

Takehiro Sato: Recent economic and financial developments and monetary policy

Speech by Mr Takehiro Sato, Member of the Policy Board of the Bank of Japan, at a meeting with business leaders, Kofu, Yamanashi Prefecture, 10 June 2015.

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Accompanying charts can be found at the end of the speech.

Introduction

Thank you for giving me this opportunity to exchange views with people representing the political, economic, and financial arena of Yamanashi Prefecture. I would like to take this opportunity to express my sincere gratitude for your cooperation with the activities of the Bank of Japan's Kofu Branch.

In today's speech, I will begin by focusing on economic and financial developments in Japan and abroad, as well as the Bank's recent monetary policy. I will then touch briefly on the economy of Yamanashi Prefecture. Following my speech, I would like to hear your views on actual conditions in the local economy and on the Bank's conduct of monetary policy.

I. Recent economic and financial developments in Japan and abroad

A. *Developments in the world economy*

The world economy has been sluggish, despite the decline in energy prices (Chart 1). In the January–March quarter of 2015 in particular, it exhibited signs of a slowdown, as the growth rate of the U.S. economy turned negative due to the effects of the severe winter weather and the labor disputes at West Coast ports, and as the growth rate of the Chinese economy remained at around 7 percent. These developments in the world economy affected Japan's economy to some degree as well.

The decline in energy prices since 2014 was initially expected to have positive effects on the world economy, but negative effects seem to have preceded them – such as the decline in income in commodity-exporting countries and the decrease in investment in resource development – due to the rapid pace of the energy price declines. As for the outlook, the world economy is expected to see a moderate increase in its growth rate, with the recent improvement in soft data reflected in hard data, as positive effects of the decline in energy prices – such as an increase in real income in the energy-consuming countries – permeate gradually.

As for the U.S. economy, a substantial deceleration in growth in the January–March quarter has been observed three times in the past five years. The deceleration occurred for different reasons each time, but there seems to be a seasonal pattern of some kind. Besides the severe winter weather and the labor disputes at West Coast ports, the appreciation of the dollar also casts a shadow on manufacturers' sentiment, thereby affecting indicators of business fixed investment. The effects of the decline in energy prices on investment in resource development are also evident (Chart 2). In contrast, reflecting the improvement in the employment situation and the decline in gasoline prices, consumer sentiment has generally stayed at a high level. It is a matter of concern that, despite the favorable sentiment, private consumption remains lackluster and growth in the April–June quarter of 2015 has been sluggish so far. However, the economy is expected to gradually return to a recovery path led by private consumption on the back of a moderate increase in wages as the employment situation continues to improve – following more or less the same pattern of the past five years. The inflation rate has been stable due to the decline in energy prices, but the slack in the labor market seems to be diminishing to a certain degree, reflecting the

decline in the unemployment rate, although there are such problems as the increases in the number of long-term unemployed workers and part-time workers. In this situation, the Federal Reserve (Fed) has been communicating to the public a path toward raising the policy interest rate, but is taking a flexible and cautious stance that the exact timing will depend on future economic indicators.

In Europe, manufacturers' sentiment has been picking up in reflection of the decline in energy prices and the depreciation of the euro, and consumer sentiment has also started to recover (Chart 3). With the improvement in soft data, the pick-up in hard data has become evident, as seen, for example, in positive GDP growth for eight consecutive quarters. The inflation rate, which temporarily had been negative, has recovered to around 0 percent. That being said, given that the effects of the debt problem remain, the risk of prolongation of low inflation leading to a postponement of investment and consumption has receded but seems to still exist, and I have been monitoring these developments closely. Meanwhile, unconventional monetary policy measures introduced by the European Central Bank (ECB) initially had significant effects on the foreign exchange and bond markets; however, these markets have recently shown large fluctuations. Many points are being made regarding the sustainability of such large-scale asset purchases, and I will pay attention to any progress made regarding this matter.

With regard to the Chinese economy, the GDP growth rate for the January–March quarter of 2015 decelerated to 7.0 percent. Looking at recent developments in electricity consumption and railway freight turnover, my impression is that actual economic growth could be slower than suggested by the GDP figures, although we should not make a decisive judgment as these developments may reflect the effects of the shift toward a service economy and the progress in structural reforms that are promoted by the Chinese government (Chart 4). Moreover, manufacturers' sentiment has been dampened further. Movements toward inventory adjustments in Japan – in materials and related goods such as iron and steel – seem to be partly affected by the slowdown in the Chinese economy.

As for the outlook of the Chinese economy, the growth rate is likely to remain downward-biased, owing to a sharp change in the demographic situation and the resultant fall in the potential growth rate. However, given the typical pattern observed over the past few years – in which, once the economy is projected to deviate downward from the growth target, the government implements small-scale economic packages, thereby achieving the pick-up in the economy – the same developments generally seem to be taking place this year as well. Meanwhile, attention should be paid to the point that downward pressure on inflation has been increasing, as evidenced by the year-on-year rate of change in the GDP deflator for the January–March quarter of 2015 turning negative for the first time since 2009.

B. Developments in global financial markets

Taking into account the developments in the world economy that I have illustrated, let me turn to developments in global financial markets for the time being. The first key point is how a hike in the policy rate in the United States affects global financial markets. In light of the recent U.S. economic indicators, the timing of a hike in the target federal funds rate that market participants expect is either moving forward or backward. On the other hand, the Fed is working to let the markets factor in a rate hike in the near future while cautiously avoiding providing decisive information. Judging from pricing in the federal funds futures market, this intention by the Fed has generally permeated the markets, and the difference in views between Federal Open Market Committee (FOMC) participants and the markets – which was seen some time ago – is starting to be resolved (Chart 5). Of course, if market participants begin to identify the specific timing of a rate hike, global financial markets might show a different reaction from the past. This concern seems to have materialized in the market reaction when Fed Chair Janet Yellen mentioned the valuation in the stock and bond markets in early May 2015. Meanwhile, as a result of a number of financial regulations, major market makers' risk-taking activities have been restricted, inducing concern regarding a decline in

liquidity even in the U.S. Treasury markets. Given these circumstances, I would like to monitor carefully whether, when the timing of a rate hike becomes clearer in the future, a change in the international flow of funds will not cause any significant repricing or unexpected knock-on effects in various asset markets.

The second key point in terms of developments in global financial markets is the effects of large-scale asset purchases by the ECB (Chart 6). When these purchases were first implemented, it was considered that the effects of the purchases had already been factored in. However, even after the implementation, long-term interest rates in European countries fell markedly; for example, 10-year German bund yields declined to around 0 percent temporarily. At the same time, the euro depreciated further. Since late April, however – probably because of a reaction to the sharp drop in interest rates – long-term interest rates in Germany have risen above the level seen before the implementation of the ECB's asset purchases, and thus have exhibited rather volatile movements. This increase in volatility appears to be related to a decline in market liquidity, resulting from the scale of the ECB's purchases being massive relative to the size of sovereign bond markets. Also, in Japan, a rise in volatility in long-term interest rates was observed both after the introduction of quantitative and qualitative monetary easing (QQE) in April 2013 and following the expansion of QQE at end-October 2014. Specifically, contrary to the initial intention, yields on 10-year Japanese government bonds (JGBs) temporarily jumped up somewhat significantly immediately after the implementation of QQE. In contrast, they declined further after the expansion of QQE and have recently returned to around the level seen before such expansion. These fluctuations in long-term interest rates appear to be attributable not only to monetary policy but also to external factors, and therefore should be assessed carefully. That being said, if the effects of monetary policy are produced by the declines in nominal or real interest rates, due attention should be paid to the possibility that liquidity premiums in the JGB markets – brought about by the Bank's massive JGB purchases – might in part be weakening the effects of monetary policy. There is also a possibility that the fluctuations in long-term interest rates reflect the move to factor in improvement in the outlook for economic activity and prices.

The third key point is also related to European factors – namely, developments in political and economic conditions in Greece. As the Greek government faces severe financing needs, negotiations regarding financial assistance to the country continue. At this point, possible effects on peripheral European countries are limited. However, I would like to monitor future developments whether or not any unexpected knock-on effects emerge in global financial markets.

C. *Developments in Japan's economy*

Looking at developments in Japan's economy for the January–March quarter of 2015, not only business fixed investment but also exports and production maintained their moderate improving trend. Private consumption and imports were resilient and final demand remained firm. For the April–June quarter, the economy is expected to continue recovering moderately because, for example, it seems that private consumption has been resilient since March, although production is projected to be more or less unchanged, mainly due to inventory adjustments in some industries (Chart 7). Expectations for somewhat higher growth in the world economy will also serve as a tailwind for Japan's economy. The virtuous cycle from income to consumption and investment will likely operate, with its certainty gradually increasing, on the back of the firm employment situation and favorable corporate results. However, we should probably be mindful of the risk that the increase in households' real purchasing power and the improvement in corporate profits, both brought about by lower crude oil prices, will not lead to an expansion of spending by as much as expected, and consequently pressure for excess savings – or for an increase in current account surplus – will not be alleviated easily.

With regard to the employment and income situation, which forms the basis for the virtuous cycle that I just mentioned, wages continue to rise moderately in a situation where labor market conditions have become increasingly tight, even after the year-on-year growth in total cash earnings was revised downward due to the replacement of samples in the *Monthly Labour Survey* (Chart 8). Wages are expected to continue increasing moderately, reflecting a base pay increase that is likely to take place for a second consecutive year. Thus, private consumption is expected to reach a moderately higher level as the effects of a decline in real income due to the consumption tax hike in April 2014 dissipate gradually.

From a somewhat longer-term perspective, I focus on the pace of increase in firms' productivity, which is the basis for a sustainable rise in wages, as well as on the impact of the aging population. In order for consumption to maintain its uptrend in the medium term, it would be necessary to have a sustainable recovery in real wages of about 60 million workers that could offset developments in real income of about 40 million pensioners. The pace of recovery in private consumption will likely remain very moderate from a somewhat longer-term perspective, even considering that wages will gradually see a higher rate of increase in accordance with a rise in productivity brought about by an increase in business fixed investment, and that confidence in the sustainability of the social security system will increase because of the implementation of related reforms.

Regarding private business fixed investment, such investment on a GDP basis has been slow to increase so far despite a pick-up in monthly indicators, such as shipments and the aggregate supply of capital goods, and the firmness in investment plans suggested by the results of the *Tankan* (Short-Term Economic Survey of Enterprises in Japan). However, fixed investment overseas has been marking consecutive double-digit increases recently, suggesting that firms' appetite for fixed investment on a consolidated basis has been robust for some time (Chart 9). What matters is not whether firms will increase fixed investment further, but whether they will make investments in Japan. In this regard, domestic fixed investment so far has been made by nonmanufacturers in particular, but some manufacturers are finally beginning to increase production capacity in Japan, reflecting the yen's depreciation the past two years, although automobile firms' shifting of production facilities to overseas, which has been made in a full-fledged manner since around 2014, remains in some part.

From a somewhat longer-term perspective, whether a change in firms' production network strategies will become widespread, in turn leading to increasingly building up production capacity in Japan rather than overseas, depends on their medium- to long-term projections for exchange rates. Specifically, if firms judge the yen's depreciation the past two years to be a sustainable trend, they would proceed with increasing their production capacity in Japan. On the other hand, firms that have concern regarding a possible resurgent appreciation of the yen would not easily change their production network strategies even with the recent depreciation of the yen. In this regard, the *Annual Survey of Corporate Behavior*, conducted by the Cabinet Office, provided a favorable factor: the yen-U.S. dollar rate for the next year forecasted by firms was 119.5 yen/dollar, marking a weaker yen forecast for the third consecutive year (Chart 10). However, it should be noted that, when firms decide their fixed investment, long-term projections for the next five to ten years are important. Therefore, it is uncertain whether a trend of increasing production capacity in Japan will become widespread in the future.

D. Developments in prices

Let me now turn to developments in prices. The year-on-year rate of increase in the consumer price index (CPI) for all items less fresh food has been about 0 percent recently, reflecting the decline in energy prices. It is likely to be at this level for the time being, due to the remaining effects of the decline in energy prices (Chart 11). This suggests that consumer prices also lack momentum at present. However, a decline in general prices due to the decrease in energy prices exerts upward pressure on real income, and therefore I consider

this to be a favorable factor for Japan's economy. What matters is not the fluctuations in monthly figures of the year-on-year rates of change in the CPI, but the underlying trend in inflation, which reflects the overall economic conditions. In my view, the underlying trend in inflation is firmly maintained.

In a situation where the inflation rate rose mainly due to the depreciation of the yen and the increase in energy prices in the past two years, various soft data suggested a negative reaction by households to a rise in the inflation rate in light of sluggish growth in real wages. In fact, private consumption, which was also affected by the consumption tax hike, had been sluggish (Chart 12). This should prove that people consider it desirable to see the inflation rate rising in balance with wages and income as economic conditions improve, rather than seeing the inflation rate simply rising. I believe that the price stability target intrinsically aims for such desirable developments.

A matter of concern is whether the deceleration in the rate of increase in the CPI or the decline in the CPI on a year-on-year basis, which have been observed recently, will not affect people's medium- to long-term inflation expectations in a backward-looking manner. In this regard, judging from firms' price-setting behavior, consumers' spending activity, and the recent developments in wage negotiations, people's perception of inflation has been changing steadily despite the decline in energy prices. Moreover, a wide range of estimates – such as those of expected inflation derived from nominal interest rates¹ and those of trend inflation using a regime-switching model² – suggest that medium- to long-term inflation expectations in Japan appear to be rising since the introduction of QQE from a somewhat longer-term perspective (Chart 13). However, under the deflation that lasted for over 15 years, medium- to long-term inflation expectations appear to consistently remain lower than those in the United States. The challenge is to re-anchor these expectations at around 2 percent, comparable to the level in the United States.

What I consider important as factors that determine people's medium- to long-term inflation expectations are not just the past developments in the inflation rate that I mentioned earlier, but also developments in the overall economy and in asset prices, as well as forward-looking expectation formation based on, for example, wage revisions. Taking this point into account, I hold the optimistic view that it is less likely that people's medium- to long-term inflation expectations will be negatively affected by a decline in the inflation rate due to the fall in energy prices.

I would note that the recent results of academic research on the methods for measuring inflation rates offer valuable suggestions for the old but also new issue of how to define consumer prices. For example, the SRI-Hitotsubashi Unit Value Price Index, which has been developed by Professor Naohito Abe of Hitotsubashi University, incorporates prices of new goods that firms frequently introduce into markets in calculating price indexes³. According to the research by Professor Abe, 46–47 percent of goods do not exist in the same week of the previous year at the average retailers, indicating that replacement rates of goods are very high in reality (Chart 14). The same research also finds that some new goods are virtually unchanged from the previous ones, suggesting a possibility that firms replace goods frequently as a means of adjusting prices in effect. In calculating a change in prices of goods

¹ See Kei Imakubo and Jouchi Nakajima, "Estimating Inflation Risk Premia from Nominal and Real Yield Curves Using a Shadow-Rate Model," *Bank of Japan Working Paper Series* No. 15-E-1, April 2015.

² See Sohei Kaihatsu and Jouchi Nakajima, "Has Trend Inflation Shifted? An Empirical Analysis with a Regime-Switching Model," *Bank of Japan Working Paper Series* No. 15-E-3, May 2015.

³ For details, see Naohito Abe, "Saikin no Kakaku Shisuu no Doukou to Shin Shohin no Eikyo ni tsuite (Recent Developments in Price Indexes and Effects of New Goods)," Newsletter No. 3, the Research Center for Economic and Social Risks (RCESR), Institute of Economic Research, Hitotsubashi University, March 2015 (available in Japanese), and Naohito Abe et al., "Effects of New Goods and Product Turnover on Price Indexes," *RCESR Discussion Paper Series* No. DP15–2, March 2015.

over a particular period, general consumer price indexes only cover the goods for which price information is available at the beginning and the end of the period; on the other hand, the SRI-Hitotsubashi Unit Value Price Index quantifies the importance of the introduction of new goods that I have just mentioned. The research concludes that, mainly due to the effects of such introduction on prices, the year-on-year rate of increase in the SRI-Hitotsubashi Unit Value Price Index for supermarkets has recently been at about 1 to 1.5 percent, which shows a higher rate of inflation than in CPI statistics released by the Ministry of Internal Affairs and Communications (MIC) and in a price index that only covers continuing goods (Chart 15). These research results do not allow simple comparison with the CPI statistics released by the MIC, in part because the coverage of the SRI-Hitotsubashi Unit Value Price Index is limited to goods with point-of-sale (POS) data. However, I take the view that they provide useful insights to firms' price-setting behavior through the introduction of new goods and its effects on developments in prices, and to a divergence between the inflation rate perceived by households and that measured by price statistics.

II. Future conduct of monetary policy

A. The price stability target and conduct of monetary policy

In what follows, I explain issues regarding monetary policy. About two years ago, the Bank introduced QQE to achieve the price stability target of 2 percent in terms of the year-on-year rate of change in the CPI at the earliest possible time, with a time horizon of about two years. The latest figure for the year-on-year rate of increase in the CPI is about 0 percent due to the decline in energy prices, and the baseline scenario outlined in the April 2015 *Outlook for Economic Activity and Prices* shows that the timing of reaching the price stability target has been delayed to around the first half of fiscal 2016 (Chart 16). However, the Bank's Policy Board has judged that no policy actions are necessary at this point based on the view – as I mentioned earlier – that the underlying trend in inflation is firmly maintained under the virtuous cycle of the economy.

With regard to the timing of reaching the price stability target, I believe that the phrase “at the earliest possible time” represents the essence and that “a time horizon of about two years” is only a non-binding target, as the commitment to achieving a specific price level within a specific time frame, in my opinion, does not fit the conduct of monetary policy adopted by other major countries in the first place. That is, in my understanding, the price stability target is a rolling target with a time horizon of about two years, and this is broadly in line with the idea of inflation targeting adopted by major countries. From this viewpoint, the delay in the timing of reaching the price stability target would not be the essential problem. As I touched on earlier, firms and households generally have a negative reaction to mere inflation, mainly due to concern over a rise in costs and to the negative effects on real wages, both stemming from a rise in import prices.

On the other hand, in continuing with QQE, I consider it necessary to take into account that this policy is a kind of shock therapy that influences formation of people's inflation expectations through the lowering of real interest rates and risk premiums brought about by massive asset purchases, as well as through a strong commitment. The Bank has provided forward guidance – namely, that it will continue with QQE, as long as it is necessary for achieving the price stability target in a stable manner – and of course, the necessity of continuing QQE will be judged in line with this guidance. I therefore do not think that the current policy framework should be reviewed in an automatic fashion simply because two years have passed since the introduction. In my understanding, the price stability target is a flexible concept with a certain range for upward and downward deviations of the actual inflation rate from the target under the framework of forecast targeting. It is also my understanding that achieving the price stability target in a stable manner does not refer to a state in which the year-on-year rate of increase in the CPI simply marks 2 percent, but rather one in which people's medium- to long-term inflation expectations are re-anchored at around

2 percent – in other words, a situation in which households and firms are projected to shift their consumption and investment behavior to one that assumes around 2 percent inflation.

The status of achieving the price stability target and the necessity of continuing QQE will be judged by the Bank's Policy Board at each Monetary Policy Meeting. In doing so, I would like to take into account (1) the effects of QQE after its expansion, (2) the sustainability of the Bank's massive JGB purchases, and (3) a wide range of QQE's side effects, all of which I will elaborate on shortly.

B. Effects of QQE after its expansion

The first point that needs to be examined in continuing with QQE is its policy effects (Chart 17). After the expansion of QQE at end-October 2014, the 10-year JGB yields temporarily dropped below 0.2 percent, but these recently have recovered to around the level seen prior to the expansion. Meanwhile, the market's outlook for economic activity and prices has actually been revised downward, and therefore there is a lack of persuasive evidence of a further rise in inflation expectations.

One of the assumed transmission mechanisms of QQE is to put downward pressure on nominal interest rates across the entire yield curve through massive purchases of JGBs. I understood the expansion of QQE at end-October 2014 as an action that would strengthen such a mechanism. In reality, however, it appears to me that the degree of difficulty in implementing QQE is rising, as the effect of lowering nominal interest rates has been diminishing gradually, due mainly to a rise in liquidity premiums, despite a large-scale expansion of the Bank's JGB purchases.

Let me give you some background as to why it has become difficult for long-term interest rates to decline. First, interest rate levels are already low, and it is becoming difficult to see a linear relationship between the amount of JGB purchases and interest rates. Second, there tends to be less demand for JGBs from final investors under extremely low interest rates. Third, dealers' risk tolerance is declining, as there is an increase in volatility due to the decline in market liquidity and to the effects of overseas interest rates.

I will explain these three factors in more detail. With regard to the first one, the key is whether real interest rates will decline further – in other words, whether people's medium- to long-term inflation expectations will rise further only with the Bank's "strong and clear commitment" – in a situation where it is becoming difficult for nominal interest rates to decline. Of course, it may be theoretically possible to further push down nominal interest rates if the Bank continues its purchases of JGBs even with negative interest rates. However, in that case, the Bank would become the only buyer of JGBs, which would likely give rise to a concern over the Bank's purchases being perceived as financing the fiscal deficit, as well as to a further decline in market functioning. Regarding the second factor, whether or not demand from final investors will decrease depends in part on their future stance on JGB purchases. For example, a reduction in life insurance companies' promised return for some insurance products that will start from July 2015 might affect investors' future behavior (Chart 18). As for the third factor, dealers' risk tolerance will likely change depending on market conditions.

Taking such factors into consideration, I will pay close attention not only to the effects of the progress in the Bank's asset purchases on interest rate formation, but also to changes in investors' and dealers' behavior, and closely monitor how policy effects will emerge in the future.

C. Sustainability of the Bank's massive asset purchases

The second point that needs to be examined in continuing with QQE is the sustainability of the Bank's massive JGB purchases (Chart 19). The Bank currently commits to purchasing JGBs with medium- to long-term maturities so that their amount outstanding will increase at an annual pace of about 80 trillion yen. On a gross basis, the Bank purchases JGBs at an

annual pace of about 110 to 120 trillion yen, which is equivalent to about 90 percent of the total amount of JGBs' market issuance. If final investors were to reduce their holdings of JGBs by redeeming the bonds each time they come to maturity and not reinvesting the amount redeemed in JGBs, the Bank's massive JGB purchases would be sustainable. However, in reality, there is a certain level of demand for JGBs, mainly for those used as collateral. For example, the amount of JGB holdings by major banks, which had been reduced at the time QQE was introduced, has been stable recently, and the same applies to the amount held by regional financial institutions. In a situation where there appears to be a certain level of demand by final investors to reinvest the amount redeemed at maturity, the sustainability of the Bank's JGB purchases may become an issue if the Bank continues its massive purchases at the current pace while final investors reduce their holdings of JGBs to the least possible extent. This limit is dependent on the interest rate level and other factors at each point in time, and thus is difficult to project at this point. Nevertheless, in continuing with QQE, it is important to give consideration to its feasibility in terms of the Bank's market operations.

D. Examination of side effects

The third point that needs to be examined in continuing with QQE is the side effects of the Bank's massive asset purchases. It is true that policy effects and side effects are two sides of the same coin, and positive effects cannot be expected from policies that have no side effects. Having said that, in continuing with the unprecedented policy, it is essential to compare its positive effects and side effects and examine whether the latter do not outweigh the marginal effects from continuing the policy. With regard to how the increase in the share of the Bank's holdings in the JGB market affects market functioning, I am somewhat concerned about the results of the Bond Market Survey conducted by the Bank in February 2015, as recovery in market functioning is considered to be the key to a smooth exit from QQE from a somewhat longer-term perspective (Chart 20). I also continue to pay careful attention to the effects of the continued extremely low interest rates on financial institutions' business, and to the stability of the broadly defined settlement system.

E. Importance of efforts toward fiscal consolidation

The Bank's massive purchases of JGBs are carried out only in the context of the conduct of monetary policy and not in any way to finance the fiscal deficit. In order for this explanation to be persuasive, the government's efforts toward fiscal consolidation are important. It also should be noted that the massive JGB purchases, if continued over a long period, could lead to extremely low interest rates being built into the fiscal plan, thereby affecting fiscal discipline – although the continuation of such purchases aims at fulfilling the purpose of monetary policy. Once market participants have concern about fiscal discipline, controlling long-term interest rates will become difficult, even for the Bank. My assessment is that QQE has generally been exerting its intended effects so far, but in order for QQE to gain success – such as a smooth process of finding an exit from QQE from a somewhat longer-term perspective – the government's initiatives toward fiscal consolidation are important. The government looks to formulate a new fiscal consolidation plan by summer 2015 to maintain its goal of generating a surplus in the primary balance for fiscal 2020. The Bank strongly expects that the government will steadily promote measures aimed at establishing a sustainable fiscal structure with a view to ensuring the credibility of the country's fiscal management.

Concluding remarks: Economic activity in Yamanashi Prefecture

My concluding remarks will touch on the economy of Yamanashi Prefecture.

A feature of the industrial structure of Yamanashi Prefecture is that its share of manufacturing – industries relating to machinery in particular – is larger than that in the country overall. The prefecture's economy has recently been recovering moderately, led by

manufacturing firms that are attracting external demand, both directly and indirectly (Chart 21).

Nevertheless, from a somewhat longer-term perspective, there have been moves by manufacturing industries in the prefecture to concentrate their production sites in Japan or shift a part of their production overseas, for the purpose of enhancing cost competitiveness, mainly in response to the yen's appreciation since the Lehman shock and to intensification of competition stemming from growth of Asian firms. Such moves have led to structural issues in the prefecture, such as a declining population as well as an aging population and declining birth rate.

In addressing these issues, the key should be to make full use of the advantages of Yamanashi Prefecture. The first advantage is that the prefecture is close to Tokyo and yet blessed with a bounteous nature, including Mt. Fuji and hot springs. Recently, in particular, the number of foreign visitors to the prefecture has been increasing substantially, partly owing to the yen's depreciation. It also should be noted that the prefecture is a highly attractive place to move to, for those who live in the Tokyo metropolitan area. I have heard that initiatives to take advantage of such an environment are spreading, such as improving tourism infrastructure and expanding a supporting system to invite those who wish to move to the area. Moreover, events such as the Tokyo 2020 Summer Olympic and Paralympic Games and the launch of the Linear Chuo Shinkansen line will act as a tailwind for Yamanashi Prefecture.

The second advantage is the advanced technologies that firms in Yamanashi Prefecture have developed so far. I hope that technological innovation will advance as a result of further brushing up these technologies, applying them to new areas, and working to integrate them with other firms' technologies. This, together with cooperative efforts among industry, government, academia, and financial institutions, is expected to lead to future achievements.

I would like to conclude this speech by expressing my strong hope that the region will enjoy further growth in the future through the initiatives I have mentioned, while making use of its potential.

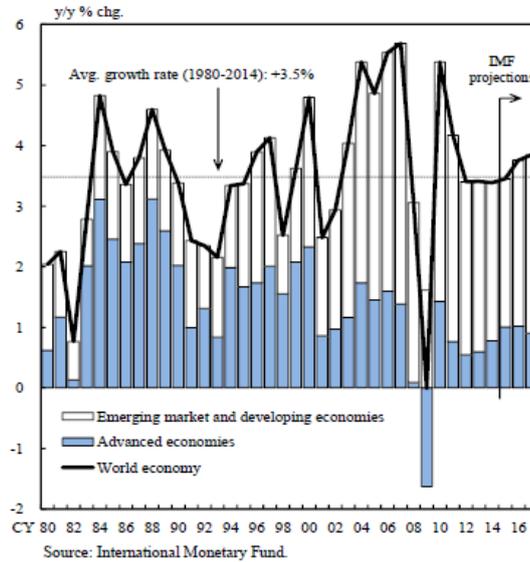
Global Economic Outlook

(1) IMF Projections (as of April 2015)

| CY | real GDP growth rate, y/y % chg. | | | |
|--|----------------------------------|-----------------|-----------------|-----------------|
| | 2014 | 2015 projection | 2016 projection | 2017 projection |
| World | 3.4 | 3.5 (0.0) | 3.8 (0.1) | 3.8 |
| Advanced economies | 1.8 | 2.4 (0.0) | 2.4 (0.0) | 2.2 |
| United States | 2.4 | 3.1 (-0.5) | 3.1 (-0.2) | 2.7 |
| Euro area | 0.9 | 1.5 (0.3) | 1.6 (0.2) | 1.6 |
| Japan | -0.1 | 1.0 (0.4) | 1.2 (0.4) | 0.4 |
| Emerging market and developing economies | 4.6 | 4.3 (0.0) | 4.7 (0.0) | 5.0 |
| Emerging and developing Asia | 6.8 | 6.6 (0.2) | 6.4 (0.2) | 6.3 |
| China | 7.4 | 6.8 (0.0) | 6.3 (0.0) | 6.0 |
| ASEAN | 4.6 | 5.2 (0.0) | 5.3 (0.0) | 5.4 |
| Russia | 0.6 | -3.8 (-0.8) | -1.1 (-0.1) | 1.0 |
| Latin America and the Caribbean | 1.3 | 0.9 (-0.4) | 2.0 (-0.3) | 2.7 |

Notes: 1. Figures are calculated using GDP based on purchasing power parity (PPP) shares of the world total from the International Monetary Fund.
2. Figures in parentheses are the difference from the January 2015 *World Economic Outlook* projections.
Source: International Monetary Fund.

(2) Real GDP Growth Rate of the World Economy

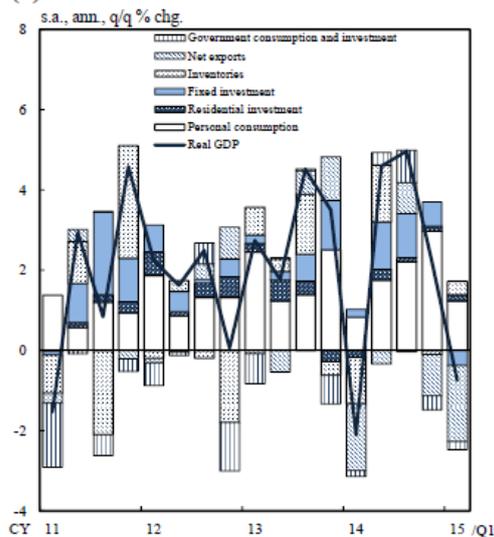


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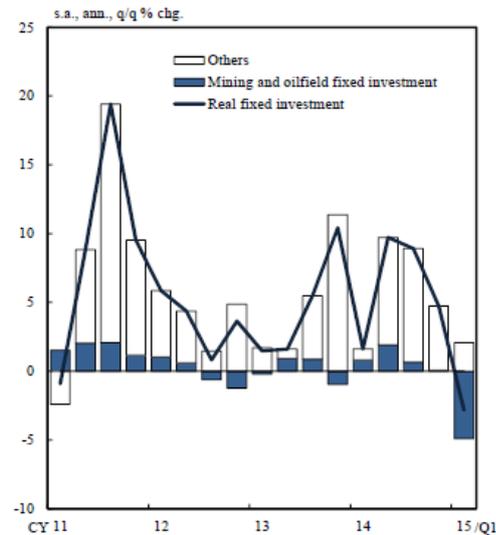
Chart 2-1

U.S. Economy

(1) Real GDP



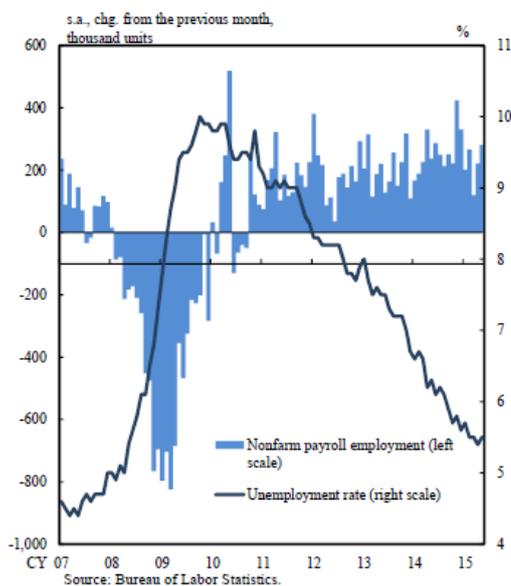
(2) Fixed Investment



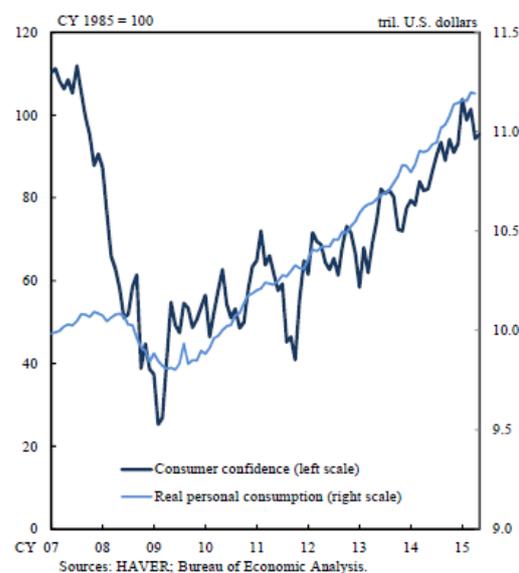
4

U.S. Economy (Continued)

(3) Employment



(4) Personal Consumption

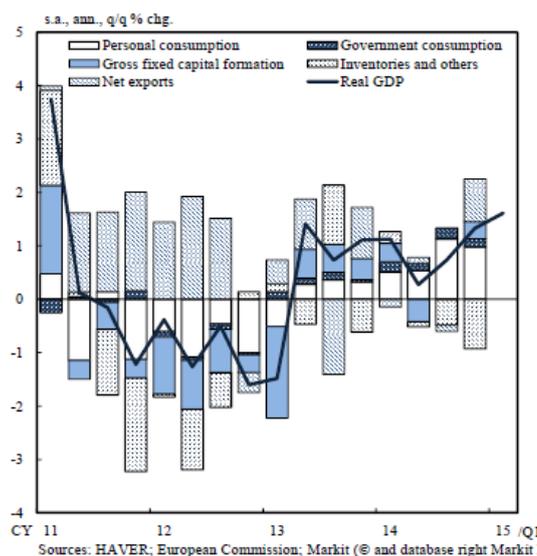


5

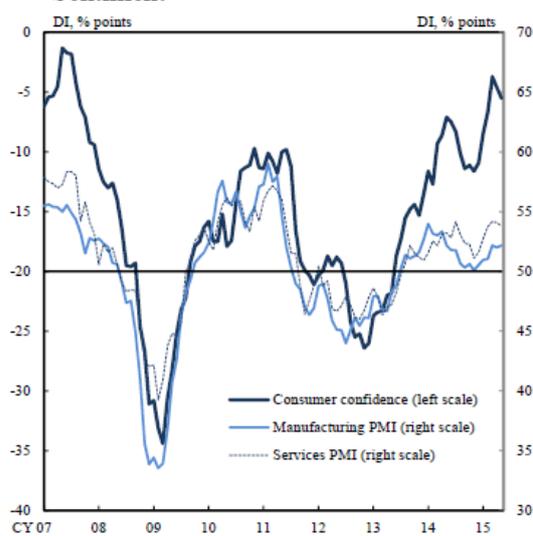
Chart 3-1

European Economy

(1) Real GDP



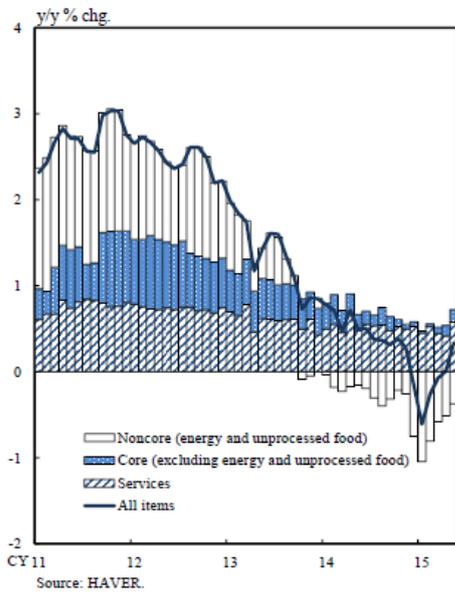
(2) Consumer Confidence and Business Sentiment



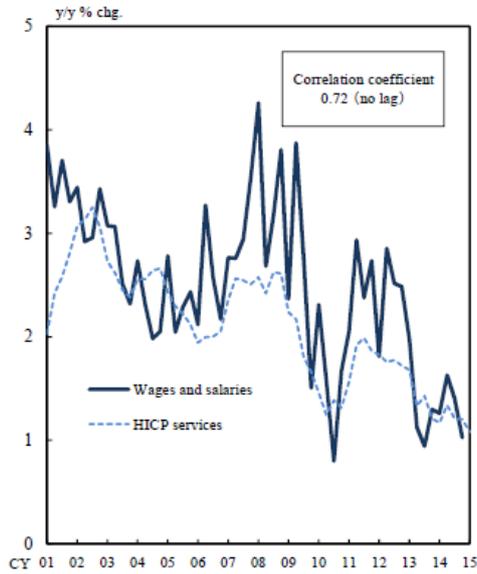
6

European Economy (Continued)

(3) HICP



(4) Wages and Service Prices

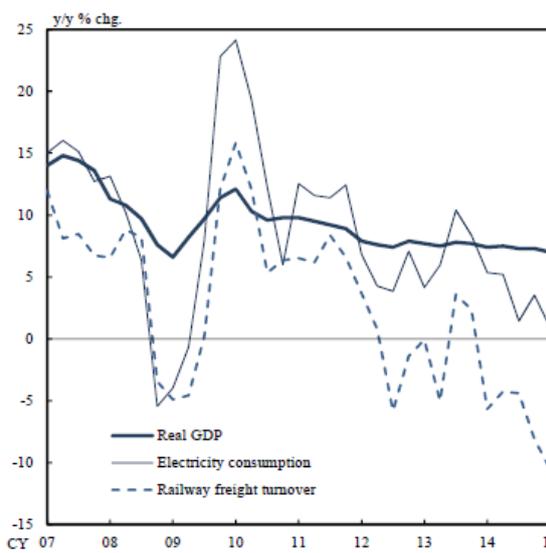


7

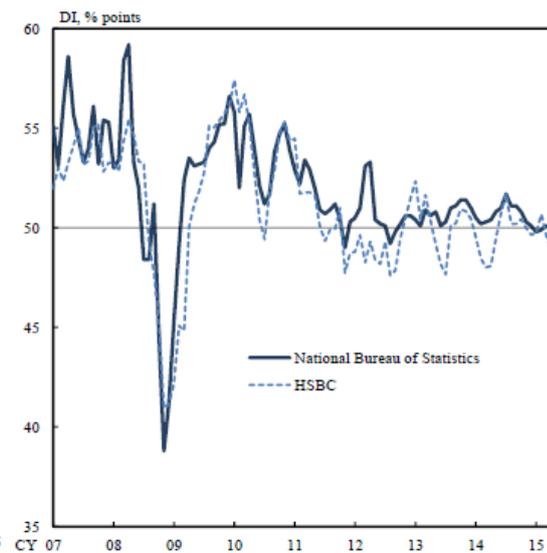
Chart 4-1

Chinese Economy

(1) Real GDP, Electricity Consumption, and Railway Freight Turnover



(2) Manufacturing PMI

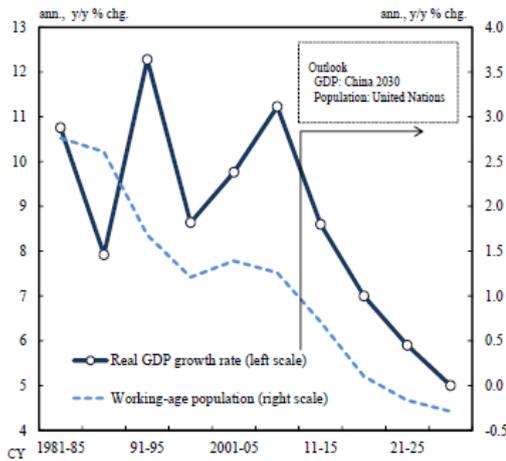


Sources: CEIC Data; Markit (© and database right Markit Economics Ltd 2015. All rights reserved).

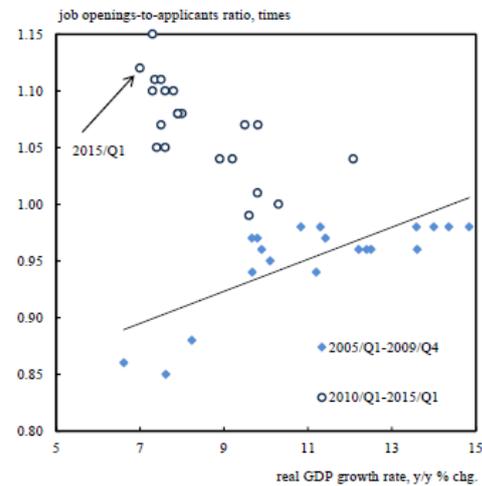
8

Chinese Economy (Continued)

(3) Long-Term Economic Outlook
("China 2030")



(4) GDP and Employment



Notes: 1. "China 2030" refers to "China 2030: Building a Modern, Harmonious, and Creative High-Income Society," released by the World Bank and the Development Research Center of the State Council of the People's Republic of China in 2012.
2. Solid line is the regression line of 2005/Q1-2009/Q4 data.

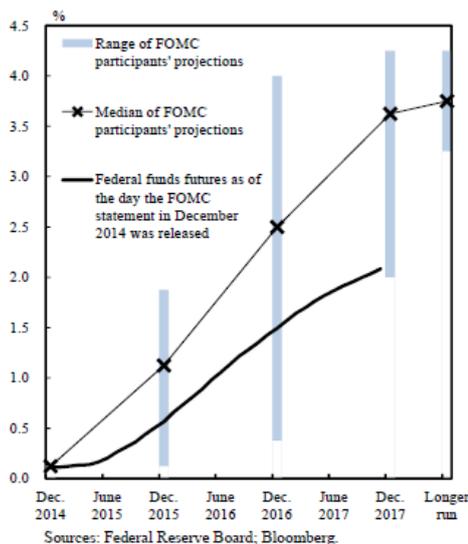
Sources: World Bank; Development Research Center of the State Council, People's Republic of China; United Nations; CEIC Data.

9

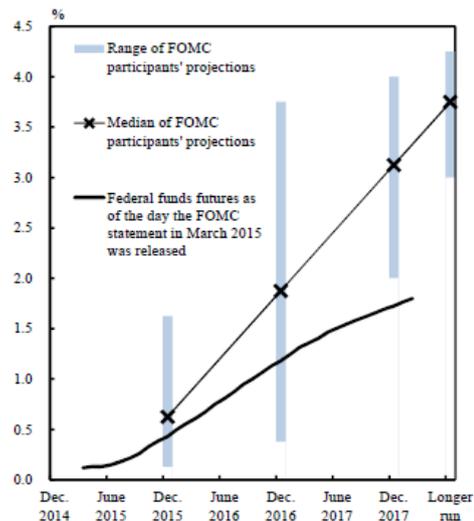
Chart 5

FOMC Participants' Projections of the Target Federal Funds Rate and Federal Funds Futures

(December 2014)



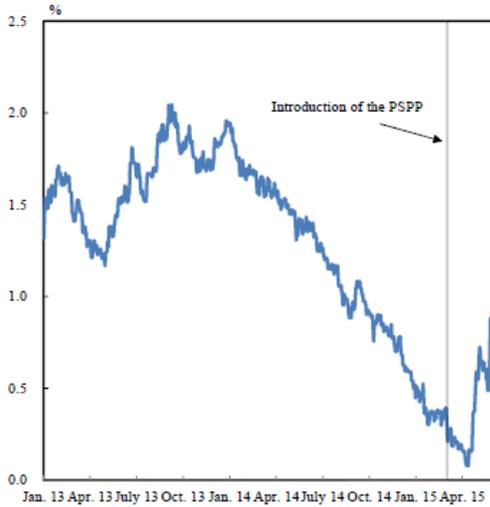
(March 2015)



10

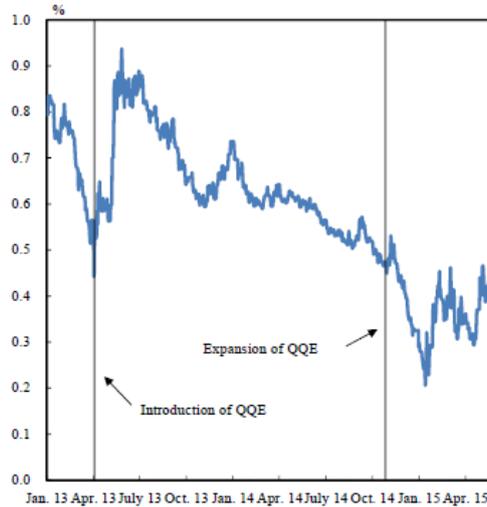
Long-Term Interest Rates of Germany and Japan

(1) 10-Year German Bund Yields



Source: Bloomberg.

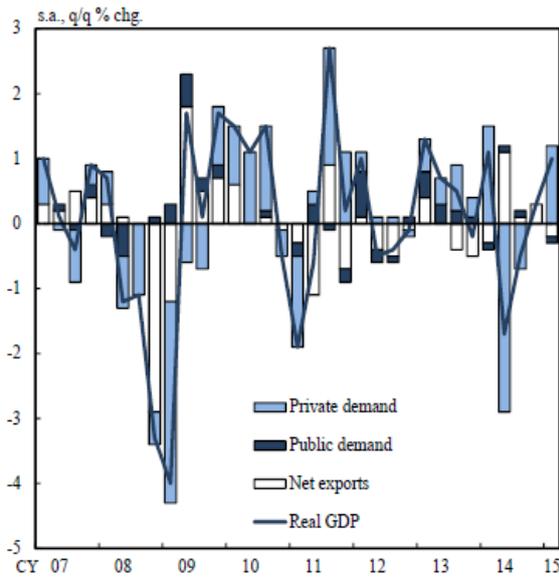
(2) 10-Year JGB Yields



11

Chart 7

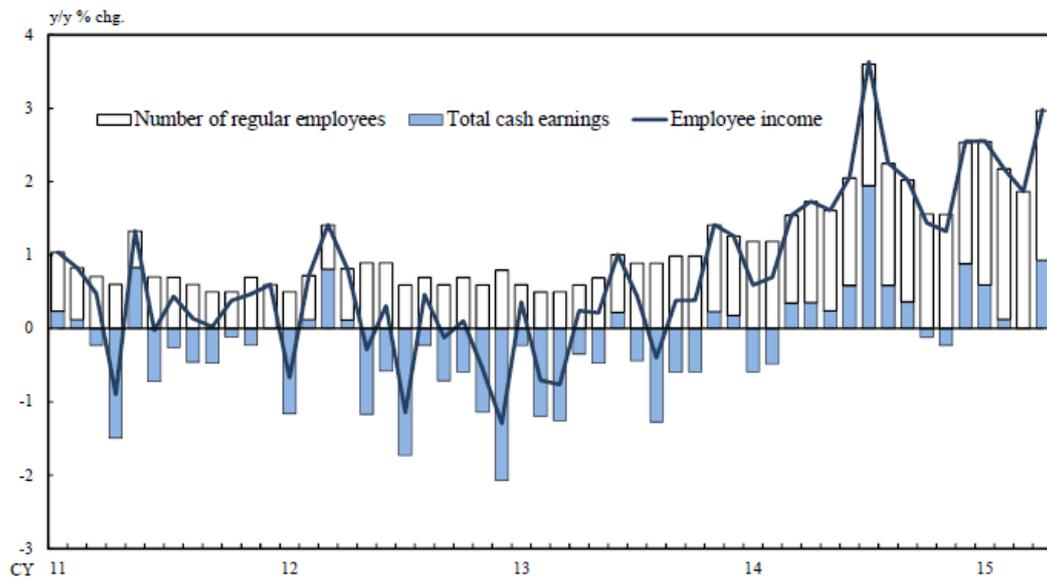
Japan's Economy: Real GDP



| | | 2014 | | | 2015 |
|---------------------------------------|-----------------|------|------|------|------|
| | | Q2 | Q3 | Q4 | Q1 |
| Real GDP | a | -1.7 | -0.5 | 0.3 | 1.0 |
| Inventories | b | 1.3 | -0.7 | -0.2 | 0.6 |
| Imports | c | 1.1 | -0.2 | -0.3 | -0.6 |
| Final demand | $d = a - b - c$ | -4.1 | 0.4 | 0.8 | 1.0 |
| Real GDP | f | -1.7 | -0.5 | 0.3 | 1.0 |
| Income from /to the rest of the world | g | 0.2 | 0.4 | 1.1 | -0.8 |
| Trading gains/losses | h | 0.3 | -0.2 | 0.1 | 1.1 |
| Real GNI | $i = f + g + h$ | -1.3 | -0.3 | 1.5 | 1.3 |

12

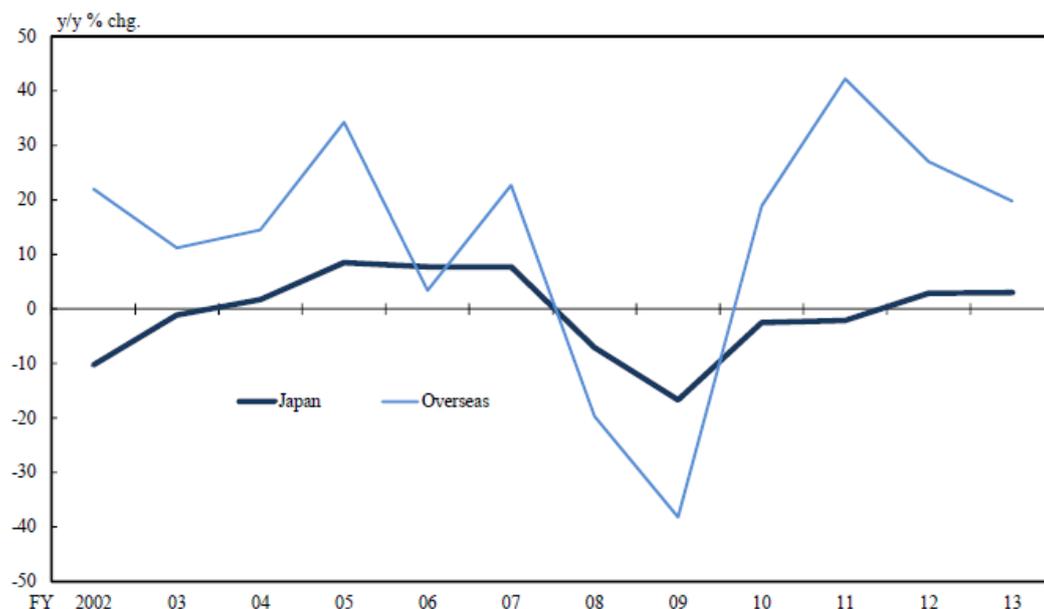
Employee Income



Note: Employee income is calculated as the "number of regular employees" times "total cash earnings." Figures are those for establishments with at least five employees.

Source: Ministry of Health, Labour and Welfare.

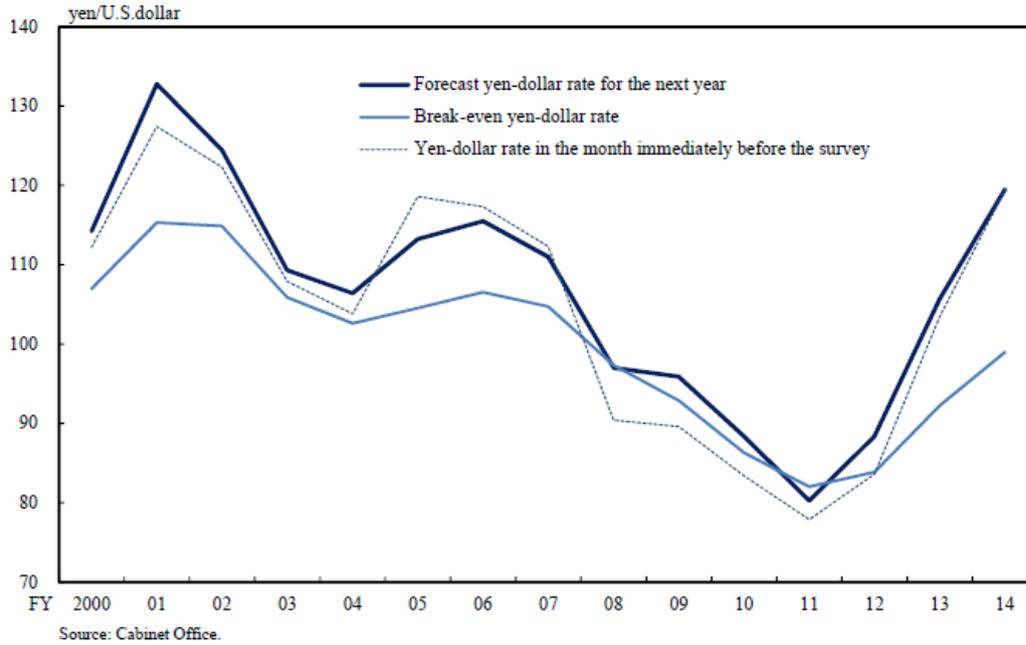
Fixed Investment in Japan and Overseas



Source: Development Bank of Japan.

Chart 10

Trend of the Forecast Yen-U.S. Dollar Rate and the Break-Even Yen-U.S. Dollar Rate

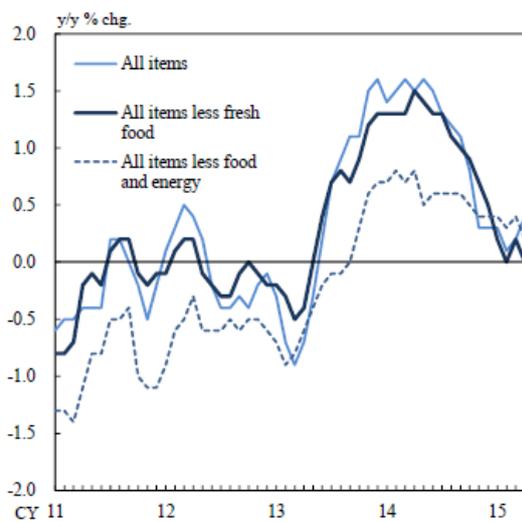


15

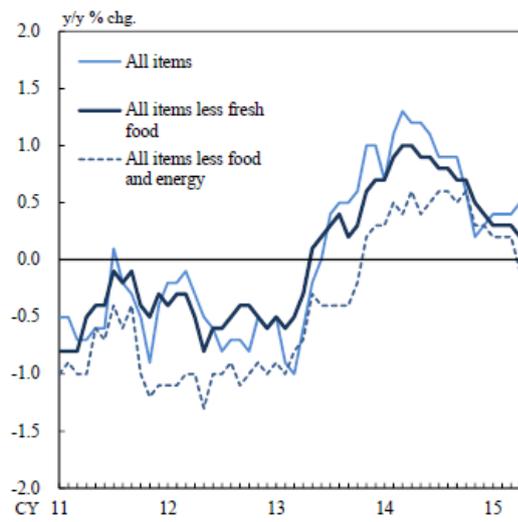
Chart 11

Consumer Prices

(1) Japan



(2) Tokyo (23 Wards)

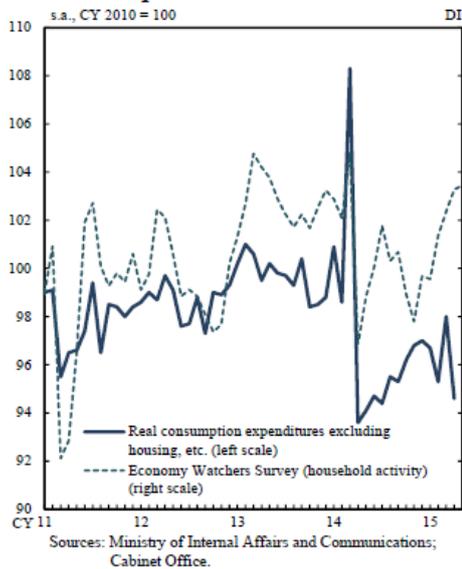


Note: Figures for April 2014 and onward are estimated after adjusting for the direct effects of the consumption tax hike.
Source: Ministry of Internal Affairs and Communications.

16

Consumer Confidence in Relation to Private Consumption and Prices

(1) Consumer Confidence and Private Consumption



(2) Consumer Confidence and Prices

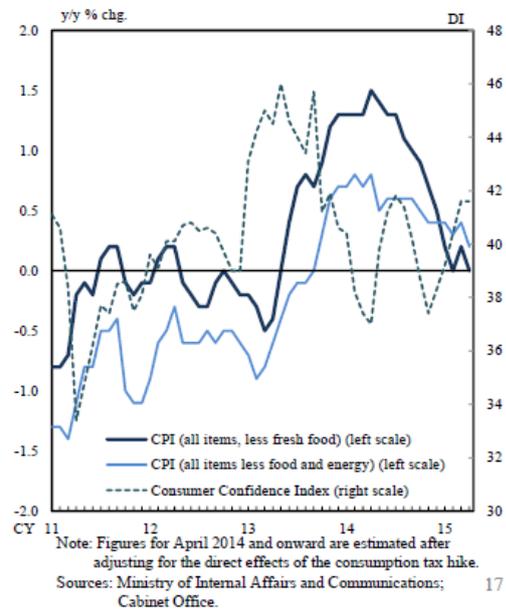
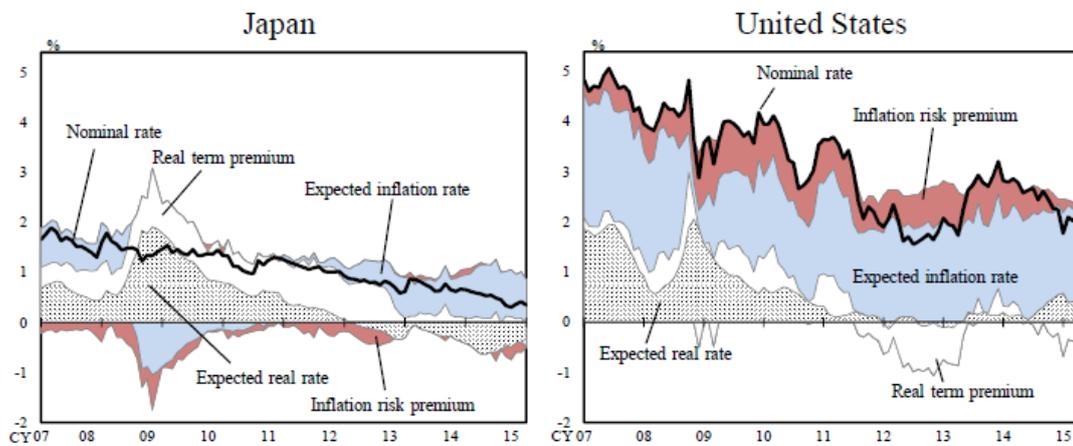
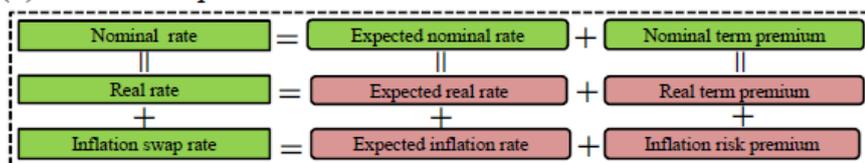


Chart 13-1

Estimates for Inflation Expectations

(1) Inflation Expectations Derived from the Nominal Rate

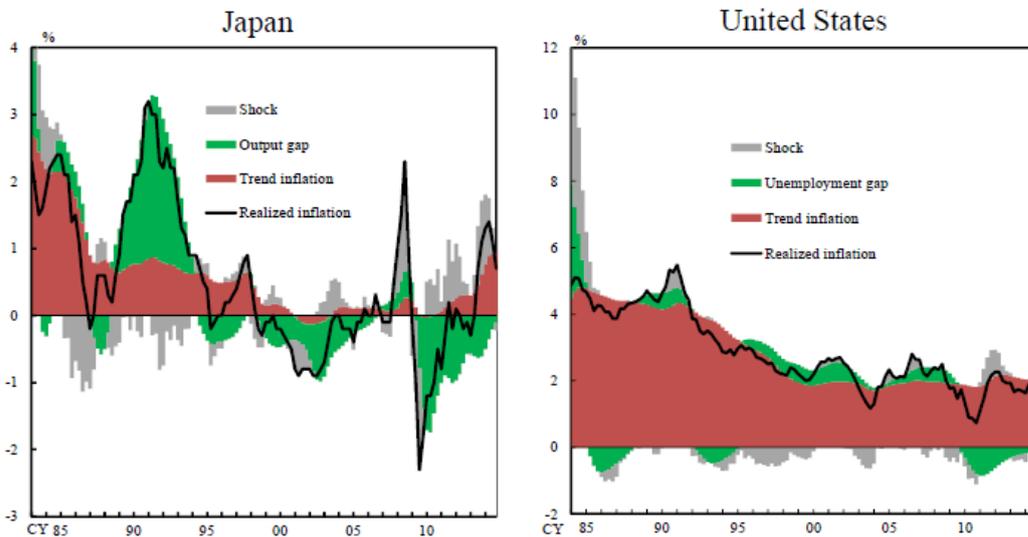


Note: For details, see Kei Inakubo and Jouchi Nakajima, "Estimating Inflation Risk Premia from Nominal and Real Yield Curves Using a Shadow-Rate Model," *Bank of Japan Working Paper Series No. 15-E-1*, April 2015.

Source: Bank of Japan.

Estimates for Inflation Expectations (Continued)

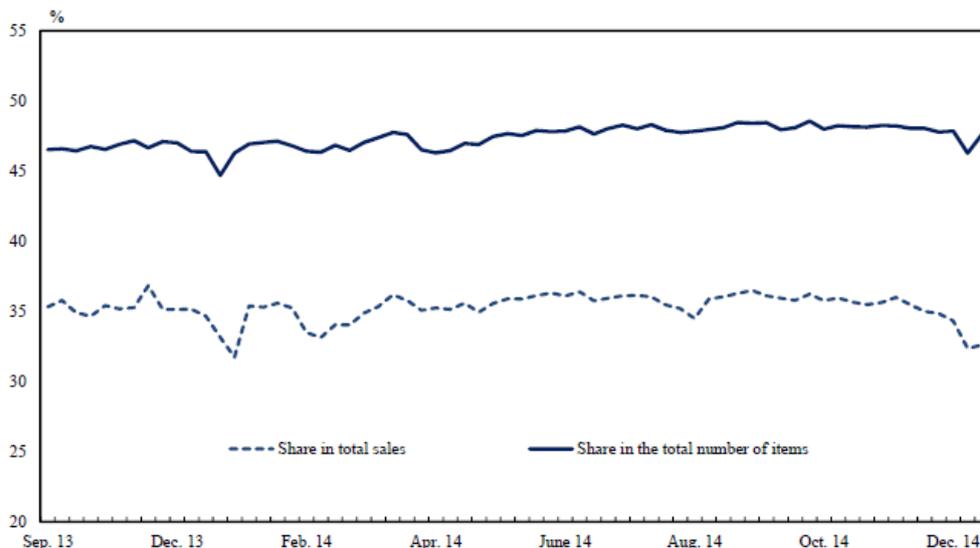
(2) Trend Inflation Estimated Using a Regime-Switching Model



Note: For details, see Sohei Kaihatsu and Jouchi Nakajima, "Has Trend Inflation Shifted? An Empirical Analysis with a Regime-Switching Model," *Bank of Japan Working Paper Series* No. 15-E-3, May 2015.
Source: Bank of Japan.

SRI-Hitotsubashi Unit Value Price Index

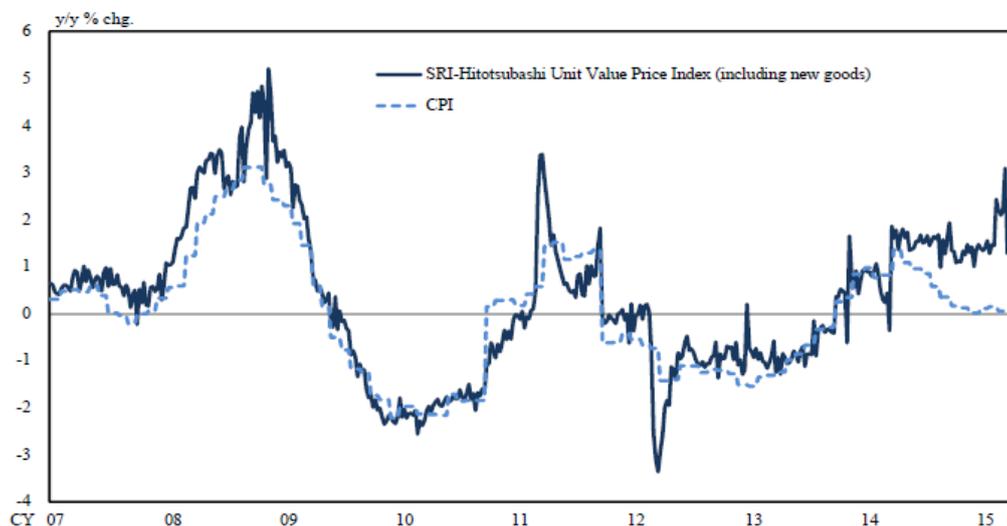
(1) Share of New Goods in Total Sales and in the Total Number of Items



Note: For details, see Naohito Abe, "Saikin no Kakaku Shizuu no Doukou to Shin Shohin no Eikyo ni tsuite (Recent Developments in Price Indexes and Effects of New Goods)," Newsletter No. 3, the Research Center for Economic and Social Risks (RCESR), Institute of Economic Research, Hitotsubashi University, March 2015 (available in Japanese), and Naohito Abe et al., "Effects of New Goods and Product Turnover on Price Indexes," *RCESR Discussion Paper Series* No. DP15-2, March 2015.
Sources: Hitotsubashi University; New Supermarket Association of Japan; Intage Inc.

SRI-Hitotsubashi Unit Value Price Index (Continued)

(2) Comparison of the Unit Value Price Index Including New Goods and the CPI



Note: Figures are those for supermarkets. The CPI is calculated based on the same items covered by the SRI-Hitotsubashi Unit Value Price Index. For details, see Naohito Abe, "Saikin no Kakaku Shizuu no Doukou to Shin Shohin no Enkyo ni tsuite (Recent Developments in Price Indexes and Effects of New Goods)," Newsletter No. 3, the Research Center for Economic and Social Risks (RCESR), Institute of Economic Research, Hitotsubashi University, March 2015 (available in Japanese), and Naohito Abe et al., "Effects of New Goods and Product Turnover on Price Indexes," RCESR Discussion Paper Series No. DP15-2, March 2015.

Sources: Hitotsubashi University; New Supermarket Association of Japan; Intage Inc.

21

"Outlook for Economic Activity and Prices" (April 2015)

Forecasts of the Majority of Policy Board Members

| | y/y % chg. | | |
|--------------------------------|------------------------|---------------------------------|--|
| | Real GDP | CPI (all items less fresh food) | Excluding the effects of the consumption tax hikes |
| Fiscal 2014 | -1.0 to -0.8 [-0.9] | +2.8 | +0.8 |
| Forecasts made in January 2015 | -0.6 to -0.4 [-0.5] | +2.9 to +3.2 [+2.9] | +0.9 to +1.2 [+0.9] |
| Fiscal 2015 | +1.5 to +2.1 [+2.0] | +0.2 to +1.2 [+0.8] | |
| Forecasts made in January 2015 | +1.8 to +2.3 [+2.1] | +0.4 to +1.3 [+1.0] | |
| Fiscal 2016 | +1.4 to +1.8 [+1.5] | +1.2 to +2.2 [+2.0] | |
| Forecasts made in January 2015 | +1.5 to +1.7 [+1.6] | +1.5 to +2.3 [+2.2] | |
| Fiscal 2017 | +0.1 to +0.5 [+0.2] | +2.7 to +3.4 [+3.2] | +1.4 to +2.1 [+1.9] |

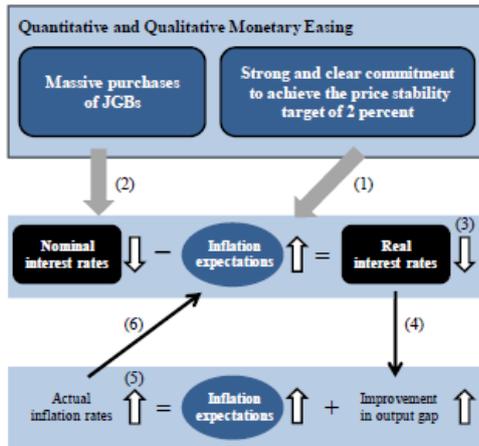
Note: Figures in brackets indicate the median of the Policy Board members' forecasts (point estimates).

Source: Bank of Japan.

22

Effects of QQE

(1) Mechanism of QQE



(3) Downward Pressure on Long-Term Yields

Changes from the end of Mar. 2013 to the end of Dec. 2014

| Increase in the amount outstanding of the Bank's JGB holdings | Increase in the share of the Bank's JGB holdings | Downward pressure on long-term yields |
|---|--|---------------------------------------|
| +110 trl yen | +19.3 % points | -0.8 % points |

Source: Bank of Japan.

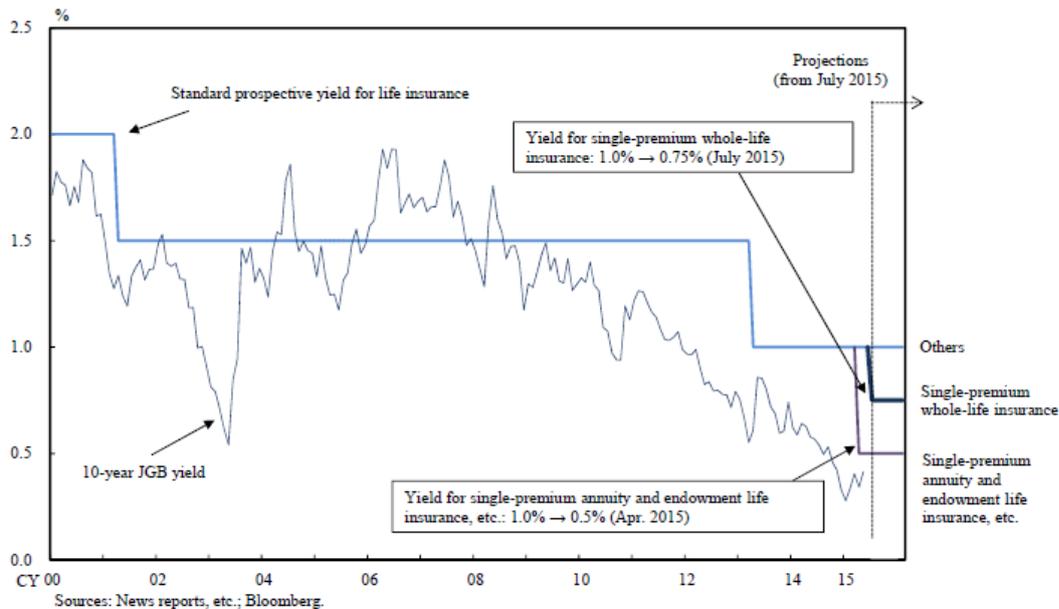
(2) Nominal Interest Rates and Inflation Expectations

| I 2013/Q1 | II 2014/Q4 | Difference: II - I |
|-----------|------------|--------------------|
| 0.7 | 0.4 | -0.3 |

| | 2013/Q1 I | 2014/Q4 II | Difference II - I |
|---|-----------|------------|-------------------|
| ESP Forecast | | | |
| 1 year ahead | 0.2 | 1.1 | +1.0 |
| 2 to 6 years ahead | 0.7 | 1.4 | +0.7 |
| 7 to 11 years ahead | 1.0 | 1.5 | +0.5 |
| QUICK Survey | | | |
| Over the next year | 0.1 | 1.9 | +1.7 |
| Over the next 2 years | 0.6 | 1.7 | +1.1 |
| Over the next 10 years | 1.1 | 1.5 | +0.4 |
| BEI for inflation-indexed JGBs (10 years) | | | |
| | - | 1.1 | - |
| Inflation swap rate (10 years) | | | |
| | 0.8 | 1.1 | +0.2 |
| "Yankee" (outlook for general prices) | | | |
| 1 year ahead | - | 1.4 | - |
| 3 years ahead | - | 1.6 | - |
| 5 years ahead | - | 1.7 | - |
| Consumer Confidence Survey (1 year from now) | | | |
| | 1.9 | 3.0 | +1.2 |
| Opinion Survey on the General Public's Views and Behavior | | | |
| From the previous year | 0.2 | 5.0 | +4.8 |
| Over the next year | 3.0 | 3.0 | +0.0 |
| Over the next 5 years | 2.0 | 2.0 | +0.0 |

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Standard Prospective Yield for Life Insurance

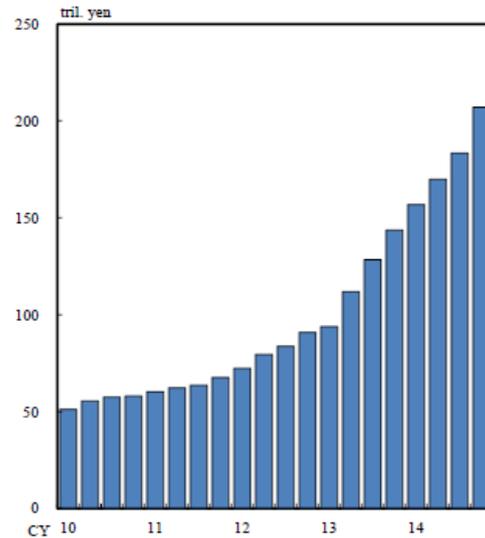
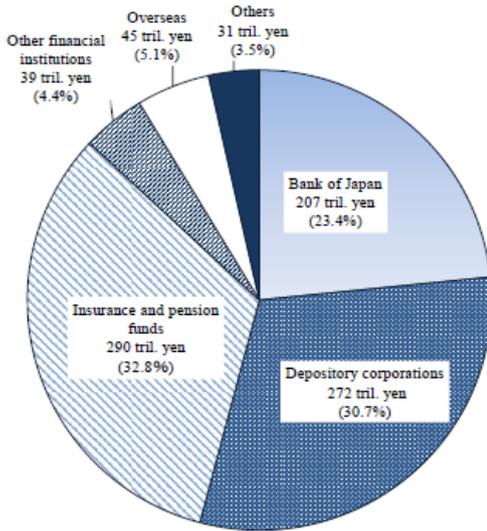


Sources: News reports, etc.; Bloomberg.

24

Amount Outstanding of JGBs by Type of Holder

- (1) Breakdown by Type of JGB Holder (end of December 2014) (2) JGBs Held by the Bank of Japan

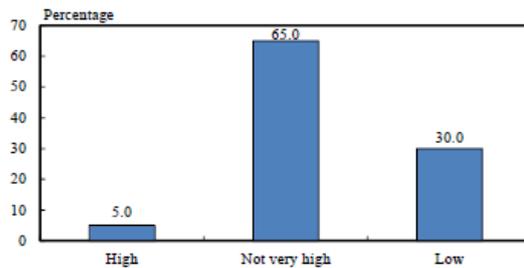


Note: Figures are compiled based on the flow of funds (excluding T-bills, evaluated at market prices).
Source: Bank of Japan.

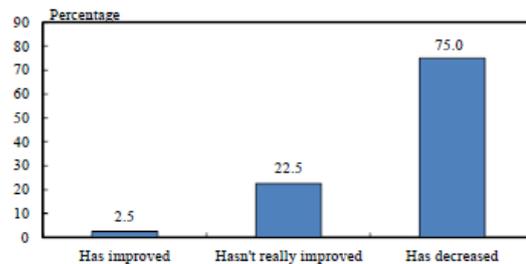
Results of the Bond Market Survey (February 2015)

- (1) Degree of Bond Market Functioning

(Current situation)

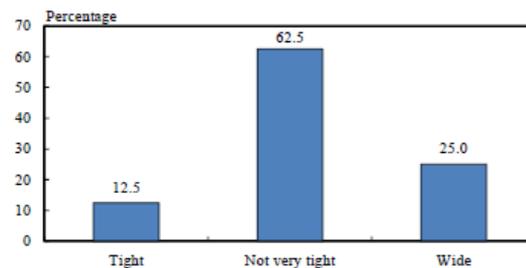


(Change from three months ago)

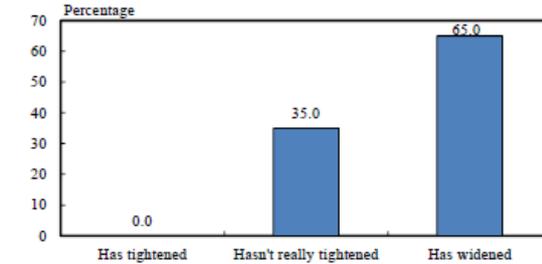


- (2) Bid-Ask Spread

(Current situation)



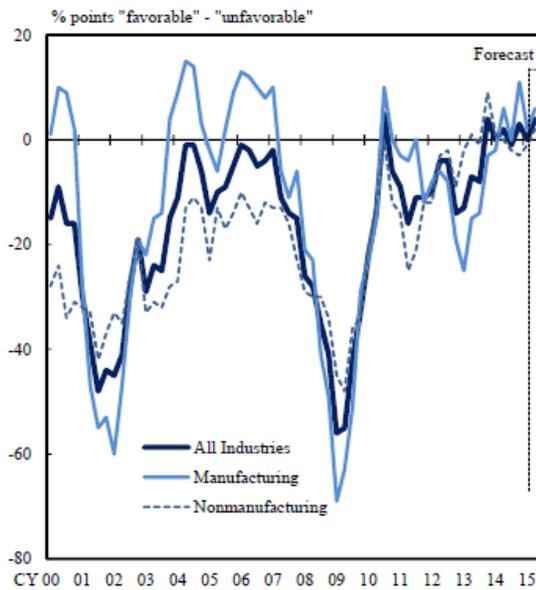
(Change from three months ago)



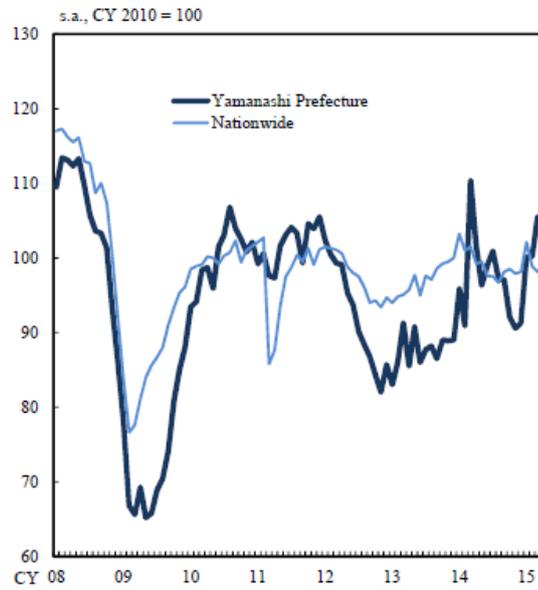
Source: Bank of Japan.

Economic Activity in Yamanashi Prefecture

(1) Business Conditions DI (*Tankan*)



(2) Production



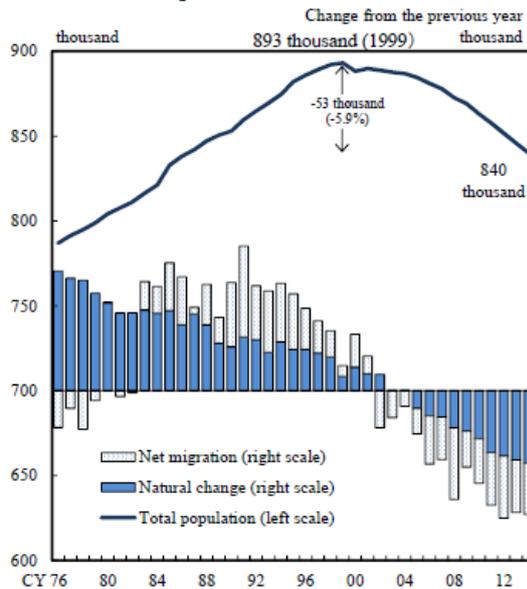
Sources: Bank of Japan; Ministry of Economy, Trade and Industry; Yamanashi Prefecture.

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Chart 21-2

Economic Activity in Yamanashi Prefecture (Continued)

(3) Trend in Population



Sources: Ministry of Internal Affairs and Communications; Yamanashi Prefecture; Japan Tourism Agency.

(4) Number of Foreign Guests Accommodated
(Preliminary Estimate for 2014)

| Ranking | Prefecture | Number of Foreign Guests Accommodated (thousand) | YoY (%) | Ranking |
|---------|------------|--|---------|---------|
| | | | | |
| 1 | Tokyo | 13,453 | 36.8 | 13 |
| 2 | Osaka | 5,838 | 35.3 | 14 |
| 3 | Hokkaido | 4,035 | 31.4 | 16 |
| 4 | Kyoto | 3,409 | 29.8 | 17 |
| 5 | Chiba | 2,750 | 34.2 | 15 |
| 6 | Okinawa | 2,313 | 55.5 | 5 |
| 7 | Aichi | 1,487 | 29.6 | 18 |
| 8 | Fukuoka | 1,327 | 47.5 | 9 |
| 9 | Kanagawa | 1,321 | 23.8 | 24 |
| 10 | Yamanashi | 942 | 91.3 | 1 |

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