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Japan's Economy: Monthly Review

Can the BOJ achieve its price target?

Japan's economy is expected to continue gradual expansion

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Summary

- **Japan's economy to continue gradual expansion:** Japan's economy is expected to continue to expand steadily supported by (1) increases in exports backed by the US economic recovery, (2) ongoing depreciation of the yen and the rise in stock prices supported by the BOJ's monetary easing, and (3) economic stimulus measures to offset the effects of the consumption tax hike. We now forecast real GDP growth of +2.2% y/y for FY13, +1.0% for FY14, and +1.5% for FY15. (For further detail, see "Japan's Economic Outlook No. 180 Update (Summary)," by Mitsumaru Kumagai, 18 March 2014.) 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. Of these four risks, it is worth underscoring that the first is closely related to the second and third.
- **Can the BOJ achieve its price target?:** In this report we consider whether the BOJ's price target can be reached. Chances that the BOJ will reach its target of a 2% rise in prices have gradually improved since new governor Kuroda took office. However, this will still depend in part on trends in exchange rates, wages, and the expected inflation rate. And while the possibilities that the BOJ will reach its target cannot be discounted, our current main scenario does not expect the rate of increase in consumer price index to reach the 2% mark. We expect additional monetary easing measures by the BOJ to carry over beyond the 2014 Jul-Sep period.

1. Japan's Economic Scenario

Main scenario: Japan's economy to continue growing

Japan's economy is expected to continue to expand steadily supported by (1) increases in exports backed by the US economic recovery, (2) ongoing depreciation of the yen and the rise in stock prices supported by the BOJ's monetary easing, and (3) economic stimulus measures to offset the effects of the consumption tax hike. We now forecast real GDP growth of +2.2% y/y for FY13, +1.0% for FY14, and +1.5% for FY15. (For further detail, see "Japan's Economic Outlook No. 180 Update (Summary)," by Mitsumaru Kumagai, 18 March 2014.)

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. Of these four risks, it is worth underscoring that the first is closely related to the second and third.

Examining the world economic cycle, advanced economies led by the US drove emerging economies in the past. However, a decoupling has currently taken place—advanced economies are performing well but emerging economies are stagnating. We believe that this decoupling is occurring for three reasons: (1) the dwindling in the 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 Fed will implement exit measures from a quantitative easing. In the final analysis, we anticipate that the collapse of emerging economies will be avoided as the US economy continues to expand. Nevertheless, the state and the future direction of the Chinese economy will continue to require close monitoring.

2. Main economic scenario for Japan

Range of price increase expanding

In this report we consider whether the BOJ's price target can be reached.

Chances that the BOJ will reach its target of a 2% rise in prices have gradually improved since new governor Kuroda took office. However, this will still depend in part on trends in exchange rates, wages, and the expected inflation rate. And while the possibilities that the BOJ will reach its target cannot be discounted, our current main scenario does not expect the rate of increase in consumer price index to reach the 2% mark.

In Chart 1 the rate of change in core CPI is examined against consumer price index DI (difference in percentage of core CPI components which have risen and those which have fallen). Core CPI moved into a growth phase in June of 2013, but consumer price index DI fell below 50. In other words, prices overall were on the way up, but more than half of core CPI components were in a decline. This means that conditions were not sufficient for a rise in prices to spread throughout the economy. However, consumer price index DI moved upwards in October 2013, with the extent of the increase broadening later in the year. As import prices rose due to the weakening of the yen, corporations gradually began passing on their increases in costs to the consumer in the form of price hikes. Price increases are gradually spreading and beginning to affect most items, resulting in a higher rate of increase in prices overall.

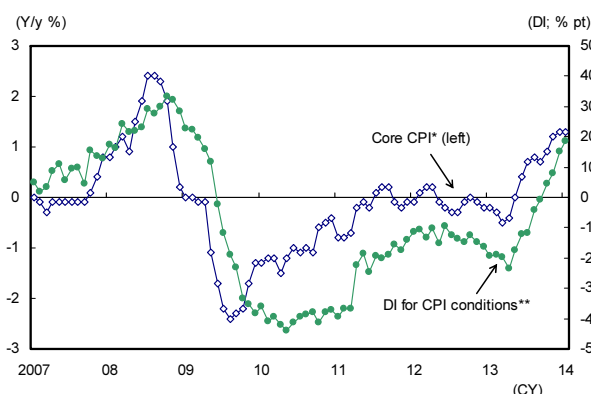
In Chart 2, the rate of increase in purchase price is compared to the rate of increase in the consumer price index. Not only is the consumer price index on the rise, increases in purchase prices can also be readily observed. At the same time, the general rise in prices does not seem to have caused consumers

to seek out cheaper prices. Rather, the tendency seems to be more on the side of purchasing items with higher prices.

During an economic expansion, the rate of increase in purchase prices can easily exceed that of prices in general. It is possible that consumers simply have stronger demand for products with a higher purchase price at this particular moment.

Core CPI and DI for CPI Conditions

Chart 1



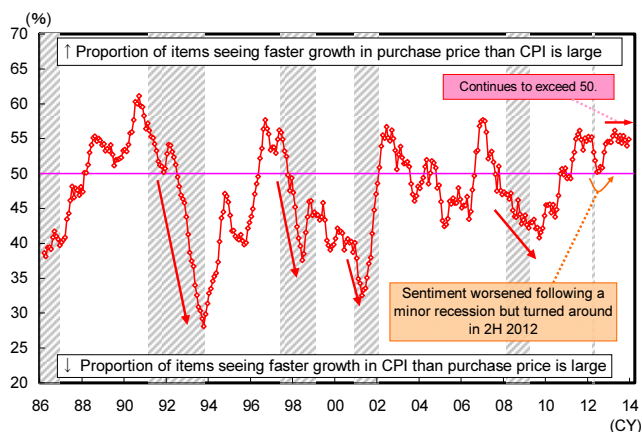
Source: Ministry of Internal Affairs and Communications: compiled by DIR.

*Consumer Price Index excluding fresh food.

**DIR estimate by subtracting a proportion of y/y gain items minus a proportion of y/y slide items; core CPI basis.

Comparison of Average Purchasing Price vs CPI*

Chart 2



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

*Proportion of items seeing faster growth in purchase price than CPI; 6MMA.

Note: Shaded areas denote economic downturns.

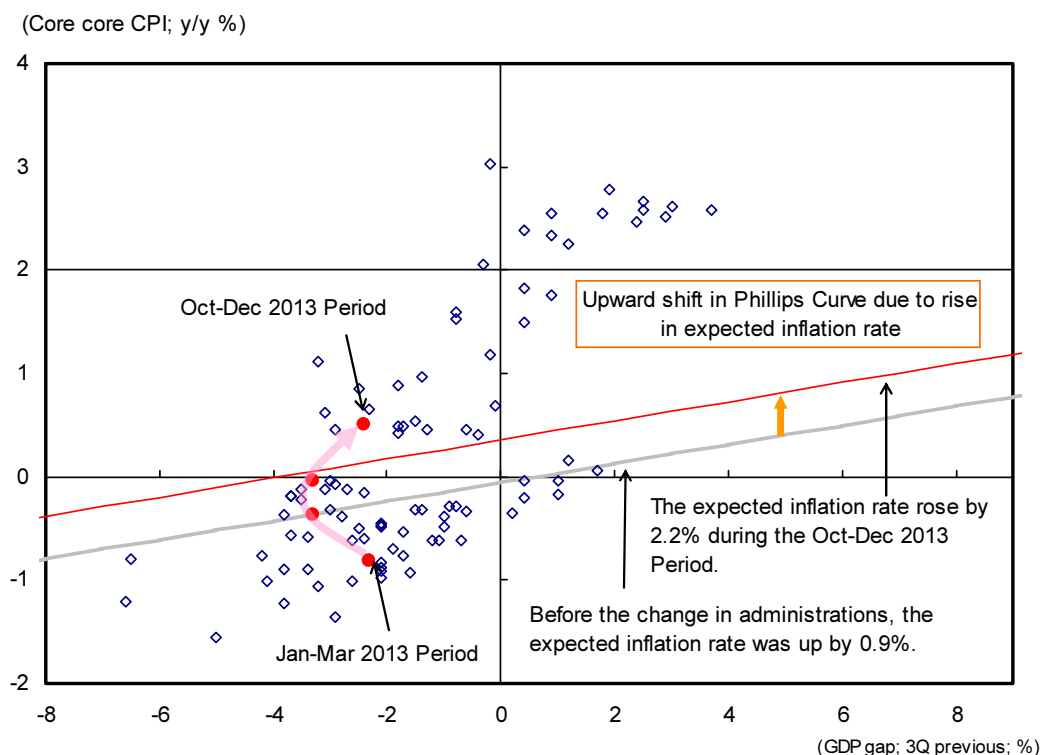
Expected inflation rate is on the rise and the Phillips Curve has shifted in an upward direction

The vertical axis of Chart 3 shows the year-to-year rate of change in the consumer price index less food (less alcoholic beverages) and energy (core core CPI), with GDP gap (3 qtrs in the past) shown on the horizontal axis. This is the Phillips curve. The Phillips curve is used to analyze the relationship between prices and GDP gap. The intercept of the Phillips curve shows the level of expected inflation.

The bold line in the chart show the estimated Phillips curve between 1997 when Japan was hit with deflation, and end 2012. During this period, the Phillips curve occupied an extremely low position with the rate of increases in prices below 0%, even with the GDP gap at 0% as well. However, expected inflation rate began to rise at the end of 2012, causing the Phillips curve to shift upwards. As of the 2013 Jan-Mar period, the rate of increase in prices, which had fallen below the Phillips curve before the change of government administrations, began to rise rapidly throughout the rest of 2013, due mostly to the rise in import prices brought about by the weakening yen. Expected inflation rate and prices are now mutually influencing each other, and cost-push pressure is now pushing prices up. This can be interpreted as meaning that the expected inflation rate of households is on the rise. In the near future, Japan's economy will likely shake off the effects of the weak yen. However, since the Phillips curve has been pushed up, it is expected that the consumer price will also rise with much more ease than in the recent past.

Phillips Curve Adjusted for Inflation Expectations

Chart 3



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

Equation: $CPI = -0.34 + 0.31 \times INFEX + 0.09 \times GDP\ GAP (-3)$, figures in parenthesis are quarterly lag.

Estimation period: Oct-Dec 1997 period to Oct-Dec 2012 period, all coefficients at 5% significance level.

CPI: y/y CPI less food (less alcoholic beverages) and energy (adjusted for consumption tax hikes),

Inflation expectations through Jan-Mar 2004 based on Carlson-Parkin method; thereafter weighted average of inflation expectations (Cabinet Office survey) adjusted for discontinuity.

Weak yen the main reason behind current rise in prices

Since shifting back into a growth trend in June 2013, CPI (less perishable goods) has steadily increased its growth rate, and prices are now in a gradual upward trend. Meanwhile, taking into consideration core core CPI, which is not readily influenced by commodities, prices have continued to maintain positive growth since October 2013. As was noted in the previous section, the range of price increases is expanding. Especially noticeable here is the price of durables, which has shifted into a growth trend for the first time since September 1992. In Chart 4, change over the long-term can be confirmed, yet even compared with the year 1989 when the consumption tax was first introduced and 1997 when the consumption tax was increased for the first time, the current pace of increase in the price of durables is especially rapid.

Next we have a look at trends in the corporate goods price index (CGPI) which examines consumer goods.

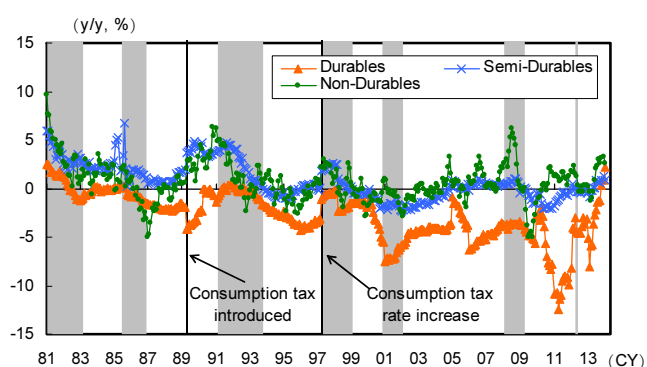
Chart 5 is a factor analysis of the corporate goods price index (consumer goods). Here we can see that the recent rise in the CGPI due largely to foreign exchange rates. If the current level of exchange rates remains more or less at the same level and there is no further major weakening of the yen, upward pressure on the index coming from this factor should gradually be reduced.

That is to say, when we examine the trend in durable consumer goods based on CGPI, both domestic and import goods (on a contract currency basis) have been maintaining negative figures. The reason

the trends are so different in CPI and CGPI may be increases in import product prices due to the weak yen influencing the CPI based durable consumer goods price.

Of course, CPI and CGPI cannot be compared in such simple terms. However, it should be noted that the current rise in the CPI based durable consumer goods price is for the most part influenced by the weak yen. And with expectations that upward pressure on prices due to the weak yen will gradually be shaken off, the real key to the question of whether or not prices will continue to rise in the future lies in wage trends and the expected inflation rate.

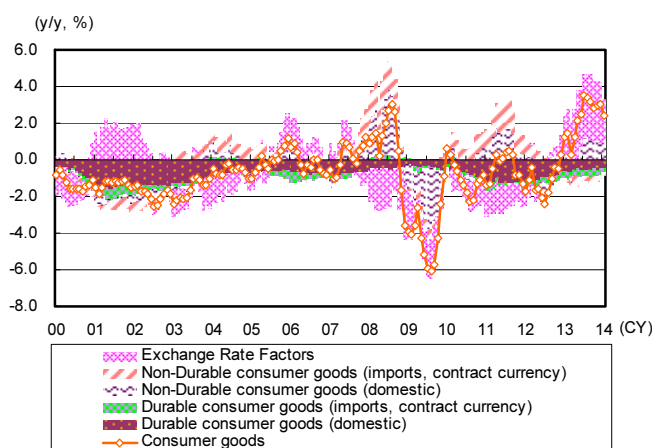
Long-Term Changes in CPI by Type of Goods
Chart 4



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

Note: Shaded areas represent economic downturns.

Factor Analysis of CGPI (Consumer Goods)
Chart 5



Source: BOJ, compiled by DIR.

Note: Exchange rate factors calculated using import prices based on contract currency (grand mean)

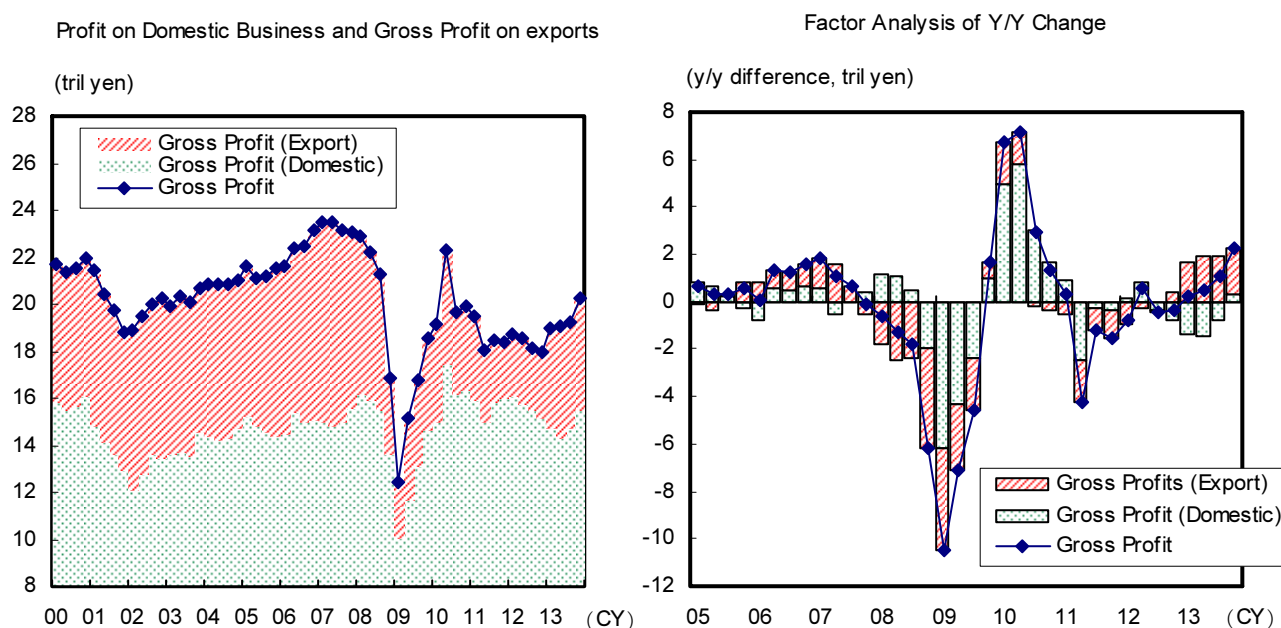
Weak yen driving export oriented profit growth of Japanese corporations

Corporate business performance is now improving, bringing higher expectations that wages may be increased and the corporate stance toward capex will gradually become more aggressive. The effect on the economy overall is expected to be very positive. The question then is what exactly is it that has led to these improvements in corporate business performance?

Gross profits of the manufacturing industries (sales – cost of sales) are examined in Chart 6 separated into domestic and export categories. First of all, we know from past performance history that export oriented profits have helped to push corporate profits up since the year 2000. Then exports fell drastically as a result of the US financial crisis. In addition, the yen rapidly strengthened, causing major declines in export oriented profit. However, the yen began to weaken at the end of 2012, and the amount won from exports by Japanese corporations grew rapidly, leading also to major growth in export oriented profits. Contribution to overall profits by domestic and export oriented business can be seen in the right side of Chart 6. While domestic profits continue to be in a downtrend, export oriented profits are achieving major growth.

Profit on Domestic Business and Gross Profit from Export Business

Chart 6



Source: Ministry of Finance, BOJ, compiled by DIR

Notes: 1) Gross profit = sales - cost of sales.

2) It is assumed that manufacturing cost per unit of sales volume is equal for both imports and exports.

Domestic price pass-through seen progressing

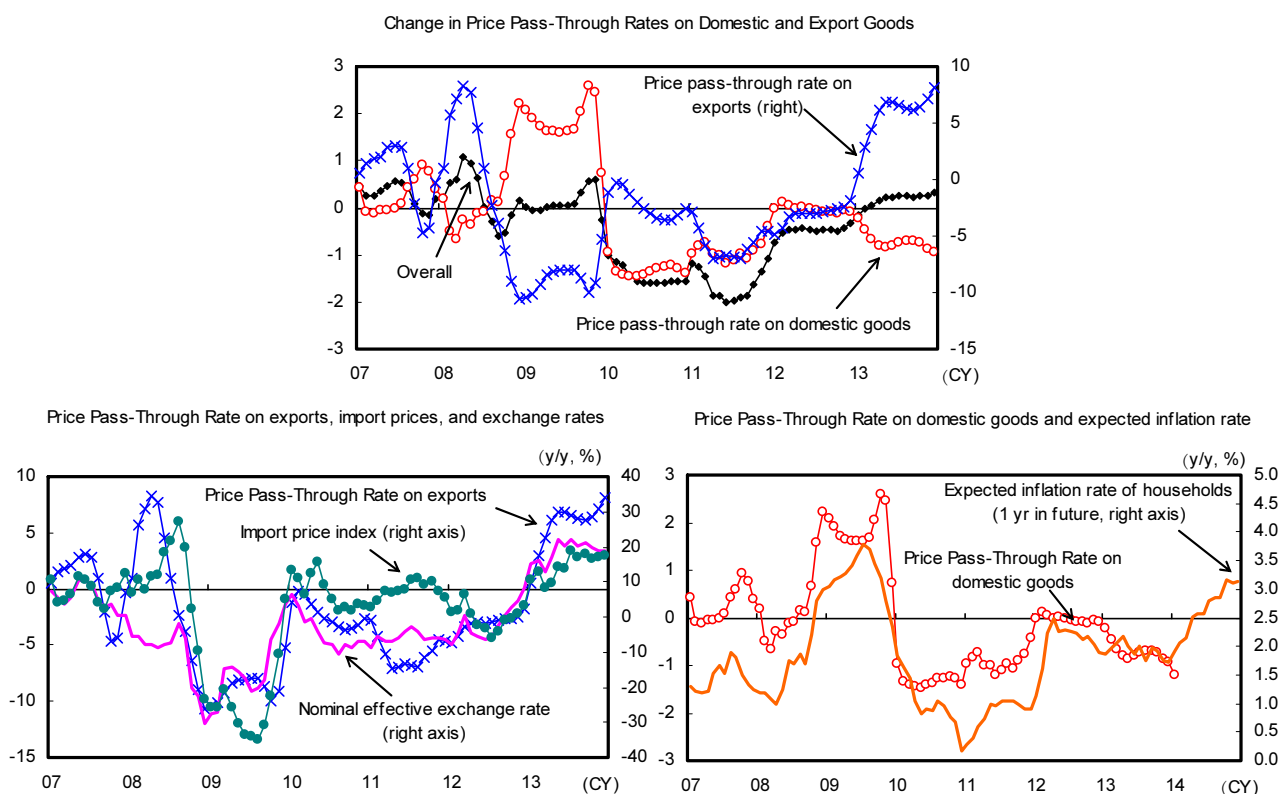
Changes in price pass-through are examined in Chart 7. The top figure shows input and output prices of the manufacturing industries and calculates price pass-through on goods meant for the domestic and export markets. According to this we see clearly that domestic price pass-through fell since 2012, while in contrast, it rose dramatically for exports.

What are the factors which determine price pass-through? First we consider export oriented price pass-through. Here we can see immediately that exchange rates and import price have very close linkage. When the yen weakens the input price rises, but at the same time, the export price rises also. Meanwhile, trends in import prices fluctuate according to exchange rates, so changes in import price and export oriented price pass-through are closely related. However, factors other than fluctuation of exchange rates, including the international commodities market, influence changes in import price as well. For instance, during the year 2008 when the international commodities markets were recording highs, especially for crude oil, the yen was also strong and import prices rose, causing price pass-through to rise also. Products Japan exports are also included on the international commodities market, meaning that export price rose as the market rose. Since the earnings environment deteriorated as import prices rose, some corporations maintained profit by raising the price pass-through rate on exports.

The price pass-through rate on domestic products tends to lag behind the expected inflation rate of households (see Chart 7 lower right). Since the expected inflation rate of households is highly susceptible to price trends, corporations normally make decisions on the price pass-through rate some time after the domestic price trend becomes known. Since 2013, the expected inflation rate of households has been on the rise, so there is a good possibility that corporations will begin aggressively implementing pass-through in relation to their input costs on domestic products in the coming months. We see a scenario in which profitability of domestic sales improves due to the rise in domestic prices.

Change in Price Pass-Through Rate

Chart 7



Source: BOJ, the cabinet office, compiled by DIR.

Note: The price pass-through rate is an elastic value in relation to the input price used to produce an output price. It is an estimated figure arrived at using rolling estimates from the past year.

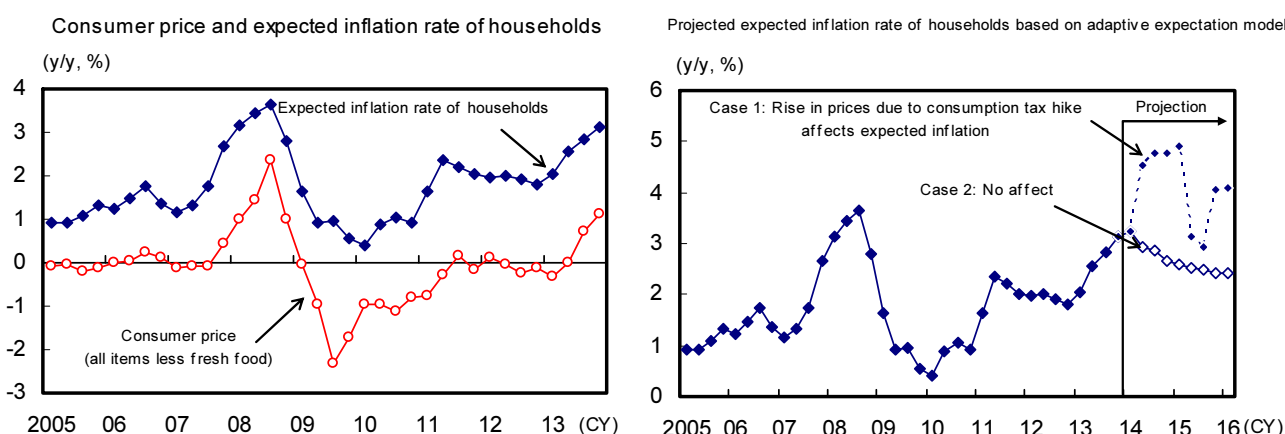
The expected inflation rate will gradually decline in the future. The inflation rate hurdle of 2% will be a difficult one to overcome.

An increase in the expected inflation rate is an important factor in order for consumer prices to achieve a steady increase. However, it is known that the expected inflation rate of households is highly susceptible to price trends, and we also know that prices and expected inflation rate mutually influence each other. Actual consumer prices and expected inflation rate are shown in Chart 8 (top left). Here we see that the expected inflation rate exceeds the rate of actual price increase, but the two rates also remain closely linked. The top right portion of Chart 8 shows the outlook for expected inflation rate based on actual price fluctuations. We also take into consideration here the fact that the rise in expected inflation also influences prices. According to our simulation, expected inflation rate, which hit bottom at the end of 2012 and since then has been on the rise, will begin a gradual decline in the future. The overriding cause of this shift is that the upward pressure on prices caused by the weak yen has now disappeared, while energy is contributing less. This means that the rate of increase in prices will gradually slow down.

The lower figure in Chart 8 shows the influence of wages and exchange rate fluctuations on consumer prices, with the interaction between expected inflation rate and consumer prices factored in to the analysis. The BOJ's target for rate of increase in prices is 2%. In order to achieve this target by the end of FY2014 assuming the yen exchange rate remains flat for the most part, regular payments by corporations to employees will have to remain on the high side (up 2.5% pt). This means that even if the yen were to weaken to the level of Y120 to the dollar, regular payments would still have to maintain this high of +2.0% pt – truly a difficult hurdle to overcome.

Price Simulation: Consumer Price & Expected Inflation Rate of Households, Wages & Change in Exchange Rates

Chart 8



Source: Cabinet office, Ministry of Internal Affairs and Communications.

Note: The expected inflation rate is the weighted average of the outlook for prices one year from now in the cabinet office's consumer behavior survey.

Rate of Increase in Consumer Price if Exchange Rate and Wages Change

Regular payments up		Dollar-yen exchange rate as of end FY14				
		80	90	100	110	120
	0%pt	0.6	0.8	0.9	1.0	1.1
	+0.5%pt	0.9	1.0	1.1	1.2	1.3
	+1.0%pt	1.1	1.2	1.3	1.5	1.6
	+1.5%pt	1.4	1.5	1.6	1.7	1.8
	+2.0%pt	1.6	1.7	1.8	1.9	2.0
	+2.5%pt	1.9	2.0	2.1	2.2	2.3

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

Notes: 1) Values used in the table represent rate of change in each scenario and core CPI as of Jan-Mar period of CY15 (less affects of consumption tax).

2) Exchange rate assumptions (horizontal axis) - as of CY15 Jan-Mar period. We assume the pattern continues in a linear fashion after CY14 Apr-Jun period.

Additional monetary easing measures by the BOJ to carry over beyond the 2014 Jul-Sep period.

We expect additional monetary easing measures by the BOJ to carry over beyond the 2014 Jul-Sep period. There is a very good possibility that the BOJ will make a clean break from its more gradual approach of the past and implement additional monetary easing measures after a careful consideration of Apr-Jun period economic indices. This will also be long enough to see what the initial effects of the consumption tax hike initiated in April have been.

We believe that these additional monetary easing measures should be implemented in the Apr-Jun period to ensure that the economy moves safely into recovery after the consumption tax hike. This is also to make sure the positive effects are carried over into GDP for the Jul-Sep period, a question which will additionally influence decisions regarding a further consumption tax hike to the level of 10% in 2015. Not only will additional monetary easing measures influence further progress in the weakening of the yen and stimulation of stock price highs, but seeing how closely linked the BOJ is with the government, an announcement showing how determined the BOJ is in reaching its 2% rate of increase target should have a generally positive effect on the economy overall. We may begin to hear opinions at some point that the BOJ's confidence in reaching its target is faltering, and they may even be accused of using additional monetary easing measures merely to cover the fact that past measures were insufficient and targets have not been met for rate of increase in prices. However, the benefits of

implementing monetary easing measures are thought to far outweigh the possibility of the central bank losing credibility.

Economic Indicators and Interest Rates

Chart 9

Indicator	2013	2014				2015	FY12	FY13	FY14	FY15
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar				
	Actual	DIR estimates					Actual	DIR estimates		
Real GDP										
Q/q %, annualized	0.7	5.3	-4.4	2.8	2.4	2.0				
Y/y %	2.6	2.7	0.6	1.1	1.4	0.7	0.6	2.2	1.0	1.5
Current account balance										
SAAR (Y tril)	0.2	-2.2	-0.3	1.1	2.6	3.9	4.4	1.9	1.8	5.8
Unemployment rate (%)										
	3.9	3.8	3.8	3.8	3.8	3.8	4.3	3.9	3.8	3.7
CPI (excl. fresh foods; 2010 prices; y/y %)										
	1.1	1.3	3.2	2.9	2.8	2.9	-0.2	0.8	3.0	1.5
Unsecured overnight call rate										
(period end; %)	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
10-year JGB yield										
(period average; %)	0.64	0.61	0.65	0.70	0.75	0.80	0.78	0.69	0.73	0.90

Source: Compiled by DIR.

Note: Estimates taken from DIR's Japan's Economic Outlook No. 180 Update.