31 August 2012 (No. of pages: 15)

Japanese report: 20 Aug 12

Japan’s Economy: Monthly Review

Factors behind deflation and policy responses required of the government and Bank of Japan

Economy to expand gradually but four risks should be kept in mind

Economic Research Dept
Mitsumaru Kumagai

Summary

- **Economic outlook revised:** In light of the first preliminary Apr-Jun 2012 GDP report (Cabinet Office), we have revised our economic growth forecasts. We now forecast real GDP growth of +2.2% y/y for FY12 (previous forecast: +2.4%) and +1.4% for FY13 (+1.3%).

- **Main scenario and risks for Japan’s economy:** Despite the existence of downside risks, as our main scenario we believe that Japan’s economy will continue to expand gradually, supported by (1) reconstruction demand related to the Great East Japan Earthquake, (2) pickup of the US and Chinese economies, and (3) further monetary easing by BOJ. Risks facing Japan’s economy are (1) any deepening of the European sovereign debt crisis, (2) a surge in crude oil prices stemming from geopolitical risk, (3) further appreciation of the yen, and (4) the current account balance turning negative in the future.

- **Factors behind deflation and policy responses required of the government and BOJ:** In this report, we examine factors behind persistent deflation in Japan and investigate policy responses required of the government and the Bank of Japan (BOJ). Contrasting with BOJ’s optimistic price outlook, we anticipate that deflationary tendencies will persist for the time being. Our analysis of core CPI indicates that narrowing of the GDP gap and stable trend of inflationary expectations are factors augmenting prices and that sluggish employee compensation and slower growth of corporate goods prices are factors placing downward pressure on prices. Policies will be needed to increase employee compensation through higher sales and an improvement in the current low labor productivity of the non-manufacturing sector (stemming from a low capital-labor ratio). Specifically, the policy authorities will need to firmly pursue economic policies to restore the economy centering on four points: (1) there should be consistent policies based on a firm vision (national vision and philosophy) of the top leaders, (2) instead of focusing only on domestic demand and the demand side, economic policies should be implemented that are well balanced and that embrace foreign demand and the supply side, (3) government finances should be rebuilt by raising the consumption tax and reducing expenditures centering on social security costs, and (4) the government and BOJ should work together more closely. Regarding the last, based on an analysis using the Granger causality test, a weaker yen and higher stock prices ensuing from further monetary easing by BOJ would be effective in ending deflation.

1. Main Scenario and Risks for Japan's Economy

Economic outlook revised

In light of the first preliminary Apr-Jun 2012 GDP report (Cabinet Office), we have revised our economic growth outlook. We now forecast real GDP growth of +2.2% y/y for FY12 (previous forecast: +2.4%) and +1.4% for FY13 (+1.3%). The expansion of Japan's economy has slowed slightly compared to our previous outlook, and we believe risk of a downswing has intensified. We have revised our economic outlook downward for FY12 in view of the slowing trend of foreign economies. In contrast, we have revised our outlook slightly upward for FY13, mainly because of the upward revision we made to our assumption of future demand brought forward prior to the consumption tax hike.

First preliminary estimate of Apr-Jun real GDP posted annualized gain of 1.4%, the fourth quarter of positive growth in a row

The first preliminary estimate of Apr-Jun real GDP posted a gain of 0.3% q/q, annualized at 1.4%, marking the fourth quarter of positive growth in a row, although falling short of the market consensus (+0.6% q/q; annualized at +2.5%). Domestic demand drove overall growth of real GDP (q/q basis) as it contributed positively to such growth for a fifth straight quarter (+0.4 percentage points), primarily due to an increase in personal consumption, capex, and public works spending. In contrast, foreign demand contributed negatively to GDP for the first time in two quarters (-0.1 point) on account of the slowing of foreign economies and ongoing robust resource imports.

Main scenario for Japan's economy

Despite the existence of downside risks, as our main scenario we believe that Japan's economy will continue to expand gradually, supported by three factors: (1) reconstruction demand related to the Great East Japan Earthquake, (2) pickup of foreign economies centering on the US and China, and (3) prospects of further monetary easing by BOJ. Regarding the direction of the world economy, which forms the premise of our current forecast, we assume that (1) eurozone economies will slow due to the sovereign debt crisis, (2) the US economy will trend firmly in broad terms, and (3) China's economy will gradually recover, supported by a political business cycle as a change in political leadership approaches.

Risks facing Japan's economy

Risks that will need to be borne in mind for Japan's economy are: (1) any deepening of the European sovereign debt crisis, (2) a surge in crude oil prices stemming from geopolitical risk, (3) further appreciation of the yen, and (4) the current account balance turning negative in the future. We currently believe the probability of Greece leaving the euro is around 30% to 40% and of the eurozone experiencing a full-fledged financial crisis around 10% to 20%.

2. Factors Behind Deflation and Policy Responses Required of the Government and BOJ

2.1 Why does deflation persist in Japan?

2.1.1 Are there signs the tide is turning in price trends?

BOJ's outlook for prices broadly optimistic

In this section, we begin by examining factors behind persistent deflation in Japan, and then follow with an investigation of the policy responses required of the government and BOJ. To reveal our conclusion beforehand, in contrast to BOJ's optimistic price outlook, we anticipate that deflationary tendencies will continue for the time being. On 12 July 2012, BOJ released an interim assessment of its most recent *Outlook for Economic Activity and Prices*. In this assessment, core CPI (median value of outlooks of Monetary Policy Meeting members) is foreseen to grow 0.2% y/y in FY12 and 0.7% in FY13, which is by and large an optimistic outlook. In contrast, we believe prices will rise sluggishly, with CPI increasing 0.0% y/y in FY12 and 0.2% in FY13.

Chart 1 provides an excerpt of an interview with Eiji Maeda, Director-General of BOJ's Research and Statistics Department, that Bloomberg distributed on 15 May 2012. Mr. Maeda stated that "there are signs that the tide is turning" in price trends and that growth in prices (core CPI excluding fresh food) "will be closer to 1% at or after the end of FY13" unless the economy is thrown off course.

Senior BOJ Officer's View of Price Trends **Chart 1**

Interview with Eiji Maeda, Director-General of BOJ Research and Statistics Department

Eiji Maeda, Director-General of the BOJ Research and Statistics Department, remarked that "there are signs that the tide is turning" in price trends and that growth in prices (core CPI excluding fresh food) "will be closer to 1% at or after the end of FY13" unless the economy is thrown off course. These remarks were made in an interview with Bloomberg on 14 May. . . .

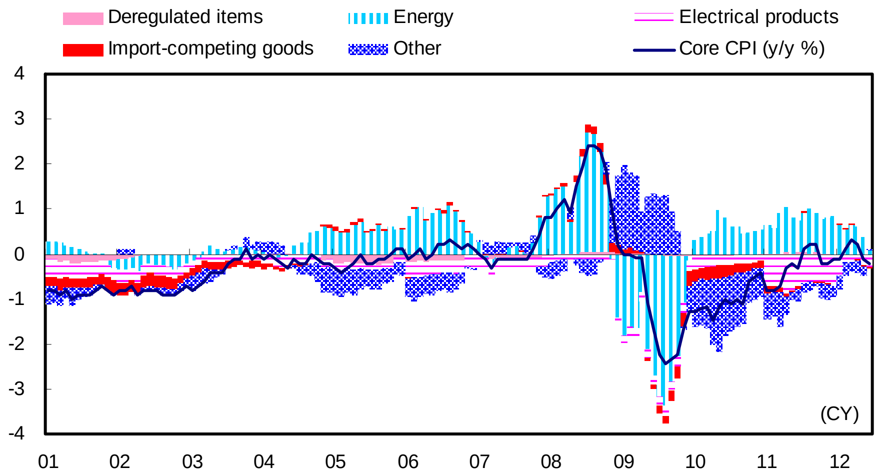
Mr. Maeda noted that, in the past 10 years or so, while deregulation centering on the distribution sector, the spread of a business model using inexpensive Chinese products, and price competition in existing business areas had been factors placing downward pressure on prices, "these negative price shocks are appearing to gradually weaken." Mr. Maeda expressed confidence that, combined with an improvement in the supply-demand balance, prices would rise at a gentle pace.

Source: Excerpted from a Bloomberg article (Japanese version) of 15 May 2012.

Downward pressure on prices from deregulated items and products that compete with imports have run their course

As Mr. Maeda notes, downward pressure on prices from deregulated items and products that compete with imports has run its course. Chart 2 analyzes the contribution of CPI components to y/y core CPI. The effect of deregulated items, which exerted downward pressure on prices in 2001 and 2002 and around 2005 to 2007, is hardly seen any more. The adverse effects from products that compete with imports and downward pressure from electrical products have generally played out.

Breakdown of Core CPI (% pt) **Chart 2**



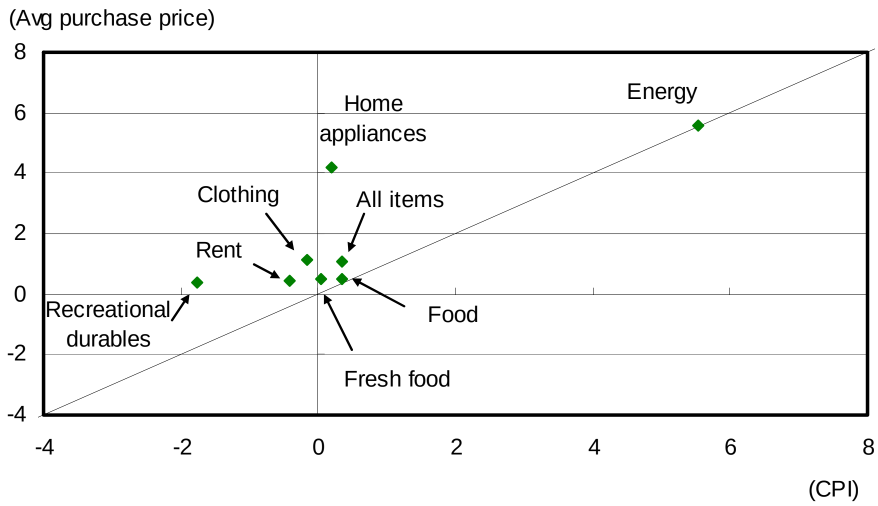
Source: Ministry of Internal Affairs and Communications, Bank of Japan; compiled by DIR.
Notes: 1) Core CPI=Consumer Price Index excl. fresh food.
2) Deregulated items=taxi fares, airline fares, automobile regular inspection, fixed-line/mobile telephone charges.
3) Energy=petroleum, petroleum products, gasoline, electricity, city gas, LP gas.
4) Import-competing goods=comparable items in terms of CPI and Import Price Index.

Average purchase prices paid by consumers showing signs of bottoming

Average purchase prices paid by consumers are also showing signs of bottoming. In Chart 3, the vertical axis shows the rate of increase in average purchase prices for components of the *Family Income and Expenditure Survey* (Ministry of Internal Affairs and Communications), and the horizontal axis that of CPI. One thing that should be noted is that average purchase prices in the survey differ from CPI in that they do not account for improvements in quality. That said, we can see in the chart that most items are located to the upper left of the 45-degree line. This is clear evidence of the many instances where average purchase prices in the survey are growing faster than CPI.

Summarizing the above, as pointed out by a senior BOJ officer, there can be no doubt that the tide of price trends is showing signs of turning to some degree.

CPI and Avg Purchase Price (y/y %) **Chart 3**



Source: Ministry of Internal Affairs and Communications; compiled by DIR.
Note: Comparable items in terms of CPI and average purchase price (*Family Income and Expenditure Survey*) indexed by weightings of 2010 consumption value. Then, Jul 2011-Jun 2012 avg divided by Jul 2010-Jun 2011 avg to estimate y/y growth.

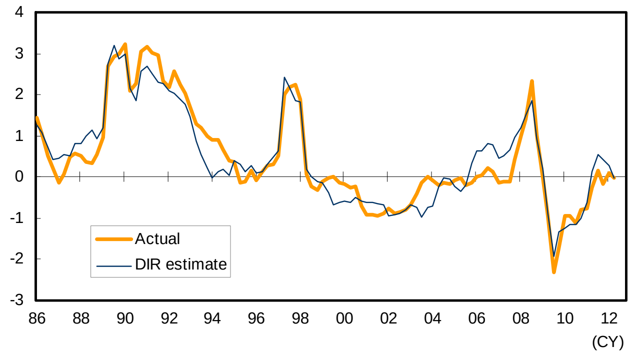
2.1.2 Quantitative analysis of CPI

Sluggish employee compensation and slower growth of corporate goods prices are factors weighing on CPI

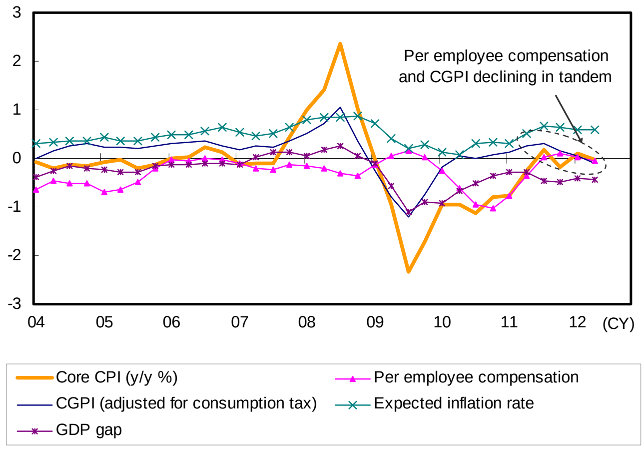
How significant then are signs that the tide of price trends is turning in considering the future direction of CPI?

Chart 4.1 provides an estimation of y/y core CPI. A factor analysis of y/y core CPI, shown in Chart 4.2, indicates that the narrowing of the GDP gap and stable trend of inflationary expectations are factors augmenting prices and that sluggish employee compensation and slower growth of corporate goods prices are factors placing downward pressure on prices.

DIR Estimate vs. Actual Core CPI (y/y %)
Chart 4.1



Contribution to Core CPI (% pt)
Chart 4.2

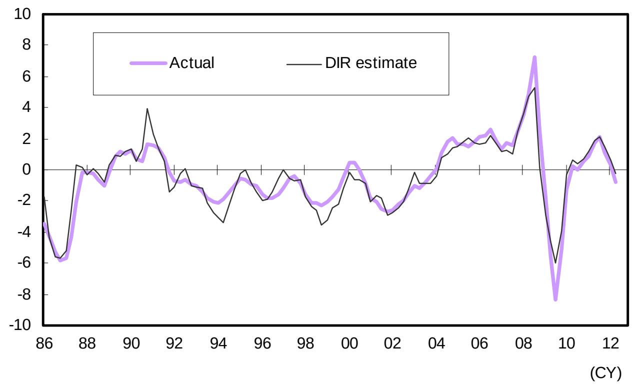


Source: Ministry of Internal Affairs and Communications, Cabinet Office (CAO), Bank of Japan; compiled by DIR.
Notes: 1) *Core CPI (y/y) = 0.26 x per employee compensation (y/y) [-3] + 0.15 x CGPI (y/y) + 0.01 x expected inflation rate [-1] + 0.14x GDP gap [-2]*,
where *[–n]*=number of preceding quarters, consumption tax dummy applied for FY87 and FY97, significance of parameters=1%, R^2 = 0.89, estimation period=Jan-Mar 1986 to Apr-Jun 2012, and *expected inflation rate*=DIR estimate based on CAO survey. Equation verified using Newey-West HAC standard error.
2) CPI=Consumer Price Index; CGPI=Corporate Goods Price Index.

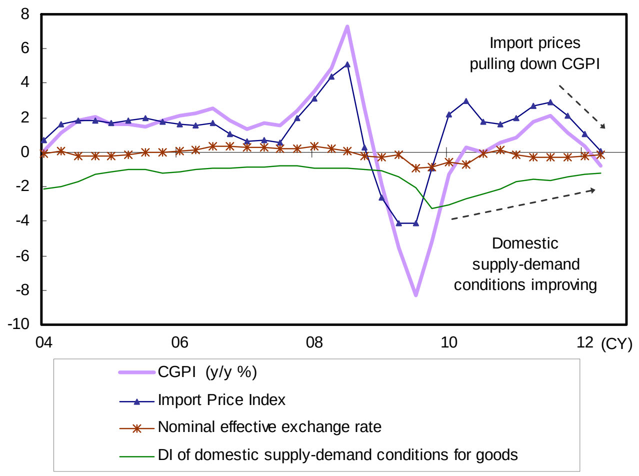
Factor analysis of corporate goods prices

In the paragraphs to follow, we present an analysis of variance factors for employee compensation and corporate goods prices, two components that are impeding the ascent of prices. First, in charts 5.1 and 5.2, which provide estimate of corporate goods prices (y/y), we find that domestic supply-demand conditions for goods have augmented prices but that import prices have placed downward pressure on prices, reflecting the decline in international commodity prices. Also, nominal effective exchange rates have generally trended flat.

DIR Estimate vs. Actual CGPI (y/y %)
Chart 5.1



Contribution to CGPI (% pt)
Chart 5.2

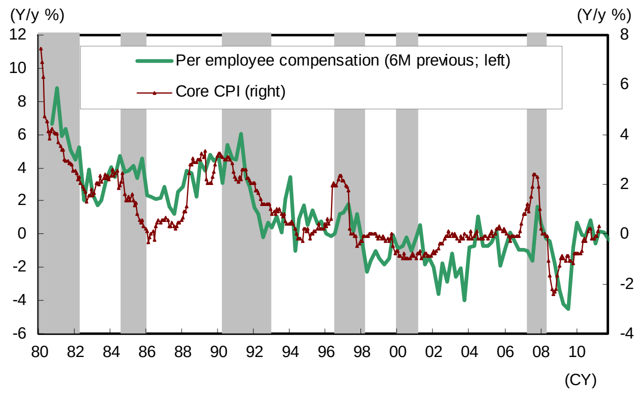


Source: Bank of Japan; compiled by DIR.
Notes: 1) *CGPI (y/y) = 1.10 + 0.16 x import price index (y/y; contractual currency basis) - 0.04 x nominal effective exchange rate (y/y) [-3] + 0.06 x DI for domestic supply-demand conditions for goods [-3],*
where *[–n]*=number of preceding quarters, R^2 = 0.88, estimation period=Jan-Mar 1986 to Apr-Jun 2012, significance of parameters=1%. Equation verified using Newey-West HAC standard error.
2) CGPI (Corporate Goods Price Index) adjusted for consumption tax.
3) DI=Diffusion index.

Employee compensation leads CPI by about six months in Japan

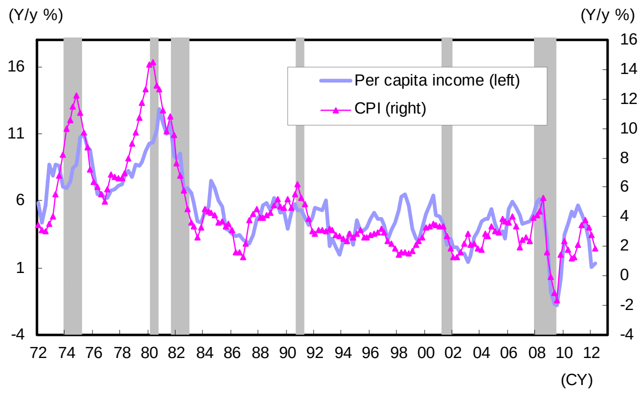
Next, we examine variance factors regarding employee compensation, the other component impeding the ascent of prices. Charts 6.1 and 6.2 portray the relationship between household income and consumer prices in Japan and the US. Household income tends to lead consumer prices by about six months in Japan, while the two statistics generally have a coincident relationship in the US. This is the consequence of workers being paid wages for their results after the fact in the US, where the labor market is well developed. The situation in Japan, with its undeveloped labor market, is thought to arise from the weak influence of labor unions.

Japan: Employee Compensation and Core CPI
Chart 6.1



Source: Cabinet Office, Ministry of Internal Affairs and Communications; compiled by DIR.
Notes: 1) Core CPI=Consumer Price Index excl. fresh food.
2) Shaded areas denote economic downturns.

US: Income and CPI
Chart 6.2

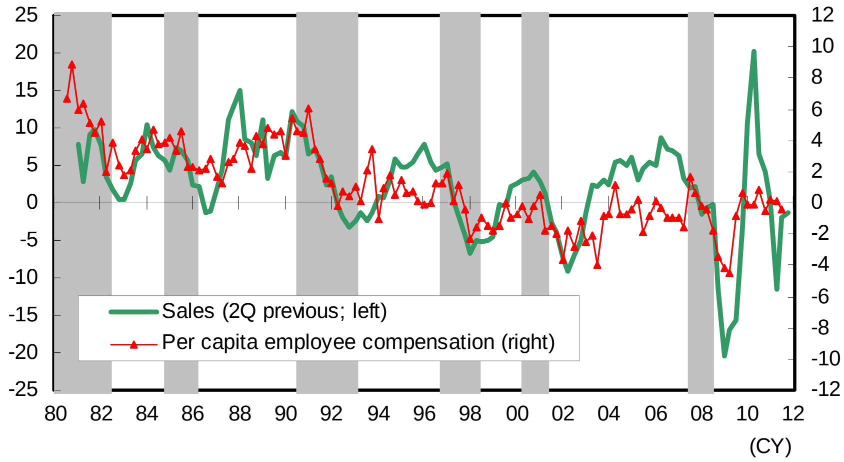


Source: US Bureau of Economic Analysis, US Bureau of Labor Statistics, Haver Analytics; compiled by DIR.
Note: Shaded areas denote economic downturns.

Increased sales the key to higher employee compensation and the end of deflation

As indicated in Chart 7, company sales tend to lead per employee compensation by around six months. Stated simply, when company sales increase in Japan, per employee compensation will rise about six months later, and consumer prices will increase another six months later. This analysis reaffirms, as a way to end deflation in Japan, the extreme importance of braking the appreciation of the yen and of implementing policies of an expanding equilibrium nature that will increase company sales through such measures as promoting the Trans-Pacific Strategic Economic Partnership Agreement, lessening the tax burden of companies, and easing regulations.

Japan: Corporate Sales and Employee Compensation (y/y %) **Chart 7**

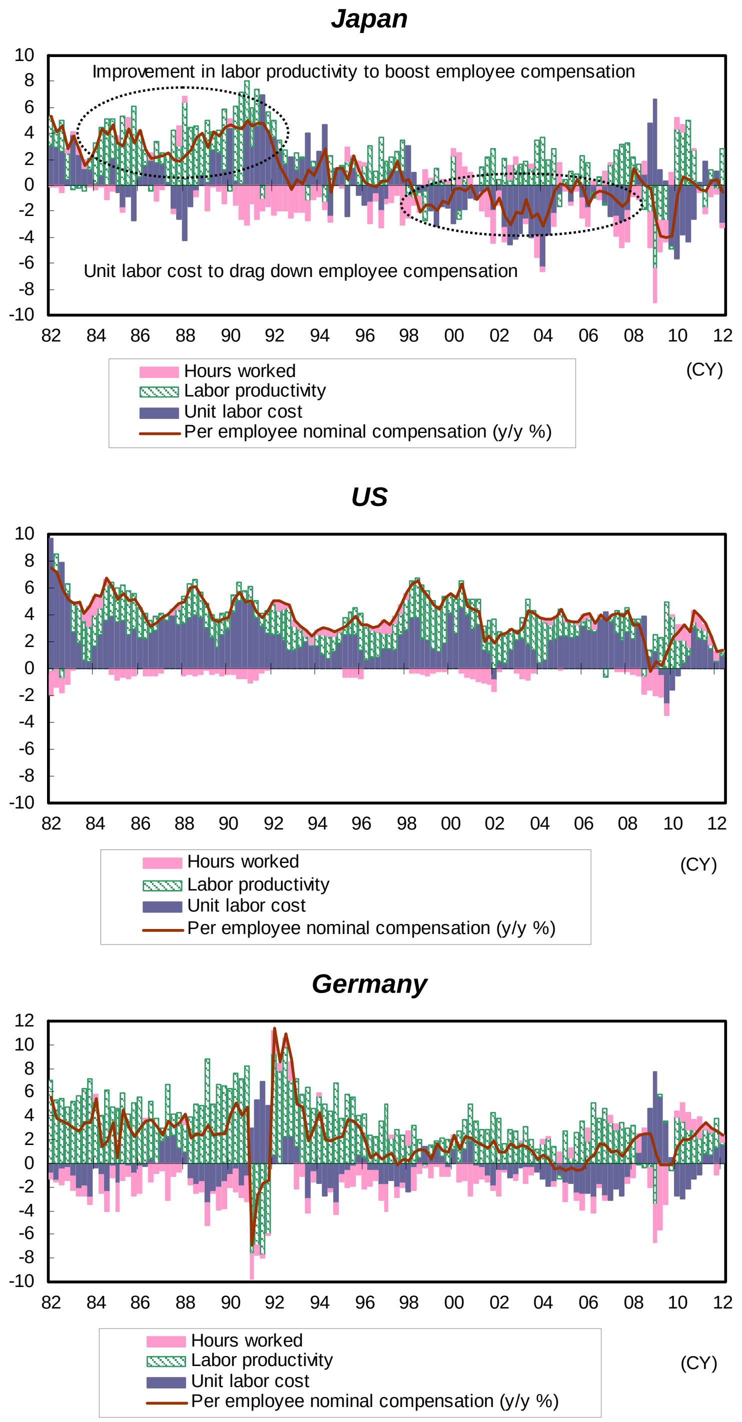


Source: Ministry of Finance, Cabinet Office; compiled by DIR.
Notes: 1) Sales=all industries excl finance/insurance.
2) Shaded areas denote economic downturns.

Factor analysis of changes in per employee nominal compensation in Japan, the US, and Germany

Next, we provide a factor analysis of changes in per employee nominal compensation in Japan, the US, and Germany from a different angle. As indicated in Chart 8, per employee nominal compensation can be broken down into (1) unit labor cost, (2) labor productivity, and (3) hours worked. We can see from the chart that since the 1990s in Japan, labor productivity (2) has grown weakly and unit labor cost (1) has fallen, giving way to stagnant per employee nominal compensation.

Breakdown of Per Employee Nominal Compensation by Nation (% pt) **Chart 8**



Source: Japan's data based on Ministry of Internal Affairs and Communications, Cabinet Office; US and German data based on Haver Analytics; compiled by DIR.

Notes: 1) Per employee nominal compensation = (a) nominal employee compensation / real GDP x (b) real GDP / (no. of employees x hours worked) x (c) hours worked, where (a) corresponds to unit labor cost, and (b) labor productivity.

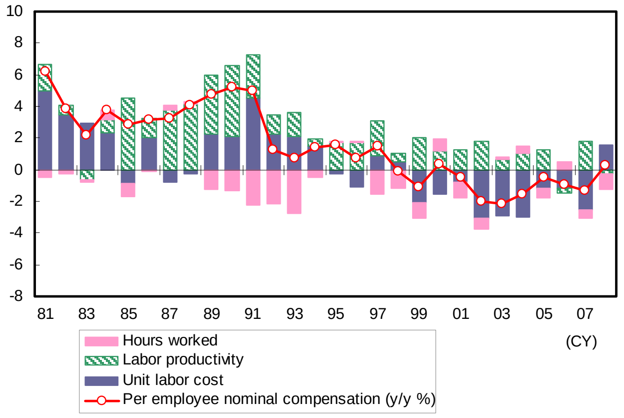
2) Germany through 1991: former West Germany.

Sluggishness of labor productivity pronounced for non-manufacturing sector in Japan

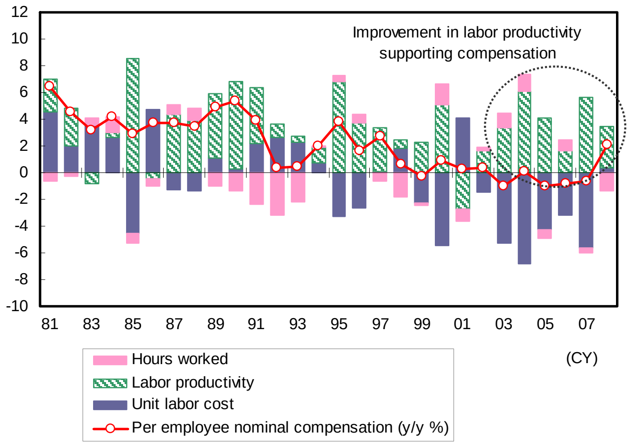
Chart 9 shows per employee nominal compensation for manufacturing and non-manufacturing sectors. We can see from the chart that the increase in labor productivity is supporting employee compensation in the manufacturing sector. In contrast, labor productivity failing to increase is a factor placing downward pressure on employee compensation in the non-manufacturing sector. Thus, an important point to address in future policy responses, besides policies to increase sales as indicated by Chart 7, are policies that will raise employee compensation such as through an improvement in labor productivity of the non-manufacturing sector.

Breakdown of Per Employee Compensation by Industry (% pt) **Chart 9**

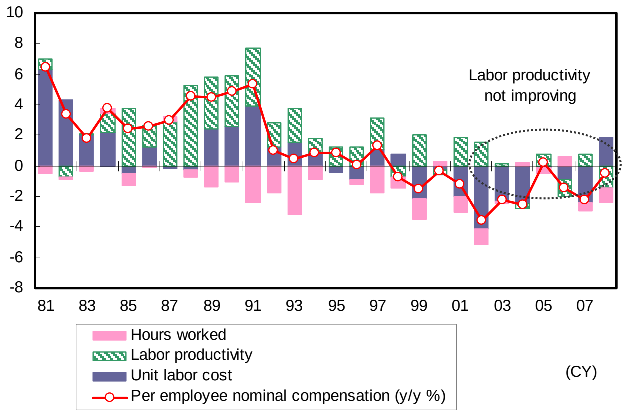
All Industries



Manufacturing



Non-manufacturing



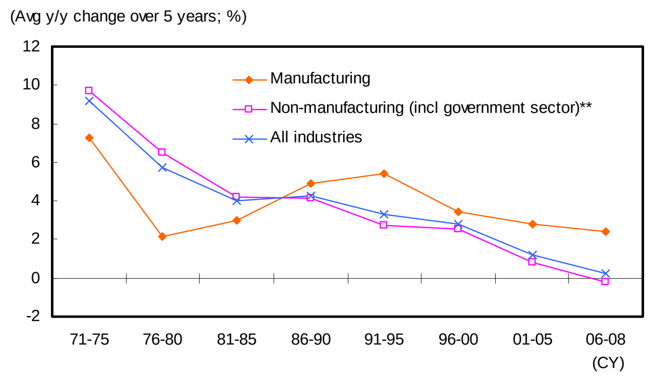
Source: Cabinet Office; compiled by DIR.
Notes: 1) Per employee compensation = (a) nominal employee compensation / real GDP x (b) real GDP / (no. of employees x hours worked) x (c) hours worked; (a) corresponds to unit labor cost, and (b) labor productivity.
2) 2000 SNA basis; 2009 and 2010 excluded due to significant volatility.

Low labor productivity in the non-manufacturing sector stems from low capital-labor ratio

The low labor productivity of Japan's non-manufacturing sector stems from a low capital-labor ratio centering on IT-related investments. Charts 10.1 and 10.2 underscore that the capital-labor ratio of the non-manufacturing sector is growing far more slowly than that of the manufacturing sector, and total factor productivity (a measure of technological progress) of the non-manufacturing sector remains stagnant.

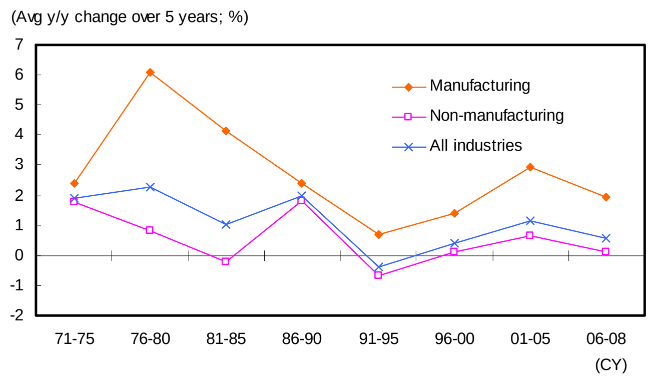
An important issue going forward will be raising the labor productivity of the non-manufacturing sector such as by increasing its capital-labor ratio centering on IT-related investments. Specifically, it will be worth considering policy incentives to promote IT-related investments in the non-manufacturing sector. What will prove to be key are measures that will encourage the renewal of companies in the non-manufacturing sector by fostering entrepreneurs, by developing domestic industrial sites through the promotion of the Trans-Pacific Strategic Economic Partnership Agreement, and by reforming the labor market.

Japan: Capital-Labor Ratio* **Chart 10.1**



Source: Research Institute of Economy, Trade and Industry; compiled by DIR.
* Real net capital stock / no. of employees.
** All industries minus manufacturing.

Japan: Total Factor Productivity **Chart 10.2**



Source: Research Institute of Economy, Trade and Industry; compiled by DIR.
Note: "All" and "Non-manufacturing" industries exclude housing and unclassified industries.

Three points regarding employment policies

Regarding employment policies, three points are worth making:

First, what needs to be recognized is that employment is essentially a form of secondary demand. The guiding principle to follow is the idea that the best employment policy is the steady expansion of Japan's economy.

Second, building on this guiding principle, what should be placed at the core of employment measures are active measures that center on job training rather than measures that relieve pain after the fact (passive employment measures). The essential point of employment policies should be none other than increasing the employability of workers.

Third, an urgent issue that needs addressing is the elimination of unfair disparities between regular and non-regular workers. In this process, an all-important perspective will be committing fully to the principle of same pay for the same work. Should attempts be made to forcefully convert non-regular workers into regular workers, this would result in the outflow of jobs overseas and risk placing non-regular workers in more difficult straits. In legislative terms, a temporary agency law should be passed, and the legal status of temporary employees clarified in the main body of this law.

Summary of the above analysis

To bring together the discussion of this section, a summary of our analysis is presented in Chart 11. In the sections to follow, we will examine prescriptions for rehabilitating Japan's economy by building on the above analysis.

Summary of the Above Analysis **Chart 11**

1. Are there signs the tide is turning in price trends?

* Downward pressure on prices from deregulated items and products that compete with imports have run their course.
* Average purchase prices paid by consumers are showing signs of bottoming.

2. Factor analysis of core CPI

* Factors placing upward pressure: GDP gap and inflationary expectations
* Factors placing downward pressure: Per employee compensation and corporate goods prices; a factor analysis of corporate goods prices indicates that domestic supply-demand conditions have improved, but import prices are having a downward effect.

3. Higher sales and improvement of labor productivity needed if employee compensation is to increase

* Per employee compensation leads consumer prices in Japan.
* Low labor productivity of the non-manufacturing sector (stemming from a low capital-labor ratio) is a reason for the sluggishness of per employee compensation.

2.2 Policy responses required of the government and BOJ

2.2.1 Four policies Japan should espouse

Prescriptions for rehabilitating Japan's economy

Japan's policy authorities should firmly implement economic policies to restore the economy centering on four points: (1) consistent policies based on a firm vision (national vision and philosophy) of top leaders, (2) instead of focusing only on domestic demand and the demand side, economic policies should be implemented that are well balanced and that embrace foreign demand and the supply side, (3) government finances should be rebuilt by raising the consumption tax and reducing expenditures centering on social security costs, and (4) the government and BOJ should work together more closely. Regarding (4), based on an analysis using the Granger causality test, a weaker yen and higher stock prices ensuing from further monetary easing by BOJ would be effective in ending deflation.

Prescription 1: Consistent policies based on firm vision of top leaders

First, it will be of utmost importance to implement consistent policies backed by a firm vision (national vision and philosophy).

The reasoning process can take either a deductive or inductive approach. In the deductive method, logical reasoning is used to derive individual conclusions from general and universal principles. Contrasting with this, the inductive approach begins with individual cases to develop general and universal principles. It goes without saying that a nation's policies should be developed through deductive reasoning. A sound approach is to start from the general principles of a firm national vision to develop individual policies to put into practice. Based on such thinking, the Japanese government would be well advised to specify a work schedule of new policies backed by a clear vision.

Prescription 2: Well-balanced economic policies that also embrace foreign demand and the supply side

Second, the key to rehabilitating Japan's economy is implementing well-balanced economic policies that not only focus on domestic demand and the demand side but also embrace foreign demand and the supply side.

Economic policies can be broadly divided into the four quadrants of supply-side policies, demand-side policies, domestic demand, and foreign demand. The Democratic Party of Japan (DPJ) administration, in part as an antithesis to the Liberal Democratic Party that gave some thought to the supply side and foreign demand, placed considerable weight on demand-side and domestic-demand policies. In the DPJ manifesto for the House of Representatives election of 2009, payment of a child support subsidy to address a declining birth rate, employment measures, and reform of the pension and social security systems were positioned as major policies. In reality, reform of the pension and social security systems, the most important of these policies, is flagging, and policies centering on the child support subsidy have been made the centerpiece of the administration (to be eligible for the subsidy a household income threshold was reintroduced in FY12).

As a result, many foreign investors, key players in Japan's stock market, have come to view the DPJ administration as not being well balanced and as being tilted toward the demand side of domestic demand centered on the child support subsidy—in other words, with an interest in only one quarter of the economy. At government-sponsored round table meetings on promoting domestic investment held four times from September to November 2010, Japanese business leaders identified five factors that are "evicting" Japanese companies from Japan and that are abetting the hollowing out of the economy. The so-called five "eviction factors" are a strong yen, slowness in concluding EPAs, environmental regulations, labor regulations, and a heavy corporate tax rate. By ignoring these issues, the DPJ administration has been roundly criticized as being an anti-business administration.

Clearly, we must go beyond the pointless contest between supply side and demand side and implement policies that are balanced between the two.

There would be no better way to stimulate the economy than to have the Japanese government forsake its anti-business stance and to clearly adopt a pro-business stance. Specifically, it will be of utmost importance to focus on both domestic and foreign demand and to strengthen such policies as practical growth strategies, deregulation, reduction of the corporate tax, promotion of the Trans-Pacific Strategic Economic Partnership Agreement, promotion of free trade agreements and economic partnership agreements, adjustment of the industrial structure, and government and industry working together to win major foreign contracts (expressways, water and sewerage utilities, next-generation transmission grids, water treatment plants, etc.).

Prescription 3: Restoring government finances to health

The third issue the Japanese government must address is without question the restoration of government finances.

Maintaining that there are things to do before raising taxes might seem like a sound argument (economic growth and cutting expenditures should come first). However, ever since Prime Minister Ohira failed in his attempt to introduce a general consumption tax in the 1970s, the same point has been repeated for more than 30 years. In other words, to argue that there are things to do before raising taxes is just an attempt to delay by diffusing the discussion. When facing the three political issues of economic growth, reducing expenditures (rationalizing social security), and increasing the consumption tax, claiming that there is absolutely no alternative to pursuing all three at the same time will, in practical terms, mean that government finances can never be rebuilt. The repeated delays caused by such discussions have endowed Japan with the world's worst fiscal deficit.

What will be important for Japan going forward is to begin a national conversation in the 18 months before the consumption tax is raised in April 2014 on how to promote economic growth and reduce expenditures (rationalization of social security) in a resolute manner.

Prescription 4: Closer coordination between the government and BOJ

The fourth issue for Japan is to have the government and BOJ work more closely together. This issue will be discussed in greater detail below along with the results of a quantitative analysis.

2.2.2 A weaker yen and higher stock prices ensuing from further monetary easing by BOJ will be effective in ending deflation

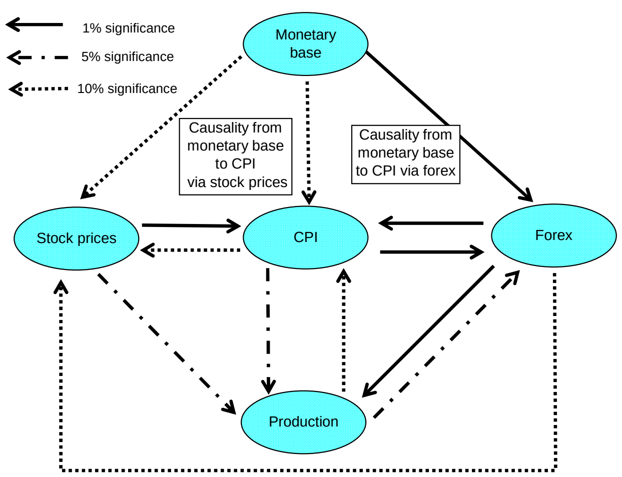
Importance of BOJ aiming to influence stock prices and exchange rates

Based on an analysis using the Granger causality test, we believe a weaker yen and higher stock prices ensuing from further monetary easing by BOJ will be effective in ending deflation.

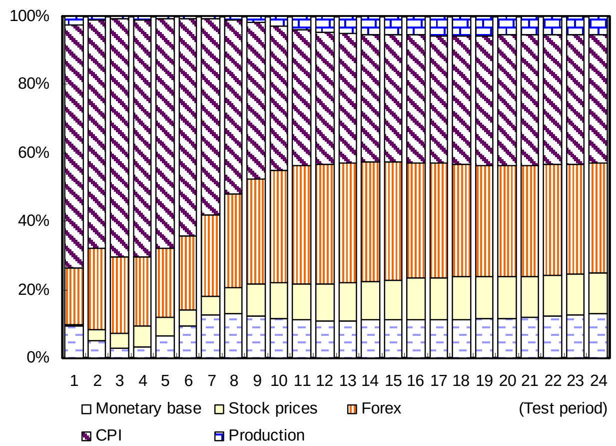
Chart 12 presents a five-variable-model Granger causality test. To define Granger causality, variable X is viewed as Granger-causing Y when past information about variable X is useful in improving the forecast of variable Y. The analysis we performed suggests the possibility that expansion of the monetary base influences CPI through stock prices and forex. Also, a variance analysis of CPI points to the possibility of forex having a certain effect on prices.

Granger Causality (y/y %) **Chart 12**

Conceptual image of five variable causality



Variance decomposition of CPI



Model description

Sampling period		Mar 2006-Feb 2011
Lag		Quartic lag based on Akaike information criterion
Variables	Monetary base	Avg outstanding balance, adjusted for reserve requirement ratio, seasonally adjusted
	Stock prices	Nikkei 225 (monthly avg)
	Forex	Nominal effective exchange rate (2010 benchmark; BIS regulation basis)
	Production	All-industry Activity Index (excl agriculture/forestry/fisheries & civil service; 2005 benchmark; seasonally adjusted)
	CPI	Major category items (excl. fresh food; nationwide; 2010 benchmark)

Source: Bank of Japan; Ministry of Finance; Ministry of Internal Affairs and Communications; Ministry of Economy, Trade, and Industry; Nikkei; compiled by DIR.

A modified Soros chart suggests that the yen will appreciate against the dollar

Chart 13 illustrates the trend of the relative policy stances of the Japanese and US central banks and the trend of the Y/$ rate. The chart is known as the modified Soros chart, taking its name from George Soros, the founder of a major hedge fund. "Modified" is added to its title since it modifies the original Soros chart by excluding excess reserves from the monetary base. According to this chart, when Japan's monetary base increases relative to that of the US, the yen tends to depreciate against the dollar, and when the reverse is true, the yen tends to appreciate against the dollar.

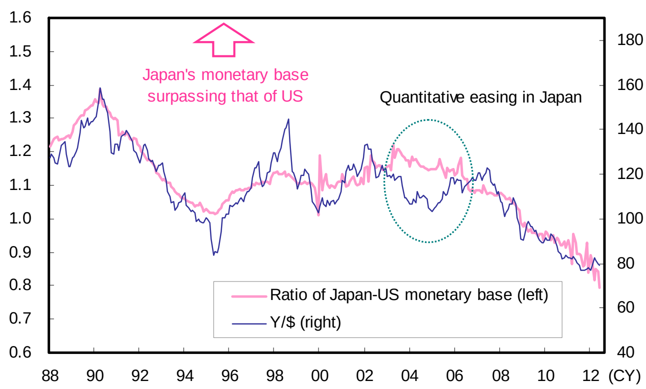
Chart 13 can be interpreted as indicating that BOJ has still not eased monetary policy sufficiently relative to the FRB. Going forward, BOJ will need to brake the appreciation of the yen through such steps as expanding the monetary base.

From an international perspective, BOJ will need to increase the growth rate of money supply

From an international perspective, BOJ will need to increase the growth rate of money supply. Chart 14 portrays the relationship between the growth rate of money supply and rate of increase in CPI for different nations. Japan is positioned to the lower left in the chart, suggesting the possibility that the sluggish growth of money supply is giving rise to deflation.

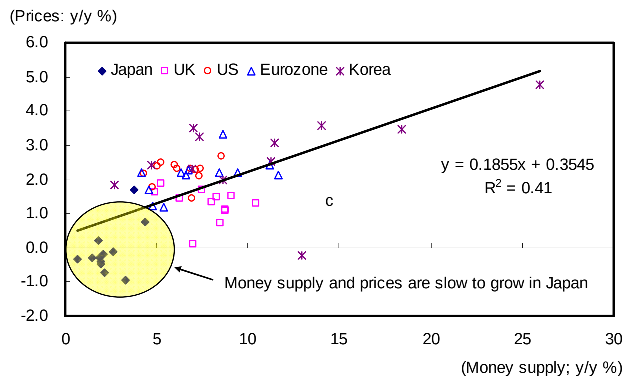
BOJ taking active steps to increase the growth rate of money supply will not only help brake the appreciation of the yen but will also increase inflationary expectations through higher stock prices. Issues BOJ should consider to accelerate the advance of stock prices include (1) improving communication with financial markets, (2) increasing the purchase of risk assets, (3) raising the current goal for the growth of CPI from 1% to 2% as in the US, and (4) changing the goal for prices to a target.

BOJ Monetary Stance Relative to FRB and Y/$
(Implication from modified Soros chart) Chart 13



Source: Federal Reserve Board (FRB), Bank of Japan (BOJ); compiled by DIR.
Note: Excl. excess reserves.

Money Supply and CPI Chart 14



Source: OECD; compiled by DIR.
Notes: 1) Estimation period: 1997-2008.
2) Money supply for Japan=M2+CDs, Eurozone=M3, other=M2.
3) Eurozone prices=HCPI; other=CPI (excl food and energy).

Outlook for Japanese Economy, Interest Rates

Chart 15

Indicator	2011 Oct-Dec	2012 Jan-Mar	2012 Apr-Jun	2012 Jul-Sep	2012 Oct-Dec	2013 Jan-Mar	FY10	FY11	FY12	FY13
	Actual			DIR estimates			Actual		DIR estimates	
Real GDP										
Q/q %, annualized	0.3	5.5	1.4	1.3	0.7	1.3				
Y/y %	-0.7	2.9	3.5	2.0	2.2	1.1	3.3	-0.0	2.2	1.4
Current account balance SAAR (Y tril)	6.7	5.9	5.4	5.9	6.4	6.6	16.7	7.6	6.1	7.3
Unemployment rate (%)	4.5	4.5	4.4	4.4	4.3	4.2	5.0	4.5	4.3	4.1
CPI (excl. fresh foods; 2010 prices; y/y %)	-0.2	0.1	-0.0	-0.1	0.2	0.2	-0.9	-0.0	0.0	0.2
Unsecured overnight call rate (period end; %)	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
10-year JGB yield (period average; %)	1.00	0.98	0.89	0.80	0.85	0.90	1.15	0.99	0.86	1.00

Source: Compiled by DIR.
Note: Estimate taken from DIR's *Japan's Economic Outlook No. 174*.