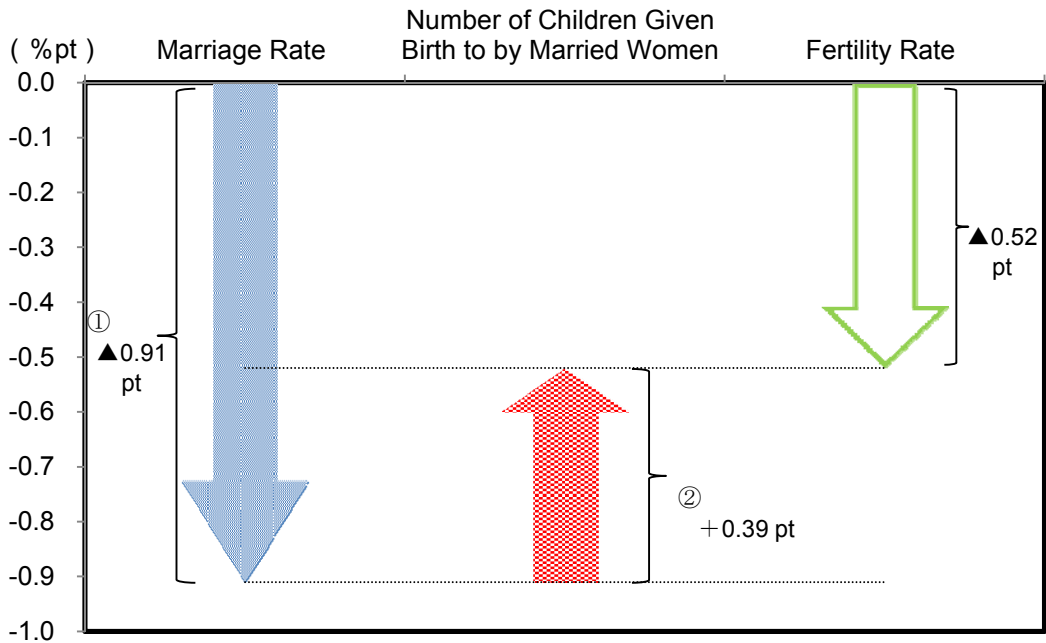
In order for Japan's economy to attain long-term growth, the decline in birth rate must of course be halted. But to begin with, what is the main cause of the decline in the birth rate?

Chart 28 and 29 present a factor analysis of Japan's total fertility rate. Between 1975 and 2010, total fertility rate fell by 0.52 pt. The major factor was by far the decline in the marriage rate, meaning of course a decline in the percentage of married persons. In contrast, the average number of children given birth to by married women actually grew.

Chart 30 compares the percentage of married persons by age group during various 5-year periods. Looking at this chart, it becomes evident that the tendency to marry late has been growing, while the overall marriage rate has been in decline.

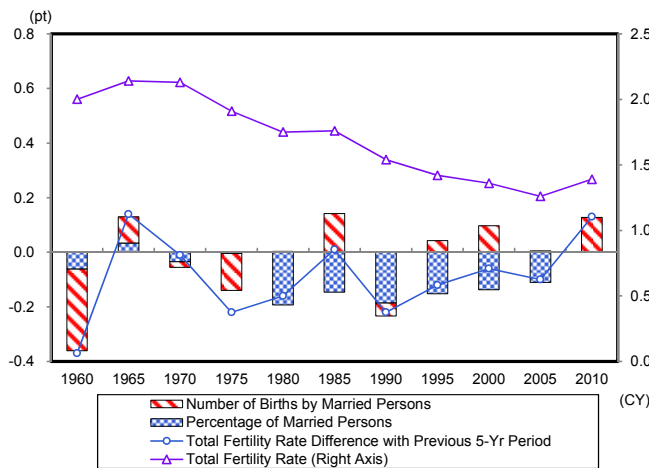
Factors Contributing to Fluctuation in Birth Rate Chart 28

$$\text{Fertility Rate} = \text{Marriage Rate} \times \text{Number of Children Given Birth to by Married Women}$$



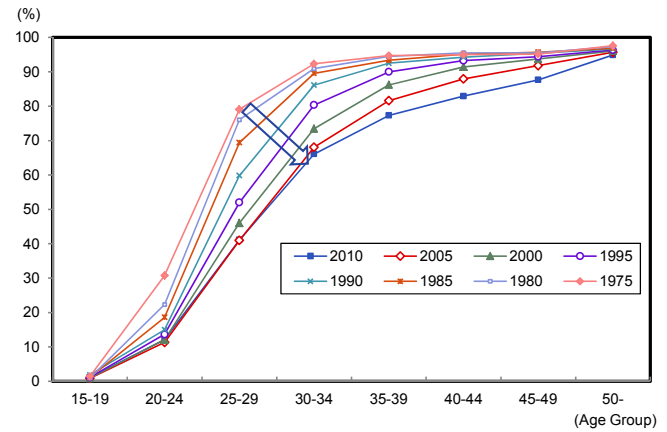
Source: Ministry of Health, Labour and Welfare, Ministry of Internal Affairs and Communications; compiled by DIR

Factor Analysis of Change in Total Fertility Rate
Chart 29



Source: Ministry of Health, Labour and Welfare, Ministry of Internal Affairs and Communications; compiled by DIR.

Change in Percentage of Married Women by Age Group
Chart 30



Source: Ministry of Internal Affairs and Communications; compiled by DIR.

Anxiety about the future and poverty may be behind the decline in the marriage rate

It can be inferred that one of the issues behind the decline in the marriage rate is people's anxiety about their economic future and poverty. As is indicated in Chart 31, growth in the ratio of non-regular employees amongst men in the 25-34 age bracket is concurrent with the decline in the marriage rate.

The following measures are suggested as a means of halting the decline in the marriage rate.

First of all, it is important to more actively promote women's contribution in the work force and speed up women's social advancement. This would increase the number of double income families in the future, as well as encourage a change in the marriage rate.

Secondly, decreasing the sense of uneasiness many people feel about their economic future through the introduction of reforms in the social security and welfare system will also be key. Japan's fiscal structure is now moving away from "mid-range benefits-low burden" and nearing the point of "high-range benefits-low burden". The basic direction of future reforms in Japan's social security system will be towards introduction of a framework which maintains a balance between insurance premiums and benefit payout no matter what happens with the economic climate and the birth rate.

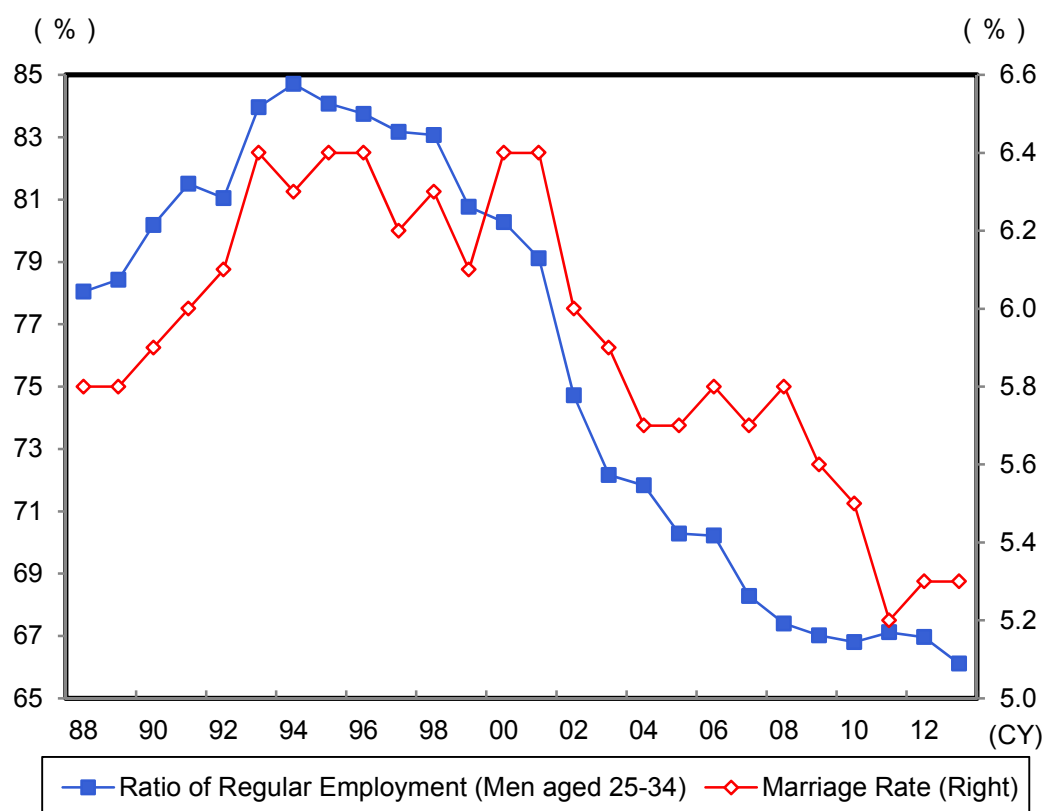
Practically speaking, this will likely lead to consideration of the following issues: (1) a raising of the age at which pensions become payable, (2) setting in motion a "macroeconomic slide" in which growth in pension amounts will be controlled rather than wages and prices, thereby reducing the amount in pension payouts, and (3) increasing the amount of tax payable on income from pensions.

Thirdly, the need to resolve the gap between regular and non-regular workers is a pressing issue. An important perspective to consider here is that of "equal pay for equal value work". At the same time, forcing companies to change all non-regular workers to regular worker status would encourage companies to outsource more jobs to overseas locations, causing even more suffering for non-regular workers.

Finally, the fourth issue is that, despite the difficult budgetary situation, in terms of fiscal policy, providing support for measures to halt the decline in birth rate is an effort which cannot be ignored. If we take the Swedish and French examples where success was achieved in halting the decline in birth rate, we can see that in order to do so, budgetary measures equal to around 2% of nominal GDP were provided.

Rate of Regular Employment for Men Aged 25-34 and Marriage Rate

Chart 31



Source: Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare; compiled by DIR.
 Note: Ratio of regular employment = number of regular employees / total population.

Growth of women in the workforce will ease manpower shortage

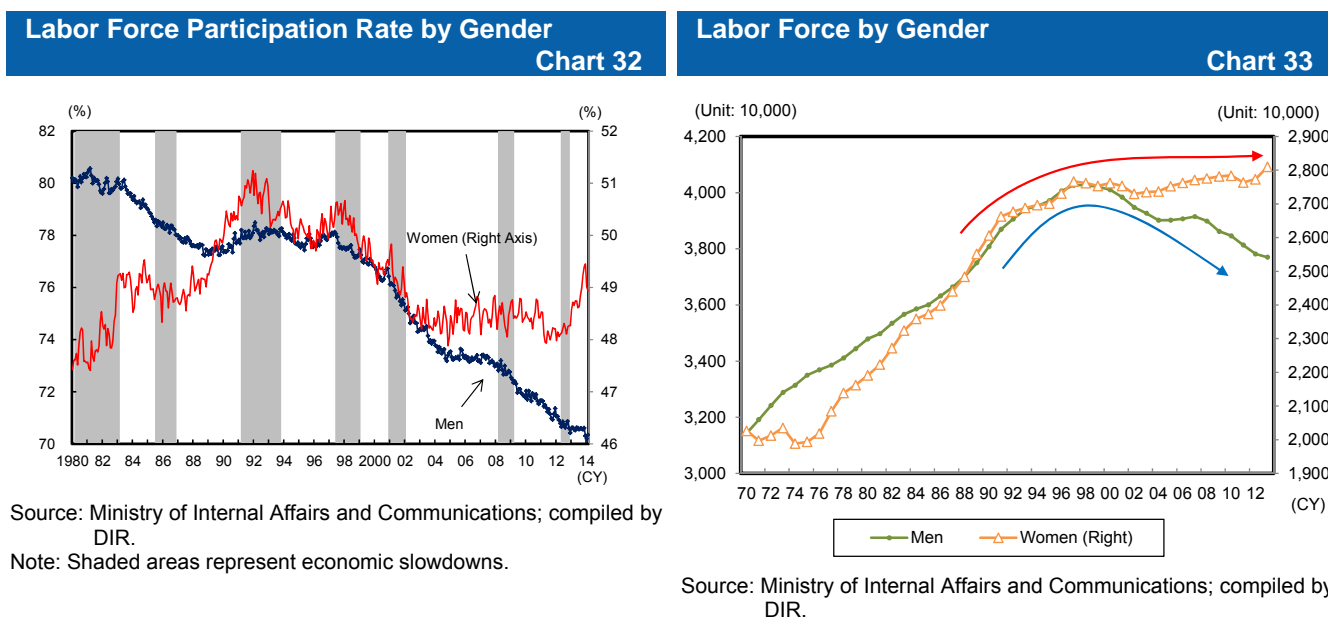
The shortage of manpower is expected to become increasingly serious as the population continues to age, but growth in the number of women in the workforce (labor force participation rate) adds a positive factor to this situation.

Chart 32 shows the labor force participation rate by gender. Japan's Equal Employment Opportunity Law went into effect in the late 1980s, and subsequently women's labor force participation rate grew rapidly. After that point the labor force participation rate of both men and women grew pretty much in tandem. However, after the year 2000 men's labor force participation rate began to decline, while women's labor force participation rate remained flat. The labor force population itself also reflects these developments. Looking at Chart 33 we see that men's labor force population has been in decline, while that of women has been flat.

In recent years women's labor force participation rate has grown sharply

This trend has become especially prominent in more recent years. Since 2013, women's labor force participation rate has grown sharply. This is because not only has the employment rate of women in their 20s and 30s been growing, but women in their 40s and 50s have returned to the work force as well. In fact, work force participation has been activated amongst women in many age groups.

During the peak years of the 90s, women's labor force participation rate was at around 51%, meaning that there is still plenty room for continued growth in women's labor force participation rate in the future. Women's participation in the labor force will likely continue to progress in the future, especially if more advances are made in government policy to encourage a more active role for women in society, as well as the efforts of private corporations raise the status of women workers. In addition, this also promises to have the effect of easing the manpower shortage Japan now suffers from.



Growth in women's employment rate will have a major impact on change in industrial structure

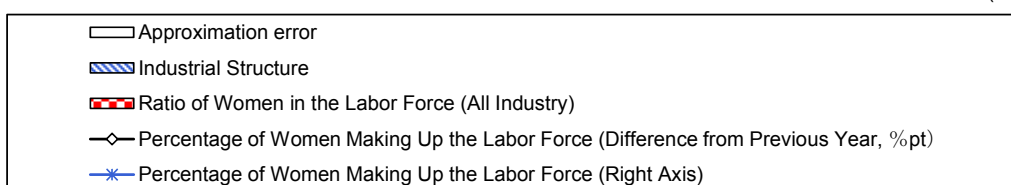
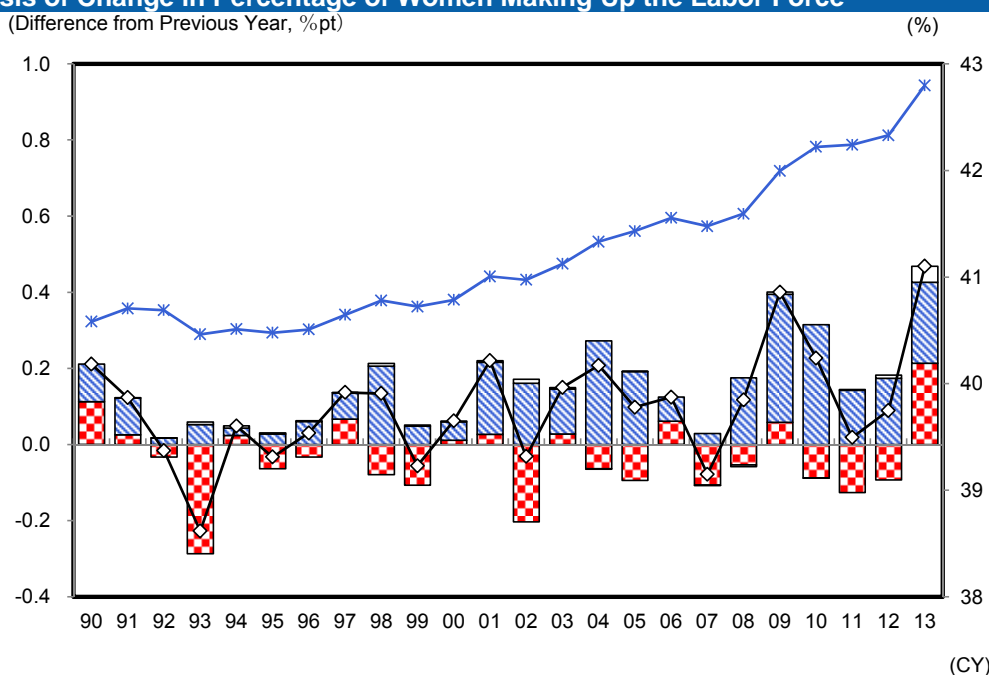
The percentage of women making up the total working population continues to grow along with the growth in women's labor force participation rate. In Chart 34, change in the percentage of women making up the work force is shown along with a factor analysis of the extent of that change. As can be seen in this chart, the percentage of women making up the work force (total employees) has been growing continuously. Furthermore, we can see that the major factor behind this growth has been industrial structure.

The percentage of women making up the work force appears to be the same for the most part in each of the various individual industries. However, another interesting fact is that those industries in which the percentage of women making up the work force is especially high tend to have a higher growth rate than those which have a lower percentage. Moreover, industries in which the percentage of women making up the work force is especially high also have a higher growth rate in the total number of employees, resulting in the fact that, overall, the number of women employees is growing.

Looking at this from the other way around, the growth in women’s presence in the labor market is due mainly to changes in industrial structure. However, this can also be interpreted as meaning that on the level of individual corporations and industries, there is actually not much progress in aggressively recruiting women.

Since men’s labor force population is expected to decline in the future, Japan’s economic situation will continue to grow dim as the shortage in manpower becomes more serious, unless women’s labor force is activated. In order to ensure that Japan can unquestionably achieve economic growth, it is essential to actively promote women’s contribution in the work force. The Abe administration has given a central place in its policy to actively promoting women’s contribution in the work force and speeding up women’s social advancement. However, it is also important to create an environment that would make it easier not only for government, but for private corporations to move aggressively to recruit more women. Decisive action is required in this area. Both the public and private sectors should make it urgent business to carry out the reforms necessary to speed women’s full and active participation the workplace and society.

Factor Analysis of Change in Percentage of Women Making Up the Labor Force **Chart 34**



Source: Ministry of Internal Affairs and Communications; compiled by DIR.
 Note: Where P is the percentage of women making up the labor force, w_i is the the number of employees in industry i , and p_i is the percentage of women making up the workforce, the following expression is possible.

$$P = \sum_i w_i \times p_i \quad \Delta P = \sum_i \Delta w_i \times p_i + \sum_i w_i \times \Delta p_i$$

Here, the first term on the right is the factor of industrial structure, while the second term on the right is the factor of women's ratio of participation in the labor force.

4. Four Risk Factors Facing Japan's Economy

In this section, we examine four risks facing Japan's economy. Risks that will need to be kept in mind regarding the Japanese economy are: (1) turbulence in emerging economies, (2) China's shadow banking problem, (3) a reigniting of the European sovereign debt crisis, and (4) a surge in crude oil prices stemming from geopolitical risk. It is worth noting that the first is closely related to the second and third. Of these four risks, it is worth underscoring that the first and the second are of crucial importance, and we will analyze them more closely in the paragraphs below.

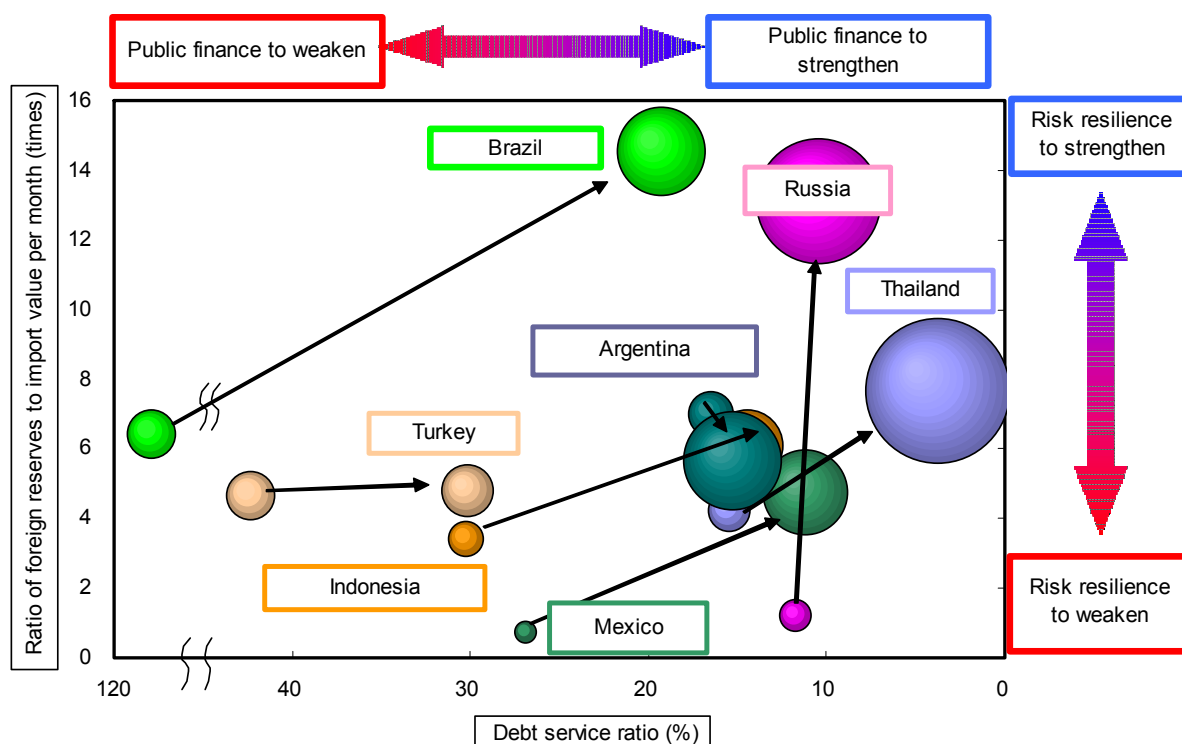
4.1 Risk (1): Turbulence in emerging economies

First, to examine turbulence in emerging economies, we analyze the world economic cycle. In the past, advanced economies led by the US drove emerging economies. However, a decoupling is currently occurring—advanced economies are performing well but emerging economies are stagnating. We believe that this decoupling is occurring for three reasons: (1) the dwindling amount of loans from European financial institutions to emerging economies in light of the European debt crisis, (2) the sluggishness of the Chinese economy, and (3) concerns that money will be taken out of emerging economies based on worries that the FRB will adopt a hasty exit from quantitative easing. We anticipate that a further deterioration of emerging economies will be avoided as the US economy continues to expand. Nevertheless, we think the state and the future direction of the Chinese economy will continue to require close monitoring.

Possibility of a serious crisis in emerging economies is limited

We believe there is a limited possibility that emerging economies will experience a serious crisis similar to the Asian currency crisis in 1997. Chart 35 depicts changes in risk resilience of emerging market nations from the year each nation experienced a financial crisis. Learning from past financial crises, these nations have amassed huge foreign currency reserves. Not only has the absolute size of such reserves increased, but the size of foreign currency reserves relative to goods and services imports (vertical axis) and that relative to short-term foreign debt (the sizes of circles) have also improved for most nations. Moreover, the debt service ratio, defined as debt service payments for external debt as a percentage share of good and service exports, a leading indicator used to determine country risk, has fallen for the most part (conditions have improved) since the financial crisis.

As far as we can see from this chart, the possibilities of turmoil occurring in the world financial markets after January 2014 are rather slim. The ignition point for the last crisis was Argentina, but it seems to be an exception. Looking at the emerging nations overall, we see steady improvement in the fundamentals.



Source: Haver Analytics; compiled by DIR.

Notes: 1) Arrows denote shift of positions at critical moments to 2012.

2) Year of crises defined as 1994 for Mexico, 1997 for Thailand and Indonesia, 1998 for Russia, 1999 for Brazil, 2001 for Turkey, and 2002 for Argentina.

3) Size of circles shows ratio of foreign reserves to foreign debt with less than one-year maturity. The larger the circle, the greater the resilience.

Will the US exit strategy benefit the Japanese economy?

In this section we contemplate how the global financial markets have been evaluating the US exit strategy since 2013.

We believe that the US exit strategy will hold many beneficial points for the Japanese economy. Possibilities are good that US the long-term interest rate will rise gradually in a mirroring of the recovery in the actual economy. Chart 36 shows changes in the US long-term interest rate and TOPIX. Movements of these two indices have fairly close linkage.

The question is why are the US long-term interest rate and Japanese stocks so closely linked?

The first reason is that the difference between US and Japan interest rates widens the more the US long-term interest rate rises, and this becomes a factor in the current weak yen/strong dollar relationship. As yen depreciation progresses, the amount of exports that Japan's corporations can achieve grows.

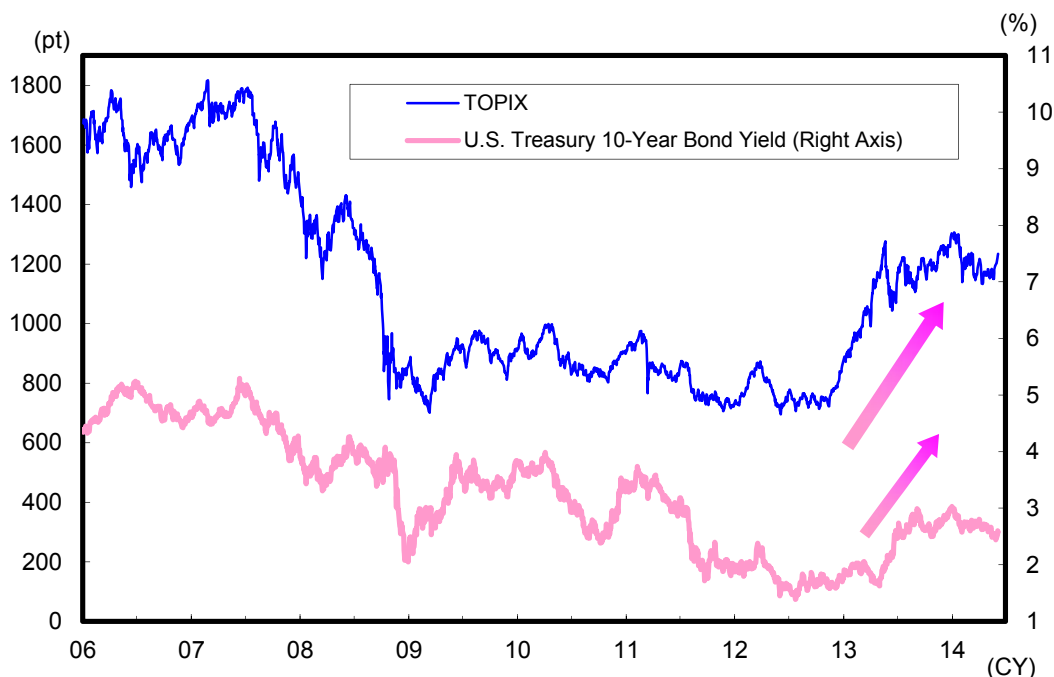
The second reason is that when the US long-term interest rate is tending upwards, it is usually because the US economy is strong. A favorable US economy provides fundamental support for Japan's overall exports.

Finally, if the FRB gives its official stamp to the recovery of the actual US economy, allowing for the moving ahead of a serious exit strategy, this will provide more confidence in the economy. FRB chair Janet Yellen recently announced that she would gradually move forward with an exit strategy while

carefully observing the recovery in the actual economy. In conclusion, we believe that any risk of the FRB's exit strategy being too fast, hence leading to major confusion in the international markets, especially emerging nations, is extremely limited.

TOPIX and U.S. Treasury 10-Year Bond Yield

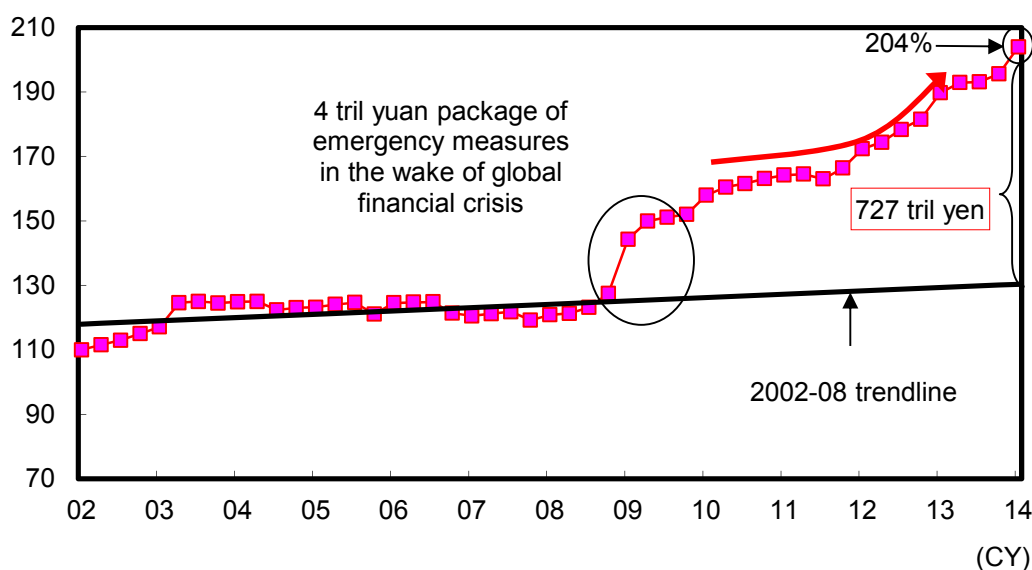
Chart 36



Source: Tokyo Stock Exchange and FRB; compiled by DIR.

4.2 Risk (2): China's shadow banking problem

Excessive lending has become a problem in China in the wake of its response to the global financial crisis in 2008. Chart 37 provides an estimate of total social financing in China as a proportion of China's GDP. Such financing jumped from its long-term trend in 2009 and has continued to expand, reaching 204% of nominal GDP at the end of March 2014. Comparing current levels to the long-term trend, we estimate excessive lending in China to be around Y727 trillion. Should part of these assets become non-performing, this could cause major turbulence in China and global financial markets. Risk scenarios that should be kept in mind include (1) China drawing down its foreign currency reserves (around \$3.5 tril) to deal with non-performing debt, causing long-term interest rates to surge in the US, and (2) the yen appreciating from a global flight to quality.



Source: People's Bank of China, National Bureau of Statistics of China; compiled by DIR.

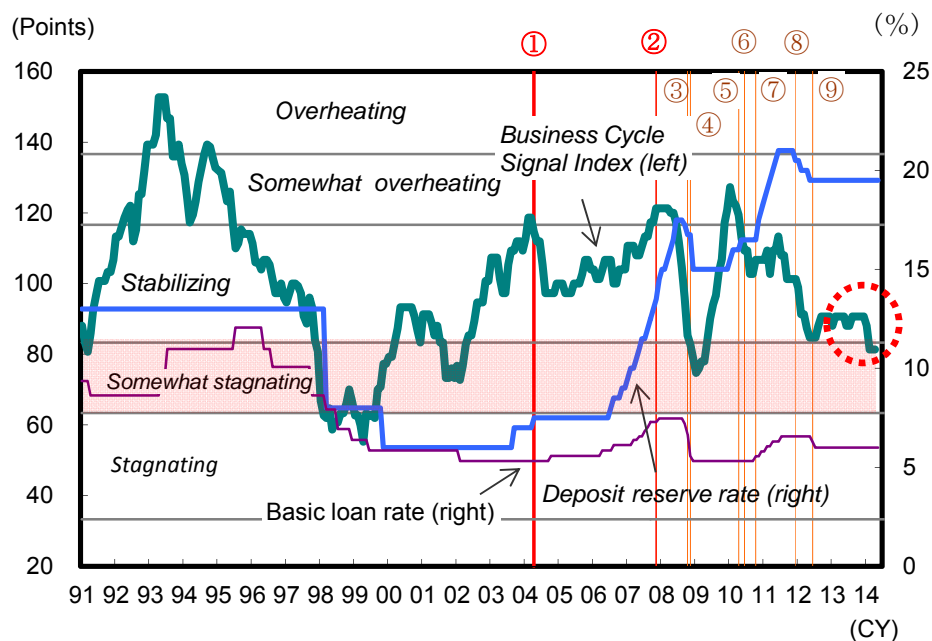
Assumption: Outstanding balance of total social financing as of end-Mar 2002 to be 1.1 times bank lending.

How will the world economy be affected by the collapse of China's debt bubble?

We believe that the impact on the world economy of the collapse of China's debt bubble should not be excessively overstated. Chart 38 presents the Business Cycle Signal Index for China. According to this index, we can confirm that China's economy has slowed significantly. After peaking at 123.3 in February 2010, the index has fallen to the lower bound of the zone signaling stability, between 83.33 and 116.66. Similar to previous instances when the economy has slowed to this extent, the likelihood is high that authorities will respond with some form of a stimulus measure and that the collapse of China's economy will be avoided one way or another.

Key phrases are "socialist market economy," "collective leadership," and "gradualism"

China being a socialist market economy rather than a pure capitalist economy may also be a factor supporting the economy for the time being. During the change in political leadership that occurs once a decade, it is natural for leaders to want to circumvent a rapid deceleration of the economy as much as possible. Politically speaking, collective leadership and a policy of gradualism could also be factors that preclude a short-term relapse of the Chinese economy. In fact, there are growing views that the lower limit for the growth rate of real GDP in China is currently around 7% based on comments such as those recently made by Premier Li Keqiang.



Source: National Bureau of Statistics of China, People's Bank of China, CEIC Data; compiled by DIR.

1. Apr 2004: Restrictions on aggregate loans strengthened
2. Oct 2007: Restrictions on aggregate loans strengthened
3. Oct 2008: Restrictions on aggregate loans eased
4. Nov 2008: Stimulus package of 4 tril yuan announced
5. Apr 2010: Real estate regulations strengthened
6. Jun 2010: More flexible regime for control of yuan exchange rate
7. Oct 2010-Jul 2011: Period of loan rate hikes
8. From Dec 2011: A series of deposit reserve rate lowering moves began
9. From Jun 2012: A series of loan rate cuts began

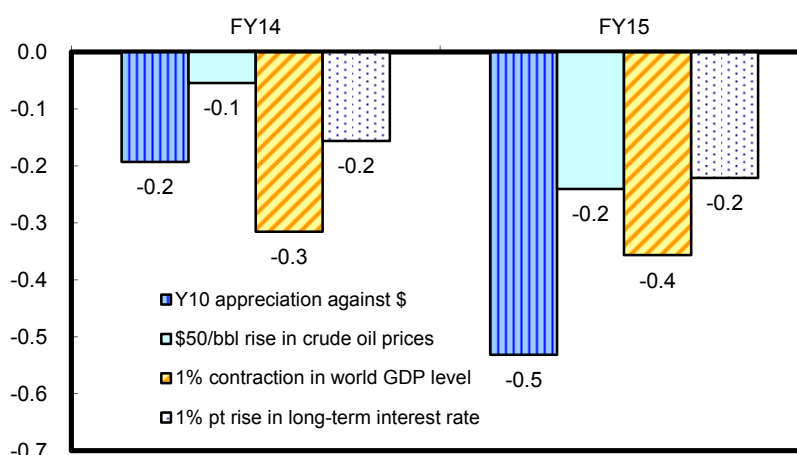
5. Supplement: Alternative scenarios

Here, we estimate likely economic effects from changes in our assumptions. The assumptions and effects of alternative scenarios are shown in the two charts below. We assumed alternative scenarios might emerge from Jul-Sep 2014.

Standard and Alternate Scenario Assumptions		
	Standard scenario	Alternate scenario (in each quarter in both years)
Case 1: Forex rate	Y100.5/\$ in FY14 and Y100.0/\$ in FY15	Y10 appreciation against \$
Case 2: Crude oil prices (WTI futures)	\$100.0/bbl in both FY14 and FY15	\$50/bbl rise
Case 3: World GDP	+3.4% y/y in CY14 and +3.9% y/y in CY15	1% contraction in world GDP level
Case 4: Long-term interest rate	0.67% in FY14 and 0.84% in FY15	1% pt rise

Source: Compiled by DIR.

Effects on Real GDP (% change from standard scenario) Chart 39



Source: Compiled by DIR.

5.1 Yen appreciation

Appreciation of the yen could result in a decline in exports via weakened price competitiveness, which in turn would curb the production of export industries (electrical machinery, transportation equipment) and operations of related non-manufacturing industries (transportation, electric utilities, commerce), resulting in lower sales and profits, reducing cash flow, and depressing the expected economic growth rate. Thus, capex would be restricted. Meanwhile, lower import prices (reflecting a stronger yen) would reduce general domestic prices, meaning lower prices of corporate and consumer goods. Thus, although the real purchasing power of households would increase, a stronger yen could adversely affect consumption because the decline in corporate profits could impact households through deterioration in the employment and income environment. However, considering the long time lag before effects on consumption are felt, the likely impact within our simulation period would be minimal. If the yen appreciates as indicated in our alternative scenario, real GDP level is forecast to shrink 0.2% and 0.5% in FY14 and FY15, respectively, compared to our standard scenario.

5.2 Surge in crude oil prices

If crude oil prices rise by \$50/bbl above our standard scenario, real GDP level is forecast to shrink 0.1% and 0.2% in FY14 and FY15, respectively, compared to our standard scenario.

Higher crude oil prices would increase the import deflator, which would increase nominal import value, a drag on net export value. This would lower nominal GDP. At the same time, higher oil prices would increase energy prices and push up the prices of final goods through higher material prices. This would lower the real purchasing power of the household sector and depress personal spending.

Higher material costs would lower corporate profits, leading to a slowdown in capex. Weakened business sentiment would negatively affect capex the following year. Meanwhile, lower corporate profits would worsen employment and income conditions, dampening consumer sentiment. This would also depress personal spending.

5.3 Contraction of world GDP

If world demand (GDP) contracts 1% from our standard scenario, Japan's real GDP level would shrink 0.3% and 0.4% in FY14 and FY15, respectively, compared to our standard scenario.

A slowdown in world demand would reduce exports from Japan, and the lower sales of the manufacturing sector would worsen corporate profits. Also, the decline of production activities in the manufacturing sector would spread to the non-manufacturing sector and would broadly undermine corporate profits. In addition to the decrease in corporate profits, capex would diminish due to a lower capacity utilization rate stemming from the waning of industrial production and due to the growing sentiment of excess capacity. Moreover, the decrease in corporate profits would place downward pressure on wages, and demand in the household sector in the form of personal consumption and housing investment would falter with a lag. Should such a situation arise, imports would also contract from the decrease in domestic demand.

5.4 Higher interest rates

If long-term interest rates rise 1 point above our standard scenario, real GDP level would contract 0.2% and 0.2% in FY14 and FY15, respectively, compared to our standard scenario. Increased fund-raising costs due to higher interest rates would curb capex and housing investment. Such an adverse impact would accelerate once it took hold.

The direct impact on companies and households would depend on the amount of net interest-bearing liabilities. In the case of households, interest-bearing assets have exceeded interest-bearing liabilities. Earned income will suffer a decline due to the slowing of investment, but this will be offset by an increase in income from property. Therefore we believe the effect on personal consumption will be minor.

As in the other cases, we did not allow for changes in the external environment when estimating the impact of higher interest rates. Interest rates do not usually rise independently, but increase in response to economic recovery or a shift to a positive economic outlook. In such instances, the expected rate of inflation also increases, which restricts the rise of real interest rates. As a result, the marginal return on investment (difference between return on investment and real interest rates) remains unchanged, which is not particularly negative for capex. It is therefore possible that our simulation overemphasizes the adverse effects of higher interest rates.

However, increases in long-term interest rates due to worsening of the fiscal balance (owing to economic stimulus measures and other fiscal commitments to spending) translate into crowding out of capex and housing investment. Thus, the impact of higher interest rates on the economy would likely be similar to that of our simulation.

Simulation Results

Chart 40

	Standard Scenario		Case 1		Case 2	
	FY14	FY15	Y10 appreciation against \$		\$50/bbl rise in crude oil prices	
			FY14	FY15	FY14	FY15
Nominal GDP (Y/y %)	2.6	2.5	2.1 (-0.5)	2.2 (-0.8)	2.4 (-0.2)	2.4 (-0.3)
Real GDP (Chained [2005]; y/y %)	1.0	1.5	0.8 (-0.2)	1.1 (-0.5)	0.9 (-0.1)	1.3 (-0.2)
GDP deflator (Y/y %)	1.6	1.0	1.3 (-0.3)	1.0 (-0.3)	1.5 (-0.2)	1.1 (-0.1)
All-industry Activity Index (Y/y %)	0.1	2.0	-0.3 (-0.4)	1.8 (-0.6)	0.2 (0.1)	1.9 (-0.0)
Industrial Production Index (Y/y %)	4.1	6.2	2.7 (-1.4)	5.5 (-2.0)	4.1 (-0.0)	5.8 (-0.4)
Tertiary Industry Activity Index (Y/y %)	-0.6	1.0	-0.9 (-0.3)	0.8 (-0.4)	-0.5 (0.1)	1.0 (0.1)
Corporate Goods Price Index (Y/y %)	3.4	2.0	2.4 (-1.0)	1.6 (-1.3)	4.2 (0.7)	2.2 (0.9)
Consumer Price Index (Y/y %)	2.9	1.7	2.8 (-0.2)	1.6 (-0.3)	3.1 (0.1)	1.7 (0.2)
Unemployment rate (%)	3.6	3.5	3.6 (0.0)	3.5 (0.0)	3.6 (0.0)	3.5 (0.1)
Trade balance (Y tril)	-12.4	-10.8	-11.9 (0.5)	-10.1 (0.7)	-14.0 (-1.6)	-12.6 (-1.8)
Current balance (US\$100 mil)	6	337	195 (189)	314 (-23)	-56 (-62)	270 (-67)
Current balance (Y tril)	0.1	3.4	1.7 (1.6)	3.2 (-0.2)	-0.6 (-0.6)	2.7 (-0.7)
Real GDP components (Chained [2005]; y/y %)						
Private consumption	-0.4	1.1	-0.4 (-0.0)	1.0 (-0.1)	-0.4 (-0.1)	1.1 (-0.0)
Private housing investment	-1.1	-1.4	-1.3 (-0.2)	-1.7 (-0.5)	-1.2 (-0.0)	-1.6 (-0.3)
Private non-housing investment	6.6	4.9	5.8 (-0.8)	4.1 (-1.5)	6.6 (0.0)	3.5 (-1.3)
Government final consumption	1.1	1.0	1.2 (0.1)	1.1 (0.2)	1.1 (-0.0)	0.9 (-0.1)
Public fixed investment	-3.6	-11.4	-3.1 (0.5)	-11.2 (0.7)	-3.9 (-0.4)	-11.5 (-0.5)
Exports of goods and services	7.9	7.8	7.5 (-0.4)	7.2 (-1.0)	7.8 (-0.1)	7.4 (-0.5)
Imports of goods and services	6.1	4.9	5.8 (-0.3)	5.5 (0.4)	5.9 (-0.2)	4.1 (-1.0)

	Case 3		Case 4		(Reference) Y5 depreciation and \$50/bbl rise in crude oil prices	
	1% contraction of World GDP		1% pt rise in 10-yr JGB yield		FY14	FY15
	FY14	FY15	FY14	FY15	FY14	FY15
Nominal GDP (Y/y %)	2.3 (-0.3)	2.5 (-0.4)	2.4 (-0.2)	2.5 (-0.2)	2.6 (0.0)	2.6 (0.1)
Real GDP (Chained [2005]; y/y %)	0.7 (-0.3)	1.4 (-0.4)	0.8 (-0.2)	1.4 (-0.2)	1.0 (0.0)	1.5 (0.0)
GDP deflator (Y/y %)	1.6 (-0.0)	1.0 (-0.0)	1.6 (0.0)	1.0 (-0.0)	1.6 (-0.0)	1.1 (0.1)
All-industry Activity Index (Y/y %)	-0.1 (-0.2)	2.0 (-0.2)	0.0 (-0.1)	2.0 (-0.1)	0.4 (0.3)	2.1 (0.3)
Industrial Production Index (Y/y %)	3.2 (-0.9)	6.2 (-0.9)	3.9 (-0.3)	6.0 (-0.4)	4.8 (0.7)	6.1 (0.6)
Tertiary Industry Activity Index (Y/y %)	-0.7 (-0.1)	1.0 (-0.1)	-0.6 (-0.1)	1.0 (-0.1)	-0.4 (0.2)	1.1 (0.3)
Corporate Goods Price Index (Y/y %)	3.4 (-0.0)	1.9 (-0.1)	3.4 (0.0)	1.9 (-0.0)	4.7 (1.2)	2.3 (1.6)
Consumer Price Index (Y/y %)	2.9 (-0.0)	1.7 (-0.0)	2.9 (0.0)	1.7 (-0.0)	3.2 (0.2)	1.8 (0.3)
Unemployment rate (%)	3.6 (-0.0)	3.5 (0.0)	3.6 (0.0)	3.5 (0.0)	3.6 (-0.0)	3.5 (0.1)
Trade balance (Y tril)	-12.8 (-0.4)	-11.1 (-0.3)	-12.2 (0.2)	-10.1 (0.7)	-14.2 (-1.8)	-12.9 (-2.1)
Current balance (US\$100 mil)	39 (33)	353 (15)	111 (105)	175 (-162)	-151 (-157)	282 (-55)
Current balance (Y tril)	0.4 (0.3)	3.5 (0.2)	1.1 (1.1)	1.7 (-1.6)	-1.4 (-1.4)	2.8 (-0.6)
Real GDP components (Chained [2005]; y/y %)						
Private consumption	-0.4 (-0.1)	1.1 (-0.0)	-0.4 (-0.0)	1.1 (-0.0)	-0.4 (-0.0)	1.1 (0.0)
Private housing investment	-1.2 (-0.1)	-1.6 (-0.4)	-1.7 (-0.5)	-1.5 (-0.7)	-1.1 (0.0)	-1.5 (-0.1)
Private non-housing investment	6.4 (-0.2)	4.6 (-0.5)	5.6 (-1.0)	4.3 (-1.6)	7.1 (0.4)	3.8 (-0.6)
Government final consumption	1.1 (0.0)	1.0 (0.0)	1.1 (0.0)	1.0 (0.0)	1.1 (-0.0)	0.8 (-0.2)
Public fixed investment	-3.6 (0.0)	-11.4 (0.1)	-3.6 (-0.0)	-11.4 (0.0)	-4.2 (-0.6)	-11.6 (-0.8)
Exports of goods and services	6.2 (-1.6)	7.9 (-1.6)	7.9 (-0.0)	7.8 (-0.0)	8.0 (0.1)	7.7 (-0.0)
Imports of goods and services	5.8 (-0.3)	4.9 (-0.3)	5.7 (-0.3)	4.6 (-0.6)	6.0 (-0.1)	3.7 (-1.1)

Source: Compiled by DIR.

Note: Figures in parentheses indicate changes from those under standard scenario. Due to rounding, they do not necessarily conform to calculations based on figures shown.

Quarterly Forecast Tables

1.1 Selected Economic Indicators

	2012			2013			2014		FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013
Nominal GDP (SAAR; Y tril)	474.9	470.3	471.0	474.5	478.6	479.5	480.5	486.5	472.6	481.7	473.8	478.2
Q/q %	-1.0	-1.0	0.2	0.8	0.9	0.2	0.2	1.2				
Q/q %, SAAR	-3.9	-3.9	0.6	3.1	3.5	0.8	0.8	5.1				
Y/y %	2.1	-1.0	-1.0	-1.0	0.7	1.9	2.1	3.0	-0.2	1.9	0.5	0.9
Real GDP (chained [2005]; SAAR; Y tril)	518.7	514.7	515.0	521.2	525.8	527.4	527.9	535.5	517.5	529.4	517.4	525.5
Q/q %	-0.6	-0.8	0.1	1.2	0.9	0.3	0.1	1.5				
Q/q %, SAAR	-2.2	-3.0	0.2	4.9	3.5	1.3	0.3	5.9				
Y/y %	3.2	-0.2	-0.3	0.1	1.3	2.4	2.5	3.0	0.7	2.3	1.4	1.6
Contribution to GDP growth (% pt)												
Domestic demand	-0.2	-0.2	0.2	0.8	0.7	0.8	0.6	1.7	1.4	2.8	2.3	1.9
Foreign demand	-0.3	-0.6	-0.1	0.4	0.1	-0.5	-0.6	-0.3	-0.8	-0.5	-0.9	-0.3
GDP deflator (y/y %)	-1.1	-0.7	-0.7	-1.0	-0.6	-0.4	-0.4	0.0	-0.9	-0.4	-0.9	-0.6
Index of All-Industry Activity (2005=100)	96.6	96.2	96.1	96.5	97.1	97.6	97.9	99.5	96.2	98.0	96.5	97.3
Q/q %; y/y %	-0.2	-0.4	-0.0	0.4	0.6	0.5	0.3	1.6	0.2	1.9	1.2	0.8
Index of Industrial Production (2010=100)	99.1	95.9	94.1	94.6	96.1	97.8	99.6	102.5	95.8	98.9	97.8	97.0
Q/q %; y/y %	-2.1	-3.3	-1.8	0.5	1.6	1.7	1.8	3.0	-3.0	3.2	0.6	-0.8
Index of Tertiary Industry Activity (2005=100)	99.0	99.0	99.3	99.8	100.1	100.2	100.0	101.7	99.2	100.5	99.3	100.0
Q/q %; y/y %	0.0	0.0	0.3	0.5	0.4	0.0	-0.2	1.7	0.8	1.3	1.4	0.7
Corporate Goods Price Index components (2010=100)												
Domestic Company Goods Price Index	100.9	100.2	100.1	100.9	101.6	102.4	102.6	102.8	100.5	102.4	100.6	101.9
Y/y %	-1.0	-1.9	-1.0	-0.3	0.6	2.2	2.5	1.9	-1.0	1.8	-0.9	1.3
CPI (excl. fresh food; 2010=100)	99.9	99.6	99.6	99.3	99.9	100.3	100.7	100.6	99.6	100.4	99.7	100.1
Y/y %	-0.0	-0.2	-0.1	-0.3	0.0	0.7	1.1	1.3	-0.2	0.8	-0.1	0.4
Unemployment rate (%)	4.4	4.3	4.2	4.2	4.0	4.0	3.9	3.6	4.3	3.9	4.3	4.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Government bond yield (10 year; %)	0.85	0.78	0.76	0.66	0.77	0.73	0.64	0.61	0.56	0.64	0.80	0.74
Money stock; M2 (y/y %)	2.4	2.4	2.3	2.9	3.5	3.8	4.2	4.0	2.5	3.9	2.5	3.6
Trade balance (SAAR; Y tril)	-3.8	-5.3	-4.1	-7.8	-6.7	-9.3	-11.2	-15.2	-5.2	-10.9	-4.3	-8.8
Current balance (SAAR; \$100 mil)	574	397	685	400	747	229	0	-546	508	79	587	331
Current balance (SAAR; Y tril)	4.6	3.1	5.6	3.7	7.4	2.3	0.0	-5.6	4.2	0.8	4.7	3.2
(% of nominal GDP)	1.0	0.7	1.2	0.8	1.5	0.5	0.0	-1.2	0.9	0.2	1.1	0.7
Exchange rate (Y/\$)	80.1	78.6	81.2	92.3	98.8	98.9	100.4	102.8	83.1	100.2	79.8	97.6
(Y/Euro)	101.2	98.2	108.2	122.0	129.6	130.7	139.9	140.3	120.7	141.7	114.7	145.1

Source: Compiled by DIR.

Notes: 1) Quarterly figures (excl. y/y %) seasonally adjusted, other unadjusted.

2) Index of All-Industry Activity Index: excl. agriculture, forestry, and fisheries.

3) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

1.2 Selected Economic Indicators

	2014			2015			2016		FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)
Nominal GDP (SAAR; Y tril)	488.8	492.4	495.8	499.1	502.0	506.9	506.9	510.0	494.3	506.8	491.4	504.0
Q/q %	0.5	0.7	0.7	0.7	0.6	1.0	0.0	0.6				
Q/q %, SAAR	1.9	3.0	2.7	2.7	2.3	4.0	0.0	2.4				
Y/y %	2.2	2.7	3.1	2.4	2.7	2.9	2.3	2.3	2.6	2.5	2.8	2.6
Real GDP (chained [2005]; SAAR; Y tril)	529.8	533.1	535.9	538.6	541.2	545.9	539.9	542.4	534.6	542.5	534.0	541.5
Q/q %	-1.1	0.6	0.5	0.5	0.5	0.9	-1.1	0.5				
Q/q %, SAAR	-4.2	2.5	2.1	2.1	1.9	3.6	-4.4	1.9				
Y/y %	0.8	1.1	1.5	0.5	2.1	2.4	0.8	0.8	1.0	1.5	1.6	1.4
Contribution to GDP growth (% pt)												
Domestic demand	-1.7	0.5	0.4	0.3	0.4	0.9	-1.5	0.2	0.7	0.9	2.1	0.9
Foreign demand	0.6	0.1	0.2	0.1	-0.0	-0.1	0.3	0.2	0.4	0.6	-0.5	0.5
GDP deflator (y/y %)	1.4	1.6	1.6	1.9	0.5	0.5	1.5	1.5	1.6	1.0	1.1	1.1
Index of All-Industry Activity (2005=100)	97.3	98.0	98.4	98.9	99.6	101.1	99.6	100.2	98.1	100.1	98.3	99.8
Q/q %; y/y %	-2.1	0.6	0.4	0.5	0.7	1.4	-1.5	0.6	0.1	2.0	1.0	1.5
Index of Industrial Production (2010=100)	101.1	102.2	103.7	105.4	107.6	110.2	109.2	111.0	103.0	109.4	102.4	108.1
Q/q %; y/y %	-1.4	1.1	1.4	1.7	2.0	2.4	-0.9	1.7	4.1	6.2	5.5	5.6
Index of Tertiary Industry Activity (2005=100)	99.4	99.9	100.1	100.3	100.7	101.9	100.3	100.7	99.9	100.9	100.2	100.8
Q/q %; y/y %	-2.3	0.5	0.2	0.2	0.4	1.2	-1.6	0.4	-0.6	1.0	0.2	0.6
Corporate Goods Price Index components (2010=100)												
Domestic Company Goods Price Index	105.5	105.7	106.0	106.2	106.5	106.9	108.9	109.3	105.8	107.9	105.0	107.1
Y/y %	3.9	3.2	3.3	3.3	1.0	1.1	2.8	2.9	3.4	2.0	3.1	2.0
CPI (excl. fresh food; 2010=100)	103.1	103.3	103.5	103.4	103.9	104.3	106.1	106.0	103.3	105.1	102.6	104.4
Y/y %	3.1	2.9	2.9	2.9	0.9	1.0	2.5	2.5	2.9	1.7	2.6	1.8
Unemployment rate (%)	3.6	3.6	3.6	3.6	3.5	3.5	3.5	3.4	3.6	3.5	3.6	3.5
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Government bond yield (10 year; %)	0.62	0.65	0.68	0.72	0.76	0.81	0.87	0.92	0.67	0.84	0.64	0.79
Money stock; M2 (y/y %)	3.9	4.0	4.1	4.1	4.2	4.3	4.3	4.3	4.0	4.3	4.0	4.2
Trade balance (SAAR; Y tril)	-13.2	-12.8	-12.1	-11.5	-11.4	-11.9	-10.4	-9.5	-12.4	-10.8	-13.3	-11
Current balance (SAAR; \$100 mil)	-191	-57	81	191	225	191	399	534	6	337	-178	252
Current balance (SAAR; Y tril)	-2.0	-0.6	0.8	1.9	2.2	1.9	4.0	5.3	0.1	3.4	-1.8	2.5
(% of nominal GDP)	-0.4	-0.1	0.2	0.4	0.4	0.4	0.8	1.0	0.0	0.7	-0.4	0.5
Exchange rate (Y/\$)	102.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.5	100.0	101.2	100.0
(Y/Euro)	141.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.3	140.0	140.3	140.0

Source: Compiled by DIR.

Notes: 1) Quarterly figures (excl. y/y %) seasonally adjusted, other unadjusted.

2) Index of All-Industry Activity Index: excl. agriculture, forestry, and fisheries.

3) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

2.1 Real Gross Domestic Expenditure (chained [2005]; Y tril)

	2012			2013			2014			FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013	
Gross domestic expenditure	518.7	514.7	515.0	521.2	525.8	527.4	527.9	535.5	517.5	529.4	517.4	525.5	
Q/q %, SAAR	-2.2	-3.0	0.2	4.9	3.5	1.3	0.3	5.9					
Y/y %	3.2	-0.2	-0.3	0.1	1.3	2.4	2.5	3.0	0.7	2.3	1.4	1.6	
Domestic demand	509.0	507.8	508.8	512.6	516.3	520.2	523.4	532.3	509.6	523.5	508.8	518.1	
Q/q %, SAAR	-0.8	-0.9	0.8	3.1	2.9	3.1	2.5	7.0					
Y/y %	3.3	1.4	0.5	0.6	1.4	2.4	2.9	4.2	1.4	2.7	2.3	1.8	
Private demand	388.9	387.7	388.1	390.2	391.8	394.0	396.6	405.9	388.7	397.4	388.2	393.1	
Q/q %, SAAR	0.2	-1.2	0.4	2.2	1.7	2.2	2.6	9.8					
Y/y %	4.0	1.4	-0.0	0.5	0.8	1.6	2.1	4.4	1.4	2.2	2.4	1.2	
Final consumption	308.1	306.6	308.0	311.2	313.4	314.1	315.3	321.8	308.4	316.2	307.3	313.5	
Q/q %, SAAR	1.6	-1.9	1.8	4.2	2.9	0.9	1.5	8.5					
Y/y %	3.0	0.9	0.7	1.5	1.8	2.4	2.3	3.5	1.5	2.5	2.0	2.0	
Residential investment	13.2	13.5	13.8	14.0	14.1	14.6	15.2	15.7	13.6	14.9	13.3	14.5	
Q/q %, SAAR	13.1	7.5	9.9	7.2	3.2	13.9	18.2	12.9					
Y/y %	4.7	1.5	5.8	9.4	6.9	8.6	10.5	11.9	5.3	9.5	2.9	8.9	
Non-residential investment	69.9	68.8	68.5	67.2	67.9	68.4	69.3	72.7	68.5	69.7	69.2	68.1	
Q/q %, SAAR	2.5	-6.4	-1.5	-7.6	4.1	2.9	5.8	21.0					
Y/y %	8.4	3.8	-4.2	-3.3	-2.8	-0.8	1.1	8.4	0.8	1.7	3.7	-1.5	
Change in inventories	-2.3	-1.1	-2.2	-2.2	-3.6	-3.0	-3.3	-4.3	-1.9	-3.5	-1.5	-3.0	
Public demand	120.1	120.1	120.7	122.4	124.5	126.2	126.8	126.4	120.9	126.1	120.6	125.0	
Q/q %, SAAR	-3.8	0.1	2.1	5.8	6.9	5.8	1.9	-1.4					
Y/y %	1.1	1.3	2.4	0.9	3.5	5.0	5.5	3.4	1.4	4.3	1.9	3.7	
Government final consumption	99.6	100.1	100.8	101.7	102.3	102.6	102.8	103.0	100.6	102.7	100.2	102.4	
Q/q %, SAAR	-2.6	1.8	2.9	3.5	2.7	0.8	1.1	0.5					
Y/y %	1.3	1.5	2.0	1.4	2.8	2.5	2.0	1.2	1.5	2.1	1.7	2.2	
Fixed investment	20.5	20.0	19.9	20.8	22.2	23.7	24.0	23.4	20.3	23.4	20.4	22.7	
Q/q %, SAAR	-7.9	-9.3	-0.9	19.3	28.3	30.4	4.8	-9.4					
Y/y %	0.2	0.7	4.8	-0.7	8.2	19.0	20.8	11.9	1.3	15.3	2.8	11.4	
Change in inventories	-0.0	0.0	-0.0	-0.1	-0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	
Net exports of goods and services	10.6	7.5	6.4	8.9	10.0	7.7	5.3	5.3	8.4	7.1	9.1	8.0	
Exports of goods and services	84.2	80.9	78.4	81.7	84.1	83.6	83.9	89.0	81.3	85.2	82.0	83.4	
Q/q %, SAAR	-2.1	-15.1	-11.6	18.1	12.1	-2.6	1.8	26.3					
Y/y %	9.2	-4.8	-5.0	-3.3	0.0	3.2	7.0	8.9	-1.2	4.7	-0.1	1.7	
Imports of goods and services	73.6	73.4	72.0	72.8	74.1	75.9	78.7	83.7	72.9	78.1	72.9	75.4	
Q/q %, SAAR	5.9	-1.4	-7.3	4.6	7.3	10.1	15.5	27.7					
Y/y %	9.0	5.0	1.0	0.3	0.8	3.2	9.2	15.0	3.7	7.1	5.3	3.4	
Residual	-0.9	-0.5	-0.2	-0.3	-0.5	-0.5	-0.8	-2.1	-0.4	-1.1	-0.5	-0.6	

Source: Compiled by DIR.

Notes: 1) Subtotals by demand (domestic demand, private demand, and public demand) are simple aggregates of respective components, which differ from figures released by the government.

2) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

3) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

2.2 Real Gross Domestic Expenditure (chained [2005]; Y tril)

	2014			2015			2016		FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)
Gross domestic expenditure	529.8	533.1	535.9	538.6	541.2	545.9	539.9	542.4	534.6	542.5	534.0	541.5
Q/q %, SAAR	-4.2	2.5	2.1	2.1	1.9	3.6	-4.4	1.9				
Y/y %	0.8	1.1	1.5	0.5	2.1	2.4	0.8	0.8	1.0	1.5	1.6	1.4
Domestic demand	523.5	526.1	528.0	529.7	531.8	536.5	528.6	529.7	527.0	531.8	527.7	531.7
Q/q %, SAAR	-6.4	2.0	1.4	1.3	1.6	3.6	-5.8	0.9				
Y/y %	1.3	1.2	0.8	-0.5	1.6	2.0	-0.0	0.0	0.7	0.9	1.8	0.8
Private demand	397.2	399.6	401.4	403.4	406.3	411.6	403.9	405.1	400.5	406.9	401.1	406.3
Q/q %, SAAR	-8.4	2.4	1.8	2.1	2.9	5.3	-7.3	1.2				
Y/y %	1.3	1.4	1.1	-0.6	2.2	3.0	0.6	0.6	0.8	1.6	2.0	1.3
Final consumption	312.8	315.0	315.7	316.7	318.3	322.7	315.6	316.9	315.1	318.4	316.4	318.3
Q/q %, SAAR	-10.7	2.8	1.0	1.2	2.0	5.7	-8.5	1.7				
Y/y %	-0.2	0.3	0.1	-1.7	1.8	2.4	-0.0	0.1	-0.4	1.1	0.9	0.6
Residential investment	15.0	14.5	14.7	14.9	15.2	15.4	14.2	13.3	14.7	14.5	14.9	14.9
Q/q %, SAAR	-17.5	-11.5	4.9	5.3	9.1	6.1	-27.7	-22.6				
Y/y %	5.9	-0.7	-3.5	-5.2	1.6	6.4	-3.1	-10.3	-1.1	-1.4	3.0	-0.2
Non-residential investment	73.1	73.7	74.6	75.6	76.7	77.8	78.1	78.9	74.3	77.9	73.5	77.0
Q/q %, SAAR	2.0	3.6	4.9	5.6	5.7	6.0	1.6	4.1				
Y/y %	7.6	8.0	7.7	4.0	5.0	5.5	4.7	4.4	6.6	4.9	7.9	4.8
Change in inventories	-3.7	-3.7	-3.7	-3.8	-3.9	-4.4	-4.1	-4.1	-3.6	-4.0	-3.7	-4.0
Public demand	126.4	126.6	126.6	126.3	125.5	124.9	124.7	124.6	126.5	124.9	126.5	125.4
Q/q %, SAAR	-0.0	0.6	0.1	-1.0	-2.5	-1.9	-0.8	-0.1				
Y/y %	1.4	0.3	-0.4	-0.2	-0.3	-1.2	-1.8	-1.6	0.3	-1.2	1.2	-0.9
Government final consumption	103.3	103.6	104.0	104.3	104.5	104.7	104.9	105.1	103.8	104.8	103.5	104.6
Q/q %, SAAR	1.4	1.3	1.2	1.2	0.8	0.8	0.8	0.8				
Y/y %	0.9	1.1	1.1	1.3	1.1	1.0	0.9	0.8	1.1	1.0	1.1	1.1
Fixed investment	23.0	22.9	22.6	22.0	21.0	20.2	19.7	19.5	22.6	20.0	23.0	20.7
Q/q %, SAAR	-5.9	-2.5	-5.0	-10.7	-16.9	-14.6	-8.6	-4.8				
Y/y %	4.0	-3.6	-5.9	-5.9	-9.0	-11.8	-12.7	-11.4	-3.6	-11.4	1.4	-9.7
Change in inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net exports of goods and services	7.8	8.5	9.4	10.4	10.9	10.9	12.8	14.1	9.0	12.2	7.8	11.3
Exports of goods and services	89.9	91.1	92.4	94.1	96.0	98.0	100.0	102.2	91.9	99.1	90.6	97.0
Q/q %, SAAR	4.1	5.3	6.1	7.4	8.2	8.7	8.7	9.1				
Y/y %	6.8	9.0	10.1	5.7	6.8	7.6	8.2	8.7	7.9	7.8	8.7	7.1
Imports of goods and services	82.1	82.6	83.0	83.7	85.1	87.1	87.2	88.1	82.8	86.9	82.8	85.8
Q/q %, SAAR	-7.2	2.4	2.0	3.2	7.0	9.5	0.8	4.1				
Y/y %	10.7	8.9	5.5	-0.0	3.7	5.3	5.1	5.3	6.1	4.9	9.9	3.5
Residual	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.4	-1.4	-1.5	-1.5

Source: Compiled by DIR.

Notes: 1) Subtotals by demand (domestic demand, private demand, and public demand) are simple aggregates of respective components, which differ from figures released by the government.

2) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

3) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

3.1 Nominal Gross Domestic Expenditure (¥ tril)

	2012			2013			2014		FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013
Gross domestic expenditure	474.9	470.3	471.0	474.5	478.6	479.5	480.5	486.5	472.6	481.7	473.8	478.2
Q/q %, SAAR	-3.9	-3.9	0.6	3.1	3.5	0.8	0.8	5.1				
Y/y %	2.1	-1.0	-1.0	-1.0	0.7	1.9	2.1	3.0	-0.2	1.9	0.5	0.9
Domestic demand	483.6	480.4	481.9	486.1	489.1	493.9	498.6	507.5	483.0	497.7	483.2	491.8
Q/q %, SAAR	-3.0	-2.6	1.3	3.5	2.5	4.0	3.9	7.3				
Y/y %	2.4	0.4	-0.1	-0.2	1.1	2.7	3.5	4.9	0.6	3.0	1.6	1.8
Private demand	366.4	363.0	364.1	366.1	367.5	370.3	374.6	383.4	364.8	374.2	365.1	369.5
Q/q %, SAAR	-1.3	-3.7	1.2	2.2	1.5	3.1	4.7	9.8				
Y/y %	3.3	0.4	-0.6	-0.3	0.3	2.0	2.8	5.2	0.6	2.6	1.7	1.2
Final consumption	288.9	285.6	287.6	290.3	291.9	293.3	295.6	301.7	288.1	295.7	287.7	292.8
Q/q %, SAAR	-0.4	-4.5	2.8	3.8	2.2	1.9	3.2	8.5				
Y/y %	2.2	-0.3	-0.0	0.5	1.1	2.6	2.8	4.1	0.6	2.7	1.2	1.8
Residential investment	13.6	13.8	14.2	14.6	14.8	15.4	16.2	16.8	14.0	15.8	13.7	15.3
Q/q %, SAAR	11.6	6.3	11.5	10.2	8.4	17.2	21.6	14.1				
Y/y %	3.8	0.2	5.4	9.9	9.1	11.8	14.2	15.2	4.7	12.7	2.2	11.4
Non-residential investment	66.2	64.8	64.6	63.4	64.4	65.0	66.1	69.1	64.7	66.3	65.3	64.7
Q/q %, SAAR	3.3	-8.3	-1.1	-7.1	6.4	4.0	7.0	19.2				
Y/y %	8.4	3.2	-4.5	-3.3	-2.5	0.2	2.3	9.1	0.5	2.6	3.4	-0.9
Change in inventories	-2.3	-1.2	-2.3	-2.2	-3.7	-3.4	-3.4	-4.1	-1.9	-3.6	-1.6	-3.2
Public demand	117.2	117.4	117.9	120.0	121.6	123.6	124.0	124.0	118.1	123.5	118.0	122.3
Q/q %, SAAR	-8.0	0.9	1.4	7.5	5.6	6.5	1.5	0.0				
Y/y %	-0.2	0.5	1.3	0.4	3.5	5.3	5.4	3.8	0.5	4.5	1.1	3.6
Government final consumption	96.1	96.8	97.3	98.5	98.6	98.8	98.6	99.2	97.1	98.8	96.9	98.6
Q/q %, SAAR	-7.4	3.1	2.0	5.1	0.3	0.9	-0.5	2.3				
Y/y %	-0.2	0.7	0.7	0.8	2.6	2.1	1.2	0.9	0.5	1.7	0.9	1.7
Fixed investment	21.1	20.6	20.6	21.7	23.1	24.8	25.3	24.8	21.0	24.6	21.1	23.7
Q/q %, SAAR	-9.6	-9.5	0.3	21.5	29.0	34.0	8.2	-8.7				
Y/y %	0.1	-0.1	4.6	-0.5	9.0	20.9	23.4	14.0	1.1	17.2	2.6	12.8
Change in inventories	-0.0	0.0	-0.0	-0.1	0.0	-0.0	0.0	0.1	-0.0	0.0	0.0	-0.0
Net exports of goods and services	-8.7	-10.2	-11.0	-11.5	-10.5	-14.3	-18.1	-20.9	-10.3	-16.0	-9.4	-13.6
Exports of goods and services	71.3	68.3	67.7	74.2	77.9	78.4	79.7	83.7	70.4	79.9	69.8	77.6
Q/q %, SAAR	-2.5	-15.8	-3.4	44.1	21.2	2.6	6.7	22.0				
Y/y %	5.7	-7.6	-4.2	3.8	9.0	14.6	17.8	12.8	-0.7	13.5	-2.1	11.2
Imports of goods and services	80.0	78.5	78.7	85.7	88.4	92.7	97.8	104.6	80.8	95.9	79.2	91.2
Q/q %, SAAR	3.3	-7.3	1.2	40.6	12.9	21.1	23.6	31.2				
Y/y %	7.2	1.2	1.5	8.2	10.3	17.9	24.5	22.1	4.5	18.7	4.7	15.2

Source: Compiled by DIR.

Notes: 1) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

3.2 Nominal Gross Domestic Expenditure (¥ tril)

	2014			2015			2016			FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)	
Gross domestic expenditure	488.8	492.4	495.8	499.1	502.0	506.9	506.9	510.0	494.3	506.8	491.4	504.0	
Q/q %, SAAR	1.9	3.0	2.7	2.7	2.3	4.0	0.0	2.4					
Y/y %	2.2	2.7	3.1	2.4	2.7	2.9	2.3	2.3	2.6	2.5	2.8	2.6	
Domestic demand	506.9	510.0	512.6	515.2	518.1	523.8	522.1	524.2	511.3	522.2	509.4	519.9	
Q/q %, SAAR	-0.4	2.5	2.0	2.0	2.3	4.4	-1.3	1.6					
Y/y %	3.5	3.3	2.7	1.5	2.2	2.8	1.7	1.8	2.7	2.1	3.6	2.0	
Private demand	381.7	384.4	386.9	389.6	393.3	399.4	397.4	399.4	385.8	397.5	384.2	394.9	
Q/q %, SAAR	-1.9	3.0	2.5	2.9	3.8	6.4	-2.0	2.0					
Y/y %	3.8	3.8	3.2	1.6	3.0	3.9	2.6	2.7	3.1	3.0	4.0	2.8	
Final consumption	299.4	301.9	303.0	304.4	306.6	311.7	310.0	311.9	302.2	310.1	301.6	308.3	
Q/q %, SAAR	-3.0	3.3	1.5	1.9	2.9	6.8	-2.1	2.5					
Y/y %	2.5	3.0	2.5	0.8	2.4	3.2	2.3	2.5	2.2	2.6	3.0	2.2	
Residential investment	16.2	15.7	15.9	16.2	16.6	16.9	15.7	14.8	16.0	16.0	16.2	16.3	
Q/q %, SAAR	-12.8	-11.1	5.3	5.9	10.0	7.4	-24.8	-21.7					
Y/y %	9.1	1.8	-1.7	-3.6	2.2	7.2	-1.5	-8.7	1.1	-0.2	5.6	1.0	
Non-residential investment	69.6	70.4	71.5	72.6	73.8	75.1	75.6	76.6	71.1	75.3	70.1	74.2	
Q/q %, SAAR	2.8	4.7	6.2	6.8	6.7	6.9	2.8	5.5					
Y/y %	8.0	8.4	8.1	5.1	6.1	6.6	5.8	5.5	7.2	6.0	8.4	5.9	
Change in inventories	-3.5	-3.5	-3.5	-3.6	-3.7	-4.2	-3.9	-3.9	-3.5	-3.9	-3.6	-3.9	
Public demand	125.2	125.6	125.8	125.6	124.9	124.4	124.7	124.8	125.5	124.6	125.2	124.9	
Q/q %, SAAR	4.0	1.1	0.6	-0.6	-2.2	-1.6	1.0	0.4					
Y/y %	2.8	1.6	1.3	1.0	0.1	-0.9	-1.0	-1.0	1.7	-0.7	2.4	-0.2	
Government final consumption	100.7	101.2	101.6	102.0	102.3	102.6	103.3	103.6	101.4	103.0	100.7	102.6	
Q/q %, SAAR	6.3	1.7	1.7	1.6	1.2	1.2	2.8	1.2					
Y/y %	2.2	2.4	3.1	2.7	1.5	1.4	1.7	1.6	2.6	1.6	2.2	1.8	
Fixed investment	24.5	24.4	24.1	23.5	22.5	21.7	21.3	21.1	24.1	21.6	24.4	22.3	
Q/q %, SAAR	-4.9	-1.3	-3.9	-9.6	-15.9	-13.5	-7.2	-3.7					
Y/y %	6.0	-2.0	-5.0	-4.8	-7.9	-10.8	-11.5	-10.3	-2.3	-10.3	2.9	-8.6	
Change in inventories	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Net exports of goods and services	-18.1	-17.6	-16.9	-16.1	-16.2	-16.8	-15.1	-14.2	-17.1	-15.6	-18.3	-16.0	
Exports of goods and services	84.7	86.0	87.6	89.5	91.6	93.7	96.0	98.4	87.0	94.9	85.6	92.7	
Q/q %, SAAR	4.9	6.4	7.4	9.1	9.3	9.8	10.0	10.4					
Y/y %	8.9	9.8	9.8	6.9	8.0	8.9	9.6	9.9	8.8	9.1	10.3	8.4	
Imports of goods and services	102.8	103.6	104.5	105.6	107.7	110.5	111.1	112.5	104.2	110.5	103.9	108.8	
Q/q %, SAAR	-6.8	3.2	3.2	4.5	8.3	10.8	2.0	5.3					
Y/y %	16.4	11.8	6.7	0.9	4.8	6.6	6.4	6.6	8.6	6.1	14.0	4.7	

Source: Compiled by DIR.

Notes: 1) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

4.1 Gross Domestic Expenditure, Implicit Deflators (2005=100)

	2012			2013			2014		FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013
Gross domestic expenditure	91.6	91.4	91.4	91.0	91.0	90.9	91.0	90.9	91.3	91.0	91.6	91.0
Q/q %, SAAR	-0.4	-0.2	0.1	-0.4	-0.0	-0.1	0.1	-0.2				
Y/y %	-1.1	-0.7	-0.7	-1.0	-0.6	-0.4	-0.4	0.0	-0.9	-0.4	-0.9	-0.6
Private final consumption	93.8	93.1	93.4	93.3	93.1	93.4	93.8	93.8	93.4	93.5	93.6	93.4
Q/q %, SAAR	-0.5	-0.7	0.2	-0.1	-0.2	0.3	0.4	-0.0				
Y/y %	-0.8	-1.1	-0.7	-1.0	-0.7	0.2	0.4	0.6	-0.9	0.1	-0.8	-0.3
Private residential investment	103.0	102.7	103.1	103.8	105.1	105.8	106.6	106.9	103.2	106.1	103.0	105.4
Q/q %, SAAR	-0.3	-0.3	0.4	0.7	1.2	0.7	0.7	0.3				
Y/y %	-0.8	-1.3	-0.4	0.5	2.0	3.0	3.4	3.0	-0.5	2.9	-0.7	2.3
Private non-residential investment	94.6	94.2	94.3	94.4	94.9	95.1	95.4	95.0	94.4	95.1	94.4	94.9
Q/q %, SAAR	0.2	-0.5	0.1	0.1	0.5	0.3	0.3	-0.4				
Y/y %	0.0	-0.6	-0.3	-0.0	0.3	1.0	1.2	0.7	-0.2	0.8	-0.3	0.6
Government final consumption	96.4	96.7	96.5	96.9	96.3	96.3	95.9	96.3	96.6	96.2	96.7	96.3
Q/q %, SAAR	-1.3	0.3	-0.2	0.4	-0.6	0.0	-0.4	0.4				
Y/y %	-1.4	-0.7	-1.3	-0.6	-0.2	-0.3	-0.8	-0.4	-1.0	-0.4	-0.8	-0.5
Public fixed investment	103.2	103.2	103.5	103.9	104.1	104.8	105.7	105.9	103.5	105.3	103.4	104.7
Q/q %, SAAR	-0.5	-0.1	0.3	0.4	0.1	0.7	0.8	0.2				
Y/y %	-0.1	-0.9	-0.2	0.2	0.8	1.6	2.1	1.9	-0.2	1.7	-0.2	1.2
Exports of goods and services	84.7	84.5	86.4	90.8	92.6	93.8	94.9	94.1	86.6	93.9	85.1	93.1
Q/q %, SAAR	-0.1	-0.2	2.2	5.1	2.0	1.3	1.2	-0.9				
Y/y %	-3.2	-2.9	0.9	7.3	9.0	11.0	10.1	3.6	0.5	8.4	-2.0	9.4
Imports of goods and services	108.6	107.0	109.4	117.8	119.3	122.2	124.2	125.1	110.7	122.8	108.6	121.0
Q/q %, SAAR	-0.6	-1.5	2.2	7.7	1.3	2.4	1.7	0.7				
Y/y %	-1.7	-3.6	0.5	7.8	9.4	14.2	13.9	6.2	0.8	10.9	-0.6	11.4

Source: Compiled by DIR.

Notes: 1) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

4.2 Gross Domestic Expenditure, Implicit Deflators (2005=100)

	2014			2015			2016		FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)
Gross domestic expenditure	92.3	92.4	92.5	92.7	92.8	92.9	93.9	94.0	92.5	93.4	92.0	93.1
Q/q %, SAAR	1.5	0.1	0.1	0.2	0.1	0.1	1.1	0.1				
Y/y %	1.4	1.6	1.6	1.9	0.5	0.5	1.5	1.5	1.6	1.0	1.1	1.1
Private final consumption	95.7	95.8	96.0	96.1	96.3	96.6	98.2	98.4	95.9	97.4	95.3	96.8
Q/q %, SAAR	2.1	0.1	0.1	0.2	0.2	0.2	1.7	0.2				
Y/y %	2.8	2.6	2.4	2.5	0.6	0.8	2.4	2.4	2.6	1.5	2.1	1.6
Private residential investment	108.4	108.5	108.6	108.7	108.9	109.3	110.4	110.7	108.5	109.8	108.0	109.3
Q/q %, SAAR	1.4	0.1	0.1	0.2	0.2	0.3	1.0	0.3				
Y/y %	3.1	2.5	1.9	1.7	0.6	0.7	1.7	1.8	2.3	1.2	2.5	1.2
Private non-residential investment	95.2	95.5	95.8	96.0	96.3	96.5	96.8	97.1	95.7	96.7	95.4	96.4
Q/q %, SAAR	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.4				
Y/y %	0.4	0.4	0.4	1.1	1.1	1.0	1.0	1.1	0.6	1.1	0.5	1.0
Government final consumption	97.5	97.6	97.7	97.8	97.9	98.0	98.5	98.6	97.6	98.2	97.3	98.0
Q/q %, SAAR	1.2	0.1	0.1	0.1	0.1	0.1	0.5	0.1				
Y/y %	1.3	1.3	1.9	1.4	0.4	0.4	0.8	0.8	1.5	0.6	1.1	0.7
Public fixed investment	106.1	106.5	106.8	107.1	107.4	107.8	108.2	108.5	106.7	108.0	106.3	107.6
Q/q %, SAAR	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.3				
Y/y %	2.0	1.6	1.0	1.1	1.2	1.2	1.3	1.3	1.4	1.3	1.5	1.2
Exports of goods and services	94.3	94.5	94.8	95.2	95.4	95.6	95.9	96.2	94.7	95.8	94.4	95.6
Q/q %, SAAR	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.3				
Y/y %	2.0	0.7	-0.3	1.2	1.1	1.2	1.3	1.1	0.9	1.2	1.5	1.2
Imports of goods and services	125.2	125.5	125.8	126.2	126.6	127.0	127.4	127.7	125.7	127.2	125.4	126.8
Q/q %, SAAR	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3				
Y/y %	5.1	2.7	1.1	0.9	1.0	1.2	1.3	1.2	2.4	1.2	3.7	1.1

Source: Compiled by DIR.

Notes: 1) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

5.1 Contribution to Real GDP Growth by Component

	2012			2013			2014			FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013	
1) Q/q %													
GDP growth rate	-0.6	-0.8	0.1	1.2	0.9	0.3	0.1	1.5	0.7	2.3	1.4	1.6	
Domestic demand	-0.2	-0.2	0.2	0.8	0.7	0.8	0.6	1.7	1.4	2.8	2.3	1.9	
Private demand	0.0	-0.2	0.1	0.4	0.3	0.4	0.5	1.8	1.1	1.7	1.9	1.0	
Private consumption	0.2	-0.3	0.3	0.6	0.4	0.1	0.2	1.3	0.9	1.5	1.2	1.2	
Residential investment	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.1	0.3	
Private fixed investment	0.1	-0.2	-0.1	-0.3	0.1	0.1	0.2	0.7	0.1	0.2	0.5	-0.2	
Change in private inventories	-0.4	0.3	-0.2	0.0	-0.3	0.1	-0.0	-0.2	-0.1	-0.3	0.1	-0.3	
Public demand	-0.2	0.0	0.1	0.4	0.4	0.4	0.1	-0.1	0.4	1.1	0.5	0.9	
Government final consumption	-0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.3	0.4	0.4	0.4	
Public fixed investment	-0.1	-0.1	-0.0	0.2	0.3	0.3	0.1	-0.1	0.1	0.7	0.1	0.5	
Change in public inventories	-0.0	0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	
Net exports of goods and services	-0.3	-0.6	-0.1	0.4	0.1	-0.5	-0.6	-0.3	-0.8	-0.5	-0.9	-0.3	
Exports of goods and services	-0.1	-0.6	-0.4	0.6	0.4	-0.1	0.1	1.0	-0.2	0.7	-0.0	0.2	
Imports of goods and services	-0.2	0.1	0.3	-0.2	-0.3	-0.4	-0.6	-1.3	-0.6	-1.2	-0.9	-0.6	
2) Y/y %													
GDP growth rate	3.2	-0.2	-0.3	0.1	1.3	2.4	2.5	3.0	0.7	2.3	1.4	1.6	
Domestic demand	3.3	1.4	0.6	0.6	1.4	2.4	3.1	4.2	1.4	2.8	2.3	1.9	
Private demand	3.1	1.1	0.0	0.4	0.6	1.2	1.6	3.3	1.1	1.7	1.9	1.0	
Private consumption	1.9	0.5	0.4	0.9	1.1	1.5	1.4	2.1	0.9	1.5	1.2	1.2	
Residential investment	0.1	0.0	0.2	0.3	0.2	0.3	0.3	0.4	0.2	0.3	0.1	0.3	
Private fixed investment	1.0	0.5	-0.5	-0.5	-0.4	-0.1	0.1	1.3	0.1	0.2	0.5	-0.2	
Change in private inventories	0.0	-0.0	-0.0	-0.3	-0.4	-0.4	-0.2	-0.4	-0.1	-0.3	0.1	-0.3	
Public demand	0.3	0.3	0.6	0.2	0.9	1.2	1.4	0.9	0.4	1.1	0.5	0.9	
Government final consumption	0.3	0.3	0.4	0.3	0.6	0.5	0.4	0.3	0.3	0.4	0.4	0.4	
Public fixed investment	0.0	0.0	0.2	-0.0	0.3	0.8	1.0	0.6	0.1	0.7	0.1	0.5	
Change in public inventories	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	
Net exports of goods and services	-0.1	-1.6	-0.9	-0.5	-0.1	-0.1	-0.5	-1.3	-0.8	-0.5	-0.9	-0.3	
Exports of goods and services	1.3	-0.8	-0.7	-0.5	0.0	0.5	1.0	1.4	-0.2	0.7	-0.0	0.2	
Imports of goods and services	-1.4	-0.8	-0.2	-0.1	-0.1	-0.6	-1.5	-2.8	-0.6	-1.2	-0.9	-0.6	

Source: Compiled by DIR.

Notes: 1) Q/q growth rates seasonally adjusted; y/y growth rates and FY and CY figures unadjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

5.2 Contribution to Real GDP Growth by Component

	2014			2015			2016			FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)	
1) Q/q %													
GDP growth rate	-1.1	0.6	0.5	0.5	0.5	0.9	-1.1	0.5	1.0	1.5	1.6	1.4	
Domestic demand	-1.7	0.5	0.4	0.3	0.4	0.9	-1.5	0.2	0.7	0.9	2.1	0.9	
Private demand	-1.7	0.5	0.4	0.4	0.6	1.0	-1.5	0.2	0.6	1.2	1.8	1.2	
Private consumption	-1.7	0.4	0.1	0.2	0.3	0.9	-1.3	0.2	-0.2	0.6	0.6	0.4	
Residential investment	-0.2	-0.1	0.0	0.0	0.1	0.0	-0.3	-0.2	-0.0	-0.0	0.1	-0.0	
Private fixed investment	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.9	0.7	1.1	0.7	
Change in private inventories	0.1	0.0	0.0	-0.0	-0.0	-0.1	0.1	0.0	-0.0	-0.1	-0.1	-0.0	
Public demand	-0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.1	-0.0	0.1	-0.3	0.3	-0.3	
Government final consumption	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	
Public fixed investment	-0.1	-0.0	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	-0.5	0.1	-0.5	
Change in public inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net exports of goods and services	0.6	0.1	0.2	0.1	-0.0	-0.1	0.3	0.2	0.4	0.6	-0.5	0.5	
Exports of goods and services	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	1.3	1.3	1.4	1.2	
Imports of goods and services	0.4	-0.1	-0.1	-0.2	-0.4	-0.5	-0.0	-0.2	-0.9	-0.8	-1.9	-0.7	
2) Y/y %													
GDP growth rate	0.8	1.1	1.5	0.5	2.1	2.4	0.8	0.8	1.0	1.5	1.6	1.4	
Domestic demand	1.4	1.2	0.8	-0.6	1.6	2.1	-0.1	-0.1	0.7	0.9	2.1	0.9	
Private demand	1.0	1.1	0.9	-0.5	1.8	2.4	0.4	0.4	0.6	1.2	1.8	1.2	
Private consumption	-0.2	0.2	0.1	-1.0	1.1	1.5	-0.0	0.1	-0.2	0.6	0.6	0.4	
Residential investment	0.2	-0.0	-0.1	-0.2	0.1	0.2	-0.1	-0.3	-0.0	-0.0	0.1	-0.0	
Private fixed investment	1.0	1.1	1.0	0.6	0.7	0.8	0.6	0.7	0.9	0.7	1.1	0.7	
Change in private inventories	0.0	-0.1	-0.1	0.1	-0.1	-0.1	-0.1	-0.0	-0.0	-0.1	-0.1	-0.0	
Public demand	0.4	0.1	-0.1	-0.1	-0.1	-0.3	-0.5	-0.5	0.1	-0.3	0.3	-0.3	
Government final consumption	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Public fixed investment	0.2	-0.2	-0.3	-0.4	-0.4	-0.5	-0.7	-0.6	-0.2	-0.5	0.1	-0.5	
Change in public inventories	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0	
Net exports of goods and services	-0.9	-0.2	0.5	1.0	0.4	0.2	0.4	0.4	0.4	0.6	-0.5	0.5	
Exports of goods and services	1.1	1.5	1.6	1.0	1.2	1.3	1.4	1.5	1.3	1.3	1.4	1.2	
Imports of goods and services	-2.0	-1.7	-1.1	0.0	-0.8	-1.1	-1.1	-1.1	-0.9	-0.8	-1.9	-0.7	

Source: Compiled by DIR.

Notes: 1) Q/q growth rates seasonally adjusted; y/y growth rates and FY and CY figures unadjusted.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

6.1 Major Assumptions

	2012			2013			2014			FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2012	2013	2012	2013	
1) World economy													
Economic growth of major trading partners													
Y/y %	2.9	2.9	3.6	2.5	2.9	3.1	3.4	3.3	3.2	3.2	3.3	3.0	
Crude oil price (WTI futures; \$/bbl)	93.4	92.2	88.2	94.4	94.2	105.8	97.6	98.6	92.0	99.1	94.1	98.0	
Y/y %	-8.8	3.0	-6.2	-8.4	0.9	14.8	10.6	4.5	-5.4	7.6	-1.0	4.1	
2) US economy													
Real GDP (chained [2009]; \$ bil; SAAR)	15,428	15,534	15,540	15,584	15,680	15,839	15,942	15,947	15,521	15,852	15,471	15,761	
Q/q %, SAAR	1.2	2.8	0.1	1.1	2.5	4.1	2.6	0.1					
Y/y %	2.8	3.1	2.0	1.3	1.6	2.0	2.6	2.3	2.3	2.1	2.8	1.9	
Consumer Price Index (1982-84 avg=100)	229.0	229.9	231.3	232.0	232.2	233.5	234.1	235.2	230.6	233.8	229.6	233.0	
Q/q %, SAAR	1.4	1.7	2.4	1.2	0.4	2.2	1.1	1.9					
Y/y %	1.9	1.7	1.9	1.7	1.4	1.6	1.2	1.4	1.8	1.4	2.1	1.5	
Producer Price Index (Finished goods; 1982=100)	192.8	194.7	195.9	196.3	195.8	196.9	197.4	199.2	194.9	197.3	194.2	196.6	
Q/q %, SAAR	-1.4	3.9	2.5	0.9	-1.0	2.3	0.9	3.8					
Y/y %	1.1	1.5	1.7	1.5	1.5	1.2	0.8	1.5	1.4	1.2	1.9	1.2	
FF rate (%)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
(Target rate for the forecast period, end-period)													
Government bond yield (10 year; %)	1.82	1.64	1.71	1.95	2.00	2.71	2.75	2.76	1.78	2.55	1.80	2.35	
3) Japanese economy													
Nominal government final consumption													
Y tri; SAAR	96.1	96.8	97.3	98.5	98.6	98.8	98.6	99.2	97.1	98.8	96.9	98.6	
Q/q %, SAAR	-7.4	3.1	2.0	5.1	0.3	0.9	-0.5	2.3					
Y/y %	-0.2	0.7	0.7	0.8	2.6	2.1	1.2	0.9	0.5	1.7	0.9	1.7	
Nominal public fixed investment													
Y tri; SAAR	21.1	20.6	20.6	21.7	23.1	24.8	25.3	24.8	21.0	24.6	21.1	23.7	
Q/q %, SAAR	-9.6	-9.5	0.3	21.5	29.0	34.0	8.2	-8.7					
Y/y %	0.1	-0.1	4.6	-0.5	9.0	20.9	23.4	14.0	1.1	17.2	2.6	12.8	
Exchange rate (Y/\$)	80.1	78.6	81.2	92.3	98.8	98.9	100.4	102.8	83.1	100.2	79.8	97.6	
(Y/€)	101.2	98.2	108.2	122.0	129.6	130.7	139.9	140.3	120.7	141.7	114.7	145.1	
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	

Source: Compiled by DIR.

Notes: 1) Japanese consumption tax hike expected in October 2015.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.

6.2 Major Assumptions

	2014			2015			2016		FY		CY	
	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2014 (E)	2015 (E)	2014 (E)	2015 (E)
1) World economy												
Economic growth of major trading partners												
Y/y %	3.3	3.3	3.2	3.8	3.8	3.9	3.9	3.9	3.4	3.9	3.3	3.9
Crude oil price (WTI futures; \$/bbl)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	100.0
Y/y %	6.2	-5.5	2.4	1.4	0.0	0.0	0.0	0.0	1.0	0.0	1.6	0.3
2) US economy												
Real GDP (chained [2009]; \$ bil; SAAR)	16,068	16,170	16,285	16,412	16,534	16,654	16,774	16,896	16,234	16,714	16,118	16,593
Q/q %, SAAR	3.1	2.5	2.9	3.1	3.0	2.9	2.9	2.9				
Y/y %	2.5	2.1	2.2	2.9	2.9	3.0	3.0	2.9	2.4	3.0	2.3	3.0
Consumer Price Index (1982-84 avg=100)	236.2	237.2	238.2	239.3	240.5	241.7	243.1	244.6	237.7	242.5	236.7	241.2
Q/q %, SAAR	1.6	1.7	1.8	1.8	2.0	2.1	2.3	2.4				
Y/y %	1.7	1.6	1.8	1.7	1.8	1.9	2.0	2.2	1.7	2.0	1.6	1.9
Producer Price Index (Finished goods; 1982=100)	200.4	201.6	202.9	204.3	205.9	207.6	209.3	211.0	202.2	208.4	201.0	206.7
Q/q %, SAAR	2.3	2.4	2.6	2.9	3.1	3.4	3.3	3.2				
Y/y %	2.3	2.3	2.8	2.5	2.7	3.0	3.2	3.2	2.5	3.0	2.2	2.9
FF rate (%)	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.75	0.25	0.75	0.25	0.50
(Target rate for the forecast period, end-period)												
Government bond yield (10 year; %)	2.66	2.89	3.06	3.17	3.40	3.63	3.87	4.05	2.95	3.74	2.84	3.52
3) Japanese economy												
Nominal government final consumption												
Y tril; SAAR	100.7	101.2	101.6	102.0	102.3	102.6	103.3	103.6	101.4	103.0	100.7	102.6
Q/q %, SAAR	6.3	1.7	1.7	1.6	1.2	1.2	2.8	1.2				
Y/y %	2.2	2.4	3.1	2.7	1.5	1.4	1.7	1.6	2.6	1.6	2.2	1.8
Nominal public fixed investment												
Y tril; SAAR	24.5	24.4	24.1	23.5	22.5	21.7	21.3	21.1	24.1	21.6	24.4	22.3
Q/q %, SAAR	-4.9	-1.3	-3.9	-9.6	-15.9	-13.5	-7.2	-3.7				
Y/y %	6.0	-2.0	-5.0	-4.8	-7.9	-10.8	-11.5	-10.3	-2.3	-10.3	2.9	-8.6
Exchange rate (Y/\$)	102.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.5	100.0	101.2	100.0
(Y/€)	141.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.3	140.0	140.3	140.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

Source: Compiled by DIR.

Notes: 1) Japanese consumption tax hike expected in October 2015.

2) Due to rounding, figures may differ from those released by the government.

E: DIR estimate.