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Bank of Japan

Challenges in Shaping Modern Monetary Policy

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(English translation based on the Japanese original)

Introduction

My five-year term of office as a Policy Board member of the Bank of Japan will end on March 25. During this period, various events took place both in terms of financial and economic developments at home and abroad as well as the conduct of monetary policy. It truly has been a turbulent five years. Today, drawing on the events and experiences gained during those years, I would like to focus on some of the challenges regarding the conduct of monetary policy.

Specifically, I have three issues to address: (1) the effects of large-scale purchases of assets such as government bonds; (2) communication on monetary policy; and (3) the path toward achieving the 2 percent price stability target. After discussing these issues, I will share my views on central bank accountability.

I. Effects of Large-Scale Asset Purchases

One of the crucial issues of discussion on the recent unconventional monetary policy is how to assess the effects of large-scale purchases of assets such as government bonds. Some progress has been made in the research of such policy effects both on the theoretical and empirical sides, but there continues to be vigorous debate over the effects and costs, as well as over whether this policy should be implemented in the first place.

In practice, large-scale asset purchases by central banks seem to have become common measures adopted in major advanced economies including the United States, Japan, and Europe. The Bank of Japan adopted quantitative easing from 2001 through 2006: at that time, this was regarded as a pioneering policy framework. Later, in response to the global financial crisis, various countries adopted quantitative easing and asset purchasing policies that have been advanced in terms of both the scale of purchases and the variety of assets.

Details of the asset purchase measures adopted by the Federal Reserve, the Bank of Japan, and the European Central Bank (ECB) varied, but the common feature was that these banks all performed large-scale asset purchases and continued their operations in an open-ended manner. They have made a commitment to linking the time frame of such asset purchases with their policy targets. The Federal Reserve announced that it would continue its

purchases of assets "until the outlook for the labor market has improved substantially in a context of price stability"; the ECB announced that it would do so "until we see a sustained adjustment in the path of inflation which is consistent with our aim of achieving inflation rates below, but close to, 2 percent over the medium term"; and the Bank of Japan announced that it would continue such purchases "as long as it is necessary for maintaining the 2 percent price stability target in a stable manner." Such open-ended asset purchases are very effective measures compared with those having specified periods, and they can produce stronger easing effects in terms of the following three points.

First, by linking the duration of asset purchases with the policy target and not specifying the time frame in advance, an open-ended approach indicates central banks' strong will and determination to achieve the target. In the case of the Bank of Japan's conduct of quantitative and qualitative monetary easing (QQE), its strong and clear commitment to achieving the price stability target of 2 percent affects expected inflation rates, and at the same time, the large-scale purchases of Japanese government bonds (JGBs) exert downward pressure on the entire yield curve, bringing about lower real interest rates, and thereby stimulate private demand. In general, the open-ended approach clarifies the stance of maintaining the unconventional and large-scale policy measures for a considerable time. This would further ease financial conditions by exerting strong effects on long-term rates and asset prices, and accordingly improve corporate profits as well as employment and wage conditions.

Second, by committing to conducting stronger easing for a longer period of time, an open-ended approach can exert positive effects on the supply side of the economy, through encouraging the private sector's productive risk taking and entrepreneurship. For example, if such commitment supports changes in business structures and tapping new demand, and promotes business fixed investment that embodies new technology as well as research and development investment, it will be able to increase capital stock and heighten total factor productivity. Improvements on the supply side of the economy, and thus in the outlook for

permanent income, can be expected to result in a sustainable increase in demand.[1]

Third, since it is open-ended, markets' expected duration of asset purchases can vary depending on a change in the economic outlook. Therefore, it contains a "stabilizing mechanism"; that is, even if market participants anticipate that the economic outlook will weaken compared to the baseline scenario, they also can expect an extension of the duration, which strengthens the easing effect and consequently helps the target to be achieved earlier.

Next, let me compare the large-scale, open-ended purchases with forward guidance about policy rates, which is another unconventional measure that commits to maintaining a zero or extremely low interest rate for a longer period of time.

Here, I would like to focus on my two main perspectives.

The first perspective concerns effects on the financial environment such as long-term interest rates and asset prices. The large-scale government bond purchases not only can exert downward pressure on the term premium but also can influence the expected path of short-term interest rates. When the purchases are conducted for a longer period, market participants are likely to interpret this as meaning that exceptional easing measures and, accordingly, a zero or extremely low interest rate policy also will be continued for a longer period, which could exert downward pressure on the expected short-term interest rates. This is the so-called signaling effect.

On the other hand, forward guidance under the zero interest rate policy commits in advance

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[1] U.S. policymakers also take notice of the following similar discussion: aggressive monetary easing improves firms' fixed investment and research and development investment, as well as long-term unemployment, and this affects the aggregate supply of the economy as well as the medium- to long-term growth trend. Therefore, the economy can avoid a deterioration in the aggregate supply and growth trend after financial crises through such measures. See, for example, the following analysis by Federal Reserve Board economists: Dave Reifschneider, William L. Washer, and David Wilcox, "Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy," Paper presented at the 14th Jacques Polak Annual Research Conference, International Monetary Fund, November 2013.

to maintaining the zero interest rate into the future even when it seems appropriate to raise the policy interest rate, thereby lowering the expected path of short-term interest rates and exerting downward pressure on longer-term interest rates. However, there is a problem of time inconsistency with this commitment, because when an increase in interest rates does become appropriate, the commitment may be compromised in the end since it is appropriate to do so on an *ex post* basis. The signaling effect brought about by the large-scale, open-ended purchases is likely to work as a commitment device to restrain an inducement of time inconsistency. In this regard, this approach can exert a greater effect than forward guidance in creating accommodative financial conditions.

My second perspective as regards the comparison between the two unconventional policy measures is the implication of the expansion of the monetary base. The open-ended purchases of government bonds imply that, on the liability side, the monetary base -- especially reserve balances -- will expand on a larger scale and for a longer period of time, whereas forward guidance does not have such a quantitative aspect.

A theoretical analysis of such implication has been progressing recently among academics. From such a perspective, the economic effect of this can be explained as follows. As the government's long-term liabilities are replaced by the central bank's short-term liabilities, for the policy sector overall, comprising the central government and the central bank, the interest payment will be reduced. As a result, at least in this case, revenue from banknote issuance, or seigniorage, will be generated. On the assumption that the government's fiscal expenditure plan will be unchanged, fiscal space equivalent to this seigniorage will be created in the government budget constraint. If such additional fiscal space then results in an increase in fiscal expenditure or in a tax cut, or make people expect that this will happen, it can stimulate the economy.[2]

[2] The potential economic stimulus effects have been widely discussed in the recent theoretical research. See, for example, Willem H. Buiter, "The Simple Analytics of Helicopter Money: Why It Works -- Always," *Economics* 8, 1-53, 2014; and Jordi Gali, "The Effects of a Money-Financed Fiscal Stimulus," CEPR Discussion Paper 10165, September 2014. Note that such theoretical analysis assumes the intertemporal budget constraint of the government and does not discuss the fiscal theory of the price level or the fiscal dominance.

Such potential economic stimulus effects, due to an exchange of long-term government bonds and reserve balances, cannot be seen in forward guidance under the zero interest rate policy but are unique to large-scale, long-term balance-sheet policy that entails asset purchases. However, it should be noted that in the actual conduct of monetary policy, market participants might doubt that the use of additional fiscal space indicates a retreat from the government's efforts to achieve fiscal soundness. In fact, the theoretical analysis is based on the preconditions that the government's intertemporal budget constraint is satisfied and that its solvency will be achieved. I would like to emphasize that the Japanese government's clear commitment to mid- to long-term fiscal reconstruction is critical and consistent with these preconditions in such theoretical analysis.

As we have seen so far, the large-scale, open-ended asset purchases produce positive effects via the traditional transmission channels through which real interest rates affect economic activity, and also strengthen the effects produced by the improvements on the supply side of the economy. In addition, they are expected to restrain the time inconsistency brought about by forward guidance about policy rates. Furthermore, they theoretically might produce potential economic stimulus effects through seigniorage.

The issue of how much this policy approach generates easing effects is also closely related to the timing and scale of the policy adjustment in the phase of normalization or tightening. Given that the policy to expand the monetary base has produced various economic stimulus effects through the aforementioned several mechanisms, adjusting or shifting from this policy, or providing policy guidance about such a move, should produce the opposite, tightening effects. When a central bank starts to discuss normalization of monetary policy, at which time it becomes very possible that the price stability target will soon be achieved, it will pursue appropriate adjustments including a combination of some measures such as adjusting policy rates and/or policy guidance.

II. Monetary Policy Communication

In implementing unconventional monetary policy, communication with the public has become increasingly important recently. Central banks have been making efforts to enhance transparency and accountability by, for example, introducing policy targets with

numerical values, clarifying their own policy approaches, and/or releasing their assessments of the outlook for economy activity. For modern central banks that have gained independence, it is essential to enhance transparency and accountability in order to maintain public confidence.

Meanwhile, there are many challenges central banks face with regard to monetary policy communication.

The first is the difficulty of policy communication when the economy is likely to be undergoing fundamental structural changes. For example, since the global financial crisis, the global economy has been burdened with debt reduction and balance sheet adjustment. The pace of economic recovery has been slower than had been expected, and forecasts for global economic growth, released by various organizations, have been revised downward repeatedly. One recent example was the International Monetary Fund, which reasoned that its downward revisions were due to weak business investment, notably in emerging economies.[3] As for Japan, the recent economic recovery has been driven by domestic demand, consumption in particular, rather than by exports, which may suggest that the country's economic structure has been changing against the background of increasing globalization. These developments in the economy worldwide imply sustained structural changes, and considerable uncertainty regarding the outlook for economic activity. Moreover, there are many unpredictable risk factors, such as geopolitical risks, the political situation in Europe, and developments in crude oil prices. In communicating with the public about the outlook for the economy amid a situation of structural changes and various risk factors, it is more important to see whether the intended mechanism functions smoothly than to focus on specific numerical values.

The second challenge is the balance between transparency and flexibility of the policy approach. Clarifying the future policy approach enhances the transparency and

[3] See Chapter 1 in the *World Economic Outlook* released by the International Monetary Fund in October 2014. There has been vigorous debate over the deceleration in the pace of recovery in the global economy. It also has led to discussions about low productivity and continued shortages in demand -- a situation referred to as "secular stagnation."

predictability of monetary policy. Such clarification may also strengthen the policy effects, just as in the case of forward guidance under the zero interest rate policy. However, if the information provided by a central bank is too specific, the public may, contrary to the central bank's intention, focus solely on the specifics, which could lead to fluctuations in the market. This may impair the flexibility and credibility of the policy response. Such specifics include the announcement of particular economic indicators, numerical values, or time spans on which it bases its assessment.

Indeed, central banks need to provide information about future policy responses based on a comprehensive assessment of a wide range of indicators and the basic mechanism of the economy, rather than on specifics -- that is, specific economic indicators or specific numerical values. This is particularly true when the economy is undergoing fundamental structural changes or when there is heightened uncertainty regarding the outlook. In fact, as for forward guidance under QQE in Japan, the Bank adopts the following broad approach: "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." This policy approach of making a comprehensive assessment under the constraint of the policy target is in itself the essence of a flexible inflation targeting framework within which "constrained discretion" can be exercised. Major countries including Japan currently adopt this policy approach based on the framework of flexible inflation targeting, and the significance of relying on a comprehensive assessment is likely to increase.

The third is the challenge specific to Japan regarding the policy target. The Bank aims to achieve the price stability target of 2 percent, while at the same time raising and re-anchoring the inflation rate that the general public perceives as representing price stability to the new policy target of 2 percent. Among advanced economies, only Japan faces this challenge, and the Bank should continue to make efforts to provide a thorough explanation about the feasibility.

In January 2013, the Bank set the price stability target of 2 percent and jointly committed

with the government to achieve this goal. Prior to this, the Bank had judged that the price stability goal was in a positive range of 2 percent or lower and had set a goal at 1 percent for the time being. The Bank now aims to achieve a higher target -- to be precise, the upper limit of the previous goal -- based on the recognition that efforts by a wide range of entities toward strengthening the competitiveness and growth potential of Japan's economy will make progress. I will elaborate on this point later, but the fundamentals of Japan's economy have been improving steadily and these developments are in line with the Bank's recognition. It is very likely that the Bank will achieve the price stability target of 2 percent and, by maintaining that target in a stable manner, re-anchor the inflation rate that the general public perceives as representing price stability at around 2 percent. According to the Bank's projections for economic activity and prices made in January 2015, the year-on-year rate of increase in the consumer price index is likely to reach around 2 percent in or around fiscal 2015. I personally hold the view that, although the precise timing for reaching 2 percent can be either earlier or later to some extent, the rate will likely rise close to 2 percent as a trend as downward pressure exerted by the decline in crude oil prices eventually will dissipate on a year-on-year basis.

III. Path toward Achieving the Price Stability Target of 2 Percent

Let me explain once again the path toward achieving the price stability target that the Bank has in mind. The key question is whether the inflation rate will trend upward toward 2 percent together with a sustainable economic recovery.

Let me discuss the sustainability of Japan's economic recovery from a few perspectives.

First, economic fundamentals have improved over the past two years or so -- that is, the period during which the Bank has further enhanced monetary easing. This can be confirmed by the improvement, for example, in firms' ratios of profits to sales, employee income, the quality of employment, and the labor force participation rate (Charts 1 through 3). Moreover, Japan's net external assets have increased steadily, and its net income from the rest of the world has been on an increasing trend as a result of further global expansion by Japanese firms (Chart 4). In addition, the recent substantial fall in crude oil prices will considerably improve trading gains. All of these developments point to a rise in the

economy's capacity to generate income on a sustained basis.

This sustained improvement in the capacity has been the source of recovery in Japan's domestic expenditure. The increasing trend in business fixed investment is becoming clear against the background of favorable corporate profits (Chart 5). Household sentiment, which worsened due to the consumption tax hike, has stopped deteriorating, and consumption expenditure has been resilient (Chart 6). The economy's capacity to generate income seems to be firm and the momentum of consumption maintained.

An improving trend in domestic demand leads to sustainable improvements in the output gap, and labor supply and demand conditions continue to tighten as a trend. As a result, upward pressure on price and wage inflation rates as a trend is likely to increase. If the uptrend in prices is taken into account at the time of the wage negotiations in spring 2015, the cyclical mechanism observed in 2014 -- in which wages and prices rise spirally -- will be maintained. That is to say, in 2015, we will be experiencing the second round of a virtuous cycle among income, spending, prices, and wages.

If positive initiatives -- such as replacement investment that embodies new technology for business facilities, research and development investment, creating new value-added services, and tapping new demand -- are further taken, total factor productivity (TFP) will rise and the increasing trend in income and spending will accelerate and be more sustainable. Under the expanded QQE, extremely accommodative financial conditions will continue to strongly support the virtuous cycle from the financial side. We expect that QQE will produce larger effects as Japan's economic fundamentals improve.

If the virtuous cycle of economic activity is sustained, a view that "around 2 percent inflation will continue with improvements in corporate profits, employment, and wages" will spread widely throughout the country, and a new inflation rate that the general public perceives as representing price stability will take hold. In the latter half of 2014, the price rise that includes the consumption tax hike might have been perceived only as an increase in costs, or incited concern over inflation amid the delay in economic recovery, thereby leading to deterioration in sentiment. What Japan needs to achieve, however, is a

sustainable, mild inflation with the virtuous cycle of economic activity operating. It is vital that the virtuous cycle continue to operate in order for the conversion of the prolonged deflationary mindset to take place, and for people's medium- to long-term inflation expectations to rise to around 2 percent and take root.

In order to maintain the virtuous cycle of economic activity and dispel deflationary sentiment, the risk of a spreading of "the Keynes' fallacy of composition" should be kept to a minimum. The fallacy of composition arises when an action taken by a firm or household that seems rational to the individual firm or household results in an undesirable outcome if all firms or households collectively take the same action. Individual firms may be reluctant to implement wage increases, including a raise in the level of base pay, that will lead to an increase in fixed costs, taking into account the competition among rival firms and the need to increase savings for future use. However, if many firms feel the same way and do not implement wage increases, household income will not increase and household sentiment will remain cautious, leading to sluggish spending. As a result, firms' sales as a whole will be stagnant. If many households hold back their consumption to increase savings for future use, the overall income of the economy will be sluggish since the amount a person spends will be somebody else's income. If many firms postpone the fixed investment that is necessary for their business or continue lowering their transaction prices in order to prepare for unexpected events and other uncertainties, the same problem will occur. Consequently, individual firms' sales and individual households' income will be sluggish, hindering the economy from becoming buoyant.

In order to minimize the risk of the fallacy of composition spreading, aggressive policy measures already have been taken. Measures such as flexible fiscal policy, expansion of the monetary easing, and joint initiatives toward raising wages led by the government, the business community, and labor unions are all considered to avoid materialization of such risk. With economic fundamentals improving steadily, it is crucial that people spend, invest, and distribute money, keeping the economy moving by circulating money, rather than keep money in reserve. I believe it is necessary that more people become aware of the importance of preventing the fallacy of composition from materializing, and that firms and households must change their mindset to a further degree.

Concluding Remarks

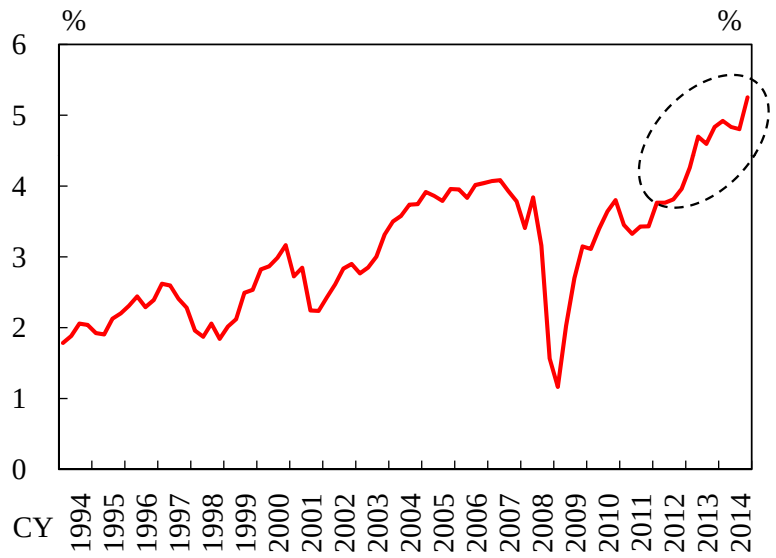
In shaping modern monetary policy, central banks face the considerable challenge of adopting new measures when the economy is likely to be undergoing fundamental structural changes. Communication with the public and the market will definitely be more difficult. However, central banks need to promote communication by providing a thorough explanation on their conduct of monetary policy, including the issues I have discussed, and by sharing the challenges we face.

Financial markets pay extremely close attention to each and every word central banks release. They tend to show a strong reaction to the release of detailed information such as specifics in a numerical form. In any financial market, the Keynesian beauty contest, in which anticipation of others' reactions will be taken more seriously than fundamentals, is sometimes in evidence. Therefore, overreaction in markets cannot always be avoided. In addition, central banks are directly intervening to a considerable scale in asset markets, where they had not heavily intervened in the past. Thus, markets' behavior of always being looking-forward and trying to be one step ahead of others might become strengthened.

All things considered, it is certain that central banks' communication with the market and the public increasingly will have to be based more on the economic mechanism and the comprehensive assessment. The market will demand more clear and concrete information from central banks. Continuing to meet this demand, however, does not necessarily lead to enhancing economic welfare because it is difficult in practice to define the systematic policy reaction function. I believe that the desirable degree of central bank accountability is to offer judgment based more on a discretional comprehensive assessment while providing basic transparency. I hope this idea will be shared widely among the public and the market.

Chart 1

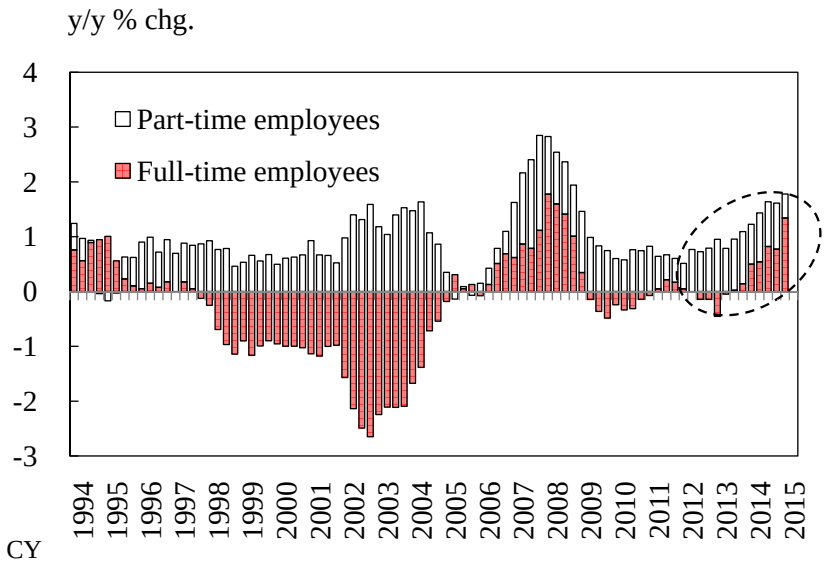
Ratios of Current Profits to Sales



Source: Ministry of Finance, "Financial Statements Statistics of Corporations by Industry."

Chart 2

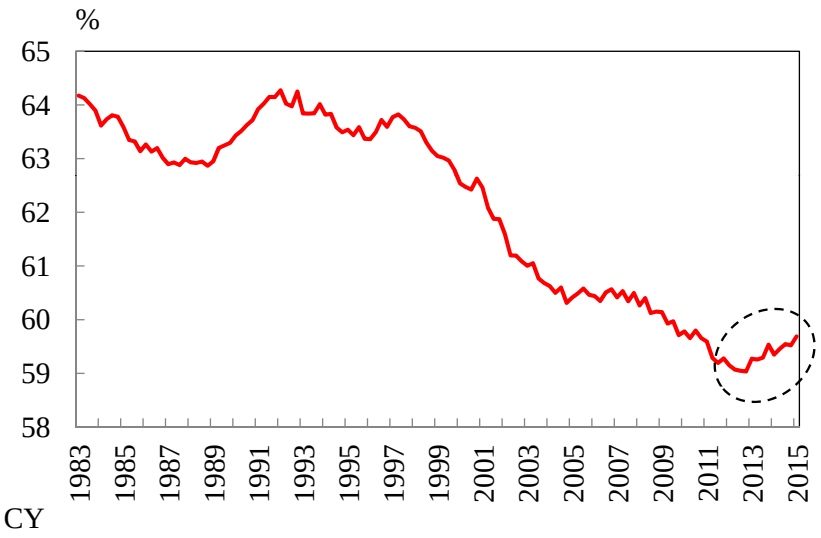
Breakdown of Number of Employees



Note: Figures for 2015/Q1 are those for January.
Source: Ministry of Health, Labour and Welfare, "Monthly Labour Survey."

Chart 3

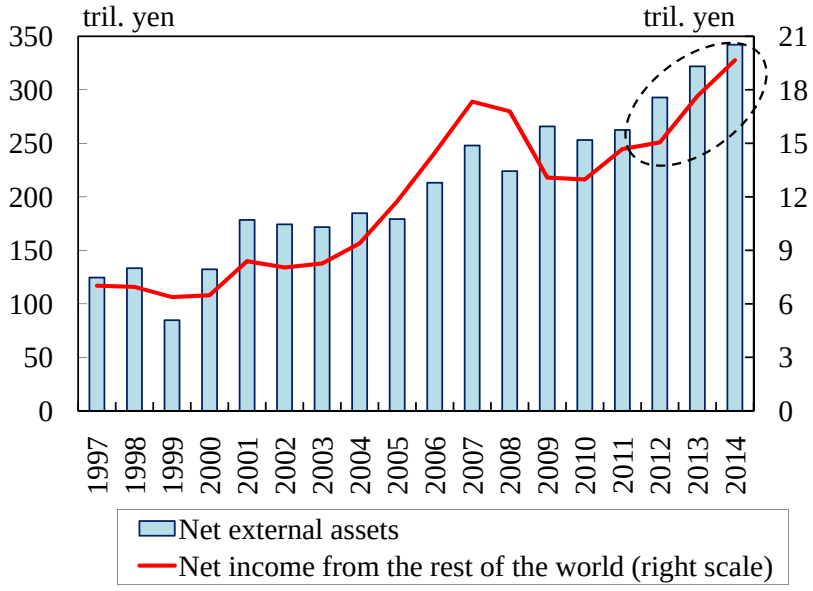
Labor Force Participation Rate



Note: Figures for 2015/Q1 are those for January.
Source: Ministry of Internal Affairs and Communications, "Labour Force Survey."

Chart 4

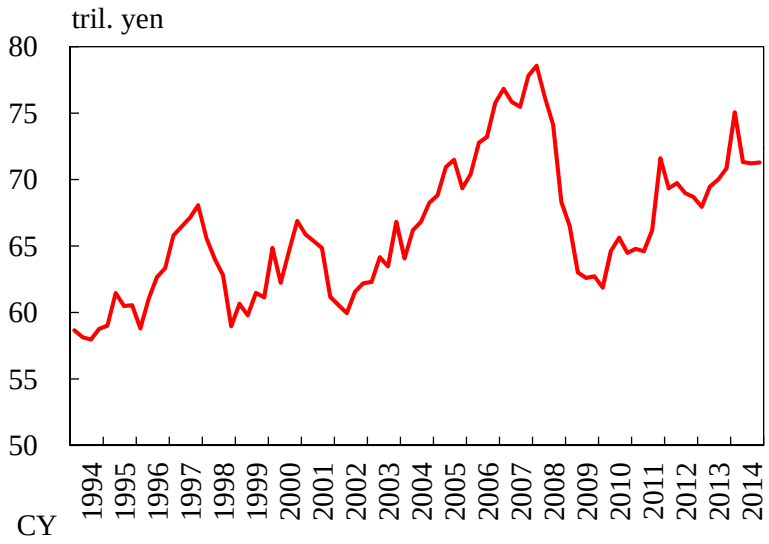
Net External Assets and Net Income from the Rest of the World



Note: Fiscal 2014 figures for net external assets are those for end-September 2014.
Sources: Cabinet Office, "National Accounts"; Bank of Japan, "Flow of Funds."

Chart 5

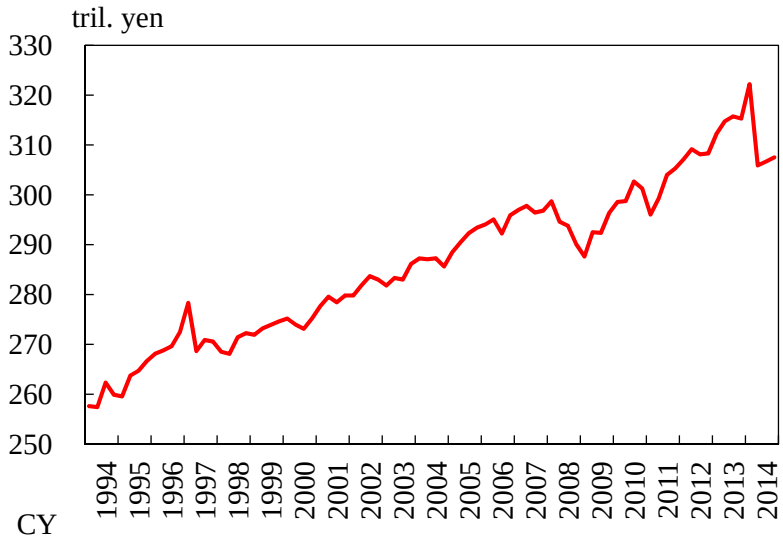
Business Fixed Investment



Source: Cabinet Office, "National Accounts."

Chart 6

Private Consumption



Source: Cabinet Office, "National Accounts."