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Japan's Economic Outlook No. 174

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

Japan to see real GDP growth of +2.2% in FY12 and +1.4% in FY13, nominal GDP growth of +1.3% and +1.2%

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Main Points

- **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%). Expansion of Japan's economy has slowed slightly compared to our previous outlook, and risk of a downswing has increased.

- **Factors behind deflation and policy responses required of the government and BOJ:** In this *Outlook*, 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.

- **Examination of Japan's export competitiveness:** Examining Japan's export competitiveness in comparison with Germany and South Korea, we found that the export competitiveness of Japanese companies has declined substantially centering on the electrical machinery industry. Japanese policy authorities should establish, in a balanced manner, three bulwarks against a strong yen: (1) BOJ should ease monetary policy further to brake the appreciation of the yen, (2) the economy's ability to withstand a strong yen should be strengthened, and (3) policies should be actively implemented that take advantage of a strong yen. Also, Japanese companies will need to learn how to build brand equity from Germany and how to strengthen marketing power from South Korea.

- **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 the US and Chinese economies, and (3) further monetary easing by BOJ.

- **Risks facing Japan's economy:** Risks that will need to be borne in mind regarding 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. With regard to (1), there is a striking difference between the situation surrounding Argentina in 2002, when the economy recovered dramatically after moving to a floating exchange rate system, and the current situation surrounding Greece. Given its high degree of dependence on exports to EU nations, should Greece leave the euro, its economy can be expected to be dealt a devastating blow. We believe the probability of Greece leaving the euro is between 30% and 40% and of the eurozone experiencing a full-fledged financial crisis between 10% and 20%.

- **BOJ's monetary policy:** BOJ is expected to leave its policy interest rate unchanged through at least FY14. Should concern intensify regarding an economic downturn, BOJ may decide on further easing.

Our assumptions

- Public works spending will grow +6.7% in FY12, and -0.9% in FY13; the consumption tax rate will be increased in April 2014

- Average exchange rate of Y79.3/$ in FY12 and Y79.0/$ in FY13

- US real GDP growth of +2.2% in CY12 and +2.1% in CY13

Main Economic Indicators and Real GDP Components

	FY11 (Actual)	FY12 (Estimate)	FY13 (Estimate)	CY11 (Actual)	CY12 (Estimate)	CY13 (Estimate)
1. Main economic indicators						
Nominal GDP (y/y %)	-2.0	1.3	1.2	-2.8	1.7	0.7
Real GDP (chained [2005]; y/y %)	-0.0	2.2	1.4	-0.8	2.7	1.1
Domestic demand (contribution, % pt)	1.0	2.3	1.2	0.1	3.0	1.1
Foreign demand (contribution, % pt)	-1.0	0.0	0.2	-0.9	-0.4	0.0
GDP deflator (y/y %)	-1.9	-0.8	-0.3	-2.1	-1.0	-0.4
Index of All-industry Activity (y/y %)*	0.2	0.5	0.9	-0.5	0.9	0.5
Index of Industrial Production (y/y %)	-1.0	2.1	3.3	-2.4	2.6	2.6
Index of Tertiary Industry Activity (y/y %)	0.7	0.4	0.4	0.0	0.9	-0.0
Corporate Goods Price Index (y/y %)	1.3	-0.4	0.3	1.5	-0.3	0.2
Consumer Price Index (excl. fresh food; y/y %)	-0.0	0.0	0.2	-0.3	0.0	0.2
Unemployment rate (%)	4.5	4.3	4.1	4.6	4.4	4.2
Government bond yield (10 year; %)	0.99	0.85	1.08	0.98	0.87	1.01
Money stock; M2 (end-period; y/y %)	2.9	2.1	1.4	2.7	2.5	1.4
Balance of payments						
Trade balance (Y tril)	-3.5	-4.2	-3.1	-1.6	-4.3	-3.2
Current balance ($100 mil)	964	767	922	1,197	740	887
Current balance (Y tril)	7.6	6.1	7.3	9.6	5.9	7.0
(% of nominal GDP)	1.6	1.3	1.5	2.1	1.2	1.5
2. Real GDP components **(Chained [2005]; y/y %; figures in parentheses: contribution, % pt)**						
Private final consumption	1.2 (0.7)	1.5 (0.9)	0.8 (0.4)	0.1 (0.1)	2.5 (1.5)	-0.0 (-0.0)
Private housing investment	3.8 (0.1)	1.9 (0.0)	6.4 (0.2)	5.7 (0.2)	1.1 (0.0)	5.4 (0.2)
Private fixed investment	1.1 (0.1)	4.0 (0.5)	2.3 (0.3)	1.3 (0.2)	3.9 (0.5)	2.4 (0.3)
Government final consumption	1.9 (0.4)	1.6 (0.3)	0.9 (0.2)	2.0 (0.4)	2.0 (0.4)	0.9 (0.2)
Public fixed investment	2.9 (0.1)	6.6 (0.3)	-1.8 (-0.1)	-3.5 (-0.2)	7.4 (0.3)	1.8 (0.1)
Exports of goods and services	-1.4 (-0.2)	5.0 (0.8)	3.8 (0.6)	-0.1 (-0.0)	4.4 (0.7)	3.5 (0.5)
Imports of goods and services	5.6 (-0.8)	5.8 (-0.8)	3.1 (-0.4)	6.3 (-0.9)	6.5 (-1.1)	3.0 (-0.5)
Major assumptions:						
1. World economy						
Economic growth of major trading partners	3.4	3.2	4.0	3.8	3.1	3.7
Crude oil price (WTI futures; $/bbl)	97.2	94.6	95.0	95.1	96.6	95.0
2. US economy						
US real GDP (chained [2005]; y/y %)	2.0	2.1	2.3	1.8	2.2	2.1
US Consumer Price Index (y/y %)	3.3	1.7	2.1	3.2	2.0	1.9
3. Japanese economy						
Nominal public fixed investment (y/y %)	3.7	6.7	-0.9	-2.8	7.5	2.6
Exchange rate (Y/$)	79.0	79.3	79.0	79.8	79.3	79.0
(Y/€)	109.6	98.1	97.0	111.4	100.4	97.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10

Source: Compiled by DIR.
Note: Due to rounding, actual figures may differ from those released by the government.
* Excl. agriculture, forestry, and fisheries.
Estimate: DIR estimate.

Comparison with Previous Outlook

	Current outlook (Outlook 174)		Previous outlook (Outlook 173 Update)		Difference between previous and current outlooks	
	FY12	FY13	FY12	FY13	FY12	FY13
1. Main economic indicators						
Nominal GDP (y/y %)	1.3	1.2	1.7	1.0	-0.4	0.2
Real GDP (chained [2005]; y/y %)	2.2	1.4	2.4	1.3	-0.2	0.1
Domestic demand (contribution, % pt)	2.3	1.2	2.3	1.1	0.0	0.2
Foreign demand (contribution, % pt)	0.0	0.2	0.1	0.2	-0.1	0.0
GDP deflator (y/y %)	-0.8	-0.3	-0.7	-0.3	-0.2	0.1
Index of All-industry Activity (y/y %)*	0.5	0.9	1.3	0.9	-0.8	0.0
Index of Industrial Production (y/y %)	2.1	3.3	4.4	3.4	-2.3	-0.1
Index of Tertiary Industry Activity (y/y %)	0.4	0.4	0.8	0.4	-0.4	0.0
Corporate Goods Price Index (y/y %)	-0.4	0.3	0.8	1.6	-1.2	-1.3
Consumer Price Index (excl. fresh food; y/y %)	0.0	0.2	0.1	0.2	0.0	0.1
Unemployment rate (%)	4.3	4.1	4.4	4.1	0.0	0.0
Government bond yield (10 year; %)	0.85	1.08	1.01	1.27	-0.16	-0.19
Money stock; M2 (end-period; y/y %)	2.1	1.4	2.3	2.1	-0.2	-0.7
Balance of payments						
Trade balance (Y tril)	-4.2	-3.1	-2.2	-1.7	-2.0	-1.4
Current balance ($100 mil)	767	922	702	787	65	135
Current balance (Y tril)	6.1	7.3	5.5	6.2	0.5	1.1
(% of nominal GDP)	1.3	1.5	1.2	1.3	0.1	0.2
2. Real GDP components (chained [2005]; y/y %)						
Private final consumption	1.5	0.8	1.6	0.7	-0.1	0.1
Private housing investment	1.9	6.4	2.2	6.2	-0.3	0.2
Private fixed investment	4.0	2.3	2.5	2.5	1.5	-0.2
Government final consumption	1.6	0.9	1.5	1.2	0.1	-0.2
Public fixed investment	6.6	-1.8	7.8	-4.3	-1.2	2.5
Exports of goods and services	5.0	3.8	4.9	3.7	0.1	0.1
Imports of goods and services	5.8	3.1	4.7	2.9	1.0	0.2
Major assumptions:						
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Economic growth of major trading partners	3.2	4.0	3.5	4.1	-0.3	-0.1
Crude oil price (WTI futures; $/bbl)	94.6	95.0	95.0	95.0	-0.4	0.0
2. US economy						
US real GDP (chained [2005]; y/y %)	2.1	2.3	2.3	2.7	-0.2	-0.4
US Consumer Price Index (y/y %)	1.7	2.1	2.2	2.2	-0.5	-0.1
3. Japanese economy						
Nominal public fixed investment (y/y %)	6.7	-0.9	7.6	-3.4	-0.9	2.5
Exchange rate (Y/$)	79.3	79.0	79.0	79.0	0.3	0.0
(Y/€)	98.1	97.0	103.0	103.0	-5.0	-6.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.00	0.00

Source: Compiled by DIR.
Notes: Due to rounding, differences do not necessarily conform to calculations based on figures shown.
* Excl. agriculture, forestry, and fisheries.

Contents

Summary

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%.

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

1.1 Why does deflation persist in Japan?

1.1.1 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. . . .

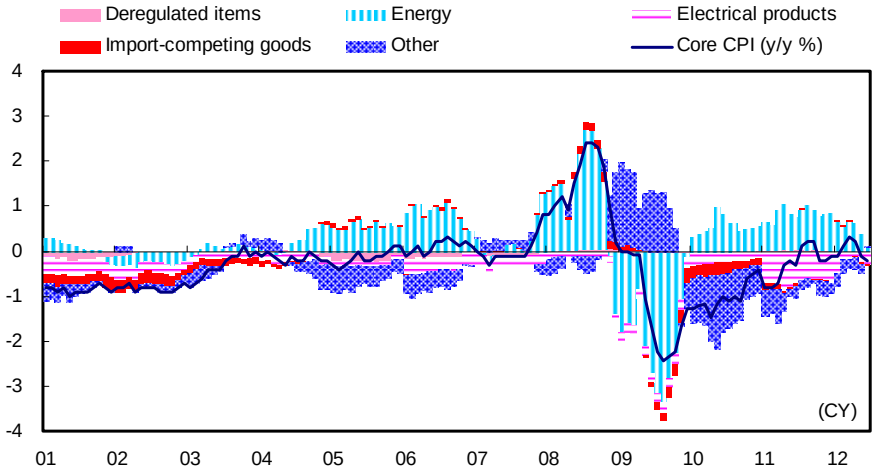
Mr. Maeda noted that, in the past 10 years or so, while deregulation centering on the distribution sector, the spread of a business model using inexpensive Chinese products, and price competition in existing business areas had been factors placing downward pressure on prices, "these negative price shocks 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**



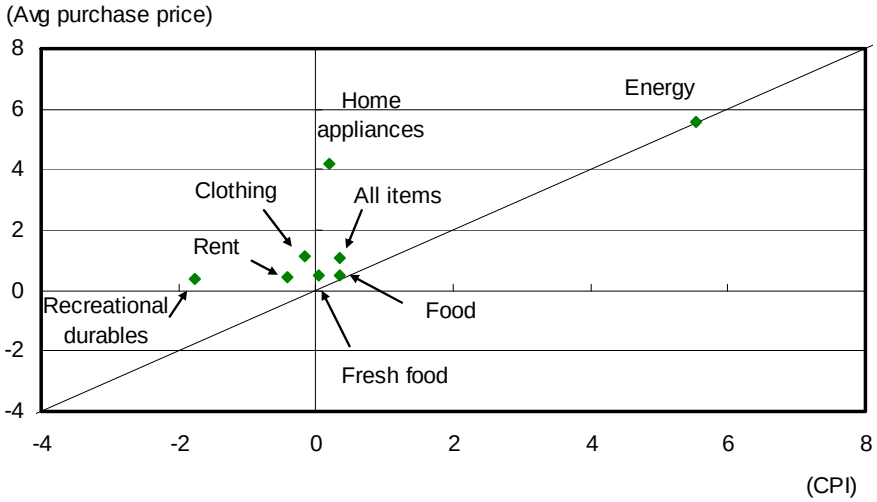
Source: Ministry of Internal Affairs and Communications, Bank of Japan; compiled by DIR.
Notes: 1) Core CPI=Consumer Price Index excl. fresh food.
2) Deregulated items=taxi fares, airline fares, automobile regular inspection, fixed-line/mobile telephone charges.
3) Energy=petroleum, petroleum products,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

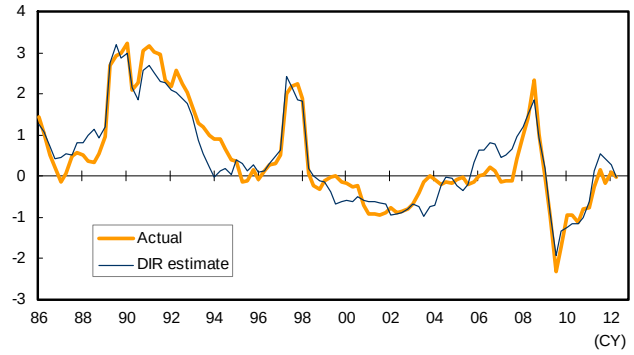
1.1.2 Quantitative analysis of CPI

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

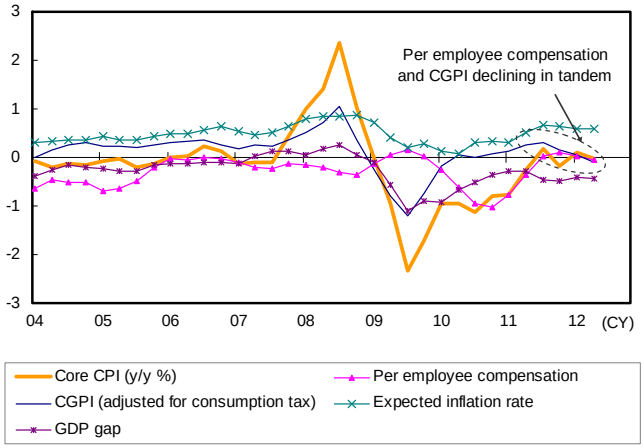
How significant then are signs that the tide of price trends is turning in considering the future direction of CPI?

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

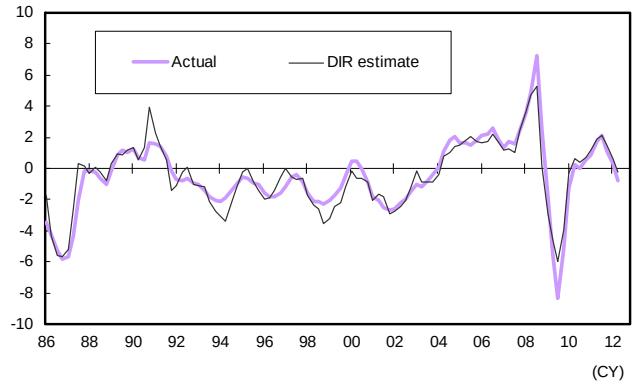


Source: Ministry of Internal Affairs and Communications, Cabinet Office (CAO), Bank of Japan; compiled by DIR.
Notes: 1) *Core CPI (y/y) = 0.26 x per employee compensation (y/y) [-3] + 0.15 x CGPI (y/y) + 0.01 x expected inflation rate [-1] + 0.14x GDP gap [-2]*,
where *[–n]*=number of preceding quarters, 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.

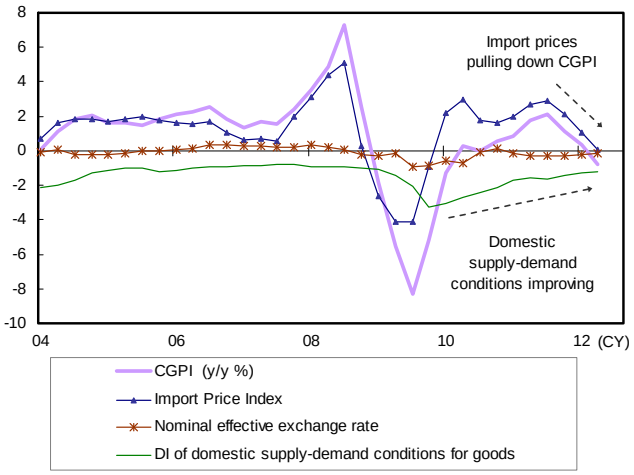
Factor analysis of corporate goods prices

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

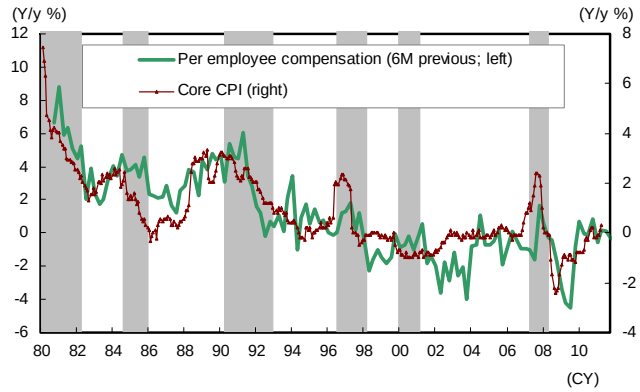


Source: Bank of Japan; compiled by DIR.
Notes: 1) *CGPI (y/y) = 1.10 + 0.16 x import price index (y/y; contractual currency basis) - 0.04 x nominal effective exchange rate (y/y) [-3] + 0.06 x DI for domestic supply-demand conditions for goods [-3],*
where *[–n]*=number of preceding quarters, R^2 = 0.88, 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

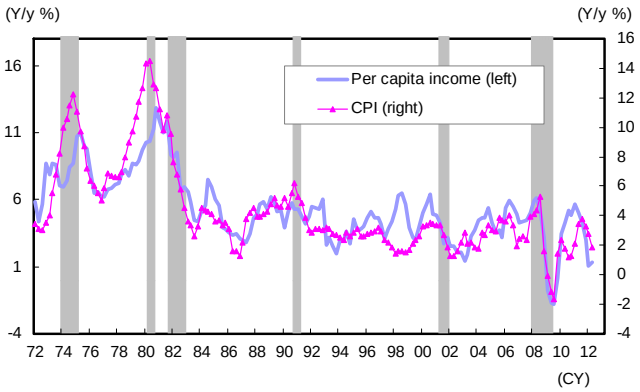
Next, we examine variance factors regarding employee compensation, the other component impeding the ascent of prices. Charts 6.1 and 6.2 portray the relationship between household income and consumer prices in Japan and the US. Household income tends to lead consumer prices by about six months in Japan, 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

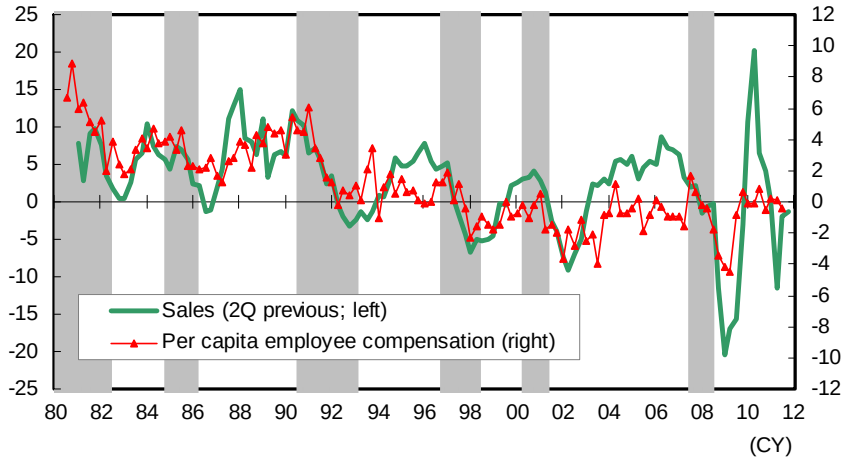


Source: US Bureau of Economic Analysis, US Bureau of Labor Statistics, Haver Analytics; compiled by DIR.
Note: Shaded areas denote economic downturns.

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**

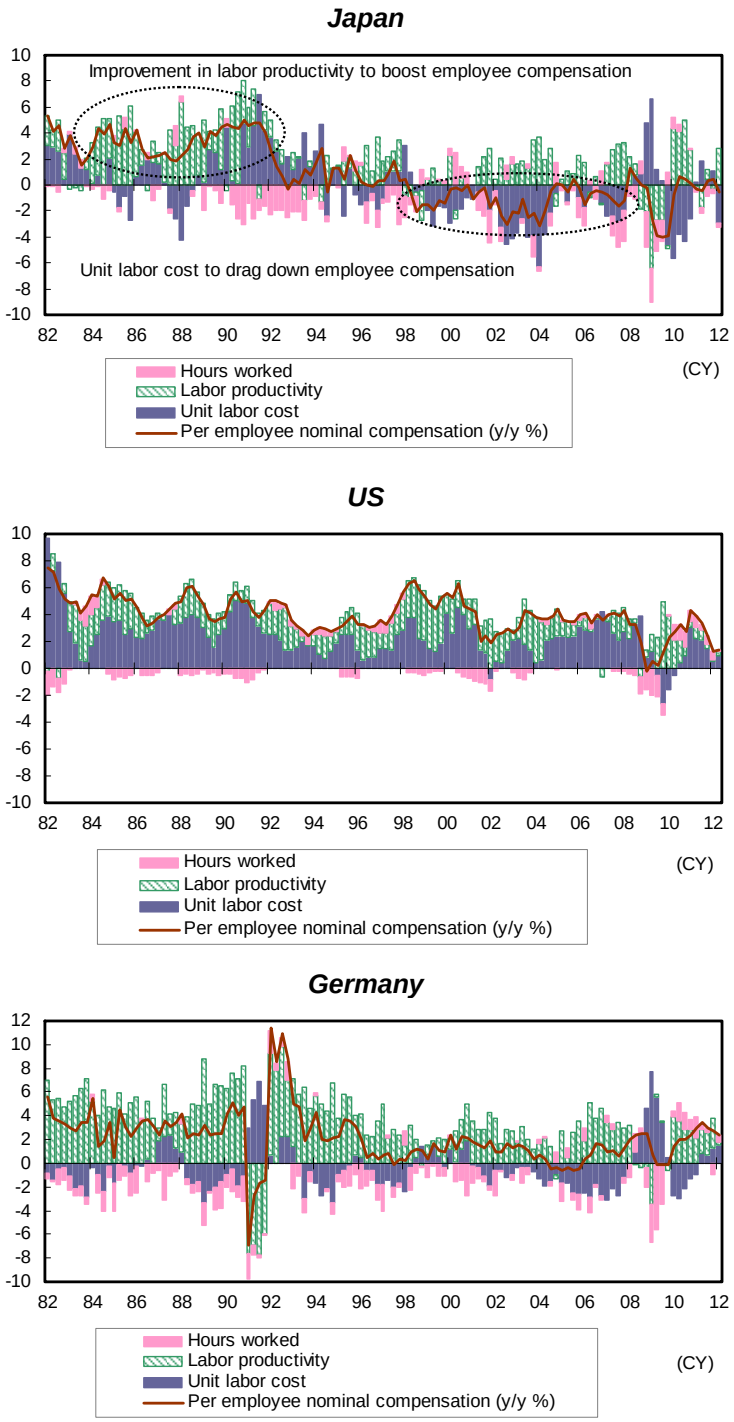


Source: Ministry of Finance, Cabinet Office; compiled by DIR.
Notes: 1) Sales=all industries excl finance/insurance.
2) Shaded areas denote economic downturns.

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**



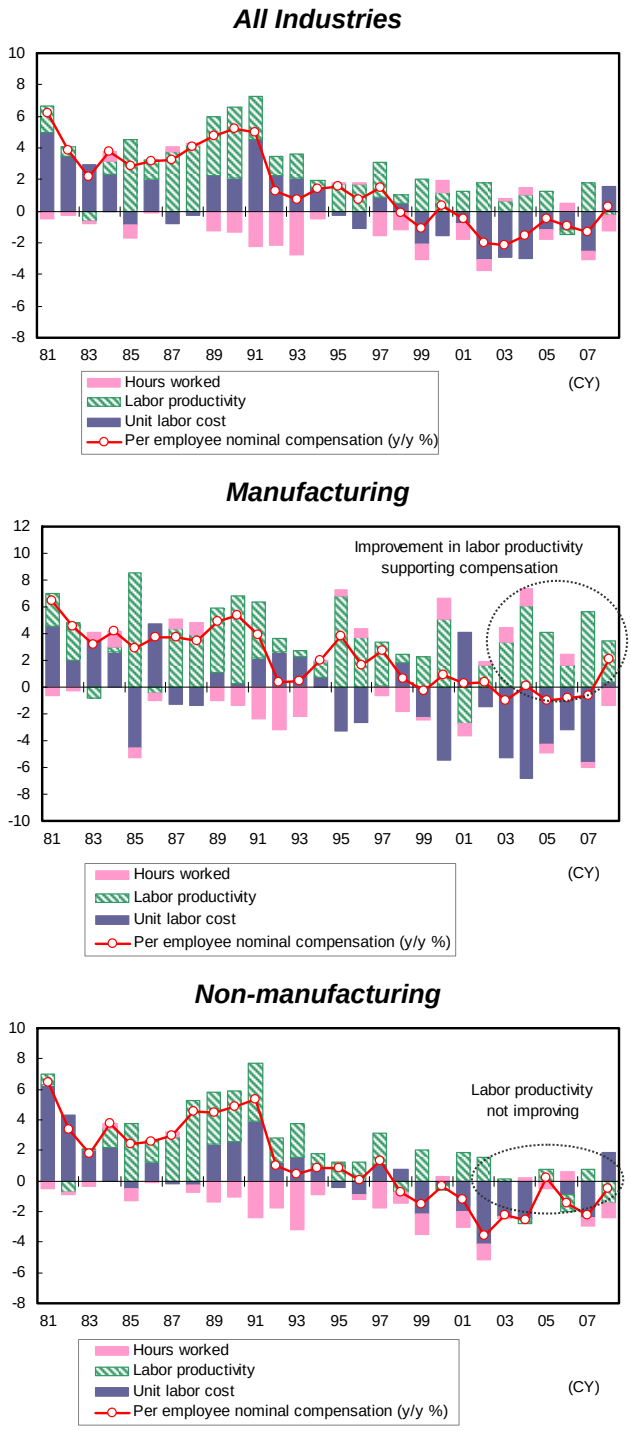
Source: Japan's data based on Ministry of Internal Affairs and Communications, Cabinet Office; US and German data based on Haver Analytics; compiled by DIR.

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**



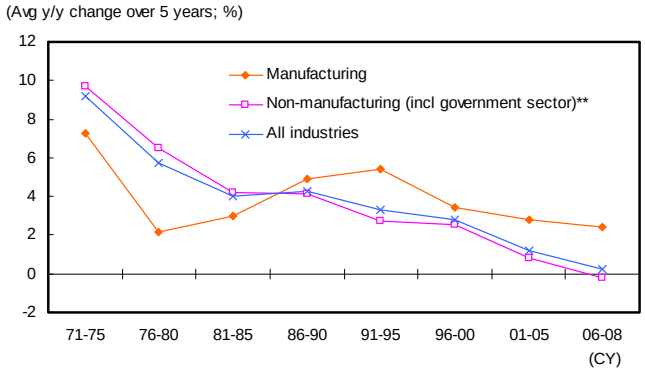
Source: Cabinet Office; compiled by DIR.
Notes: 1) Per employee compensation = (a) nominal employee compensation / real GDP x (b) real GDP / (no. of employees x hours worked) x (c) hours worked; (a) corresponds to unit labor cost, and (b) labor productivity.
2) 2000 SNA basis; 2009 and 2010 excluded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

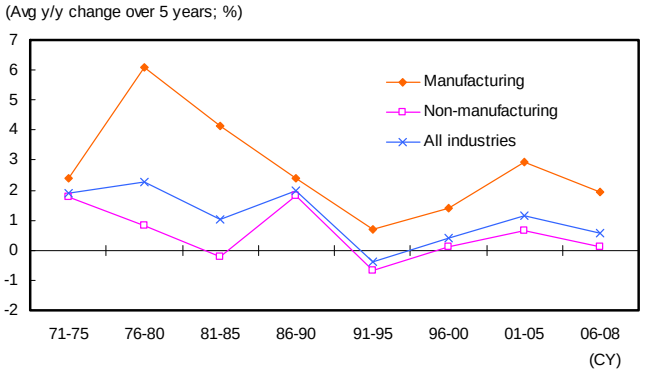
An important issue going forward will be raising the labor productivity of the non-manufacturing sector such as by increasing its capital-labor ratio centering on IT-related investments. Specifically, it will be worth considering policy incentives to promote IT-related investments in the non-manufacturing 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.

1.2 Policy responses required of the government and BOJ

1.2.1 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.

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

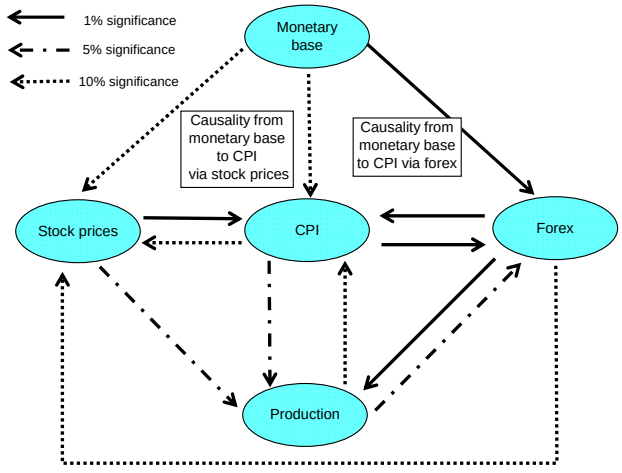
Importance of BOJ aiming to influence stock prices and exchange rates

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.

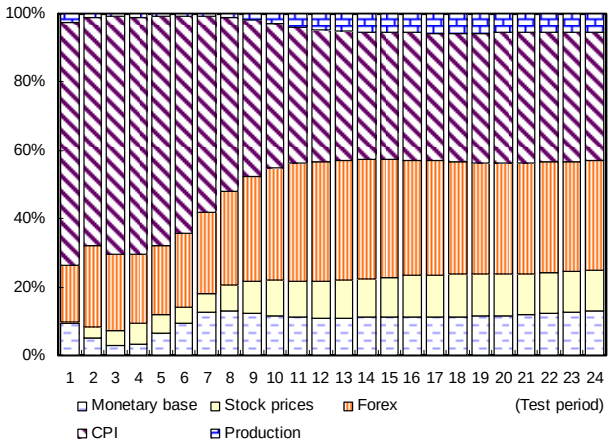
Chart 12 presents a five-variable-model Granger causality test. To define Granger causality, variable X is viewed as Granger-causing Y when past information about variable X is useful in improving the forecast of variable Y. The analysis we performed suggests the possibility that expansion of the monetary 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.

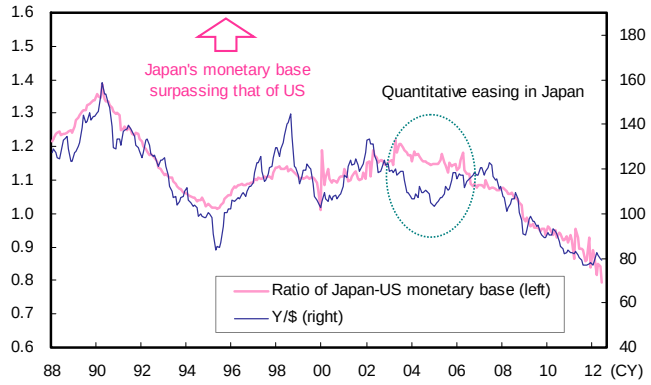
Chart 13 can be interpreted as indicating that BOJ has still not eased monetary policy sufficiently relative to the FRB. Going forward, BOJ will need to brake the appreciation of the yen through such steps as expanding the monetary base.

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.

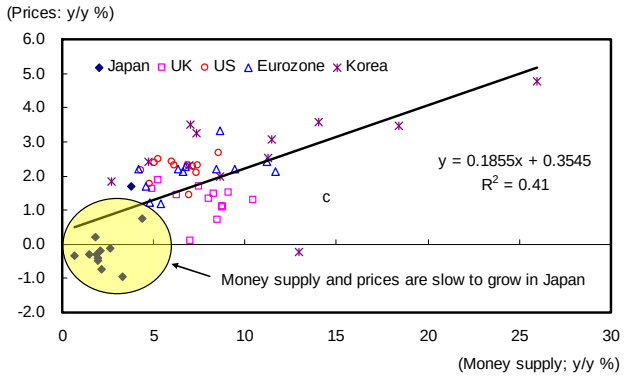
BOJ taking active steps to increase the growth rate of money supply will not only help brake the appreciation of the yen but will also increase inflationary expectations through higher stock prices. Issues BOJ should consider to accelerate the advance of stock prices include (1) improving communication 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).

2. Examination of Japan's Export Competitiveness

2.1 Japan's export competitiveness has declined

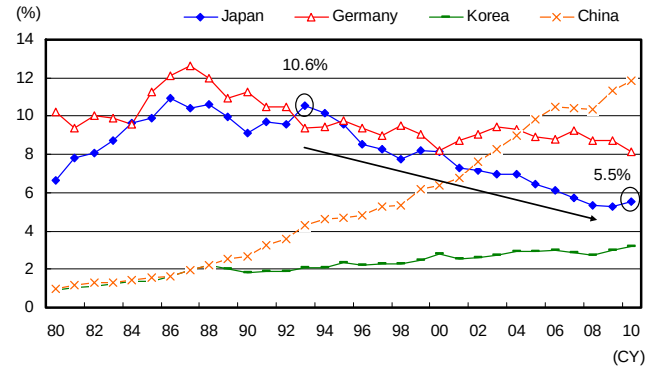
Japan's export share continues to shrink

In this section, we examine the export competitiveness of Japanese companies in comparison with Germany and South Korea. Chart 15 depicts the trend of the export shares (national export value as a share of global export value) of major nations and we can see that in recent years Japan's export share has trended steadily downward. However, in response to such factors as trade friction with the US, Japan has actively shifted production overseas since the 1990s and hence it would not be wise to measure the competitiveness of Japanese companies solely by export share. Nevertheless, even if we take this shift into account, there is no question that Japan's export competitiveness is trending downward in broad terms.

Fall in Japan's export share occurring simultaneously with worsening export profitability

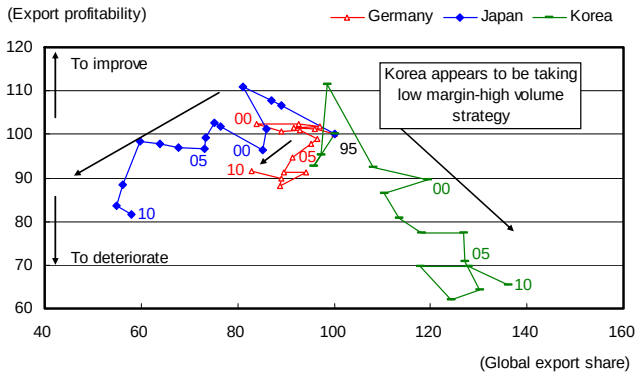
The point deserving emphasis is that Japan's export share is shrinking at the same time that its export profitability is worsening. Chart 16 illustrates the export profitability and export share trends of Japan, South Korea, and Germany. The vertical axis shows the export profitability index (export prices [home currency basis] / corporate goods prices x 100) and the horizontal axis export share (nation's share of global export value). In the graph, Japan is moving in the lower left direction, indicating that the decrease in export share is occurring simultaneously with a worsening of export profitability. This is precisely a situation of misfortune never coming alone. In contrast, South Korea's export profitability is decreasing as its export share is rising, suggesting the possibility that it is pursuing some form of low-margin, high-volume strategy. In the case of Germany, it is maintaining export share at a certain level without seeing export profitability drop by much. This brings to mind the strong brand equity of Germany's products led by its automobiles.

Global Export Share by Nation **Chart 15**



Source: Research Institute of Economy, Trade, and Industry; compiled by DIR.
Note: Global export share=nation's share of global export value.

Export Profitability & Global Export Share (1995 = 100) **Chart 16**



Source: Bank of Japan; Bank of Korea; Research Institute of Economy, Trade, and Industry; Statistisches Bundesamt; compiled by DIR.
Notes: 1) Export profitability = export prices (home currency basis) / corporate goods prices x 100.
2) Global export share=nation's share of global export value.

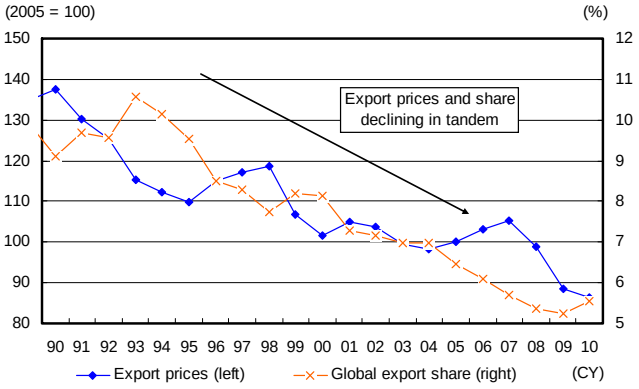
Export prices and export shares of Japan, South Korea, and Germany

Next, in Chart 17, export price and export share trends are shown for Japan, South Korea, and Germany. As export prices decrease in Japan, its export share is falling, and the profit environment

surrounding exports is worsening in both price and volume terms. From such a perspective, it is all too apparent that Japanese companies are placed in a difficult bind. In contrast, export prices are falling as export share increases for South Korea, giving a strong impression that the nation is pursuing a low-margin, high-volume strategy. In the case of Germany, backed by the strong brand equity of its products, export prices are steadily rising even as export share declines slightly.

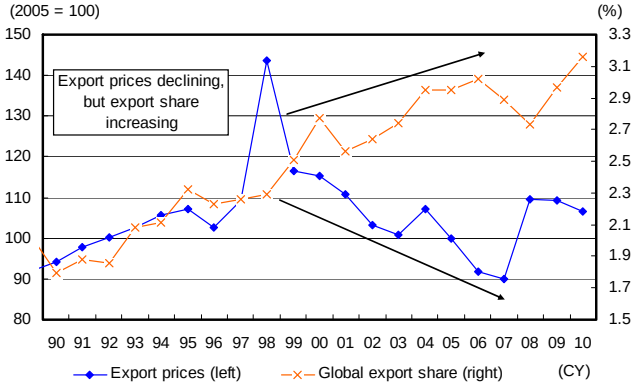
Export Prices and Global Export Share **Chart 17**

Japan



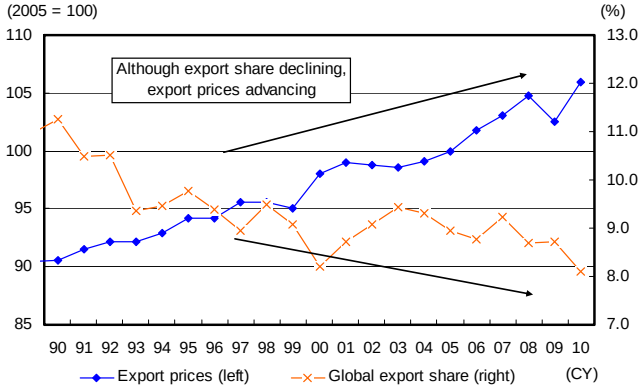
Source: Bank of Japan; Research Institute of Economy, Trade, and Industry; compiled by DIR.

Korea



Source: Bank of Korea; Research Institute of Economy, Trade, and Industry; compiled by DIR.

Germany



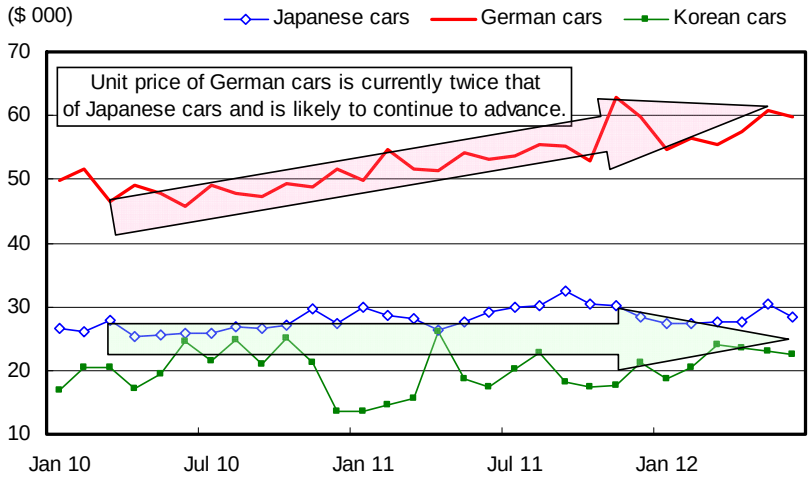
Source: Research Institute of Economy, Trade, and Industry; Statistisches Bundesamt; compiled by DIR.

Note: Global export share=nation's share of global export value.

Ascent of selling prices of automobiles in China offers a perfect example of Germany's strong brand equity

The ascent of automobile selling prices in China offers a perfect example of Germany's strong brand equity. Chart 18 portrays the unit price of China's imported vehicles. While such prices are generally trending flat for Japanese and South Korean vehicles, the trend being traced by German vehicles is completely different. The unit price of German vehicles is about twice that of Japanese vehicles, and such prices are continuing to trend upward, spotlighting Germany's strong brand equity.

Unit Price of Imported Cars in China **Chart 18**

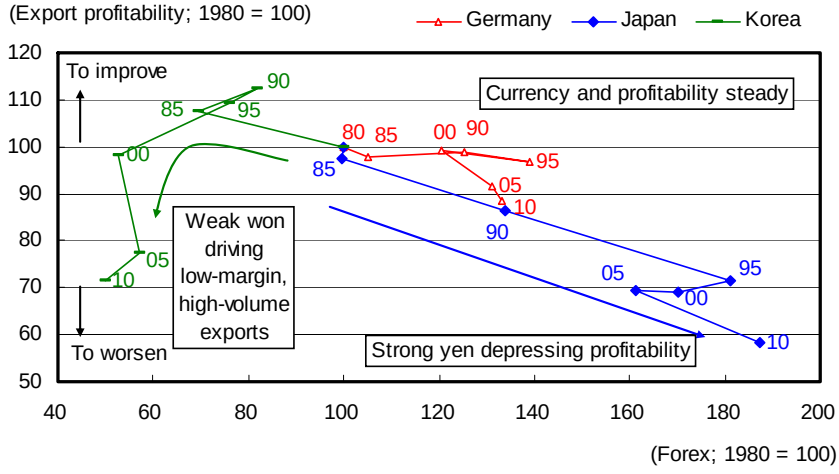


Source: China Customs; compiled by DIR.
Note: Unit price = import value / number of imported cars.

Strong yen squeezes export profitability of Japanese companies

Chart 19 illustrates export profitability and forex for Japan, South Korea, and Germany. The vertical axis shows the export profitability index (export prices [home currency] / corporate goods prices x 100) and the horizontal axis the foreign exchange index (export prices [contracted currency] / export prices [home currency] x 100). In the graph, Japan is moving in the lower right direction, verifying that the strong yen is squeezing the export profitability of Japanese companies. In contrast, South Korea has moved toward the lower left since the 1990s, suggesting the possibility that the nation is pursuing a low-margin, high-volume strategy aided by depreciation of the won. In the case of Germany, the nation has benefited from the introduction of the single currency (the euro in 1999, non-physical form), and its export profitability index and foreign exchange index are generally trending stably.

Export Profitability and Forex **Chart 19**

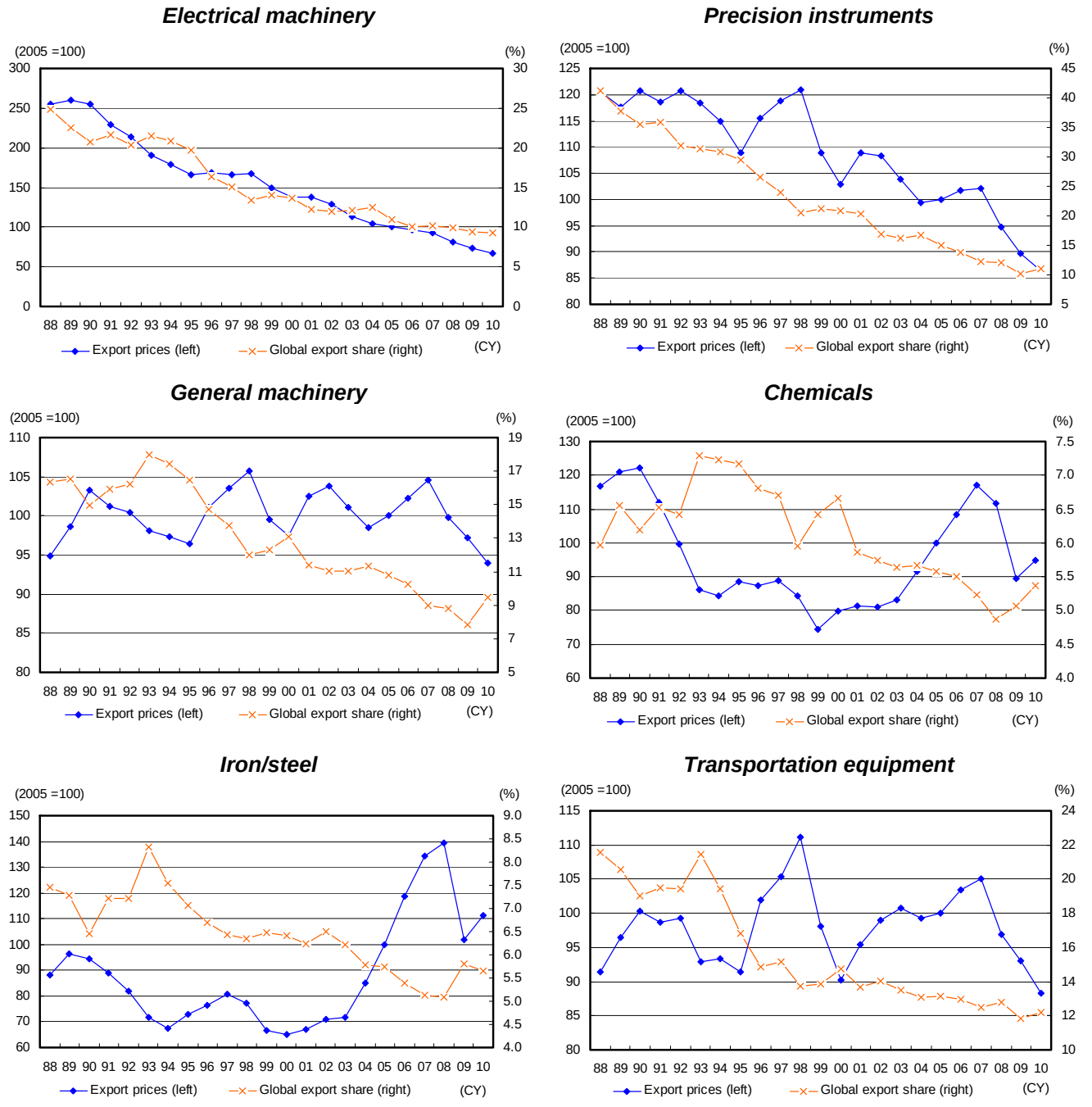


Source: Bank of Japan; Bank of Korea; Research Institute of Economy, Trade, and Industry; Statistisches Bundesamt; compiled by DIR.
Notes: 1) Export profitability = export prices (home currency) / corporate goods price x 100.
2) Forex for Japan and Korea = export prices (contract currency) / export prices (home currency) x 100.
3) Forex for Germany=nominal effective exchange rate.

Export prices and export shares by industry

Chart 20 depicts the export prices and export shares of Japan's manufacturing industries. For the electrical machinery and precision instrument industries, export prices and export shares are falling simultaneously, and prices have eroded sharply for the former. In the case of the general machinery, chemical, and iron/steel industries, the decrease in export prices is contributing to higher export shares, and the decline in export prices is not altogether an adverse development. In the case of the transportation equipment industry, since this industry has shifted production overseas to a great extent, it is not all that meaningful to measure its competitiveness by export share alone.

Japan: Export Prices and Global Export Shares by Industry **Chart 20**



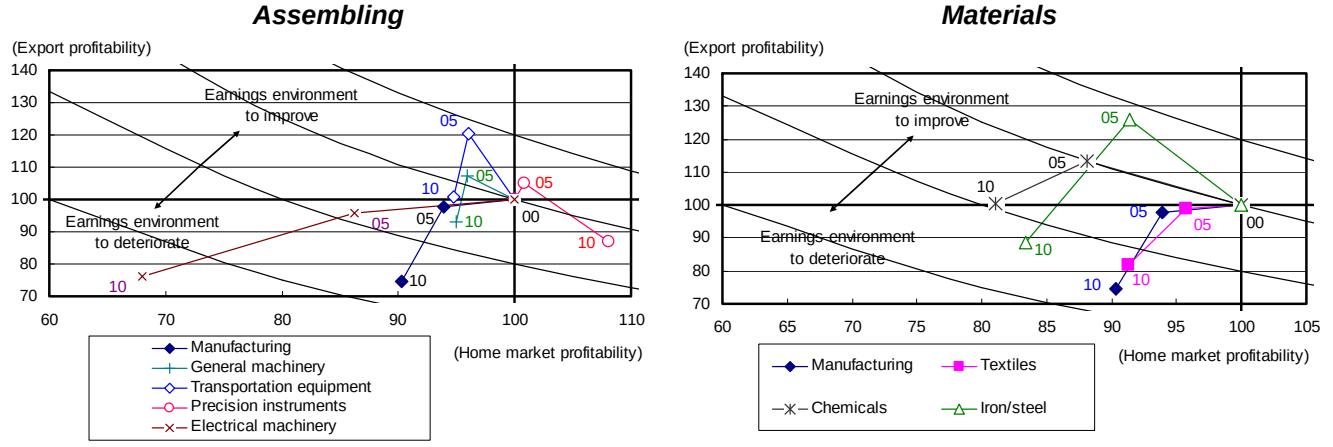
Source: Bank of Japan; Research Institute of Economy, Trade, and Industry; compiled by DIR.
Note: Global export share=Japan's share of global export value.

Profit environment by industry: Profits are generally holding up for the assembly sector, but the situation is notably difficult for electrical machinery

In the previous paragraphs, we examined the situation surrounding the export sector. Chart 21 portrays the profit environment of Japan's manufacturing industries by considering the export sector and the domestic sector together. The vertical axis shows the export profitability index (export prices [yen] / output prices [home market goods] x 100) and the horizontal axis the home market profitability index (output prices [home market goods] / input prices x 100). The four parallel lines drawn from the upper left to the lower right indicate the combined profit environment surrounding companies. The nearer to the upper right the points are located, the further the profit environment has improved.

When we examine the profit environment for Japanese companies by industry, we find that profits are generally holding up for the assembly sector centering on the transportation equipment and precision instrument industries, although the situation is quite severe for the electrical machinery industry. In comparison, the materials sector appears to be experiencing a relatively more difficult profit environment than the assembly sector. However, as indicated in Chart 20, for the chemical and iron/steel industries, the decrease in export prices is contributing to higher export shares, and it is worth noting that the decline in export prices is not altogether an adverse development.

Manufacturing Industry: Export and Home Market Profitability (2000 = 100) **Chart 21**



Source: Bank of Japan; compiled by DIR.
Notes: 1) Export profitability = export prices (yen) / output prices (home market goods) x 100.
2) Home market profitability = output prices (home market goods) / input prices x 100.

2.2 Prescriptions for the recovery of Japan's export competitiveness

2.2.1 Responses required of policy authorities: Three bulwarks to counter appreciation of the yen

Three bulwarks to counter appreciation of the yen

We have remarked above that Japan's export competitiveness has declined, centering on the electrical machinery industry. In the paragraphs to follow, we examine the responses required of the policy authorities and Japanese companies under these circumstances.

In the previous section, we presented in detail an overview of the responses required of the policy authorities. In this section, we focus on policy responses to the strong yen. As we have already noted, this is because a strong yen is placing enormous downward pressure on the export profitability of Japanese companies.

We believe that, for Japan's economy to counter the adverse effect of a strong yen, it will be important to establish in a well-balanced manner three bulwarks to counter the appreciation of the yen.

Bulwark 1: Braking the appreciation of the yen

The first bulwark is to brake the appreciation of the yen. To halt the yen's appreciation, it is insufficient for the Ministry of Finance to intervene in currency markets by selling yen. From the monetary side, BOJ should ease monetary policy further to support the Ministry of Finance. In logical terms, the appreciation of a currency can be prevented by the central bank printing money without limit. As underscored by a modified Soros chart (Chart 13), as a practical issue there is no reason to doubt that the policy stances of central banks have an enormous impact on currency markets.

Bulwark 2: Strengthen the economy's ability to withstand a strong yen

As a second bulwark, it will be necessary to strengthen the economy's ability to withstand a strong yen. What will be pivotal here is improving the foundations of Japan's economy through such policies as practical growth strategies, deregulation, reduction of the corporate tax, and participation in the Trans-Pacific Strategic Economic Partnership Agreement (TPP).

Participation in TPP will be of utmost importance. The conclusion of TPP is highly likely to have huge positive effects in the medium to long term for Japan's economy as a whole. If this is combined with efforts to strengthen the competitiveness of agriculture, offsetting the negative effects of TPP will be entirely possible.

History demonstrates that no nation has prospered by closing itself off from the world. If an open economy is achieved through TPP, this can be expected to stimulate innovation through the revitalization of trade and investment.

The government has estimated that Japan participating in TPP would have an economic effect of Y2.7 trillion over a 10-year period. This estimate, however, includes the effect of eliminating tariffs from participating in TPP, and the economic effect is understated.

TPP will have a far larger economic effect. The greatest benefit of participating in TPP is the expectation that innovation will be stimulated through the revitalization of trade and investment. If labor productivity can improve, centering on so-called "crouching dragon companies" (companies that are not living up to their full potential, so named by University of Tokyo Professor Yasuyuki Todo) whose business activities have been confined to Japan, participation in TPP in the final analysis has the potential of yielding economic benefits on a scale of Y100 trillion for Japan's economy.

Bulwark 3 Policies should be actively implemented that take advantage of a strong yen

Third, there will be a need to actively implement policies that take advantage of a strong yen. Since a strong yen means greater purchasing power for Japan, this advantage must be actively used. Specifically, it will be important to allot more funds for measures securing rare earth and for the promotion of strategic M&A. Moreover, to acquire resistance to forex fluctuations, an issue to consider is promoting the internationalization of the yen, a long-standing interest of Japan.

We believe that, rather than being swayed by the fluctuations of forex markets, resolutely strengthening these three bulwarks against the appreciation the yen will be an important key in improving the foundations of Japan's economy.

2.2.2 Responses required of Japanese companies: Strengthening brand equity and marketing power

Learning from German and South Korean companies will be important

There is much that Japanese companies can learn from their German and South Korean counterparts. Simply put, Japanese companies will need to learn how to build brand equity from German companies and how to strengthen marketing power from South Korean companies.

Response 1: Brand equity of German companies

What Japanese companies should learn from Germany is brand equity. The *White Paper on International Economy and Trade 2012* (Ministry of Economy, Trade, and Industry) notes in its analysis that large firms and small/medium-sized companies in Germany are committed to "made-in-Germany" quality and that there are many that have succeeded in developing and marketing products with high unit prices. The white paper also states that, by securing an admired position through determined branding, German companies can avoid price competition considerably and have succeeded in capturing demand from emerging economies. Japanese companies have sought to compete in price even as the yen appreciated. As a result, profitability shrank through lower export prices, and export share shrank at the same time. Given this situation, it is possible to say that Japanese companies have followed a strategy opposite to that taken by German companies.

The Chinese market will be the major battlefield in the future, and it has exhibited the strongest preference to brand than any other market. Hence, strengthening the brand equity of Japanese products through public- and private-sector initiatives will be an extremely important issue. With the view of supporting an improvement in Japanese companies' brand equity from the side, it will be imperative for the Japanese government to provide subsidies of a certain level to facilitate cross-industry collaboration and to work to protect intellectual property.

Response 2: Marketing power of South Korean companies

The strength of South Korean companies is their marketing power. Manufacturing departments have traditionally had a strong say in Japanese companies, and marketing was consequently sidelined to a certain extent. Since the president/senior management come from manufacturing departments, the inordinate influence these departments have acquired should not be surprising. There is no question that Japanese companies, led by their manufacturing departments, produce high-quality products. However, the excessive emphasis on manufacturing has created a tendency to develop over-engineered products. In contrast, South Korean companies, based on careful marketing, manufacture high quality products within the scope of sellable prices. Thus, once price is factored in, Japanese companies can no longer compete with their South Korean rivals. In other words, Japanese companies win with technology but lose in sales. Going forward, Japanese companies will need to polish their marketing power even more than before.

To use a baseball pitcher as an analogy, technological power can be likened to the ability to throw fastballs. Japanese companies can throw fast pitches at 150 kilometers per hour. While South Korean companies can only throw fastballs between 130 and 140 kilometers per hour, they still outdo Japanese companies with their fine pitching control (marketing power). The strategy Japanese companies should adopt in a well-balanced manner going forward is to further polish their fastballs (polish leading-edge technological power and brand equity) and improve their pitching control (increased marketing power).

3. Main Scenario for Japan's Economy: Three Positives Will Propel Gradual Expansion of the Economy

3.1 Current economic conditions: Concern over possible downswing could intensify

Current economic conditions

In this section, we discuss our main scenario for Japan's economy. Despite the possibility of a downswing, in our main scenario we believe that the economy will continue to gradually expand.

We begin with a brief overview of current economic conditions in Japan.

The expansion of Japan's economy has slowed slightly compared to our previous assumptions, and we believe the risk of a downswing has intensified. Domestic demand, the driving force behind Japan's economy, is gradually slowing, and the slowdown of foreign economies is accelerating.

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 q/q growth of real GDP as it contributed positively to such growth for a fifth consecutive quarter (+0.4 percentage points), primarily due to the 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 persistently higher resource imports.

The focus of attention for Japan's economy going forward is whether a smooth handoff can be made from domestic demand to foreign demand toward 2H FY12. The policy effects of reconstruction demand and eco-car subsidies have barely provided enough support to Japan's economy to date. The impact of eco-car subsidies, however, will play out in Oct-Dec 2012. This being the case, depending on the direction of foreign economies, the risk of a downswing has the potential of intensifying.

Breakdown of industrial shipments in Japan

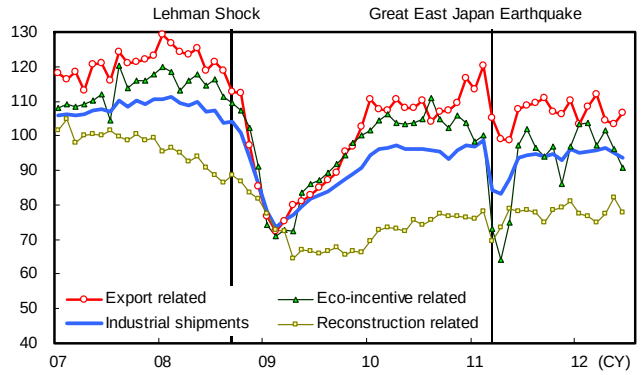
Charts 22.1 and 22.2 provide a breakdown of industrial shipments in Japan. Chart 22.1 illustrates current industrial shipments and Chart 22.2 the trend of industrial shipments at the time of the Great Hanshin-Awaji Earthquake in 1995.

With respect to current shipments shown in Chart 22.1, eco-incentive-related shipments, defined as home-market consumer durables that are eligible for eco-car tax breaks and the eco-point program, appear to be losing momentum, which is cause for concern.

In contrast, export-related shipments are generally trending firmly, supported by the gradual expansion of foreign economies centering on the US.

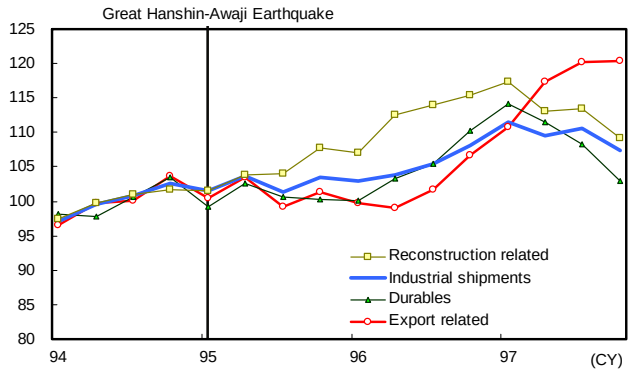
Reconstruction-related shipments, such as construction materials and capital goods (excl transportation equipment), have struggled compared to the period of the Great Hanshin-Awaji Earthquake shown in Chart 22.2 due to domestic political turmoil and delays in formulating reconstruction plans, but such shipments are expected to gradually increase going forward.

Breakdown of Industrial Shipments (2005 = 100)
Chart 22.1



Source: Ministry of Economy, Trade, and Industry; compiled by DIR.
Notes: 1) Eco-incentive related: Durable goods for the domestic market that are eligible for green car subsidies/tax breaks and eco-point programs.
2) Reconstruction related: Construction materials and capital goods (excl. transportation equipment).

Breakdown of Industrial Shipments (1994 = 100)
Chart 22.2



Source: Ministry of Economy, Trade, and Industry; compiled by DIR.
Note: Reconstruction related: Construction materials and capital goods (excl. transportation equipment).

Despite some slowing, capex-related indices are generally trending firmly

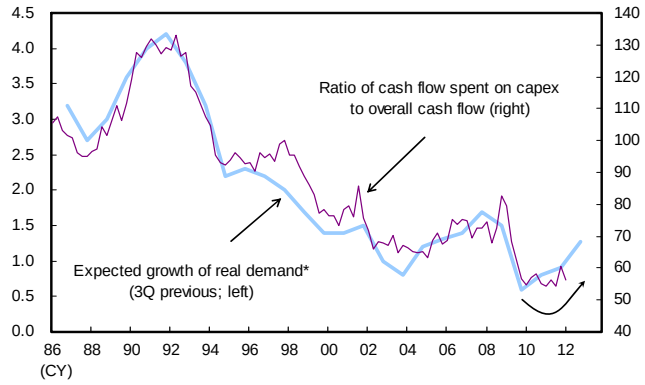
Although slowing currently, capex-related indexes have been largely steady, supported by a steady export trend in general.

First, as indicated in Chart 23.1, the expected growth of real demand (outlook for the next five years), which leads the ratio of capex to cash flow by around three quarters, has turned sharply upward. Given that (1) the ratio of capex to cash flow has dropped to a record low and that (2) net investments are negative since capex has fallen below depreciation, it is reasonable to think that capex will trend gradually upward.

Second, as indicated in Chart 23.2, the leading indicator of capex (y/y shipments minus y/y capacity utilization rate), which leads real capex by one quarter, has bottomed out, a positive development.

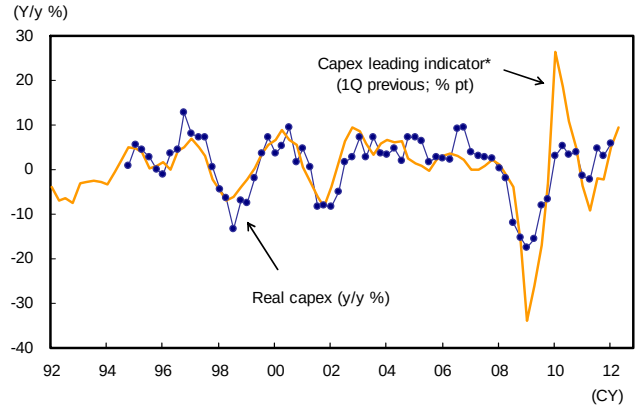
Third, as Chart 23.3 reveals, the ratio of actual to forecast machinery orders (private sector, excl those for shipbuilding and those from electric utilities), which leads real capex (GDP basis) by about six months, is gradually improving.

Capex-Cash Flow Ratio and Expected Growth of Real Demand (%) **Chart 23.1**



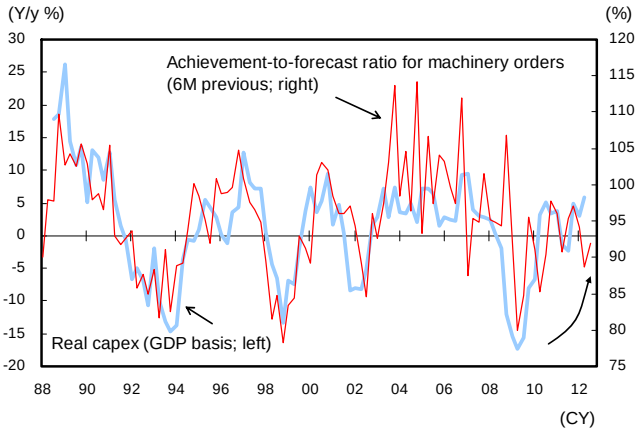
Source: Ministry of Finance, Cabinet Office; compiled by DIR.
*Outlook for the next five years; FY10 survey implemented before March 2011 quake/tsunami.

Real Capex and Leading Indicator **Chart 23.2**



Source: Cabinet Office; Ministry of Economy, Trade, and Industry; compiled by DIR.
*Y/y shipments - y/y capacity utilization rate.

Achievement-to-Forecast Ratio for Machinery Orders and GDP-based Capex **Chart 23.3**



Source: Cabinet Office; compiled by DIR.

Personal consumption loses some momentum

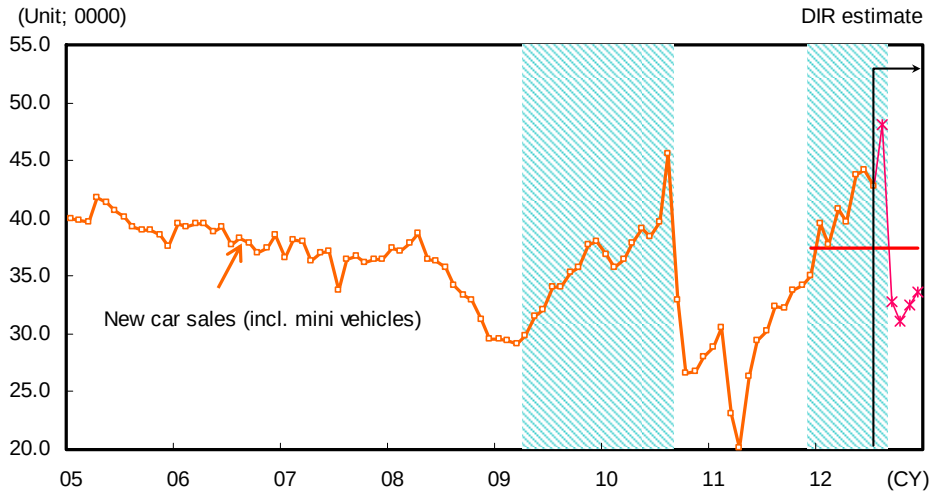
Personal consumption has lost some momentum. In the first preliminary estimate of Apr-Jun real GDP, personal consumption posted a fifth quarterly gain in a row (+0.1% q/q), supported by (1) eco-car subsidies and (2) the recovery of spending on services, such as eating out and travel, that accompanied the improvement in consumer confidence. Even so, personal consumption did not increase by much owing to such factors as the improvement in consumer confidence hitting a lull and real employee compensation falling for two consecutive quarters, even if being largely flat at -0.0%.

The income environment being slow to improve is one factor contributing to the sluggishness of personal consumption. The appearance of something like a retreat into one's shell that took hold in the aftermath of the Great East Japan Earthquake has abated, and consumer confidence has improved. While spending on services (eating out, travel, etc) has headed toward recovery, improvement in the income environment is still lagging. Total cash earnings fell 0.6% y/y in June, the second consecutive monthly decline, mainly because of a decrease in bonuses.

Adverse effect of end to eco-car subsidies raises concern

Prospects that the effect of eco-car subsidies will taper off and place downward pressure on personal consumption are a matter of concern. As indicated in Chart 24, with the end of eco-car subsidies, domestic new vehicle sales are foreseen to temporarily contract by more than 30%. The slump in domestic new vehicle sales accompanying the end of subsidies is expected to reduce real private consumption 0.73 percentage points q/q and real GDP 0.44 points in Oct-Dec 2012.

Impact of Eco-car Subsidies **Chart 24**



Source: Japan Automobile Dealers Association, Japan Mini Vehicles Association; compiled by DIR.
Notes: 1) SA by DIR.
2) Shaded areas denote periods when eco-car subsidy programs available.

Impact of Eco-car Subsidies *(Deviation from no subsidy case; % pt)*

	2012			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Personal consumption	0.49	0.27	-0.10	-0.73
GDP	0.30	0.16	-0.06	-0.44

Source: Cabinet Office; compiled by DIR.

3.2 Three Positives Will Propel Gradual Expansion of the Economy

3.2.1 Reconstruction demand to provide support

Main scenario for Japan's economy: Three positives will support the economy

Despite the existence of downswing 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 for further monetary easing by BOJ. Since factor (3) has been discussed above, in the paragraphs to follow we will examine factors (1) and (2).

Impact of public works spending related to reconstruction projects and tax reform

The first factor that will support Japan's economy is the materialization of reconstruction demand related to the Great East Japan Earthquake. The yen amount of prepayment guarantees for public works projects has steadily increased in 2012, centering on Miyagi and Iwate prefectures. Also, new

starts of owner-occupied dwellings (totals) are growing firmly for the most part, centering on Miyagi Prefecture.

Chart 25 provides an estimation of the effect on Japan's economy of public works spending related to reconstruction demand stemming from the Great East Japan Earthquake, and tax reform. When such changes as higher public works spending, a higher income tax burden, and a return to a more stringent child subsidy are taken as a whole, real GDP is expected to increase an additional 0.98% in FY12. This upside effect, however, will gradually weaken to 0.94% in FY13 and 0.66% in FY14. We now assume that real public capital formation (public works spending) will peak in Jan-Mar 2013 in terms of real GDP.

Impact of Change in Taxation and Reconstruction Demand (Estimation based on 2000 benchmark)
Chart 25

	GDP	Personal consumption	Capex	Housing investment	Public investment	Government consumption	Exports	Imports
FY12	0.98%	0.1%	-0.7%	0.1%	21.7%	0.1%	0.0%	1.0%
FY13	0.94%	0.3%	-0.9%	0.5%	22.5%	0.4%	-0.2%	1.4%
FY14	0.66%	0.1%	-1.5%	0.7%	23.5%	0.8%	-0.4%	1.4%

Source: Cabinet Office, media reports; compiled by DIR.
Note: Estimated based on Cabinet Office short-term macroeconomic model with data available as of 16 Aug 2012.
Assumptions: 1) Public investment up Y4.8 tril a year over the estimation period.
2) Income tax up 2.1%-pt over 25 years from Jan 2013.
3) Inhabitants tax up Y1,000/person from Jun 2014.
4) 10% tax deduction for retirement benefit to be abolished from Jan 2013.
5) Due to a return to a stricter child care allowance system (revival of income threshold for receiving allowance, etc.), aggregate income (incl. child care allowance) down Y0.5 tril a year from FY12.

3.2.2 Prospects that the US and Chinese economies will gradually recover

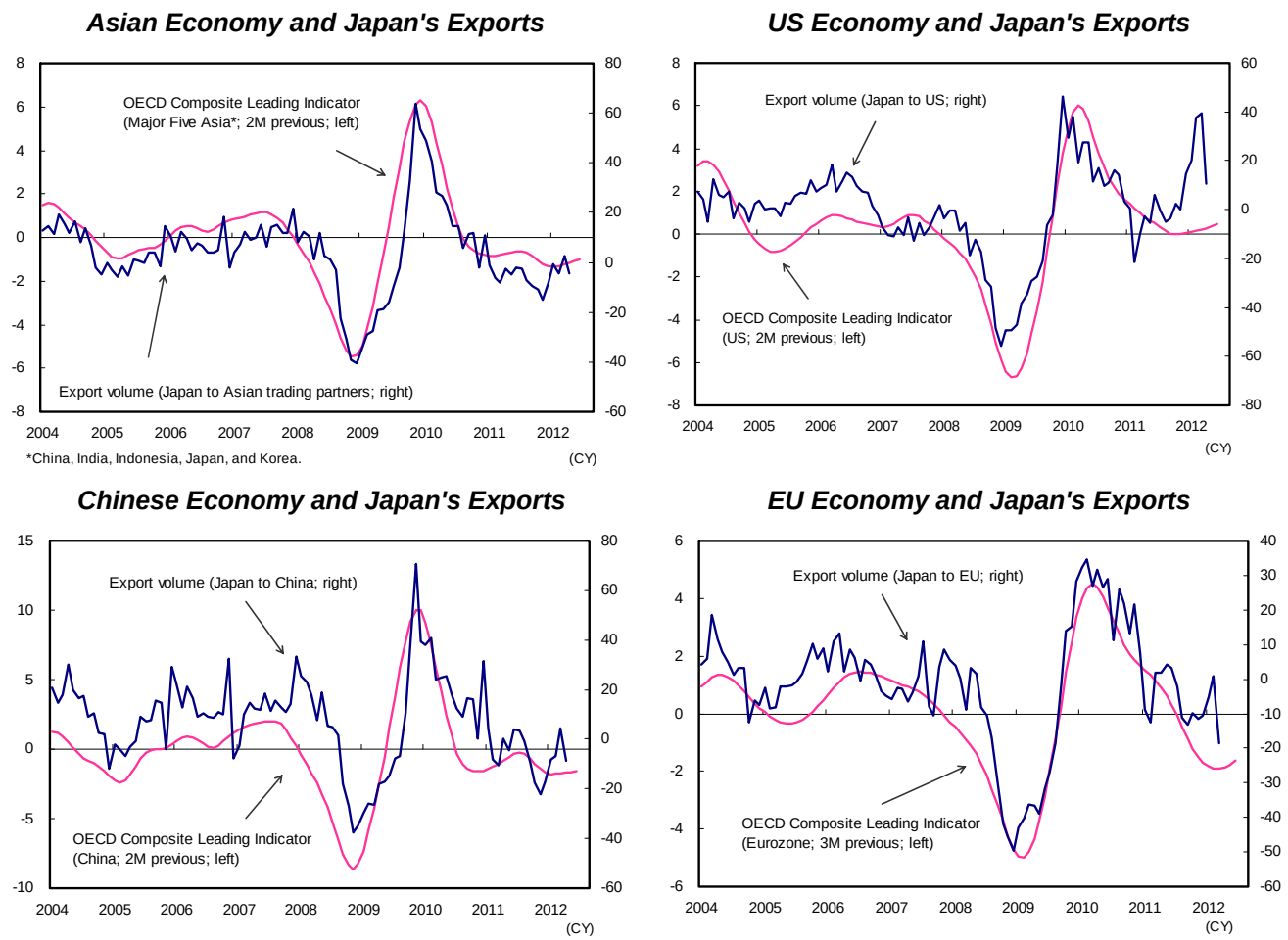
The second factor that will support Japan's economy is prospects for the recovery of foreign economies, centering on the US and China.

Chart 26 illustrates Japan's export trends by trading partner. The OECD Composite Leading Indicators for respective partners tend to lead Japan's export volume to respective partners by about two to three months.

Japan's exports to the US are generally trending firmly, supported by gradual expansion of the US economy. While Japan's exports to the EU have fallen sharply, signs that the composite leading indicator for the EU is bottoming out can be called a positive shaft of light. Also, while Japan's exports to China and other Asian trading partners have been sluggish for some time, the composite leading indicators for China and Asia appear to be gradually turning upward.

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.

Japan's Exports by Trading Partner (y/y %) **Chart 26**



Source: OECD, Ministry of Finance; compiled by DIR.

Three conditions determining long-term structural recession—possibility of the US experiencing so-called Japanization limited

First of all, we would like to emphasize that the US is not slipping into a long-term structural recession similar to the Great Depression of the 1930s or Japan's Heisei recession. Chart 27 offers a comparison of the Great Depression, Japan's Heisei recession, and the current situation of the US and Europe. Currently in the US, (1) policy responses have been rapid, (2) the labor market is flexible, and (3) financial system uncertainties have abated. Hence, the three basic conditions determining a long-term structural recession shared by the Great Depression and Japan's Heisei recession are not presently seen in the US. Therefore, assuming that the US does not rush to implement fiscal and monetary exit strategies (the risk of the so-called "fiscal cliff"), we believe in our main scenario that the US will avoid a long-term structural recession accompanied by a deflationary spiral (so-called Japanization). In the case of European nations, since (1) policy responses have been slow, (2) labor markets are rigid, and (3) financial system uncertainties remain, some attention should be given to the risk that Europe will slip into a long-term structural recession.

Conditions Determining Protracted Structural Recession **Chart 27**

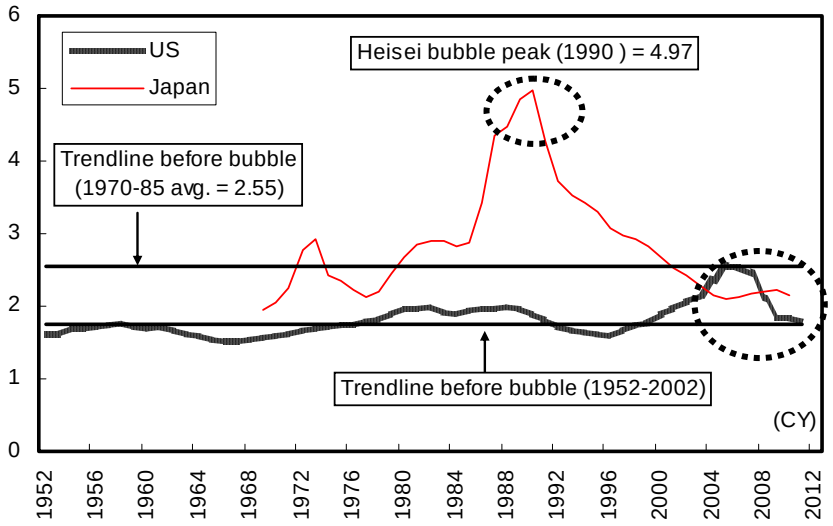
	Great Depression	Heisei Recession	Current status of US economy	Current status of European economy
① Failure of policy responses	✓	✓	X	0
② Real wages remaining high resulting in prolonged stagnation of capex	✓	✓	X	0
③ Impairment of financial system	✓	✓	X	0

Source: Compiled by DIR.
✓=Yes, 0=to some degree, and X=No.

Adjustment of US housing prices may have entered final stage

Chart 28 depicts the trend of the ratio of the total market value of real estate to nominal GDP for Japan and the US. In the US, the ratio has declined to a level approaching its average preceding the housing bubble (average for 1952 to 2002). This makes it reasonable to conclude that US housing prices have at the very least moved past a period of persistent adjustment.

Japan/US: Ratio of Aggregate Market Value of Properties to Nominal GDP **Chart 28**



Source: Federal Reserve Board, US Bureau of Economic Analysis, Cabinet Office; compiled by DIR.
Note: Aggregate market value of land for Japan and that of real estate for the US.

Chinese economy expected to gradually recover

Next, we examine the direction of China's economy, on which hopes are being pinned as the new locomotive of the world economy. Supported by macroeconomic stimulus measures and regional public works spending, China's economy is expected to gradually recover going forward. We believe that China's real GDP will increase 8.2% in 2012 and 9.0% in 2013.

Probable schedule for macroeconomic policies in China

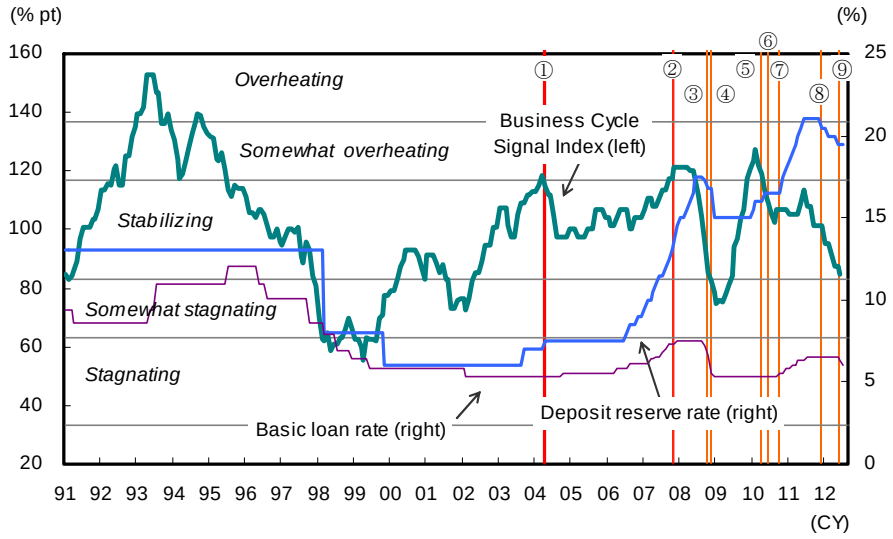
Our sense of the future schedule for macroeconomic policies in China is as follows. With changes in political leadership on the horizon in 2012, China has entered a political season. In anticipation of the 18th National Congress of the Communist Party of China foreseen for end-October 2012 and

personnel changes to be made to the State Council in spring 2013, the implementation of expansionary policies centering on regional areas will find favor.

Business Cycle Signal Index suggests possibility of further implementation of policy measures

Chart 29 presents the Business Cycle Signal Index for China. According to this index, China's economy has slowed significantly. After peaking at 124.7 in March 2010, the index has fallen to 84.7 as of June 2012, which is the latest figure available. This means that the index has sunk to the low side of the stable zone between 83.33 and 116.66. As can be ascertained from previous cases when an overheated economy has cooled to this extent, a turning to full-fledged macroeconomic stimulus measures should gradually come into view. To conclude, supported by macroeconomic stimulus measures and regional public works spending, China's economy is expected to gradually recover going forward.

China: Business Cycle Signal Index **Chart 29**



1. Apr 2004: Restrictions on aggregate loans strengthened
2. Oct 2007: Restrictions on aggregate loans strengthened
3. Oct 2008: Restrictions on aggregate loans eased
4. Nov 2008: Stimulus package of 4 tril yuan announced
5. Apr 2010: Real estate regulations strengthened
6. Jun 2010: More flexible regime for control of yuan exchange rate
7. Oct 2010-Jul 2011: Period of loan rate hikes
8. From Dec 2011: A series of deposit reserve rate lowering moves began
9. From Jun 2012: A series of loan rate cuts began

Source: National Bureau of Statistics of China, People's Bank of China, CEIC Data; compiled by DIR.

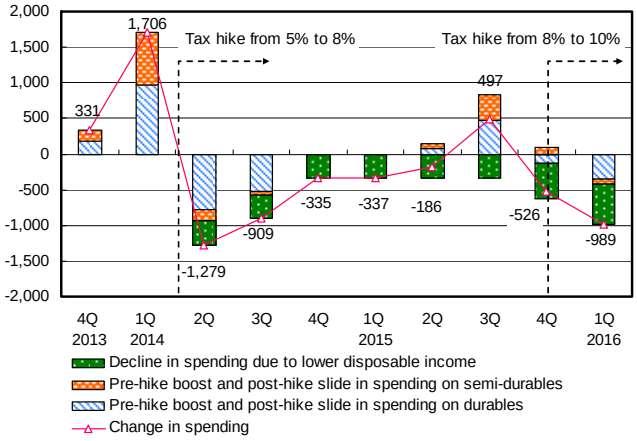
3.3 Impact of consumption tax hikes

Impact of consumption tax hikes on real GDP

To conclude this section, we examine the impact of a higher consumption tax on Japan's economy. As portrayed in Chart 30, we believe the consumption tax hikes (deviation from the case without such hikes) will boost real GDP 0.92 percentage points in FY13, reduce it 0.86 points in FY14, and lower it 0.71 points in FY15.

Impact of Consumption Tax Hike (Y bil) — Chart 30

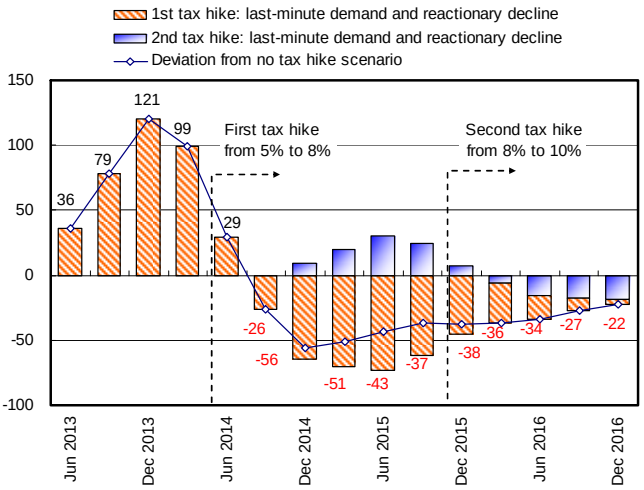
Impact on Personal Consumption



Source: Cabinet Office; compiled by DIR.
Note: DIR estimate based on following equation, factoring in a change in spending before and after 1997 consumption tax hike, provided consumption tax will be raised to 8% in Apr 2014 and to 10% in Oct 2015, and assuming a 1%-pt tax hike to lower household disposable income by Y2.5 tril a year:

Log (real consumption) = -1.8 + 0.44 x log (per employee compensation) + 0.30 x log (no. of employees) + 0.04 x log (net household financial assets) + 0.23 x log (avg. household size) + 0.02 x log (Consumer Confidence Index) + 0.67 x log (real spending (-1)), where significance of explanatory variables is 1%.

Impact on Housing Investment



Source: Cabinet Office; compiled by DIR.
Assumption: Consumption tax will be raised to 8% in Apr 2014 and to 10% in Oct 2015.

Impact of Consumption Tax Hike *(Deviation from no tax hike scenario; % pt)*

	CY13	CY14	CY15
GDP	0.92	-0.86	-0.71
Personal consumption	0.73	-1.06	-0.44
Capex	0.00	-0.24	-1.04
Housing investment	19.95	-8.40	-13.11

Source: Compiled by DIR based on various reports.

Increasing consumption tax is also an urgent issue in view of the global tide of tax reform

As Japanese society ages and budget deficits accumulate, we believe raising the consumption tax is also an urgent issue in view of the global tide of tax reform. The consumption tax is associated with such positive features as (1) offering lateral fairness and the correction of inter-generational inequality, (2) not greatly distorting economic activity, and (3) being a stable source of tax revenues in an aging society (a high collection rate). Frequently mentioned disadvantages of the consumption tax are its regressive character and the problem of tax profiteering (businesses exempted from paying the consumption tax collecting and pocketing the tax), but neither of these are decisive in nature.

However, successful cases of rebuilding government finances overseas imply that increasing the consumption tax alone will be insufficient to achieve sound government finances in Japan and that the substantial reduction of social security costs will be essential. Meanwhile, should the future uncertainties of citizens be alleviated such as through fundamental reform of the social security system, this can be anticipated to have a positive effect (reverse Keynes effect) on Japan's economy in the medium to long term by revitalizing personal consumption.

4. Risks Facing Japan's Economy

In this section, we examine four risk factors facing Japan's economy: (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.

Risk 1: Any deepening of the European sovereign debt crisis

Greek situation remains unpredictable

Of risks (1) to (4) above, there is no question that the greatest tail risk is (1). Global financial markets remain guarded toward the European sovereign debt crisis. In a Greek parliamentary reelection held on 17 June, the New Democracy Party supporting austerity policies won the most votes, leading to the formation of a coalition government led by New Democracy. While the worst was avoided with these election results, it will be extremely difficult to pursue austerity policies and other structural reforms and achieve economic growth at the same time. To conclude, it is still far too early to think that the European sovereign debt crisis has been resolved, and an unstable situation is expected to continue.

In the worst case, an impact comparable to the Lehman shock

Chart 31 depicts the results of simulating the impact of the European sovereign debt crisis on Japan's economy. Specifically, we established three scenarios for the size of the haircuts given to the sovereign debt of European nations and calculated the core capital shortfall that major European banks would face in each scenario. We then estimated how the resulting credit crunch would influence the world economy, factored in yen appreciation because of less alternative currency selection, and calculated how Japan's real GDP would be affected. In the worst case (Case 3), Japan's real GDP has the potential of experiencing downward pressure of more than 4%. It goes without saying that calculation results will need to be viewed with considerable latitude. Even so, should the European sovereign debt crisis see any worsening, such as by Greece leaving the euro, there is risk that Japan would sustain a blow comparable in size to the Lehman Shock.

Impact of European Sovereign Debt Crisis on Japanese Economy **Chart 31**

	% discount of respective nation's sovereign bonds						European banks		Impact		
	Belgium	Greece	Ireland	Italy	Portugal	Spain	Tier 1 capital shortfall (€ 100 mil)	Risk asset write-off matching half capital shortfall (% of overall risk assets)	Bank loans worldwide ($)	Nominal GDP worldwide ($)	Japan's real GDP (yen)
Case 1	0%	60%	40%	10%	40%	10%	**1,274**	**7.0%**	-1.7%	-1.6%	**-0.6%**
Case 2	15%	80%	50%	30%	50%	30%	**2,233**	**13.9%**	-3.4%	-3.2%	**-2.2%**
Case 3	30%	100%	60%	50%	60%	50%	**3,240**	**24.9%**	-6.0%	-5.7%	**-4.1%**

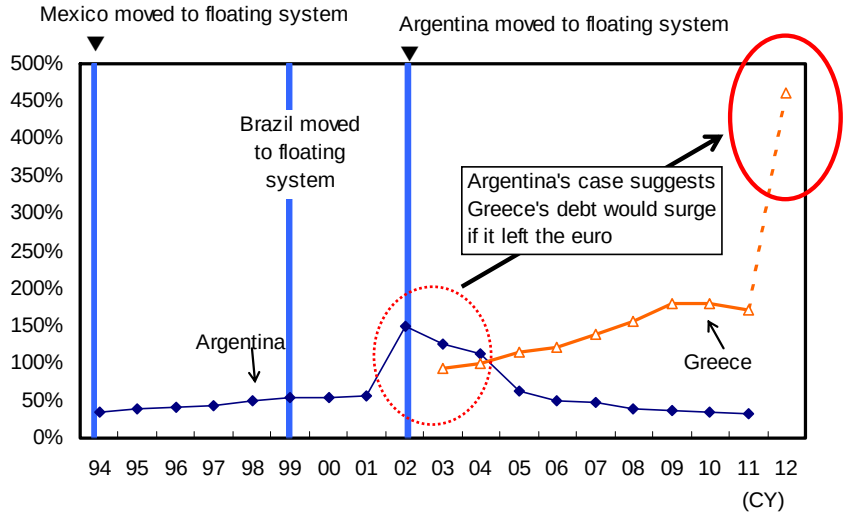
Source: World Bank, European Banking Authority, Cabinet Office; compiled by DIR.
Assumptions: 1) Ratio of risk asset write-off to overall risk assets corresponds to that of loan cutbacks to overall loans.
2) Case 1: the yen remains flat; Case 2: 5% appreciation; and Case 3, 10% appreciation; all against the dollar.
Note: Estimated based on elasticity approach, which warrants some latitude.

Greece leaving the euro may entail a sharp rise in external liabilities

We believe there is a striking difference between the situation surrounding Argentina in 2002, when the economy recovered dramatically after moving to a floating exchange rate system, and the current situation surrounding Greece. Should Greece leave the euro and return to the drachma, the consensus view is that the Greek currency would fall in value to a fraction of the euro. As a result, Greece's external liabilities would suddenly increase by many multiples. Chart 32 compares the external liabilities of Argentina and Greece as a percentage of GDP. Greece's external-debt-to-GDP ratio is

currently far higher than the corresponding ratio for Argentina in 2002 before it switched to a floating exchange rate. In view of developments at that time, should Greece decide to leave the euro, the likelihood is high that Greece's external liabilities would balloon to a level far beyond the conventional ability to repay.

Argentine/Greek External Debt (% of nominal GDP) **Chart 32**

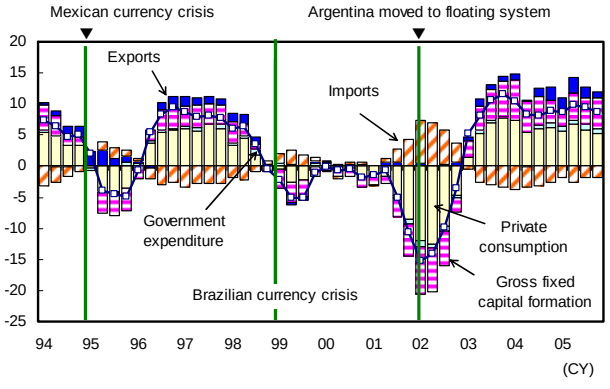


Source: National Statistical Service of Greece, Instituto Nacional de Estadística y Censos (Argentina), Ministerio de Economía y Producción Argentina; compiled by DIR.

Reasons why Argentina's economy recovered

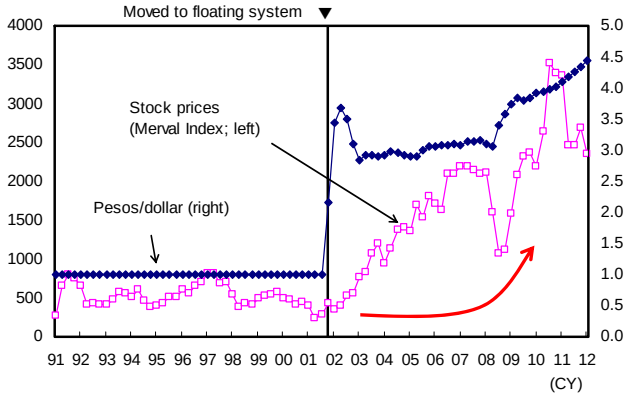
Chart 33 provides a breakdown of Argentina's real GDP and Chart 34 stock price and forex trends. Three factors explain the recovery of Argentina's economy after moving to a floating exchange rate in 2002: (1) higher exports enabled by a weaker currency, (2) the ascent of stock prices, and (3) the decrease in the unemployment rate and increase in personal consumption. Unfortunately, should Greece leave the euro, chances are negligible that these three factors would come into play.

Argentine Real GDP (y/y %) **Chart 33**



Source: Ministerio de Economía y Obras y Servicios Públicos Argentina; compiled by DIR.

Argentine Stock Prices and Forex **Chart 34**

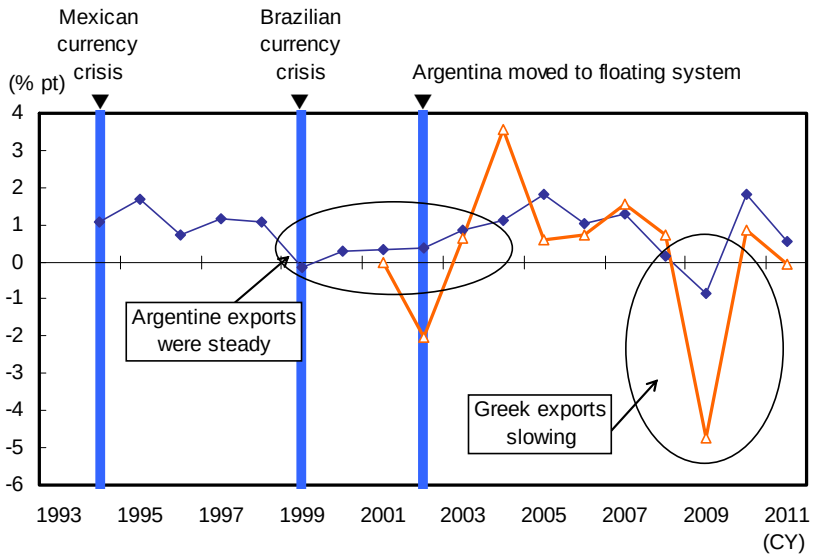


Source: Banco Central de la República Argentina, Bloomberg; compiled by DIR.

Contribution of exports to real GDP growth for Argentina and Greece

A point worth emphasizing is that there is little reason for believing that a weaker currency will increase Greek exports. Chart 35 depicts the contribution of exports to the growth rate of real GDP for Argentina and Greece. In the case of Argentina, exports trended firmly for the most part in the period preceding the switch to a floating exchange rate in 2002. In contrast, in the case of Greece, exports are struggling due to the deepening of the European sovereign debt crisis. If Greece decides to leave the euro and hopes that a weaker currency will lead to higher exports, there is every likelihood that this hope will end as a dream.

Argentina/Greece: Export Contribution to Real GDP Growth **Chart 35**



Source: National Statistical Service of Greece; Ministerio de Economía y Obras y Servicios Públicos Argentina; compiled by DIR.

Exports by destination from Argentina and Greece

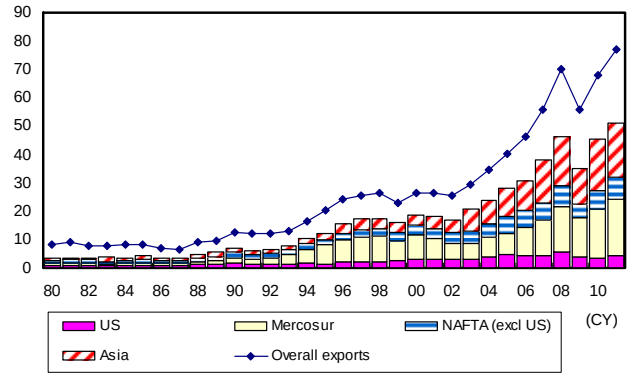
Charts 36.1 and 36.2 compare exports by destination from Argentina and Greece. The proportion of exports to the US is low in Argentina's overall exports. Since the shift to a floating exchange rate in 2002, Argentina's exports have expanded, mainly those to Mercosur (the "Southern Common Market" of South America) and Asia. In contrast, a substantial proportion of Greece's exports are those to the eurozone, centering on Germany, and those to other EU nations. Should Greece leave the euro, it is difficult to imagine its trade with European nations greatly increasing. Hence, the stimulus effect of leaving the euro would be limited.

Energy-related products account for a large share of Greek exports and imports

An examination of Greece's industrial structure reveals that it lacks leading export industries, and the nation depends on the tourist trade to obtain foreign currency.

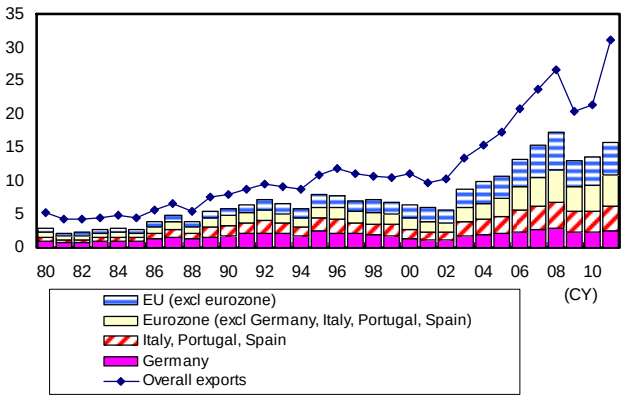
Chart 37 portrays the export and import goods of Greece. For both imports and exports, the proportion of energy-related products is high. Petroleum refining is a leading industry in Greece, and Greece leaving the euro can be expected to greatly impede crude oil imports. Accordingly, should the impact of leaving the euro not be limited to the stalling of Greek exports and should it be accompanied by disruptions in the supply of gasoline needed by industry and in oil products used in power generation and heating, this has the potential of placing the domestic economy in great turmoil.

Argentine Exports by Trading Partner ($ bil) Chart 36.1



Source: IMF; compiled by DIR.

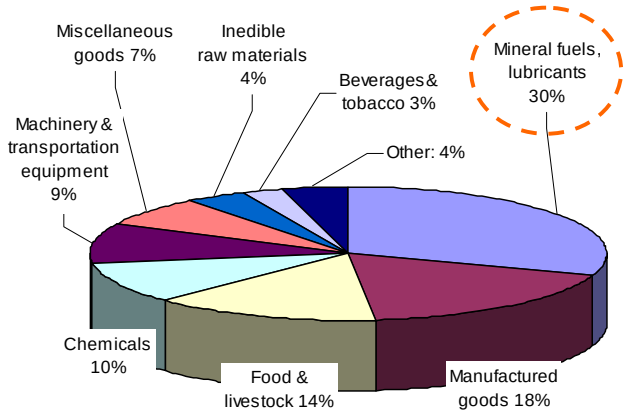
Greek Exports by Trading Partner ($ bil) Chart 36.2



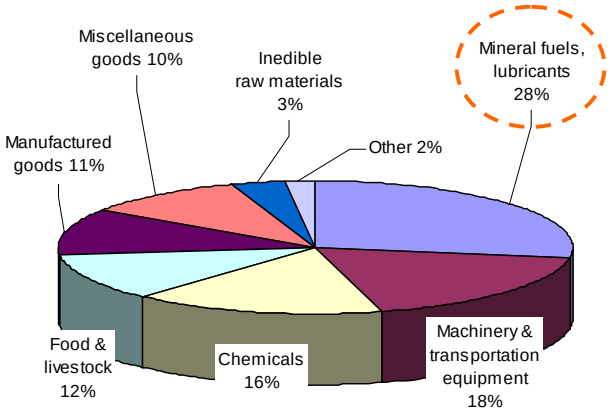
Source: IMF; compiled by DIR.

Greek Imports/Exports by Goods Chart 37

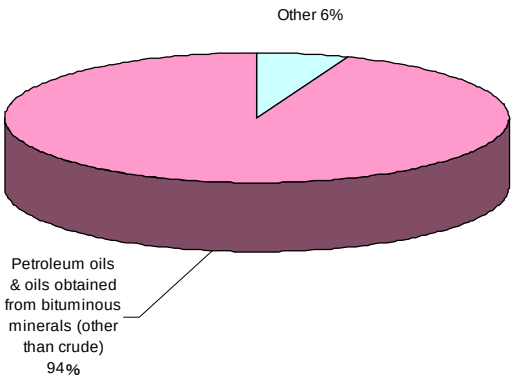
2011 Exports by Goods



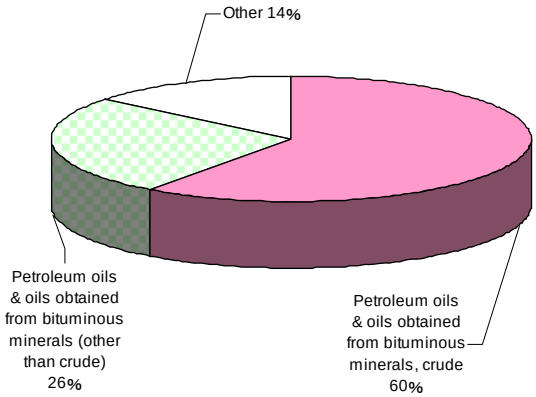
2011 Imports by Goods



Breakdown of 2011 Mineral Fuel & Lubricant Exports



Breakdown of 2011 Mineral Fuel & Lubricant Imports



Source: Eurostat; compiled by DIR.

Conclusion: Probability of the eurozone experiencing full-fledged financial crisis is between 10% and 20%

Summarizing the above, there is a striking difference between the situation surrounding Argentina in 2002, when the economy recovered dramatically after moving to a floating exchange rate system, and the current situation surrounding Greece. Given its high degree of dependence on exports to Europe, should Greece leave the euro, its economy can be expected to receive a devastating blow. We believe the probability of Greece leaving the euro is between 30% and 40% and the probability of this resulting in the eurozone experiencing a full-fledged financial crisis between 10% and 20%.

Risk 2: Surge in crude oil prices stemming from geopolitical risk

Impact of higher crude oil prices on Japan's economy

The second risk is a surge in crude oil prices in the context of geopolitical risk ushering in stagflation (rising prices during an economic downturn) in Japan.

An analysis using our macroeconomic forecasting model indicates that crude oil prices rising by $10/bbl would reduce Japan's real GDP 0.1% in the first year and 0.2% in the second.

Crude oil prices increasing by 10% would reduce macro earnings around 5%

Chart 38 illustrates the results of simulating the impact on macro earnings of a 10% increase in crude oil prices. Stated simply, two factors determine the impact of higher crude oil prices on corporate earnings: (1) change in input prices and (2) pass-through to output prices. The first is the percentage by which overall input prices (raw material prices) rises for the corporate sector when crude oil prices increase. The second is the degree to which companies are able to pass through the increase in raw material prices to selling prices. Three scenarios were established for each of these factors, and results were calculated for a total of nine cases (= 3 x 3).

With regard to (1), or the percentage by which overall input prices (raw material prices) rises for the corporate sector when crude oil prices increase, we have assumed in our main scenario that crude oil prices rising 10% would increase input prices by 1.3%.

With regard to (2), or the degree to which companies are able to pass through the increase in raw material prices to selling prices, given the recent disinflation of output prices, we believe it is realistic to assume that crude oil prices rising by 10% would cause corporate earnings to contract about 5%, which can be viewed as an intermediate scenario between (1) zero pass-through and (2) actual pass-through.

Impact of 10% Rise in Crude Prices on Profits **Chart 38**

			Change in input prices		
			+0.3%	+1.3%	+2.6%
Pass-through to output prices	1. Zero pass-through	0%	**-1.7%**	**-7.3%**	**-14.6%**
	2. Actual pass-through	41%	**-0.7%**	**-2.9%**	**-5.7%**
	3. Optimum pass-through	71%	**0.0%**	**0.0%**	**0.0%**

Source: Bank of Japan, Ministry of Internal Affairs and Communications, Ministry of Finance; compiled by DIR.
Notes: 1) Actual pass-through rate: average pass-through rate from 2005 to 2H 2007, when the rate was stable.
2) Optimum pass-through rate: one which offsets the effects of higher input prices.
3) Ratio of crude oil to intermediate input is 3%. Thus, theoretically, a 10% rise in crude prices will boost input prices by 0.3%. However, empirically, a 10% rise in crude prices will boost other commodity prices, boosting input prices by 1.3%.

Risk 3: Further appreciation of the yen

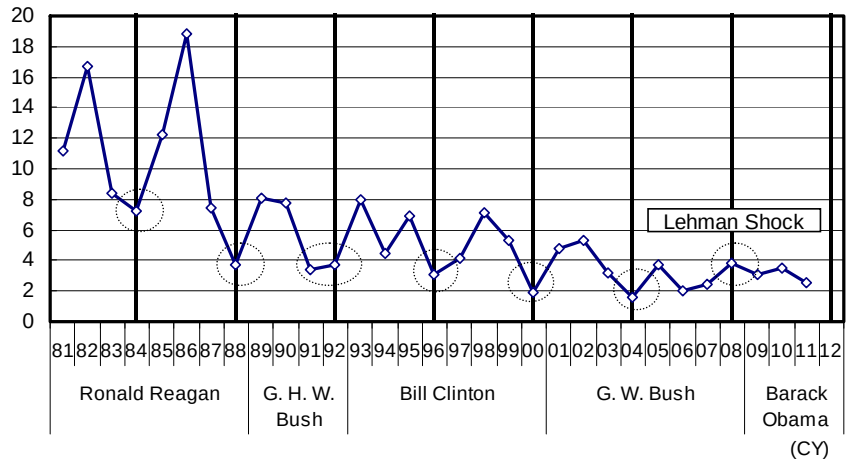
The yen appreciating Y10 against the dollar would reduce real GDP 0.6% in FY13

The third risk for Japan's economy is further appreciation of the yen. According to our quantitative analysis, should the yen appreciate Y10 against the dollar compared to our standard scenario, this would reduce Japan's real GDP 0.1% in FY12 and 0.6% in FY13.

Volatility in yen-dollar market tends to decline in years when the US holds a presidential election

We believe the yen will trade in a relatively narrow range to the dollar for a while and that it will avoid a sharp rise against the dollar. As shown in Chart 39, volatility in the yen-dollar market tends to decline in years when the US holds a presidential election. With 2012 being such a year, such factors as political pressure from the labor unions of large manufacturers will restrain the dollar's appreciation. There are also only limited prospects of the dollar depreciating sharply and giving way to the triple blow of a falling dollar, falling bond prices, and falling stock prices.

Yen-dollar Exchange Rate Volatility* **Chart 39**



Source: Bloomberg; compiled by DIR.
* Standard deviation of monthly figures for a year starting from November in one year and ending October the following year.

Yen-dollar rate will remain flat in general

Given that short-term interest rates have fallen to nearly zero in both Japan and the US, we believe in our main scenario that the yen-dollar rate will be generally unchanged. Basically, prospects that (1) BOJ will ease monetary policy further and that (2) Japan's current account surplus will shrink will be factors for the yen depreciating against the dollar. Thus, we assume that the yen will not persist in strengthening against the dollar. However, should any deepening of the European sovereign debt crisis accelerate the flight to quality, there is some risk that the yen will appreciate on its own against other currencies.

Risk 4: Current account balance turning negative in the future

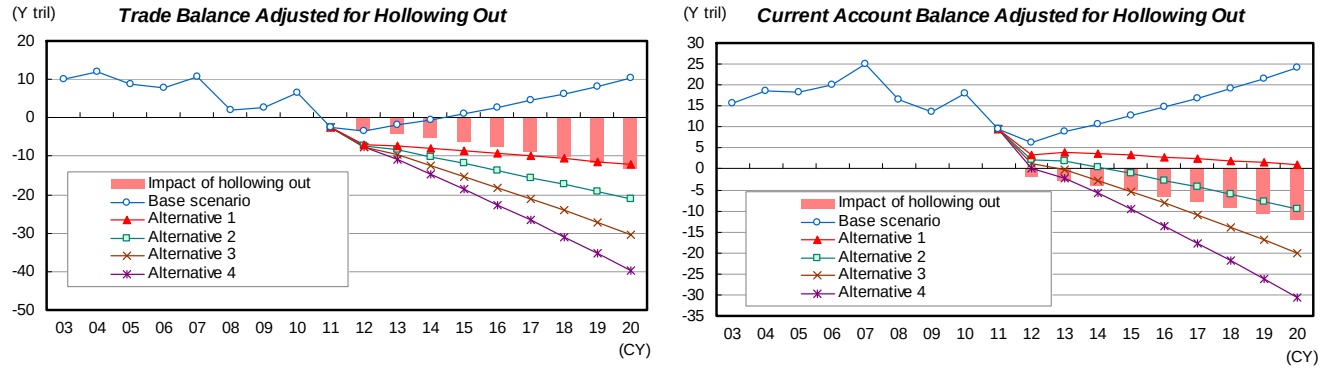
Will Japan's current account balance turn negative in the future?

The fourth risk for Japan's economy is the current account balance turning negative in the future. In our previous forecast, *Japan's Economic Outlook No. 173*, we undertook a quantitative simulation of Japan's current account balance over the medium to long term.

In our base scenario, Japan will maintain a current account surplus of around Y24 trillion in 2020. In the case of a risk scenario where yen appreciation, higher crude oil prices, and a worsening of the world economy occur simultaneously, Japan's current account balance will not readily turn negative unless these changes are quite dramatic.

However, as indicated in Chart 40, should manufacturers accelerate their shift to offshore production and should this give way to a "bad" hollowing out of the economy, the possibility will increase of Japan's current account balance turning negative in the future. Japan's policy authorities will therefore need to bear in mind the potential for dramatic changes in the economic environment in the future and will need to implement appropriate policies, centering on supply-side economic policies and the restoration of public finances to health.

Simulation Results of Trade and Current Account Balances Adjusted for Hollowing Out **Chart 40**



Source: Compiled by DIR based on various statistics.
Note: Scenarios 1 to 4 adjusted for impact of hollowing out, which is estimated by DIR and warrants some latitude.

Major Assumptions

		Base scenario	Alternative scenarios			
			1	2	3	4
Y/$	Apr-Jun 2012	Y80/$	Flat from base scenario			
	Oct-Dec 2020	Y80/$	Y75/$	Y70/$	Y65/$	Y60/$
WTI futures	Apr-Jun 2012	$100/bbl	Flat from base scenario			
	Oct-Dec 2020	$100/bbl	$125/bbl	$150/bbl	$175/bbl	$200/bbl
Global economic growth (trade weighted)		Based on IMF *World Economic Outlook*	Down 0.5% pt	Down 1.0% pt	Down 1.5% pt	Down 2.0% pt
			from base scenario			
Return on investment		Flat from 2011	Down 0.5% pt	Down 1.0% pt	Down 1.5% pt	Down 2.0% pt
			from base scenario			

5. Supplement: Alternative scenarios

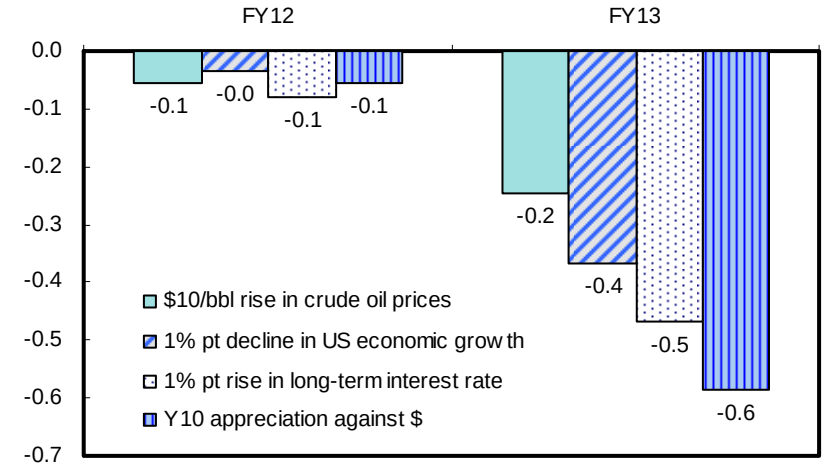
Here, we estimate likely economic effects from changes in our assumptions. The assumptions and effects of alternative scenarios are shown in the two charts below. We assumed alternative scenarios would emerge from Oct-Dec 2012.

Standard and Alternative Scenario Assumptions **Chart 41**

	Standard		Alternative (in each quarter in both years)
Case 1: Forex rate	Y79.3/$ in FY12 and Y79.0/$ in FY13	→	Y10 appreciation against $
Case 2: Crude oil prices (WTI futures)	$94.6/bbl in FY12 and $95.0/bbl in FY13		$10/bbl rise
Case 3: US economic growth	+2.2% in CY12 and +2.1% in CY13		1% pt decline
Case 4: Long-term interest rate	0.85% in FY12 and 1.08% in FY13		1% pt rise

Source: Compiled by DIR.

Effects on Real GDP
(percentage-point change from standard scenario) **Chart 42**



Source: Compiled by DIR.

Case 1: Yen appreciation

Appreciation of the yen could result in a decline in exports via weakened price competitiveness, which in turn would curb the production of export industries (electrical machinery, transportation equipment) and operations of related non-manufacturing industries (transportation, electric utilities, commerce), resulting in lower sales and profits, reducing cash flow and depressing the expected economic growth rate. Thus, capex would be restricted. Meanwhile, lower import prices (reflecting a stronger yen) would reduce general domestic prices, meaning lower prices of corporate and consumer goods. Thus, although the real purchasing power of households would increase, a stronger yen could adversely affect consumption because the decline in corporate profits could impact households through deterioration in the employment and income environment. However, considering the long time lag before effects on consumption are felt, the likely impact within our simulation period would be minimal. If the yen appreciates as indicated in our alternative scenario, real GDP is forecast to shrink 0.1 and 0.6 points in FY12 and FY13, respectively, compared to our standard scenario.

Case 2: Surge in crude oil prices

If crude oil prices rise by $10/bbl above our standard scenario, real GDP is forecast to shrink 0.1 and 0.2 points in FY12 and FY13, respectively, compared to our standard scenario.

Higher crude oil prices would increase the import deflator, which would increase nominal import value, a drag on net export value. This would lower nominal GDP. At the same time, higher oil prices would increase energy prices and push up the prices of final goods through higher material prices. This would lower the real purchasing power of the household sector and depress personal spending.

Higher material costs would lower corporate profits, leading to a slowdown in capex. Weakened business sentiment would negatively affect capex the following year. Meanwhile, lower corporate profits would worsen employment and income conditions, dampening consumer sentiment. This would also depress personal spending.

Case 3: Slowdown in US economic growth

If the US economy shrinks 1 point from our standard scenario, Japan's real GDP would shrink 0.0 and 0.4 points in FY12 and FY13, respectively, compared to our standard scenario.

A slowdown in the US economy would directly and indirectly reduce exports from Japan. Japan ships a substantial portion of its production to Asian trading partners, where imported parts/devices are assembled for export, centering on the US. Accordingly, a US economic slowdown would adversely affect exports to the US from Asia and production for export in Asia, which would in turn dampen exports to Asian trading partners from Japan. As a result, Japan's exports as a whole would lose considerable momentum, which would curb industrial production and capex in Japan. By the time such adverse effects of a US economic slowdown were felt in Japan, imports would have also declined.

Case 4: Higher interest rates

If long-term interest rates rise 1 point above our standard scenario, real GDP would contract 0.1 and 0.5 points in FY12 and FY13, respectively, compared to our standard scenario. Increased fund-raising costs due to higher interest rates would curb capex and housing investment. Such an adverse impact would accelerate once it took hold.

The direct impact on companies and households would depend on the amount of net interest-bearing liabilities. In the case of households, interest-bearing assets have exceeded interest-bearing liabilities. Consequently, higher interest rates would likely mean an increase in household income, which in turn would increase household consumption, assuming the propensity to consume remains unchanged.

As in the other cases, we did not allow for changes in the external environment when estimating the impact of higher interest rates. Interest rates do not usually rise independently, but increase in response to economic recovery or a shift to a positive economic outlook. In such instances, the expected rate of inflation also increases, which restricts the rise of real interest rates. As a result, the marginal return on investment (difference between return on investment and real interest rates) remains unchanged, which is not particularly negative for capex. It is therefore possible that our simulation overemphasizes the adverse effects of higher interest rates.

However, increases in long-term interest rates due to worsening of the fiscal balance (owing to economic stimulus measures and other fiscal commitments to spending) translate into crowding out of capex and housing investment. Thus, the impact of higher interest rates on the economy would likely be similar to that of our simulation.

Simulation Results — Chart 43

	Standard Scenario		Case 1 Y10 appreciation against $				Case 2 $10/bbl rise in crude oil prices			
	FY12	FY13	FY12		FY13		FY12		FY13	
Nominal GDP (Y/y %)	1.3	1.2	1.4	(0.0)	0.8	(-0.4)	1.2	(-0.2)	0.7	(-0.5)
Real GDP (Chained [2005]; y/y %)	**2.2**	**1.4**	**2.1**	**(-0.1)**	**0.9**	**(-0.6)**	**2.1**	**(-0.1)**	**1.2**	**(-0.2)**
GDP deflator (Y/y %)	-0.8	-0.3	-0.8	(0.1)	-0.1	(0.2)	-1.0	(-0.1)	-0.5	(-0.3)
All-industry Activity Index (Y/y %)	0.5	0.9	0.5	(-0.0)	0.6	(-0.3)	0.5	(-0.0)	0.8	(-0.1)
Industrial Production Index (Y/y %)	2.1	3.3	2.0	(-0.1)	2.2	(-1.1)	2.0	(-0.1)	3.1	(-0.3)
Tertiary Industry Activity Index (Y/y %)	0.4	0.4	0.5	(0.0)	0.2	(-0.2)	0.4	(-0.0)	0.2	(-0.2)
Corporate Goods Price Index (Y/y %)	-0.4	0.3	-0.5	(-0.1)	0.1	(-0.2)	-0.4	(0.0)	0.4	(0.0)
Consumer Price Index (Y/y %)	0.0	0.2	0.0	(-0.0)	0.1	(-0.1)	0.0	(0.0)	0.3	(0.0)
Unemployment rate (%)	4.3	4.1	4.3	(0.0)	4.2	(0.1)	4.3	(0.0)	4.1	(0.0)
Trade balance (Y tril)	-4.2	-3.1	-4.1	(0.1)	-3.4	(-0.3)	-4.5	(-0.4)	-3.8	(-0.8)
Current balance (US$100 mil)	766.6	921.8	768.8	(0.2)	922.4	(0.1)	762.5	(-0.5)	911.6	(-1.0)
Current balance (Y tril)	6.1	7.3	6.1	(0.0)	7.3	(0.0)	6.0	(-0.1)	7.1	(-0.2)
Real GDP components (Chained [2005]; y/y %)										
Private consumption	1.5	0.8	1.5	(0.0)	0.6	(-0.1)	1.4	(-0.0)	0.6	(-0.2)
Private housing investment	1.9	6.4	2.0	(0.0)	6.5	(0.1)	1.9	(-0.0)	6.3	(-0.1)
Private non-housing investment	4.0	2.3	4.0	(-0.1)	1.0	(-1.3)	3.7	(-0.3)	1.0	(-1.3)
Government final consumption	1.6	0.9	1.6	(-0.0)	0.8	(-0.1)	1.7	(0.1)	1.1	(0.2)
Public fixed investment	6.6	-1.8	6.6	(0.0)	-1.7	(0.0)	6.6	(-0.0)	-1.8	(-0.1)
Exports of goods and services	5.0	3.8	4.6	(-0.4)	1.6	(-2.1)	5.0	(0.0)	3.8	(0.0)
Imports of goods and services	5.8	3.1	5.6	(-0.1)	2.1	(-1.0)	5.6	(-0.1)	2.0	(-1.0)

	Case 3 1% pt decline in US economy				Case 4 1% pt rise in 10-yr JGB yield				(Reference) Y5 depreciation and $10/bbl rise in crude oil prices			
	FY12		FY13		FY12		FY13		FY12		FY13	
Nominal GDP (Y/y %)	1.3	(-0.0)	0.8	(-0.3)	1.3	(-0.1)	0.8	(-0.4)	1.2	(-0.2)	0.9	(-0.3)
Real GDP (Chained [2005]; y/y %)	**2.2**	**(-0.0)**	**1.1**	**(-0.4)**	**2.1**	**(-0.1)**	**1.0**	**(-0.5)**	**2.2**	**(-0.0)**	**1.5**	**(0.0)**
GDP deflator (Y/y %)	-0.8	(0.0)	-0.2	(0.0)	-0.8	(0.0)	-0.2	(0.1)	-1.0	(-0.1)	-0.6	(-0.4)
All-industry Activity Index (Y/y %)	0.5	(-0.0)	0.7	(-0.2)	0.5	(-0.0)	0.8	(-0.1)	0.5	(-0.0)	1.0	(0.0)
Industrial Production Index (Y/y %)	2.0	(-0.1)	2.7	(-0.6)	2.0	(-0.1)	2.5	(-0.8)	2.1	(-0.0)	3.6	(0.3)
Tertiary Industry Activity Index (Y/y %)	0.4	(-0.0)	0.2	(-0.1)	0.5	(0.0)	0.3	(-0.0)	0.4	(-0.0)	0.3	(-0.1)
Corporate Goods Price Index (Y/y %)	-0.4	(-0.0)	0.3	(-0.1)	-0.4	(-0.0)	0.3	(-0.0)	-0.4	(0.0)	0.5	(0.1)
Consumer Price Index (Y/y %)	0.0	(-0.0)	0.2	(-0.0)	0.0	(-0.0)	0.2	(-0.0)	0.1	(0.0)	0.3	(0.1)
Unemployment rate (%)	4.3	(0.0)	4.1	(0.0)	4.3	(0.0)	4.1	(0.0)	4.3	(0.0)	4.1	(-0.0)
Trade balance (Y tril)	-4.2	(-0.0)	-3.3	(-0.2)	-4.1	(0.1)	-2.5	(0.5)	-4.6	(-0.4)	-3.6	(-0.6)
Current balance (US$100 mil)	766.3	(-0.0)	920.1	(-0.2)	767.7	(0.1)	929.1	(0.7)	761.4	(-0.6)	911.3	(-1.0)
Current balance (Y tril)	6.1	(-0.0)	7.3	(-0.0)	6.1	(0.0)	7.5	(0.2)	6.0	(-0.1)	7.1	(-0.2)
Real GDP components (Chained [2005]; y/y %)												
Private consumption	1.5	(-0.0)	0.6	(-0.1)	1.5	(0.0)	0.8	(0.1)	1.4	(-0.0)	0.6	(-0.1)
Private housing investment	1.9	(-0.0)	6.4	(-0.0)	1.8	(-0.2)	5.1	(-1.2)	1.9	(-0.0)	6.2	(-0.2)
Private non-housing investment	3.9	(-0.1)	1.2	(-1.1)	3.5	(-0.5)	-0.6	(-2.9)	3.8	(-0.2)	1.7	(-0.6)
Government final consumption	1.6	(-0.0)	0.9	(-0.0)	1.6	(-0.0)	0.9	(-0.1)	1.7	(0.1)	1.1	(0.2)
Public fixed investment	6.6	(-0.0)	-1.8	(-0.1)	6.6	(-0.0)	-1.8	(-0.1)	6.6	(-0.0)	-1.8	(-0.1)
Exports of goods and services	4.8	(-0.1)	2.7	(-1.1)	5.0	(0.0)	3.8	(0.0)	5.2	(0.2)	4.9	(1.1)
Imports of goods and services	5.7	(-0.1)	2.0	(-1.0)	5.5	(-0.2)	1.8	(-1.3)	5.7	(-0.1)	2.5	(-0.5)

Source: Compiled by DIR.
Note: Figures in parentheses indicate changes from those under standard scenario. Due to rounding, they do not necessarily conform to calculations based on figures shown

6. Quarterly Forecast Tables

1.1 Selected Economic Indicators

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
Nominal GDP (SAAR; Y tril)	483.2	483.9	481.1	469.8	463.3	470.8	469.5	476.1	479.4	470.0	481.8	468.2
Q/q %	0.8	0.1	-0.6	-2.4	-1.4	1.6	-0.3	1.4				
Q/q %, SAAR	3.4	0.6	-2.3	-9.1	-5.4	6.6	-1.0	5.7				
Y/y %	2.2	3.4	1.1	-2.1	-4.1	-2.7	-2.4	1.5	1.2	-2.0	2.3	-2.8
Real GDP (chained [2005]; SAAR; Y tril)	511.4	515.3	515.4	505.1	502.7	511.8	512.2	519.1	511.7	511.5	511.8	507.9
Q/q %	1.3	0.8	0.0	-2.0	-0.5	1.8	0.1	1.3				
Q/q %, SAAR	5.5	3.1	0.0	-7.7	-1.9	7.4	0.3	5.5				
Y/y %	4.5	5.6	3.2	-0.0	-1.8	-0.6	-0.7	2.9	3.3	-0.0	4.5	-0.8
Contribution to GDP growth (% pt)												
Domestic demand	1.2	0.9	0.1	-1.7	0.4	1.1	0.8	1.2	2.5	1.0	2.8	0.1
Foreign demand	0.2	-0.1	-0.1	-0.3	-0.9	0.7	-0.7	0.1	0.8	-1.0	1.7	-0.9
GDP deflator (y/y %)	-2.2	-2.1	-2.0	-2.0	-2.4	-2.1	-1.8	-1.3	-2.1	-1.9	-2.2	-2.1
Index of All-Industry Activity (2005=100)	95.9	96.6	96.4	95.1	94.2	96.2	96.7	96.6	95.8	96.0	96.0	95.4
Q/q %; y/y %	0.8	0.8	-0.2	-1.3	-1.0	2.2	0.6	-0.1	2.1	0.2	3.2	-0.5
Index of Industrial Production (2005=100)	95.3	94.3	94.2	92.8	88.9	93.7	94.1	95.3	94.1	93.2	94.4	92.2
Q/q %; y/y %	0.7	-1.0	-0.1	-1.5	-4.2	5.4	0.4	1.2	9.4	-1.0	16.5	-2.4
Index of Tertiary Industry Activity (2005=100)	97.6	98.2	98.5	97.5	97.0	98.5	99.0	99.0	97.8	98.5	97.8	97.9
Q/q %; y/y %	0.5	0.6	0.3	-1.0	-0.5	1.5	0.5	0.0	1.1	0.7	1.4	0.0
Corporate Goods Price Index components (2010=100)												
Domestic Company Goods Price Index	100.2	99.9	99.9	100.9	102.0	102.1	101.0	101.2	100.2	101.6	100.0	101.5
Y/y %	0.3	-0.0	0.6	0.9	1.8	2.1	1.1	0.3	0.4	1.3	-0.1	1.5
CPI (excl. fresh food; 2010=100)	100.2	99.7	99.8	99.5	100.0	99.9	99.7	99.6	99.8	99.8	100.0	99.8
Y/y %	-1.0	-1.1	-0.8	-0.8	-0.3	0.2	-0.2	0.1	-0.9	-0.0	-1.0	-0.3
Unemployment rate (%)	5.1	5.0	5.0	4.8	4.7	4.4	4.5	4.5	5.0	4.5	5.1	4.6
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Government bond yield (10 year; %)	1.09	0.93	1.11	1.26	1.13	1.02	0.98	0.99	1.26	0.99	1.11	0.98
Money stock; M2 (y/y %)	3.0	2.8	2.6	2.4	2.8	2.8	3.0	3.0	2.7	2.9	2.8	2.7
Trade balance (SAAR; Y tril)	7.8	7.5	6.9	3.6	-4.4	-1.0	-4.7	-4.5	6.5	-3.5	8.0	-1.6
Current balance (SAAR; $100 mil)	1,800	2,064	2,181	1,694	924	1,310	870	749	1,944	964	2,038	1,197
Current balance (SAAR; Y tril)	16.6	17.7	18.0	13.9	7.5	10.2	6.7	5.9	16.7	7.6	17.9	9.6
(% of nominal GDP)	3.4	3.7	3.7	3.0	1.6	2.2	1.4	1.2	3.5	1.6	3.7	2.1
Exchange rate (Y/$)	92.0	85.8	82.5	82.3	81.7	77.8	77.3	79.3	85.7	79.0	87.8	79.8
(Y/Euro)	114.8	111.5	110.4	113.8	118.3	108.7	104.9	106.3	112.6	109.6	115.1	111.4

Source: Compiled by DIR.
Notes: 1) Quarterly figures (excl. y/y %) seasonally adjusted, other unadjusted.
2) Index of All-Industry Activity Index: excl. agriculture, forestry, and fisheries.
3) Due to rounding, figures may differ from those released by the government.

1.2 Selected Economic Indicators

	2012	2013						2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
Nominal GDP (SAAR; Y tril)	475.4	476.1	476.6	477.8	478.5	478.8	482.1	488.2	476.3	481.8	475.9	479.2
Q/q %	-0.1	0.2	0.1	0.2	0.2	0.1	0.7	1.3				
Q/q %, SAAR	-0.6	0.6	0.4	1.0	0.6	0.2	2.8	5.1				
Y/y %	2.4	1.1	1.5	0.3	0.7	0.6	1.1	2.2	1.3	1.2	1.7	0.7
Real GDP (chained [2005]; SAAR; Y tril)	520.8	522.5	523.3	525.0	526.3	527.2	530.8	537.2	522.8	530.4	521.4	527.3
Q/q %	0.3	0.3	0.2	0.3	0.3	0.2	0.7	1.2				
Q/q %, SAAR	1.4	1.3	0.7	1.3	1.0	0.6	2.8	4.9				
Y/y %	3.5	2.0	2.2	1.1	1.1	0.9	1.4	2.3	2.2	1.4	2.7	1.1
Contribution to GDP growth (% pt)												
Domestic demand	0.4	0.3	0.1	0.3	0.2	0.1	0.7	1.2	2.3	1.2	3.0	1.1
Foreign demand	-0.1	-0.0	0.0	-0.0	0.1	0.0	-0.0	-0.0	0.0	0.2	-0.4	0.0
GDP deflator (y/y %)	-1.1	-0.9	-0.7	-0.8	-0.4	-0.4	-0.3	-0.1	-0.8	-0.3	-1.0	-0.4
Index of All-Industry Activity (2005=100)	96.3	96.4	96.4	96.5	96.7	97.0	97.5	98.1	96.5	97.4	96.3	96.8
Q/q %; y/y %	-0.3	0.1	0.1	0.1	0.2	0.2	0.5	0.7	0.5	0.9	0.9	0.5
Index of Industrial Production (2005=100)	93.4	94.8	95.6	96.1	96.8	97.6	98.6	99.6	95.2	98.3	94.5	97.0
Q/q %; y/y %	-2.0	1.5	0.8	0.6	0.7	0.8	1.0	1.1	2.1	3.3	2.6	2.6
Index of Tertiary Industry Activity (2005=100)	99.1	98.8	98.7	98.7	98.8	98.9	99.2	99.8	98.9	99.3	98.8	98.8
Q/q %; y/y %	0.1	-0.3	-0.1	-0.1	0.1	0.1	0.4	0.6	0.4	0.4	0.9	-0.0
Corporate Goods Price Index components (2010=100)												
Domestic Company Goods Price Index	101.1	101.0	101.1	101.3	101.3	101.4	101.5	101.7	101.1	101.5	101.1	101.4
Y/y %	-0.8	-1.0	0.1	0.0	0.2	0.4	0.4	0.4	-0.4	0.3	-0.3	0.2
CPI (excl. fresh food; 2010=100)	99.9	99.7	99.8	99.8	100.0	100.0	100.1	100.0	99.8	100.0	99.8	100.0
Y/y %	-0.0	-0.1	0.2	0.2	0.1	0.3	0.3	0.2	0.0	0.2	0.0	0.2
Unemployment rate (%)	4.4	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.3	4.1	4.4	4.2
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Government bond yield (10 year; %)	0.83	0.80	0.85	0.92	0.97	1.00	1.15	1.20	0.85	1.08	0.87	1.01
Money stock; M2 (y/y %)	2.3	2.4	2.1	1.7	1.3	1.2	1.5	1.7	2.1	1.4	2.5	1.4
Trade balance (SAAR; Y tril)	-4.7	-4.2	-3.9	-3.7	-3.3	-3.1	-2.8	-2.8	-4.2	-3.1	-4.3	-3.2
Current balance (SAAR; $100 mil)	671	748	809	831	887	912	939	941	767	922	740	887
Current balance (SAAR; Y tril)	5.4	5.9	6.4	6.6	7.0	7.2	7.4	7.4	6.1	7.3	5.9	7.0
(% of nominal GDP)	1.1	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.3	1.5	1.2	1.5
Exchange rate (Y/$)	80.1	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.3	79.0	79.3	79.0
(Y/Euro)	101.2	97.0	97.0	97.0	97.0	97.0	97.0	97.0	98.1	97.0	100.4	97.0

Source: Compiled by DIR.
Notes: 1) Quarterly figures (excl. y/y %) seasonally adjusted, other unadjusted.
2) Index of All-Industry Activity Index: excl. agriculture, forestry, and fisheries.
3) Due to rounding, figures may differ from those released by the government.
E: DIR estimate.

2.1 Real Gross Domestic Expenditure (chained [2005]; Y tril)

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
Gross domestic expenditure	511.4	515.3	515.4	505.1	502.7	511.8	512.2	519.1	511.7	511.5	511.8	507.9
Q/q %, SAAR	5.5	3.1	0.0	-7.7	-1.9	7.4	0.3	5.5				
Y/y %	4.5	5.6	3.2	-0.0	-1.8	-0.6	-0.7	2.9	3.3	-0.0	4.5	-0.8
Domestic demand	493.8	498.1	498.6	490.0	492.2	497.7	501.9	507.7	495.1	500.0	494.6	495.4
Q/q %, SAAR	4.9	3.5	0.4	-6.7	1.8	4.6	3.4	4.7				
Y/y %	2.8	4.3	2.8	0.4	-0.4	0.1	0.6	3.7	2.6	1.0	2.8	0.2
Private demand	374.9	378.8	379.2	371.3	371.2	376.7	380.7	384.8	376.1	378.5	375.5	375.0
Q/q %, SAAR	6.5	4.2	0.4	-8.1	-0.1	6.1	4.3	4.3				
Y/y %	2.9	5.2	3.7	0.7	-1.1	-0.4	0.3	3.8	3.1	0.6	3.1	-0.1
Final consumption	299.3	300.7	301.5	296.9	298.5	301.9	304.1	307.8	299.7	303.2	300.0	300.4
Q/q %, SAAR	1.2	2.0	1.0	-5.9	2.2	4.6	3.0	5.0				
Y/y %	2.3	2.9	1.6	-0.5	-0.3	0.5	0.9	3.7	1.6	1.2	2.6	0.1
Residential investment	12.2	12.3	12.8	13.0	12.7	13.3	13.3	13.1	12.6	13.1	12.4	13.1
Q/q %, SAAR	3.6	1.0	20.0	6.8	-11.4	20.7	0.5	-6.3				
Y/y %	-6.9	1.3	9.0	7.5	3.6	8.3	3.4	-0.0	2.6	3.8	-4.2	5.7
Non-residential investment	65.0	65.8	64.7	64.7	64.1	64.2	67.8	66.7	65.0	65.7	64.4	65.2
Q/q %, SAAR	19.9	4.4	-6.2	-0.2	-3.7	1.1	23.9	-6.2				
Y/y %	3.2	5.2	3.5	3.8	-1.4	-2.3	4.8	3.0	3.9	1.1	0.8	1.3
Change in inventories	-1.6	0.0	0.2	-3.3	-4.1	-2.6	-4.4	-2.8	-1.2	-3.5	-1.3	-3.6
Public demand	118.9	119.3	119.4	118.7	121.0	121.0	121.2	122.9	119.0	121.5	119.2	120.4
Q/q %, SAAR	0.2	1.5	0.3	-2.3	7.8	0.1	0.6	5.9				
Y/y %	2.3	1.7	0.2	-0.6	1.9	1.6	1.3	3.6	0.8	2.1	1.9	1.0
Government final consumption	97.7	98.1	98.5	98.8	99.4	99.7	100.1	101.1	98.3	100.1	97.6	99.5
Q/q %, SAAR	6.9	1.4	1.8	1.2	2.7	1.0	1.6	4.1				
Y/y %	3.0	2.1	2.0	2.7	1.8	1.7	1.6	2.3	2.5	1.9	2.2	2.0
Fixed investment	21.2	21.4	21.0	20.0	21.5	21.3	21.1	21.8	20.8	21.4	21.6	20.9
Q/q %, SAAR	-23.4	3.9	-8.6	-16.5	32.9	-4.3	-3.9	15.2				
Y/y %	-1.9	0.1	-6.7	-12.1	2.1	-0.1	-0.2	8.8	-6.0	2.9	0.9	-3.5
Change in inventories	-0.1	-0.2	-0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.0
Net exports of goods and services	17.6	17.2	16.8	15.5	10.6	14.4	10.6	11.8	16.8	11.9	17.0	12.8
Exports of goods and services	83.1	84.1	83.9	83.6	78.7	84.9	81.8	84.6	83.7	82.5	82.4	82.3
Q/q %, SAAR	27.2	4.7	-0.8	-1.4	-21.3	35.3	-13.8	14.3				
Y/y %	30.6	21.5	13.5	6.8	-5.2	1.0	-2.5	1.0	17.4	-1.4	24.3	-0.1
Imports of goods and services	65.5	66.9	67.1	68.1	68.2	70.5	71.2	72.7	66.9	70.6	65.4	69.5
Q/q %, SAAR	25.1	8.4	1.7	6.0	0.2	14.3	4.0	9.1				
Y/y %	15.9	12.8	10.9	9.8	4.1	5.6	5.9	6.7	12.2	5.6	11.2	6.3
Residual	0.1	0.0	0.0	-0.4	-0.0	-0.4	-0.3	-0.4	-0.1	-0.3	0.1	-0.3

Source: Compiled by DIR.
Notes: 1) Subtotals by demand (domestic demand, private demand, and public demand) are simple aggregates of respective components, which differ from figures released by the government.
2) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

2.2 Real Gross Domestic Expenditure (chained [2005]; Y tril)

	2012	2013						2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
Gross domestic expenditure	520.8	522.5	523.3	525.0	526.3	527.2	530.8	537.2	522.8	530.4	521.4	527.3
Q/q %, SAAR	1.4	1.3	0.7	1.3	1.0	0.6	2.8	4.9				
Y/y %	3.5	2.0	2.2	1.1	1.1	0.9	1.4	2.3	2.2	1.4	2.7	1.1
Domestic demand	509.7	511.3	512.0	513.6	514.4	515.0	518.4	524.7	511.8	518.1	510.2	515.4
Q/q %, SAAR	1.6	1.2	0.6	1.2	0.7	0.4	2.7	4.9				
Y/y %	3.5	2.6	2.1	1.3	0.9	0.8	1.2	2.1	2.4	1.2	3.0	1.0
Private demand	386.1	387.0	387.2	388.4	389.1	389.7	393.1	399.8	387.2	393.0	386.2	390.1
Q/q %, SAAR	1.4	0.9	0.3	1.2	0.7	0.6	3.6	7.0				
Y/y %	3.9	2.7	1.7	1.0	0.8	0.7	1.5	3.0	2.3	1.5	3.0	1.0
Final consumption	308.2	308.4	307.0	307.0	307.0	307.3	309.8	315.7	307.7	310.0	307.9	307.8
Q/q %, SAAR	0.6	0.2	-1.8	0.0	0.0	0.4	3.2	7.8				
Y/y %	3.2	2.1	1.0	-0.3	-0.4	-0.3	0.9	2.8	1.5	0.8	2.5	-0.0
Residential investment	13.2	13.2	13.4	13.5	13.7	14.0	14.4	14.6	13.3	14.2	13.2	13.9
Q/q %, SAAR	3.4	1.6	4.1	4.9	5.3	8.7	13.4	4.1				
Y/y %	4.3	-0.3	0.6	3.6	3.9	5.7	8.0	7.8	1.9	6.4	1.1	5.4
Non-residential investment	67.7	68.1	68.5	68.9	69.1	69.5	70.1	70.9	68.4	70.0	67.7	69.4
Q/q %, SAAR	6.3	2.4	2.4	2.0	1.2	2.4	3.6	4.5				
Y/y %	5.9	6.1	1.1	3.3	1.9	2.0	2.3	2.9	4.0	2.3	3.9	2.4
Change in inventories	-3.0	-2.8	-1.7	-1.0	-0.7	-1.1	-1.2	-1.3	-2.2	-1.1	-2.6	-1.0
Public demand	123.6	124.3	124.8	125.2	125.3	125.3	125.3	124.8	124.6	125.1	123.9	125.3
Q/q %, SAAR	2.3	2.2	1.5	1.2	0.5	-0.2	-0.1	-1.4				
Y/y %	2.3	2.6	3.2	2.0	1.2	0.8	0.3	-0.5	2.5	0.4	2.9	1.1
Government final consumption	101.4	101.6	101.8	102.0	102.2	102.5	102.8	103.0	101.7	102.7	101.5	102.4
Q/q %, SAAR	1.2	0.8	0.8	0.8	0.8	1.2	1.2	0.8				
Y/y %	2.0	1.9	1.7	0.9	0.8	0.9	1.0	1.0	1.6	0.9	2.0	0.9
Fixed investment	22.2	22.7	23.0	23.1	23.1	22.7	22.4	21.8	22.8	22.4	22.4	22.8
Q/q %, SAAR	7.2	8.9	4.9	3.3	-0.8	-6.1	-5.6	-10.9				
Y/y %	3.9	6.3	9.4	6.1	3.7	0.4	-2.6	-5.9	6.6	-1.8	7.4	1.8
Change in inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net exports of goods and services	11.7	11.8	12.0	12.0	12.5	12.8	13.0	13.1	11.9	12.9	11.8	12.6
Exports of goods and services	85.6	86.3	87.0	87.5	88.3	89.2	90.4	91.7	86.6	89.9	85.9	88.9
Q/q %, SAAR	4.8	3.6	2.8	2.4	4.1	4.1	5.3	5.7				
Y/y %	8.8	1.7	6.3	3.5	3.2	3.3	4.0	4.7	5.0	3.8	4.4	3.5
Imports of goods and services	73.9	74.6	75.0	75.4	75.8	76.4	77.4	78.5	74.7	77.0	74.0	76.3
Q/q %, SAAR	6.4	3.6	2.4	2.4	2.0	3.2	4.9	6.1				
Y/y %	8.4	5.7	5.4	3.8	2.6	2.6	3.1	4.0	5.8	3.1	6.5	3.0
Residual	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.9	-0.7	-0.6	-0.7

Source: Compiled by DIR.
Notes: 1) Subtotals by demand (domestic demand, private demand, and public demand) are simple aggregates of respective components, which differ from figures released by the government.
2) Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.
E: DIR estimate.

3.1 Nominal Gross Domestic Expenditure (Y tril)

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
Gross domestic expenditure	483.2	483.9	481.1	469.8	463.3	470.8	469.5	476.1	479.4	470.0	481.8	468.2
Q/q %, SAAR	3.4	0.6	-2.3	-9.1	-5.4	6.6	-1.0	5.7				
Y/y %	2.2	3.4	1.1	-2.1	-4.1	-2.7	-2.4	1.5	1.2	-2.0	2.3	-2.8
Domestic demand	476.9	478.2	476.4	469.3	469.7	474.5	477.1	483.9	475.1	476.4	476.0	472.5
Q/q %, SAAR	3.4	1.1	-1.5	-5.8	0.3	4.2	2.2	5.8				
Y/y %	1.4	2.9	1.3	-0.8	-1.5	-0.7	0.0	3.3	1.2	0.3	1.4	-0.7
Private demand	359.5	360.5	359.4	352.4	350.5	355.3	358.3	363.1	357.9	356.9	358.5	354.1
Q/q %, SAAR	5.4	1.1	-1.1	-7.6	-2.1	5.6	3.4	5.5				
Y/y %	1.3	3.3	2.1	-0.7	-2.5	-1.3	-0.4	3.2	1.5	-0.3	1.4	-1.2
Final consumption	285.9	285.3	284.8	280.7	281.1	284.0	285.1	289.3	284.2	285.0	285.4	282.8
Q/q %, SAAR	0.1	-0.9	-0.7	-5.7	0.6	4.2	1.6	6.0				
Y/y %	0.7	0.9	0.1	-1.8	-1.7	-0.4	0.1	3.2	-0.0	0.3	0.9	-0.9
Residential investment	12.6	12.6	13.2	13.5	13.2	13.8	13.8	13.5	13.0	13.6	12.7	13.6
Q/q %, SAAR	3.5	1.5	20.5	8.6	-10.3	20.7	-1.0	-6.7				
Y/y %	-7.5	1.5	9.6	8.2	4.6	9.2	3.7	-0.2	2.8	4.3	-4.7	6.4
Non-residential investment	62.5	62.8	61.6	61.4	60.6	60.7	64.0	63.0	62.0	62.1	61.7	61.7
Q/q %, SAAR	16.3	1.7	-7.7	-1.1	-4.9	0.8	23.3	-6.2				
Y/y %	1.4	3.5	1.7	1.7	-2.9	-3.3	4.0	2.5	2.1	0.1	-1.0	-0.1
Change in inventories	-1.6	-0.3	-0.2	-3.2	-4.4	-3.3	-4.6	-2.7	-1.3	-3.7	-1.5	-3.9
Public demand	117.4	117.7	117.0	117.0	119.2	119.2	118.8	120.7	117.2	119.5	117.5	118.4
Q/q %, SAAR	-2.4	1.1	-2.5	-0.0	7.7	0.1	-1.2	6.5				
Y/y %	1.7	1.5	-1.1	-1.3	1.5	1.6	1.2	3.7	0.1	2.0	1.3	0.7
Government final consumption	95.6	95.8	95.4	96.3	96.8	96.9	96.9	98.1	95.8	97.2	95.3	96.7
Q/q %, SAAR	3.9	1.1	-1.7	3.9	1.9	0.5	-0.2	5.1				
Y/y %	2.3	2.0	0.3	2.1	1.2	1.4	1.2	2.1	1.6	1.5	1.6	1.4
Fixed investment	21.9	22.1	21.6	20.7	22.3	22.2	21.9	22.6	21.4	22.2	22.3	21.7
Q/q %, SAAR	-24.2	3.5	-8.0	-15.9	35.6	-2.4	-4.6	13.1				
Y/y %	-2.3	-0.0	-6.7	-12.0	2.8	1.1	0.8	9.3	-6.1	3.7	0.3	-2.8
Change in inventories	-0.0	-0.2	-0.1	-0.0	0.0	0.1	0.0	0.0	-0.1	0.0	-0.1	0.0
Net exports of goods and services	6.3	5.7	4.7	0.4	-6.3	-3.8	-7.6	-7.8	4.3	-6.4	5.8	-4.3
Exports of goods and services	75.0	73.4	73.3	73.4	68.9	73.3	69.6	71.9	73.8	70.9	73.2	71.3
Q/q %, SAAR	23.9	-8.0	-0.7	0.6	-22.4	27.7	-18.7	14.2				
Y/y %	30.6	17.2	9.6	3.5	-8.1	-0.4	-5.2	-2.0	14.4	-3.9	22.3	-2.6
Imports of goods and services	68.7	67.7	68.6	73.0	75.2	77.0	77.2	79.7	69.5	77.3	67.4	75.6
Q/q %, SAAR	26.1	-5.5	5.3	28.2	12.8	9.8	0.8	13.9				
Y/y %	24.8	13.6	11.6	13.0	9.7	13.6	12.1	9.5	15.5	11.2	16.1	12.1

Source: Compiled by DIR.
Note: Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

3.2 Nominal Gross Domestic Expenditure (Y tril)

	2012	2013						2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
Gross domestic expenditure	475.4	476.1	476.6	477.8	478.5	478.8	482.1	488.2	476.3	481.8	475.9	479.2
Q/q %, SAAR	-0.6	0.6	0.4	1.0	0.6	0.2	2.8	5.1				
Y/y %	2.4	1.1	1.5	0.3	0.7	0.6	1.1	2.2	1.3	1.2	1.7	0.7
Domestic demand	483.3	484.0	484.4	485.6	486.0	486.1	489.4	495.5	484.3	489.2	483.8	486.7
Q/q %, SAAR	-0.5	0.6	0.3	1.0	0.3	0.1	2.7	5.1				
Y/y %	2.8	1.9	1.6	0.4	0.5	0.4	0.9	2.1	1.7	1.0	2.4	0.6
Private demand	362.5	362.5	362.3	362.9	363.0	363.0	366.0	372.4	362.5	366.1	362.5	363.7
Q/q %, SAAR	-0.7	-0.0	-0.2	0.7	0.1	0.0	3.4	7.1				
Y/y %	3.3	2.0	1.1	-0.0	0.1	0.2	1.0	2.7	1.6	1.0	2.4	0.3
Final consumption	288.4	287.7	285.7	285.0	284.3	284.0	286.0	291.4	286.6	286.4	287.8	284.8
Q/q %, SAAR	-1.2	-1.0	-2.8	-1.0	-1.0	-0.4	2.8	7.8				
Y/y %	2.5	1.3	0.2	-1.5	-1.4	-1.3	0.1	2.3	0.6	-0.1	1.8	-1.0
Residential investment	13.6	13.7	13.8	14.0	14.2	14.5	15.0	15.1	13.8	14.7	13.7	14.4
Q/q %, SAAR	3.1	1.6	4.3	5.1	5.5	9.1	13.9	4.7				
Y/y %	3.7	-0.9	0.5	3.6	4.0	6.0	8.3	8.2	1.6	6.7	0.7	5.6
Non-residential investment	64.0	64.4	64.8	65.1	65.3	65.8	66.5	67.3	64.6	66.3	64.0	65.7
Q/q %, SAAR	6.5	2.4	2.4	2.2	1.4	2.8	4.1	5.3				
Y/y %	5.7	6.0	1.1	3.4	2.0	2.2	2.6	3.4	4.0	2.6	3.8	2.6
Change in inventories	-3.5	-3.2	-2.0	-1.2	-0.8	-1.3	-1.4	-1.5	-2.5	-1.3	-2.9	-1.2
Public demand	120.7	121.5	122.1	122.7	123.0	123.1	123.3	123.1	121.8	123.1	121.3	123.0
Q/q %, SAAR	0.0	2.5	2.0	1.8	1.1	0.4	0.7	-0.6				
Y/y %	1.2	1.8	3.0	1.7	1.7	1.4	0.9	0.2	2.0	1.0	2.4	1.4
Government final consumption	97.7	97.9	98.2	98.5	98.8	99.3	99.8	100.2	98.0	99.5	98.0	99.1
Q/q %, SAAR	-1.8	1.0	1.2	1.2	1.4	1.8	2.0	1.6				
Y/y %	0.8	0.9	1.5	0.3	1.3	1.5	1.5	1.8	0.9	1.5	1.3	1.1
Fixed investment	23.0	23.6	23.9	24.1	24.1	23.8	23.5	22.9	23.7	23.5	23.3	23.9
Q/q %, SAAR	8.0	9.3	5.5	4.1	0.0	-5.2	-4.6	-9.8				
Y/y %	4.0	6.0	9.3	6.7	4.3	1.1	-1.7	-5.0	6.7	-0.9	7.5	2.6
Change in inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net exports of goods and services	-7.9	-7.9	-7.8	-7.8	-7.5	-7.4	-7.2	-7.3	-7.9	-7.4	-7.9	-7.5
Exports of goods and services	72.6	73.4	74.1	74.7	75.6	76.7	78.0	79.5	73.7	77.5	73.0	76.3
Q/q %, SAAR	4.0	4.3	3.9	3.4	5.1	5.5	7.4	7.8				
Y/y %	5.4	0.3	6.5	3.9	4.2	4.4	5.4	6.5	3.9	5.1	2.5	4.5
Imports of goods and services	80.5	81.3	81.9	82.5	83.1	84.0	85.3	86.9	81.6	84.8	80.9	83.8
Q/q %, SAAR	4.0	3.9	3.0	3.2	2.8	4.5	6.2	7.6				
Y/y %	7.0	5.6	6.3	3.4	3.2	3.4	4.1	5.3	5.5	4.0	7.0	3.5

Source: Compiled by DIR.
Note: Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.
E: DIR estimate.

4.1 Gross Domestic Expenditure, Implicit Deflators (2005=100)

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
Gross domestic expenditure	94.5	93.9	93.4	93.0	92.2	92.0	91.7	91.7	93.7	91.9	94.1	92.2
Q/q %, SAAR	-0.5	-0.6	-0.6	-0.4	-0.9	-0.2	-0.3	0.0				
Y/y %	-2.2	-2.1	-2.0	-2.0	-2.4	-2.1	-1.8	-1.3	-2.1	-1.9	-2.2	-2.1
Private final consumption	95.5	94.9	94.5	94.5	94.2	94.1	93.8	94.0	94.8	94.0	95.1	94.1
Q/q %, SAAR	-0.3	-0.7	-0.4	0.1	-0.4	-0.1	-0.3	0.2				
Y/y %	-1.5	-1.9	-1.5	-1.3	-1.4	-0.9	-0.7	-0.5	-1.5	-0.9	-1.7	-1.1
Private residential investment	103.0	103.1	103.2	103.7	104.0	104.0	103.6	103.5	103.3	103.8	103.1	103.8
Q/q %, SAAR	-0.0	0.1	0.1	0.4	0.3	0.0	-0.4	-0.1				
Y/y %	-0.6	0.3	0.5	0.6	1.0	0.8	0.3	-0.1	0.2	0.5	-0.5	0.7
Private non-residential investment	96.1	95.5	95.1	94.9	94.6	94.6	94.5	94.5	95.4	94.5	95.9	94.6
Q/q %, SAAR	-0.7	-0.7	-0.4	-0.2	-0.3	-0.1	-0.1	-0.0				
Y/y %	-1.7	-1.6	-1.7	-2.0	-1.6	-1.0	-0.7	-0.5	-1.8	-0.9	-1.8	-1.3
Government final consumption	97.8	97.7	96.9	97.5	97.3	97.2	96.8	97.0	97.4	97.1	97.6	97.1
Q/q %, SAAR	-0.7	-0.1	-0.9	0.7	-0.2	-0.1	-0.4	0.2				
Y/y %	-0.6	-0.1	-1.7	-0.6	-0.6	-0.3	-0.4	-0.2	-0.8	-0.4	-0.6	-0.5
Public fixed investment	103.0	102.9	103.1	103.3	103.8	104.3	104.1	103.6	103.1	104.0	103.1	103.8
Q/q %, SAAR	-0.3	-0.1	0.2	0.2	0.5	0.5	-0.2	-0.5				
Y/y %	-0.5	-0.1	0.0	0.2	0.8	1.1	1.0	0.5	-0.1	0.8	-0.6	0.7
Exports of goods and services	90.2	87.3	87.4	87.8	87.5	86.3	85.0	85.0	88.2	86.0	88.9	86.6
Q/q %, SAAR	-0.7	-3.2	0.0	0.5	-0.3	-1.4	-1.5	-0.0				
Y/y %	-0.1	-3.5	-3.4	-3.0	-3.0	-1.4	-2.7	-2.9	-2.5	-2.5	-1.6	-2.5
Imports of goods and services	104.8	101.3	102.2	107.1	110.4	109.3	108.4	109.6	103.9	109.4	103.1	108.7
Q/q %, SAAR	0.2	-3.4	0.9	4.9	3.0	-1.0	-0.8	1.1				
Y/y %	7.7	0.7	0.6	3.0	5.4	7.6	5.9	2.7	2.9	5.3	4.4	5.5

Source: Compiled by DIR.
Note: Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.

4.2 Gross Domestic Expenditure, Implicit Deflators (2005=100)

	2012			2013				2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
Gross domestic expenditure	91.3	91.1	91.1	91.0	90.9	90.8	90.8	90.9	91.1	90.8	91.3	90.9
Q/q %, SAAR	-0.5	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	0.1				
Y/y %	-1.1	-0.9	-0.7	-0.8	-0.4	-0.4	-0.3	-0.1	-0.8	-0.3	-1.0	-0.4
Private final consumption	93.6	93.3	93.1	92.8	92.6	92.4	92.3	92.3	93.2	92.4	93.5	92.5
Q/q %, SAAR	-0.5	-0.3	-0.2	-0.3	-0.2	-0.2	-0.1	-0.0				
Y/y %	-0.7	-0.8	-0.8	-1.3	-1.0	-1.0	-0.8	-0.5	-0.9	-0.8	-0.7	-1.0
Private residential investment	103.4	103.4	103.4	103.5	103.5	103.7	103.8	103.9	103.4	103.7	103.4	103.6
Q/q %, SAAR	-0.1	-0.0	0.1	0.0	0.0	0.1	0.1	0.2				
Y/y %	-0.5	-0.5	-0.1	0.0	0.1	0.2	0.3	0.4	-0.3	0.3	-0.3	0.2
Private non-residential investment	94.5	94.5	94.5	94.5	94.6	94.7	94.8	95.0	94.5	94.8	94.5	94.6
Q/q %, SAAR	0.0	0.0	-0.0	0.1	0.0	0.1	0.1	0.2				
Y/y %	-0.1	-0.1	0.0	0.1	0.1	0.2	0.3	0.5	-0.0	0.3	-0.2	0.2
Government final consumption	96.3	96.4	96.5	96.6	96.7	96.8	97.0	97.2	96.4	96.9	96.5	96.7
Q/q %, SAAR	-0.7	0.0	0.1	0.1	0.2	0.1	0.2	0.2				
Y/y %	-1.2	-1.0	-0.2	-0.7	0.5	0.6	0.5	0.8	-0.7	0.6	-0.6	0.2
Public fixed investment	103.8	103.9	104.1	104.3	104.5	104.8	105.0	105.3	104.1	105.0	103.9	104.6
Q/q %, SAAR	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3				
Y/y %	0.1	-0.3	-0.0	0.6	0.6	0.7	0.9	1.0	0.1	0.8	0.1	0.7
Exports of goods and services	84.8	85.0	85.2	85.4	85.6	85.9	86.3	86.8	85.1	86.2	85.0	85.8
Q/q %, SAAR	-0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.5				
Y/y %	-3.2	-1.4	0.2	0.3	1.0	1.1	1.4	1.7	-1.0	1.3	-1.8	0.9
Imports of goods and services	109.0	109.0	109.2	109.4	109.6	109.9	110.3	110.7	109.2	110.1	109.3	109.8
Q/q %, SAAR	-0.6	0.0	0.2	0.2	0.2	0.3	0.3	0.3				
Y/y %	-1.3	-0.1	0.8	-0.4	0.6	0.8	1.0	1.3	-0.2	0.9	0.5	0.5

Source: Compiled by DIR.
Note: Y/y growth rates and FY and CY figures unadjusted; other seasonally adjusted.
E: DIR estimate.

5.1 Contribution to Real GDP Growth by Component

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
1) Q/q %												
GDP growth rate	1.3	0.8	0.0	-2.0	-0.5	1.8	0.1	1.3	3.3	-0.0	4.5	-0.8
Domestic demand	1.2	0.9	0.1	-1.7	0.4	1.1	0.8	1.2	2.5	1.0	2.8	0.1
Private demand	1.2	0.8	0.1	-1.6	-0.0	1.1	0.8	0.8	2.3	0.5	2.3	-0.1
Private consumption	0.2	0.3	0.1	-0.9	0.3	0.7	0.4	0.7	0.9	0.7	1.6	0.1
Residential investment	0.0	0.0	0.1	0.0	-0.1	0.1	0.0	-0.0	0.1	0.1	-0.1	0.2
Private fixed investment	0.6	0.1	-0.2	-0.0	-0.1	0.0	0.7	-0.2	0.5	0.1	0.1	0.2
Change in private inventories	0.4	0.3	0.0	-0.7	-0.2	0.3	-0.4	0.4	0.9	-0.5	0.8	-0.5
Public demand	-0.0	0.1	0.0	-0.1	0.5	0.0	0.0	0.4	0.2	0.5	0.5	0.2
Government final consumption	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.4	0.4	0.4
Public fixed investment	-0.3	0.0	-0.1	-0.2	0.3	-0.1	-0.0	0.2	-0.3	0.1	0.0	-0.2
Change in public inventories	-0.0	-0.0	0.0	-0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0	0.0
Net exports of goods and services	0.2	-0.1	-0.1	-0.3	-0.9	0.7	-0.7	0.1	0.8	-1.0	1.7	-0.9
Exports of goods and services	0.9	0.2	-0.0	-0.1	-0.9	1.2	-0.6	0.5	2.3	-0.2	3.1	-0.0
Imports of goods and services	-0.7	-0.3	-0.1	-0.2	-0.0	-0.5	-0.1	-0.4	-1.5	-0.8	-1.4	-0.9
2) Y/y %												
GDP growth rate	4.5	5.6	3.2	-0.0	-1.8	-0.6	-0.7	2.9	3.3	-0.0	4.5	-0.8
Domestic demand	2.8	4.4	2.8	0.3	-0.4	0.0	0.5	3.7	2.5	1.0	2.8	0.1
Private demand	2.2	4.0	2.8	0.5	-0.8	-0.3	0.2	2.8	2.3	0.5	2.3	-0.1
Private consumption	1.4	1.7	0.9	-0.3	-0.2	0.3	0.5	2.2	0.9	0.7	1.6	0.1
Residential investment	-0.2	0.0	0.2	0.2	0.1	0.2	0.1	-0.0	0.1	0.1	-0.1	0.2
Private fixed investment	0.4	0.7	0.4	0.5	-0.2	-0.3	0.6	0.4	0.5	0.1	0.1	0.2
Change in private inventories	0.7	1.5	1.1	0.1	-0.6	-0.5	-1.0	0.2	0.9	-0.5	0.8	-0.5
Public demand	0.5	0.4	0.0	-0.2	0.5	0.4	0.3	1.0	0.2	0.5	0.5	0.2
Government final consumption	0.6	0.4	0.4	0.5	0.4	0.3	0.3	0.5	0.5	0.4	0.4	0.4
Public fixed investment	-0.1	0.0	-0.4	-0.7	0.1	-0.0	-0.0	0.5	-0.3	0.1	0.0	-0.2
Change in public inventories	-0.0	-0.0	-0.0	-0.0	0.0	0.1	0.0	0.0	-0.0	0.0	-0.0	0.0
Net exports of goods and services	1.8	1.3	0.5	-0.3	-1.4	-0.6	-1.2	-0.9	0.8	-1.0	1.7	-0.9
Exports of goods and services	3.7	2.9	1.9	1.0	-0.8	0.2	-0.4	0.2	2.3	-0.2	3.1	-0.0
Imports of goods and services	-1.9	-1.6	-1.4	-1.3	-0.6	-0.8	-0.8	-1.1	-1.5	-0.8	-1.4	-0.9

Source: Compiled by DIR.
Note: Q/q growth rates seasonally adjusted; y/y growth rates and FY and CY figures unadjusted.

5.2 Contribution to Real GDP Growth by Component

	2012			2013				2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
1) Q/q %												
GDP growth rate	0.3	0.3	0.2	0.3	0.3	0.2	0.7	1.2	2.2	1.4	2.7	1.1
Domestic demand	0.4	0.3	0.1	0.3	0.2	0.1	0.7	1.2	2.3	1.2	3.0	1.1
Private demand	0.3	0.2	0.0	0.2	0.1	0.1	0.7	1.3	1.7	1.1	2.3	-0.2
Private consumption	0.1	0.0	-0.3	0.0	0.0	0.1	0.5	1.1	0.9	0.4	1.5	-0.0
Residential investment	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.2
Private fixed investment	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.5	0.3	0.5	0.3
Change in private inventories	-0.0	0.0	0.2	0.1	0.1	-0.1	-0.0	-0.0	0.3	0.2	0.2	-0.6
Public demand	0.2	0.1	0.1	0.1	0.0	-0.0	-0.0	-0.1	0.6	0.1	0.8	1.3
Government final consumption	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.2	0.4	0.2
Public fixed investment	0.1	0.1	0.1	0.0	-0.0	-0.1	-0.1	-0.1	0.3	-0.1	0.3	0.1
Change in public inventories	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	1.0
Net exports of goods and services	-0.1	-0.0	0.0	-0.0	0.1	0.0	-0.0	-0.0	0.0	0.2	-0.4	0.0
Exports of goods and services	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.8	0.6	0.7	0.5
Imports of goods and services	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3	-0.8	-0.4	-1.1	-0.5
2) Y/y %												
GDP growth rate	3.5	2.0	2.2	1.1	1.1	0.9	1.4	2.3	2.2	1.4	2.7	1.1
Domestic demand	3.6	2.7	2.1	1.3	0.9	0.8	1.2	2.1	2.3	1.2	3.0	1.1
Private demand	3.0	2.0	1.3	0.8	0.6	0.6	1.2	2.3	1.7	1.1	2.3	-0.2
Private consumption	2.0	1.3	0.6	-0.2	-0.2	-0.2	0.5	1.7	0.9	0.4	1.5	-0.0
Residential investment	0.1	-0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.0	0.2	0.0	0.2
Private fixed investment	0.7	0.8	0.1	0.5	0.2	0.3	0.3	0.4	0.5	0.3	0.5	0.3
Change in private inventories	0.2	-0.0	0.5	0.3	0.5	0.3	0.1	-0.0	0.3	0.2	0.2	-0.6
Public demand	0.6	0.6	0.8	0.6	0.3	0.2	0.1	-0.2	0.6	0.1	0.8	1.3
Government final consumption	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0.2
Public fixed investment	0.1	0.3	0.5	0.3	0.1	0.0	-0.1	-0.4	0.3	-0.1	0.3	0.1
Change in public inventories	0.0	-0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	0.0	-0.0	0.0	1.0
Net exports of goods and services	-0.1	-0.7	0.1	-0.1	0.0	0.1	0.1	0.0	0.0	0.2	-0.4	0.0
Exports of goods and services	1.3	0.3	0.9	0.5	0.5	0.5	0.6	0.7	0.8	0.6	0.7	0.5
Imports of goods and services	-1.4	-0.9	-0.9	-0.6	-0.4	-0.4	-0.5	-0.7	-0.8	-0.4	-1.1	-0.5

Source: Compiled by DIR.
Note: Q/q growth rates seasonally adjusted; y/y growth rates and FY and CY figures unadjusted.
E: DIR estimate.

6.1 Major Assumptions

	2010			2011				2012	FY		CY	
	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	2010	2011	2010	2011
1) World economy												
Economic growth of major trading partners												
Y/y %	6.6	5.5	5.0	4.7	3.9	3.8	2.8	2.9	5.5	3.4	6.0	3.8
Crude oil price (WTI futures; $/bbl)	78.1	76.2	85.2	94.6	102.3	89.5	94.1	103.0	83.5	97.2	79.6	95.1
Y/y %	30.6	11.7	12.0	19.9	31.1	17.5	10.3	8.9	18.0	16.4	28.2	19.5
2) US economy												
Real GDP (chained [2005]; $ bil; SAAR)	13,020	13,104	13,181	13,184	13,265	13,307	13,441	13,506	13,122	13,380	13,063	13,299
Q/q %, SAAR	2.2	2.6	2.4	0.1	2.5	1.3	4.1	2.0				
Y/y %	2.5	2.8	2.4	1.8	1.9	1.6	2.0	2.4	2.4	2.0	2.4	1.8
Consumer Price Index												
(1982-84 avg=100)	217.3	218.0	219.6	222.1	224.5	226.2	227.0	228.3	219.2	226.5	218.1	224.9
Q/q %, SAAR	-0.3	1.4	3.0	4.5	4.4	3.1	1.3	2.5				
Y/y %	1.8	1.2	1.3	2.1	3.4	3.8	3.3	2.8	1.6	3.3	1.6	3.2
Producer Price Index												
(Finished goods; 1982=100)	178.5	179.7	183.0	187.5	190.3	192.3	193.1	194.0	181.9	192.1	179.8	190.5
Q/q %, SAAR	-0.7	2.6	7.6	10.2	6.0	4.2	1.7	1.9				
Y/y %	4.4	3.8	3.8	4.9	6.9	6.9	5.4	3.4	4.2	5.6	4.2	6.0
FF rate (%)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
(Target rate for the forecast period, end-period)												
Government bond yield (10 year; %)	3.49	2.79	2.86	3.46	3.21	2.43	2.05	2.04	3.15	2.43	3.21	2.79
3) Japanese economy												
Nominal government final consumption												
Y tril; SAAR	95.6	95.8	95.4	96.3	96.8	96.9	96.9	98.1	95.8	97.2	95.3	96.7
Q/q %, SAAR	3.9	1.1	-1.7	3.9	1.9	0.5	-0.2	5.1				
Y/y %	2.3	2.0	0.3	2.1	1.2	1.4	1.2	2.1	1.6	1.5	1.6	1.4
Nominal public fixed investment												
Y tril; SAAR	21.9	22.1	21.6	20.7	22.3	22.2	21.9	22.6	21.4	22.2	22.3	21.7
Q/q %, SAAR	-24.2	3.5	-8.0	-15.9	35.6	-2.4	-4.6	13.1				
Y/y %	-2.3	-0.0	-6.7	-12.0	2.8	1.1	0.8	9.3	-6.1	3.7	0.3	-2.8
Exchange rate (Y/$)	92.0	85.8	82.5	82.3	81.7	77.8	77.3	79.3	85.7	79.0	87.8	79.8
(Y/€)	114.8	111.5	110.4	113.8	118.3	108.7	104.9	106.3	112.6	109.6	115.1	111.4
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

Source: Compiled by DIR.
Note: Consumption tax hike in April 2014 assumed for Japan.

6.2 Major Assumptions

	2012			2013				2014	FY		CY	
	4-6	7-9 (E)	10-12 (E)	1-3 (E)	4-6 (E)	7-9 (E)	10-12 (E)	1-3 (E)	2012 (E)	2013 (E)	2012 (E)	2013 (E)
1) World economy												
Economic growth of major trading partners												
Y/y %	2.6	2.8	3.5	3.3	3.7	3.9	4.1	4.2	3.2	4.0	3.1	3.7
Crude oil price (WTI futures; $/bbl)	93.4	95.0	95.0	95.0	95.0	95.0	95.0	95.0	94.6	95.0	96.6	95.0
Y/y %	-8.8	6.1	1.0	-7.8	1.8	0.0	0.0	0.0	-2.7	0.4	1.6	-1.7
2) US economy												
Real GDP (chained [2005]; $ bil; SAAR)	13,558	13,622	13,693	13,753	13,835	13,925	14,018	14,115	13,657	13,973	13,595	13,883
Q/q %, SAAR	1.5	1.9	2.1	1.8	2.4	2.6	2.7	2.8				
Y/y %	2.2	2.4	1.9	1.8	2.0	2.2	2.4	2.6	2.1	2.3	2.2	2.1
Consumer Price Index												
(1982-84 avg=100)	228.8	229.6	230.8	232.0	233.1	234.4	235.7	237.1	230.3	235.1	229.4	233.8
Q/q %, SAAR	0.8	1.5	2.0	2.1	2.0	2.3	2.2	2.3				
Y/y %	1.9	1.5	1.7	1.6	1.9	2.1	2.1	2.2	1.7	2.1	2.0	1.9
Producer Price Index												
(Finished goods; 1982=100)	192.5	193.0	193.8	194.9	195.9	197.0	198.2	199.3	193.2	197.3	193.0	196.2
Q/q %, SAAR	-3.1	1.1	1.6	2.2	2.1	2.4	2.3	2.4				
Y/y %	1.1	0.4	0.4	0.4	1.7	2.1	2.2	2.3	0.6	2.1	1.3	1.6
FF rate (%)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
(Target rate for the forecast period, end-period)												
Government bond yield (10 year; %)	1.82	2.30	1.78	1.91	2.06	2.24	2.43	2.64	1.79	2.34	1.82	2.16
3) Japanese economy												
Nominal government final consumption												
Y tril; SAAR	97.7	97.9	98.2	98.5	98.8	99.3	99.8	100.2	98.0	99.5	98.0	99.1
Q/q %, SAAR	-1.8	1.0	1.2	1.2	1.4	1.8	2.0	1.6				
Y/y %	0.8	0.9	1.5	0.3	1.3	1.5	1.5	1.8	0.9	1.5	1.3	1.1
Nominal public fixed investment												
Y tril; SAAR	23.0	23.6	23.9	24.1	24.1	23.8	23.5	22.9	23.7	23.5	23.3	23.9
Q/q %, SAAR	8.0	9.3	5.5	4.1	0.0	-5.2	-4.6	-9.8				
Y/y %	4.0	6.0	9.3	6.7	4.3	1.1	-1.7	-5.0	6.7	-0.9	7.5	2.6
Exchange rate (Y/$)	80.1	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.3	79.0	79.3	79.0
(Y/€)	101.2	97.0	97.0	97.0	97.0	97.0	97.0	97.0	98.1	97.0	100.4	97.0
Call rate (end-period; %)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10

Source: Compiled by DIR.
Note: Consumption tax hike in April 2014 assumed for Japan.
E: DIR estimate.