

## **Sayuri Shirai: Shifting toward a moderately inflationary economy in Japan – overview of firms’ and households’ inflation expectations**

Speech by Ms Sayuri Shirai, Member of the Policy Board of the Bank of Japan, at Bruegel, Brussels, 4 March 2015; the European Central Bank, Frankfurt am Main, 6 March 2015, and the Bank of England, London, 10 March 2015.

\* \* \*

Accompanying charts can be found at the end of the speech or on the Bank of Japan’s [website](#)

### **I. Introduction**

It is a great honor to have this opportunity to speak to you today about Japan's current monetary policy. With the aim of achieving its 2 percent price stability target, the Bank of Japan (hereafter the Bank) adopted quantitative and qualitative monetary easing (QQE) in April 2013. QQE was expanded further in October 2014. This was because of the potential risk that a decline in the consumer price index (CPI) inflation rate – driven by somewhat weak domestic demand following the consumption tax hike and a substantial decline in crude oil prices – may have exerted downward pressure on inflation expectations, thereby undermining the positive developments in wage negotiations and firms’ price-setting behavior. In my view, the QQE expansion was important to ensure a virtuous cycle from income to spending. Thereafter, crude oil prices dropped further and inflation has continued to decline, but domestic demand has continued its moderate recovery trend. Moreover, the Bank believes that inflation expectations appear to be rising on the whole from a somewhat long-term perspective. Nominal and real incomes are expected to rise, and thus the rate of increase in the CPI is expected to become positive once drops in crude oil prices stall and prices subsequently increase moderately.

Low inflation also prevails in Europe. In the euro area, the rate of increase in the Harmonized Index of Consumer Prices (HICP) turned negative in December 2014 mainly as a result of the decline in crude oil prices. Some indicators of inflation expectations have also decreased. The European Central Bank (ECB) has undertaken additional unconventional monetary easing measures in January 2015 similar to those adopted by the Bank. The common features are (1) large-scale purchases of various financial assets (mainly sovereign bonds) as a main pillar and (2) a long-term conditional lending facility, where the amount of lending to financial institutions depends on the increased lending volume by those institutions to the private sector (Chart 1). In this low-inflation environment, one of a central bank’s main tasks is avoiding deflation in Europe and conquering deflation in Japan. Bearing this in mind, I will review the Bank’s outlook for economic activity and prices over the past two years and explain my opinions on the upside and downside risks with the latest baseline scenario. In addition, I will discuss developments related to inflation expectations in Japan.

### **II. The bank’s outlook for economic activity and prices and risk assessment**

#### **A. The bank’s baseline scenario**

The Bank presents quarterly forecasts on real GDP and core CPI (all items less fresh food), prepared by the nine members of the Policy Board, on a year-on-year basis for the next three years (currently, up to fiscal 2016). Chart 2 shows the median, minimum, and maximum forecasts of the majority of policy board members for the selected four forecast points: (1) April 2013 (the month when QQE was adopted); (2) April 2014 (a year after adoption); (3) October 2014 (the latest month of the publication of the biannual *Outlook for Economic Activity and Prices*); and (4) January 2015 (the latest forecast point). As the median forecast is often regarded as mostly reflecting the Bank’s baseline scenario, I will proceed with my explanations on the Bank’s baseline scenario based on that median.

If one reviews the Bank's medium-term forecasts on economic activity and prices, it is evident that there were rather large downward revisions over that period (Chart 2). The same is also true of my medium-term relatively cautious forecasts, which have been consistently lower than the median for both real GDP growth and core CPI inflation since the introduction of QQE in April 2013. It is natural for a central bank to revise its forecasts given changes in assumptions with respect to domestic and external conditions. Nevertheless, since the revisions have been large, I feel it necessary to provide a clear explanation for these developments. Thus, I will provide my views in this area in the following sections.

## **B. Revisions of the bank's outlook for economic activity**

### ***Downward revisions on growth forecasts for fiscal 2014***

In Chart 2, one feature that may attract your attention is the large revisions made on *economic growth for fiscal 2014* – from 1.4 percent in the April 2013 forecast point to minus 0.5 percent most recently. Four main reasons may be given here. First, the downward revision took place mainly owing to *the greater-than-expected decline in private spending* caused by the consumption tax hike in April 2014 as well as the weaker-than-expected subsequent recovery pace. The declines in private consumption (especially durable goods) and residential investment are attributable both to a reaction to the front-loaded increase prior to the tax hike and to a decline in real (disposable) income, mainly associated with the tax hike.

The adverse impact of the tax hike turned out to be greater than projected – perhaps because it was difficult to grasp the structural changes in the economic and social structures that occurred after the previous tax hike in 1997. Those changes included the following: (1) an increase in the number of pensioners and a temporary cut in pension benefits in fiscal 2013–15 (owing to dissolution of the special level of pension benefits); and (2) a continued decline and resultant low level of per-capita nominal income that is prevalent even after the wage increase since fiscal 2014 (as a result of the growing number of nonregular workers and the long spell of restrained wage growth for regular workers). In this regard, I have repeatedly emphasized that the Bank should recognize *the pace of improvement in the employment and income situation* as a downside risk. It is clear that this risk has materialized and played a major role in the downward revision of the Bank's outlook. In other words, a decline in domestic demand as a result of a *real income drop* (the Keynesian effect) appears to have exceeded an increase in domestic demand driven by the improved sentiment toward the sustainability of the fiscal balance and the social security system (the non-Keynesian effect). In addition, bad weather conditions adversely affected private consumption in July–October 2014. Thereafter, however, private consumption started to recover gradually as the adverse impact of the tax hike waned. Residential investment also appears to have more or less bottomed out.

Second, the sharp depreciation of the yen brought only *a limited gain in export volume*, thus failing to offset a substantial decline in domestic demand caused by the tax hike. The tepid export performance was due to the following: (1) a shift to overseas production, which was accelerated in the phase of the yen's sharp appreciation; (2) a loss in price competitiveness in some manufacturing sectors; and (3) weak recovery of global demand. The limited growth in export volume produced few benefits for manufacturing small and medium-sized enterprises (SMEs), which generally operate as suppliers of parts and intermediate goods to larger domestic manufacturing firms; the latter gained profits partly driven by the valuation effect. Since the second half of 2014, meanwhile, the export volume has begun to rise moderately, reflecting a gain in price competitiveness and the relatively strong economic recovery in the United States.

Third, while the above two factors were the major reasons for the downward revisions, *business fixed investment also did not rise as much as projected*. This was partly because the end of support for some widely-used software programs and tightening of gas emission

regulations applied to construction machinery produced a front-loaded increase in purchases of personal computers and construction machinery before April 2014; this was followed by a subsequent decline in such purchases. Moreover, some firms postponed their plans to expand business fixed investment owing to the greater-than-expected accumulated inventory (especially consumer durable goods). Currently, however, investment continues to recover, inventory stock has begun to fall, and industrial production has started to rise.

Fourth, *the potential economic growth rate has trended downward* historically, and it still remains below 0.5 percent despite a moderate recent increase (Chart 3). This may be one of the reasons that according to various opinion surveys, many households have not felt signs of economic recovery. That could be contributing to the sluggish pace of domestic demand recovery. The decrease in potential economic growth is considered to be the consequence of demographics, a deceleration in total factor productivity (TFP) growth, and a decline in capital stock (driven by delayed investment).

Moreover, the unemployment rate has already dropped to around 3 percent – a level closer to the natural unemployment rate – and along with the decline in the working-age population, the labor shortage is increasingly evident. The labor shortage has favorably contributed to creation of new employment and nominal income growth; however, it has also incurred constraints on economic growth by allowing mainly SMEs and firms in nonmetropolitan areas to lose the opportunity to expand or continue their businesses. For example, owing to a severe shortage of skilled workers and engineers, the construction sector was prevented from adequately expanding the volume of their building construction starts in response to the front-loaded order placement of public investment in April-June 2014. Instead, this sector faced a rapid increase in the unit operating price caused by rising personnel expenses and cost of construction materials. Regarding residential investment, a decline in the real interest rate generated by QQE helped stimulate potential demand for mortgage loans. Conversely, an increase in housing prices caused by rising construction costs partially discouraged residential investment by ordinary households.

Nonetheless, let me stress that the economic growth rate for fiscal 2014 could have been even lower without QQE. Corporate profits as well as the employment and income situation might have been less favorable than at the current level. QQE has brought negative real interest rates and promoted the following: (1) the wealth effect, for example through stocks and real estate; (2) the diversification of financing sources for firms; and (3) a correction of the yen's excessive appreciation (Chart 4). These effects, in turn, have given rise to various positive developments by activating firms' fixed investment and pricing behavior, financial institutions' lending and investment behavior, individual investors' incentives to manage financial assets, and inbound tourism. *Therefore, although there were downward revisions to the Bank's economic outlook, I believe that the effectiveness of QQE should not be questioned.*

### ***Upward revisions of growth forecasts for fiscal 2015 and 2016***

By contrast, the Bank's forecast on *economic growth for fiscal 2015* was adjusted upward significantly from 1.5 percent in the April 2013 forecast point to 2.1 percent in the most recent forecast. The upward revision is natural since it reflects the adjustment process of returning from the bigger-than-expected decline in the previous year. In addition, as for reasons why degree of upward revision was particularly large in the latest January 2015 forecast, I personally view that the following four factors were incorporated: (1) improvement in corporate profits and the resultant greater active business fixed investment (owing to a crude oil price drop and the lagged impact of the yen's further depreciation since November 2014); (2) gradual recovery overseas (owing to a crude oil price drop) and the resultant positive effects on exports from Japan; (3) an increase in real income and resultant expansion of private consumption (driven by a crude oil price drop and the postponement of the second round of the consumption tax hike); and (4) expected positive effects from the government's economic measures based on the supplementary budget for fiscal 2014. The most recent

forecast on *economic growth for fiscal 2016* was also revised upward to 1.6 percent, partly because of a shift of the front-loaded increase in spending from fiscal 2015 to fiscal 2016 as a result of the postponement of the second round of the tax hike.

I project that the potential growth rate will rise gradually toward somewhat below 1 percent by the end of fiscal 2016. This will occur mainly through an accumulation of capital stock, an improvement in TFP growth, and a reallocation of the labor force – through corporate sector restructuring and greater focus on higher value-added goods and services. It is also expected that the government will make greater efforts in implementing growth strategies and reforms aimed at promoting greater labor participation by female and elderly persons.

### **C. Revisions of the bank's outlook for prices**

Let me now address the Bank's outlook for prices. The Bank's forecast on *the rate of increase in the core CPI for fiscal 2014* was revised downward from 1.4 percent in the April 2013 forecast point to 0.9 percent in the most recent forecast (Chart 2). The downward revision was due to the following: (1) the greater-than-expected base effect; (2) the delayed improvement in the output gap, which had seen an unexpected deterioration for two consecutive quarters since April-June 2014, although it was at around zero percent (Chart 3); (3) a slower-than-expected increase in inflation expectations; and (4) a decline in crude oil prices since around July 2014. These factors delayed the timing for the rate of inflation to resume the rising trend from fiscal 2014 to the latter half of fiscal 2015.

The adjustment for fiscal 2014 also contributed to *the forecast on the rate of inflation for fiscal 2015*, which was revised downward significantly from 1.9 percent in the April 2013 forecast point to 1 percent in the most recent forecast – primarily because of the decline in crude oil prices. The Bank currently estimates that the contribution of energy items will be in the range of minus 0.7 percent to minus 0.8 percent of the core CPI. It is projected that downward pressure on prices caused by crude oil price drops will diminish gradually toward the middle of fiscal 2015. Subsequently, the rate of inflation is projected to accelerate sharply from around the second half of fiscal 2015 and approach close to around 2 percent by the end of the fiscal year for several reasons. First, the pace of improvement in the output gap will be greater than that envisaged in the April 2013 forecast point due to upward revisions on the economic growth forecast. Second, there will be the lagged impact of the yen's further depreciation from November 2014. Third, the pace of the increase in inflation expectations will also be greater than initially projected, once it resumes its rising trend.

In other words, the forecasts for fiscal 2014 and 2015 reflect the Bank's view that *the underlying price developments will remain intact*. First, though the effect from the decline in crude oil prices is considered temporary, its positive support for economic activities will result in an improvement in the output gap, thereby eventually reinforcing longer-term upward pressure on core CPI inflation. Second, while inflation expectations inferred from market data had exhibited a decrease in recent months, as in the United States and Europe, those inflation expectations inferred from various surveys remain roughly constant. Third, spring wage negotiations for fiscal 2015 are currently ongoing. The Japan Trade Union Confederation demanded an over 2 percent increase in base salary, and the Japan Federation of Economic Organizations expressed its willingness to make the greatest efforts to raise wages. These positive developments may be a sign that firms' and households' price perceptions and related economic behavior are gradually adjusting to a moderately inflationary environment.

It is expected that these forces will generate sufficient upward pressures on prices such that the rate of inflation will accelerate to around 2 percent by the end of fiscal 2015. This is why the Bank maintains the view that this rate is likely to reach *about 2 percent around the middle of the projection period, that is, in or around fiscal 2015*. The forecast for fiscal 2016 thus remains largely unchanged with the rate of increase in the core CPI exceeding 2 percent.

#### **D. Risk factors related to the bank's baseline scenario**

Next, let me explain my views on the upside and downside risks that are important as factors that may affect the Bank's latest outlook. Regarding *risks related to the Bank's outlook on economic activity*, I pay particular attention to *external factors*, including unstable financial and commodity markets and economic developments abroad, which may work both as upside and downside risks. In Europe, there is uncertainty regarding the impact of drops in crude oil prices, debt problems, low inflation, and the geopolitical issues on business fixed investment and employment conditions. In the United States, the economic recovery is solid. The normalization process of the monetary policy by the Federal Reserve is notable, especially with regard to its effect on the domestic economy and markets, as well as global capital flows and economies. The continued economic recovery in the United States with a smooth implementation of the exit policy and a moderate increase in crude oil prices will likely generate upside risks.

Regarding the *risks associated with domestic factors*, I believe that there is a high degree of uncertainty with respect to the extent of the increase in business fixed investment and domestic consumption in response to higher corporate profits and real income growth. First, it may take some time to improve significantly the sentiments of households that are facing difficulties following a sharp drop in real income in fiscal 2014. Second, households may allocate a higher portion of their increased income to savings if they regard it as a temporary windfall gain and do not expect future permanent income growth. Third, households' and firms' economic growth expectations may not rise unless the government's growth strategies make progress. Concerns over the sustainability of the social security system and fiscal balance may undermine households' and firms' incentives for spending. In this respect, some local governments, firms, and financial institutions are gradually taking advantage of the accommodative financial environment generated by QQE and the government's economic policy and structural reforms to energize the local economy and firms' competitiveness and innovation. Whether remarkable progress will be made remains uncertain – both in terms of upside and downside risks.

Turning to my views on *risks related to the Bank's outlook for prices*, I pay particular attention to the following three types of risks. First, the crude oil price decline may not only lower the prices directly through a reduction in imported energy prices, it may also lower prices indirectly, through a decrease in overall imported prices caused by global disinflation. Second, though a rise in income (nominal and real) and the resultant improvement in households' sentiments may make it easier for firms to charge higher sales prices, some firms may lower or contain sales prices to acquire greater market share in the presence of fierce domestic competition. Third, inflation expectations may remain sluggish throughout fiscal 2015 so that the timing for these expectations to resume rising may be delayed. Alternatively, these expectations could become unstable because those of households in particular are heavily affected by the actual price movements of daily necessities and gasoline, as I will indicate later. *Finally, in my view, given that QQE was already expanded in October 2014, a temporary reduction in the core CPI inflation is acceptable as long as the underlying price developments and recovery process in domestic demand continue. Nonetheless, the timing of a rate of inflation approaching around 2 percent now entails greater uncertainty, including the possible delay from the Bank's latest forecast.*

### **III. Overview of inflation expectations in Japan**

#### **A. Underlying price developments**

Earlier, I mentioned that the Bank regards *underlying price developments as having remained unchanged* despite a fall in actual inflation rate. Here, I will first explain more clearly what the Bank means by underlying price developments. Generally, underlying price developments are assessed by the output gap and *medium- to long-term* inflation expectations, and they are typically monitored through the core CPI – assessed after

excluding volatile items (that is, fresh food in the case of the Bank). Of course, these relationships are reflected in the trend in income growth and firms' price-setting behavior. However, the core CPI is not the only indicator monitored. The Bank looks at a wide range of other price indicators, including the 10 percent trimmed mean, the Laspeyres chain index, the ratio of items whose prices are rising to core CPI items (the rising-CPI item ratio), and the breakdown items of the CPI. Producer price index, services producer price index, and commodity prices are also closely monitored. The core CPI, 10 percent trimmed mean, and Laspeyres chain index have shown a decline since the middle of 2014. By contrast, the rising-CPI item ratio has remained unchanged (Chart 5).

In practice, whether the underlying price developments remain unchanged could be assessed by observing whether (1) the prices of a wide range of items are increasing, (2) such a rise is persistent, and (3) medium- to long-term inflation expectations have on the whole increased or at least remained stable. Currently, the rising-CPI item ratio indicates that a persistent increase in prices is widely observed for about 60 percent of the items covered by the core CPI. On medium- to long-term inflation expectations, some market-based indicators – such as the break-even inflation (BEI) and inflation swap rates – declined over the past months, but have become constant or begun to rise recently (Chart 6). Moreover, the survey-based indicators of firms, households, and economists have remained more or less stable, as noted earlier (Chart 7).

### **B. Medium- to long-term inflation expectations**

Major central banks have clear inflation targets and conduct monetary policy so as to achieve around 2 percent in the medium term. Under the so-called *flexible inflation-targeting framework*, a temporary deviation of actual inflation from the target is accepted. This is permissible as long as there is a natural tendency for actual inflation to converge to around 2 percent. In assessing whether such a tendency prevails, medium- to long-term inflation expectations play an essential role. If these expectations remain stable (or “anchored”) at around 2 percent, actual inflation is likely to converge to around 2 percent – even if actual inflation fluctuates around the target. In this environment, wage negotiations and firms' price-setting behavior are more likely to be determined based on expectations of approximately 2 percent inflation. Such an economy could be referred to as *having achieved price stability*. In the case of Japan, where mild deflation has persisted over a long period, inflation expectations have not been anchored. Moreover, those inflation expectations have been volatile at around 1 percent. Thus, one of the Bank's challenges is to raise and anchor such expectations toward around 2 percent.

A central bank generally makes a judgment on the movements of medium- to long-term inflation expectations using several indicators; this is because the levels of inflation expectations and their directions of movement often differ. This reflects the fact that (1) each indicator entails various, specific biases, and (2) some indicators target different price indexes. With (1), for example, households' inflation expectations tend to be upward-biased since households always expect that the price level will increase, as will be discussed later. By contrast, large firms' expectations on *sales prices* tend to be downward-biased because they tend to make cautious management plans. With (2), for example, the *Opinion Survey on the General Public's Views and Behavior* compiled by the Bank asked respondents the price outlook referring to “overall prices of goods and services the respondents purchase.” By contrast, the Bank's *Tankan* (Short-Term Economic Survey of Enterprises in Japan) explicitly refers to the CPI when asking firms about their outlook on *general prices*. Moreover, the BEI and inflation swap rates target the core CPI, but they include both inflation expectations and various premiums. Chart 8 provides basic information about survey based indicators on short-term (one year or less) and medium- to long-term (over one year) inflation expectations.

In achieving price stability, what matters most are the inflation expectations of firms and households, as well as their associated economic behavior. I will therefore concentrate on these inflation expectations here.

### **C. *Developments in inflation expectations of firms***

The Bank's quarterly *Tankan* asks about 10,000 firms with at least 20 million yen in capital about their outlook regarding *sales prices* (rate of price changes relative to the current level) and *general prices* (annual percentage rate changes) for three projection periods: one year, three years, and five years ahead. These questionnaires have been incorporated since the March 2014 survey, and so currently four forecast points are available: March, June, September, and December 2014. Since the amount of data acquired is not yet sufficient, some caution is required in interpreting the results. The respondents are also decomposed into four groups (large manufacturing, large nonmanufacturing, small manufacturing, and small nonmanufacturing). I will now share with you in the following sections my preliminary observations on the survey results. Since the findings that I will describe remain largely unchanged across the forecast points, I will focus on the latest (December 2014) forecast.

#### ***Inflation expectations for sales prices (one, three, and five years ahead)***

The outlook on sales prices is chosen from ten options from "around plus 20 percent or higher" to "around minus 20 percent or lower" (categorized in 5 percent increments) and "Don't know." The average inflation outlook on sales prices for "all firms, all industries" is 1 percent for one year, 1.7 percent for three years, and 2 percent for five years ahead, and shows a rising trend relative to the current level.

It should be noted that these figures refer to the rate of changes relative to the current level, *not* the annual percentage rate change. Thus, taking the difference between these intertemporal figures gives a 0.7 percent increase for three years relative to one year ahead and a 0.3 percent increase for five years relative to three years ahead. Namely, the scale of the sales price increase tends to fall as the projection period moves from one to five years ahead. Another caution is that the average outlook figures are obtained from the sample pool after excluding the "Don't know" respondents. So the average outlook figures are based on a limited number of respondents – especially for the outlook over three and five years ahead.

- First, large manufacturing firms expect on average that sales prices will *remain unchanged* from the current level in three years' time (plus 0.1 percent) and *will fall* from the current level in five years' time (minus 0.2 percent). This shows a sharp contrast from the three other groups, all of which expect a rising sales price level from the current level (Chart 9). In large manufacturing, the declining price expectation is evident for five years ahead, especially among processing sectors, such as electrical and transportation machinery. Given that these sectors face fierce competition, large firms in these sectors are more likely to formulate their business plans conservatively or envision their future sales prices without an increase.
- Second, regardless of the scale of firms, nonmanufacturing firms tend to expect their future sales prices to be *higher* than manufacturing ones. Among large nonmanufacturing firms, relatively higher sales prices are expected in the construction & real estate sectors for three years ahead and in the construction & real estate, retailing, and accommodations & eating & drinking services sectors for five years ahead. With small nonmanufacturing firms, relatively higher sales prices are expected in the construction & real estate and accommodations & eating & drinking services sectors for three years ahead and in the construction & real estate, wholesaling & retailing, accommodations & eating & drinking services, and transport & postal activities sectors for five years ahead. Some of these sectors are already facing a labor shortage, higher real estate prices in large cities, or a rise in construction materials.

These two observations suggest that sales prices are projected to rise in nonmanufacturing – rather than in manufacturing – and in the labor-intensive sectors.

Next, I examine the three largest responses – “around plus 5 percent,” “around 0 percent,” and “Don’t know” – among the aforementioned ten options. The following additional points are observed:

- Third, for “all firms, all industries,” the responses for one year ahead tend to concentrate on “around 0 percent” (from the current level); they account for about 60 percent of all responses. The next-largest responses are related to “around plus 5 percent,” which account for about 20 percent. By contrast, the responses for three years ahead are more widely spread among the various options. The largest responses are for “around 0 percent” (accounting for about 30 percent), and the next two largest responses are for “around plus 5 percent” and “Don’t know” (accounting for over 20 percent each). Those three options account for about 80 percent of all responses. Regarding the responses for five years ahead, the largest responses relate to “Don’t know” (accounting for about 35 percent); the proportion of the “around 0 percent” responses drops to about 20 percent and that of the “around plus 5 percent” responses remains at over 20 percent (Chart 10-1).
- Fourth, the four-group classification indicates that there are greater differences between large and small firms rather than between manufacturing and nonmanufacturing. For both large and small firms, the “Don’t know” responses grow as the projection period increases from one year to five years ahead. However, the proportion of the “Don’t know” responses is greater among large than among small firms for any projection period. Small firms tend to choose the “around plus 5 percent” option more frequently than large ones (Charts 10–2, 10–3, and 10-4).

In light of these responses, it may be said that *small manufacturing firms* find it easier to form expectations on sales prices than do large ones. This is probably because small manufacturing firms tend to project future sales prices through supplier-transaction relationships with large firms and also because they deal with limited kinds of parts and intermediate goods. Meanwhile, *small nonmanufacturing firms* form expectations on sales prices by taking into account an expected increase in production costs while considering relevant market prices influenced mainly by large nonmanufacturing firms. This may reflect the fact that small nonmanufacturing firms are relatively more labor intensive than large ones and are already facing a labor shortage.

### ***Inflation expectations on general prices (one, three, and five years ahead)***

Let us now examine the outlook for general prices, as measured by the CPI. The responses are chosen from ten options, ranging from “around plus 6 percent or higher” to “around minus 3 percent or lower” (categorized in 1 percent increments), and “Don’t have clear views” with three sub-categories (on general prices). The average inflation outlook for “all firms, all industries” is 1.4 percent for one year, 1.6 percent for three years, and 1.7 percent for five years ahead, and shows a rising trend as the projection period increases from one to five years ahead (Chart 7). I will now elaborate on three observations on these results.

- First, the four-group classification reveals that the differences in the projected inflation level are greater between large and small firms than between manufacturing and nonmanufacturing. Large firms project on average 1.1 percent for one year ahead and 1.2 percent for both three and five years ahead; and small firms on average report about 1.7 percent for one year, 1.8 percent for three years, and 1.9 percent for five years ahead. So while they both basically project a rising trend, small firms have higher levels of inflation expectations (Chart 11).



By focusing on the four largest responses – “around plus 2 percent,” “around plus 1 percent,” “around 0 percent,” and “Don’t have clear views” – among the aforementioned options, the following points are observed:

- Second, among “all firms, all industries,” the general price outlook for one year ahead is relatively widespread among the options compared with the sales price outlook. The largest “around plus 1 percent” responses account for about 30 percent of total responses, followed by the “around plus 2 percent” and “around 0 percent” responses (accounting for about 20 percent each). The “Don’t have clear views” responses account for approximately 15 percent of total responses. On the outlook for three years ahead, the “Don’t have clear views” response increases to about 30 percent. The next-largest responses are “around plus 1 percent” and “around plus 2 percent” (each accounting for about 20 percent). This pattern becomes more apparent with the outlook for five years ahead. The proportion of the “Don’t have clear views” responses rises to approximately 40 percent; the “around plus 1 percent” and “around plus 2 percent” responses both drop to about 15 percent. From one to five years ahead, the proportion of “Don’t have clear views” responses are greater than that of the “Don’t know” response for sales price outlook (Chart 12–1).
- Third, the four-group classification reveals that the “Don’t have clear views” response is greater among large than among small firms. The responses account for over 40 percent on the outlook for three years ahead and over 50 percent on that for five years. As for small firms, the proportion of “around plus 2 percent” responses is greater than that for large firms with the outlooks for one, three and five years ahead (Charts 12–2, 12–3, and 12–4).

### **Summary of observations related to inflation expectations of firms**

Based on the aforementioned results, I will now summarize the combined observations on sales price- and general price-related inflation expectations of firms.

1. The average outlook for *general prices* among “all firms, all industries” indicates 1.4 percent for one year, 1.6 percent for three years, and 1.7 percent for five years ahead. However, the outlook among large firms remains largely unchanged over the same projection period. This implies that the rising trend in the outlook appears to largely reflect the outlook among small firms. Large firms also appear to make more conservative, lower projections on *sales prices* than small firms.
2. For both general and sales prices, the “Don’t have clear views” and “Don’t know” responses are greater among large than small firms. Large firms are likely to face a greater degree of uncertainty in their outlooks for both types of prices – probably because of the direct exposure to fierce global and domestic competition in final-product markets. By contrast, small firms tend to expect higher general and sales prices through labor shortage and high input costs because of their labor intensity and relatively low profit margins.
3. Large firms project more conservative, lower sales prices than small firms. This may in turn affect the sales prices of small firms through transaction relationships. As a result, some small firms may find it difficult to pass their rising production costs onto their sales prices, thereby squeezing their margins and profitability. This suggests that small firms will need to make greater efforts to improve margins and shift to higher value-added business models.
4. Because large firms often play a role as price setters, aggregating their sales price outlooks, especially those of processing industries whose products are close to final goods, will likely result in the true outlook for general price inflation, such as CPI inflation. If such large firms maintain their conservative, lower pricing behavior with

respect to sales prices, the level of actual inflation in general prices may turn out to be lower than the level suggested by the average of inflation expectations for “all firms, all industries.”

5. Finally, for both general and sales prices, the “Don’t have clear views” and “Don’t know” responses account for 20 percent-40 percent for the projection for three years ahead and 30 percent-50 percent for that for five years. Moreover, greater dispersion among the responses is observed as the projection period increases. In terms of level of general price inflation, even the average of projections by small firms for five years (whose average is highest) is 1.9 percent. In this regard, it may be said that *firms’ medium- to long-term inflation expectations are not yet anchored and that the Bank has only passed the halfway point on the path toward achieving the 2 percent price stability target.*

#### **D. Developments in inflation expectations of households**

The Bank conducts the *Opinion Survey on the General Public’s Views and Behavior* with a sample of about 4,000 people (a little over half provide valid responses). The quarterly survey results are currently available on a consistent base since June 2006 up to its latest December 2014 survey. There are two indicators related to inflation expectations: one year (the outlook for price levels one year ahead); and five years (the outlook for the annual average change in price levels over the next five years). In addition, some other relevant price-related indicators that can be calculated using the survey data include *the perception diffusion index (DI) of present price levels* (the difference between perceived increase and perceived decrease responses compared with one year earlier) and *the price rise tolerance DI* (the difference between rather favorable and rather unfavorable responses to the price rise). I will explain the features obtained from these indicators and other relevant information derived from the survey (such as income, spending, and employment conditions DIs), starting with the present and short-term developments and proceeding to medium- to long-term inflation expectations.

##### **Attitude to the price rise (price rise tolerance)**

- The perception DI of present price levels appears to be inversely related to the price rise tolerance DI (Chart 13). Namely, whenever households believe that present price levels have increased compared with one year earlier, the price rise tolerance DI tends to drop or the attitude to the price rise becomes negative. The price rise tolerance DI rose from late 2009 to early 2010, when both the actual CPI and the perception DI dropped during the middle of the global financial crisis. This suggests that households accepted the price rise more favorably or found price drop more unfavorably – probably not because of the price hike per se but because of growing concerns about recession reflected in an actual price decline.
- Comparing two observation years – 2008 and 2014 – during which a comparable rise occurred in CPI inflation, the price rise tolerance DI was greater in 2014 than in 2008. This may be associated with better employment and income conditions in 2014 than in 2008. Indeed, the present income DI, the one-year-ahead income DI, and the employment conditions DI were all higher in 2014 than in 2008 (Chart 14).

##### **Expectations for one-year inflation and relations to income and spending**

- The indicators for one-year inflation expectations on average remain *positive* – even in the phase of deflation. This suggests that households always believe that price levels one year ahead *will be higher*. Conversely, both the present income DI and one-year-ahead income DI remain *negative*. This suggests that households always consider their present income to *have declined* compared with one year earlier and that their income one year ahead *will decrease* compared with the present. This

implies that households always expect that their *real income one year ahead will decline* (Chart 15).

- Meanwhile, the present spending DI remains *positive*, whereas the one-year-ahead spending DI remains *negative* (Chart 15). Namely, households have increased the present level of spending compared with one year earlier, but plan to reduce the spending level one year from now. Moreover, households tend to regard the rise in living expenses as the main reason for the increase in the current spending level when the present spending DI grows.

Taking these features into account, it may be said that *households plan to reduce spending one year ahead because they expect their real income to have declined by then*. Generally speaking, with a rise in one-year-ahead inflation expectations, households tend to frontload their spending today and reduce their future spending to smooth the intertemporal budgetary constraint. In this regard, an increase in the present spending DI associated with the increase in one-year-ahead inflation expectations could be understood as a sign of defensive action against future price hikes.

### ***Present price perception and inflation expectations (one and five years)***

- Like one-year inflation expectations, the indicators for five-year inflation expectations on average remain *positive*. This means that households expect that price levels will rise over the next five years – even during a time of deflation (Chart 16).
- Among the following – (1) the perception of present inflation (based on the year-on-year percentage price change), (2) one-year inflation expectations, and (3) five-year inflation expectations – the fluctuations for (1) are greatest, followed by (2). Chart 16 reveals that the perception indicator grew sharply in 2008 compared with one- and five-year inflation expectations. This suggests that although households found that present prices had increased sharply in 2008 compared with one year earlier, they believed that that extreme price hike would eventually be contained. By contrast, all three indicators remained stable in 2014, with average values of around 4 percent-5 percent.
- The opinion survey began a biannual questionnaire about information sources for households' price views in September 2013. According to the most recent (September 2014) survey for both present price levels and five-year inflation expectations, "developments in prices of frequently-purchased items such as foodstuffs" was chosen as the most applicable source, followed by "developments in gasoline prices." Over 50 percent of all respondents regarded those two options as their most relevant information sources (Chart 17).
- The indicators for five-year inflation expectations remain stable. At first glance, adopting the 2 percent price stability target and QQE in 2013 appear to have exerted no significant effects on inflation expectations. However, I will return to this issue.

### ***E. Summary of households' inflation expectations and relation to those of firms***

Let me know sum up my observations on households' inflation expectations and relate them to the expectations of firms.

1. Households' five-year inflation expectations on average appear to remain stable at around 4 percent at first glance. However, the survey revealed that the basis for five-year inflation expectations largely depends on the prices of frequently-purchased items and gasoline – and not much from monetary policy. Thus, stable movements in inflation expectations do not necessarily mean that their medium- to long-term inflation expectations are anchored.

2. One interesting feature is that households rely more heavily on *general price-related information and various other sources* with respect to five-year inflation expectations compared with perceptions of present price levels. For example, they rely relatively more heavily on “media reports on individual prices of goods and services and prices in general” and “developments in foreign exchange rates” (Chart 17).
3. In addition, the indicators for one- and five-year inflation expectations remain largely unchanged before and after adopting the 2 percent price stability target and QQE. It might appear at first glance that the effects of the monetary policy have been limited. However, the survey responses are known to have *reporting biases*: outliers with extreme numbers; downward rigidity or the tendency to avoid negative numbers – even when respondents expect deflation; and many responses with integers, especially multiples of five. After taking these biases into account, the modified distribution of one- and five-year inflation expectations has displayed notable changes since 2013. Namely, the skew to the deflationary side has diminished for both inflation expectations. The right tail to the inflationary side for five-year inflation expectations has contracted. As a result, the spike at around 2 percent has become sharper for both inflation expectations, which shows that households’ inflation expectations concentrated at around 2 percent (Chart 18). This may suggest that *the change in the Bank’s monetary policy in 2013 has positively affected households’ inflation expectations, leading to a greater concentration of responses to about 2 percent.*<sup>1</sup>
4. Households’ inflation expectations are higher than those of firms, which suggests the presence of an *upward bias*. This may be because of two possible reasons. One is that households and firms envisage different prices when responding to the survey questionnaire. Households are asked to respond to “overall prices of goods and services the respondents purchase,” whereas firms are asked to respond to general prices measured by the CPI. The reason households are asked in this manner is that some respondents are unfamiliar with the CPI, which makes it difficult to form an outlook based upon it.
5. The other possible reason for the *upward bias* is that households tend to perceive and expect higher price levels as a corollary of long-standing sluggish income growth, resulting in an anticipated tightening of household budgets. By contrast, firms tend to form conservative inflation expectations based on the surrounding economic environment and information obtained from transactions with other firms. Given that firms appear to weigh more on macro information and that some of them perceive price developments based not only on input prices but also on sales prices, their inflation expectations as a whole are more likely to be lower than those of households and more closely approximate the rate of actual CPI inflation.

The most important finding is that households expect that prices will have risen one year ahead and will increase over the next five years; such an expected price rise is regarded as *rather unfavorable* because it is associated with an *expected decline in their future real income*. Partly reflecting such limited tolerance for price rises by households, large firms (manufacturing and nonmanufacturing) may tend to project a relatively *conservative, lower* increase in both general prices and sales prices than small firms.

Households’ poor tolerance for price rises reflects the perception that their present income level has declined compared with one year earlier and also that their income level one year ahead will not increase much. To achieve the 2 percent price stability target with a sustainable increase in private spending, *it is necessary for price rises to be widely accepted*

---

<sup>1</sup> See Shunsaku Nishiguchi, Jouchi Nakajima, and Kei Imakubo, “Disagreement in Households’ Inflation Expectations and Its Evolution,” *Bank of Japan Review Series* 2014-E-1, March 2014.

*by households. This requires an improvement in current employment and income conditions as well as an increase in expectations of future income growth.* In this respect, I will closely monitor favorable developments in income (nominal and real) projected for fiscal 2015 and beyond as *important steps toward achieving the price stability target.*

#### **IV. Concluding remarks**

The Bank adopted the 2 percent price stability target for the following reasons: (1) the need to maintain a sufficient buffer for inflation owing to the upward-bias problems inherent in CPI statistics; (2) the need to leave sufficient room for the conduct of flexible monetary policy by achieving a certain level of inflation in recessionary phases; and (3) the need to set a target of around 2 percent as a *global standard* in terms of a price stability target to avoid reemergence of excessive appreciation of the yen. In addition, the 2 percent target is essential to realize *normal* economic conditions, in which positive rates of nominal GDP growth occur on a sustainable basis.

However, households tend to regard price level rises as unfavorable. It is not easy to promote their understanding of the Bank's price stability target – especially since real income dropped sharply in fiscal 2014. Nonetheless, income (nominal and real) will likely rise in fiscal 2015. Therefore, it is essential for the Bank to boost the effectiveness of its communication strategy by explaining more clearly why it aims to achieve the 2 percent target and how this will improve people's lives in the medium to long term. I will continue making further efforts in this regard.

In addition, even though the Bank's economic growth outlook for 2014 has been revised sharply downward, it is clear that Japan's economy is currently in a far better shape than it was before the introduction of QE. A virtuous cycle from income to spending, which is the driving force of the economy, is being maintained in the household and corporate sectors. Thus, it is crucial for the Bank to continue to support the current recovery process.

I sincerely hope that all entities will take full advantage of the opportunity afforded by the highly accommodative financial environment generated by QE to expand their efforts toward enhancing innovation and productivity – in concert with the economic growth strategy and structural reforms implemented by the government.

Thank you very much for your kind attention.

Monetary Policy of the ECB and the Bank of Japan

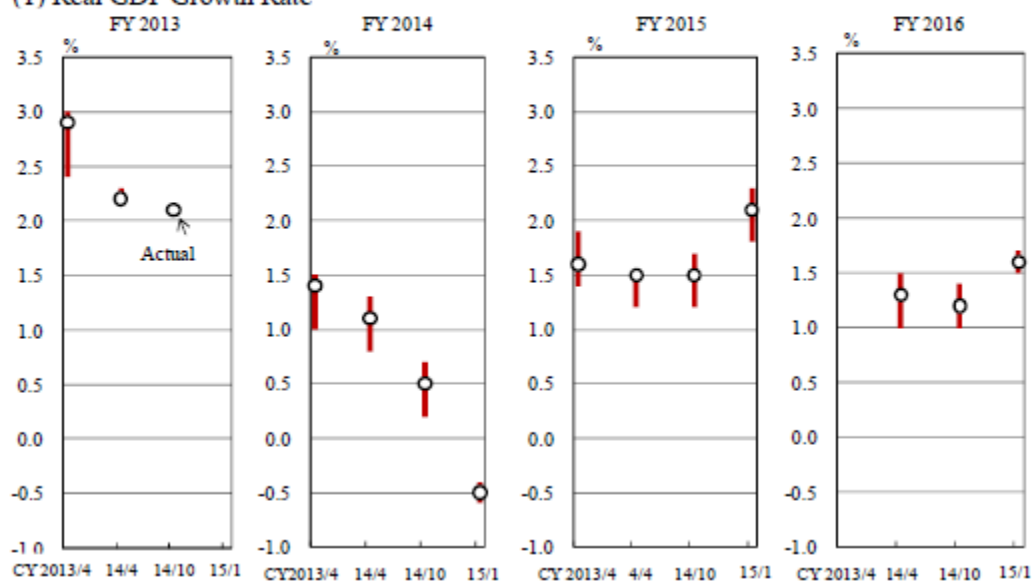
		European Central Bank (ECB)	Bank of Japan
Asset purchases	Types of assets	(1) Euro-denominated securities issued by euro area governments and agencies and European institutions —Maturity between 2-30 years —Basically, investment-grade securities (above BBB-) (2) Asset-backed securities (ABSs) (3) Covered bonds	(1) Japanese government bonds (JGBs) —All maturities including 40-year bonds are eligible for purchase. —Average remaining maturity of about 7-10 years (2) Exchange-traded funds (ETFs) (3) Japan real estate investment trusts (J-REITs) (4) CP and corporate bonds (with the amount outstanding maintained at about 2.2 trillion yen and about 3.2 trillion yen, respectively)
	Purchase amounts	—Combined monthly purchases of public- and private-sector securities of 60 billion euros	—JGBs: An annual pace of increase of about 80 trillion yen —ETFs: An annual pace of increase of about 3 trillion yen —J-REITs: An annual pace of increase of about 90 billion yen
	Effective period	—From March 2015, until at least September 2016 (covered bond purchases from October 2014, and ABS purchases from November 2014) —It will be conducted until the ECB sees a sustained adjustment in the path of inflation which is consistent with its aim of achieving inflation rates below, but close to, 2 percent over the medium term.	—From April 2013, expanded in October 2014 —The Bank will continue with QQE, aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner. It will examine both upside and downside risks to economic activity and prices, and make adjustments as appropriate.
Other policy measures	Measures to support bank lending	—Targeted longer-term refinancing operations (the interest rate on the main refinancing operations will be applied from March 2015)	—Fund-Provisioning Measure to Stimulate Bank Lending (0.1 %) —Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth (0.1 %)
	Major policy rates	—Main refinancing operations (0.05 %) —Marginal lending facility (0.3 %) —Deposit facility (minus 0.2 %)	<u>Guideline for money market operations:</u> Increase the monetary base at an annual pace of about 80 trillion yen. —Fund-Supplying Operations against Pooled Collateral (0.1 %) —Complementary Deposit Facility (0.1 %)

Note: Figures in parentheses are the applicable interest rates.

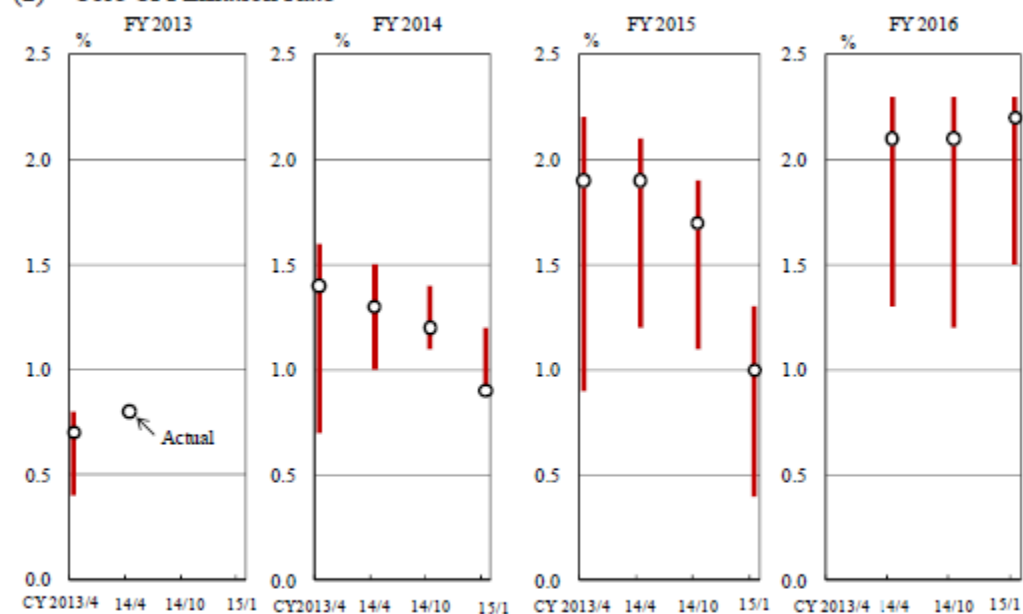
Sources: European Central Bank; Bank of Japan.

The Bank's Outlook for Economic Activity and Prices

(1) Real GDP Growth Rate



(2) Core CPI Inflation Rate



Note: The range and the median of majority forecasts of Policy Board members. Figures for FY 2014 exclude the direct effects of the consumption tax hike.

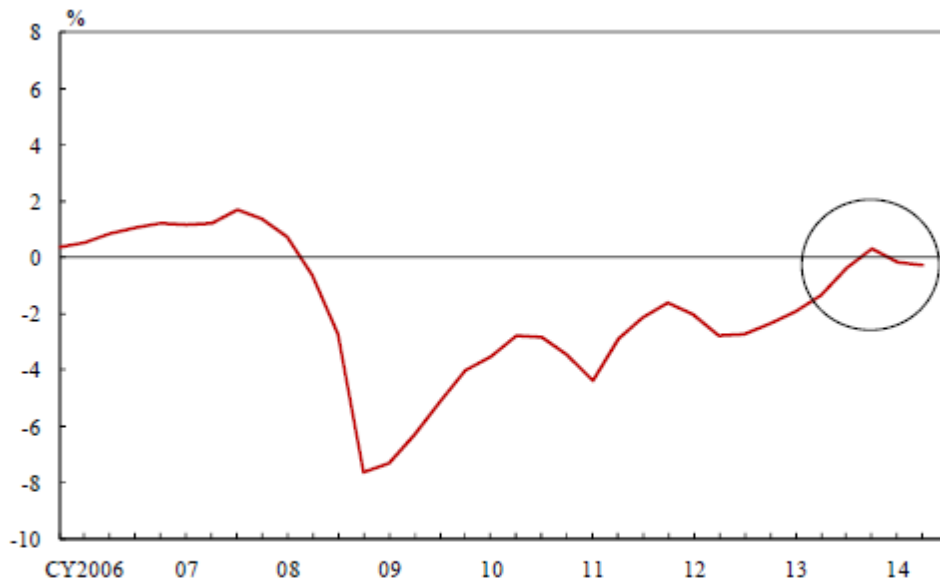
Source: Bank of Japan.

Potential Growth Rate and Output Gap

(1) Potential Growth Rate



(2) Output Gap



Note: The latest estimates are for April-June 2014 for the potential growth rate and for July-September 2014 for the output gap.  
Source: Bank of Japan.

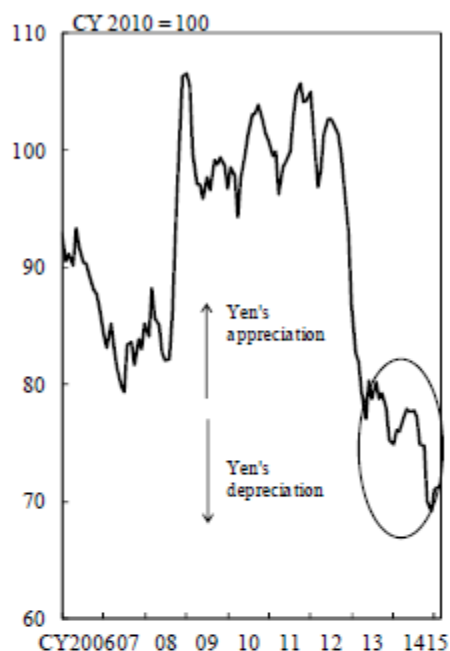


Financial Market Conditions

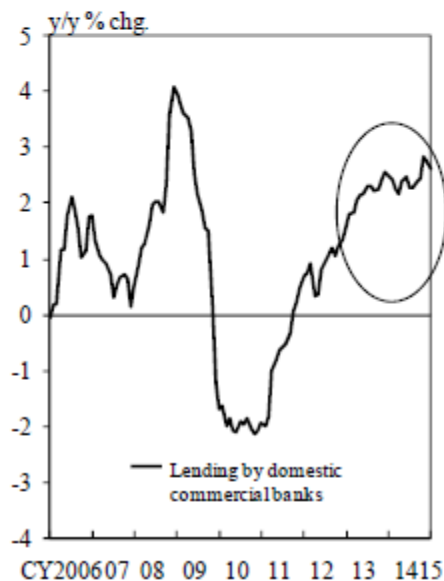
(1) Real Long-Term Interest Rate



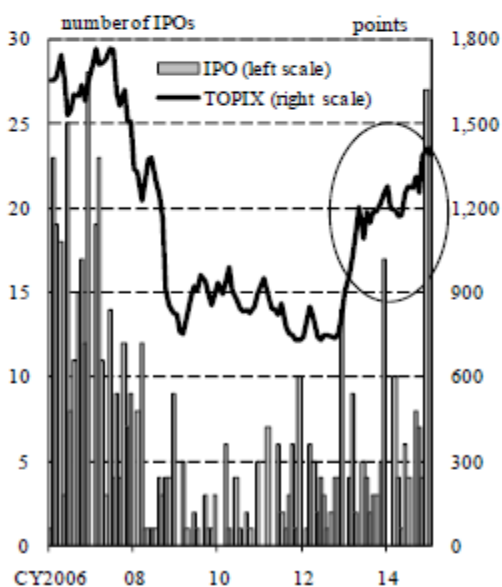
(2) Real Effective Exchange Rate



(3) Private Bank Lending



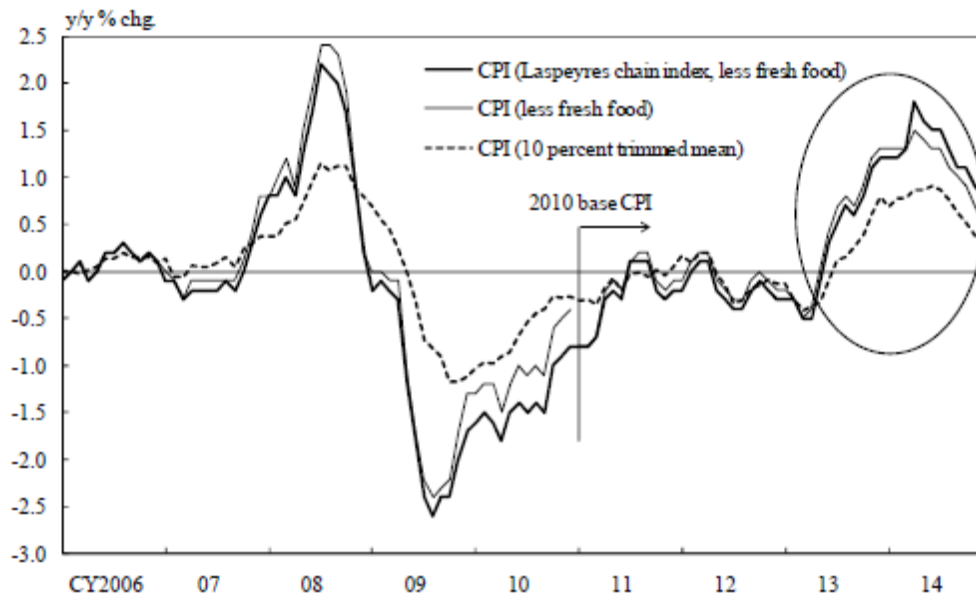
(4) Stock Prices and IPO



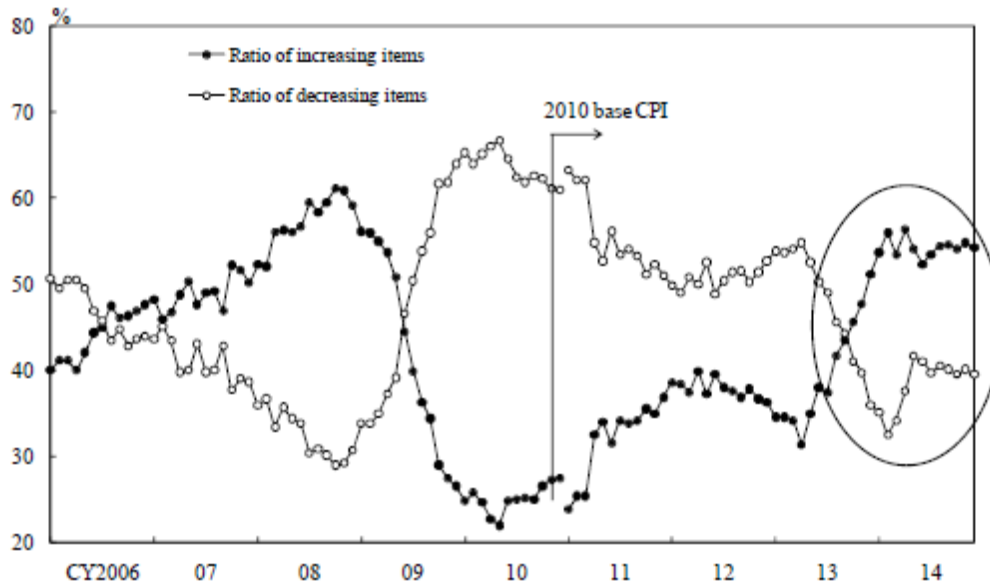
Note: Figures for the real long-term interest rate are estimated using bond yields and market participants' inflation expectations.  
Sources: I-N Information Systems; Bloomberg; QUICK; Bank of Japan.

Underlying Price Developments

(1) Trend Changes in Consumer Price Indexes



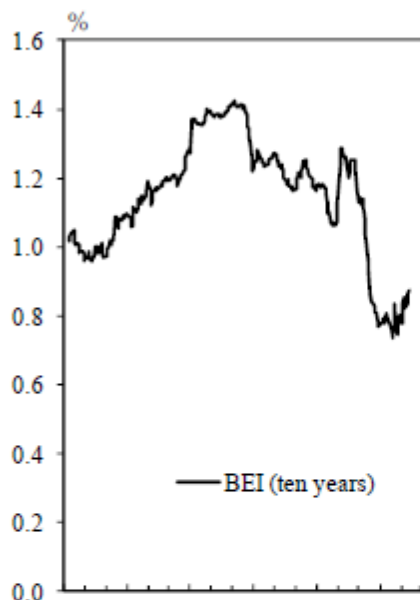
(2) Ratio of Increasing and Decreasing Items (Core CPI)



Note: Figures after April 2014 exclude the direct effects of the consumption tax hike.  
Sources: Ministry of Internal Affairs and Communications; Bank of Japan.

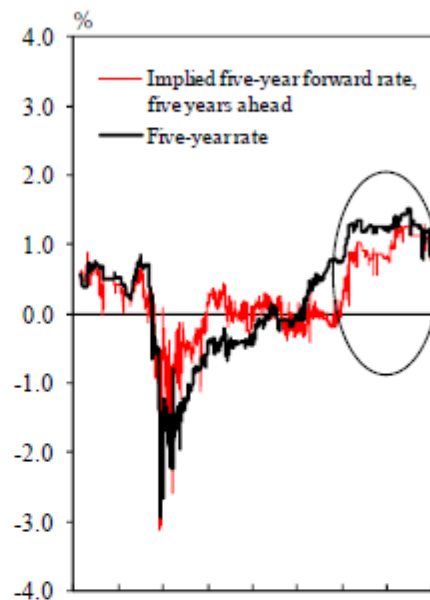
Medium- to Long-Term Inflation Expectations <1>  
(Market-based Indicators and Market Participants' Survey)

(1) Break-Even Inflation (BEI) Rate



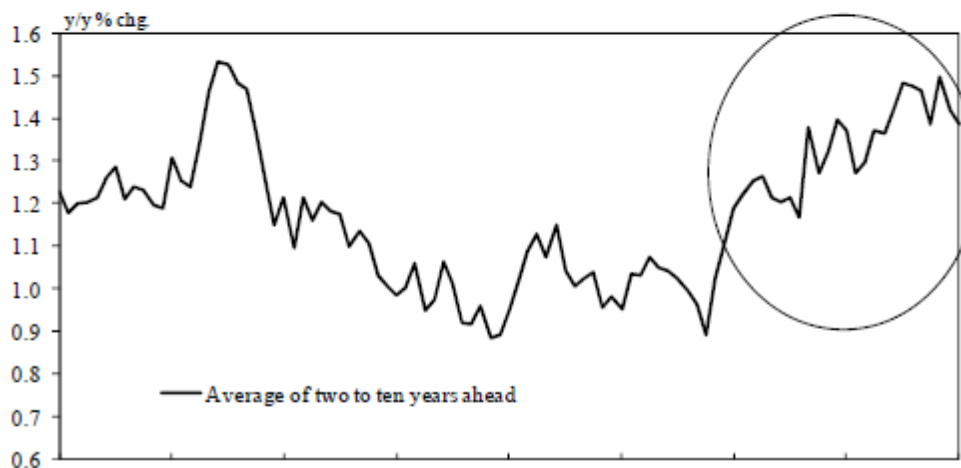
CY2013/10 14/1 14/4 14/7 14/10 15/1

(2) Inflation Swap Rate



CY2007 08 09 10 11 12 13 14 15

(3) Bond Market Participants (QUICK Bond Monthly Survey)



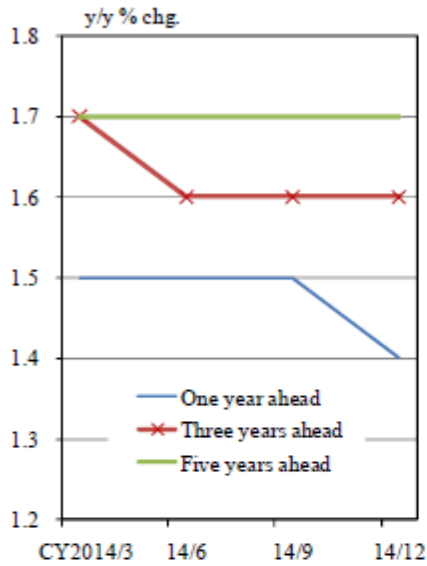
CY2007 08 09 10 11 12 13 14 15

Note: Inflation swap rate is the fixed interest rate of the zero coupon inflation swap. The QUICK Bond Monthly Survey began including the effects of the consumption tax hike from the September 2013 survey.  
Sources: Bloomberg; QUICK.

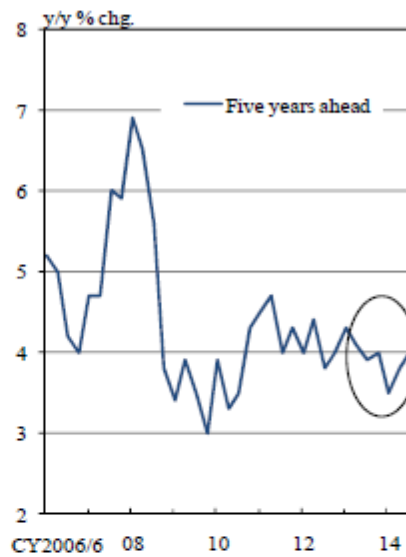
Medium- to Long-Term Inflation Expectations <2>

(Firms, Households, and Economists)

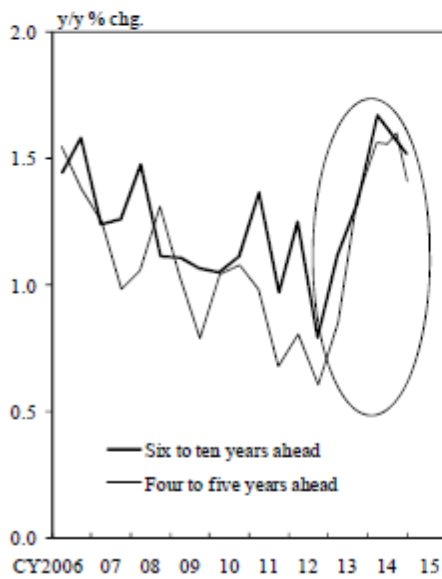
(1) Firms (*Tankan*, All Firms, All Industries)



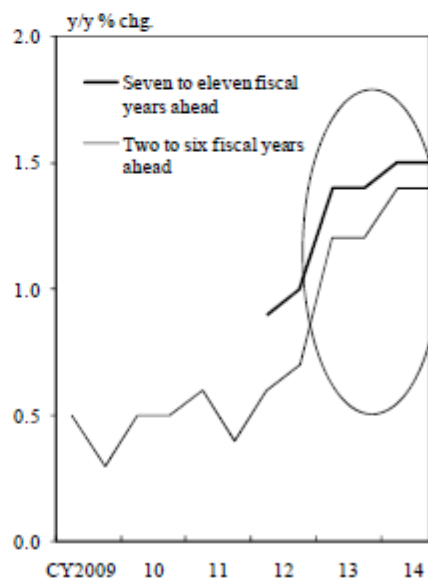
(2) Households (Opinion Survey on the General Public's Views and Behavior)



(3) Economists (Consensus Forecast)



(4) Economists (ESP Forecast)



Note: Survey respondents are asked to exclude the effects of the consumption tax hike for the whole period for the *Tankan*, from the June 2013 survey for the household survey, and from the October 2013 survey for the ESP forecast. The effects are irrelevant for the Consensus Forecasts.

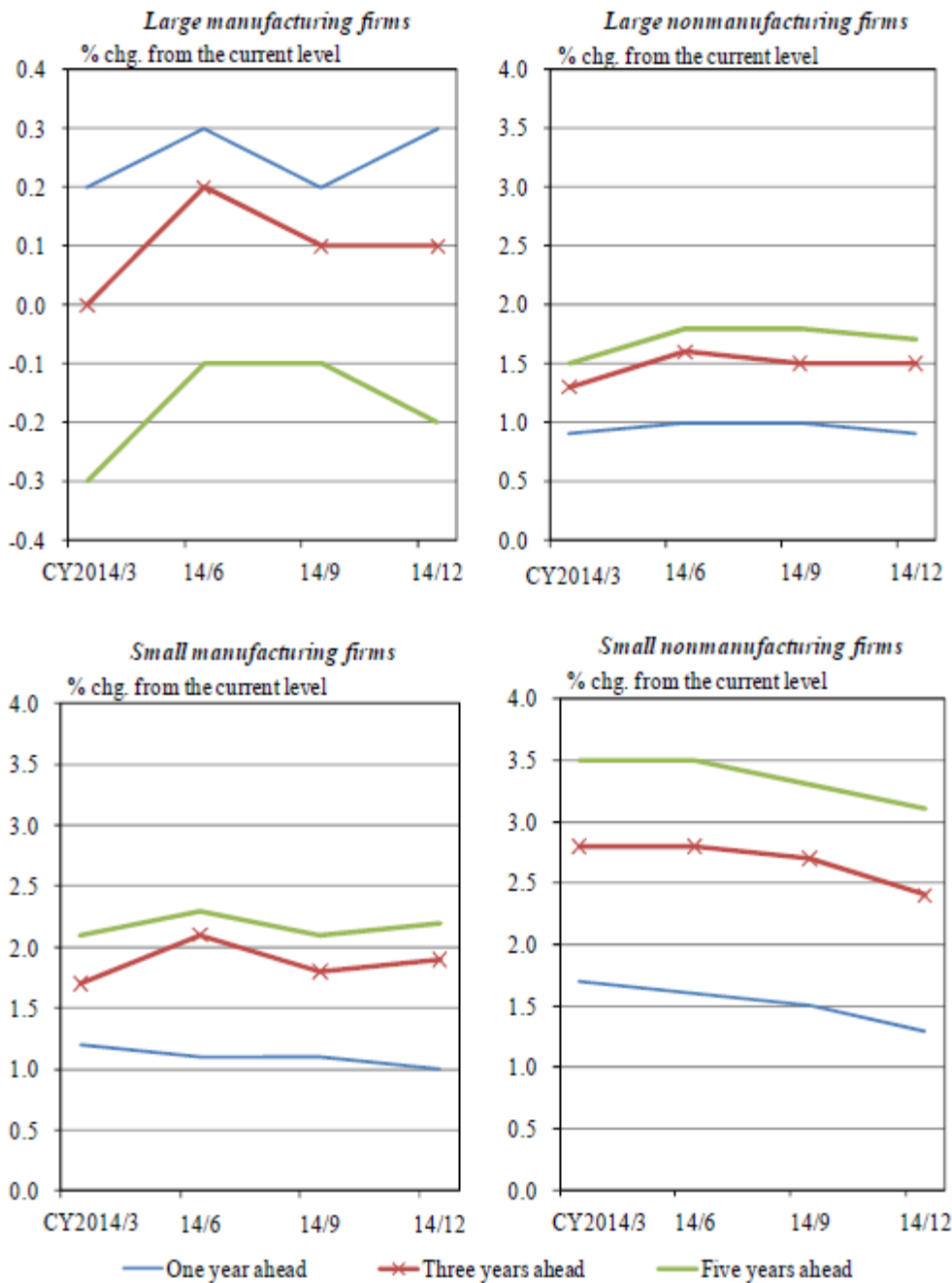
Sources: Bloomberg; Consensus Economics Inc., "Consensus Forecasts"; Japan Center for Economic Research (JCER); QUICK; Bank of Japan.

## Surveys of Inflation Expectations

Agent	Name of Survey	Time Frame		Sample numbers	Starting period and frequency
		Short-term	Medium- to long-term		
Households	Opinion Survey on the General Public's Views and Behavior	One year	Five years	4,000 people	June 2006, <sup>1</sup> quarterly
	Consumer Confidence Survey	One year	n.a.	8,400 households	April 2004, monthly
Market participants and economists	QSS Bond Monthly Survey	One and two years	Ten years	About 220 market participants	July 2004, monthly
	ESP Forecast	One and two years	Two to six and seven to eleven years	About 40 economists	May 2004, monthly
	Consensus Forecast (long-term projection)	Each year to five years ahead	Six to ten years	n.a.	From October 1989 to April 2014: April and October From July 2014 to the present: January, April, July, and October
Firms	<i>Tankan</i> (Bank of Japan)	One year	Three and five years	About 10,000 firms	March 2014, quarterly
	QUICK <i>Tankan</i>	One year	Two or more years ahead	About 400 firms	January 2014, monthly

Note: 1. Data for the Opinion Survey on the General Public's Views and Behavior are available on a consistent basis from June 2006.  
Source: Each survey.

Firms' Outlook for Sales Prices (1): Medium to Long Term (Average)

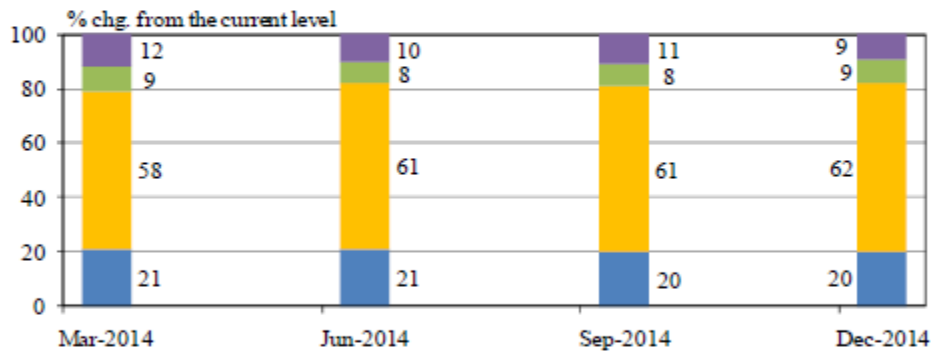


Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

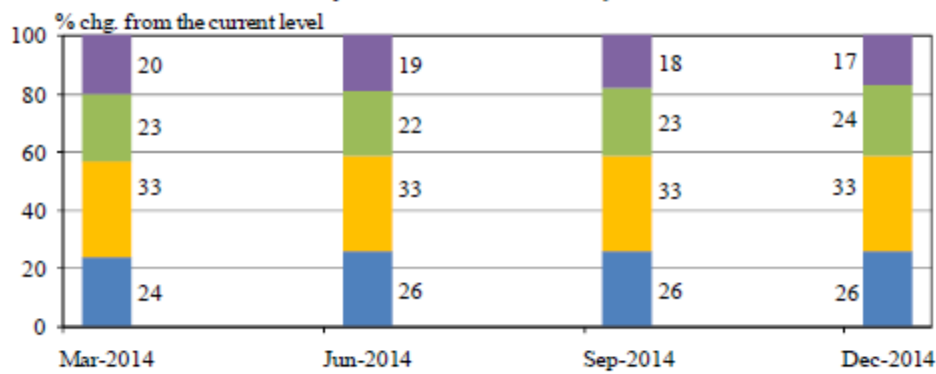
**Firms' Outlook for Sales Prices (2): Medium to Long Term**

-- Distribution of the Three Largest Responses --

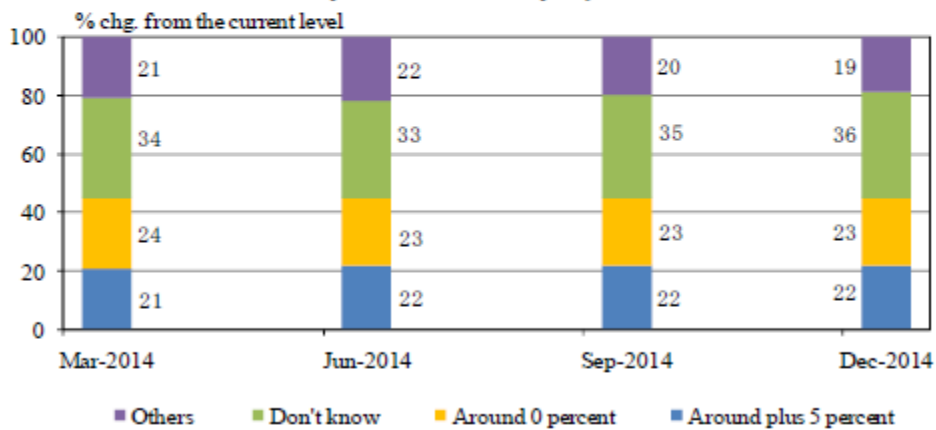
*All firms, all industries: one year ahead*



*All firms, all industries: three years ahead*



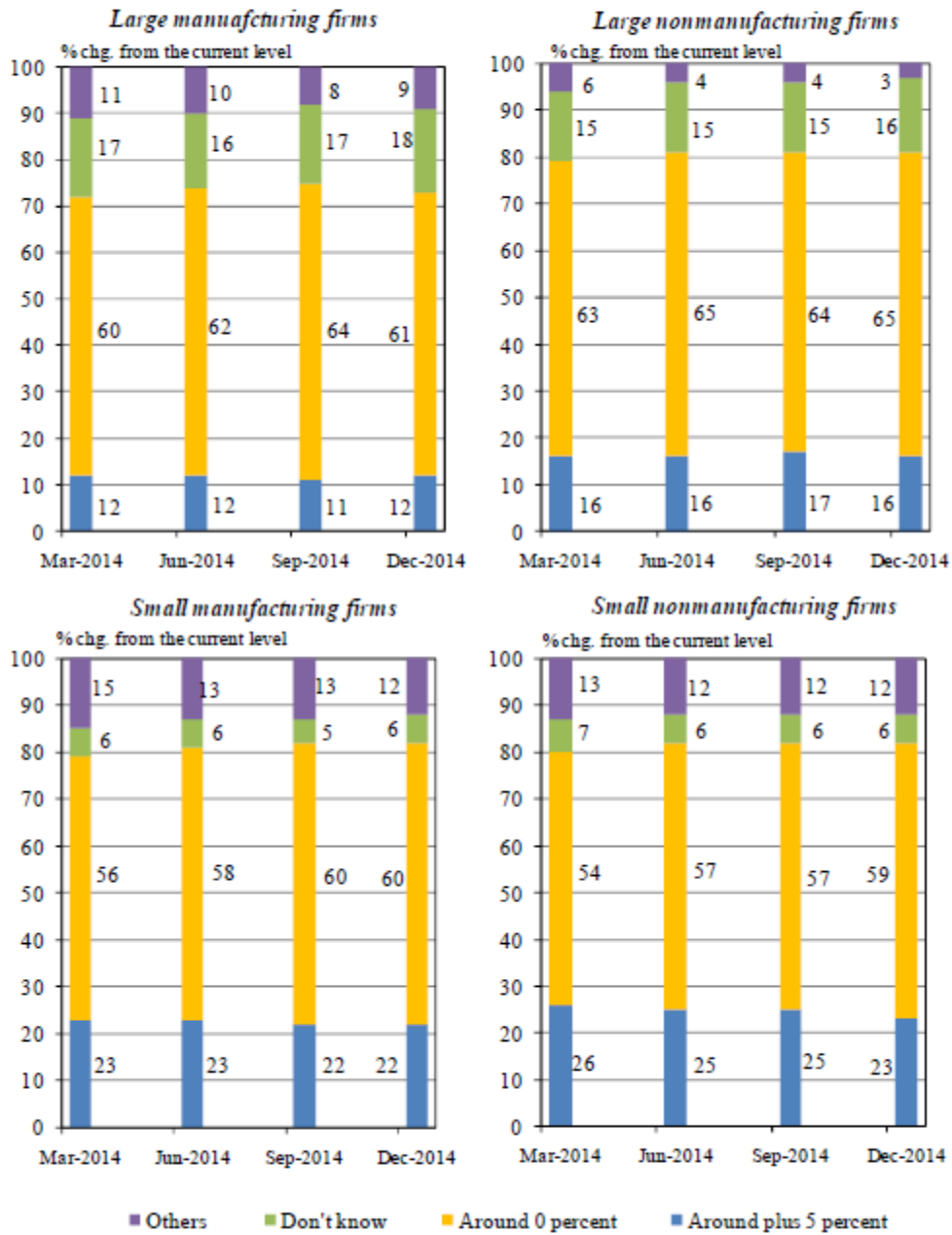
*All firms, all industries: five years ahead*



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

**Firms' Outlook for Sales Prices (3): One Year Ahead**

-- Distribution of the Three Largest Responses --

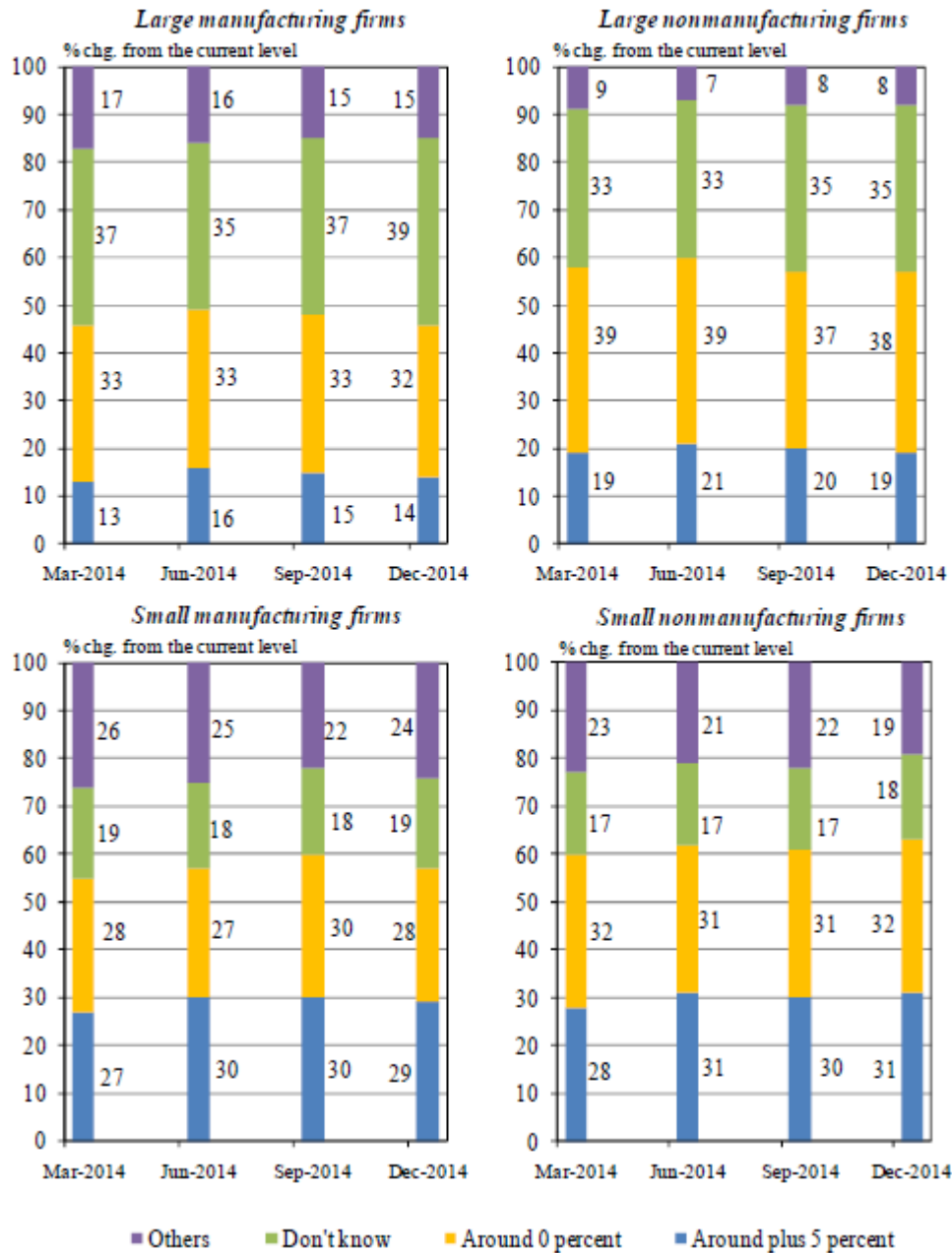


Note: The *Janban* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.



**Firms' Outlook for Sales Prices (4): Three Years Ahead**

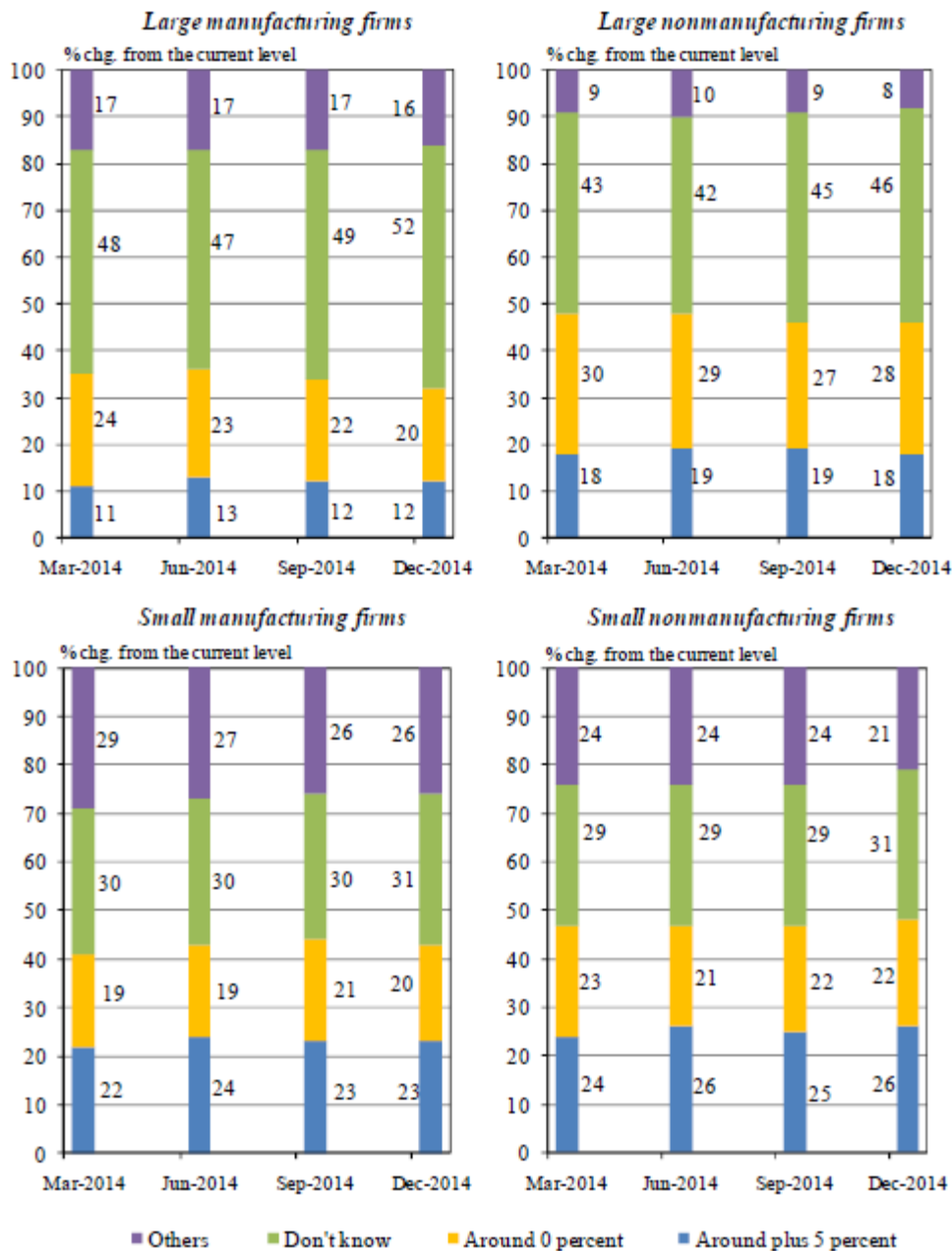
-- Distribution of the Three Largest Responses --



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

**Firms' Outlook for Sales Prices (5): Five Years Ahead**

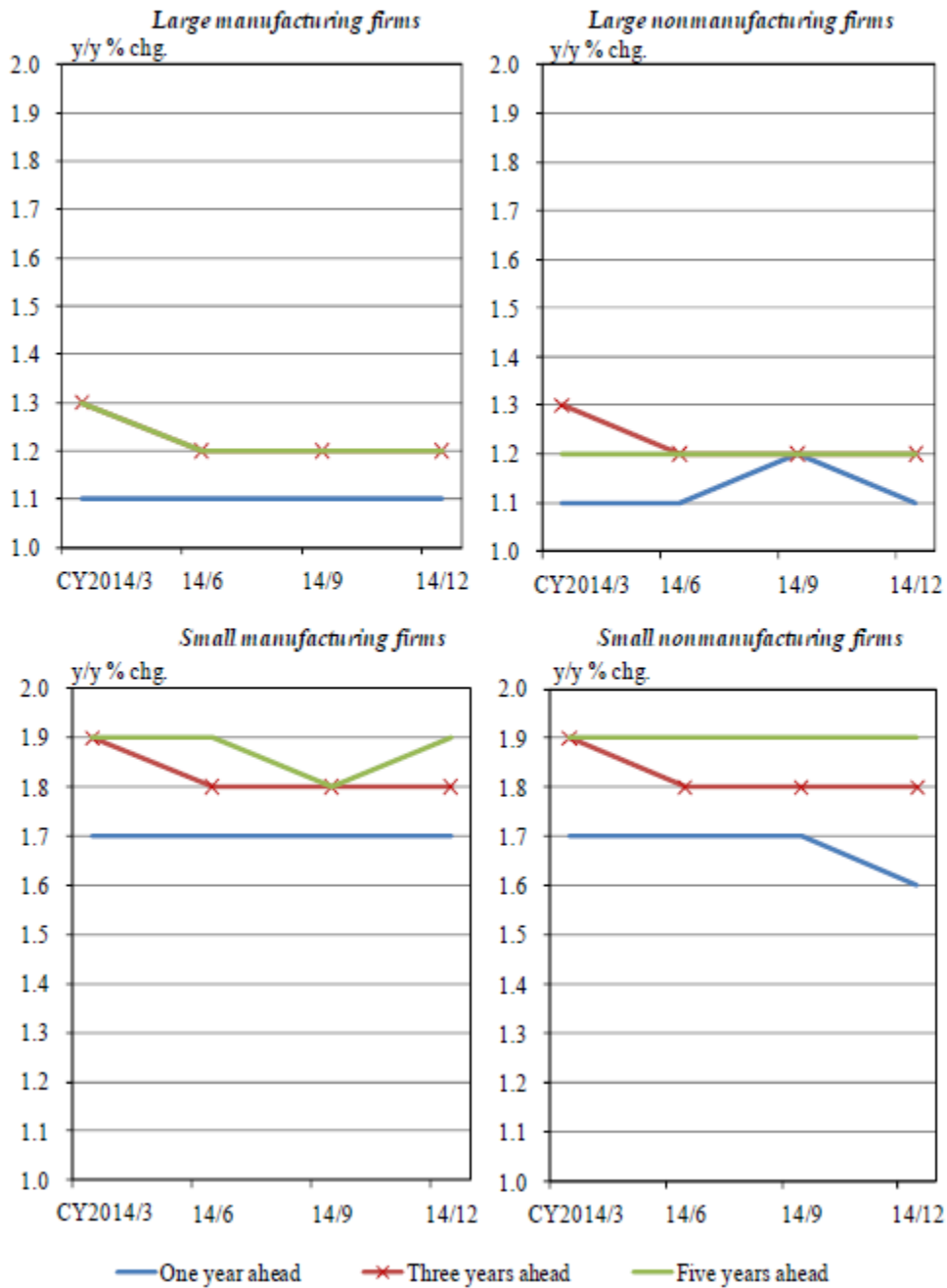
-- Distribution of the Three Largest Responses --



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
Source: Bank of Japan.

Chart 11

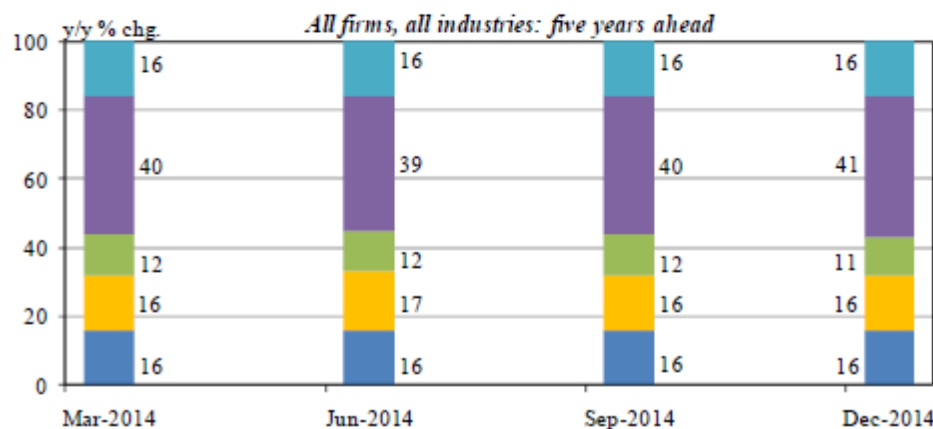
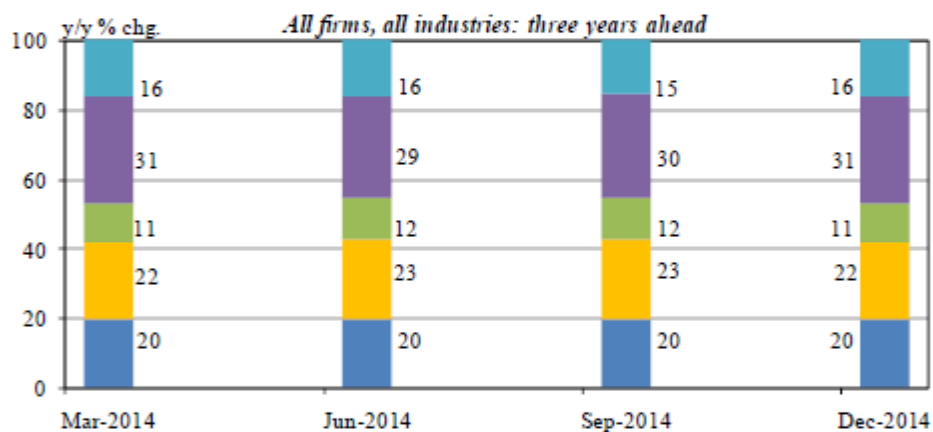
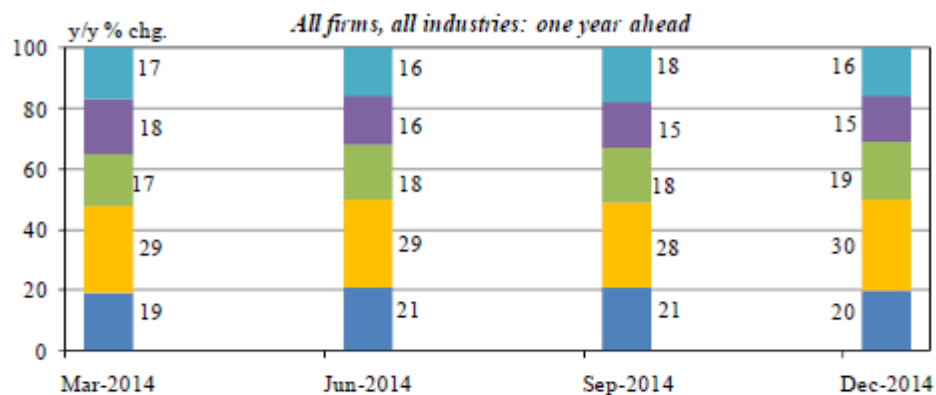
Firms' Outlook for General Prices (1): Medium to Long Term (Average)



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

**Firms' Outlook for General Prices (2): Medium to Long Term**

-- Distribution of the Four Largest Responses --



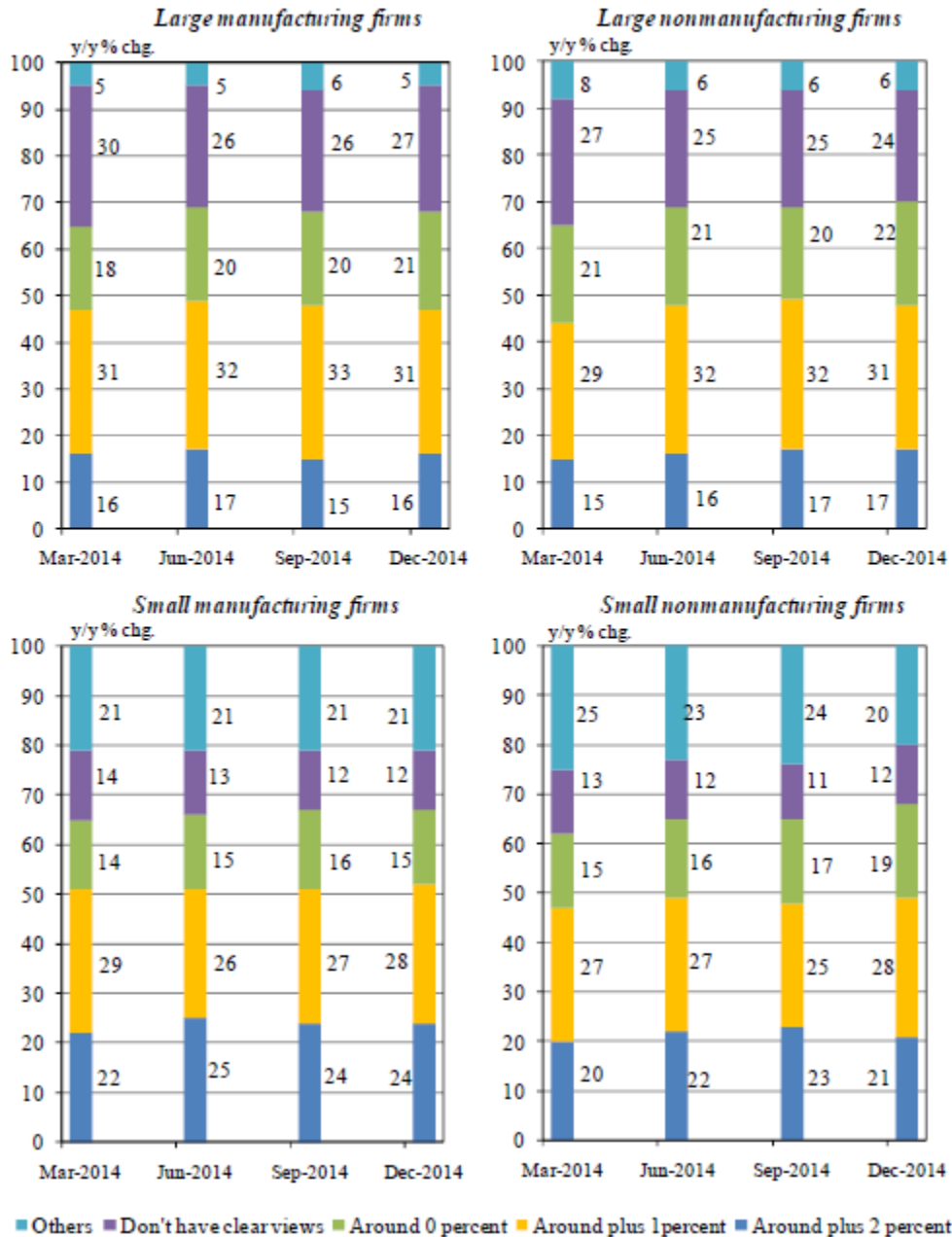
■ Others ■ Don't have clear views ■ Around 0 percent ■ Around plus 1 percent ■ Around plus 2 percent

Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.

Source: Bank of Japan.

**Firms' Outlook for General Prices (3): One Year Ahead**

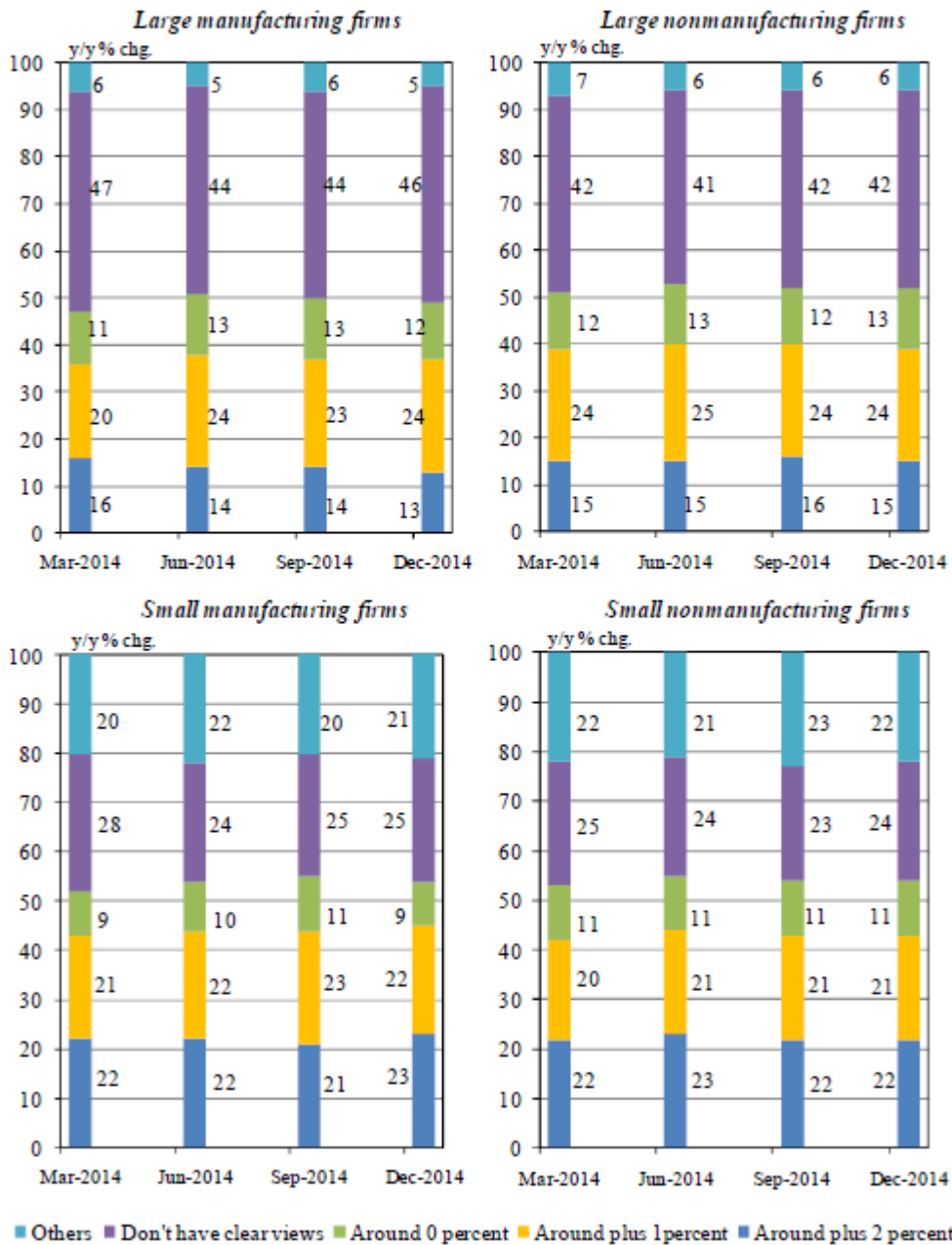
-- Distribution of the Four Largest Responses --



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
Source: Bank of Japan.

**Firms' Outlook for General Prices (4): Three Years Ahead**

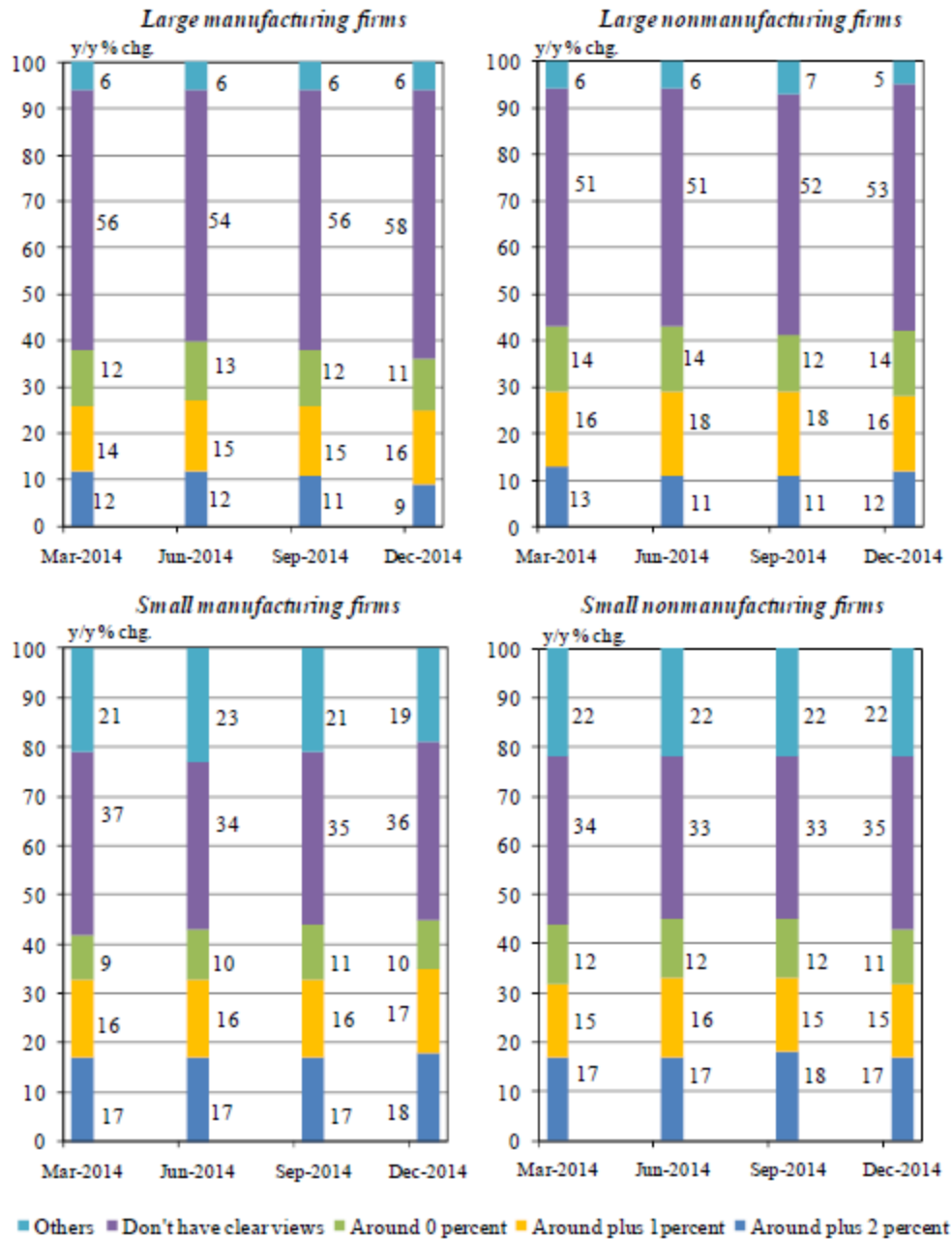
-- Distribution of the Four Largest Responses --



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

**Firms' Outlook for General Prices (5): Five Years Ahead**

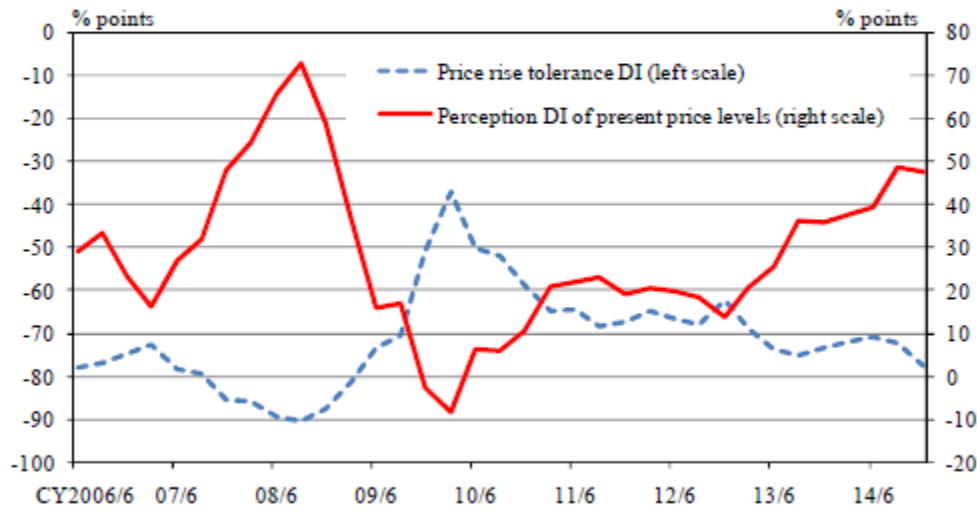
-- Distribution of the Four Largest Responses --



Note: The *Tankan* explicitly asks respondents to disregard the effects of the consumption tax hike.  
 Source: Bank of Japan.

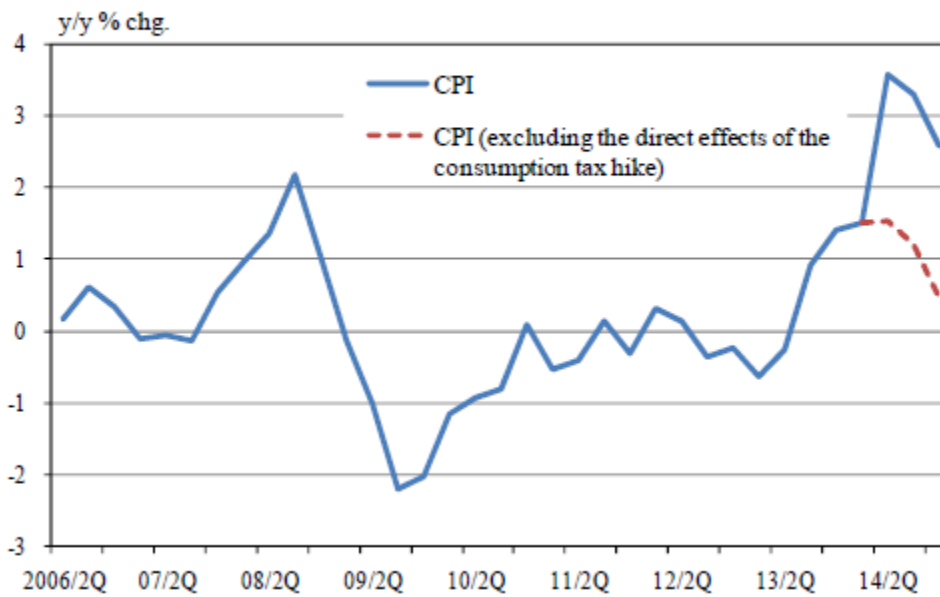
Households' Attitude to the Price Rise

(1) "Price Rise Tolerance DI" and "Perception DI of Present Price Levels"



Notes: 1. Price rise tolerance DI = ("price rise is rather favorable" and "price decline is rather unfavorable" respondent ratio - "price rise is rather unfavorable" and "price decline is rather favorable" respondent ratio) / (valid respondent ratio - "have remained almost unchanged" respondent ratio).  
 2. Perception DI of present price levels = ("have gone up significantly" \* 1 + "have gone up slightly" \* 0.5) - ("have gone down slightly" \* 0.5 + "have gone down significantly" \* 1).

(2) Actual Inflation

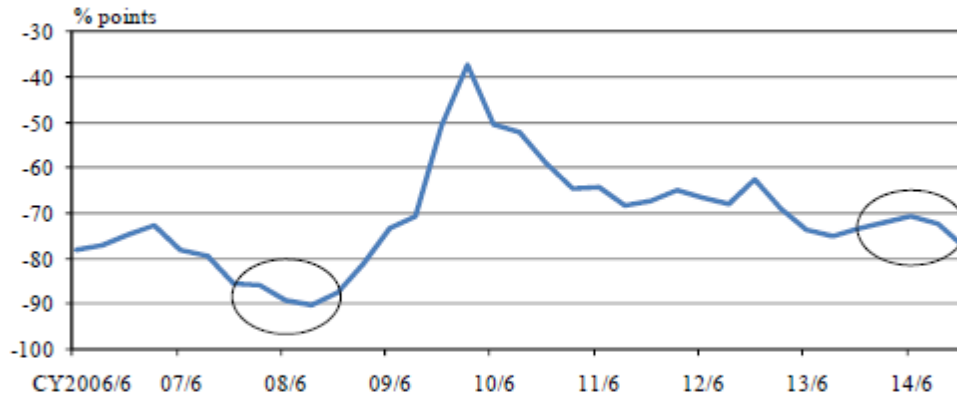


Sources: Ministry of Internal Affairs and Communications; Bank of Japan.

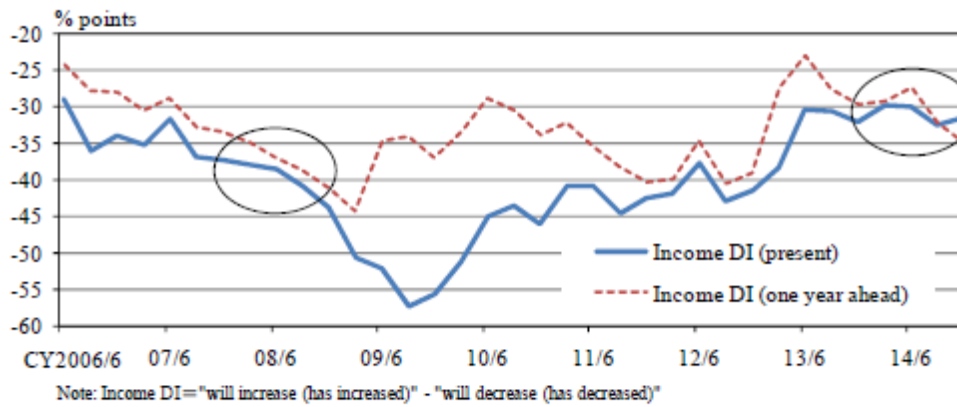


Households' Price Rise Tolerance, Income, and Employment DIs

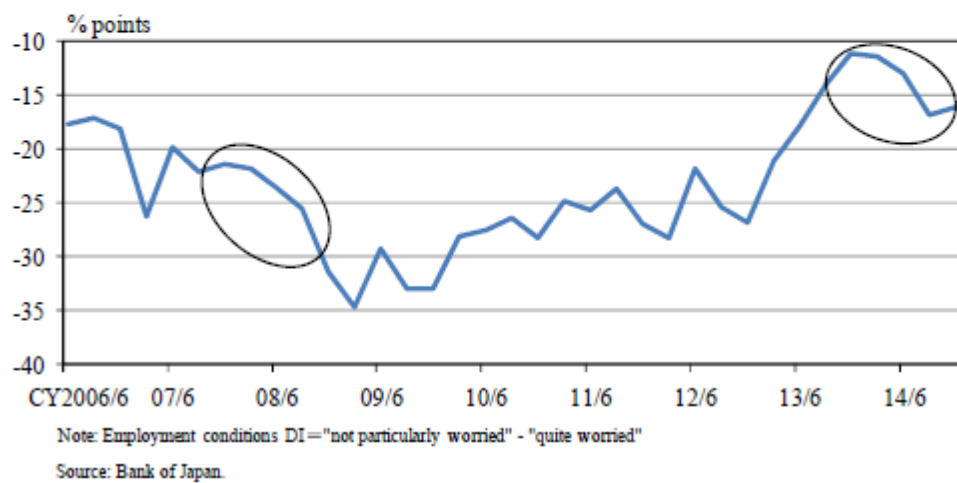
(1) Price Rise Tolerance DI



(2) Income DI

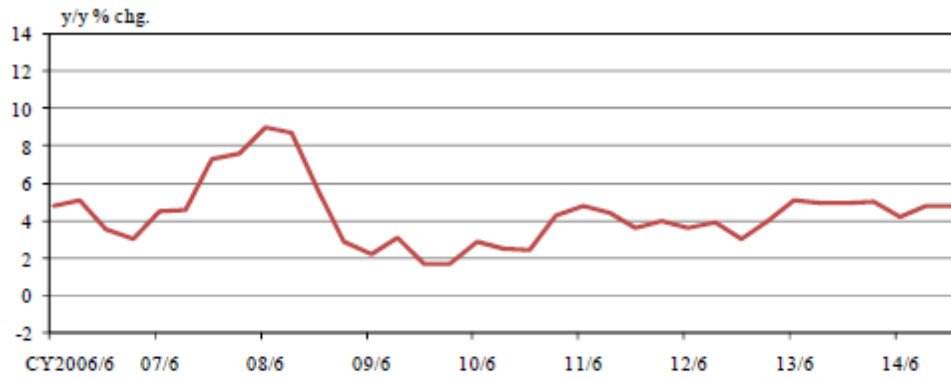


(3) Employment Conditions DI

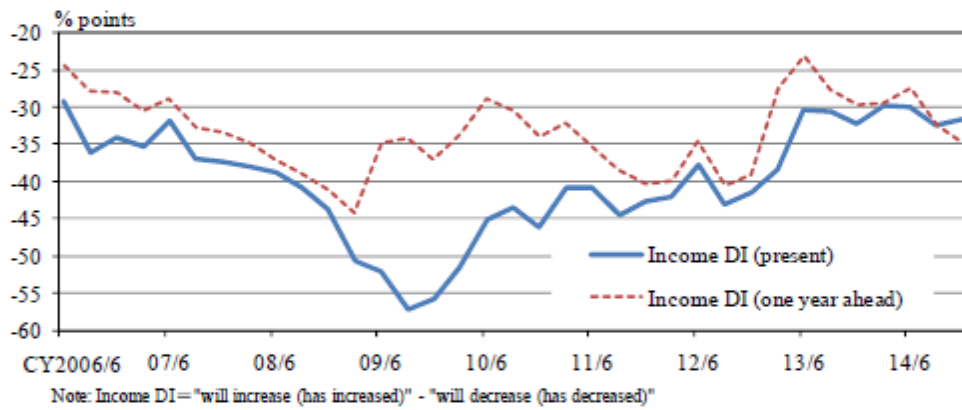


Households' Inflation Expectations and Income and Spending DIs

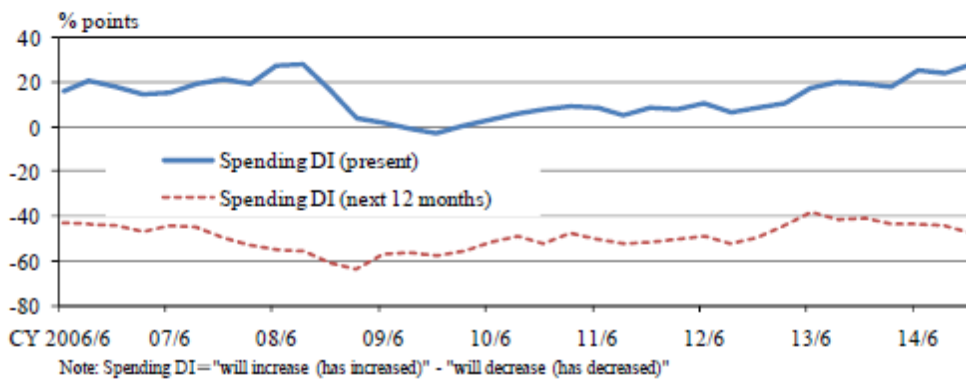
(1) One-Year Inflation Expectations



(2) Income DI



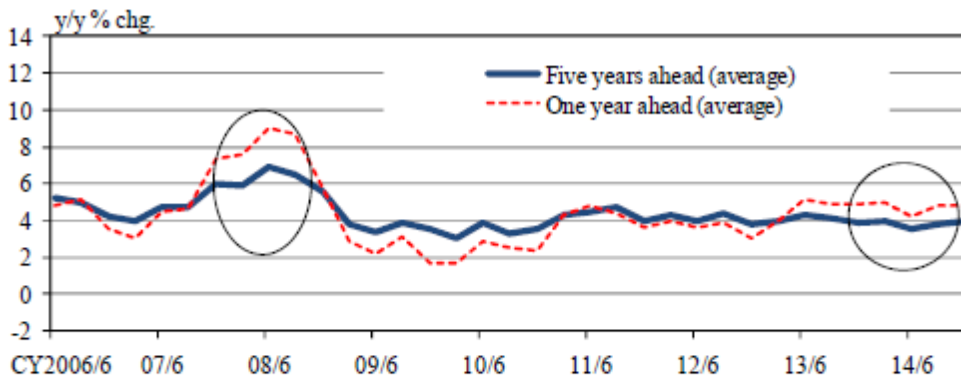
(3) Spending DI



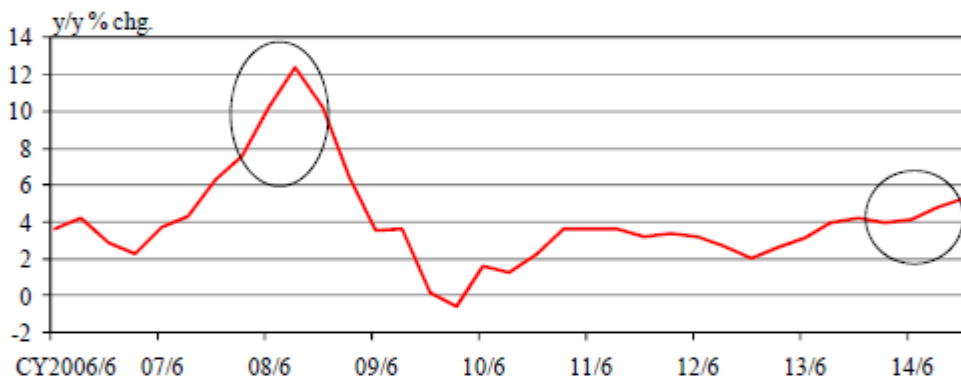
Source: Bank of Japan.

Households' Inflation Expectations and Present Inflation Perceptions

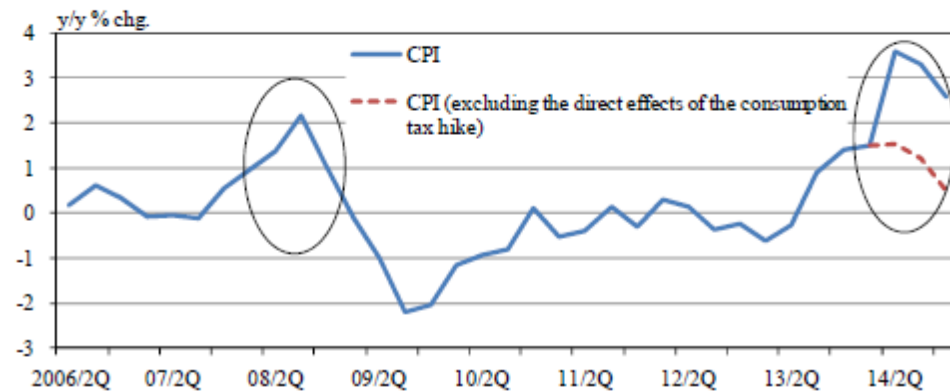
(1) Households' Inflation Expectations



(2) Households' Present Inflation Perceptions



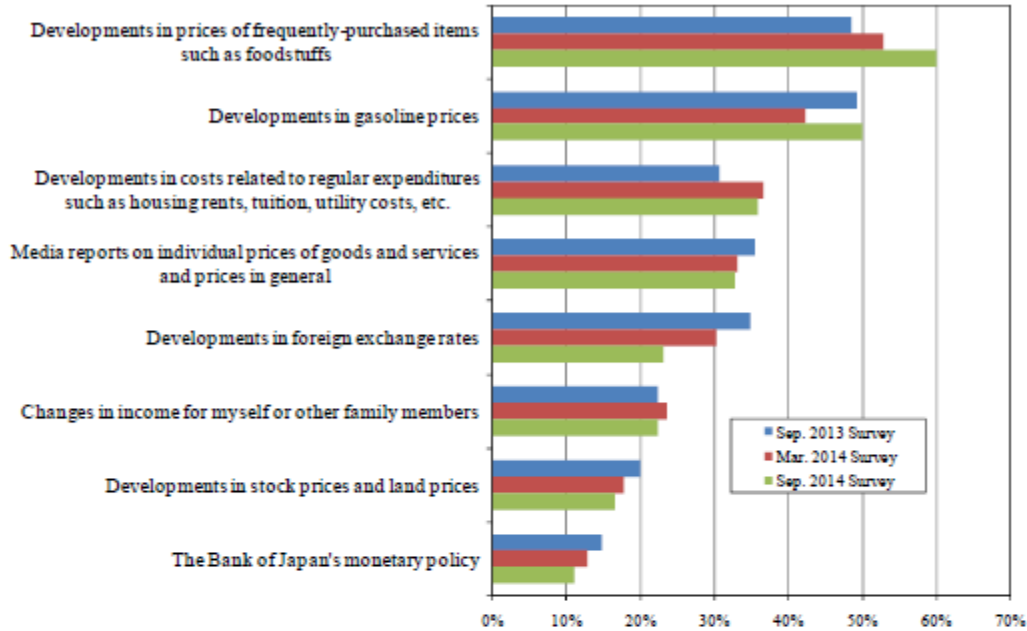
(3) Actual Inflation



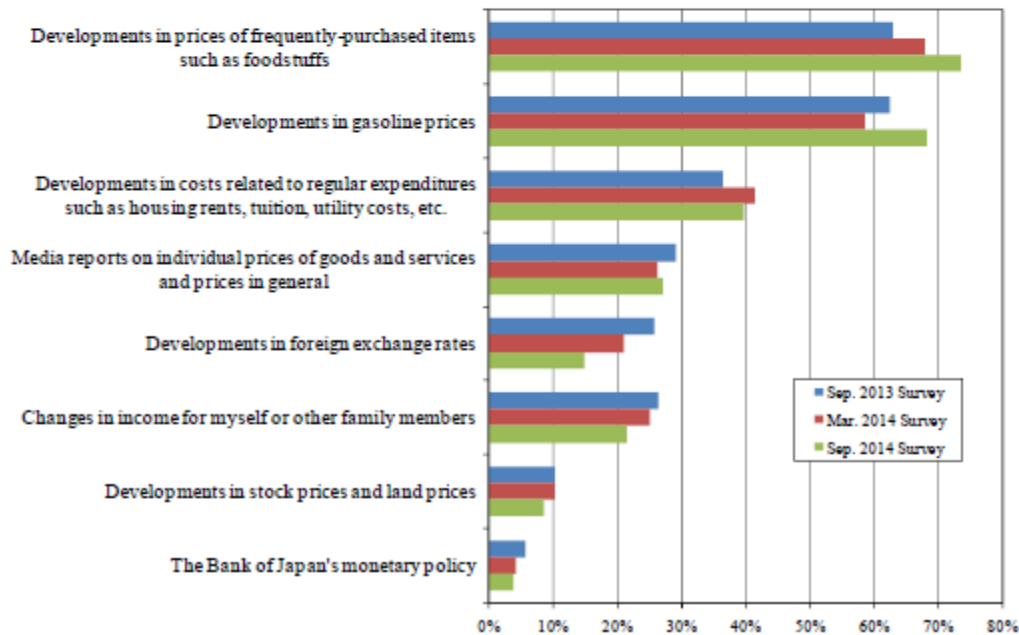
Sources: Ministry of Internal Affairs and Communications; Bank of Japan.

Information Sources for Households' Price Views

(1) Five Years Ahead



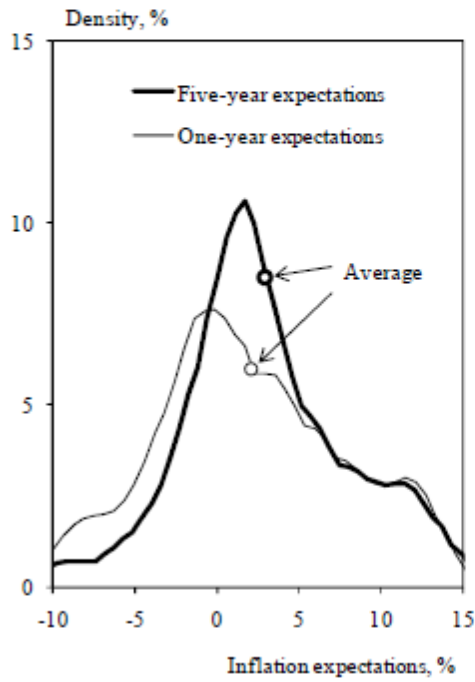
(2) Present



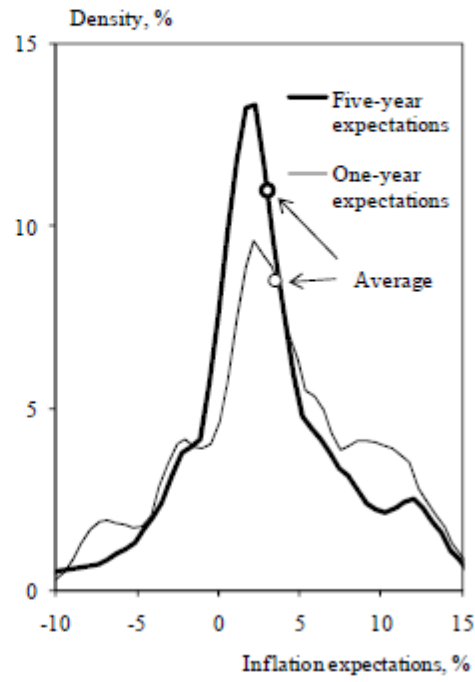
Source: Bank of Japan.

Distribution of Households' Inflation Expectations  
 (After Adjusting for Reporting Biases)

(1) Distribution of Expectations in 2012



(2) Distribution of Expectations in 2013



Source: Bank of Japan.