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# Japan's Medium-term Economic Outlook

## – *February 2015* –

### Shaking off deflation and achieving financial reform – a race against time

Economic Research Dept.
**Tomoya Kondo**[1]
**Mikio Mizobata**[2]
**Shunsuke Kobayashi**[3]
**Miku Ishibashi**[4]

**Summary**

- **We predict that Japan's economy will grow an annualized 1.0% in real terms** over the next 10 years (2015–24), with nominal growth of 1.2%. We expect a moderate growth rate in prices, but feel that it will be difficult to achieve the BOJ's inflation target. We expect the quantitative monetary easing policy to continue, with short-term interest placed at zero.

- **We anticipate that the world economy will grow an annualized 3.3%** over the next 10 years. The apparent direction of the advanced nations differs from country to country, but it is possible that the change in the Fed's monetary policy will become increasingly influential. The collapse in the price of crude oil will effect individual countries and regions differently, but we expect this to be a factor providing upward pressure for the world economy overall.

- **Outlook for foreign exchange rates over the next 10 years.** Differences in the US and Japan monetary policies are likely to bring further downward pressure on the already weak yen. However, in around 2018 the US is expected to take a breather from its monetary tightening policy, while Japan's own monetary easing policy will likely have reached its technical limits by around the same time. As a result, the trend toward a weak yen will likely come to an end at that time.

- **As an upside risk, the end to deflation may come into view through the depreciation of the yen.** There is a possibility that the vicious cycle of worsening international competitiveness, lower wages, and a stronger yen will be replaced by a virtuous cycle of improving international competitiveness, higher wages, and a weaker yen. However, it will be a race against time due to the technical limits of Japan's monetary easing policy.

- **The goal of reducing the primary balance deficit as a percentage of nominal GDP by half from its FY10 level by FY15 is within range**, but the target of achieving a primary balance surplus by FY20 will be difficult under the current fiscal system. Public debt as a percentage of nominal GDP is foreseen to continue its steady rise.

- **Practicing restraint in the area of expenditures is essential to fiscal reconstruction.** It is especially important to keep steadily expanding social security costs under control. Reforms leading to a fiscal system that links costs and benefits and to political institutions that can eliminate conflicts of interest between the old and the young could also work as a revitalization policy promoting regional autonomy.

[1] Chapter1. "World Economy over the Next 10 Years"
[2] Chapter3. "Fiscal Reconstruction Requires Policy on Regional Revitalization and Control of Expenditures"
[3] Chapter2. "Japan's Economy Over the Next 10 Years"
[4] Chapter3. "Fiscal Reconstruction Requires Policy on Regional Revitalization and Control of Expenditures"

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# Forecast Tables

## Medium-term Outlook for Japan's Economy (as of Feb 2015)

| | Actual | | DIR estimates | | |
|---|---|---|---|---|---|
| | FY2005-09 | FY2010-14 | FY2015-24 | FY2015-19 | FY2020-24 |
| Real GDP (y/y %) | 0.2 | 1.3 | 1.0 | 1.2 | 0.8 |
| Private final consumption | 0.7 | 0.9 | 0.5 | 0.5 | 0.5 |
| Private capital investment | -0.7 | 2.9 | 1.8 | 2.6 | 1.1 |
| Private housing investment | -7.6 | 1.8 | -1.5 | -1.7 | -1.3 |
| Public fixed capital formation | -5.3 | 0.3 | 0.4 | 0.8 | 0.0 |
| Government final consumption | 1.1 | 1.4 | 1.2 | 1.0 | 1.5 |
| Export of goods and services | 3.0 | 4.8 | 3.8 | 4.3 | 3.4 |
| Import of goods and services | 0.4 | 6.0 | 2.6 | 2.4 | 2.7 |
| Nominal GDP (y/y %) | -1.1 | 0.7 | 1.2 | 1.3 | 1.1 |
| GDP deflator (y/y %) | -1.3 | -0.6 | 0.2 | 0.0 | 0.3 |
| Corporate Goods Price Index (y/y %) | 1.1 | 1.0 | 0.6 | 0.4 | 0.7 |
| Consumer Price Index (y/y %) | -0.1 | 0.6 | 1.0 | 0.9 | 1.1 |
| O/N call rate (%) | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 |
| Yield on 10-yr JGBs (%) | 1.5 | 0.8 | 0.6 | 0.4 | 0.7 |
| Exchange rate (Y/$) | 107.6 | 91.7 | 106.3 | 116.6 | 96.0 |
| Current balance (% of nominal GDP) | 3.8 | 1.5 | 1.9 | 2.4 | 1.4 |
| Nominal employee compensation (y/y %) | -0.8 | 0.6 | 1.2 | 1.0 | 1.5 |
| Unemployment rate (%) | 4.3 | 4.2 | 3.4 | 3.4 | 3.3 |
| Labor's share (ratio of employee compensation to national income) | 69.0 | 69.0 | 66.4 | 65.8 | 67.0 |
| Central & local government balance (% of nominal GDP) | -4.6 | -7.7 | -4.0 | -4.0 | -4.0 |
| Fiscal balance | | | | | |
| Primary balance | -3.1 | -6.0 | -3.1 | -3.0 | -3.1 |
| Central & local government debt (% of nominal GDP) | 186.9 | 232.9 | 258.5 | 252.6 | 264.1 |

Source: Compiled by DIR.
Notes: 1) Period avg.
2) Some FY14 figures: DIR estimates.
3) Fiscal balance: excl. ad-hoc factors.

# Main Economic Indicators

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal GDP (Y tril) | 473.9 | 480.2 | 473.9 | 474.5 | 483.1 | 490.7 | 498.7 | 501.8 | 506.3 | 515.0 | 522.3 | 529.6 | 535.7 | 540.9 | 545.6 | 551.0 |
| (Y/y %) | -3.2 | 1.3 | -1.3 | 0.1 | 1.8 | 1.6 | 1.6 | 0.6 | 0.9 | 1.7 | 1.4 | 1.4 | 1.2 | 1.0 | 0.9 | 1.0 |
| Nominal GNI (Y tril) | 487.0 | 493.5 | 488.7 | 489.9 | 501.1 | 510.8 | 521.5 | 527.5 | 532.3 | 540.9 | 547.2 | 554.2 | 559.9 | 564.7 | 569.3 | 574.9 |
| (Y/y %) | -3.5 | 1.3 | -1.0 | 0.2 | 2.3 | 1.9 | 2.1 | 1.2 | 0.9 | 1.6 | 1.2 | 1.3 | 1.0 | 0.8 | 0.8 | 1.0 |
| Real GDP (chained [2005]; Y tril) | 495.5 | 512.4 | 514.4 | 519.6 | 530.6 | 528.1 | 538.0 | 545.6 | 543.8 | 554.0 | 561.0 | 566.2 | 570.2 | 573.8 | 578.0 | 583.0 |
| (Y/y %) | -2.0 | 3.4 | 0.4 | 1.0 | 2.1 | -0.5 | 1.9 | 1.4 | -0.3 | 1.9 | 1.3 | 0.9 | 0.7 | 0.6 | 0.7 | 0.9 |
| Domestic demand (contribution to real GDP growth; % pt) | -2.2 | 2.6 | 1.4 | 1.8 | 2.6 | -0.9 | 1.7 | 1.3 | -1.0 | 1.5 | 1.0 | 0.6 | 0.9 | 0.7 | 0.7 | 0.8 |
| Foreign demand (contribution to real GDP growth; % pt) | 0.2 | 0.8 | -1.0 | -0.8 | -0.5 | 0.5 | 0.1 | 0.1 | 0.7 | 0.3 | 0.3 | 0.3 | -0.2 | -0.1 | 0.1 | 0.1 |
| Per capita real GDP (chained [2005]; Y mil) | 3.9 | 4.0 | 4.0 | 4.1 | 4.2 | 4.2 | 4.2 | 4.3 | 4.3 | 4.4 | 4.5 | 4.5 | 4.6 | 4.6 | 4.7 | 4.7 |
| (Y/y %) | -1.9 | 3.1 | 0.5 | 1.2 | 2.3 | -0.3 | 2.1 | 1.6 | -0.1 | 2.2 | 1.6 | 1.3 | 1.1 | 1.0 | 1.2 | 1.4 |
| Real GDI (chained [2005]; Y tril) | 488.3 | 500.1 | 495.9 | 500.7 | 508.6 | 505.9 | 517.7 | 520.9 | 516.0 | 523.9 | 529.0 | 531.7 | 532.7 | 533.3 | 534.1 | 535.8 |
| (Y/y %) | -0.7 | 2.4 | -0.8 | 1.0 | 1.6 | -0.5 | 2.3 | 0.6 | -0.9 | 1.5 | 1.0 | 0.5 | 0.2 | 0.1 | 0.2 | 0.3 |
| Index of Industrial Production (2005 = 100) | 91.4 | 99.4 | 98.7 | 95.8 | 98.9 | 96.4 | 98.7 | 100.2 | 97.9 | 100.3 | 101.4 | 101.8 | 101.7 | 101.5 | 101.5 | 101.7 |
| (Y/y %) | -9.5 | 8.8 | -0.7 | -3.0 | 3.2 | -2.6 | 2.4 | 1.5 | -2.3 | 2.4 | 1.1 | 0.4 | -0.1 | -0.2 | 0.0 | 0.3 |
| Corporate Goods Price Index (2010 = 100) | 99.8 | 100.2 | 101.6 | 100.5 | 102.4 | 105.0 | 102.9 | 104.1 | 106.5 | 106.7 | 107.2 | 108.2 | 109.0 | 109.8 | 110.5 | 111.2 |
| (Y/y %) | -5.1 | 0.4 | 1.3 | -1.0 | 1.8 | 2.6 | -2.0 | 1.1 | 2.3 | 0.2 | 0.5 | 0.9 | 0.8 | 0.8 | 0.6 | 0.6 |
| Consumer Price Index (2010 = 100) | 100.4 | 99.9 | 99.8 | 99.5 | 100.4 | 103.2 | 103.3 | 104.0 | 106.5 | 107.1 | 108.0 | 109.2 | 110.6 | 111.8 | 112.9 | 114.0 |
| (Y/y %) | -1.7 | -0.4 | -0.1 | -0.3 | 0.9 | 2.8 | 0.1 | 0.7 | 2.4 | 0.6 | 0.9 | 1.1 | 1.2 | 1.1 | 1.0 | 0.9 |
| O/N call rate (%) | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Yield on 10-yr JGBs (%) | 1.4 | 1.1 | 1.0 | 0.8 | 0.7 | 0.4 | 0.2 | 0.2 | 0.4 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 |
| Y/$ | 93 | 86 | 79 | 83 | 100 | 111 | 120 | 126 | 122 | 111 | 104 | 100 | 98 | 96 | 94 | 92 |
| Y/EUR | 131 | 113 | 109 | 107 | 134 | 140 | 147 | 150 | 145 | 131 | 123 | 120 | 117 | 116 | 114 | 112 |
| Current balance (Y tril) | 16.3 | 16.7 | 7.6 | 4.4 | 0.8 | 6.4 | 12.2 | 11.3 | 12.5 | 13.1 | 12.6 | 12.2 | 9.5 | 7.0 | 5.4 | 4.5 |
| (% of nominal GDP) | 3.4 | 3.5 | 1.6 | 0.9 | 0.2 | 1.3 | 2.4 | 2.3 | 2.5 | 2.6 | 2.4 | 2.3 | 1.8 | 1.3 | 1.0 | 0.8 |
| Labor force (0000) | 6,643 | 6,630 | 6,578 | 6,555 | 6,578 | 6,600 | 6,581 | 6,566 | 6,535 | 6,503 | 6,471 | 6,443 | 6,419 | 6,396 | 6,373 | 6,348 |
| (Y/y %) | -0.5 | -0.2 | -0.8 | -0.3 | 0.3 | 0.3 | -0.3 | -0.2 | -0.5 | -0.5 | -0.5 | -0.4 | -0.4 | -0.3 | -0.4 | -0.4 |
| No. employed (0000) | 6,301 | 6,301 | 6,280 | 6,275 | 6,322 | 6,342 | 6,328 | 6,324 | 6,290 | 6,262 | 6,241 | 6,217 | 6,193 | 6,167 | 6,141 | 6,115 |
| (Y/y %) | -1.5 | 0.0 | -0.3 | -0.1 | 0.7 | 0.3 | -0.2 | -0.1 | -0.5 | -0.4 | -0.3 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 |
| No. of employees (0000) | 5,488 | 5,508 | 5,501 | 5,511 | 5,564 | 5,597 | 5,599 | 5,610 | 5,594 | 5,583 | 5,577 | 5,569 | 5,560 | 5,551 | 5,540 | 5,530 |
| (Y/y %) | -1.0 | 0.4 | -0.1 | 0.2 | 1.0 | 0.6 | 0.0 | 0.2 | -0.3 | -0.2 | -0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 |
| No. unemployed (0000) | 343 | 328 | 298 | 280 | 256 | 238 | 234 | 223 | 226 | 222 | 211 | 207 | 207 | 211 | 214 | 215 |
| Unemployment rate (%) | 5.2 | 5.0 | 4.5 | 4.3 | 3.9 | 3.6 | 3.6 | 3.4 | 3.5 | 3.4 | 3.3 | 3.2 | 3.2 | 3.3 | 3.4 | 3.4 |
| Nominal employee compensation (Y tril) | 243 | 244 | 246 | 246 | 248 | 251 | 253 | 256 | 259 | 259 | 263 | 269 | 274 | 278 | 281 | 283 |
| (Y/y %) | -4.4 | 0.4 | 0.7 | 0.1 | 1.0 | 1.0 | 1.1 | 1.1 | 1.1 | 0.0 | 1.5 | 2.1 | 1.9 | 1.5 | 1.0 | 0.9 |
| Nominal household disposable income (Y tril) | 288 | 287 | 288 | 286 | 288 | 291 | 293 | 293 | 296 | 298 | 300 | 304 | 308 | 310 | 313 | 315 |
| (Y/y %) | -0.2 | -0.2 | 0.2 | -0.6 | 0.5 | 1.2 | 0.7 | 0.0 | 1.0 | 0.6 | 0.8 | 1.5 | 1.2 | 0.7 | 0.9 | 0.7 |
| Labor's share (%) | 70.6 | 69.2 | 70.3 | 69.9 | 68.6 | 66.9 | 65.6 | 66.0 | 66.5 | 65.2 | 65.7 | 66.2 | 66.7 | 67.2 | 67.4 | 67.3 |
| Central & local government | | | | | | | | | | | | | | | | |
| Fiscal balance (Y tril) | -44.1 | -40.0 | -40.9 | -37.4 | -34.8 | -32.8 | -24.0 | -21.6 | -20.4 | -17.8 | -18.0 | -18.6 | -20.0 | -22.1 | -23.9 | -24.8 |
| (% of nominal GDP) | -9.3 | -8.3 | -8.6 | -7.9 | -7.2 | -6.7 | -4.8 | -4.3 | -4.0 | -3.5 | -3.4 | -3.5 | -3.7 | -4.1 | -4.4 | -4.5 |
| Primary balance (% of nominal GDP) | -7.6 | -6.6 | -6.8 | -6.0 | -5.5 | -5.2 | -3.5 | -3.2 | -3.1 | -2.6 | -2.6 | -2.7 | -2.9 | -3.2 | -3.4 | -3.5 |
| Central & local government debt (Y tril) | 979 | 1,029 | 1,079 | 1,128 | 1,162 | 1,197 | 1,229 | 1,258 | 1,287 | 1,313 | 1,339 | 1,366 | 1,395 | 1,426 | 1,459 | 1,493 |
| (% of nominal GDP) | 206.6 | 214.2 | 227.8 | 237.8 | 240.5 | 243.9 | 246.4 | 250.8 | 254.2 | 254.9 | 256.4 | 258.0 | 260.4 | 263.6 | 267.4 | 270.9 |

Source: Compiled by DIR.
Notes: 1) Through FY13: actual.
2) Fiscal balance: excl. ad-hoc factors.

**Nominal Gross Domestic Expenditure (Y tril)**

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal GDP | 473.9 | 480.2 | 473.9 | 474.5 | 483.1 | 490.7 | 498.7 | 501.8 | 506.3 | 515.0 | 522.3 | 529.6 | 535.7 | 540.9 | 545.6 | 551.0 |
| (Y/y %) | -3.2 | 1.3 | -1.3 | 0.1 | 1.8 | 1.6 | 1.6 | 0.6 | 0.9 | 1.7 | 1.4 | 1.4 | 1.2 | 1.0 | 0.9 | 1.0 |
| Domestic demand | 469.6 | 475.9 | 480.2 | 484.8 | 499.0 | 503.6 | 507.7 | 514.7 | 518.2 | 526.0 | 533.0 | 540.4 | 549.1 | 556.7 | 563.2 | 569.7 |
| (Y/y %) | -4.4 | 1.3 | 0.9 | 1.0 | 2.9 | 0.9 | 0.8 | 1.4 | 0.7 | 1.5 | 1.3 | 1.4 | 1.6 | 1.4 | 1.2 | 1.2 |
| Private final consumption | 284.2 | 284.5 | 286.4 | 288.7 | 296.5 | 295.5 | 298.9 | 304.0 | 303.3 | 306.7 | 309.8 | 314.2 | 318.6 | 322.8 | 326.2 | 329.2 |
| (Y/y %) | -1.4 | 0.1 | 0.7 | 0.8 | 2.7 | -0.4 | 1.1 | 1.7 | -0.2 | 1.1 | 1.0 | 1.4 | 1.4 | 1.3 | 1.1 | 0.9 |
| Private housing investment | 12.6 | 12.9 | 13.4 | 14.1 | 15.9 | 14.6 | 14.6 | 15.0 | 14.2 | 14.1 | 13.8 | 13.9 | 14.0 | 13.9 | 13.7 | 13.5 |
| (Y/y %) | -23.5 | 2.3 | 3.7 | 5.1 | 12.5 | -7.8 | -0.4 | 2.8 | -4.8 | -1.1 | -2.0 | 0.4 | 1.1 | -0.6 | -1.4 | -1.6 |
| Private capital investment | 60.7 | 61.9 | 64.3 | 64.9 | 68.2 | 68.6 | 71.2 | 72.6 | 73.2 | 76.4 | 77.5 | 78.4 | 80.3 | 81.5 | 82.8 | 84.4 |
| (Y/y %) | -14.5 | 2.0 | 3.8 | 1.0 | 4.9 | 0.7 | 3.7 | 2.0 | 0.8 | 4.3 | 1.4 | 1.2 | 2.4 | 1.5 | 1.5 | 2.0 |
| Change in private inventories | -5.0 | -0.3 | -1.4 | -1.3 | -3.9 | 0.0 | 0.3 | -0.4 | 0.4 | 0.4 | 0.7 | 0.4 | 0.1 | 0.0 | -0.1 | 0.0 |
| Government final consumption | 94.2 | 95.5 | 96.6 | 97.5 | 98.8 | 100.3 | 100.2 | 100.9 | 102.4 | 103.4 | 105.2 | 107.4 | 109.7 | 111.8 | 113.5 | 115.3 |
| (Y/y %) | 1.4 | 1.4 | 1.2 | 0.8 | 1.3 | 1.6 | -0.1 | 0.7 | 1.5 | 0.9 | 1.8 | 2.1 | 2.1 | 1.9 | 1.6 | 1.6 |
| Public fixed capital formation | 22.8 | 21.3 | 20.8 | 21.0 | 23.6 | 24.4 | 22.5 | 22.7 | 24.6 | 25.1 | 26.0 | 26.1 | 26.4 | 26.8 | 27.1 | 27.3 |
| (Y/y %) | 7.7 | -6.5 | -2.6 | 0.8 | 12.4 | 3.7 | -7.8 | 0.6 | 8.6 | 1.9 | 3.6 | 0.5 | 1.1 | 1.3 | 1.1 | 0.9 |
| Change in public inventories | 0.0 | -0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Export of goods and services | 64.5 | 73.8 | 70.9 | 70.4 | 80.0 | 86.5 | 91.3 | 96.5 | 99.5 | 99.7 | 99.4 | 100.7 | 102.5 | 104.5 | 107.1 | 109.7 |
| (Y/y %) | -17.9 | 14.4 | -3.9 | -0.7 | 13.6 | 8.1 | 5.6 | 5.7 | 3.1 | 0.2 | -0.3 | 1.3 | 1.8 | 2.0 | 2.4 | 2.4 |
| Import of goods and services | 60.2 | 69.5 | 77.3 | 80.8 | 95.9 | 99.3 | 100.3 | 109.4 | 111.3 | 110.7 | 110.1 | 111.4 | 115.9 | 120.3 | 124.7 | 128.4 |
| (Y/y %) | -25.0 | 15.5 | 11.2 | 4.5 | 18.7 | 3.6 | 1.0 | 9.1 | 1.8 | -0.6 | -0.6 | 1.2 | 4.0 | 3.8 | 3.6 | 3.0 |

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

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real GDP | 495.5 | 512.4 | 514.4 | 519.6 | 530.6 | 528.1 | 538.0 | 545.6 | 543.8 | 554.0 | 561.0 | 566.2 | 570.2 | 573.8 | 578.0 | 583.0 |
| (Y/y %) | -2.0 | 3.4 | 0.4 | 1.0 | 2.1 | -0.5 | 1.9 | 1.4 | -0.3 | 1.9 | 1.3 | 0.9 | 0.7 | 0.6 | 0.7 | 0.9 |
| Domestic demand | 482.2 | 495.0 | 502.0 | 510.9 | 523.7 | 519.1 | 527.9 | 534.7 | 529.4 | 537.3 | 542.3 | 545.6 | 550.3 | 554.0 | 557.6 | 561.8 |
| (Y/y %) | -2.2 | 2.7 | 1.4 | 1.8 | 2.5 | -0.9 | 1.7 | 1.3 | -1.0 | 1.5 | 0.9 | 0.6 | 0.9 | 0.7 | 0.6 | 0.7 |
| Private final consumption | 295.0 | 299.7 | 304.0 | 309.5 | 317.1 | 308.6 | 313.6 | 318.4 | 311.5 | 314.8 | 316.5 | 318.4 | 320.3 | 322.1 | 323.7 | 325.1 |
| (Y/y %) | 1.2 | 1.6 | 1.4 | 1.8 | 2.5 | -2.7 | 1.6 | 1.5 | -2.2 | 1.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.4 |
| Private housing investment | 12.3 | 12.5 | 12.9 | 13.7 | 14.9 | 13.4 | 13.6 | 13.8 | 12.8 | 12.7 | 12.3 | 12.2 | 12.2 | 12.0 | 11.8 | 11.5 |
| (Y/y %) | -21.0 | 2.2 | 3.2 | 5.7 | 9.3 | -10.2 | 1.2 | 2.0 | -7.5 | -1.0 | -2.7 | -0.9 | -0.1 | -1.5 | -2.1 | -2.2 |
| Private capital investment | 62.5 | 64.9 | 68.0 | 68.8 | 71.5 | 72.0 | 75.5 | 77.4 | 77.6 | 80.8 | 81.7 | 82.3 | 83.8 | 84.4 | 85.2 | 86.4 |
| (Y/y %) | -12.0 | 3.8 | 4.8 | 1.2 | 4.0 | 0.6 | 5.0 | 2.5 | 0.3 | 4.1 | 1.2 | 0.7 | 1.8 | 0.8 | 0.9 | 1.4 |
| Change in private inventories | -5.0 | 0.0 | -1.3 | -1.3 | -3.7 | 0.1 | 0.3 | -0.4 | 0.4 | 0.3 | 0.7 | 0.4 | 0.1 | 0.0 | -0.1 | 0.0 |
| Government final consumption | 96.0 | 97.9 | 99.1 | 100.6 | 102.2 | 103.0 | 104.3 | 105.0 | 105.4 | 106.8 | 108.4 | 110.0 | 111.6 | 113.3 | 114.9 | 116.6 |
| (Y/y %) | 2.7 | 2.0 | 1.2 | 1.5 | 1.6 | 0.9 | 1.2 | 0.7 | 0.4 | 1.4 | 1.5 | 1.4 | 1.5 | 1.5 | 1.4 | 1.5 |
| Public fixed capital formation | 22.1 | 20.7 | 20.1 | 20.3 | 22.4 | 22.5 | 21.2 | 21.2 | 22.3 | 22.7 | 23.4 | 23.2 | 23.2 | 23.3 | 23.3 | 23.4 |
| (Y/y %) | 11.5 | -6.4 | -3.2 | 1.0 | 10.3 | 0.6 | -5.9 | 0.1 | 5.2 | 1.8 | 2.9 | -0.7 | -0.1 | 0.3 | 0.3 | 0.2 |
| Change in public inventories | 0.0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Export of goods and services | 71.3 | 83.6 | 82.3 | 81.3 | 85.1 | 90.1 | 94.4 | 98.7 | 103.6 | 108.6 | 111.5 | 114.9 | 118.6 | 122.1 | 126.4 | 131.5 |
| (Y/y %) | -9.7 | 17.2 | -1.6 | -1.3 | 4.7 | 6.0 | 4.8 | 4.5 | 5.0 | 4.8 | 2.6 | 3.1 | 3.2 | 3.0 | 3.5 | 4.0 |
| Import of goods and services | 59.6 | 66.8 | 70.3 | 72.9 | 77.7 | 79.7 | 82.5 | 85.4 | 86.5 | 88.9 | 89.7 | 90.9 | 94.2 | 97.0 | 99.7 | 102.7 |
| (Y/y %) | -10.7 | 12.0 | 5.4 | 3.6 | 6.7 | 2.6 | 3.5 | 3.5 | 1.3 | 2.8 | 0.9 | 1.3 | 3.6 | 3.0 | 2.7 | 3.0 |

**Deflator (chained [2005])**

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP deflator | 95.6 | 93.7 | 92.1 | 91.3 | 91.1 | 92.9 | 92.7 | 92.0 | 93.1 | 93.0 | 93.1 | 93.5 | 94.0 | 94.3 | 94.4 | 94.5 |
| (Y/y %) | -1.2 | -2.0 | -1.7 | -0.9 | -0.3 | 2.0 | -0.2 | -0.8 | 1.2 | -0.2 | 0.1 | 0.5 | 0.4 | 0.3 | 0.1 | 0.1 |
| Domestic demand | 97.4 | 96.1 | 95.7 | 94.9 | 95.3 | 97.0 | 96.2 | 96.3 | 97.9 | 97.9 | 98.3 | 99.0 | 99.8 | 100.5 | 101.0 | 101.4 |
| (Y/y %) | -2.2 | -1.3 | -0.5 | -0.8 | 0.4 | 1.8 | -0.9 | 0.1 | 1.7 | 0.0 | 0.4 | 0.8 | 0.8 | 0.7 | 0.5 | 0.4 |
| Private final consumption | 96.3 | 94.9 | 94.2 | 93.3 | 93.5 | 95.8 | 95.3 | 95.5 | 97.4 | 97.5 | 97.9 | 98.7 | 99.5 | 100.2 | 100.8 | 101.2 |
| (Y/y %) | -2.6 | -1.5 | -0.7 | -1.0 | 0.3 | 2.4 | -0.5 | 0.2 | 2.0 | 0.1 | 0.4 | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 |
| Private housing investment | 103.1 | 103.2 | 103.7 | 103.0 | 106.1 | 108.9 | 107.2 | 108.1 | 111.2 | 111.2 | 112.1 | 113.5 | 114.8 | 115.9 | 116.8 | 117.5 |
| (Y/y %) | -3.2 | 0.2 | 0.5 | -0.6 | 2.9 | 2.7 | -1.6 | 0.8 | 2.9 | 0.0 | 0.8 | 1.3 | 1.1 | 1.0 | 0.7 | 0.6 |
| Private capital investment | 97.1 | 95.5 | 94.6 | 94.4 | 95.3 | 95.4 | 94.3 | 93.8 | 94.3 | 94.5 | 94.8 | 95.2 | 95.8 | 96.6 | 97.2 | 97.7 |
| (Y/y %) | -2.8 | -1.7 | -0.9 | -0.2 | 0.9 | 0.1 | -1.2 | -0.5 | 0.5 | 0.2 | 0.2 | 0.5 | 0.7 | 0.7 | 0.6 | 0.5 |
| Government final consumption | 98.2 | 97.6 | 97.6 | 96.9 | 96.7 | 97.4 | 96.1 | 96.1 | 97.2 | 96.8 | 97.0 | 97.7 | 98.2 | 98.6 | 98.8 | 98.9 |
| (Y/y %) | -1.2 | -0.6 | 0.0 | -0.7 | -0.2 | 0.7 | -1.3 | 0.0 | 1.1 | -0.4 | 0.3 | 0.7 | 0.6 | 0.4 | 0.2 | 0.1 |
| Public fixed capital formation | 103.2 | 103.1 | 103.7 | 103.5 | 105.4 | 108.6 | 106.4 | 106.9 | 110.3 | 110.4 | 111.1 | 112.5 | 113.9 | 115.1 | 116.0 | 116.8 |
| (Y/y %) | -3.4 | -0.1 | 0.7 | -0.2 | 1.9 | 3.0 | -2.0 | 0.4 | 3.2 | 0.1 | 0.7 | 1.3 | 1.2 | 1.0 | 0.8 | 0.7 |
| Export of goods and services | 90.4 | 88.3 | 86.2 | 86.7 | 94.0 | 96.0 | 96.7 | 97.8 | 96.0 | 91.8 | 89.2 | 87.6 | 86.4 | 85.6 | 84.7 | 83.4 |
| (Y/y %) | -9.1 | -2.4 | -2.4 | 0.6 | 8.5 | 2.1 | 0.8 | 1.2 | -1.8 | -4.4 | -2.9 | -1.7 | -1.4 | -1.0 | -1.1 | -1.5 |
| Import of goods and services | 100.9 | 104.1 | 109.9 | 110.9 | 123.4 | 124.6 | 121.6 | 128.1 | 128.7 | 124.5 | 122.7 | 122.6 | 123.1 | 124.0 | 125.0 | 125.0 |
| (Y/y %) | -16.0 | 3.1 | 5.5 | 0.9 | 11.3 | 1.0 | -2.4 | 5.4 | 0.5 | -3.3 | -1.5 | -0.1 | 0.4 | 0.8 | 0.8 | 0.0 |

Source: Compiled by DIR.
Note: Through FY13: actual.

### Assets and Labor and Capital Supply

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Potential GDP (real GDP chained [2005]; Y tril) | 520.3 | 527.9 | 526.0 | 531.1 | 535.7 | 535.3 | 540.7 | 545.6 | 546.3 | 552.2 | 557.1 | 561.5 | 565.8 | 570.2 | 574.8 | 579.7 |
| (Y/y %) | 0.5 | 1.4 | -0.4 | 1.0 | 0.9 | -0.1 | 1.0 | 0.9 | 0.1 | 1.1 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 |
| Hourly labor productivity (yen) | 4,340 | 4,464 | 4,487 | 4,551 | 4,629 | 4,683 | 4,781 | 4,854 | 4,887 | 4,992 | 5,070 | 5,138 | 5,198 | 5,257 | 5,322 | 5,393 |
| (Y/y %) | 1.1 | 2.9 | 0.5 | 1.4 | 1.7 | 1.2 | 2.1 | 1.5 | 0.7 | 2.2 | 1.6 | 1.3 | 1.2 | 1.1 | 1.2 | 1.3 |
| Hours worked per annum and per capita | 1,768 | 1,780 | 1,782 | 1,772 | 1,768 | 1,761 | 1,761 | 1,761 | 1,754 | 1,758 | 1,760 | 1,760 | 1,760 | 1,760 | 1,760 | 1,760 |
| (Y/y %) | -1.5 | 0.7 | 0.1 | -0.5 | -0.3 | -0.4 | 0.1 | 0.0 | -0.4 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Labor participation rate (%) | 59.8 | 59.7 | 59.2 | 59.1 | 59.3 | 59.6 | 59.4 | 59.3 | 59.1 | 58.9 | 58.8 | 58.7 | 58.6 | 58.6 | 58.6 | 58.6 |
| Net corporate sector capital stock (2000 prices; Y tril) | 1,040 | 1,035 | 1,034 | 1,032 | 1,033 | 1,037 | 1,043 | 1,049 | 1,056 | 1,063 | 1,070 | 1,075 | 1,081 | 1,087 | 1,093 | 1,098 |
| (Y/y %) | -0.3 | -0.4 | -0.2 | -0.1 | 0.1 | 0.4 | 0.6 | 0.6 | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 |
| Household financial assets (Y tril) | 1,493 | 1,511 | 1,521 | 1,589 | 1,642 | 1,664 | 1,669 | 1,665 | 1,666 | 1,669 | 1,672 | 1,674 | 1,676 | 1,675 | 1,673 | 1,672 |
| (% of nominal GDP) | 315.0 | 314.7 | 321.0 | 334.8 | 339.9 | 339.1 | 334.6 | 331.8 | 329.0 | 324.1 | 320.0 | 316.1 | 312.8 | 309.6 | 306.7 | 303.4 |
| External assets (Y tril) | 594 | 604 | 648 | 753 | 872 | 995 | 1,037 | 1,064 | 1,064 | 1,071 | 1,074 | 1,075 | 1,076 | 1,077 | 1,078 | 1,081 |
| (% of nominal GDP) | 125.2 | 125.9 | 136.7 | 158.6 | 180.4 | 202.8 | 207.9 | 211.9 | 210.2 | 207.9 | 205.6 | 203.0 | 200.9 | 199.1 | 197.6 | 196.1 |
| Net external assets (Y tril) | 265 | 258 | 273 | 304 | 316 | 356 | 384 | 402 | 399 | 378 | 368 | 364 | 361 | 358 | 354 | 346 |
| (% of nominal GDP) | 55.9 | 53.8 | 57.6 | 64.1 | 65.5 | 72.6 | 77.0 | 80.1 | 78.9 | 73.5 | 70.5 | 68.8 | 67.4 | 66.2 | 64.8 | 62.7 |
| Stock prices (TOPIX) | 904 | 885 | 792 | 811 | 1,188 | 1,320 | 1,401 | 1,446 | 1,450 | 1,486 | 1,511 | 1,536 | 1,551 | 1,560 | 1,564 | 1,573 |
| (Y/y %) | -14.5 | -2.2 | -10.5 | 2.3 | 46.6 | 11.1 | 6.2 | 3.2 | 0.3 | 2.4 | 1.7 | 1.7 | 1.0 | 0.5 | 0.3 | 0.6 |
| Land Price Index (nationwide; all purposes; 2000 = 100) | 58.8 | 56.2 | 54.1 | 52.4 | 51.3 | 50.7 | 51.1 | 51.6 | 51.9 | 52.6 | 52.8 | 52.9 | 52.6 | 51.9 | 51.3 | 51.3 |
| (Y/y %) | -4.7 | -4.4 | -3.7 | -3.1 | -2.1 | 0.8 | 0.7 | 1.1 | 0.5 | 1.3 | 0.4 | 0.2 | -0.6 | -1.4 | -1.2 | 0.1 |

### Assumptions

| (FY) | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| World economic growth (PPP; y/y %) | 1.4 | 5.1 | 3.9 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 3.4 | 3.3 | 3.3 | 3.4 |
| Oil price (WTI; $/bbl) | 70.7 | 83.4 | 97.3 | 92.1 | 99.0 | 80.0 | 55.0 | 60.0 | 64.0 | 67.0 | 70.0 | 74.0 | 78.0 | 82.0 | 85.0 | 88.0 |
| (Y/y %) | -17.7 | 17.9 | 16.7 | -5.4 | 7.6 | -19.2 | -31.3 | 9.1 | 6.7 | 4.7 | 4.5 | 5.7 | 5.4 | 5.1 | 3.7 | 3.5 |
| Population (mil) | 128.0 | 128.1 | 127.8 | 127.5 | 127.3 | 127.1 | 126.8 | 126.6 | 126.2 | 125.9 | 125.5 | 125.0 | 124.5 | 124.0 | 123.5 | 122.9 |
| (Y/y %) | 0.0 | 0.0 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.3 | -0.3 | -0.3 | -0.3 | -0.4 | -0.4 | -0.4 | -0.5 |
| Population 15-64 (mil) | 81.9 | 81.6 | 81.2 | 80.1 | 78.9 | 77.8 | 76.8 | 76.0 | 75.2 | 74.6 | 74.0 | 73.4 | 72.8 | 72.3 | 71.8 | 71.3 |
| Population over-65 (mil) | 29.1 | 29.5 | 29.8 | 30.8 | 32.0 | 33.0 | 33.9 | 34.7 | 35.3 | 35.8 | 36.1 | 36.4 | 36.6 | 36.7 | 36.9 | 37.0 |
| Ratio of those over 65 to overall population (%) | 22.7 | 23.0 | 23.3 | 24.2 | 25.1 | 26.0 | 26.7 | 27.4 | 28.0 | 28.4 | 28.8 | 29.1 | 29.4 | 29.6 | 29.9 | 30.1 |
| Consumption tax rate (%) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 8.0 | 8.0 | 8.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Effective corporation tax rate (%) | 39.5 | 39.5 | 39.5 | 37.0 | 37.0 | 34.6 | 32.1 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 |
| Employees' pension contribution rate (%) | 15.7 | 16.1 | 16.4 | 16.8 | 17.1 | 17.5 | 17.8 | 18.2 | 18.3 | 18.3 | 18.3 | 18.3 | 18.3 | 18.3 | 18.3 | 18.3 |

Source: Compiled by DIR.
Note: Through FY13: actual.

# Introduction

### ① World Economy Over Next Ten Years

Over the next ten years (2015-24) we see world economic growth at an average of 3.3%. Our outlook for US economic growth over the next ten years is an average 2.4%, while we expect the European economy to stay at around 1.3%. The Fed will begin raising the interest rate in the fourth quarter, but will do so at a slower pace than up to now. However, with a continuation of monetary easing in both Japan and Europe, the change in the Fed's policy may carry a more amplified influence than it might otherwise. Europe is now facing deflation fears, but the economy should gain some support from the cheap Euro and the low price of crude oil. We expect the price of crude to gradually move upwards, but even then, we do not expect to reach $90 per barrel. The effects of the sharp decline of the crude oil price on the world economy differ considerably depending on the country or region. In the US and Europe, the effect will be positive, with household purchasing power improving noticeably. The effects of a lower crude oil price will be fairly negative for oil producing nations, especially for emerging nations and other economies with a high dependency on exports of natural resources.

### ② Japan's Economy Over Next Ten Years

The outlook for Japan's economic growth rate over the next ten years (2015-24) is an annual average of 1.2% in nominal terms, with real growth rate seen at 1.0%. Growth will continue to gain support from exports, which are expected to make gains as a result of moderate growth in overseas economies. The decline in the price of crude oil, along with the weak yen and low interest rates should encourage economic growth especially over the next several years, raising the level of Japan's economic growth.

### ③ Outlook for Monetary Policy

We expect the growth rate in prices to gradually pick up pace on the whole, but the BOJ target for inflation will be difficult to reach. According to our outlook, the short-term interest rate will remain at zero and there will be a continuation of quantitative monetary easing. However, the policy regime will eventually be forced to change due to the technical limits of qualitative and quantitative monetary easing. Both Bank of Japan Governor Kuroda and the Abe administration will reach the end of their terms in office in 2018, a time which should become a major watershed moment for Japan.

### ④ Outlook for Exchange Rates

Differences in monetary policy between Japan and the U.S. will likely continue to bring downward pressure on the yen exchange rate for some time to come. However, the US is likely to finish with its policy of monetary restraint by around 2018, while Japan's monetary easing is expected to reach its technical limits around the same time. As a result, the trend toward a weak yen may also come to an end.

### ⑤ Can Japan Break Out of Its Deflationary Tendency?

As an upside risk, there is a possibility that the weak yen will help Japan to begin pulling out of its deflationary tendency. A continued weak yen will gradually overturn expectations for a stronger yen and win back a recovery for Japan in international competitiveness. At the same time, growth in wages will likely make up for lost time and help overturn the negative cycle of deflation.

### ⑥ Outlook for Government Finances

The government is targeting a significant reduction in the fiscal deficit (proportion of nominal GDP) by FY2015, and now this target is within range. However, under the current system, we do not expect it to be back in the black by FY2020. We believe that tackling both fiscal reconstruction and deflation

at the same time is not necessarily incompatible. They are both extremely important issues and should be achieved in parallel.

**⑦Fiscal Reconstruction Requires Policy on Regional Revitalization and Control of Expenditures**

Practicing restraint in the area of expenditures is essential to fiscal reconstruction. It is especially important to keep steadily expanding social security costs under control. Out-of-pocket expenses and eligibility for insurance payments to cover medical costs and nursing care should be reviewed. Meanwhile, in order to improve child-rearing support, a competitive environment should be provided with a broader range of choices for the user. Expenses related to infrastructure should be contained though privatization of companies carrying out work on public infrastructure as well as through the strengthening of governance. The method of calculating tax allocation to local governments should be reviewed, while at the same time promoting special regional revitalization zones. In this way costs can be cut gradually. Reforms leading to a fiscal system that links costs and benefits and to political institutions that can eliminate conflicts of interest between the old and the young could also work as a revitalization policy promoting regional autonomy.

# 1. World Economy over the Next 10 Years

## 1.1 Outlook for the World Economy and Risks

## Summary

**Key Point: Assumptions for the world economy: We retain our previous cautious stance.**

- Over the next ten years (2015-24) we see world economic growth at an average of 3.3%.
- Our outlook for US economic growth over the next ten years is an average 2.4%, while we expect the European economy to stay at around 1.3%.
- In the case of the US, there will be some unavoidable adjustments to make for the energy sector due to the low price of crude oil, but for the country overall, especially the household sector, purchasing power will improve. Basically, positive factors far outweigh the negative ones.
- The Fed will begin raising the interest rate in the fourth quarter of FY2015, but will do so at a slower pace than up to now. It is assumed that the level it will finally reach will be lower than it was at the point the Fed raised interest rates during the 2004-06 period.
- Europe is now facing deflation fears, but the ECB has begun quantitative monetary easing measures and the economy should gain some support from the cheap Euro and the low price of crude oil.
- Emerging nations will be the most susceptible to the effects of the change in the US monetary policy expected during the first half of our prediction period.
- The effects of the sharp decline of the crude oil price on the world economy differ considerably depending on the country or region. We expect the price of crude to gradually move upwards, but even then, we do not expect to reach $90 per barrel.

### *1.1.1 Assumptions for the world economy: We retain our previous cautious stance.*

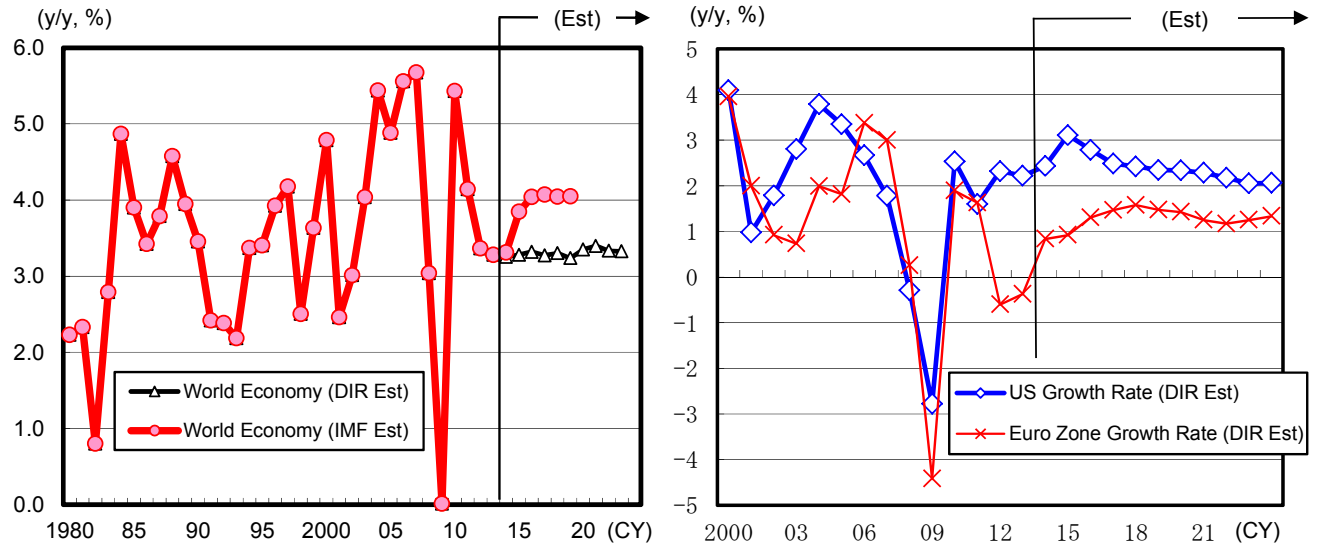
In our current medium-term outlook, we assume that the world economy will grow at an annualized 3.3% rate over the next 10 years (2015–24). During the first half of our prediction period, the Fed will ease up on its zero interest policy, the lowest it has taken the interest rate since the end of 2008. The pace will be more gradual than in the past, but we expect to see the first period of interest rate increases experienced in that country in about eleven years. The change in the US monetary policy is expected to influence the entire world. During the latter half of the process when interest hikes are halted, growth is expected to speed up somewhat.

There will be a certain amount of political risk for the US in the short-term, but the decision is expected to contribute to an improvement in purchase power for households with employment already improving and personal consumption exhibiting a firm undertone. Additionally, the sudden decline in the price of crude oil since October of 2014 has also contributed much to this situation. There will be some initial adjustments to make for the energy sector, but for the country overall, positive factors far outweigh the negative ones.

At the same time, we will be paying serious attention to Europe and China, as well as the emerging nations during the first half of our prediction period especially. Europe is now facing deflation fears as well as geopolitical risk, and the ECB has begun quantitative monetary easing measures, so there is a sense that they are being besieged all at once in terms of policy issues. However, the economy should gain some support from the cheap Euro and the low price of crude oil. The effects of a lower crude oil

price will be most negative for oil producing nations, especially for emerging nations and other economies with a high dependency on exports of natural resources. For China, cheaper oil is basically positive, but it is not enough to alter the slowdown in growth seen in our basic scenario.

**World Economic Outlook** **Chart 1-1-1**




Source: IMF, *World Economic Outlook*, Oct. 2014, BEA, Eurostat; compiled by DIR.
Note: Purchasing power parity basis.

### *Risk factors expected to influence the world in the future*

During the first half of our ten-year prediction period, differences between the monetary policies of the advanced countries are likely to bring some volatility to the market. Changes in the US monetary policy especially are expected to bring changes to global money flow, and this in turn may influence the economies of emerging nations considerably.

China already has plenty of destabilizing factors in its domestic economy, including issues related to real estate and excessive production capacity. It is now engaged in the complexities of steering clear of obstacles so as to attain a soft landing. Slow growth in China's economy is part of our standard scenario, meaning that for the emerging economies of Asia it is an unavoidable influence. Hence there is risk here of suffering a double punch when influence from US policy changes are also taken into consideration.

The Euro zone also faces the double danger of a slowing economy and deflation fears. The ECB has made a decision on quantitative monetary easing measures, lagging behind the US and Japan. Europe holds the risk of another crisis if its efforts at closer integration of member nations does not progress smoothly, leaving it unsure how to handle the situation. There is a danger that efforts to resolve problems will stretch out for too long a time due to various adjustments and the inability to move quickly on proposals.

Even the US, despite it's being the sole winner in today's economy, is still unable to shake off the aftereffects of its recent financial crisis completely. It still needs to deal with structural changes originating in that crisis. The BOJ's additional monetary easing measures and Europe's many problems led to a stronger dollar beginning around the middle of 2011. The US government has yet to change its stance of tolerating the strong dollar. The favorable domestic economy most likely makes it feel that it has plenty of leeway. However, the more global a corporation is, the more it is affected by economic slowdowns in nations it does business with. In fact, dollar denominated sales and earnings are feeling the pinch. There remains some skepticism regarding just how patient and accepting the US will be in the future next time its domestic economy goes awry. If problems happen to occur in the midst of TPP

negotiations or during the next election, the backlash from its citizenry is likely to be considerable.

### *1.1.2 Outlook for the US economy*

***Political risks remain, but we have revised our outlook for 2015-16 growth rate upwards***

There is at least some possibility that there could be a recurrence of the type of political turmoil experienced in 2013 if President Obama takes a hardline stance in his dealings with the Republican-dominated Congress and if the familiar old polarization between the two major parties returns.

However, the Republican Party is looking more toward the next presidential election in November 2016 and would prefer to avoid any souring of public opinion, meaning that pulling away from the smaller battles is likely.

If a slowdown in the economy due to political risk can be avoided during the 2015-16 period, it just may pick up steam in a continuation of the current firm undertone. This year (2015) looks particularly good, with a growth rate of over 3% promised for the first time in ten years. The high growth experienced in the middle of 2014 was not due to merely temporary factors. Taking the orthodox view, we tend to think that the improvement in the labor market should lead naturally to a firming up of personal consumption, and that the economy is therefore moving toward a growth pattern that has real staying power.

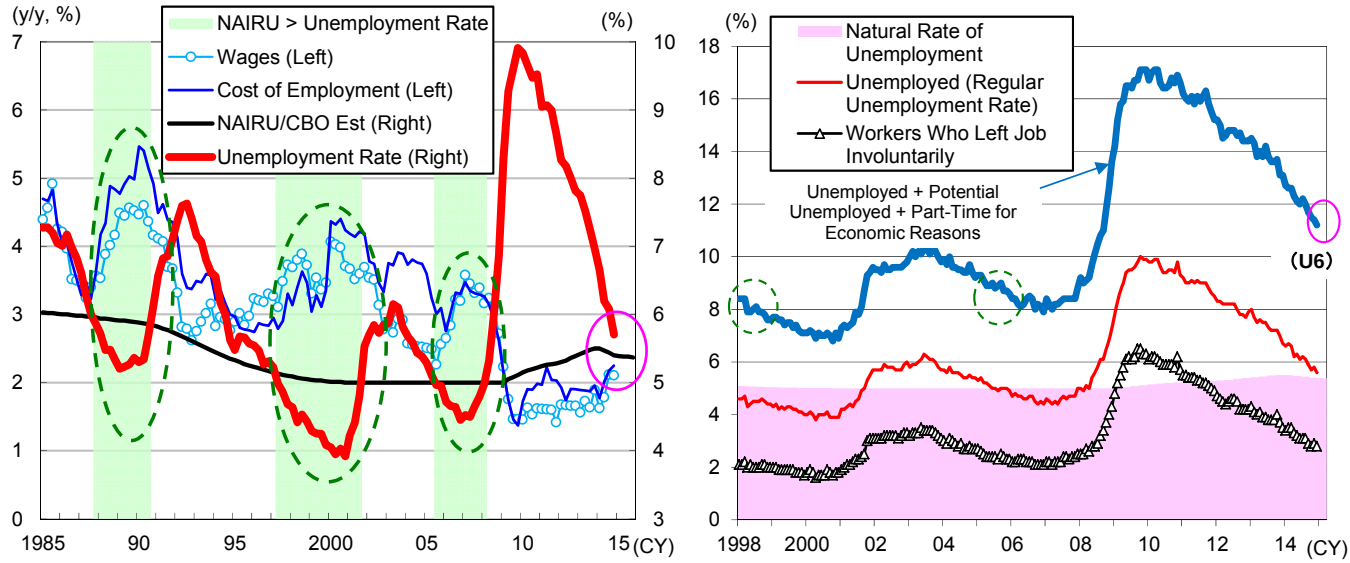
***Will wage growth in the US achieve critical mass?***

The US unemployment rate peaked at 9.9% during the fourth quarter of 2009 and has since steadily declined. As of the fourth quarter of 2014 it stood at 5.7%, nearing the NAIRU figure of 5.4% (estimate supplied by CBO). This is the smallest deviation rate between the two figures since the year 2008. If the figure continues to decline, it will fall below the NAIRU figure for the first time in seven years. Past experience suggests that when the unemployment rate falls below the NAIRU rate, growth rate in wages also increases.

During the first half of the 2000s benefit costs exhibited high growth. This acted to suppress the growth rate in wages in relative terms. Even so, the growth rate in wages exceeded the 2% recorded during the previous year. But the current recovery has seen wage growth continually fall below the 2% level. Despite the decline, unemployment is still high, indicating that supply and demand for labor is slack. The unemployment rate is now on the verge of intersecting with the NAIRU rate, and expectations are that the growth rate in wages will accelerate in 2015.

However, there are some doubts as to whether the unemployment rate accurately reflects conditions in the labor market. In the past, the norm has been that the unemployment rate declines as the unemployed become employed, but now the labor force participation rate has also dropped, which statistically speaking means that the unemployment rate is pushed down. Between 2006 and 2007, the labor force participation rate was at around 66%. Recently it has dropped below 63%, and does not appear to have stopped. Meanwhile, if we take a look at a more comprehensive measurement of unemployment (U6), we see that in contrast to the years 1997 and 2005 when the employment rate fell below the NAIRU rate it was a little under 9%, while at the end of 2014 it was more than 11% despite the fact of having generally declined. This indicates that the labor market is much more lax than is statistically recordable by the traditional unemployment rate. It also means that it will likely take longer for the growth rate in wages to accelerate than it has in the past. The rate of increase may also be limited.

**Unemployment Rate and Wage Growth Rate (Left); Ways of Measuring Unemployment Rate (Right)**
**Chart 1-1-2**




Source: BLS, CBO, FRB of SF, Haver Analytics; compiled by DIR.
Note: Cost of employment and wages does not include military.

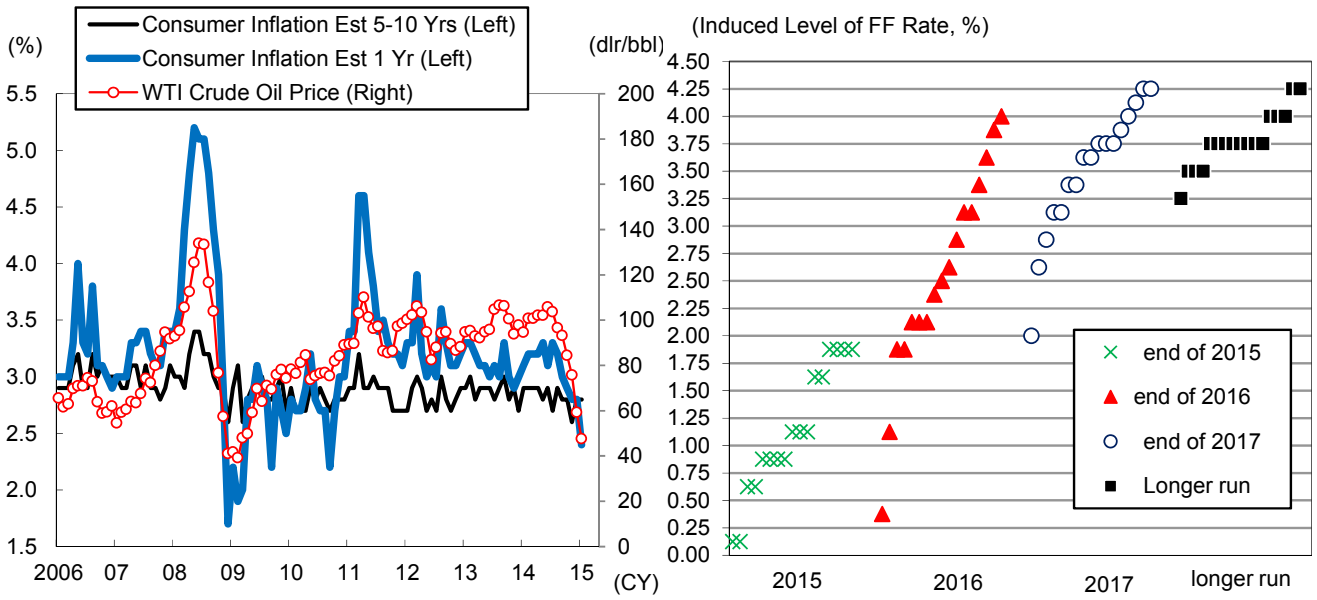
***Whither US monetary policy?***

By the end of QE3 of 2014 the market became concerned about what the Fed's next move might be. When would they begin raising interest rates? And how should adjustments be made on balance sheets? Attention began to focus on the question of the Fed's exit strategy.

Our basic opinion that the Fed will begin raising interest rates in the fourth quarter of 2015 remains unchanged, though we have revised this slightly in this report. That is we believe that the pace of raising interest rates will be more gradual than in the past. During the first three months we believe that the Fed will raise the interest rate 25bp at a time. Then they will pick up the pace between the end of 2016 and on through 2017. We predict that by the beginning of 2018 they will raise the target FF rate to 3.50% and bring an end to the series of tightening actions. This approach to raising rates, a more gradual one than ever before, is most likely made possible by the low inflation rate and low inflationary expectations. In addition to the strong dollar, the sudden decline in the price of crude oil will help to keep down inflation. The Fed has plenty of time to think about it, and the market expects that the new policy will be an accommodating one in no rush to implement the increases sooner than necessary. Meanwhile, interest rate targeted is by no means a high one in comparison to past tendencies. This is because it is possible that the potential growth rate was forced downward during the financial crisis of 2008, and along with it, the neutral level of the bank rate.

We assume that financial authorities will make small adjustments to the bank rate keyed to the real economy up though the end of our prediction period. We also expect the US economy to settle into a growth rate moving in tandem with the potential growth rate, while prices should stabilize at a level just below the inflation target. We expect interest rate reductions to be limited.

**Consumer Inflationary Expectations (Left) and Fed's Predicted FF Rate as of Dec 2014 (Right)** **Chart 1-1-3**

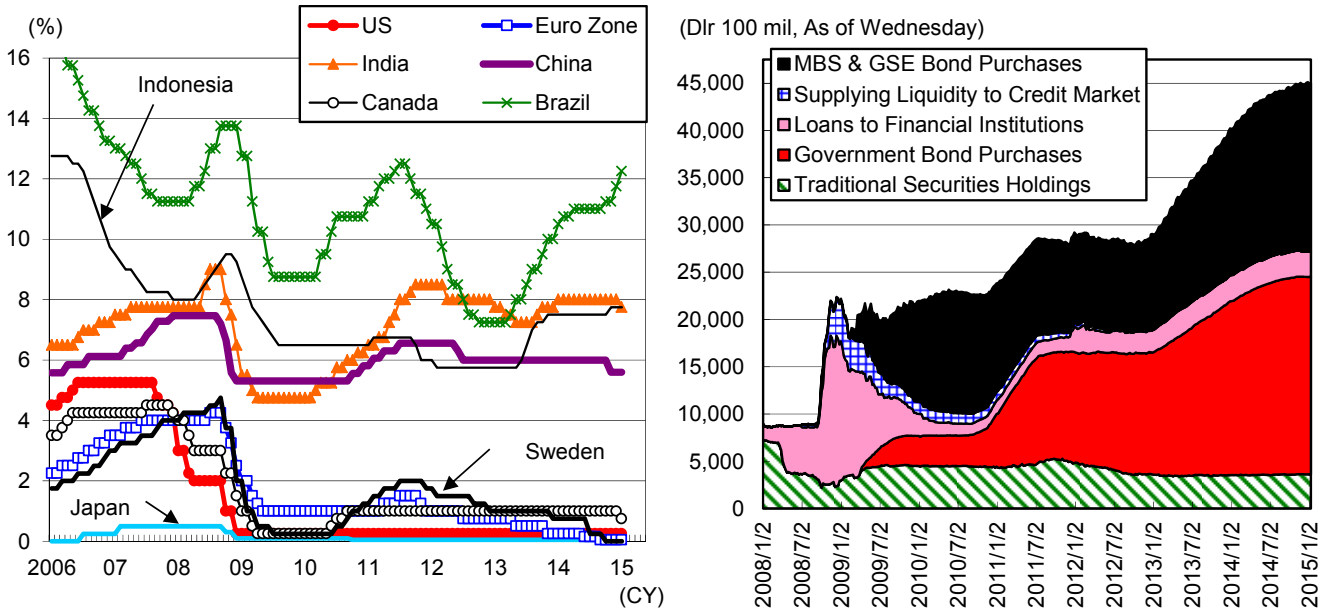



Source: University of Michigan/Reuters, EIA, FRB, Haver Analytics; compiled by DIR.

### *Balance sheet reduction expected to bring challenges*

After the end of QE3 we expect reductions in the scale of reinvestments, as well as halting of purchases. At the same time, sale of treasury securities and MBS bonds in order to reduce the balance sheet is expected to be handled with care. Between the years 2016 and 2022, the amount in treasury securities held by the Fed reaching maturity redemption is expected to reach around 200 bil dlrs or more annually. Reduction in the scale of reinvestment is also expected to have a major effect on the market. The balance sheet has swollen to 4.5 tril dlrs, and getting it back to its former level before the financial crisis (just under 900 bil dlrs) is expected to take a lot of work. The impact on the market will likely be incomparable with the end of QE3. Whenever they begin selling off bonds it will have to be done with great care since it will likely take time for the market to normalize, plus they will need to wait and see whether the new policy has been effective while at the same time making sure to avoid side effects from the exit strategy.

**Policy Interest of Various Countries (Left), and the FRB Balance Sheet (Right)** **Chart 1-1-4**




Source: FRB, FRB Cleveland, Haver Analytics; compiled by DIR.

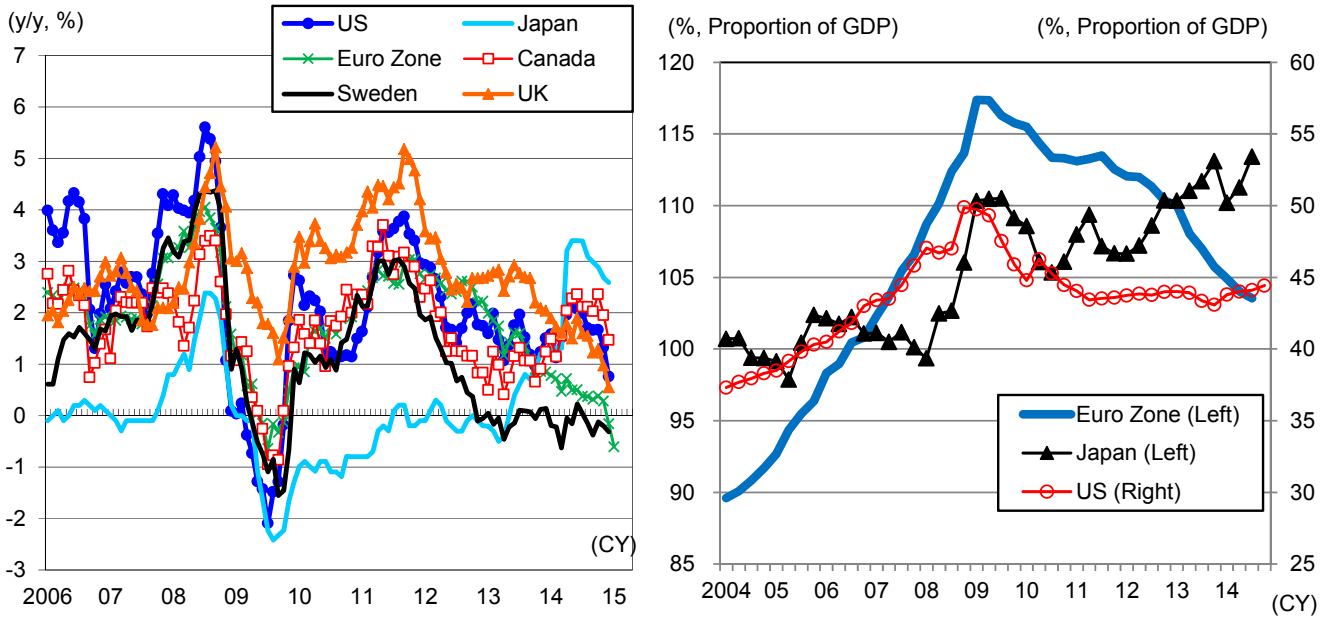
### *Amplification of effects of US monetary policy change likely*

Fed Chair Janet Yellen carries a strong belief that the employment environment needs to be improved, even if the inflation rate rises somewhat. She takes the approach of using a broad range of labor statistics in making decisions, and mentions how sluggish the growth rate for wages is and how high the rate of people working part-time for economic reasons is. She says the qualitative recovery of the labor market is insufficient.

At the same time, the fears of monetary policy hawks who worry that the longer zero interest is continued the higher it will have to be raised in the future have yet to be assuaged. Currently, external factors such as the strong dollar and the low price of crude oil have caused inflation fears to retreat, bringing more support for the Fed's low interest policy. There is still the risk that the price of crude could make a turnaround and increase considerably, and there is no guarantee that efforts to control inflationary expectations will continue to be successful.

Countries all over the world, especially the advanced countries, are currently implementing monetary easing policies. However, their positions and directions differ. The problem is that just when the US gets well underway on its exit strategy involving the raising of interest rates between the years 2015-17, Japan and Europe will still be continuing their monetary easing policies. They are moving in the opposite vector, and it is possible that differences will become all the more obvious in the near future. It is quite possible that with these differences, the effects of the Fed's policy change will be amplified, bringing fluctuations in exchange rates around the world.

**Inflation Rates in Advanced Countries (Left); Loans Outstanding to Private Sector by Banks in Japan, US, and EU (Right)** **Chart 1-1-5**




Source: FRB, FRB Cleveland, Haver Analytics; compiled by DIR.
Note: Inflation ratio expressed by Consumer Price Index (comprehensive, except for fresh fish).

### *Is the US at risk? – Could it lose its position as a winner?*

Our ten-year outlook (2015-24) sees average annual growth of 2.4%. However, we see growth slowing to 2.1% between 2021 and 2024. This is because we expect the potential growth rate to contract.

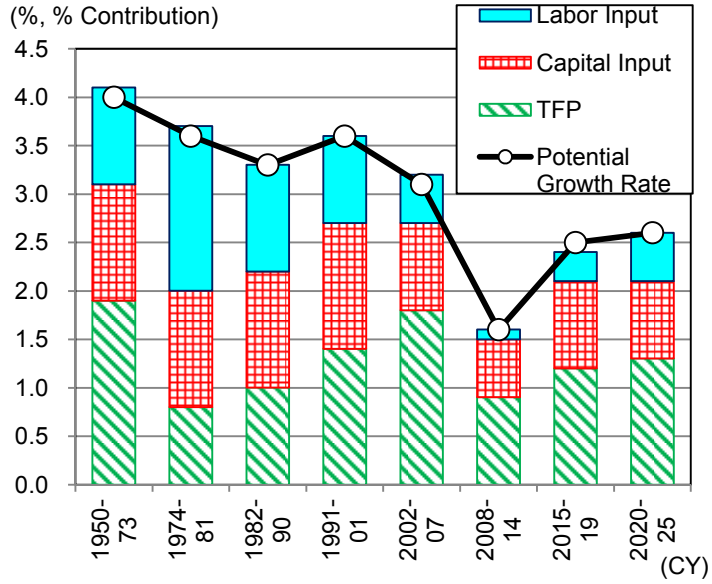
The US potential growth rate is gradually declining. One of the factors behind this phenomenon is that fact that contribution from labor input is changing. With the growth rate in labor force population at a moderate level, the labor force participation rate is expected to drop to the next level after the significant decline experienced in the year 2000. This is most likely due to the aging Baby Boomer generation, which is now exiting the labor market.

On the contrary, it is the younger generation (age 16-24) which should be cause for concern. This age group has suffered a major decline in labor force participation rate. The loss of employment opportunities for the younger generation means fewer chances to develop skills which they are still lacking. Seen in the long-term, there is a danger that growth in labor productivity will be limited, causing a drag on economic growth. To a certain extent the inflow of highly skilled immigrants in the US compensates for this problem, but due to the polarization of the two major political parties, immigration policy reform is not progressing as quickly as the IT industry would hope.

Meanwhile, the extent to which capital input contributes to the potential growth rate has been smaller ever since the collapse of the IT bubble in the 2000s. Compared to consumption, corporate capital investment (capex) now falls below the levels it has been at during past recovery phases. And although the decline is not so great, corporations seem to be approaching real capital spending with great care even though business confidence is high. Another restraint on growth in capital stock is that ever since the 2000s, global corporations have tended to push entry into foreign markets and to prioritize capital spending in overseas markets with high profitability rather than on domestic business.

Our outlook in this report sees a certain level of growth in capital spending, but in the short-term, we predict that the steep decline in the price of crude oil will have a negative effect on corporate capex activity. Considering the extent to which mining and energy contributed to investment in buildings and structures between 2011 and 2014, it is possible that restraints on investment for energy related corporations negatively affected by the steep decline in the price of crude oil will become a major factor in keeping overall figures down for capital spending.

**Factor Analysis of US Potential Growth Rate** **Chart 1-1-6**




Source: CBO; compiled by DIR.
Note: Area covered is the non-financial business sector. Period is annual average.

### *1.1.3 Outlook for the European economy*

#### *Short-term outlook for the Euro Zone*

We maintain our past outlook for mid to long-term growth in the Euro Zone, with average growth during the next ten-year period (2015-24) seen at an annual average of 1.3%. This is in keeping with the potential growth rate. Along with the new monetary easing measures implemented by the ECB, the major drop in the price of crude oil promises to provide support for the European economy. However, compared to the growth rate of over 2% before the US financial crisis, the impression is that economic growth has made a major shift downward.

In addition to the aftereffects of the debt crisis, Europe is faced with a variety of geopolitical risks,

including the Ukraine problem which places Europe in opposition to Russia, and the occurrence of major terrorist attacks within the region. It is difficult in this situation to draw a clear image of acceleration in the economic growth rate. In a continuation of the status quo in 2014, low growth of under 1% is again seen for 2015. The employment environment is moderate and risks restraining personal consumption, while the steep decline in the price of crude oil promises to push household purchasing power up somewhat in energy-dependent Europe. Meanwhile, additional monetary easing measures implemented by the ECB have brought the value of the Euro down since the spring of 2014. Next to personal consumption, the cheap Euro will give the economy a boost by encouraging growth in exports. Hence, it is likely that the growth rate may accelerate somewhat in 2016.

### *ECB takes leap into quantitative monetary easing*

The ECB announced its quantitative monetary easing policy at the January 22, 2015 Monetary Policy Meeting. As of the beginning of March, it will make monthly purchases of government bonds totaling 60 billion Euros. The cut-off date for these purchases is set in September 2016, but if the ECB policy target of a growth rate in consumer price of just under +2% y/y in the midterm cannot be reached by then, it will extend the purchase period. The ECB has announced a wide variety of additional measures since 2014, but this represents the first time it has taken the leap into a non-traditional monetary policy along the lines of the FRB and the BOJ.

Behind the pressure on the ECB to invoke a quantitative easing policy was the economic downturn, as well as the inability to see a way out of the low inflation situation in the Euro Zone. The growth rate in the Euro Zone's CPI has continually fallen into negative numbers since the US financial crisis of 2009. In reaction to the major decline in energy prices, the negative gap in the CPI growth rate expanded further, and is expected to record negative numbers for the 2015 year overall. Having only just taken the leap into quantitative monetary easing measures, it is expected to be 2018 or later before the ECB begins, like the Fed, to grope around for an exit strategy and to start raising the policy interest rate again. Most likely when it does, the extent of interest rate increases will be less than previously expected.

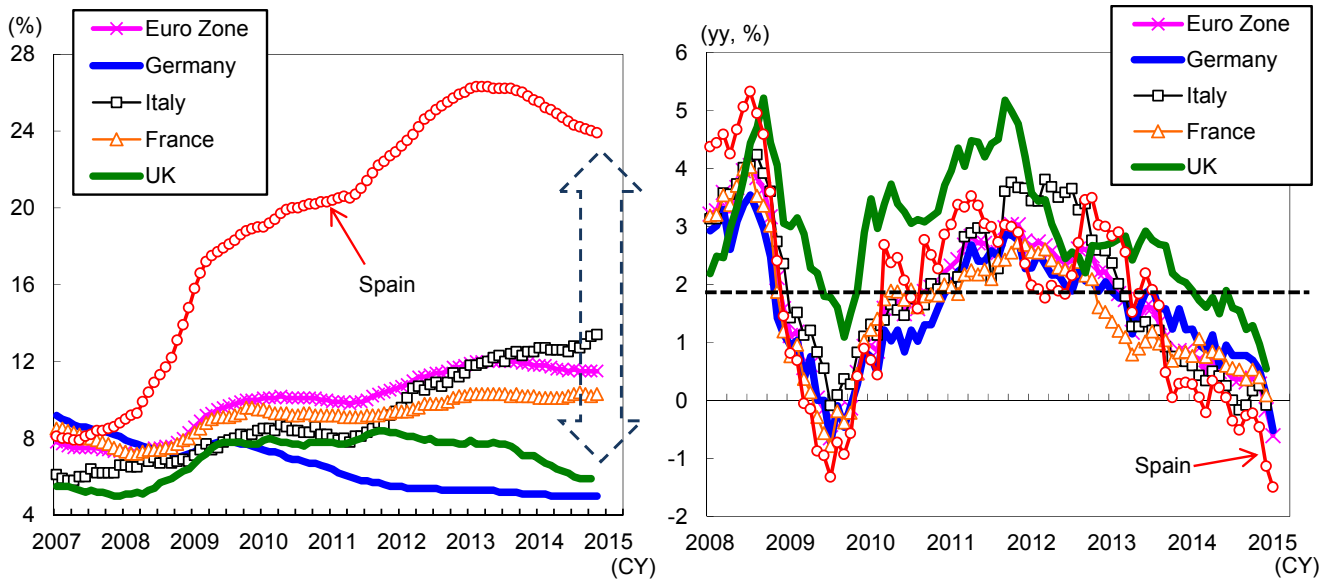
In order to increase corporate financing by banks to the degree that the ECB intends, corporate demand for capital must first recover. Continuous recovery in the world economy will likely be an important factor in encouraging improvements in business management mindset.

### *Structural problems facing Europe*

All in all, economic recovery is weak, and with this as a general background, differences between the strong and the weak become quite clear. In contrast to Germany, the strongman in Europe, some of the weaker nations appear to have tired of reforms, and their discontent can easily erupt at the ballot box. Since there is a certain amount of pain on the part of citizens associated with these policies, there has been strong resistance to government in many countries. If, as in the case of the recent election results in Greece, the EU is thrown further into confusion, there is a danger that events could occur which could cause it to lose its unifying force. General elections are planned in a number of countries in 2015, including Portugal, Spain, and the UK, and the question of whether anti-EU and anti-Euro elements gain more support and hence more political influence will be a major focus of attention this year.

The EU market is going through major expansion, and within the Euro Zone there is no risk of currency fluctuation since all members use the same currency. This also means that interest rates and inflation have tended to remain on the low side. However, one of the original principles that made the Euro Zone attractive, the mobility of capital and labor within the zone which was expected to correct economic inequality, has in fact not worked at all. There are great differences in the unemployment rates between member countries, and at this point no progress has been made in dealing with this issue.

**Unemployment Rates (Left) and Inflation Rates (Right) of European Countries** **Chart 1-1-7**




Source: Eurostat, Haver Analytics; compiled by DIR.

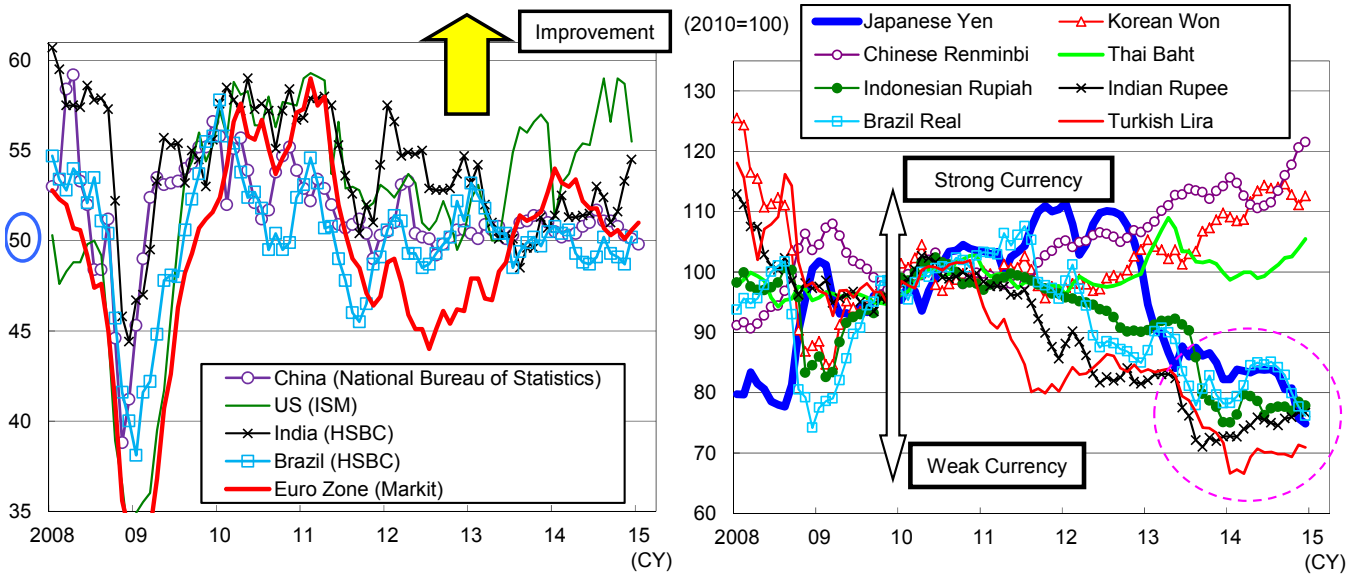
## *1.1.4 Economies of emerging nations*

### *Economic slowdown in the emerging nations*

In the midst of the commotion caused by the QE3 contraction in 2013, some emerging nations found raising interest rates unavoidable. Corporate investment and consumption then suffered a slowdown due to higher interest rates and inflated import prices stemming from weak currencies. Then economic growth rates were revised downward leading to the current situation. Meanwhile, the advanced nations implemented additional monetary easing measures during the fourth quarter of 2014. There were varied reactions in the emerging nations to inflation. Some lowered interest rates such as India, while others, such as Brazil and Indonesia, raised interest rates being more concerned about inflation.

The emerging nations will likely be effected by the US policy interest rate hike during the first half of the period forecast in this report, and by the US exit strategy overall. The BIS has indicated that the world economy, and especially the economies of the emerging nations, will likely be affected if the dollar continues to strengthen. Most major corporations in the emerging nations have procured funds by issuing US dollar denominated bonds. This was due to the Fed's low interest policy. Now the change in the Fed's policy will cause interest rates to rise and the value of the dollar to go up. This will cause debt to swell when converted into local currencies, and corporate debt repayment to increase. In other words, the problem of currency mismatch will occur. Moreover, since commodity prices such as crude oil and other primary products have declined considerably, countries that depend on the export of these products will have difficulty repaying debts with US dollar procurement amounts shrinking.

**Manufacturing Industry Business Confidence in Various Countries (Left); Nominal Effective Exchange Rates in Emerging Nations (Right)** **Chart 1-1-8**




Source: China National Bureau of Statistics, ISM, HSBC, Bloomberg, BIS, Haver Analytics; compiled by DIR.

### *Opinion regarding China's future*

The big question is whether China can now shift into a stable growth phase, and what level of growth rate it will settle into after the high growth period it recently experienced. However, considering the slowdown already being experienced in sectors with a strong sense of overcapacity and the slowdown in corporate fixed asset investment, as well as the downward pressure on personal consumption already being experienced as a result of the strengthening of regulations associated with environmental and social problems such as escalating air pollution and extreme traffic congestion, we expect the growth rate to slow in the short-term to 7.0% in 2015 and 6.8% in 2016. The economic growth rate should gradually move into a downward trend in the mid to long-term as well, as China's industrial structure shifts to services and the economy matures. This is a pattern that has already been observed amongst the advanced nations.

China's working-age population (age 16-59) declined as of the end of 2014 by approximately 3.7 million in comparison to the previous year. This was the third consecutive year of declines. The ratio of young people to total population was already low in the past, but is now continuing a downward trend. The one-child policy is gradually easing up, but it will take time for effects to be seen due to change in the birthrate. In other words, even if the total number of births increases somewhat due to easing up on the one-child policy, it will be fifteen years before these additional births are counted as part of the working-age population. In terms of supply, it will be awhile before these new births begin to provide support to the macro-economy. Considering predictions for the future of China's demographic situation, including factors such as aging and the decline in working-age population, labor force supply restrictions will likely push down the potential growth rate in the future.

Falling into a labor shortage would produce the classic textbook case of upward pressure on wages, as well as the development and maturation of society and a higher standard of living. This would be accompanied by a change in the self-awareness of the population and more pressure to continue raising wages. In order to handle these changes, industry has to shift from a labor-intensive approach to a capital-intensive one in order to reach another level of increase in productivity.

We feel that the natural conclusion to reach here is that China's growth-rate will gradually slow down in the long-term. We predict that growth rate will hit around 5-6% after the year 2020. The only way for China to avoid this somewhat guarded conclusion would be for its economy to make a smooth shift from an investment-driven economy to a consumer-driven one. Although China is gradually losing its attraction as a producer nation as wages increase and the business environment worsens, it still has a

population of over one billion people, so if the Chinese market can shift to consumer-driven growth, it will be able to regain its allure.

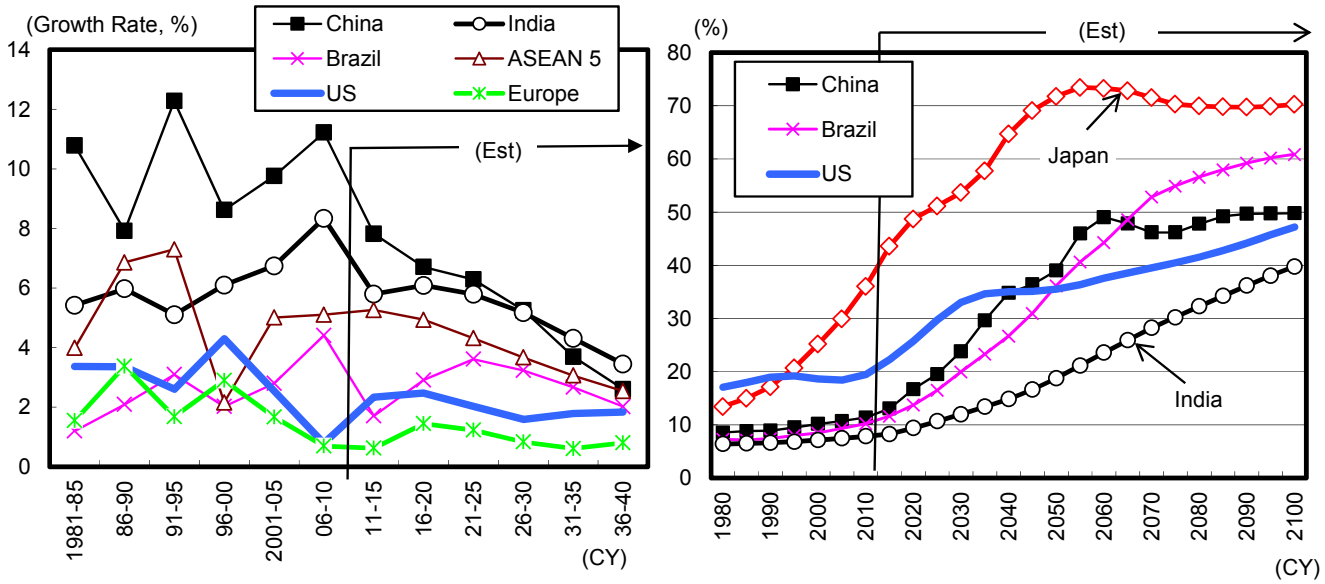
### *1.1.5 Possibility of long-term stagnation for the world economy*

#### *The world's demographics*

Taking a bird's-eye view of the long-term situation for the entire world, one might say the key to economic growth is demographics. A most essential point is how committed is the younger generation to the economy and what form does that commitment take. Merely an increase in the population of the younger generation does not contribute to economic growth. They need the right training and educational opportunities, and there have to be work opportunities. Without this, an increase in the population of young people would instead become a source of social instability.

According to the UN Population Fund, the world's population of young people aged10-24 is currently just under 1.8 billion out of a total world population of 7.2 billion. This is 25% of the world's population. Moreover, approximately 90% of this population is located in developing countries. For instance in the case of India, the population totals less than China, but the ratio of young people is especially high at 355 million, or 30% of the entire population. The only developed country with a high ranking in the population of young people is the United States, which is an exception to the rule. Another fact worthy of note is that the younger generation in China accounts for only 20% of the total population, which is on the low side.

**A Picture of the World in the Long-Term: Growth Rate (Left) and Population (Young & Old) (Right)** **Chart 1-1-9**




Source: The United Nations; compiled by DIR. Figures after the year 2011 are DIR estimates.
Note: All figures are period average rates. ASEAN 5 refers to founding members of the ASEAN. Figures for Europe include the UK.
Estimated population is the median estimate. Elderly population: over age 65, Working-age population: age 15-64

## 1.2 Effects of the Collapse in Crude Oil Prices on World Economy

***Some will benefit and some will not***

Due to the uneven distribution of resources, the effects of the collapse in crude oil prices are expected to differ considerably depending on the country or region. The IMF has calculated the effects of cheap crude oil on the world economy overall, predicting that it would raise GDP by 0.3-0.7% in 2015 and then 0.4-0.8% in 2016.

***Consumer nations***

For countries that depend on imports of crude oil and other energy resources (energy-consuming nations), the recent collapse in the price of crude oil will have a positive effect on the economy overall. What this amounts to basically is a shift of income from oil-producing nations which had until now lined their coffers with high-priced exports of crude oil, to the importing nations which until now were carrying the burden of high cost.

This is especially so in the case of Japan. Ever since the Great East Japan Earthquake of 2011, import volume of crude oil, natural gas, coal, and other energy resources has increased, and the major rise in import value since the earthquake has caused a significant increase in the trade deficit. This was a great burden for domestic consumers of energy including both corporations and households. Hence the collapse in crude oil prices should have a positive effect in Japan. Cheap crude oil has brought down the price of raw materials used in many products and hence has helped to cut costs and improve corporate earnings. If the fruits of this decline in energy costs brings salary increases to workers and increased dividends to shareholders, consumption may expand as well. Moreover, corporations may respond to lower energy costs by increasing production.

At the same time, we expect the impact of cheap crude oil to differ from one corporation or industry to the other. For instance, the profitability of corporations actively involved in the development of natural resources overseas will naturally deteriorate, and in some cases lead to the recording of unavoidable losses on balance sheets.

***Resource-rich countries and producer nations***

Resource-rich countries and producer nations include the members of OPEC, Russia, Canada, Mexico, Norway, and Brazil, as well as Australia. The impact will differ greatly from country to country depending upon the weight the energy sector carries in overall industry, as well as the percentage of exports accounted for by crude oil. But be that as it may, economic growth in these areas will be affected negatively. Corporations in the energy field may halt projects whose profitability has worsened due to price declines, reduce the amount of their investments, or even lay off personnel. The shadow of unemployment may also fall over some regions.

If a country is hit by a major devaluation of its currency as has Russia, inflationary pressure will increase. The Central Bank of Russia was obliged to raise the policy interest rate considerably as a means of protecting its currency. On the other hand, Canada's central bank took the opposite approach and lowered interest rates in order to stave off the risk of a slowdown in inflation which was feared due to the negative effects of cheap crude oil.

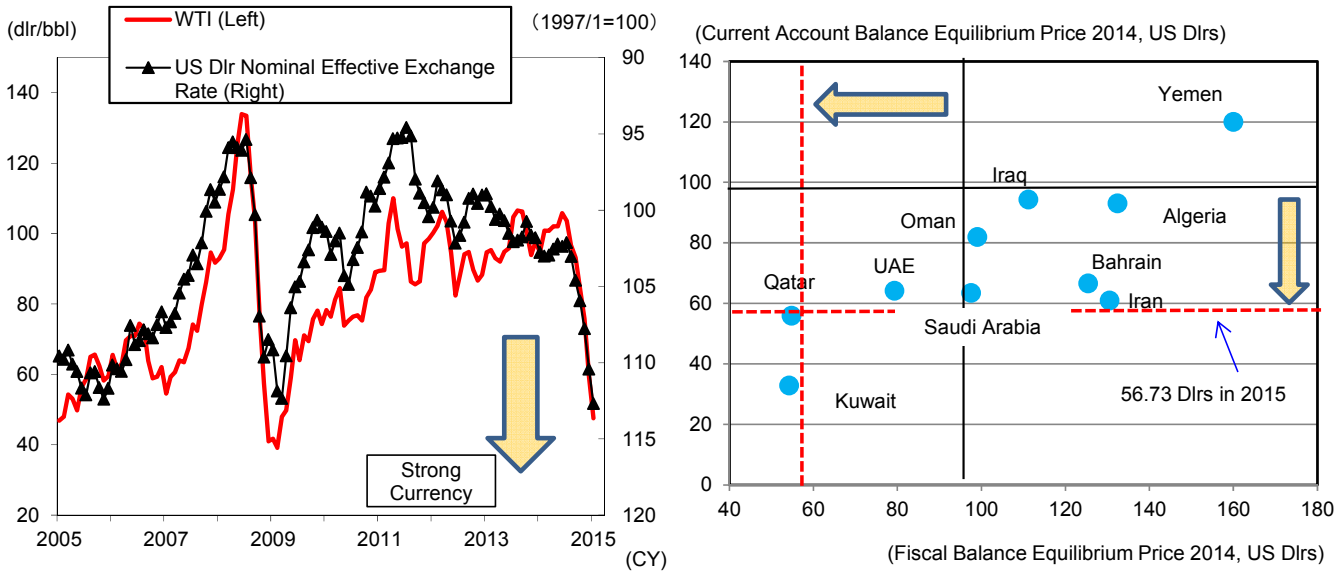
***Oil-producing nations of the Middle East may see twin deficits***

The oil-producing nations of the Middle East depend largely on crude oil for their revenue. Hence the low price of crude oil has a direct, negative effect on fiscal balance. Most of these countries have developed a buffer to guard against this type of occurrence saved up during past years when the fiscal balance was in the black, so it is probably not necessary to start on a deficit reduction policy right

away. However, if the price remains at a low for the long-term, most of the Middle Eastern countries will likely end up with twin deficits with current account balance also running a deficit. Their economic situations would then become quite difficult. We believe that if this occurs, the possibilities of a coordinated production cut amongst OPEC members would become quite likely.

Oil-producing countries have traditionally been involved in a wide range of investment projects around the world with the capital for these funds originating in their cumulative surplus. If they were to pull capital out of their various investments, it would likely cause turbulence in the world financial markets. Even if they do not do something as extreme as pulling out of their current investments completely, it would likely become difficult gathering funds for new investments. If capital inflows into risk assets such as stocks and real estate were to be choked off due to shyer investors in the Middle East, there would be an extremely negative effect on the world economy and financial markets.

**Price of Crude Oil and US Dlr (Left); Middle Eastern Oil Producers Equilibrium Price of Crude (Right)**
**Chart 1-2-1**




Source: FRB, EIA, IMF; compiled by DIR.
Note: The BIS broad-based effective exchange rate is used here. The arithmetic average price from Brent, Dubai, and WTI was 96.26 USDlr/bbl in 2014. The IMF sees 56.73 USDlr/bbl in 2015 and 63.88 USDlr/bbl in 2016 (World Economic Outlook UPDATE, 2015 Jan).

### *The US – both consumer and producer*

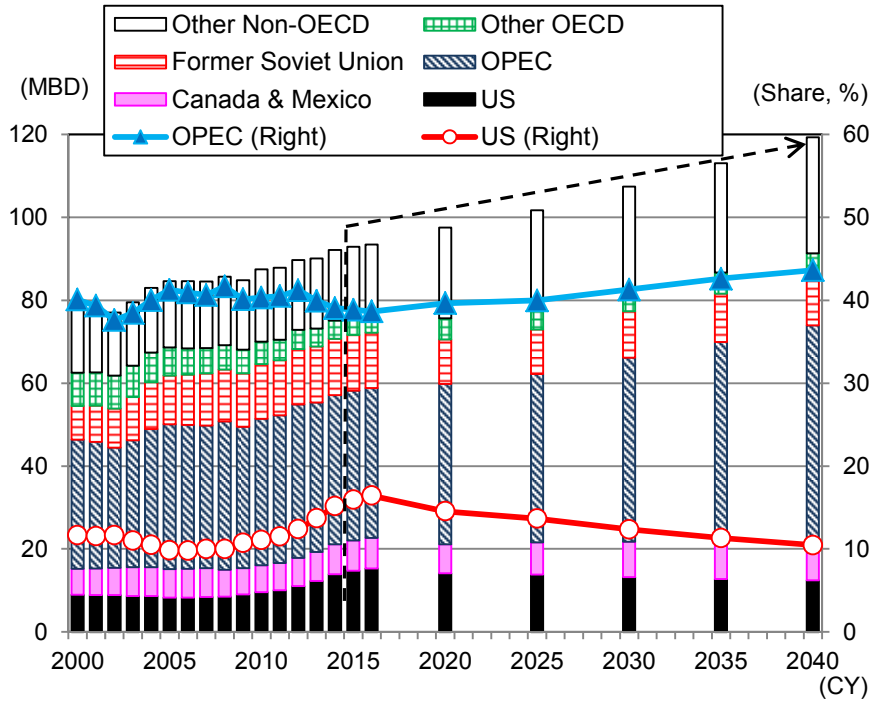
The United States faces a more complex situation being it has the characteristics of both an energy consumer and a producer. Since it is first of all a net importer of crude oil, it should experience positive effects overall. Specifically, consumer expenditure on energy and gas will be reduced and there will be more discretionary income. The collapse in energy prices has the effect of increasing household purchasing power much like a tax cut would.

On the other hand, the US has a large energy industry whose earnings environment is now experiencing sluggish sales. Hence lower oil prices are a negative for this industry. However, if we take a look at the business performance of individual shale oil related corporations, their conditions vary. Some corporations are able to maintain their profitability by cutting costs, such as reining in new investments. Some firms will be able to increase the productivity of their facilities and up production, while others may find themselves in a tight liquidity position and forced into bankruptcy. If mining and drilling activity becomes sluggish and plans for new domestic development and investment is cut back, this would also mean a decline in capital spending. Moreover, if the tendency to practice restraint in the development of resources were to spread beyond US borders to the emerging nations as well, it could end up seriously impacting manufacturers of construction machinery and excavation equipment and materials as well. Of course, for companies which are part of the energy consumption sector, such as public utilities which supply and distribute electricity and gas, this will be a factor leading to growth

in earnings. Meanwhile, if household purchasing power increases, corporations associated with consumer goods will naturally benefit.

However, the market still carries a high level of uncertainty, all the more so because of the rapidity of the recent price change and the extremity of the decline. Opinions regarding the future of the price of crude oil are many and various. But even more fundamental for the US is the fact that no matter whether the price goes up or down, it still has energy resources within its own borders which are both prosperous and promising. When the price is cheap it can import energy from other parts of the world and gain whatever benefits it can from that choice. Then, if at some point the price of its own domestic energy sources happens to stabilize, it can cut domestic production costs and likely attain an improvement in industrial competitiveness. If the possibility increases for moving production sites from overseas to domestic locations, this would also lead to improvement in the employment situation in the US and then to an increase in personal consumption. Many possibilities come into view leading to a positive economic cycle.

**Outlook for Production of Crude Oil (EIA)** **Chart 1-2-2**




Source: EIA; compiled by DIR.
Note: Includes condensate, liquefied natural gas (LNG), and biofuels. Energy Information Administration (EIA), outlook for 2015 and beyond.

# 2. Japan's Economy Over the Next 10 Years

## Overview

### *(1) Outlook for Japan's Economy*

We predict that Japan's economy will grow 1.2% (nominal) and 1.0% (real) over the next 10 years (annualized average rates for FY15 to FY24). The growth of exports ensuing from the gradual expansion of foreign economies will support the sustained expansion of the economy throughout our forecast period. Especially in the first half of our forecast period, factors such as lower crude oil prices, weaker yen, and low interest rates will augment overall economic activity.

### *(2) Outlook for Monetary Policy*

While the inflation rates are expected to gradually accelerate for the most part, the Bank of Japan will still find it difficult to achieve its inflation target. The policy interest rate will remain zero, and the BOJ is expected to maintain its policy of quantitative easing. Technical limitations to the quantitative and qualitative easing, however, will likely compel the BOJ to change its policy regime. An important turning point will be around 2018 when the terms of BOJ Governor Haruhiko Kuroda and Prime Minister Shinzo Abe come to an end.

### *(3) Outlook for Foreign Exchange Rates*

Differences in the direction of monetary policy between Japan and the US will work to weaken the yen for a few years. The US, however, will cease its monetary tightening around 2018, and at around the same time technical limitations will materialize for Japan's monetary easing. We anticipate in our main scenario that these changes will bring the yen's weakening trend to an end.

### *(4) Possibility of an Ending in Deflation Scenario*

As an upside risk, the end to deflation may come into view through the depreciation of the yen. There is a possibility that the vicious cycle of worsening international competitiveness, lower wages, and a stronger yen will be replaced by a virtuous cycle of improving international competitiveness, higher wages, and a weaker yen. To materialize the scenario, three conditions must be satisfied; (1) the yen's ongoing depreciation will reverse expectations for a strong yen, (2) as the level of the yen weakens further, international competitiveness will recover, and (3) wages will regain their upward inertia.

### *(5) Outlook for Government Finances*

While the goal of reducing the primary balance deficit as a percentage of nominal GDP by half from its FY10 level by FY15 is within range, the target of achieving a primary balance surplus by FY20 will be difficult under the current fiscal system. Public debt as a percentage of nominal GDP is foreseen to continue its steady rise.

Restoring government finances to health and ending deflation are not opposing concepts that cannot be achieved at the same time. Rather, they are issues of major significance that must be achieved in parallel. It will be essential to improve the level of the primary balance deficit by raising taxes and by reducing expenditures and to work to prevent the structural increase of expenditures.

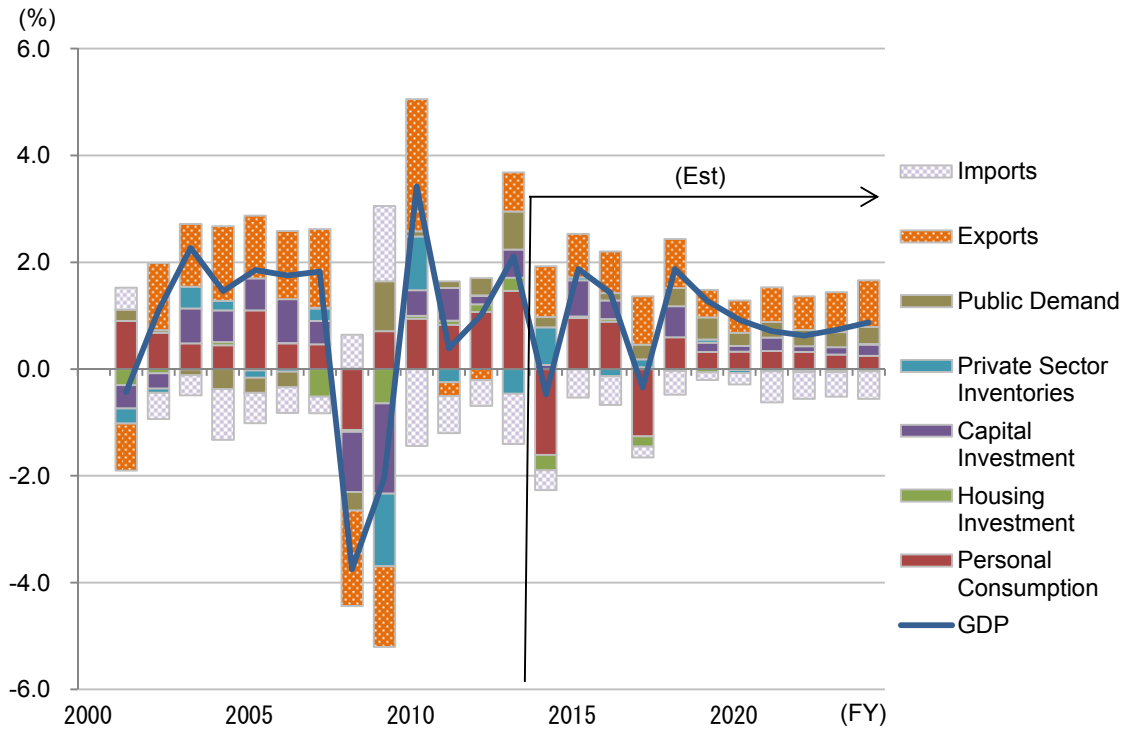
## 2.1 Summary of Japan's Economic Outlook[5]

As indicated at the start of our report (pages 3 to 6), we predict that Japan's economy will grow 1.2% (nominal) and 1.0% (real) over the next 10 years (annualized average rates for FY15 to FY24). The growth of exports ensuing from the gradual expansion of foreign economies will support the sustained expansion of the economy throughout our forecast period.

Dividing our forecast period into two halves (FY15–19 and FY20–24), a relatively higher growth rate will be achieved in the first half. We predict that the economy will grow 1.3% (nominal) and 1.2% (real) in the first half and grow 1.1% (nominal) and 0.8% (real) in the second half (annualized average rates). This will be brought by factors such as lower crude oil prices, a weak yen, and low interest rates, which augment overall economic activity especially in the first half. In the second half of our forecast period, these positive factors will gradually wane, and the economy is expected to slow. It bears noting that numerical growth rates are somewhat overstated for the first half since this period can still be characterized as a time of recovery from the financial crisis in 2008 and the major earthquake in 2011 and since relative to FY14 when the economy slowed from the increase of the consumption tax the economic growth rate in the followed year will be technically high.

It also bears noting that the increase of the consumption tax in FY17 (from 8% to 10%) will reduce the purchasing power of households and will become a factor slowing the economy's growth rate for the same year. In addition, the growth rate will be boosted in FY16 from the acceleration of demand before the tax increase, and the growth rate will fall in reaction in FY17. Relatively high growth rates will be achieved in FY15 and FY18 in recovering from these downward reactions technically due to lower baselines.

**Outlook for Real Growth Rate** **Chart 2-1**




Source: Cabinet Office; compiled by DIR.

[5] See 2.6 "Detailed Outlook for Japan's Economy" for more detailed information

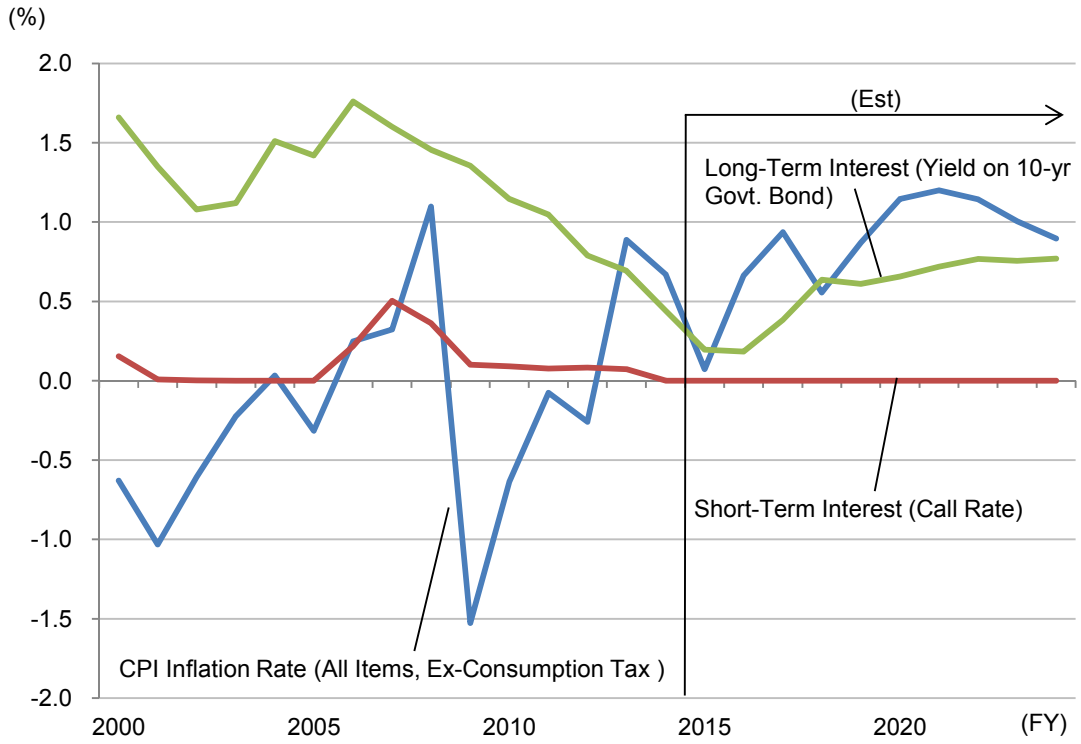
### *Summary of the outlook for monetary policy and foreign exchange rates*[6]

The inflation rate is expected to gradually accelerate in the second half of our forecast period. This will in large measure stem from the improvement of the GDP gap as a consequence of the sustained expansion of the economy. We predict that the CPI (all items) inflation rate will accelerate from an average of 0.9% in the first half to an average of 1.1% in the second half. While the CPI inflation reflects the recovery of crude oil prices, the GDP deflator is also expected to improve from 0.0% in the first half to 0.3% in the second half.

However, the BOJ's price stability target of 2% will not be achieved, and the central bank's monetary policies will remain accommodative. The policy interest rate (overnight call rate) will remain zero, and we do not assume the unwinding of quantitative easing. Given that the long-term interest rate (yield on 10-year JGBs) is approaching its lower bound, it is difficult to imagine the quantitative and qualitative easing having any further impact on the economy through the path of lowering interest rates. The true objective of this policy, however, is presumed to bring deflation to an end by encouraging the depreciation of the yen. From this perspective, there is still high possibility that the BOJ will ease further, on the pretext of the inflation target.

It is worth noting that the quantitative and qualitative easing has its limitation on sustainability. If the BOJ continues to purchase around Y80 trillion of JGBs each year, it will eventually reach a point where there is "nothing left buy". Moreover, if the BOJ increases the pace of purchasing JGBs again by easing monetary policy further, this limitation on sustainability will be reached at an earlier time. Hence, the BOJ will be compelled to change its policy regime, and it is highly likely that the central bank will need to reduce the pace of asset purchases as a result. When this limit to monetary policy will arrive is extremely difficult to forecast, but we anticipate an important turning point will be around 2018 when the terms of BOJ Governor Haruhiko Kuroda and Prime Minister Shinzo Abe come to an end.

**Outlook for Prices and Interest Rates** **Chart 2-2**




Source: Ministry of Internal Affairs and Communications, The Bank of Japan; compiled by DIR.

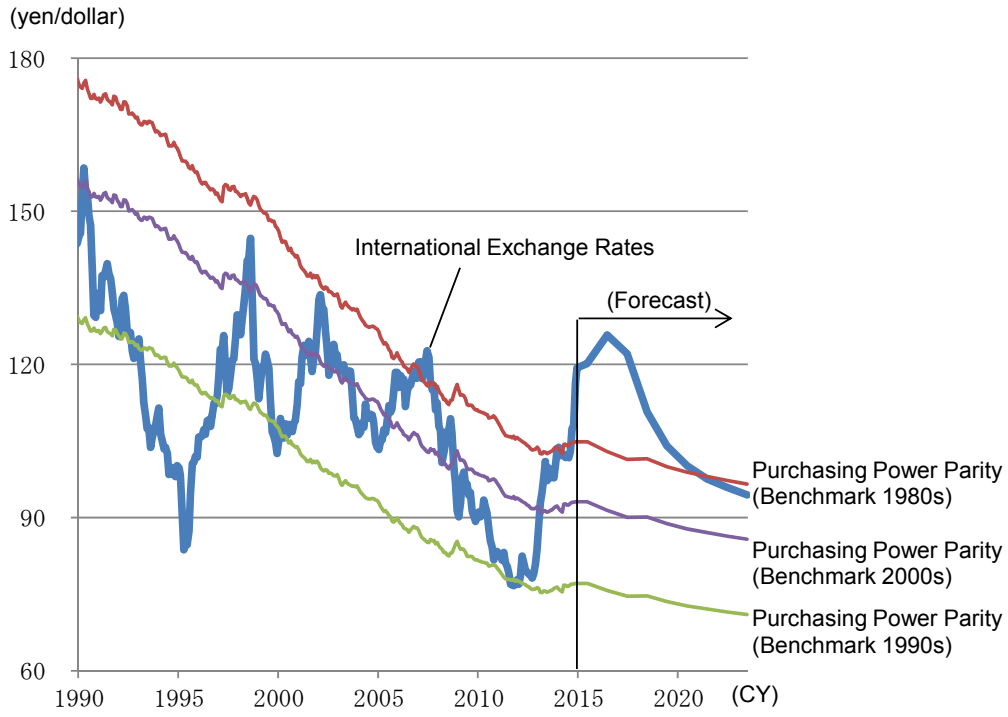
[6] See 2.4 "Outlook for Monetary Policy" and 2.5 "Outlook for Exchange Rates" for more detailed information.

While an accommodative monetary policy is maintained in Japan, the US is expected to tighten its monetary policy over the next few years. This difference in the direction of monetary policies will work to weaken the yen for a few years, and it will be all the more so if the BOJ eases monetary policy further to encourage the yen's depreciation. Also, currency markets have become more volatile and more readily influenced by financial factors since the gravity of foreign exchange rates to converge on purchasing price parity has declined due to the structural changes of the tradable goods market where companies have increasingly adopted pricing to market[7]. This will increase the possibility that the yen will remain weak over the next few years.

The tightening of monetary policy, however, will cease in the US around 2018. Also, as noted above, the Japan is presumed to be compelled to change its monetary policy regime. In our main scenario for foreign exchange rates, we anticipate that the trend for a weaker yen will come to an end around FY17 and FY18, as financial markets factor in beforehand the coming change in the policy regimes.

On the other hand, the possibility cannot be ruled out of the current policy regime being strengthened further and of the BOJ expanding its asset purchase program beyond JGBs to include the bonds of regional governments and private corporations. Moreover, the upside risk of the vicious cycle of a stronger yen and deflation being replaced by a virtuous cycle of a weaker yen and inflation is no longer zero in the medium to long term.[8] Given the prospect of these two opposing extreme scenarios materializing, an important watershed for anticipating the direction of interest rates and currency markets will be 2018 when the terms of BOJ Governor Kuroda and Prime Minister Abe come to an end.

**Outlook for Exchange Rate and Purchasing Power Parity (CPI Basis)** **Chart 2-3**




Source: Ministry of Internal Affairs and Communications, FRB, and Bureau of Labor Statistics; compiled by DIR.

[7] See 2.6.1 "Outlook for exports" for more detailed information.
[8] See 2.3 "The Causes of Deflation and Required Prescriptions" for more detailed information.

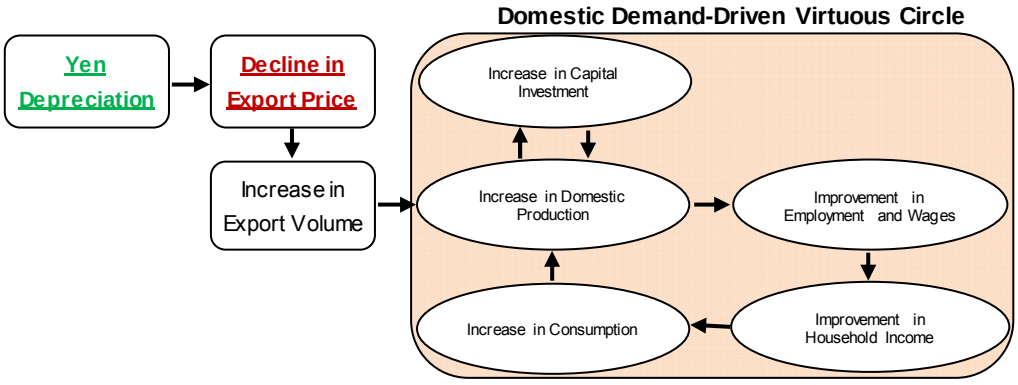
### *Changes surrounding Japan*

Our current forecast factors in four changes that will greatly influence Japan's economy. These changes include; (1) the significant depreciation of the yen, (2) the sharp decline of crude oil prices, (3) the revision of the corporate tax system, and (4) the postponement of a consumption tax increase. In the paragraphs to follow, we discuss the impact these changes will have on Japan's economy and examine risk scenarios.

### *Impact of a weaker yen on Japan's economy*[9]

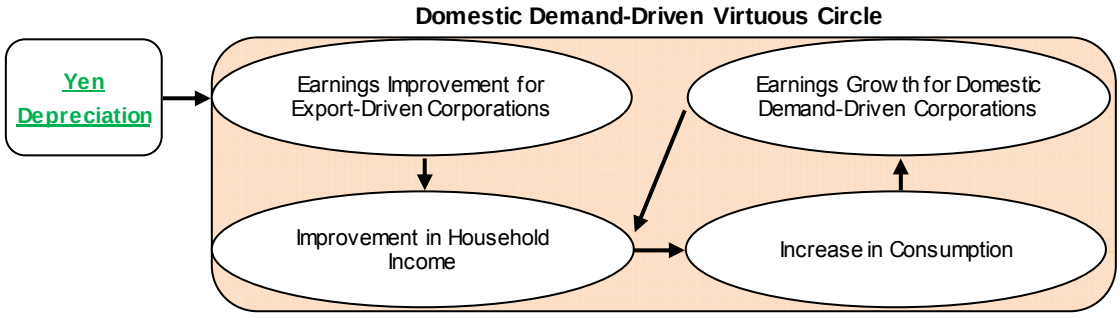
Differences in the direction of monetary policies between Japan and the US have caused the yen to depreciate by nearly 50% against the US dollar compared to the period before the change in administration in Japan. Expectations that this depreciation of the yen will boost the Japanese economy remain strong. However, the path by which the depreciation of the yen influences domestic demand through the tradable goods sector has seen a structural change. The path observed in past periods of yen depreciation was one where export volume rose from lowered export prices, which propagated a virtuous cycle for domestic demand as depicted in Chart 2-4. This path, however, has changed to one illustrated in Chart 2-5 as exporting companies shifted to setting prices in local currencies. As a result, the positive effect of the depreciation of the yen on the domestic economy has weakened, and it would not be reasonable to place huge expectations on the effects of a weaker yen. This situation also means that the adverse impact of the yen's appreciation has also diminished.

**Impact of Weak Yen on Japan's Economy (Past)** **Chart 2-4**




Source: DIR.

**Impact of Weak Yen on Japan's Economy (Present)** **Chart 2-5**




Source: DIR.

[9] See 2.6.1 "Outlook for exports" for more detailed information.

### *Will reshoring occur?*[10]

There are expectations that the depreciation of the yen will promote the return of corporate activity to Japan and that this will augment the growth of Japan's economy. However, for a return to Japan to occur at the level of the entire economy, significant existing international differences in wages (marginal unit labor cost) must be offset by a sufficient amount of the yen depreciation, the decline of domestic wages, or perhaps the increase of overseas wages increase. This hurdle becomes all the more higher when we factor in the existence of various trade costs and the rising benefit of local production resulting from industrial clustering.

A return to Japan, however, is highly likely to occur in part when examined at the micro and semi-macro levels. The relative productivity of domestic production compared to overseas production can differ by industry and company. The possibility exists that industries and companies with relatively high productivity will return to Japan at a fairly early stage.[11] While not reshoring as strictly defined, there are already cases of idle facilities in Japan returning to operation from foreign capacity utilization rates reaching a limit or from the increase of domestic demand. It is still too early, however, to hope that these cases of reshoring will become a full-fledged trend.

[10] See 2.6.1 "Outlook for exports" for more detailed information.
[11] See Appendix.1 "The Balassa–Samuelson Effect on Wages and Prices" for more detailed information.

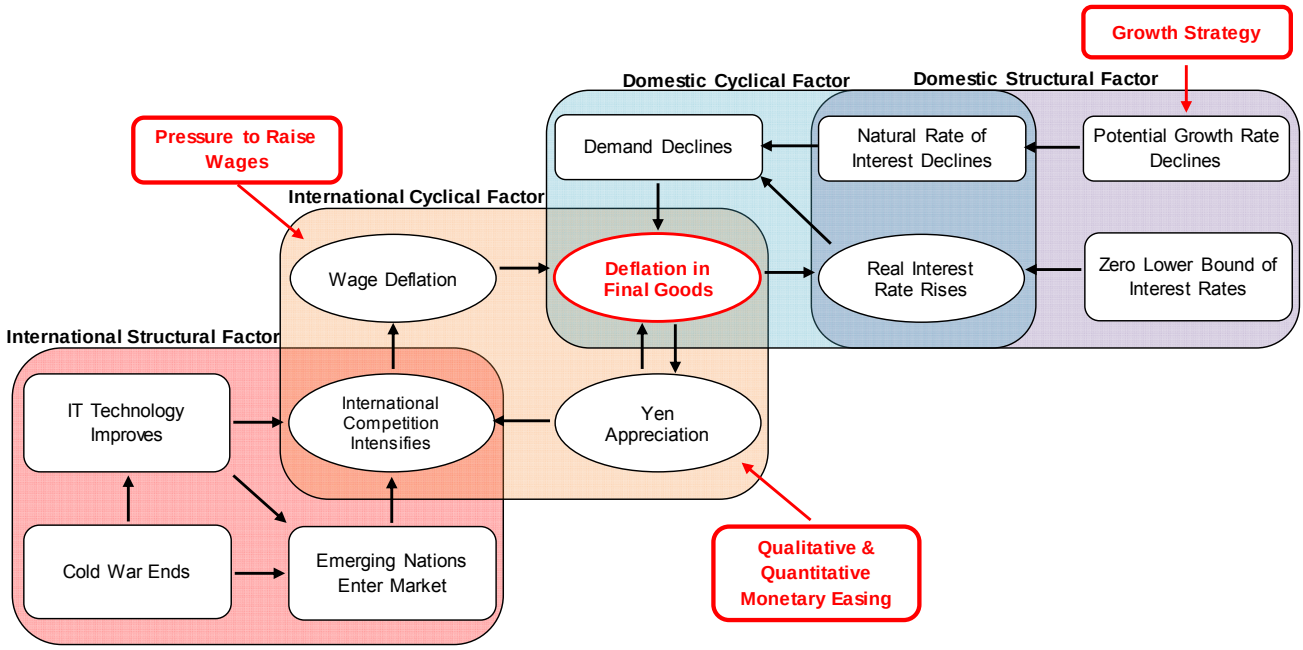
### *Upside risk of overcoming deflation*[12]

As noted above, the yen's depreciation is not expected to have much of an impact in lifting the economy in cyclical terms. It does, however, in structural terms have the potential of bringing the end of deflation closer. Deflation in its monetary aspect means the increase of the value of the Japanese yen, and deflationary expectations have been accompanied by expectations for a stronger yen. For breaking this vicious cycle, the ongoing depreciation of the yen since the start of the Abe administration is a positive development that strengthens the prospect for the reversal of deflationary equilibrium.

However, the process of surmounting deflation through the yen's depreciation has only reached the midway point. First, to reverse expectations for a stronger yen, a trend toward a weaker yen will need to be maintained. Second, the yen will need to depreciate by a considerable amount to a level where wages in Japan converge on international wage levels. Third, even if convergence with international wage levels is achieved, wages will need to regain their upward inertia so as not to revert to yen appreciation and wage deflation. And fourth, the decline of the potential growth rate will need to be halted at the same time, which has been another factor for deflation.

These are hurdles that will not be readily overcome. In the main scenario for our current forecast, we do not envision deflation being fully surmounted. However, a set of government policies consisting of depreciating the yen through quantitative and qualitative easing, placing upside pressure on wages through political pressure and tax reforms, and the implementation of growth strategies is making steady progress toward ending deflation. By winning the House of Representatives election of December 2014, the Abe administration has assumed responsibility for managing government policies for the next four years. It is hoped that the Abe administration will further promote a range of policies and that the upside risk for Japan's economy will materialize in full.

**The Cycle of Self-Fulfilling Deflation** **Chart 2-6**




Source: DIR.

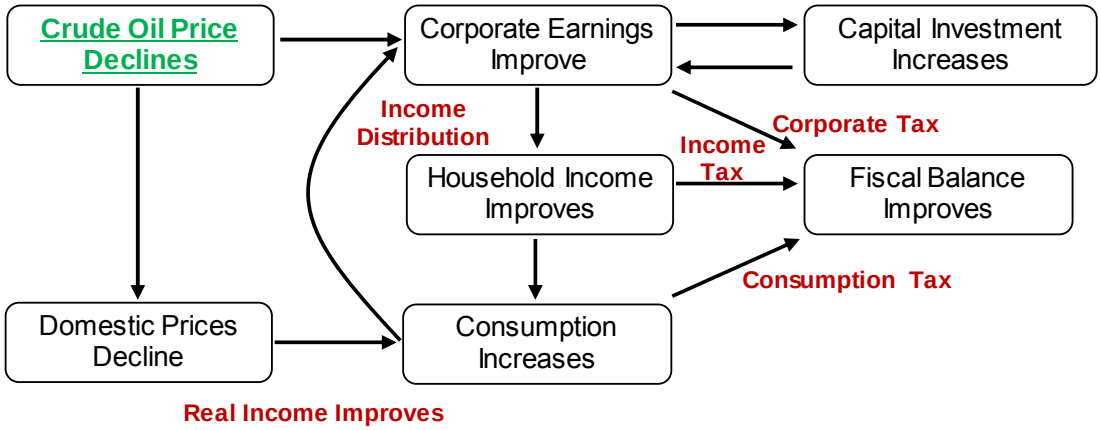
[12] See 2.3 "The Causes of Deflation and Required Prescriptions" for more detailed information.

### *Impact of lower crude oil prices on Japan's economy*

Such structural factors as a widening of the supply-demand gap have resulted in crude oil prices falling from their most recent high of more than $100 to the $40 level. The decline of crude oil prices is anticipated to boost Japan's economy through the path illustrated in Chart 2-7.

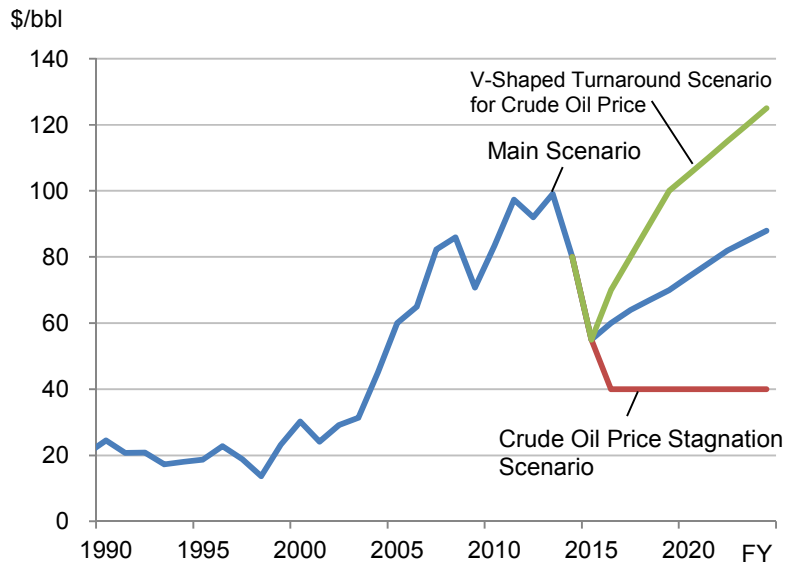
First, lower crude oil prices will enhance corporate income by improving the rate of return of companies at the macro level. The improvement of the rate of return will lower the breakeven point for companies and will stimulate capital expenditure. At the same time, the enhancement of corporate income will augment household income through the distribution of income. This combined with the improvement of real income from the decline of commodity prices will elevate consumption. The growth of capital expenditure and consumption will have a secondary effect of improving corporate income in quantitative terms, and the effect of lower crude oil prices in boosting Japan's economy will persist over time. Also, the increase of corporate income, household income and consumption can be expected to improve government finances through higher corporate tax revenues, income tax revenues, and consumption tax revenues. The effect of improving government finances will grow further once we factor in the impact of the broad improvement of Japan's economy in reducing public spending.

**Impact of Lower Crude Oil Prices on Japan's Economy** **Chart 2-7**




Source: DIR.

**Risk Scenario for Crude Oil Prices (WTI)** **Chart 2-8**




| | Main Scenario | Stagnation Scenario | V-Shaped Turnaround Scenario |
|---|---|---|---|
| 2014 | 80 | 80 | 80 |
| 2015 | 55 | 55 | 55 |
| 2016 | 60 | 40 | 70 |
| 2017 | 64 | 40 | 80 |
| 2018 | 67 | 40 | 90 |
| 2019 | 70 | 40 | 100 |
| 2020 | 74 | 40 | 105 |
| 2021 | 78 | 40 | 110 |
| 2022 | 82 | 40 | 115 |
| 2023 | 85 | 40 | 120 |
| 2024 | 88 | 40 | 125 |

($/bbl, FY Average)

Source: CME; compiled by DIR.
Note: Highlighted areas represent period covered by simulation.

That said, there are still major uncertainties about the direction of crude oil prices, and it will be necessary to monitor both upside and downside risks. In addition to our main scenario, we simulated how our economic outlook would be affected by two alternate scenarios illustrated in Chart 2-8, one where crude oil prices make a V-shaped recovery and one where such prices remain at a low level. The results of these simulations are portrayed in Chart 2-9. We found that there would be a pronounced impact on consumption and capital expenditure through changes in corporate income. Hence, the impact of this path on the growth of Japan's overall economy will demand a considerable degree of vigilance.

**Results of Simulation: Crude Oil Price Decline and V-Shaped Recovery Scenarios** **Chart 2-9**

**Scenario: Assuming that Crude Oil Price Will Decline (deviation from standard scenario; %, %pt)**

| | Real GDP | | | | | | | | Nominal GDP | GDP deflator | Potential GDP | GDP gap |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (FY) | | Private final consumption | Private housing investment | Private capital investment | Government final consumption | Public fixed capital formation | Exports | Imports | | | | |
| 2016 | 0.11 | -0.03 | 0.00 | 0.75 | 0.39 | -0.19 | 0.00 | 0.26 | 1.04 | 0.93 | 0.04 | 0.07 |
| 2017 | 0.23 | 0.29 | -1.38 | 1.85 | -0.12 | -0.35 | 0.05 | 1.03 | 1.54 | 1.31 | 0.09 | 0.13 |
| 2018 | 0.48 | 0.74 | 0.09 | 2.68 | -0.50 | -0.70 | 0.06 | 1.58 | 2.08 | 1.60 | 0.21 | 0.27 |
| 2019 | 0.88 | 1.25 | 1.85 | 3.97 | -0.45 | -1.27 | 0.06 | 2.36 | 2.89 | 1.99 | 0.40 | 0.48 |
| 2020 | 1.40 | 1.86 | 3.07 | 5.43 | -0.41 | -2.02 | 0.09 | 3.11 | 3.97 | 2.53 | 0.65 | 0.74 |

| | Unemployment rate | Y/$ | CPI | Short-term interest rate | Long-term interest rate | Current balance | Fiscal balance (Central & local government) | Primary balance (Central & local government) |
|---|---|---|---|---|---|---|---|---|
| (FY) | | | | | | (% of nominal GDP) | | |
| 2016 | -0.01 | 0.00 | -0.17 | 0.00 | 0.00 | 1.13 | 0.49 | 0.48 |
| 2017 | -0.04 | -0.07 | -0.05 | 0.00 | 0.00 | 1.40 | 0.71 | 0.69 |
| 2018 | -0.07 | -0.06 | 0.16 | 0.00 | 0.00 | 1.40 | 0.88 | 0.85 |
| 2019 | -0.13 | 0.02 | 0.43 | 0.00 | 0.00 | 1.38 | 1.06 | 1.03 |
| 2020 | -0.21 | -0.18 | 0.81 | 0.32 | 0.18 | 1.42 | 1.23 | 1.20 |

**Assuming V-Shaped Recovery of Crude Oil Price (deviation from standard scenario; %, %pt)**

| | Real GDP | | | | | | | | Nominal GDP | GDP deflator | Potential GDP | GDP gap |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (FY) | | Private final consumption | Private housing investment | Private capital investment | Government final consumption | Public fixed capital formation | Exports | Imports | | | | |
| 2016 | -0.10 | 0.01 | 0.00 | -0.36 | -0.15 | 0.18 | 0.00 | 0.18 | -0.50 | -0.40 | -0.04 | -0.07 |
| 2017 | -0.20 | -0.16 | 0.53 | -1.05 | 0.05 | 0.33 | -0.03 | -0.19 | -0.95 | -0.75 | -0.08 | -0.12 |
| 2018 | -0.37 | -0.44 | 0.01 | -1.74 | 0.24 | 0.57 | -0.04 | -0.57 | -1.51 | -1.15 | -0.15 | -0.21 |
| 2019 | -0.64 | -0.83 | -0.81 | -2.72 | 0.29 | 0.97 | -0.05 | -1.12 | -2.24 | -1.60 | -0.28 | -0.36 |
| 2020 | -1.01 | -1.34 | -1.69 | -3.81 | 0.40 | 1.55 | -0.07 | -1.70 | -2.95 | -1.96 | -0.46 | -0.56 |

| | Unemployment rate | Y/$ | CPI | Short-term interest rate | Long-term interest rate | Current balance | Fiscal balance (Central & local government) | Primary balance (Central & local government) |
|---|---|---|---|---|---|---|---|---|
| (FY) | | | | | | (% of nominal GDP) | | |
| 2016 | 0.01 | 0.00 | 0.07 | 0.00 | 0.00 | -0.52 | -0.24 | -0.23 |
| 2017 | 0.03 | 0.03 | 0.02 | 0.00 | 0.00 | -0.82 | -0.43 | -0.42 |
| 2018 | 0.06 | 0.03 | -0.10 | 0.00 | 0.00 | -1.03 | -0.63 | -0.61 |
| 2019 | 0.10 | -0.02 | -0.30 | 0.00 | 0.00 | -1.19 | -0.84 | -0.82 |
| 2020 | 0.16 | -0.13 | -0.62 | 0.00 | 0.00 | -1.12 | -1.00 | -0.96 |

Source: Compiled by DIR based on DIR medium-term macroeconomic model.

### *Effect of the corporate tax reform*[13]

Tax reform proposals for FY15 adopted by the cabinet in January 2015 call for the reduction of the corporate tax rate (from 34.62% to 32.11% in FY15 and to 31.33% in FY16) as well as the expansion of the tax base by increasing factor-based taxation, reducing the carryover of losses, and trimming the R&D tax credit. While some economic pundits express the hope that the reduction of the corporate tax rate will result in capital expenditure and the creation of jobs, it would not be reasonable to expect much of such an effect. Companies determine whether to invest or not depending on expected net profit "before tax", and such decisions are not affected by changes in the corporate tax rate. Moreover, the current tax reform can be characterized not as a net tax reduction which is one form of fiscal policy but as a neutral change to the tax mix that does not worsen government finances.

### *Tax reform as a growth strategy*

The real intent of corporate tax reform is thought to lie somewhere else. The change in the tax mix which decreases the nominal tax rate and expands the tax base will serve to redistribute income from companies with low earnings to those with high earnings and from companies with high foreign profit ratios to those with low ratios. The former effect has the potential of increasing the productivity of the economy as a whole by concentrating resources of economic activities in companies with high earnings and by promoting the renewal of industries. The effect of growth strategies of Abenomics is expected to be promoted through this route.

### *Improving the prospect for wage increase*

The redistribution of income from companies with high foreign profit ratios to those with low ratios will promote a trickle-down effect of distributing income from foreign-demand-related companies that have benefited from a weaker yen to domestic-demand-related companies that have not. This can be viewed as a policy consistent with the aim of promoting wage increase across all industries. The current tax reform includes a measure to lighten the tax on the margin by which wages increase. Here is evidence of the stance of Abenomics to use wage increase as one means toward ending deflation.

[13] See 2.6.2 "Outlook for capital expenditure" for more detailed information.

### *Effect of postponing the additional consumption tax increase*

One biggest problem of Abenomics is the restoration of government finances to health. The economic policies of the Abe administration have two objectives: the restoration of sound government finances and the overcoming of deflation. These issues are also of utmost importance for Japan's economy. These two objectives, however, are sometimes seen as being in opposition, which readily reverts to a debate of which one should be given priority. Given that the increase of the consumption tax (from 5% to 8%) in FY14 had a greater than anticipated impact on Japan's economy, the increase of the consumption tax to 10% that was scheduled for October 2015 has been postponed to April 2017 based on the pretext of ensuring the recovery of the economy and of ending deflation.

### *Are the restoration of government finances and ending deflation contradictory objectives?*

The increase of revenues, the decrease of expenditures, or combination of the two that are needed to restore government finances to health are certain to have an adverse impact on the economy in the short term. Since the slowing of the economy will curb the ascent of prices, this will appear to contradict the objective of ending deflation. However, what the Abe administration is aiming to achieve is not temporary inflation in a single year but structural and stable exit from deflationary economy. Also, when the end of deflation comes into view, it is possible that higher interest rates will bring pressure to bear on government finances. Thus, the two objectives of restoring government finances to health and ending deflation should not be viewed as opposing concepts that cannot be achieved at the same time.

Inherently expansionary fiscal policies are often not truly effective in eliminating deflation. While fiscal policies may enable the economy to escalate in the short term, expansionary fiscal policies cannot be pursued on a permanent basis. Since the restoration of sound government finances will become necessary at some point in time, either by raising revenues, by reducing expenditures, or by a combination of the two, the adverse impact when that moment arrives is unavoidable. If it truly is possible to end deflation through expansionary fiscal policies, it must be the case that contractionary fiscal policies in waiting will bring deflation back. The only effect these policies will have is to expand the generational divide by distributing income between different time periods. The elevation of growth capacity through the "multiplier effect" or "wise spending" cannot avoid this criticism. Indeed, such claims have been negated by a history where loose fiscal policies existed together with a stagnant economy and deflation for more than 20 years.

Hence, the two objectives of restoring sound government finances and ending deflation is not a matter about which objective should be given priority. Rather, both objectives should be pursued as matters of the greatest importance. What is desired in resolving these issues is a calm awareness of the current situation and the design and implementation of suitable prescriptions in response.

**Simulation Result: Effect of Postponing Additional Consumption Tax Increase** **Chart 2-10**

| | Real GDP | | | | | | | | Nominal GDP | GDP deflator | Potential GDP | GDP gap |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Private final consumption | Private housing investment | Private capital investment | Government final consumption | Public fixed capital formation | Exports | Imports | | | | |
| 2015 | 0.20 | 0.47 | 0.00 | -0.04 | 0.35 | -0.35 | 0.00 | 0.63 | -0.41 | -0.62 | 0.07 | 0.13 |
| 2016 | 0.51 | 1.03 | 0.41 | 0.04 | 0.60 | -0.90 | 0.03 | 1.14 | -0.70 | -1.22 | 0.18 | 0.33 |
| | Unemployment rate | Y/$ | CPI | Short-term interest rate | Long-term interest rate | Current balance | Fiscal balance (Central & local government) | Primary balance | | | | |
| | | | | | | (% of nominal GDP) | | | | | | |
| 2015 | -0.03 | 0.00 | -0.73 | 0.00 | 0.00 | -0.09 | -0.32 | -0.32 | | | | |
| 2016 | -0.08 | 0.00 | -1.43 | 0.00 | 0.00 | -0.15 | -0.71 | -0.70 | | | | |

Source: Compiled by DIR based on DIR medium-term macroeconomic model.

## 2.2 Outlook for Government Finances

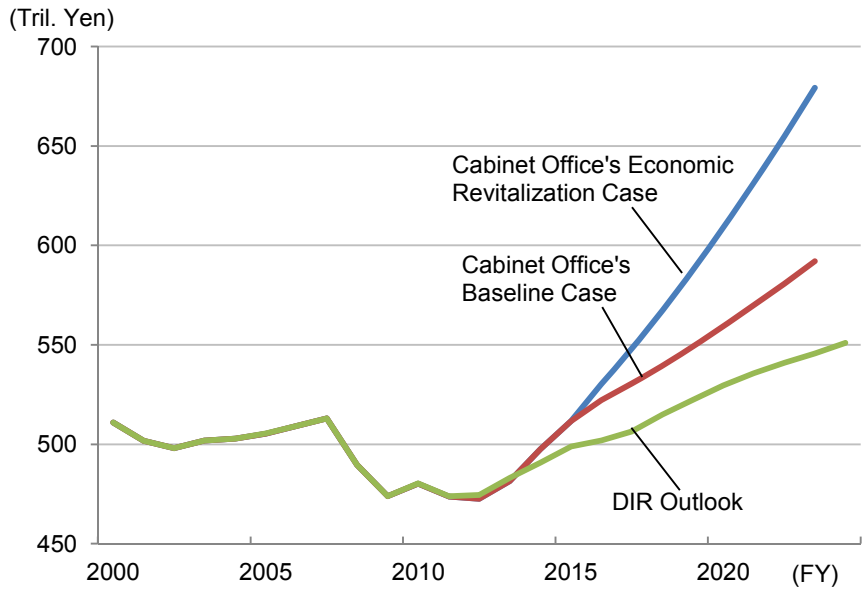
***Can government targets for fiscal policy be achieved?***

The government is managing its fiscal policies according to the goals of reducing the primary balance deficit of central and local governments as a percentage of GDP by half from its FY10 level by FY15 and of achieving a primary balance surplus by FY20. Can these goals be achieved?

The Economic and Fiscal Projections for Medium- to Long-Term Analysis (subsequently, "Cabinet Office projections") published in July 2014 indicates that the primary balance will be -3.2% of GDP in FY15 and that the government goal of reducing the primary balance deficit by half compared to FY10 (6.6%) will be achieved. However, the increase of the consumption tax (from 8% to 10%) in October 2015, which was an assumption made in these projections, was postponed to April 2017. In simple terms, this will be a factor increasing the primary balance deficit as a percentage of nominal GDP by 0.4 percentage points in FY17. In addition, these projections were based on the optimistic assumption that nominal GDP would grow 3.3% in FY14 and 2.8% in FY15. However, given that the increase of the consumption tax (from 5% to 8%) in FY14 had a greater than anticipated impact, the growth rate outlook has been revised substantially downward. In the Fiscal 2015 Economic Outlook published in January 2015, nominal GDP is forecast to grow 1.7% in FY14 and 2.7% in FY15. This decrease in the growth rate outlook will also be a factor reducing the revenues derived from the corporate tax, income tax, and consumption tax, which will also worsen the fiscal balance.

On the other hand, there are positive developments that can be mentioned. The first is the improvement of final figures for FY13. A primary balance deficit that was estimated at 6.2% of GDP has improved to a deficit of 5.5% in the recently released final report on national accounts. In our forecast, we have made a more conservative estimate of the FY15 primary balance relative to the government target. However, should corporate tax revenues rise as a weak yen and low crude oil prices are sustained or should government expenditures be reduced more than we have anticipated, it is possible to say that the achievement of the primary balance target for FY15 is within range.

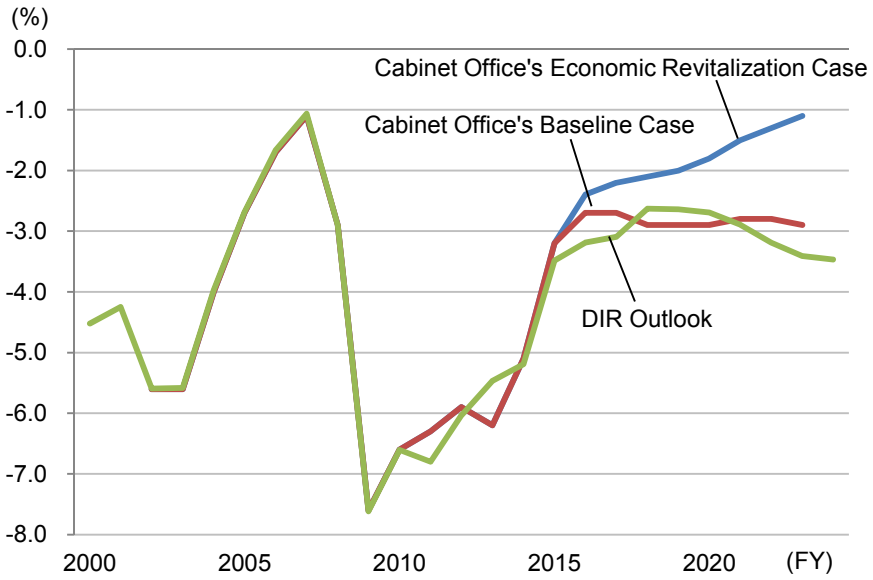
**Outlook for Nominal GDP** **Chart 2-11**




Source: Cabinet Office, DIR.

What is problematic is the latter objective. Even in the extremely optimistic economic revitalization case of the Cabinet Office projections, where the nominal growth rate will average 3.5% between FY14 and FY23, the primary balance is not expected to become a surplus even once during the estimation period. In the more realistic reference case (average nominal growth rate of 2.1%), the primary balance deficit will improve to 2.7% of GDP in FY17 and then worsen to around 2.8% or 2.9% of GDP. In our more conservative outlook (average nominal growth rate of 1.2% between FY14 and FY23), the primary balance deficit will improve to 2.6% of GDP in FY18 and then worsen to 3% or worse.

**Outlook for Primary Balance as a Percentage of Nominal GDP** **Chart 2-12**




Source: Cabinet Office, DIR.

The difficulty of achieving a primary balance surplus even under an extremely optimistic economic environment is a serious problem. So, too, is the prospect that the primary balance will continue to worsen in a more realistic economic environment since social-security-related expenditures will continue to rise as Japan's population ages.

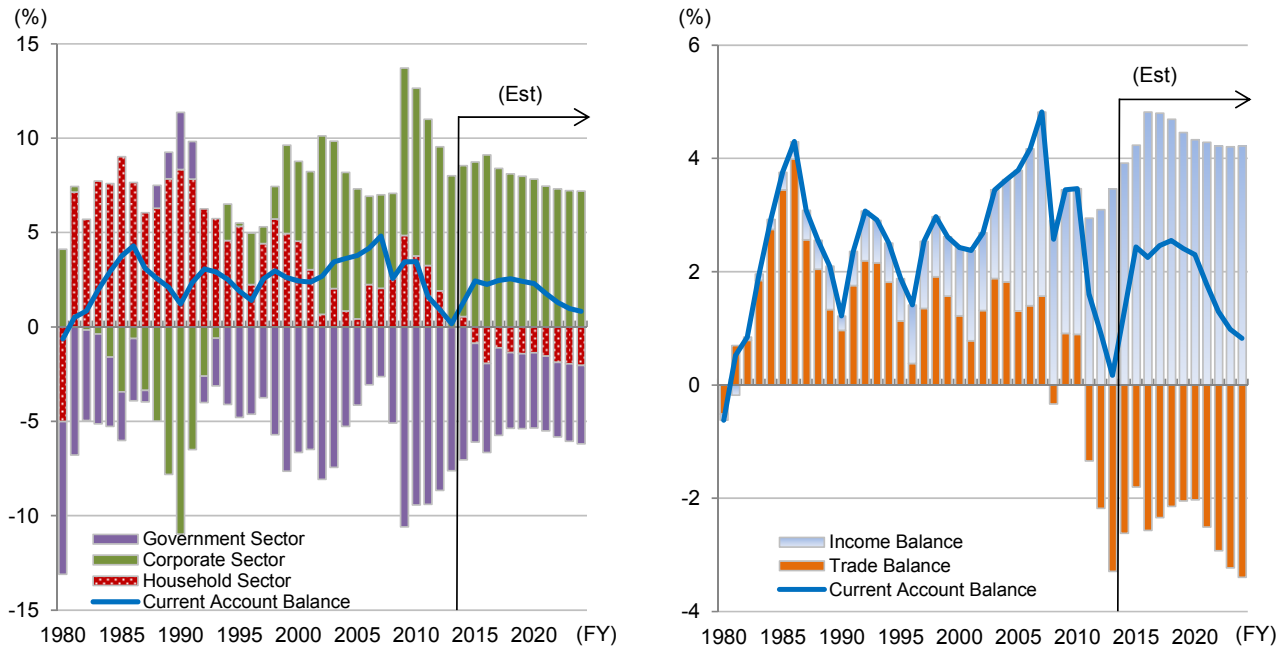
If the primary balance neither becomes a surplus nor improves, unless the nominal growth rate will continuously exceed the nominal interest rate and this difference offsets the primary balance deficit, public debt (as a percentage of GDP) will continue to rise, risking an explosion toward bankruptcy. While the nominal interest rate is being held to a low level from quantitative and qualitative easing and from the existence of a home bias, given the existence of a zero lower bound for interest rates and a worsening primary balance, hoping to improve the public debt balance (as a percentage of GDP) solely through the nominal growth rate will prove to be an ever rising hurdle. In the reference case of the Cabinet Office projections and in our own forecast, the public debt balance (as a percentage of GDP) will continue to grow, and government finances will head toward an explosion.

### *What will trigger a bankruptcy?*

As described above, it is highly probable that government finances in Japan will head toward a structural bankruptcy. Despite such outlook, investors continue to hold JGBs, and interest rates remain at a low level. The backdrops of this combination are the existence of a home bias and persistent deflationary expectations (or expectations for a stronger yen). Conversely, should these factors recede, the likelihood is high that interest rates will rise. This suggests that Japan risks being overtaken by a vicious cycle where higher interest costs from the rise of interest rates will further worsen public finances and cause interest rates to climb further.

Broadly speaking, there are three paths by which the structural bankruptcy of government finances in Japan will materialize as an actual bankruptcy. The first path is the decrease of foreign net assets. Given a strong home bias, what is supporting the purchases of JGBs is domestic savings (=foreign net assets). Hence, the decrease of savings (the current account balance becoming a deficit) has the potential of causing interest rates to rise.[14]

**Outlook for Current Account Balance as a Percentage of Nominal GDP** **Chart 2-13**




Source: Ministry of Finance; compiled by DIR.

[14] That said, the current account is a flow concept. Japan not only records current account surpluses, but it also has massive net foreign assets on the stock side. If the home bias continues to exert its effect due to the factors mentioned above, there is a possibility that foreign assets will be repatriated as interest rates rise for JGBs, and this could restrain the rise in interest rates. Thus, once the current account becomes a deficit on the flow side, rather than interest rates for JGBs skyrocketing from exposure to global price arbitration, it is more likely that the rates will gradually go up as foreign assets on the stock side are drawn down.

The second path is the end of deflation (=expectations for a weaker yen taking hold). Higher interest has not been required due to persistent expectations that the Japanese yen would appreciate against other currencies or goods in relative terms. Hence, should deflationary expectations (=expectations for a stronger yen) reverse, interest rates will rise. For this reason, the objective of restoring government finances to health is not in opposition to ending deflation. Rather, it is an essential goal to be achieved at the same time so as to avoid bankruptcy when deflation is overcome.

The third path deserving attention is the self-actualizing tendency of financial markets. What the Greek crisis suggests is the existence of a path where interest rates rise at the moment markets recognize a problem with public finances and where this propels public finances toward bankruptcy in a self-actualizing manner. Accordingly, we cannot exclude the possibility that, even before net assets decrease or deflation is overcome, financial markets will factor in these prospects at the moment they come into view and that interest rates will rise as a result and place pressure on public finances. Thus, to avoid bankruptcy, the restoration of government finances to health is an issue of utmost urgency.

***Expenditures reduction should take priority***

Increasing revenues and reducing expenditures are two possible approaches to restoring government finances to health. Government finances will be repaired through a combination of these approaches. There are limits, however, to what can be expected from increasing revenues. For example, a simple calculation shows that achieving a primary balance surplus in FY20 by increasing the consumption tax alone would require raising the tax to around 17%. Even if such a tax increase is implemented, the primary balance will return to a deficit in FY21, and this deficit will continue to expand. This is because social-security-related expenditures will trend upward in structural terms as long as a declining birth rate and an aging population persist. Also, as long as the primary balance does not become a stable surplus, the explosion of public debt (=bankruptcy of government finances) cannot be avoided. Thus, to avoid the bankruptcy of government finances, as will be examined in Chapter 3, it will be indispensable to work toward preventing the structural growth of expenditures as well as to improve the level of the primary balance through tax increases and expenditure cuts.

## 2.3 The Causes of Deflation and Required Prescriptions

Together with restoring sound government finances, an issue of utmost importance for Japan's economy is ending deflation. A single settled view, however, has yet to be formed regarding the true causes of long-term deflation. Broadly speaking, economic observers are settling on two causes for deflation. The first is the decline of the natural rate of interest and the second is persistent deflationary expectations. Prescriptions for curing deflation will differ depending on which of these causes is viewed as primary. Naturally, it is not the case that there is simply one cause for deflation. Deflation is likely the product of multiple factors, meaning that multiple responses will be required.

**Causes of Deflation and Required Prescriptions** **Chart 2-14**

| Sources of Deflation | Prescription | |
|---|---|---|
| Natural Interest Rates Decline | | |
| Negative Demand Shock (Liquidity Trap Case) | Monetary Easing and Fiscal Expenditures to Create Effective Demand | |
| Financial Malfunction | Liquidity Provision, Cash Infusion by Government, Lending Support | |
| Structural Decline in Potential Growth Rate | Increase Labor Input | Growth Strategy |
| | Improve Productivity by Increasing Industrial Metabolism | |
| Deflationary Expectations Become Entrenched | | |
| Deflationary Expectations | Monetization (Devaluation of Currency) | |
| Yen Appreciation Expectations | Keep Exchange Rates Depreciated | Qualitative & Quantitative Monetary Easing |

Source: DIR.

### *Decline of the natural rate of interest and prescription*

Setting aside scholarly rigor and stated in simple terms, the decrease of the natural rate of interest is a phenomenon that occurs when the potential growth rate of the economy (or expected ROI) declines (toward the vicinity of zero). Since it is difficult to reduce the nominal interest rate to less than zero, when the expected ROI is less than the sum of the risk premium and liquidity preference, the real interest rate (adjusted by the risk premium and liquidity preference) will always trend on the positive side. As a result, demand is suppressed, the economy stagnates, and deflation takes place. Since deflation will reduce the nominal expected ROI and increase the real interest rate, a vicious cycle is generated where the suppression of demand and deflation continue.

The prescription for the decline of the natural rate of interest will differ depending on how its causes are understood. For example, if the cause is a temporary negative demand shock, a possible prescription would include the use of fiscal expenditures to turn the natural rate of interest positive (this is equivalent to the Keynesian prescription of creating effective demand responding to a liquidity trap situation). However, massive fiscal outlays made in past decades have not been able to free Japan's economy from a liquidity trap.

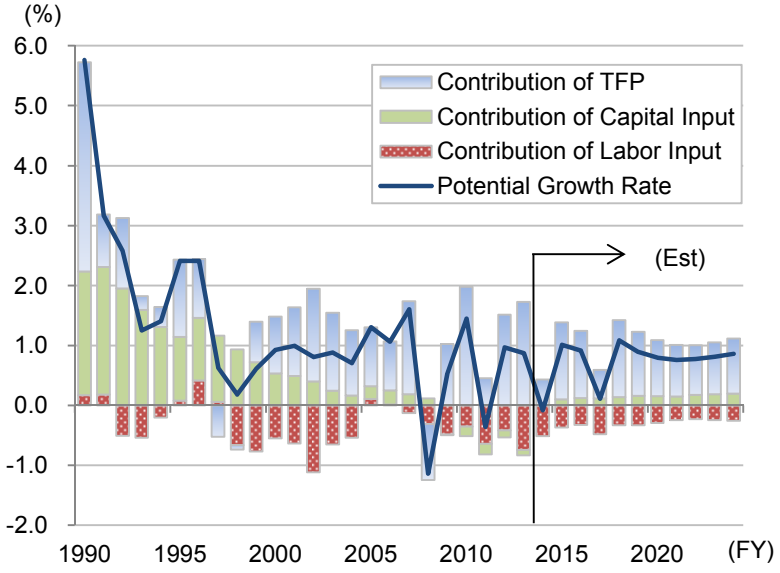
Next, if the cause is thought to be (temporary) financial malfunction, this could be resolved through the injection of public funds or through the supply of liquidity by the central bank. This was an effective prescription for the financial recession of the 1990s and the Lehman crisis. There is, however, little basis for believing that financial malfunction is behind the stagnation of Japan's economy in 2015.

### *The potential growth rate needs to be raised*

After all, the decline of the natural rate of interest owes to the structural decline of the potential growth rate. The decline of the potential growth rate owe to decreases of two structural factors; labor and capital input (or their slower growth) and total factor productivity. First, given a declining birth rate and an aging population, the growth rate of labor input has steadily fallen. This growth rate is now negative and is expected to become more negative going forward. It will be possible to respond to this situation to some degree by improving the labor force participation rate centering on the elderly and women, which is an important part of the growth strategies of the Abe administration. Still, it is hard to expect that such strategies would offset the downward trend of the labor force. To halt the contraction

of the labor force, it will be necessary to increase the birth rate to accept immigrants. The former, however, even if successful, would require 20 years or so until its takes effect, and difficult political discussions can be anticipated for the latter.

**Japan's Potential Growth Rate and Growth Accounting** **Chart 2-15**




Source: DIR.

For mature advanced economies like Japan (where the economy is close to its steady-state), the growth rate of capital stock will basically parallel the growth rate of labor input. Thus, the secular decline of the growth rate of capital stock has the same root as the decline of the growth rate of labor input, and the required prescription will be the same. As will be discussed in 2.6, measures like the reduction of the corporate tax rate are unlikely to lift the potential growth rate, have a direct impact on investment decision-making. Whether the growth rate of per capita capital stock can be increased will depend on whether it will be possible to raise the equilibrium level of the steady-state economy by increasing the growth rate of total factor productivity.

Many reasons are cited for the decline of total factor productivity. One that can be mentioned is the process of catching up to other advanced economies coming to an end for Japan. While this is just the consequence of economic growth, it also means that growth by imitation has become impossible and that Japan has shifted to stage of economic development where innovation is required. It is therefore possible that the preservation of an industrial structure tilted toward established industry brought about the decline of total factor productivity. Productivity growth is considered to have stagnated at least in part owing to (1) Japan falling behind as information service industries flourish on the global stage and (2) intensified international competition in the manufacturing sector where East Asia has caught up to advanced economies. Deregulation to increase entry and exit rates so as to accelerate the renewal of industries and the elimination of incentives for outdated industries that prevent the efficient allocation of economic resources are required to address these issues.

To summarize the above, the required prescription is raising the potential growth rate, and growth strategies, the third arrow of Abenomics, will be of decisive importance. Of particular importance are policies that put a brake on the contraction of the labor force and deregulation that accelerates the renewal of industries. At the present moment, however, neither policy has begun to materialize in earnest. By winning the House of Representatives election at the end of 2014, the Abe administration gained ruling party seats and a new term. It is hoped that the third Abe administration will make further efforts to promote, implement, and actualize its growth strategies. Even if these policies find success, however, it will be take a few decades before their effects materialize.

Some economic pundits have wondered whether deflationary pressure would arise from the strengthened supply side potential from the increase of labor and capital inputs or total factor productivity. This view, however, is mistaken from the viewpoint that deflation is resulting from the decline of the natural rate of interest. Given the zero lower bound for interest rates, as long as the potential growth rate (expected nominal ROI) does not return to a level above the sum of the risk premium and liquidity preference, demand will not recover and remain less than supply. Thus, deflation as a structural phenomenon will not be solved.

***The entrenchment of deflationary expectations and prescription***

The entrenched deflation theory is a self-actualizing theory. When peoples' outlook on prices becomes deflationary for some reason, the real rate of interest will rise, demand will be suppressed, and deflation will occur in a self-actualizing manner. This will reinforce the deflationary expectations of people and give way to a vicious cycle. With monetary policies being limited by the zero lower bound for interest rates, it cannot be solved this problem only by reducing the real rate of interest.

The prescription for eliminating deflationary expectations is to break this cycle of self-actualization. However, this is not something easily done. As noted above, it takes time to achieve structural reforms that would raise the potential growth rate. While it may be possible as a thought experiment to impair currency value (increase prices) through monetization, this would also impair capital markets and is not a viable option. Reversing deflationary expectations through domestic factors will prove extremely difficult.

***The option of currency controls***

What can be said about international factors? If it would be possible to guide the exchange rate toward a weaker yen, this would contribute greatly toward overcoming deflation. Deflation in its monetary aspect means the increase of the value of the Japanese yen, and deflationary expectations have been accompanied by expectations for a stronger yen. Not only do these two expectations depend on each other, but they have contributed to a self-actualizing vicious cycle where the appreciation of the yen deteriorates international competitiveness and causes wage deflation, which spreads to final good deflation and promotes further appreciation of the yen. For breaking this vicious cycle, the ongoing depreciation of the yen since the start of the Abe administration is a positive development that strengthens the prospect for the reversal of deflationary equilibrium. (See Chart 2-6.)

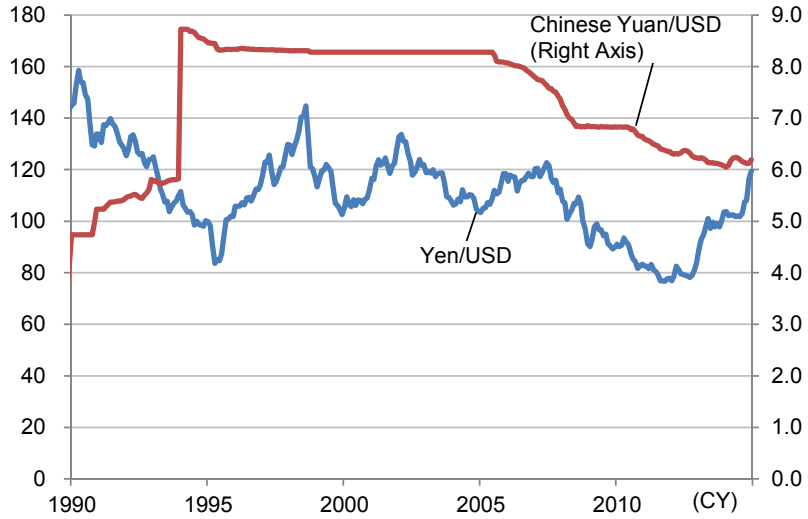
However, the process of overcoming deflation through the yen's depreciation has only reached the midway point. First, expectations for a weaker yen will need to replace expectations for a stronger yen. Since expectations are by and large history dependent, adaptable, and backward looking, it will be necessary to maintain a trend toward a weaker yen.

Second, the yen will need to depreciate not only in its direction but also in its level. As will be discussed in 2.4, while it may be possible to maintain a weakening trend for the yen for a certain period through quantitative and qualitative easing, a limit will arrive in the not too distant future. What must be achieved before this limit arrives is an exchange rate where tradable good prices in Japan and China converge. From this viewpoint, the de facto dollar peg of Chinese yuan against the US dollar may have indirectly encouraged deflation in Japan.

The deflation that occurred since the 1990s was in no small way influenced by the convergence of tradable good prices accompanying East Asia's entry into global markets and by the convergence of international unit labor cost. This is not a story restricted to Japan. Since the end of the Cold War, the progress and spread of information technology combined with the successive entry of emerging economies and former socialist countries gave rise to wage deflation, final good deflation, and

commodity inflation. In the US, what supported the low interest rates of the Greenspan era that abetted a real estate bubble was final good disinflation in the midst of a booming economy and robust demand for US treasuries by emerging economies' saving glut. This trend is thought to have arisen in the 1990s with the ascent of the NIEs and ASEAN. It was in the 2000s when this trend accelerated after China became a member of the WTO and began participating in world trade on a full scale. Given China's geographic proximity (low barriers of entry) and the similarity of an industrial structure focused on manufacturing industries (high substitution rate of tradable goods), the impact of China on Japan's economy exceeded that of other advanced economies.

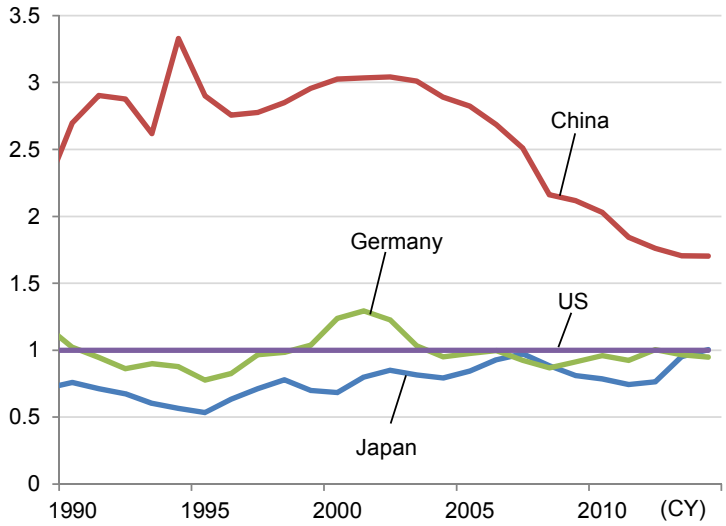
**Japanese Yen and Chinese Renminbi Exchange Rates to the Dollar** **Chart 2-16**




Source: FRB.

What deserves emphasis at this point is that, based on the Balassa–Samuelson Effect[15], wages in Japan (marginal unit labor cost) will not turn to rise until tradable good prices converge between Japan and China. Unless this convergence condition is satisfied before the technical limitation of the quantitative and qualitative easing comes and the Japanese yen depreciation ends, Japan's economy is expected to return to the vicious cycle where the yen trends toward appreciation from the difference in the rates of inflation between the two nations.

**Nominal GDP (PPP Basis) / Nominal GDP (Dollar Basis)** **Chart 2-17**




Source: IMF.

[15] See Appendix.1 "The Balassa–Samuelson Effect on Wages and Prices" for more detailed information.

The difference in tradable good prices remains large between Japan and China, and it will be extremely difficult to fully eliminate this difference only through the depreciation of the yen. One hope is the labor supply shortage in China, which is accelerating the growth of unit labor cost. Given that the high climbing speed of unit labor cost in China is reflected in tradable goods' prices, the possibility of the convergence condition being satisfied in a few years should not be ruled out. On the other hand, it will be also only a few years that quantitative and qualitative easing will be able to keep the Japanese yen depreciated. While it will be a close battle over time, it is worth bearing in mind that an upside risk is coming into view where wage deflation is eliminated through the achievement of the convergence condition and where the vicious cycle of final good deflation and yen appreciation is reversed.

Third, wages will need to regain their upward inertia. Even if the convergence condition for tradable good prices as described above is achieved, this does not necessarily mean that wages (marginal unit labor cost) denominated in each local currencies will rise at the same rate in Japan and China. A path will remain where differences in the growth rate of wages in each local currencies will be absorbed through foreign exchange rate's adjustment (that is to say, the appreciation of the yen). Given that the growth rate of wages has inertia and is history dependent, the possibility cannot be ruled out where wages continue to rise in China and wages stagnate in Japan and where this difference is adjusted through the appreciation of the yen. To prevent such a development, the upward inertia of wages will need to be restored.

From such a perspective, inducing the depreciation of the yen through quantitative and qualitative easing and applying pressure for higher wages at the same time can be deemed the right policy mix. Also, promoting wage increase is consistent with seeking to offset the negative income effect of raising the consumption tax again in FY17. Of course, wage increase basically means the redistribution of income from the corporate sector to the household sector and may be unwelcomed by companies. Also, wage increase that simply squeezes corporate income will risk abetting the hollowing out of industry. Thus, it will be necessary to alleviate the trend toward hollowing out by inducing the depreciation of the yen and to support the growth of earnings for foreign-demand-related companies while broadly spreading this benefit to include domestic-demand-related companies. Based on this perspective, reducing the corporate tax rate is a policy that is consistent with developing an environment that will encourage higher wages. As will be discussed in 2.6, this is because the reduction of the corporate tax and the strengthening of factor-based taxation will have the effect of redistributing earnings from foreign-demand-related companies to domestic-demand-related companies.

Summarizing the above, the key to achieving the objective of ending deflation will be the Japanese yen depreciation and wage increase over the medium term and raising the potential growth rate over the long term. What will be important in execution is the effective management of quantitative and qualitative easing in depreciating the Japanese yen, the promotion of wage increase through a range of policies, and the steady implementation of growth strategies.

## 2.4 Outlook for Monetary Policy

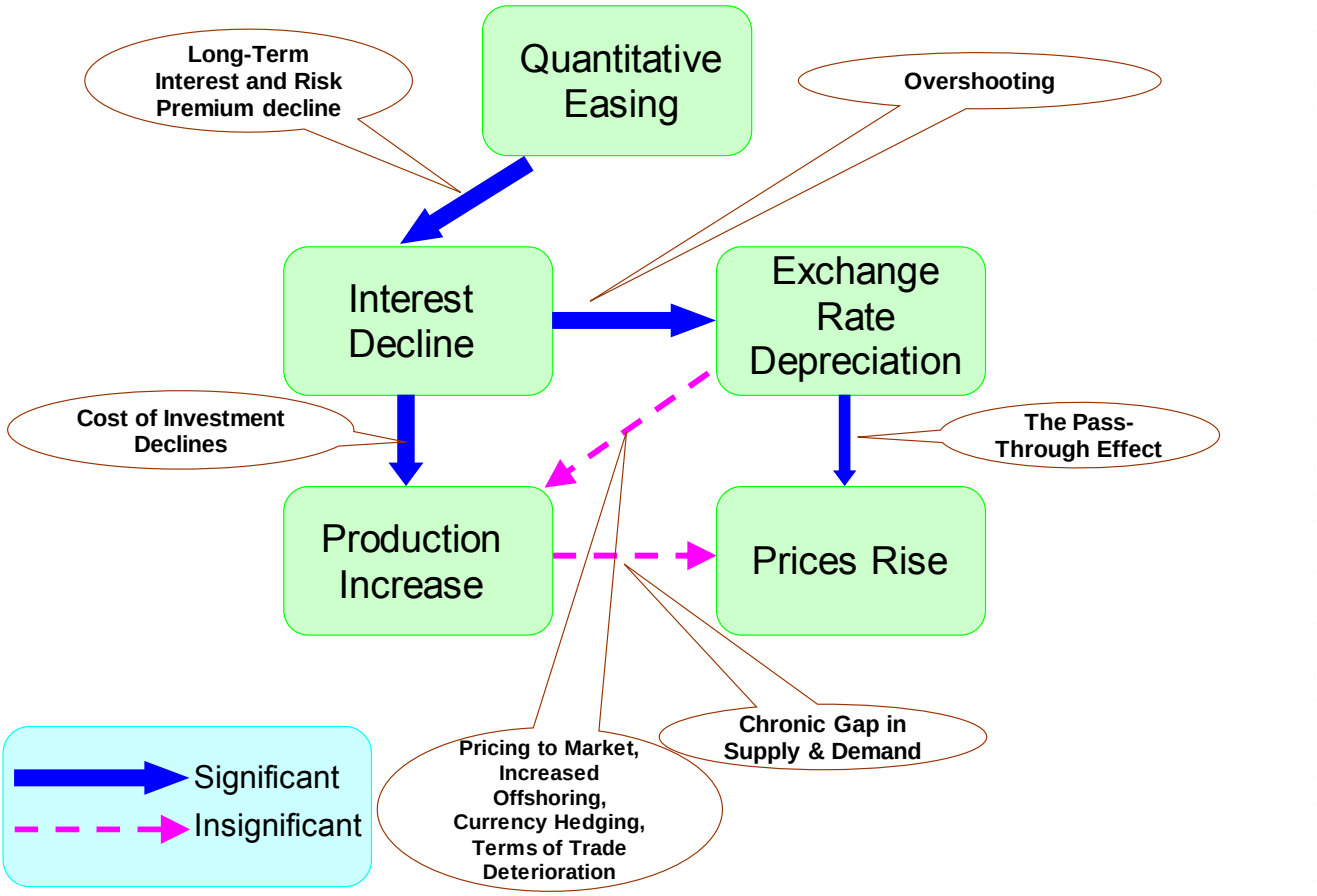
As summarized in 2.3, the primary objective of monetary policies should be ending deflation, and the primary means will be depreciating of the yen. To achieve its primary objective, the BOJ is likely to step on the accelerator of quantitative and qualitative easing as hard and as long as is technically feasible. For this reason, the BOJ's continuing adherence to the inflation target of 2%, a target that is tantalizingly out of reach, can be viewed as a brilliant move to justify monetary policies aiming to depreciate the yen. However, as suggested by the example of Switzerland that adopted and then abandoned a similar policy regime, quantitative and qualitative easing will eventually reach a limit. It is highly probable that the policy regime will be forced to change around 2018 when the terms of BOJ Governor Kuroda and Prime Minister Abe come to an end. Financial markets reacting in anticipation of this regime change is a possibility that should be monitored with care.

***The limitations of monetary policy***

As Chart 2-8 indicates, the effects of BOJ's monetary policy in raising prices through paths other than the one through depreciating the yen are extremely limited. The interest rate for five-year JGBs became nearly negative in January 2015, and the interest rate for 10-year JGBs has fallen to around 0.2%. Given the zero lower bound for interest rates, further reduction of interest rates having any further effect is difficult to expect. It would be unreasonable to expect that interest rates falling by only 0.2 percentage points would provide enough economic stimulus to reverse deflationary expectations as a major trend. Moreover, as will be discussed in 2.6, the depreciation of the exchange rate has for the most part lost its ability to augment export volume. Hence, monetary policies will do little to escalate prices by improving the supply-demand gap. What will be effective in bringing deflation to an end are the pass-through effect accompanying the depreciation of the exchange rate, expectations for a weaker yen replacing expectations for a stronger yen as discussed in 2.3, and the achievement of the international convergence condition for tradable goods and wages.

That said, providing a consistent theory that explains the mechanism by which quantitative and qualitative easing effectuates the depreciation of the exchange rate is not easily done. As discussed in 2.5, acting as a powerful central bank does influence the behavior of market participants and may even magnify the impact on currency markets. As also discussed in 2.5, it may be that, as transactions based on real demand are having a smaller effect on foreign exchange rates due to changes in the price-setting behavior of exporting companies, the market has changed to a structure where exchange rates are more readily influenced by financial factors.

**The Effects of Monetary Policy and its Limitations** **Chart 2-18**




Source: DIR, Estimation based on structural vectorautoregression (SVAR) analyses

***The real purpose of inflation targeting***

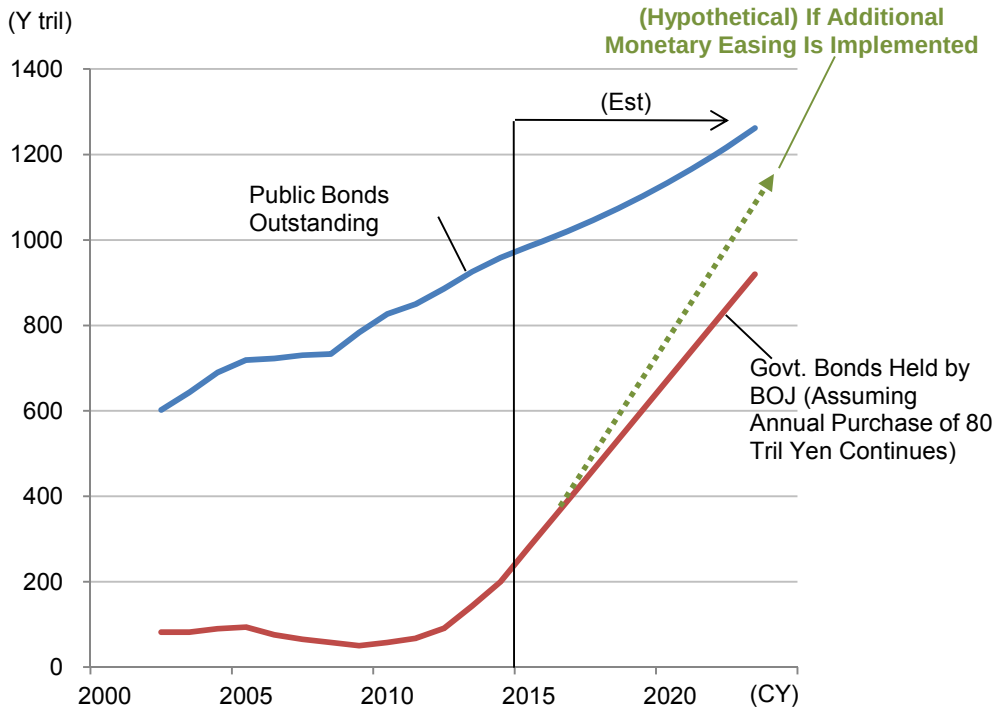
Managing monetary policy with the objective of depreciating the domestic currency has the risk of being criticized by the international community (particularly by advanced economies) as a beggar thy neighbor policy. There is, however, great significance in establishing the inflation target of 2% as a policy target. Japan has not achieved stable 2% inflation for a long time. In Japan and other advanced economies as well, the certainty of achieving 2% inflation has greatly diminished for two reasons: (1) the decline of the potential growth rate from the maturing of economies and (2) wage and final good deflation ensuing from emerging economies' entry into international markets. There is room for debating the appropriateness of the policy target since inflation targeting is merely one form of "optimal control" and since the price target is core CPI including crude oil prices that are greatly influenced by market conditions. Setting aside such arguments, inflation targeting that sets a policy target that is tantalizingly out of reach to justify the continuation of quantitative and qualitative easing and enables further yen depreciation can be viewed as a brilliant move by the Bank of Japan.

Given the sharp decline of crude oil prices, the rate of inflation is expected to fall to nearly zero in FY15. Hence, the stated period for achieving the inflation target centering on FY15, is highly likely to be postponed, and expectations for further monetary easing are highly likely to materialize among market participants. Excluding the special case where crude oil prices make a V-shaped recovery, the prospect of achieving 2% inflation is low. Quantitative and qualitative easing will be continued, and the possibility should be entertained that, depending on circumstances, expectations for further monetary easing may strengthen at times.

### *Technical limits to quantitative easing*

There are limits, however, to how long quantitative and qualitative easing can be sustained. If the BOJ continues to purchase around Y80 trillion of JGBs each year, it will eventually reach a point where there is nothing left buy. Moreover, if it increases the pace of purchasing JGBs again by easing monetary policy further, this limit on sustainability will be reached at an earlier time. Also, the BOJ's balance sheet may be impaired from increasing purchases when the rate of interest is in the negative zone. Responding to this situation by offering a negative interest rate on excessive reserve deposits will contradict the BOJ's policy of expanding the monetary base as its direct means of managing monetary policy.

**Public Bonds Outstanding and Balance of BOJ Government Bond Holdings** **Chart 2-19**




Source: Bank of Japan, Cabinet Office; compiled by DIR.

### *Political cycle and the policy regime*

When the limit to monetary policy will arrive is extremely difficult to predict. In considering when the policy regime will be changed, it may be meaningful to refer to the political cycle. Governor Haruhiko Kuroda assumed his post at the Bank of Japan in early 2013, and his term will end in early 2018. Prime Minister Shinzo Abe won reelection at the end of 2014, and his term will expire at the end of 2018. If a major change is to be made to the policy regime, it is highly probable that 2018 will be a turning point.

The timing and direction that monetary policy will be steered are also extremely difficult to predict. One possibility is a scenario where quantitative and qualitative easing reaches the technical limitation, the pace of JGB purchases is reduced, and the policy target is lowered or replaced by a medium- to long-term target. This scenario is part of the main scenario of our current medium-term outlook. In this case, since the pace of JGB purchases slows just from the technical reason of nothing left to buy, interest rates will not necessarily rise immediately. On the other hand, it is presumed that the impact on currency markets will materialize immediately.

At the same time, the possibility cannot be ruled out of the current policy regime being strengthened further and of the BOJ expanding its asset purchase program beyond JGBs to include the bonds of public and private corporations. Given the prospect of these two opposing extreme scenarios materializing, 2018 will be an important watershed for anticipating the direction of interest rates and currency markets.

**Terms Expiring for Political Offices and Seats on BOJ Board** **Chart 2-20**

| | | Government | Bank of Japan |
|---|---|---|---|
| 2015 | Mar | | Dr. Miyao's Term as Member of the Policy Board Expires |
| | Apr | Nationwide Local Elections | |
| | Jul | | Mr. Morimoto's Term as Member of the Policy Board Expires |
| | Sep | LDP Presidential Race | |
| 2016 | Mar | | Dr. Shirai's Term as Member of the Policy Board Expires |
| | Jun | | Mr. Ishida's Term as Member of the Policy Board Expires |
| | Summer | Upper House Election | |
| 2017 | Jul | | Mr. Sato's and Kiuchi's Terms as Members of the Policy Board Expire |
| 2018 | Mar | | Mr. Iwata & Nakaso's Terms of as Deputy Governors Expire |
| | Apr | | Mr. Kuroda's Term as the Governor Expires |
| | Sep | LDP Presidential Race | |
| | Dec | Abe Administration's Term Expires | |

Source: DIR.

## 2.5 Outlook for Exchange Rates

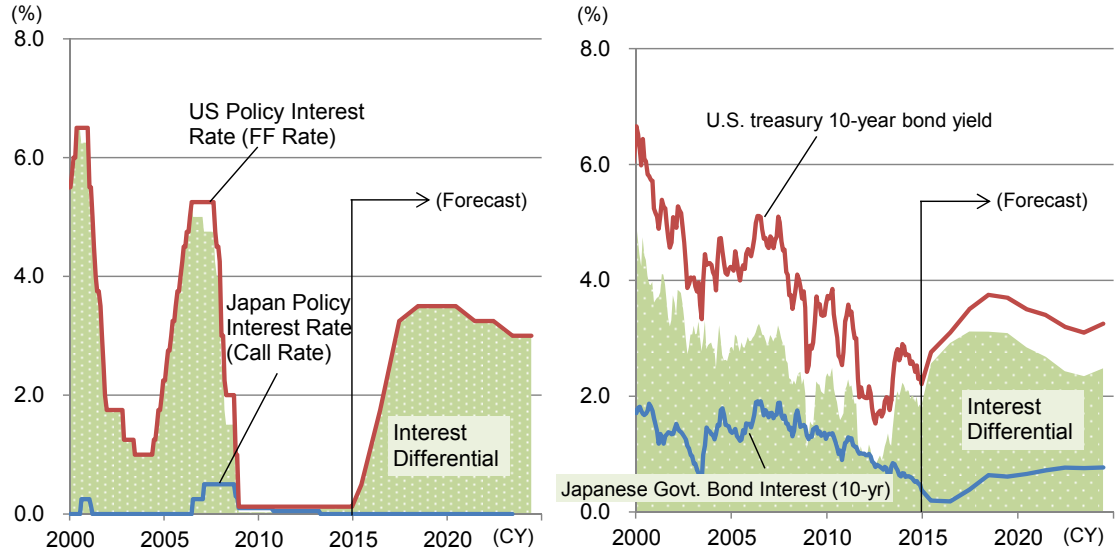
Based on the outlook for monetary policy as described in 2.4, while the exchange rate (yen/dollar rate) will trend toward a weaker yen for a few years, we have made no major change to our outlook that this trend will shift toward yen appreciation in the medium to long term. Monetary policies with the objective of depreciating the yen are expected continue to 2017, which will correspond to the period where monetary policy is tightened in the United States. Given this difference in the direction of monetary policies between Japan and the US, we have assumed in our main scenario that the trend toward a weaker yen will be maintained. However, as discussed in section 2.4, it is highly probable that technical factors will force the policy regime to change in 2018 and beyond, and the tightening of monetary policy in the US will cease almost at the same time. Thus, we have adopted a scenario where the yen reverts to appreciation as part of our main scenario. We also developed a scenario where financial markets begin factoring in a change in the policy regime in 2017 when it becomes possible to forecast trends in 2018 and beyond and where the yen begins to strengthen somewhat before the policy regime actually changes.

**Factors Determining Exchange Rates** **Chart 2-21**

| | FY2015-17 | FY2018-24 | |
|---|---|---|---|
| Long-Term Determining Factors | | | |
| Purchasing Power Parity | Appreciation Factor: Inflation Differential (US > Japan) | | Influence Declines Along With Structural Change |
| Uncovered Interest Parity | Appreciation Factor: Interest Differential (US > Japan) | | |
| Short-Term Determining Factors | | | |
| Change in Interest Spread | Depreciation Factor: Expanding Interest Differential | Appreciation Factor: Shrinking Interest Differential | Relative Increase in Influence |
| Risk Factors | Risk of Changing Policy Regime | | Will 2018 Be a Turning Point? |
| | Change in Risk Tolerance Due to Fluctuations in Overseas Economies | | |

Source: DIR.

**US – Japan Interest Differential** **Chart 2-22**




Source: BOJ, Ministry of Finance, FRB, and FASB; compiled by DIR.

***Two factors that staged the sharp depreciation of the yen***

Regarding the level of exchange rates, we have revised our outlook toward yen depreciation centering on the first half of our forecast period. This revision reflects the yen depreciating far beyond our previous outlook in FY14 (estimate). While a number of factors are behind this development, two that are most significant are the additional monetary easing implemented in October 2014 and the structural change of international trades that has diminished the gravity of the exchange rate to converge on the level of purchasing power parity.

First, with respect to additional monetary easing, we did not account for this possibility as part of our main scenario in our previous outlook. This was because we viewed quantitative and qualitative easing as a monetary policy. As discussed in section 2.4, quantitative and qualitative easing as monetary policy is expected to lower interest rates through the purchase of JGBs and the effect of forward guidance. Also, while this effect is somewhat doubtful, it is also expected to increase inflationary expectations in the broad economy by promising the achievement of an inflation target. Regarding the former of these two effects, interest rates are nearing a limit due to the zero lower bound. Thus, maximizing the effect of the latter becomes the main objective of quantitative and qualitative easing as monetary policy. Accordingly, since additional easing would indicate that the BOJ has become less confident about achieving its inflation target, we have viewed this as an imprudent policy that risks having an adverse impact.

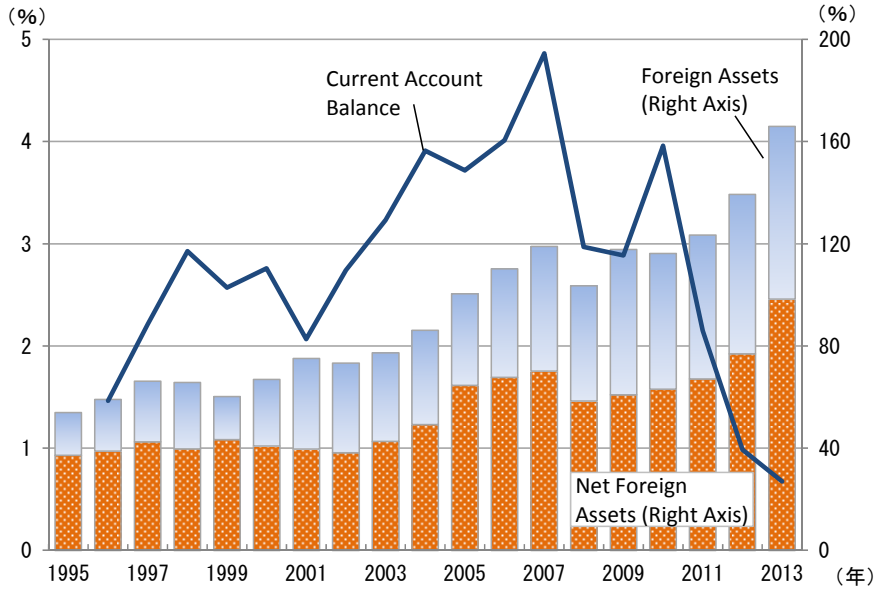
However, as discussed in 2.3 and 2.4, additional monetary easing makes sense considering that its true purpose is to the yen depreciation. Indeed, the additional monetary easing has proven highly successful. It not only depreciated the yen sharply but also strongly reminded financial markets of the wisdom “not to fight the central bank” and curtailed investment behavior contrary to the market movements desired by the BOJ. (See Chart 2-3.)

Next, another important factor is the structural change of international trades. As discussed in 2.6, as more export good prices are set in local currencies, the J-curve effect where the depreciation of the yen improves the trade balance has greatly weakened. This also means that the convergence effect of currency markets as mediated by real demand has weakened. Even when the exchange rate greatly diverges from an appropriate level (for example, the level of purchasing power parity), the effect that this deviation has on trade or the current account balance has significantly diminished. As a result, the effect where the exchange rate is adjusted through changes in the real demand for currencies in the goods market has also diminished. What this signifies is that the exchange rate can trend at a level that greatly deviates from its equilibrium level. Conversely, since the adjustment of the exchange rate needed to reduce the trade surplus/deficit or the current account surplus/deficit has become larger than before, currency markets have become more volatile and more readily influenced by factors other than real demand (i.e., financial factors).

### *Risk scenarios*

Factoring in these structural changes to currency markets and our revised outlook for monetary policies, we adjusted the level of the exchange rate in our current forecast toward a weaker yen. The structural changes of currency markets suggest that exchange rate fluctuations may become larger when risk scenarios materialize. One risk scenario is a political cycle like the one mentioned in 2.4 and the accompanying change in the policy regime. Besides domestic political factors, a risk scenario where the US political system places pressure on Japan's exchange rate policy should also be kept in mind.

**Current Account Balance and Foreign Assets as a Percentage of Nominal GDP** **Chart 2-23**

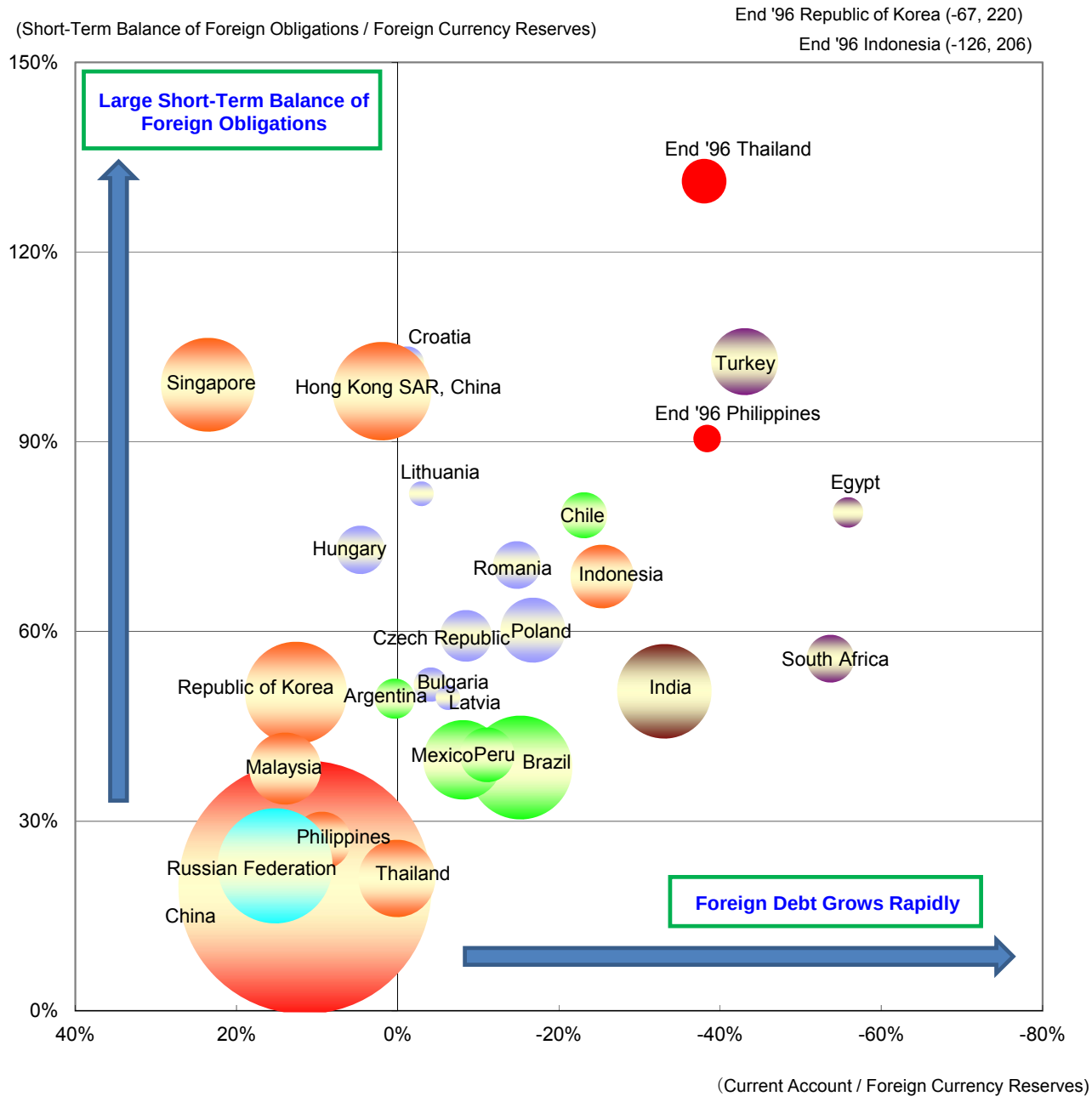



Source: Ministry of Finance, BOJ, Cabinet Office; compiled by DIR.

In addition to the above, changes in risk tolerance can be mentioned as a factor with the potential of causing large short-term shifts in the exchange rate. Japan is known as a nation that records massive current account surpluses. Since current account surpluses correspond to capital account deficits, such surpluses denote that investment funds are flowing abroad to that extent. Given Japan's trade structure, when risk tolerance declines for investments, the flow of funds abroad will wane, giving rise to upside pressure on the yen.

It is extremely difficult to incorporate the factor of risk tolerance in model-based forecasts. Hence, we qualitatively assess three risk scenarios that risk tolerance changes and then shifts in the exchange rate are caused. The first scenario is the case where US monetary policy brings emerging market economies to the brink of crisis. According to this scenario, as Japan's net foreign investments contract from lower risk tolerance, the yen has the potential of appreciating sharply. Even so, emerging-market economies have greatly improved in their capacity to withstand changes in the global flow of money, and we believe the likelihood of this risk materializing is not all that high at the present moment.

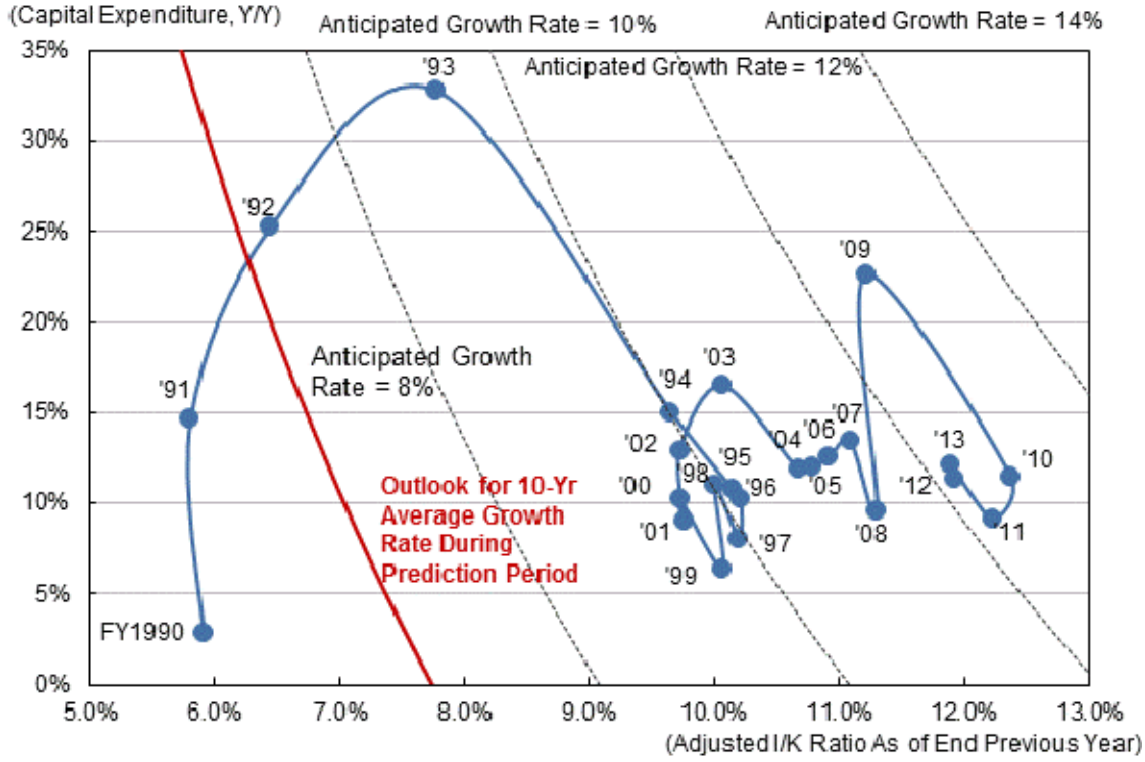
## Short-Term Foreign Obligations — Chart 2-24




Source: World Bank, Statistics from countries listed, compiled by DIR.
Note: The sizes of the circles in the chart are proportional to the scale of foreign currency reserves. (Data as of end 2013.)
The horizontal axis （Current Account / Foreign Currency Reserves) uses an inverse scale.

The second risk scenario is the collapse of an asset bubble in China. The current slowing of China's economy is occurring within the structural cycle of the world economy. That said, it is also highly probable that an asset bubble has inflated in China. While it is extremely difficult to predict when this bubble will burst, the possibility that the further increase of interest rates in the US will be one of the triggers cannot be ruled out. The Chinese yuan has a de facto peg to the dollar. Hence, procuring dollar funds at low interest rates and investing such funds in yuan in China's domestic market was a surefire investment promising all but certain returns. Given that the yuan is currently drifting higher against the dollar, it is reasonable to think that real interest was even lower than the nominal interest rate spread and that high profit margins were realized. This margin will narrow, however, once the interest rate for dollar funds turns to rise. Should the inflow of funds slow as a result, upside pressure on the yuan will weaken, and the effective profit margin will narrow further. In addition, currency market intervention will have less of an effect in expanding the supply of China's domestic liquidity. Consequently, it is highly probable that market participants' interest in investing will ebb. Given these prospects, the possibility that higher interest rates in the US would trigger the collapse of China's asset bubble should not be overlooked.

**China Capital Stock Cycle** **Chart 2-25**




Source: Compiled by DIR using various statistics.

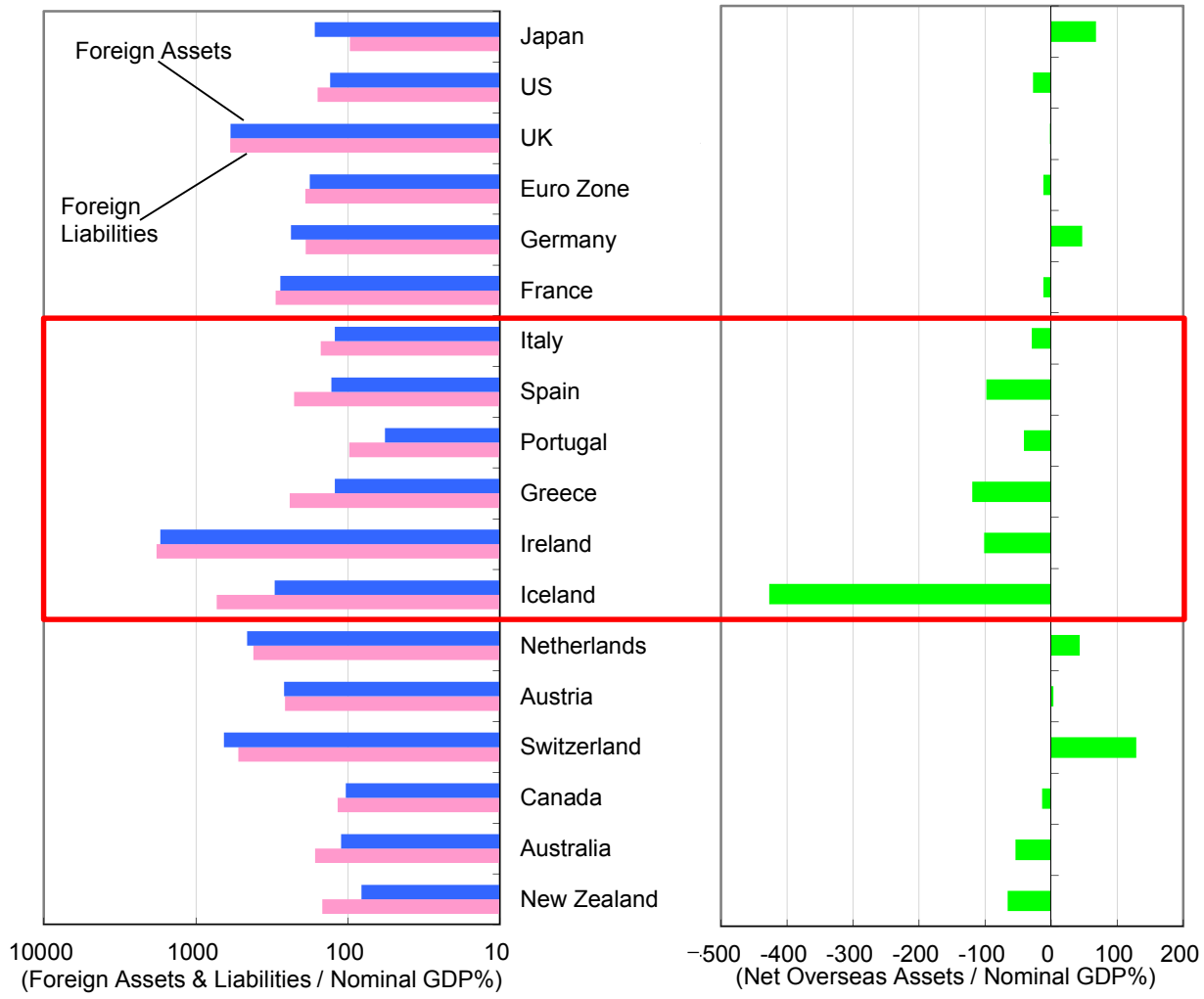
The third risk scenario is the breakup of the euro system. The euro crisis that materialized as the sovereign debt crisis of southern European nations appears to have wound down for the time being as a path toward sound public finances comes into view and as financial markets regain their calm with the support of monetary policies like long-term refinancing operations and outright monetary transactions. The basic problem of the euro system, however, is found in the adoption of a single monetary and currency system, despite member nations being placed at greatly differing stages of economic development, while fiscal unification is far from completion.

What gave rise to the sovereign debt problems of the southern periphery that surfaced with the Greek debt crisis of October 2009? When Europe adopted a single currency, policy interest rates declined, the forex risk premium vanished, and relief measures by the European Commission became a tacit expectation. These developments dramatically improved southern European nations' capacity to borrow. As a result, foreign funds flowed into these nations, and the savings shortfall of the southern

periphery worsened at the same time. The ballooning of external debt was followed by the collapse of an asset bubble, the outflow of funds, and the sharp increase of interest rates, which unleashed the debt crisis. Naturally, if the growth of external debt is accompanied by investments that strengthen domestic production capacity, this would have the potential of improving the current account balance (improve the savings shortfall) in the long term. However, as evidenced by soaring housing prices in the southern periphery prior to the crisis, the inflow of funds was not directed toward such growth areas and went instead for speculative plays.

Nations that are lagging behind in industrialization face difficulties in attracting investments as a production platform. This is all the more so when broadly-defined inflation (including wages) is progressing due to speculative investments. To solve this problem, peripheral nations would need to maintain deflationary policies, such as restraining the growth rate of wages or curtailing fiscal expenditures. It would not be easy, however, to maintain such austerity measures while aiming for economic recovery at the same time. Another possible solution would be to have the advanced nations of the eurozone provide ongoing fiscal support to peripheral nations. However, since fiscal unification is lacking, this could only be achieved in part under current circumstances. Also, given the political opposition to fiscal unification existing in advanced nations of the eurozone, the likelihood of fiscal support should be viewed as no more than a remote prospect.

**Balance Sheets of the Advanced Nations** **Chart 2-26**



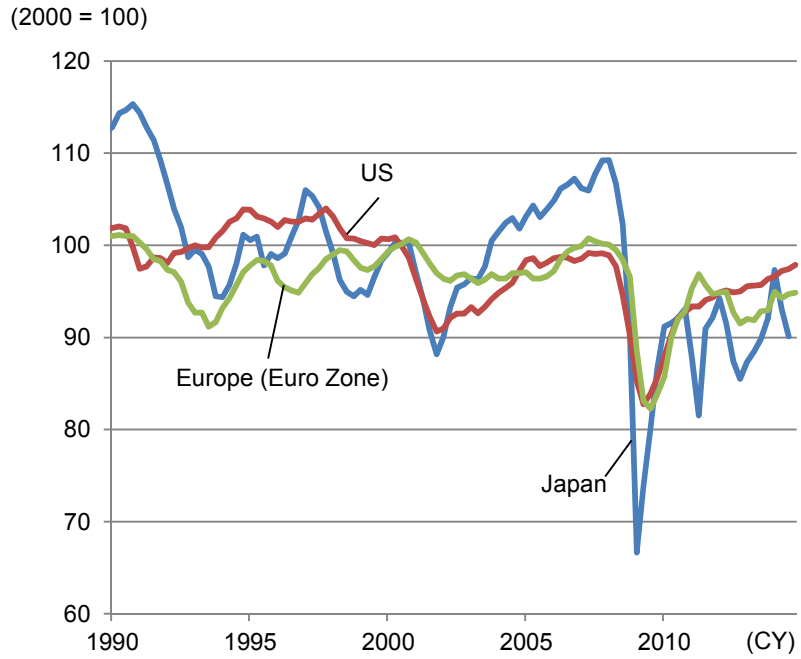

Source: Statistics for each country, Haver Analytics; compiled by DIR.
Note: End 2013, the horizontal axis on the left is a logarithmic scale (Foreign Assets & Liabilities / GDP%).

## 2.6 Detailed Outlook for Japan's Economy

### *2.6.1 Outlook for exports*

Exports are foreseen to grow steadily as foreign economies gradually recover and expand. As indicated in Chart 2-27, given the low capacity utilization rates of export destination economies, the recovery of the flow economy did not readily lead to higher exports from Japan (in other words, they have been able to respond to the demand recovery just by raising capacity utilization rates not by increasing imports from Japan). However, now that the US has recovered from the financial crisis and the euro crisis is in reprieve in Europe, and capacity utilization rates have risen as the slack of the economies has gradually filled in. In the midst of these developments, the recovery of export volume is gaining momentum. Foreign economies continuing to recover and expand can be expected to contribute to Japan's economy through higher exports.

**Capacity Utilization in Japan, US, and Europe** **Chart 2-27**




Source: Ministry of Economy, Trade and Industry, European Commission, FRB; compiled by DIR.

As explained in Appendix 2, the hollowing out of industry as Japan shifts production overseas is a structural process in nature, which will be a factor curbing in part the growth trend for exports described above. The transfer of production overseas has a positive and negative effect on exports. The export inducement effect is a positive effect where the export of capital goods needed to establish foreign production sites is promoted. The export substitution effect, reverse import effect, and import diversion effect are negative effects arising from shifting the domestic production of export goods overseas. These positive and negative effects will continue to exist for the economy as a whole, and it bears noting that the balance between them favors the latter. As the local capital accumulation promotes, the effect of the former has weakened, and the effect of the latter has strengthened. Thus, the hollowing out of industry suppressing the growth of exports is a trend that will continue into the future.

***How should the prospect of a return to Japan be understood?***

As will be discussed below, if the trend for the hollowing out of industry is interrupted and corporate activity returns to Japan, this will promote exports from Japan. However, for a return to Japan to become a trend, as discussed in 2.3 and Appendix 1, the international convergence of tradable good prices (=marginal unit labor cost) will be necessary. Also, as noted in 2.3, this scenario is only an upside risk at present. While we do not envision the trend for the hollowing out of industry being

replaced by a return to Japan at the macro level, such a return may occur in part at the micro and semi-macro levels. The relative productivity of domestic production can differ by industry and by company in relation to foreign production. Industries and companies with relatively high domestic productivity can be expected to return to Japan at a fairly early stage. While not a return to Japan as strictly defined, there are already cases of idle facilities in Japan returning to operation from foreign capacity utilization rates reaching a limit or from the increase of domestic demand in Japan. For many of these companies, however, their return to Japan will be temporary. They are planning to expand local production in the future, and it is still too early to hope that returning to Japan will become a full-fledged trend. As discussed in Appendix 2, this is all the more so since industrial clustering is increasing the benefit of local production.

***Disappearance of the "J-curve effect"***

With this structural trend, cyclical ups and downs arise from changes in foreign exchange rates, which explains why exports will be relatively firm in the first half of our forecast period compared to the second half. When the yen depreciates, the unit value of exports and imports increase, and trade value (exports and imports) rises, and the reverse phenomenon occurs when the yen appreciates. Also, the familiar J-curve effect, where the depreciation of the yen improves international competitiveness, augments export volume, and reduces import volume, is still more than zero. This effect, however, is no longer all that large, as highlighted by the sluggish growth of export volume as the yen depreciated over the last two years.

Broadly speaking, there are two explanations for the disappearance of the J-curve effect. The first is the decline in the rate of substitution. As an international division of production unfolds, the rate of export goods and imports goods to substitute for each other has diminished, and changes in their prices do not influence their volume of demand as much as before. The second reason is the increased pricing-to-market behavior (setting prices in the local currency). As the importance of foreign markets grows, foreign exchange risk has become an extremely important issue for global companies. To minimize the earnings risk accompanying foreign exchange fluctuations, companies are proceeding as a rational business decision to set selling prices in the local currency so as to fix the markup (gross profit margin), or the difference with cost expressed in the local currency. Given these two structural shifts, changes to export volume ensuing from changes in foreign exchange rates will at the very least be more moderate than before.

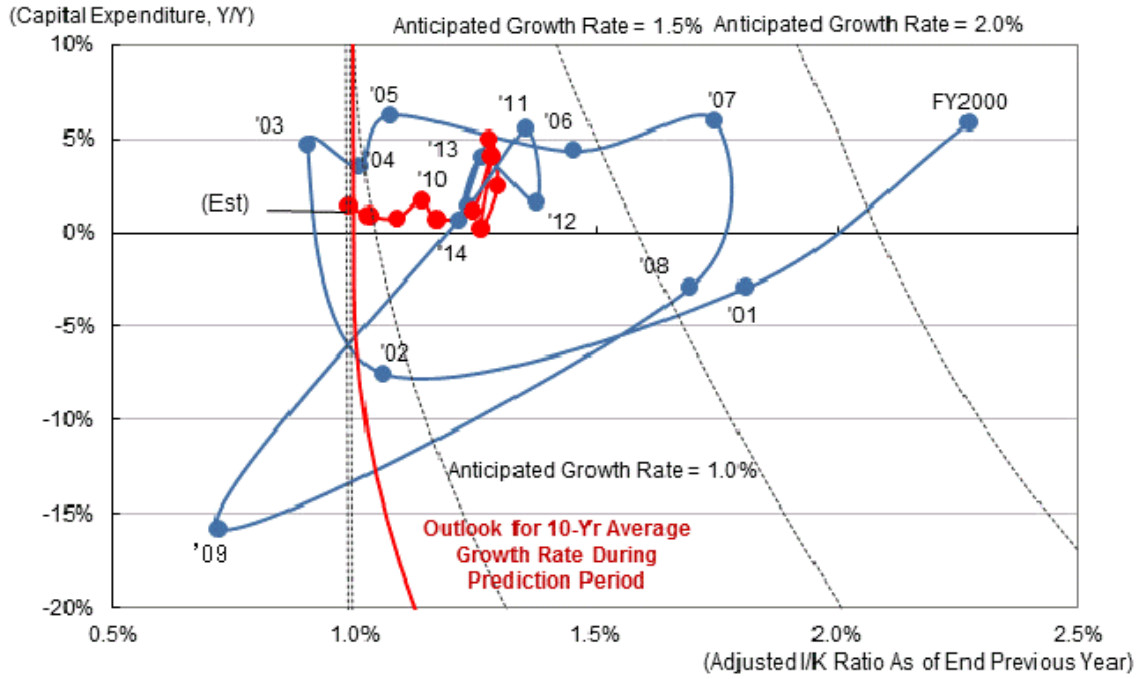
Owing to these structural changes, the path by which the depreciation of the yen influences domestic demand through the tradable goods sector has shifted. The path observed in the past periods of yen depreciation was one where export volume rose from lower export prices, and domestic production grew. This led to higher demand for domestic capital expenditure and an improvement in household income from the growth of employment and wages, resulting in higher consumption (Chart 2-4). This path is thought to be shifting to one where the depreciation of the yen improves the profitability (corporate margin) of foreign-demand-related companies, which then leads to the improvement of corporate earnings, the improvement of household income through labor's share of national income, and higher consumption that benefits domestic-demand-related companies.

Because of these changes, the positive effect of the depreciation of the yen on the domestic economy has greatly weakened. As discussed in Appendix 2, the domestic added value in its primary effect is larger for exports and production activities than for corporate income from FDIs. Also, as discussed in Appendix 1, the intensification of international competition hampers the ascent of wages. Even when corporate earnings improve and the supply-demand balance for labor tightens, companies will have an incentive to expand offshore production rather than to raise wages to hire more people in Japan, as long as domestic and foreign differences remain in the level of wages in relation to marginal productivity. (See Chart 2-4 and Chart 2-5.)

### *2.6.2 Outlook for capital expenditure*

Our outlook judges that Japan's economic cycle has entered a capital accumulation phase (expansion of investments). Factors suppressing capital expenditure, such as the financial turmoil in the US, the European debt crisis, the lower expected returns and the higher uncertainty accompanying the Great East Japan Earthquake, have waned through the success of policy responses. As a result, the capital expenditure cycle has entered an accumulation phase for capital stock, and capital expenditure are likely to recover to a level that corresponds to the expected growth rate. However, given the ongoing hollowing out of industry, capital expenditure are expected to grow at a gradual pace.

**Adjusted Capital Stock Cycle** **Chart 2-28**




Source: DIR.

In relation to demand, capital spending will maintain an upward trend, supported by the growth of exports resulted from the expansion of the world economy and by the gradual increase of consumption.[16] That said, the growth rate of capital expenditure and the pace of capital accumulation will fluctuate over time due to various factors.

Over the next two years or so (FY15–16), capital expenditure are foreseen to grow at a relatively strong pace. First, the level of capital expenditure is low in flow terms in the process of recovering from the financial crisis after 2008 - that is to say, the baseline is low. Moreover, in FY15 the economy recovers from FY14 when the consumption tax hike dragged down demands through both income and substitution effects, and in FY16 a surge in demand will take place ahead of the next tax hike in FY17. In addition, while a substantial effect is unlikely, the improvement of the cash flow of companies, lower interest rates, the depreciation the yen, and the decline of crude oil prices should support the growth of capital expenditure in part.

Next, in FY17–18, fluctuations will occur again due to a higher consumption tax. In FY17, capital expenditure will weaken as consumption slows in reaction to future demand brought forward to FY16 and from a negative income effect. In FY18, the growth recorded by capital expenditure will consist of a recovery from FY17.

[16] See 2.6.3 "Outlook for consumption and wages" for more detailed information.

In the second half of our forecast period, capital expenditure are predicted to climb at a very slow pace. First, the level (I/K ratio) of capital expenditure will have ascended from their growth in the first half of our forecast period, and their future growth will depend on the potential growth rate of the economy. Besides this structural factor, factors curbing the growth of capital expenditure in cyclical terms will be (1) the gradual rise of interest rates due to gradual rise in inflation rates and the change in the monetary policy regime and (2) the weakening of cash flow from the yen depreciation and from higher crude oil prices.

### *Effect of the corporate tax reform*

Tax reform proposals for FY15 adopted by the cabinet in January 2015 call for the reduction of the corporate tax rate (from 34.62% to 32.11% in FY15 and to 31.33% in FY16) as well as the expansion of the tax base by increasing factor-based taxation, reducing the carryover of losses, and trimming the R&D tax credit.

In view of this policy to lower the corporate tax and to lower it further in the future, some economic pundits are anticipating an effect where capital expenditure are promoted, jobs are created, the hollowing out of domestic industry is eased, and investments are drawn in from abroad. It would not be reasonable, however, to expect much of an effect. Companies determine whether to invest or not depending on expected net profit “before tax”, and such decisions are not affected by changes in the corporate tax rate. This principle similarly applies to direct investments, whether domestic or foreign.

**Change in FY2015 Tax Revenue Associated with Corporate Tax Reform** **Chart 2-29**

(Y 100 mil)

| | | |
|---|---|---|
| **Corporate Tax (National Tax)** | | |
| | Corporate Tax Rate Reduction | -6690 |
| | Tax Base Broadening | |
| | Revision of the Deduction of Loss Carried-forward | +1920 |
| | Revision of Exclusion of Dividends Received, etc. from Gross Profits | +920 |
| | Revision of Special Tax Measures | +1790 |
| Total | | -2060 |
| **Corporate Enterprise Tax (Regional Tax)** | | |
| | Lowering of Tax Rate Based on Income | -3940 |
| | Tax Base Broadening | |
| | Expansion of Pro-forma Standard Taxation of Local Corporate Enterprise Tax | +3900 |
| Total | | -40 |

Source: Ministry of Finance

The real intent of corporate tax reform is thought to lie somewhere else, most likely the redistribution of income. When tax reform consists of a net tax reduction, income is redistributed from the government to the corporate sector. Such reform would have the characteristic of fiscal policy, which would reduce government but revenues, improve corporate income, elevate employee income, and encourage higher share prices and dividends. However, as indicated in Chart 2-29, the current tax reform is better understood as a change in the tax mix rather than a net tax reduction.

When tax reform is a tax-neutral change to the tax mix that reduces the nominal tax rate and expands the tax base, income is redistributed within the corporate sector. This case would give rise to two forms of redistribution. First, income would be redistributed from companies with low earnings to those with high earnings. This form of redistribution, which concentrates resources of production in companies with high earnings and promotes the renewal of industries, has the potential of increasing the productivity of the economy as a whole. As a result, tax efficiency improves, and this may even have a positive impact on tax revenues.

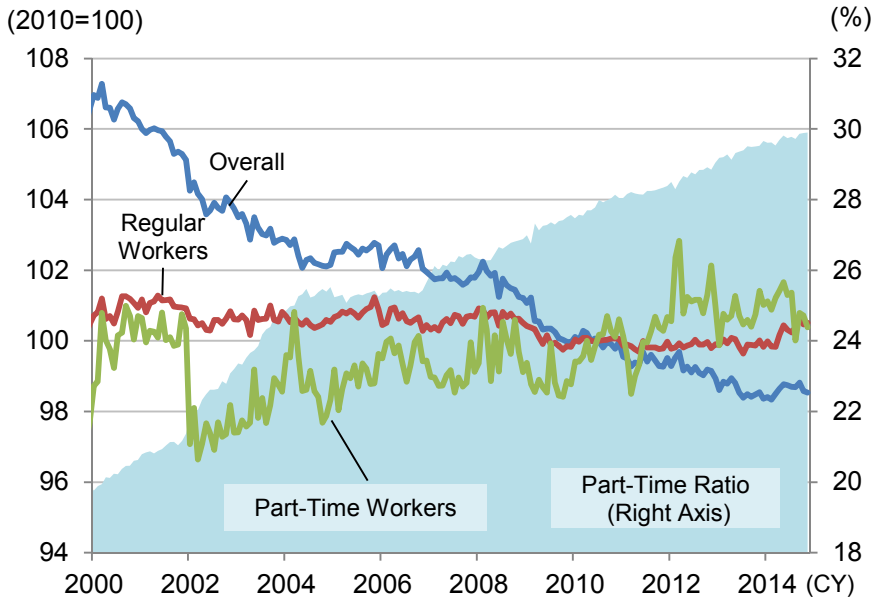
In the second form of redistribution, income is redistributed from companies with high foreign profit ratios to companies with low foreign profit ratios. For companies with high foreign profit ratios, changes to the tax system in Japan have relatively less significance. However, for companies with low foreign profit ratios, the benefits of tax system changes are considerable. The redistribution of income from companies with high foreign profit ratios to those with low ratios, as discussed in 2.3, will promote a trickle-down effect of distributing income from foreign-demand-related companies that have benefited from a weaker yen to domestic-demand-related companies. This has the potential of promoting wage increase in Japan's economy as a whole. The current tax reform includes a measure to lighten the margin by which wages increase. Here is evidence of the stance of Abenomics to use higher wages as one means toward ending deflation.

### *2.6.3 Outlook for consumption and wages*

We anticipate that consumption will expand at a gradual pace in our forecast period due to the low growth of wages and the negative income effect of a higher consumption tax. On the other hand, the decline of crude oil prices will be a factor with a positive impact on consumption. As discussed in 2.1, lower crude oil prices will lift consumption through two paths. The first path is the increase of employee compensation from the improvement of corporate income (and the wealth effect of rising stock prices), and the second path is the improvement of real income accompanying the decline of consumer prices. These effects will mainly materialize in the first half of our forecast period and will augment the growth of consumption.

Per employee income is foreseen to trend firmly, supported by robust corporate income and the gradual tightening of the supply-demand balance for labor. As discussed in Appendix 1, however, this growth may also be restrained by structural factors ensuing from international competition. The average cash earning per worker have remained relatively unchanged, despite the large fluctuations of corporate income or changes in the environment for the supply-demand balance for labor. The backdrop behind this stagnancy of wages is that, due to their downward rigidity, wages did not fall to an appropriate level even as international competition strengthened. At the same time, as companies sought to respond to intensifying international competition, they greatly altered full-time employment to part-time employment with low unit costs. This trend will basically continue until the international competitiveness of Japan and trading-partner nations converge.

**Change in Regular Wages (5 employees or more, companies of all sizes)** **Chart 2-30**




Source: Ministry of Health, Labor and Welfare; compiled by DIR.
Notes: 1) Base year 2010 (base time = 100). The part-time ratio is calculated using number of general workers and part-time wage index.
2) Seasonal adjustment by DIR.

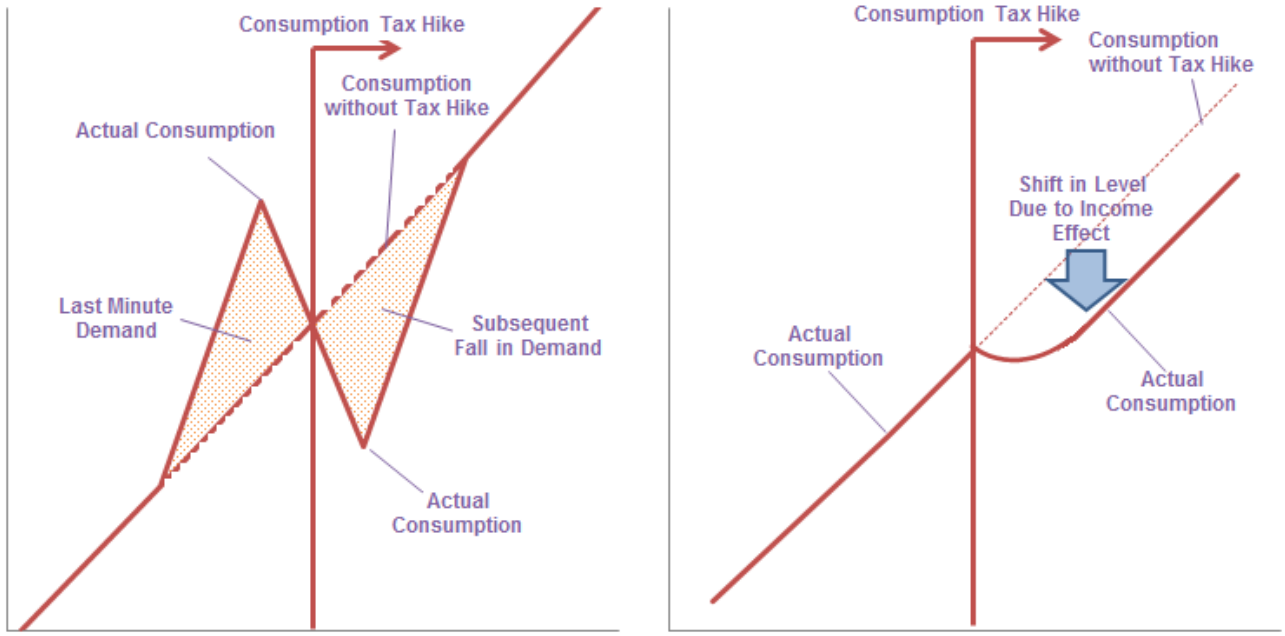
In addition to this outlook for wages, the further increase of the consumption tax planned for FY17 will restrain the level of consumption through a negative income effect and will accelerate rush demand in FY16 and generate a downswing in demand in FY17 through a substitution effect (between different time periods).

The factor of greater significance is the income effect. This is the effect where consumption is suppressed by the decrease in real income resulting from the rise in prices attributable to the consumption tax hike. It is worth noting that, unlike the substitution effect, the decrease in real income from the income effect will occur semi-permanently. Thus, when looking at consumption over the medium-and long-term, the income effect is more important.

When consumer prices shift up, given all other conditions remain the same, households will respond in two ways. First, they can reduce their real consumption, and second, they can reduce their savings rate. Actual households will respond to the decline of real income through a combination of these two methods. It is difficult in the short-term to reduce real consumption (that is to say, reduce living standards) to match the decline in real income (the so-called “ratchet effect”). Thus, it is reasonable to think that the reaction of the typical household to the change in the level of their real income is to first draw down their savings as a partial response, then gradually reduce the level of their real consumption.

The decrease in the savings rate will be a factor reducing future consumption capacity. Also, since households determine the balance between consumption and savings according to rational choices, as long as we work on the assumptions of people having a typical life-cycle and utility curve, the effect of the shift in the level of real income on the savings rate will be very small in the long-term. Thus, the decline in real income through the consumption tax hike will, in the long-term, suppress real consumption by the same amount.

**Consumption Tax Increase: Substitution Effect (Left) and Income Effect (Right)** **Chart 2-31**




Source: DIR.

## Appendix.1 The Balassa–Samuelson Effect on Wages and Prices

What is the cause of the hollowing out of Japan's industry, and why are wages not increasing? The reason is that the prices of tradable commodities have contracted and declined due to the entry of China and other emerging nations into the international market. This causes international competition to intensify, while bringing downward pressure on wages. In this section we analyze this situation theoretically according to the Balassa–Samuelson Effect. The Balassa–Samuelson Effect is expressed by the following simple equation.

**The Balassa–Samuelson Effect** **Chart 2-32**

(1-1) $W_1 = P_{n,1} * MPL_{n,1} = P_{t,1} * MPL_{t,1}$

(1-2) $W_2 = P_{n,2} * MPL_{n,2} = P_{t,2} * MPL_{t,2}$

(1-3) $P_{t,1} = P_{t,2} \quad \therefore W_1/MPL_{t,1} = W_2/MPL_{t,2} \quad \because$ (1-1) (1-2)

Source: DIR.
Notes: 1) *W* stands for wages and *P* represents prices, while *MPL* is the marginal productivity of labor.
2) *n* stands for non-tradable goods, *t* stands for tradable goods, and the figures 1 and 2 are country codes.

Applying this equation to the cases of Japan and China, Equation 1-1 shows the determining factors for wages in Japan. Wages will eventually equal the value of the marginal product, and wages will converge between sectors. As a result, the following relationship stands:

Wage in Japan = Price of non-tradable goods in Japan * Marginal labor productivity of the non-tradable goods sector in Japan
= Price of tradable goods in Japan * Marginal labor productivity of the tradable goods sector in Japan

Based on the same assumptions, Equation 1-2 shows the determining factors for wages in China, which are determined by the following relationship:

Wage in China = Price of non-tradable goods in China * Marginal labor productivity of the non-tradable goods sector in China
= Price of tradable goods in China * Marginal labor productivity of the tradable goods sector in China

Equation 1-3 is the most important. This expresses a relationship where Japan's tradable goods price equal that of China's. Given the difficulty of transferring trade costs (costs like transportation costs and tariffs) and factors of production, this relationship would not normally materialize. China, however, has opened up to the world economy through initiatives such as joining the WTO. Barriers like tariffs and investment regulations have diminished in recent years. As a result, Equation 1-3 has become more appropriate than before. Thus, it is reasonable to think that the difference in prices in the tradable goods sector is narrowing between Japan and China. What cannot be ignored is the manner in which the suppression of growth in $P_{t,1}$ (tradable goods price of Japan) led, through Equation 1-1, to the suppression of growth in $W_1$ (wages in Japan). The obvious conclusion is that wages are unlikely to rise in earnest in the medium-term while this effect persists.

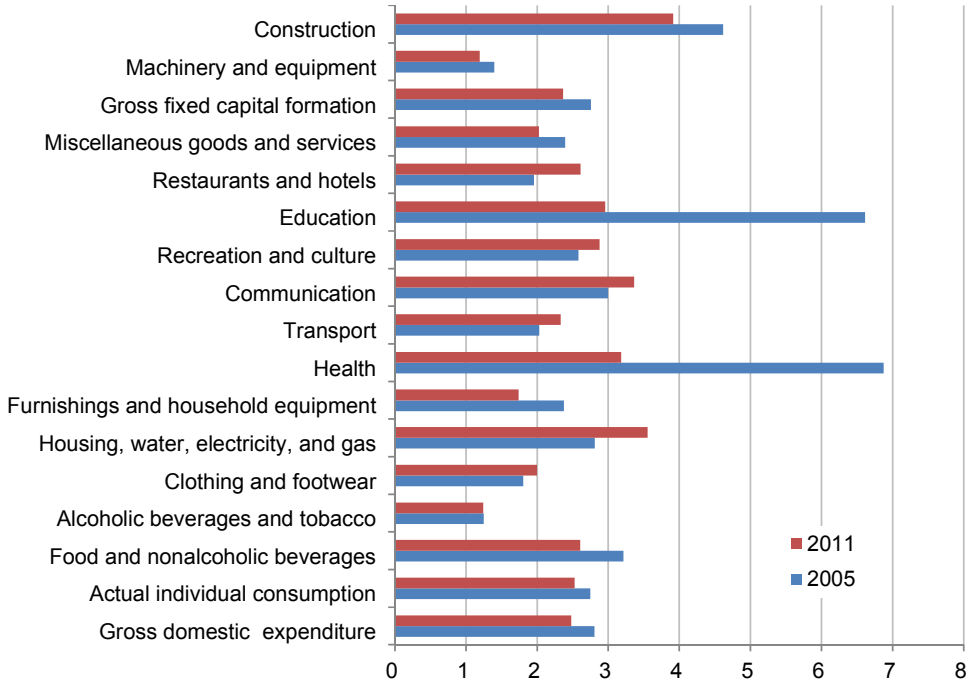
**Effectiveness of China's Entry into International Markets** **Chart 2-33**

| | | |
|---|---|---|
| $P_{t,1} > P_{t,2}$ | $\rightarrow P_{t,1}$ suppression, $P_{t,2}$ growth | approaches to: $\rightarrow P_{t,1} = P_{t,2}$ |
| $W_1/MPL_{t,1} > W_2/MPL_{t,2}$ | $\rightarrow W_1/MPL_{t,1}$ suppression, $W_2/MPL_{t,2}$ growth | approaches to: $\rightarrow W_1/MPL_{t,1} = W_2/MPL_{t,2}$ |

Source: DIR.

In the long-term, the question will be how long this convergence process continues. A useful indicator for examining this question is the ratio of price levels between Japan and China. The difference in prices between Japan and China has narrowed from 2005 to 2011. Prices of overall expenditures (consumption goods), however, still differ by a multiple of about 2.5. Since this ratio of prices includes both tradable and non-tradable goods, it does not fully correspond to the range of prices that are subject to convergence. While it is difficult to limit the comparison to just tradable goods, machinery can serve as a proxy due to its relatively strong characteristic as a tradable good compared to other categories of goods. In 2011, the ratio of machinery prices between Japan and China had declined to a multiple of 1.2 from about 1.4 in 2005. This suggests that, while downward pressure of around 20% may remain on wages in accordance with international terms of convergence, it may be overly pessimistic to assume that the ratio of prices between Japan and China is more than 2, and that the downward pressure on wages will continue until it finally converges.

**Comparison of Prices in Japan and China** **Chart 2-34**




Source: World Bank; compiled by DIR.

Should this convergence of prices take its course, according to Equation 2-3 of Chart 2-35, the speed by which nominal wages rise in relation to the marginal labor productivity of Japan and China will also converge. In other words, until the prices of tradable goods converge (as discussed in the next section), the hollowing out of industry will continue, assuming the smooth transfer of factors of production. Also, while the growth of nominal wages in relation to Japan's marginal labor productivity will be suppressed, once the prices of tradable goods converge, nominal wages in relation to Japan's marginal labor productivity is expected to go up at the same pace as that in China. While unit labor cost is stagnant in Japan, it is rising rapidly in China. If this is primarily due to the process of price convergence as discussed above, once the prices of tradable goods converge, the growth of unit labor cost may slow in China, and accelerate in Japan.

**The Balassa–Samuelson Effect (Rate of Change)** **Chart 2-35**

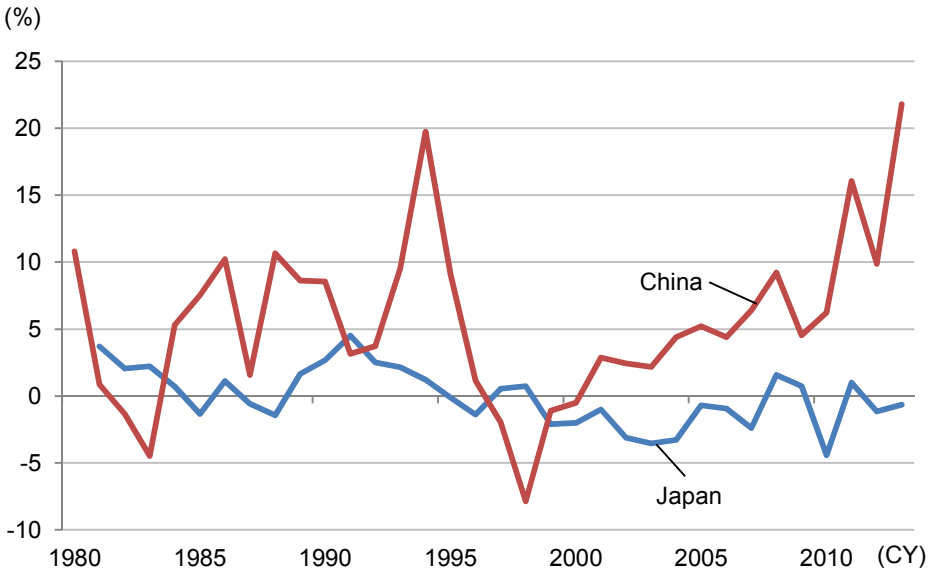
(2-1) $\Delta lnW_1 = \Delta lnP_{n,1} + \Delta lnMPL_{n,1} = \Delta lnP_{t,1} + \Delta lnMPL_{t,1}$

(2-2) $\Delta lnW_2 = \Delta lnP_{n,2} + \Delta lnMPL_{n,2} = \Delta lnP_{t,2} + \Delta lnMPL_{t,2}$

(2-3) $\Delta lnP_{t,1} = \Delta lnP_{t,2} \therefore \Delta lnW_1 - \Delta lnMPL_{t,1} = \Delta lnW_2 - \Delta lnMPL_{t,2} \quad \because$ (2-1) (2-2)

Source: DIR.
Note: $\Delta ln$ is the rate of change.

**Rate of Change in Unit Labor Cost in Japan and China** **Chart 2-36**




Source: Haver Analytics

Note: This differs in two ways from the rate of change in the formula $W_1/MPL_{t,1}$ $(\Delta lnW_1 - \Delta lnMPL_{t,1})$. First, rather than being the value of the tradable goods sector alone, it is the value of the nation overall (including the non-tradable sector). Secondly, it represents wages in relation to average labor productivity, rather than marginal labor productivity. Despite these problems, due to the constraints of the data, the rate of change in unit labor cost is included above as a reference.

Such a development, however, would be one mediated by the convergence in prices ($P_{t,1} = P_{t,2}$, $\Delta lnP_{t,1} = \Delta lnP_{t,2}$). Through this process, the nominal wage ($W_1$) and its rate of change ($\Delta lnW_1$) would increase, but purchasing power would not, as long as the real wage ($W_1/P_1$) does not increase. Should the rate of growth of non-tradable good price ($P_{n,1}$) slow in relative terms for some reason, real wages may possibly increase as a result. This is not, however, the ideal outcome of deflation being overcome in Japan through an increase in both wages and prices. As indicated by equations 1-1 and 2-1, the real wage ($W_1/P_1$) and their growth rate are dependent on the labor productivity and the growth rate of the entire economy—that is to say, of both the tradable and non-tradable good sectors. Thus, in overcoming deflation while simultaneously achieving a sustained rise in real wages, the key is to increase labor productivity, not hope that the price of non-tradable goods continue to stagnate.

Three approaches can be taken to increase labor productivity. The first approach is to improve the capital-labor ratio. Possible responses would include a reduction in the corporate tax and a tax break for capital investments. The second approach is to increase the total factor productivity. While this is very difficult to discuss in quantitative terms, improving the quality of labor through improvements in education and personnel policies may contribute. The third approach is "selection and concentration." In this approach, labor productivity of the entire economy is improved by shifting human resources from low labor productivity sectors to high labor productivity sectors. However, high labor productivity sectors are, by definition, sectors that do not require a great deal of labor. Artificially engaging in selection and concentration when the free market has already allocated the labor factors efficiently would distort the allocation of resources and would risk reducing the productivity of the entire economy. However, when there are sectors that are protected by regulations and where factors of production (labor) are already being artificially allocated, contracting such sectors and shifting the factors of production (labor) to sectors with higher productivity will have the potential of lifting the productivity of the entire economy.

## Appendix.2 Backdrop to the Hollowing Out of Industry and its Impact

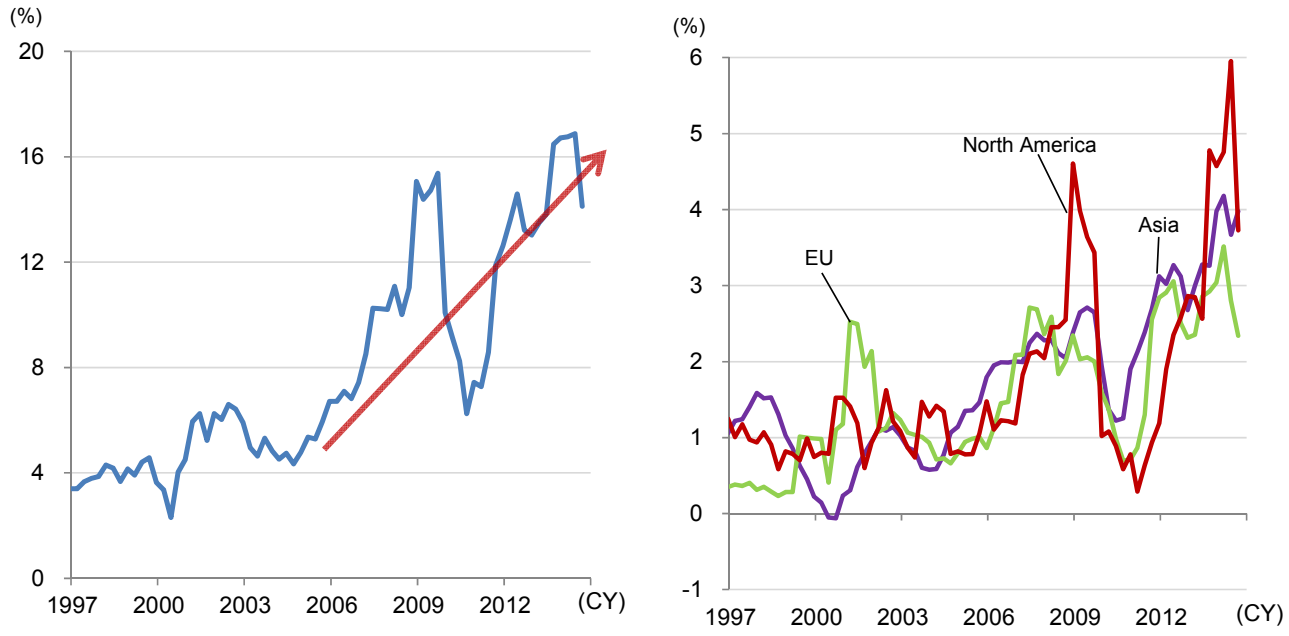
The backdrop to sluggish prices and wages in Japan (particularly in the tradable goods sector) is the existence of intense international competition, which is resulting in the hollowing out of industry. As long as there are differences in the level of wages with respect to marginal productivity, even if an economic recovery tightens the domestic supply-demand balance for labor, wages will not rise and jobs will move overseas. In this section, we provide a more comprehensive look at the hollowing out of industry and discuss its impact on Japan's economy, as well as its future outlook.

### *Current situation and the backdrop to the hollowing out of industry*

Chart 2-37 (left graph) presents one piece of evidence showing the hollowing out of industry in Japan. The chart illustrates the share of FDI in the total investment of Japanese companies (FDI + domestic private-sector capital expenditure). While the graph has fluctuated from events such as the massive investments in US financial institutions by Japanese banks during the financial crisis in 2008 and the economic downturn following the Lehman crisis, in its broader trend, the share of FDI has risen sharply since the second half of the 2000s. One of the reasons for this increase is the cost advantage of overseas production that comes from the yen's sharp appreciation. A similar phenomenon was observed in the early 2000s. Bearing this point in mind, now that the yen has lost its former strength, it is reasonable to think that the hollowing out of Japanese industry from the foreign exchange factor should pause for the time being.

What deserves our attention in this context are not short-term fluctuations that comes from the foreign exchange factor, but the increase in the share of FDI to the capital expenditure of Japanese companies. This share was about 7% in the first half of the 2000s when the yen was strong, but has now climbed to about 17%. Looking at the actual amounts, domestic private-sector capital expenditure totaled Y64.7 trillion in 2013, which is about the same as the Y64.5 trillion recorded in 2002. In contrast, FDI rose by Y9.2 trillion during the same period, from Y4.0 trillion to Y13.2 trillion. It is likely that this shift represents some form of regime change.

**Foreign Direct Investment Ratio (Left) and Foreign Direct Investment by Region (Right)** **Chart 2-37**

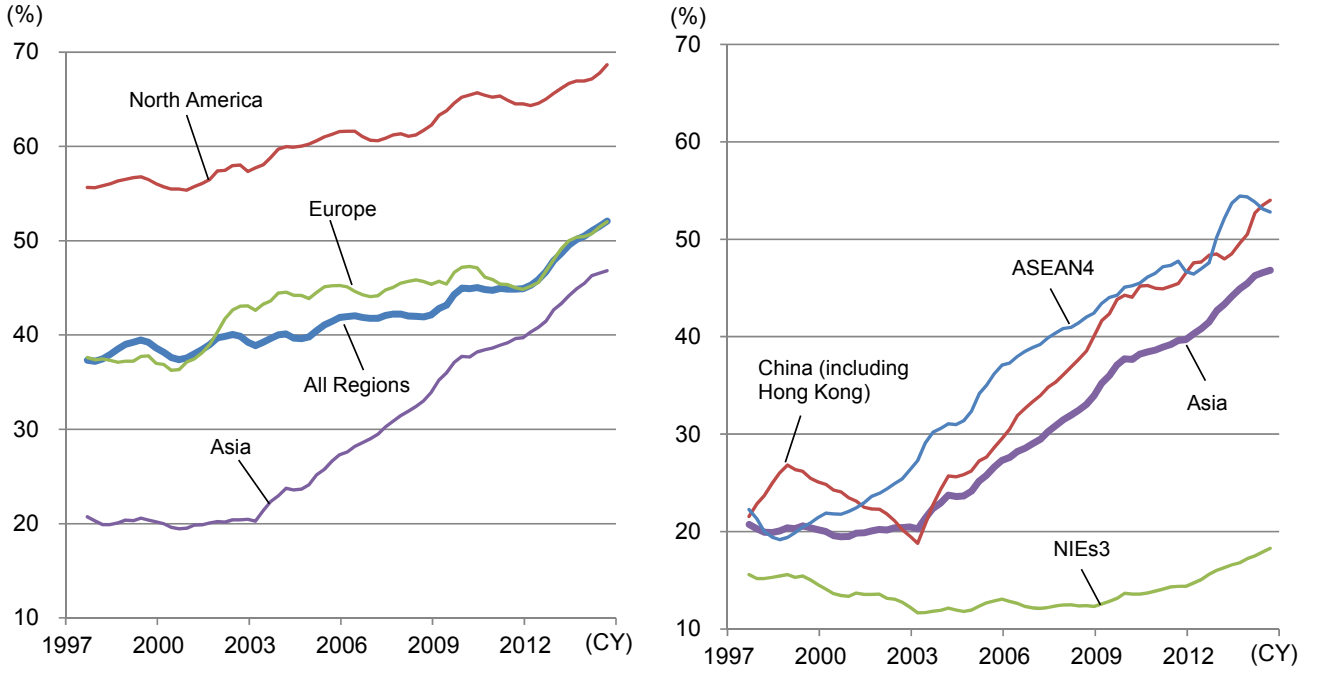



Source: Ministry of Finance, Bank of Japan, and Cabinet Office, compiled by DIR. Four-quarter moving average.
Note: Foreign direct investment ratio = foreign direct investment / (foreign direct investment + domestic private investment).

One of the reasons for this increase in the share of FDI to the capital expenditure of Japanese companies is the relative growth of foreign demand. Since the 1990s, Japan's economy has grown slowly while foreign economies, especially the emerging economies in Asia, have expanded at a relatively rapid pace. The increase in FDI to capture such foreign demand is a development that cannot be overlooked. Overseas production, however, is not the only way to respond to the relative growth in foreign demand. Companies can also respond by expanding domestic production and exports. Thus, if capturing foreign demand is the sole objective, no major shift would occur in the ratio of exports to the sales of the foreign subsidiaries of Japanese companies.

This point is examined in Chart 2-38 (left graph), which shows the trend of the share of foreign subsidiary sales to the total sales for the local market (local sales plus exports from Japan) for Japan's manufacturing firms. As we can see in the chart, local subsidiary sales are increasing at a pace faster than exports. Hence, the expansion of business activities in foreign markets cannot be explained just by the relative growth of foreign demand. The share of local subsidiary sales has gone up and down in response to events like the IT bubble, the real estate bubble in North America and its collapse, the adoption and expansion of the euro, and the debt crisis in Europe. However, as a general trend, the share of local subsidiary sales is on an upward trend, suggesting that the localization of production and sales activity is the outcome of not just external factors, but of Japanese companies expanding their international operations as well.

**Ratio of Overseas Subsidiaries Sales** **Chart 2-38**

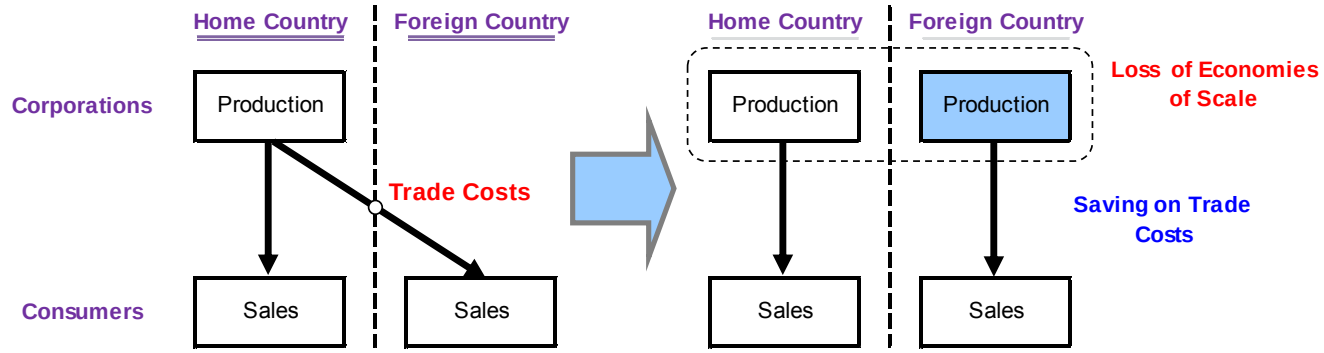



Source: Ministry of Finance, Ministry of Economy, Trade and Industry, compiled by DIR.
Notes: 1) Ratio of overseas subsidiary sales = overseas subsidiary sales (portion of sales to Japan) / (exports + overseas subsidiary sales (portion of sales to Japan)).
2) The NIEs include Republic of Korea, Singapore, and Taiwan. ASEAN countries are Indonesia, Malaysia, the Philippines, and Thailand.

The business activities of Japanese manufacturers in North America are described in the Quarterly Survey of Overseas Subsidiaries, published by the Ministry of Economy, Trade, and Industry. Transportation equipment (whose trade costs are relatively high) accounts for about half of local subsidiary sales, and nearly all of the transportation equipment sales are recorded as sales in the local markets. This is a typical case of horizontal specialization (where production occurs close to the source of demand).

One of the advantages of horizontal specialization is the reduction in trade costs, such as transportation costs, tariffs, and non-tariff barriers (see Chart 2-39). One of the drawbacks is the loss of the economies of scale due to the dispersion of production activities (such as having to build new factories). Bearing in mind these advantages and disadvantages, we now examine the factors behind the upward trend of the share of local subsidiary sales. First, with regard to trade costs, it is difficult to imagine that trade costs have gone up dramatically over the last 20 years or so, as there were no new major trade barriers implemented during this period, like major increases in tariffs for exports to North America, or new export quotas. Thus it is unlikely that localization has occurred due to higher trade costs.

**Advantages and Disadvantages of Horizontal Specialization** **Chart 2-39**



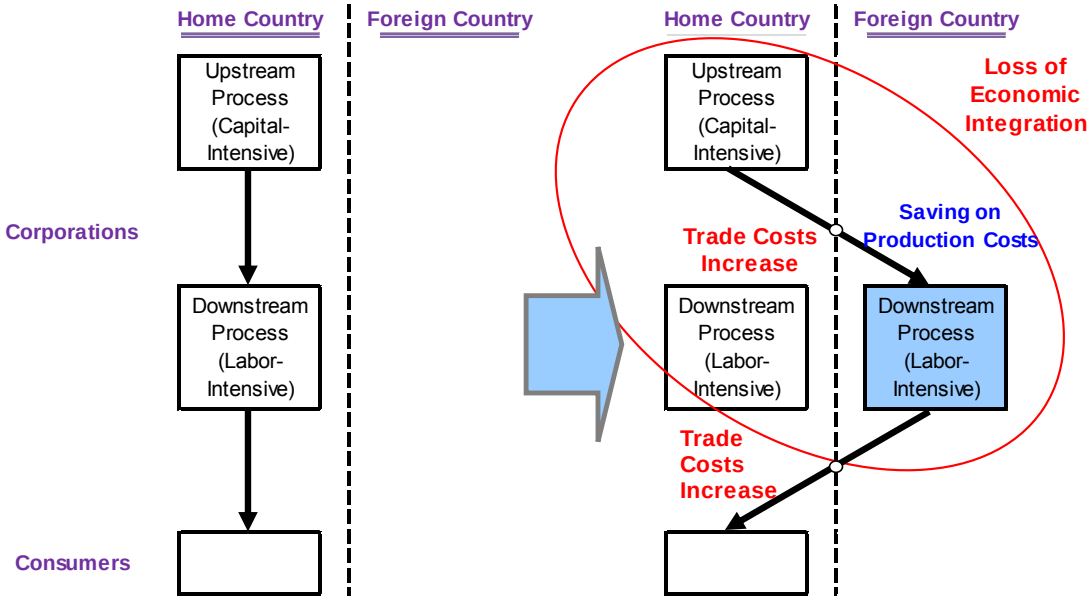

Source: "Issues and facts on overseas production shifting", Sakura and Iwasaki (BOJ research paper, 2012).

On the other hand, the increase in local production and the progression of the "clustering of industry" (parts suppliers shifting their operations overseas) has probably mitigated the loss of the economies of scale. Based on this observation, horizontal specialization will likely continue going forward, especially in industries like transportation equipment where trade costs are high, and the local production ratio will rise as local production substitutes production in Japan.

Next, examining the business activities of Japanese companies in Asia, about half of the sales of local subsidiaries are for the local market, and about one-fourth are exports back to Japan. Electrical machinery (whose trade costs are generally low) account for more than half of the sales of local subsidiaries, of which about one-third is exported back to Japan. Therefore, the business activities of Japanese companies in Asia, when compared to their activities in advanced economies, can be characterized as vertical specialization (where production processes are divided into segments according to differences in production costs and moved to different countries).

One of the benefits of vertical specialization (see Chart 2-40) is the lowering of production costs (lower labor costs, corporate taxes, and indirect taxes). On the other hand, drawbacks of vertical specialization are trade costs arising from the segmentation of production processes and the loss of the economies of integration between production processes. Bearing in mind these advantages and disadvantages, we now examine factors for the growth of FDI in the Asian region. First, regarding trade costs, with China joining the WTO in 2001, trade costs such as tariffs have been reduced. Next, with respect to production costs, differences in labor costs are immense. Labor costs in China and ASEAN are extremely low compared to Japan. In the Survey Report on Overseas Business Operations by Japanese Manufacturing Companies carried out annually by the Japan Bank for International Cooperation, low-cost labor is regularly cited by a majority of companies as a reason for their interest in investing in Asian economies (although the level of interest is trending downward in recent years with the increase in labor costs). Corporate tax and other taxes are also much lower than in Japan. This is a difference in the levels, and does not directly explain the upward trend for the growth in foreign operations. However, spurred by China's membership in the WTO, it is reasonable to think that differences in production costs drew renewed attention as vertical specialization progressed in the Asian region, and cost control-led optimization progressed at the global level.

**Advantages and Disadvantages of Vertical Specialization** **Chart 2-40**




Source: "Issues and facts on overseas production shifting", Sakura and Iwasaki (BOJ research paper, 2012).

Factors for the growth of Japanese companies' direct investment in the Asian region are not limited to production substitution that accompanies vertical specialization. The ratio of local subsidiary sales is increasing in all regions, and it is rising most rapidly in the Asian region. What this indicates is a growing trend to satisfy local demand with local production, rather than with exports. Not only is vertical specialization advancing, but horizontal specialization is advancing rapidly as well.

What is behind this push towards horizontal specialization? It may be that industrial clustering has intensified as direct investment and local production grew rapidly in Asia, and it has become rational in cost terms to respond to local demand through local production, rather than through exports, even when trade costs have fallen. It is also possible that the competitiveness of local production is rising not only for labor-intensive, downstream processes like the assembly of final goods, but for more upstream processes like the assembly of intermediate goods as well. A Cabinet Office report (2010, p376–377) analyzing this point using a trade specialization index reveals that Japan has not only lost its competitive advantage with the production of final goods, but also with intermediate goods where it used to dominate, and that China and ASEAN countries have gained competitiveness. In light of this point, Chart 1.2.15 (right) provides a further breakdown of the local subsidiary sales ratio in the Asian region. While this ratio has climbed rapidly in China and ASEAN nations, it remains at a low level for the NIEs. This suggests that, as direct investment for vertical specialization increased in nations with low production costs, industrial clustering accelerated. This then increased the comparative advantage of local production, leading to more direct investment for horizontal specialization.

### *Impact of the hollowing out of industry*

As we have discussed above, the hollowing out of industry has accelerated further, not only from the trade and production cost factors, but also from the increased benefits of local production arising from industrial clustering in local markets as well. In this section, we examine the impact of this hollowing out.

First, as a simple illustration, we consider the case where an entire production line for export products, from the upstream to the downstream, is moved from Japan to another country. In this scenario, the primary impact to Japan's economy would be a decrease in exports and an increase in the income balance (primary income balance) from increased outbound investments. This increase in the income balance, however, would not offset the decrease in GDP, GNI, and the current account balance resulting from the decline in exports. This is because, while the value-added of exports is:

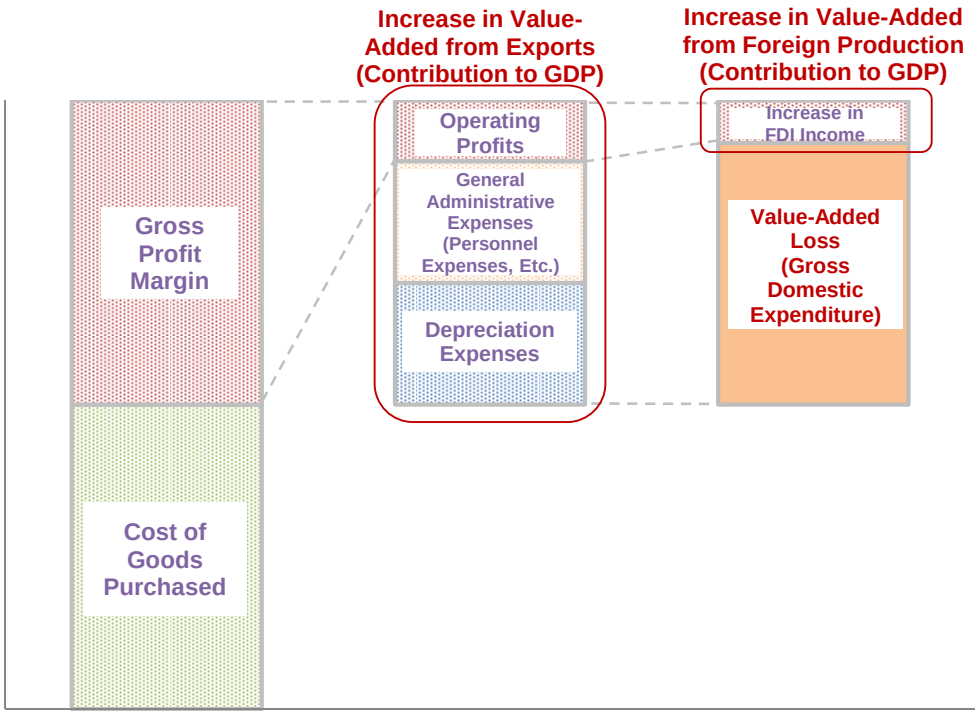
Value-added of exports = Production cost (Depreciation + Labor and other costs) + Corporate profit

The income balance of direct investment is:

Income balance of direct investment = Corporate profit * (1 - Local corporate tax rate) - Remittance cost

This relationship holds for other cases of hollowing out, such as when production lines for exported products are transferred not in whole but in part, or when a production line for products produced and consumed domestically is shifted overseas and the resulting products are exported back to Japan. Thus, the primary effect of the hollowing out of industry on Japan's economy is negative.

**Loss of Value-Added Due to Hollowing Out** **Chart 2-41**




Source: DIR.

# 3. Fiscal Reconstruction Requires Policy on Regional Revitalization and Control of Expenditures

## Summary

***Key point: A fiscal policy system should be established where burdens felt correspond to benefits received***

- Practicing restraint in the area of expenditures is essential to fiscal reconstruction. It is especially important to keep steadily expanding social security costs under control.

- Out-of-pocket expenses and eligibility for insurance payments to cover medical costs and nursing care should be reviewed. Meanwhile, in order to improve child-rearing support, a competitive environment should be provided with a broader range of choices for the user.

- Expenses related to infrastructure should be contained though privatization of companies carrying out work on public infrastructure as well as through the strengthening of governance. The method of calculating tax allocation to local governments should be reviewed, while at the same time promoting special regional revitalization zones. In this way costs can be cut gradually.

- Reforms leading to a fiscal system that links costs and benefits and to political institutions that can eliminate conflicts of interest between the old and the young could also work as a revitalization policy promoting regional autonomy.

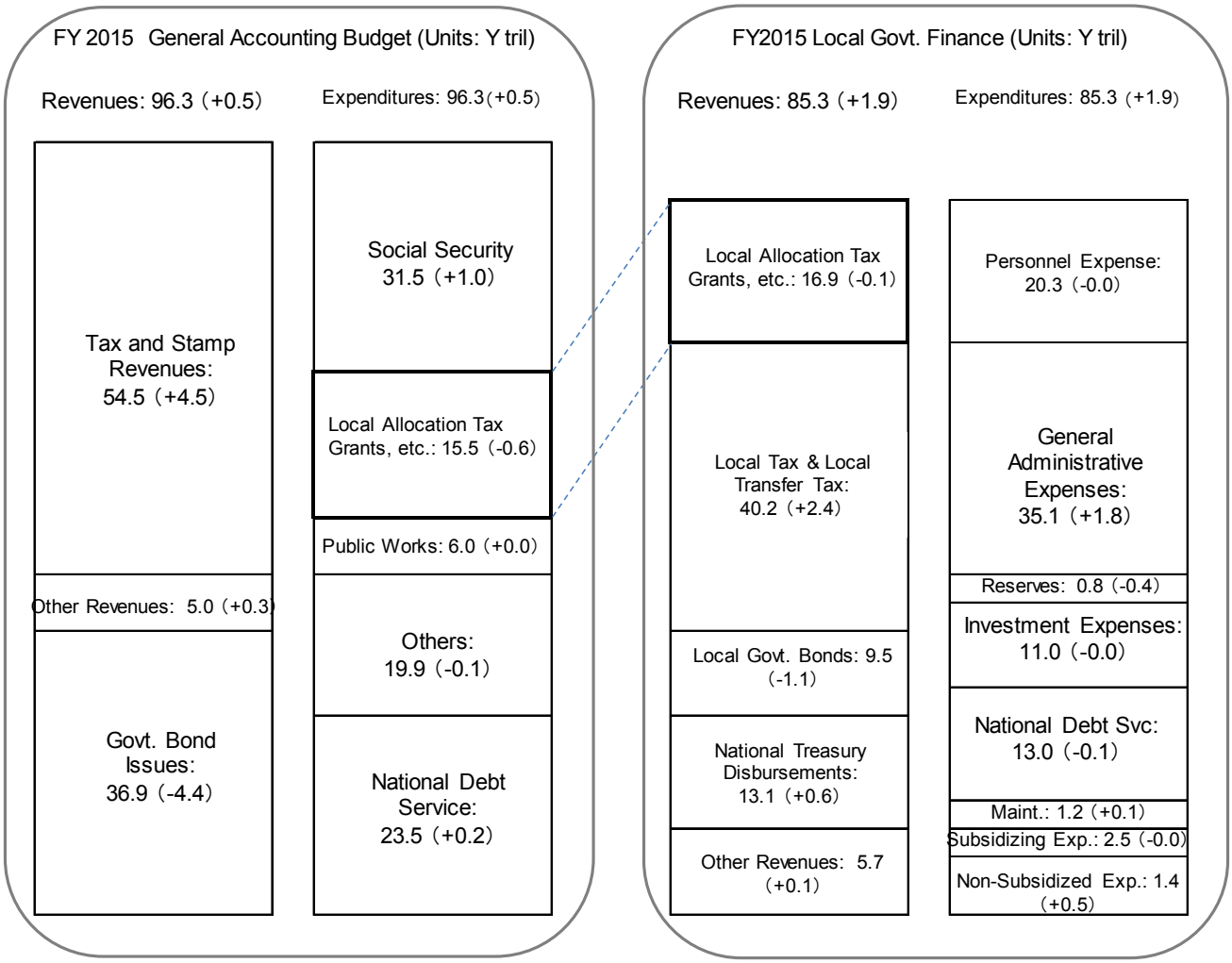
In Chapter 3, we discuss measures related to regional revitalization that the government announced in December 2014, and we introduce, centering on the FY15 draft budget, government efforts to prioritize and increase the efficiency of expenditures with the view to restore government finances to health. We also specify that the restoration of sound government finances will require not only such expenditure reform but will demand measures to reform the revenue side, such as the consumption tax, as well as the implementation of growth strategies and regional revitalization. Moreover, there will be a need to go even further to reform current fiscal and political systems that cause higher expenditures as a medium- to long-term issue.

## 3.1 Fiscal condition of national and local governments (expenditure side)

Chart 3-1-1 provides an overview of the fiscal situation of national and local governments centering on the expenditure side. As revealed by the chart, the primary balance of the national government is expected to improve in FY15 from the significant increase of tax revenues and from the restraint of expenditure growth. Even so, social-security-related expenditures will continue to rise for the national government.

What is the situation for local government finances? Higher local tax revenues and higher national government subsidies are contributing in the main to the improvement of the fiscal balance. Local governments, however, receive local allocation tax subsidies from the national government, and local government finances have a structural deficit when these subsidies are excluded. Not only do local governments suffer from persistent tax revenue shortfalls, but they have a fiscal structure where expenditures readily rise from dependence on local allocation tax subsidies, from the rapid growth of expenses related to the maintenance and management of public infrastructure, and from regional revitalization policies.

**FY2015 General Accounting Budget and Local Government Finance Plans** **Chart 3-1-1**




Source: Ministry of Finance Bureau of Accounts, Ministry of Internal Affairs and Communications; compiled by DIR.
Note: Figures in parenthesis express change in comparison to previous fiscal year's budget.

## 3.2 Prioritizing and increasing the efficiency of social security benefits through the ability-to-pay principle and through diversified choices for beneficiaries

In this section, we clarify the measures being examined by the government to augment social security and to restrain benefits centering on medical care, long-term care, and child care (Chart 3-2-1).

### *3.2.1 Medical care and long-term care*

For the social security system, the proportion of medical expenses and long-term care expenses is increasing year by year. Medical expenses have reached Y39.2 trillion and long-term care expenses Y8.8 trillion (both in FY12). Most medical care and long-term care benefits are received by the elderly, and the financial burden is met through taxes and health insurance premiums paid by the working-age population. As a consequence of Japan becoming a hyper-aged society, the tax and health insurance premium burden of the working-age population is forecast to grow without limit, and the adverse impact this will have on the economy is a matter of concern. For the sustainability of the social security system, a fair balance between the financial burden and benefits is desired, whose difference is widening between generations.

**Enhancements, Prioritization and Streamlining of Social Security Under Consideration** **Chart 3-2-1**

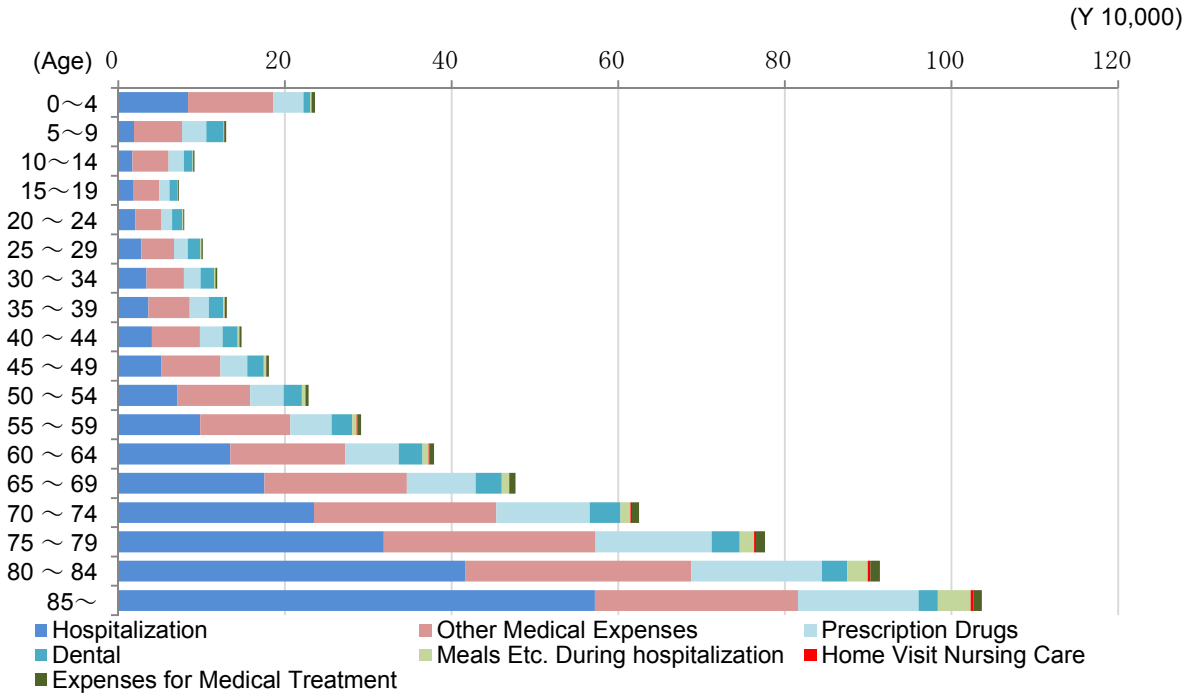
| Policy Study on Social Security Enhancement Using Revenue Increase from Consumption Tax (Year to Date: Consumption Tax Increased by 5%) | | | Enhancement | Increased Efficiency | FY2015 Budget |
|---|---|---|---|---|---|
| Medical Care & Nursing Care | Reforms in How Medical Care & Nursing Care Are Provided | Division/coordination of hospital bed functions, promotion of home care, etc.<br>Build a care system focusing on regional localities<br>(Enhance regional support operations for promotion of home care) | 1.5 tril yen | | 129.6 bil yen<br>201.1 bil yen |
| | | Reduce number of days spent in hospital<br>Normalization of outpatient treatments<br>Avoid necessity of placing elderly in nursing care facilities, prevent severity of medical condition, stricter criteria for decision whether to use nursing care facility (shift to home care approach) | | ▲0.7 tril yen | |
| | Reforms in Medical Care & Nursing Care Insurance | Upgrade and expand National Health Insurance system to lighten burden of insurance payments for low-income elderly over age 75.<br>Enhance fiscal support of National Health insurance system.<br>Support contributions to employee health insurance.<br>Review high-cost medical expense system.<br>Lower insurance costs for first insured person on nursing care insurance in the case of low-income patients. | 1 tril yen | | 61.2 bil yen<br>186.4 bil yen<br>10.9 bil yen<br>24.8 bil yen<br>22.1 bil yen |
| | | Introduce total income-based support for nursing care payments<br>Stricter selection focus for more effective benefits and prevention of severity of medical condition through focus on functional training for patients with mild symptoms.<br>Expand applicability of employee insurance to part-time workers. | | ▲0.5 tril yen | |
| | Handling Intractable Disease and Specified Chronic Diseases in Children | Establish fair and stable system for treatment of intractable disease and specified chronic diseases in children. | | | 204.8 bil yen |
| Children & Child-Rearing | | Promote means of resolving long waiting lists and strengthen support for children and child-rearing in regional areas.<br>(Promote the "Plan for Accelerating a Resolution for Children on Waiting Lists" and implement the Project to Provide Emergency Childcare.)<br>Provide in a comprehensive manner early childhood education and childcare.<br>Enhance social care services for children.<br>Strengthen economic support for people on childcare leave. | 0.7 tril yen | | 484.4 bil yen<br>28.3 bil yen<br>6.2 bil yen |
| National Pension | | Expand range of applicability for Survivor's Basic Pension to include households made up of single fathers and their children.<br>Provide welfare benefits to low income elderly.<br>Shorten eligibility period. | 10 bil yen<br>560 bil yen<br>30 bil yen | | 2 bil yen |
| | | Resolve issue of exceptions to cost of living adjustment.<br>Consider a review of pension benefits for high-income bracket.<br>Consider a macro-economic cost of living adjustment.<br>Consider rasing the age at which payments begin. | | | |
| Total | | | About 3.8 tril yen | About ▲1.2 tril yen | 1.36 tril yen |

Source: Ministry of Health, Labour, and Welfare; compiled by DIR.

### *3.2.1.1 Revision of the share of self-pay medical expenses*

More than 50% of medical expenses relate to people aged 65 or older. Naturally, one reason is per capita medical expenses being high for the elderly (Chart 3-2-2). This situation is no doubt influenced by the progress of medicine and by the ascent of morbidity as people age. Another significant factor is the share of self-pay medical expenses being held low for the elderly.

**Medical Expenses per Person by Age Group** **Chart 3-2-2**




Source: Ministry of Health, Labour, and Welfare; compiled by DIR.

Currently, the fees that patients pay hospitals and clinics (self-pay expenses) is 30% of the total to the age of 69 and is 10% for people aged 75 or older. While this share was to be increased in steps to 20% for people aged 70 to 74 starting in FY14 as specified in regulations, an exception was made to hold the share to 10% until recently. The reduction of self-pay expenses may be an incentive for making early doctor visits and for receiving early treatment. Moral hazard, however, can also easily arise (the inducement of unnecessary demands). Given the convenience of free access, there are many cases of the elderly who consider themselves healthy or who consider themselves perhaps not healthy but without disease visiting the hospital at least once a month.

The shares of self-pay medical expenses apply in a similar manner to prescription drugs. As a result, the elderly paying the lowest share of medical expenses also pay the lowest share of prescription drug expenses. This creates an incentive to ask for doctor prescriptions for vitamins or poultices since self-pay expenses will be less than the case of purchasing over-the-counter drugs.

While there may be differences based on income or disease, foreign nations generally do not set the share of self-pay medical expenses lower across the board according to age. Differences are not set by age for seeing doctors or for prescription drugs. Rather, people are responsible for the full cost up to a certain amount (insurance with deductibles), and there are many cases where the share of self-pay expenses differs by drug categories.

Domestically, debate has finally begun about establishing a new fee for patients who seek medical consultations at large hospitals without letters of referral. Being cost aware is important when everyone can receive medical services. Naturally, measures will be needed for the elderly who cannot bear a higher share of self-pay medical expenses. However, in view of strained medical finances, the parameters for the shares of self-pay medical expenses borne the elderly that have been set low because of age will need to be rectified. With respect to prescription drugs, increasing the share of self-pay expenses by drug category rather than by age and to limit the applicable scope of insurance (for example, exclusion from insurance coverage when similar drugs are available over the counter) should be considered.

### *3.2.1.2 Strengthening health maintenance programs*

As people become older, they become concerned about their health or illness and about the health or illness of their spouse (FY09 survey of the elderly on their daily lives, Cabinet Office), and a higher proportion seek consultations at medical institutions out of concern that they are ill despite the lack of subjective symptoms (FY11 Patient's Behavior Survey, Ministry of Health, Labor, and Welfare). To ease and eliminate such daily uncertainties of the elderly, it would be desirable for insurers to strengthen their health maintenance programs. Health maintenance programs cover a broad range of activities, including the prevention and early discovery of the illnesses of policy holders, education and consultation programs to support healthy living, and public relation activities to spread health maintenance knowledge. Issues to be solved and measures to be implemented in relation to health maintenance programs will be clarified by working to increase participation rates in health checkups, specified health checkups, and specified health maintenance guidance and by analyzing health issues based on health checkup data, medical services payment receipt data, long-term care insurance data, and other statistical materials.

While there is some uncertainty about how much medical expenses will be curtailed through preventive medicine and health improvement activities, if health consultations and accurate health maintenance guidance are implemented through insurers' strategic deployment of health maintenance programs, this will eliminate the excessive uncertainties of the elderly and should help restrain nonessential and non-urgent medical consultations.

### *3.2.1.3 Reorganizing hospital bed use and the promotion of in-home medical care*

People aged 65 or older account for more than 65% of in-patient medical expenses (Y14.8 trillion in FY12), and in-patient medical expenses claim the largest share of total medical expenses. In-patient medical expenses rise as hospital stays lengthen, and they tend to be high in localities with a large number of hospital beds relative to the local population. The government has sought to reduce the number of acute care beds by differentiating the use of hospital beds and to transfer patients who have passed the acute stage to convalescence beds, to long-term care facilities, or to their homes. It has also endeavored to curtail in-patient medical expenses by promoting in-home medical care, such as by augmenting medical service payment points to benefit medical institutions for shorter hospital stays. Such steps, however, have been impeded by the small number of medical institutions providing home medical consultations (Chart 3-2-3) and by inadequate liaising with doctors in charge.

**Medical Facilities Implementing Home-Visit Nursing Care as of 2011** **Chart 3-2-3**

| | Number of Facilities | Ratio |
|---|---|---|
| Hospitals | 2,407 | 28% |
| Clinics | 19,950 | 20% |
| Home-Visit Nursing Care Stations | 7,153 | |

Source: Ministry of Health, Labour, and Welfare; compiled by DIR.
Note: Data for Home-Visit Nursing Care Stations is as of 2012.

This led the government to decide last year to create a new fund through the Act for Securing Comprehensive Medical and Long-Term Care with revenues from the increase of the consumption tax, which will be allocated according to the medical care and long-term care plans developed by prefectures. The funds that will be allocated can be used as a supplemental source of funds by medical institutions promoting functional diversification and liaising led by prefectures and as a source of funds for developing and securing human resources, such as doctors, nurses, and long-term care personnel for in-home care.

However, if the development of a medical and long-term care provision system by means of existing payment systems for medical services and long-term care is to be done with a fund using revenues from the increase of the consumption tax, there will be a need to ensure management transparency, to

analyze and verify outcomes from using the fund, and to clarify such outcomes such as through their comprehensive disclosure. While it will be important to promote greater efficiency in line with the actual circumstances of localities led by prefectures, since there are differences in prefectures' interest regarding plans and measures, it may also be necessary for the national government to examine program specifics and to provide support by establishing certain assessment indicators. What must be avoided is the establishment and maintenance of an ambiguous fund under the banner of augmenting the medical and long-term care provision system.

#### *3.2.1.4 Issues regarding the establishment of a regional comprehensive care system*

In the process of promoting in-home medical care, it is expected that the long-term care needed by people with dementia will mainly be provided through in-home care. To support such in-home care, the government has announced the establishment of a regional comprehensive care system, and the fund mentioned above will be used in establishing this system. The number of elderly suffering from dementia is expected to increase and reach 7 million people in 2025, and the issues arising from the aging of society beyond 2025 are expected to intensify centering on large metropolitan areas. Large metropolitan areas are experiencing a trend toward nuclear families and the weakening of local communities. Thus, there are likely to be cases of elderly dementia patients without family or community support who select in-home care being unable to sustain their lives unless nearly all services, such as medical care, long-term care, and daily life support, are provided externally.

Regarding such in-home support, the regional comprehensive care system announced by the government refers in many places to the use of mutual aid, or informal support centering on family, neighbors, volunteers, and NPOs. This system that is being planned without giving thought to changes in the family structure and regional society is bound to be an unstable one for large metropolitan areas with weak family and neighbor relationships and for localities where volunteer and NPO activities are few.

While it will be necessary to restrain the expansion of medical expenses by moving from hospitalization to in-home care, this will not be easily done since it will require the establishment of a regional comprehensive care system.

#### *3.2.1.5 Reform of the long-term care insurance system*

With respect to the long-term care insurance system, while the compensation of long-term care workers was increased in part (increase of 1.65%), revisions are being made to curb benefits, such as by reducing overall compensation in FY15 (reduction of 2.27%). Having service users bear costs according to their ability to pay appears to be the direction these revisions are taking. Revisions being planned include (1) increasing the self-pay expenses of users of long-term care services from 10% to 20% in August 2015, (2) limiting new admittances at special nursing homes for the aged to the elderly with a long-term care level of 3 or more, and (3) changing the designation of low-income persons, which becomes the basis for supplemental benefits for the food expenses and accommodation expenses (rent, light, and heating expenses) of facility users, to a system where deposits and savings are considered together with income of the previous year.

There is room to go a step further with these plans. The elderly whose self-pay share will increase from 10% to 20% for long-term care services are those whose income is in the top 20%, and the self-pay share taken as a whole is low for long-term care services compared to medical care. With long-term care services as well, there is a need to change the system to one where beneficiaries have greater cost awareness. In particular, excessive benefits like in-home long-term care support expenses (the creation of long-term care plans) that long-term care insurance covers in full should be promptly revised, such as by incorporating a self-pay component.

Moreover, supplementary benefits for low-income facility users are hardly an intrinsic part of long-term care services, which raises doubts about whether they should be an insurance benefit. Elderly persons who provide in-home long-term care do not receive benefits to offset their costs. As the shift to in-home care is being promoted for medical care and long-term care, benefits tilted toward facility residents have the potential of muddling the direction of policies.

### *3.2.2 Child-rearing support measures*

Japan is facing a host of child-rearing support related issues, such as the rapidly declining birth rate (total fertility rate of 1.43 in 2013) and a serious problem with children on waiting lists for nursery schools. The Abe administration has positioned child support as a priority issue and will implement a new child-rearing and childcare support system in FY15. Specifically, the administration is planning to (1) promote the spread of authorized daycare centers that provide unified education and childcare for preschool children, (2) eliminate waiting lists centering on preschool children, and (3) unify after-school clubs and after-school classrooms.

#### *3.2.2.1 Authorized daycare centers*

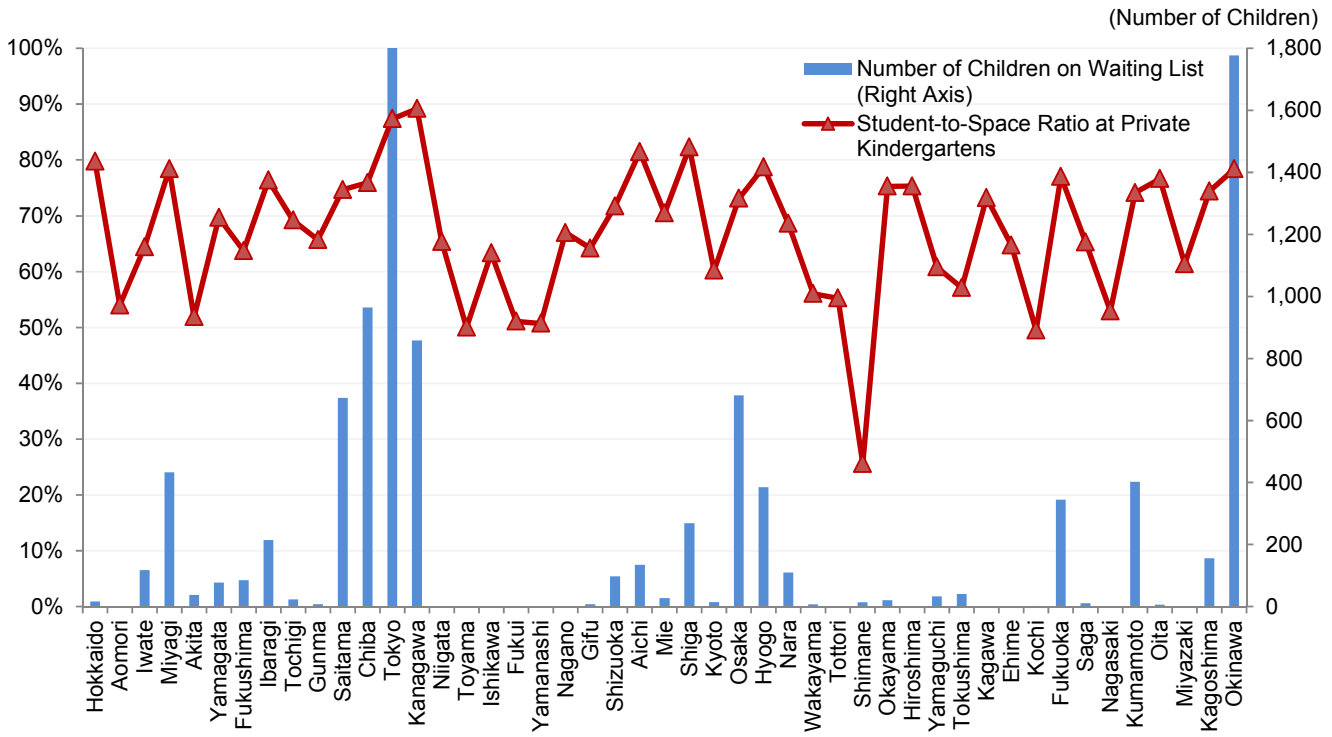
The government is promoting the spread of authorized daycare centers that provide unified education and childcare for preschool children based on the notion of expanding the availability of childcare by making use of the existing facilities and human resources of kindergartens that are underutilized due to declining birth rate.

However, there do not appear to be many kindergartens that are planning to become authorized daycare centers. The government, which is aiming to eliminate the problem of children on waiting lists centering on urban areas, has established a provisional plan of converting 90% of kindergartens (centering on private kindergartens) to authorized daycare centers in FY17 and to estimate additional needs related to increasing quantity and improving quality. In a survey of the views of private kindergartens (including authorized child centers) on switching to the new child and support system published on 29 September 2014 by the Cabinet Office, the Ministry of Health, Labor, and Welfare, and the Ministry of Education, Culture, Sports, Science and Technology, kindergartens responding that they planned (or are considering) to move to the new system in FY15 came to 1,515 facilities out of 6,833 facilities, or 20% of the total.

Two explanations can be offered for this outcome. First, private kindergartens receive few public subsidies, and they have sought to secure users by developing their own educational principles and by providing distinctive education. Many kindergartens in urban areas unable to fill openings have already been weeded out, and of the private kindergartens that remain, some attract so much interest that they can select the children they enroll. Thus, private kindergartens have little incentive to become authorized child centers (Chart 3-2-4).

Second, there are many cases where operating expenses will be reduced by moving to the new system. The operating expenses of private kindergartens consist of private school subsidies and childcare fees determined by each kindergarten. By moving to the new system, operating expenses will become a facility benefit determined by the national government, and childcare fees will be based on household income as determined by local governments. Authorized daycare centers will also need to provide for children between the ages of zero and two. If operating expenses are to decrease, there is little merit in becoming an authorized child center. Given these two points, trying to address the serious problem of children on waiting lists in urban areas by promoting the spread of authorized daycare centers (shift from private kindergartens) is a plan associated with many unresolved issues.

**Student-to-Space Ratio at Private Kindergartens and Number of Children on Waiting List Chart 3-2-4**




Source: Ministry of Education, Ministry of Health, Labour, and Welfare; compiled by DIR.

### *3.2.2.2 The waiting list problem of licensed nursery schools*

As of 1 April 2014, 21,371 children were on waiting lists for nursery schools (Ministry of Health, Labor, and Welfare). Once potential demand is included, this figure is estimated to be between 600,000 and 850,000 children. Given this situation, the new system plans to expand the quantity of licensed facilities by enabling the licensing of unlicensed facilities that do not receive financial support from the national government (those seeking licensing) as well as the licensing of small-scale child care (serving between six and 19 children), home-based child care (serving up to five children), home visitation child care, and workplace child care, which will be licensed as regional child care businesses.

Why do so many people prefer to enroll their children in licensed nursery schools? One reason is thought to be the confidence they inspire in users from meeting establishment requirements determined by the national government and from being operated by local governments or by social welfare corporations. An even greater reason is their low fees. Licensed nursery schools receive large subsidies from national and local governments, and the financial burden on users is reduced by a considerable amount. Hence, no matter how much quantity is expanded, as long as the financial burden of users of licensed nursery schools is reduced, the waiting list problem will persist without being resolved, and the choices available to users will be limited.

### *3.2.2.3 After-school children's clubs*

As of 1 May 2014, the number of children who were unable to attend after-school children's clubs totaled 9,945. Once potential demand is included, this figure is estimated to be 400,000 just for children in lower grades. The waiting list problem for school-age children is also serious. To deal with this problem, the government is planning to expand after-school children's clubs to be able to accept 300,000 more children by the end of FY19.

What is drawing attention as a measure to deal with the waiting list problem for school-age children is the unification of after-school children's clubs and after-school child classrooms. After-school children's clubs of the Ministry of Health, Labor, and Welfare target mainly children of working

families in the first three grades of primary school. On the other hand, after-school child classrooms of the Ministry of Education, Culture, Sports, Science and Technology target all children. Under the unification plan, it will not always be necessary to comply with the strict standards for facility size, equipment, staffing, and management specified in after-school children's club guidelines. This change would remove the limit on the number of children that can be accepted, and it is hoped that this would contribute to eliminating the waiting list problem. The government aims to establish such unified facilities at more than 10,000 locations.

However, the functions demanded of after-school child classrooms, which are to promote interaction between children, and after-school children's clubs, which provide a space to children other than the home, differ, and there are those who call for coordination rather than unification. There will be a need to ensure that unified management does not entail the reduction of quality by relaxing the standards for after-school children's clubs.

#### *3.2.2.4 Development of a competitive environment is desired for the childcare sector*

With the increase of working families, the waiting list problem for school-age children is growing in severity regardless of age. To maintain quality while increasing quantity in the midst of limited financial resources will require a rethinking of the nature of subsidies that are tilted toward certain types of institutions, the development of a competitive environment, and the promotion of new entrants. There are many unlicensed nursery schools that respond to individual needs by offering flexible hours or the care of sick children and that provide dietary education. There are also many school-age child care businesses run by private companies offering a range of services including outdoor activities, educational guidance, transportation service, and evening meals. The difference in fees, however, remains large with licensed nursery schools and public after-school children's clubs that receive large subsidies, and users do not have an adequate range of choices available to them.

The market mechanism has worked to a certain degree for private kindergartens receiving few public subsidies where attractive kindergartens making management efforts receive a surplus of enrollment applications and where kindergartens unable to fill openings are weeded out. In this manner, developing a competitive environment will help invigorate and increase the efficiency of the child care sector as a whole. After providing users with a range of choices, it may be worth considering the provision of support, such as through a refundable tax credit or a voucher system.

### *3.2.3 Expanding choices while demanding expenditure cuts*

The view that the elderly require uniform support is widespread in Japan, and there has been a strong tendency to provide social security benefits above needs. On the other hand, child care has frequently been viewed as an issue for families with children, and the allocation of support has been significantly one-sided. Japan's population is expected contract to about 87 million people in the next 50 years, or two-thirds of its current size, if the birth rate remains at its current level. Given this prospect, the government has established a clear target by announcing the importance of stabilizing the population at around 100 million people, and the nature of support in Japan is being shifted toward child support.

If the objective is to revise the allocation of benefits that has favored the elderly and to prioritize measures for childbirth, childcare, and education, it will be essential to reform the awareness of beneficiaries receiving excessive benefits and to impose financial burdens not by age but according to the ability to pay as represented by income or assets. Imposing a certain self-pay amount will strengthen cost awareness with regard to social security services and will serve to curb nonessential and non-urgent demand.

Incentives will also need to be pointed out, such as people having a greater range of services to choose from through self-pay. Social security in Japan has been developed around services provided as

benefits in kind. Priority has been given to equal outcomes, where equal services are guaranteed for people with opportunity, rather than offering equal opportunity where everyone can receive services. This situation is evidenced by the elderly on waiting lists for special nursing homes for the aged or by children on waiting lists for licensed nursery schools. Such an approach will not maintain a fair system and will not invigorate providers or encourage innovation. There will be a need to reform regulations that have become barriers and to develop a competitive environment where a diversity of providers can enter the medical-related, long-term care, and child care sectors.

The restraint of benefits will be indispensable. As the direction for social security is steered away from public help toward self-help, the enrichment of social security may be best accomplished by developing an environment where users can select services independently.

## 3.3 Traditional fiscal support of localities that runs against the restoration of sound government finances will not lead to regional revitalization

### *3.3.1 Specific measures for regional revitalization*

In December 2014, the cabinet approved a long-term vision for revitalizing towns, people, and jobs, which specifies the current and future state of Japan's population and the direction the nation should head, and it also approved a comprehensive strategy for revitalizing towns, people, and jobs, a five-year plan for regional revitalization based on this vision. The specifics of these two plans are indicated in Chart 3-3-1.

**Long-Term Vision and Comprehensive Strategy** **Chart 3-3-1**

**Long-Term Vision**

Countermeasures to Population Issue

Two views of population decline:

① Rebuilding the social system while at the same time halting the decline in population
- Aggressive Strategy
  For the time being the target will be to raise the birthrate by around 1.8%.
- Adjustment Strategy
  Build social systems which are efficient and effective based on the assumption that the population will decline.

② Do the utmost to realize the hopes of the Japanese people
Make it easier for people to realize their own hopes when it comes to marriage, children, and child-rearing. Also make it easier to move to regional areas.

Target:

Maintain a population of around 100 million until the year 2060 (50 years from now). The structure of the population should become younger due to a decline in the aging rate.
The change in the makeup of the regional population will mean a younger population. Regional areas will produce more innovation due to their youth and abundant regional resources.
The Tokyo area will become a safer and more secure environment, and will develop further as an international city. A diverse society will be realized making use of the strengths of each of the regions.

**Comprehensive Strategy**

Issues the Government Should Tackle Over the Next Five Years as an Intermediate Goal in Regional Revitalization

The four policies package:

① Create more jobs in the regional areas. Create a sense of security with availability of work. (Policy on economy and employment)
Develop a regional economic analysis system that can identify regional characteristics and issues. Build system which brings more human resources into the regional areas.

② Encourage flow of "new blood" into regional areas. This policy is to avoid negative effects of declining populations.
Promote moving to regional areas, strengthening of regional facilities of corporations, and the expansion of local employment opportunities in addition to the revitalization of regional colleges and universities.

③ Fulfill the dreams of the younger generation as regards marriage and children. Policy to encourage population growth naturally.
Enhance child and child-rearing support so that it remains uninterrupted throughout the entire cycle of pregnancy, childbirth, and childcare. Help to realize a healthy work-life balance.

④ Cultivate a regional lifestyle in keeping with the contemporary era, provide for secure life and living, while providing for connection between different local regions -- regional revitalization through town and community development.
Areas located between hilly and mountainous regions can act as "bases" in the local regions. Economy, lifestyle and culture develops in these regional cities, and this should be supported, as well as management of practical issues such as handling roads and bridges and other infrastructure.

Other Issues:

Fundamental principles and concepts should be considered as they contribute to policy regarding elements contributing to regional development, including the setting up of strategic zones, the social security system, taxes, regional government finances and fiscal issues, decentralization of government authority, and deregulation. Once a KPI is established that allows us to grasp the situation as regards policy, the PDCA cycle will become more clear. Finally, the ultimate goal is to build a support system which provides a kind of one-stop shopping for government services. A "menu" of support measures can be put together and each region can pick and choose whatever fits their area best.

Source: Cabinet Office; compiled by DIR.

### *3.3.2 Can regional revitalization and the restoration of sound government finances occur at the same time?*

This regional revitalization plan of the national government intends to support regional revitalization efforts from behind. There is good reason to wonder, however, whether the government will simply

resort to pork-barrel spending in working toward regional revitalization. It should be evident from examining the FY15 draft budget shown in Chart 3-3-2 that pressure for expanded expenditures in the name of regional revitalization is impossible to eliminate for systemic reasons. This is highlighted by the many budget appropriations apparently for specified regions. Also, as will be discussed below, the need for replacement investments have increased for public infrastructure. Moreover, under the current local allocation tax subsidy system, there are few incentives for streamlining local government expenditures. Even if public works projects are expanded and subsidies are lavished on specified regions, as many academic studies indicate (the multiplier effect is about 1 under current conditions), the effect on the macroeconomy is extremely limited and will not be sustained. Simulation results shown in Chart 3-3-3 reveal that the expansion of public works spending will further worsen the fiscal balance and will represent growth at the expense of future generations. Thus, past methods will not contribute to regional revitalization and will also run counter to the restoration of government finances to health.

**Town/People/Work Development Projects in FY2015 Government Budget Proposal** **Chart 3-3-2**

| | |
|---|---|
| Regional Development Projects (Town/People/Work) in the FY2015 Government Budget (Units: Y bil) | **13,991** |
| ● Comprehensive Strategy for Town/People/Work Development in Overall Policy Package | **7,225** |
| ① Create more jobs in the regional areas. Create a sense of security with availability of work. (Policy on economy and employment) | **1,745** |
| Strengthen training of regional human resources | 103 |
| Comprehensive support projects for new farmers and business succession | 195 |
| Project to promote linkage between innovative industrial development efforts | 129 |
| Project to promote introduction of renewable energy and advanced equipment at public facilities | 190 |
| ② Encourage flow of "new blood" into regional areas. This policy is to avoid negative effects of declining populations. | **644** |
| Okinawa Institute of Science and Technology Graduate University（Okinawa Promotion Plan） | 167 |
| Strengthen education and research at small, private colleges in population decline. | 258 |
| ③ Fulfill the dreams of the younger generation as regards marriage and children. Policy to encourage population growth naturally. | **1,096** |
| Lighten financial burden on users of nursery schools and daycare.（Work in stages, moving toward free early childhood education） | 323 |
| Improve employment policy as regards young people so that it is comprehensive and systematic. | 222 |
| Improve employment stability and treatment of temp workers | 312 |
| Promote the "Plan for Accelerating a Resolution for Children on Waiting Lists" | 124 |
| ④ Cultivate a regional lifestyle in keeping with the contemporary era, provide for secure life and living, while providing for connection between different local regions -- town and community development. | **3,741** |
| Subsidies for strengthening foundations of regional revitalization | 431 |
| Package subsidy for Okinawa promotion（Okinawa Promotion Plan） | 1,618 |
| Okinawa Education Promotion Project, etc.（Okinawa Promotion Plan） | 180 |
| Regional public transportation acquisition and maintenance project | 290 |
| Smart Wellness Housing Project etc. | 320 |
| Subsidies for Establishing a Recycling-Oriented Society（excluding septic tanks） | 355 |
| ● Other Fiscal Support（strategic zones, social security system, taxes, regional government finances） | |
| Social security enhancements（new support systems for children and child-rearing) | **6,766** |

Source: Cabinet Office; compiled by DIR.
Notes: 1) Only projects accounting for 10 billion yen or more of the budget are listed.
2) 1.36 tril yen on a public expense basis.

What is important for regional revitalization is increasing value added by skillfully differentiating the characteristics of regions so as to increase regional productivity. Expanding public works spending or resorting to subsidy policies as an extension of past thinking is not the way forward. As will be discussed below, regulatory reform is needed to enable regions to undertake creative efforts on their own to increase their attractiveness. If institutional systems are developed that promote self-effort, this will encourage inter-region competition, promote regional compact cities, and give way to a more muscular economic structure for regions as a whole, which will increase the productivity of the entire economy. Such reforms will be necessary in particular with respect to local government finances.

**Effect on Macroeconomy of Increasing Public Investment by 10% Annually** **Chart 3-3-3**

（Rate of Deviation from Standard Scenario, %, %pt）

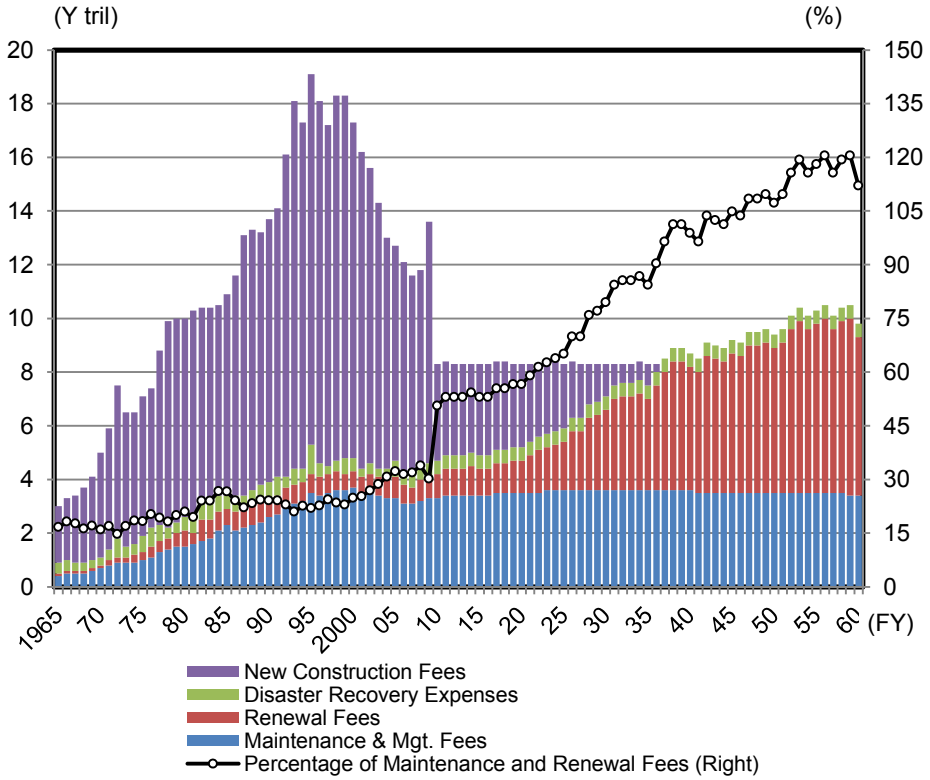
| | Real GDP | | | | | | | | Fiscal Balance (National / Regional) | Primary Balance (National / Regional) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Private Sector Final Consumption Expenditure | Private Sector Real Estate Investment | Private Sector Capital Investment | Government Final Consumption Expenditure | Public Sector Fixed Capital Formation | Exports | Imports | | |
| 1st Yr | 0.25 | 0.29 | 0.03 | 1.21 | -1.88 | 10.00 | 0.02 | 0.74 | -0.47 | -0.48 |
| 2nd Yr | 0.41 | 0.62 | 0.56 | 1.15 | -1.70 | 10.00 | 0.04 | 1.04 | -0.55 | -0.56 |
| 3rd Yr | 0.71 | 0.97 | 1.11 | 1.35 | -1.12 | 10.00 | 0.05 | 1.62 | -0.59 | -0.60 |
| 4th Yr | 0.96 | 1.31 | 1.52 | 1.79 | -0.93 | 10.00 | 0.07 | 1.91 | -0.58 | -0.59 |
| 5th Yr | 1.28 | 1.71 | 1.98 | 2.66 | -0.84 | 10.00 | 0.09 | 2.44 | -0.50 | -0.50 |

Source: Produced by DIR using its medium-term macro-model.
Note: Fiscal Revenue & Expenditure and Primary Balance are expressed as percentages of nominal GDP.

### *3.3.2.1 Curbing infrastructure-related expenses through the privatization of public infrastructure and strengthened governance*

Maintenance and replacement expenses related to the large quantity of public infrastructure built during Japan's high growth period are expected to soar in the years to come. The top three categories of public infrastructure in terms of asset value are sewage systems at Y36 trillion, water supply systems (water supply and small-scale water supply systems) at Y26 trillion (both for FY12), and public housing at Y23 trillion (FY09) (Ministry of Internal Affairs and Communications). According to the Ministry of Land, Infrastructure, and Transport, infrastructure maintenance and replacement expenses were about Y3.6 trillion (estimate) in FY13. If we assume that existing public infrastructure will be maintained in its current state, this figure will be between Y4.3 and 5.1 trillion in FY23, and, as shown in the chart, maintenance and replacement expenses will continue to rise for national and local governments (Chart 3-3-4)

**Outlook for Expenses to Maintain, Manage, and Renew Social Capital** **Chart 3-3-4**




Source: Ministry of Land, Infrastructure, Transport and Tourism; compiled by DIR.
Note: Maintenance method --
Estimates were performed for direct management, reinforcement, and non-subsidized projects in the following eight areas under the governance of the Ministry of Land, Infrastructure, Transport and Tourism having set up the parameters shown below for the year 2011 and beyond. Areas include roads, ports and harbors, airports, public housing, sewage systems, urban parks, water and disaster management, and maritime.
・ Regarding renewal fees, it is assumed that renewal will take place with the same function after the expected lifetime has passed. The renewal fee is set based on the original cost of new construction. Number of lifetime years is based on Ministry of Finance orders which state number of lifetime years in terms of tax law. Requirements for renewal of specific facilities are set based on the situation for that particular facility.
・ Maintenance & management fees are estimated based on the correlation with the amount in social capital stock. (Renewal fees and maintenance management fees reflect the efforts in recent years to reduce costs.)
・ Disaster recovery expenses are set using the annual average of these fees in the past.
・ Does not include land and compensation costs. Also does not include independent administrative corporations such as expressway companies.
・ Growth rate of the total investment amount in social capital since FY2010 when it was 8.3 tril yen is set at 0%.
Results of this estimate may fluctuate depending on future budgets and accumulated findings.

To understand public infrastructure in terms of government finances, there will be a need to examine expenditures in local government finances. Related expenditure items are investment-related expenses, transfers to public enterprises, and maintenance expenses. In anticipation of the prospect of dividing responsibilities between the government and the private sector, it will be useful to separate public infrastructure into infrastructure financed through the general account and infrastructure financed through user fees.

First, sewage and water systems, public housing, hospitals, roads, and other such public infrastructure held by local governments are basically financed by user fees. Reflecting their public nature, part of their revenues includes taxes that are appropriated through the general expenditures of local governments. Expenses transferred to self-supporting public infrastructure are called transfers to public enterprises in local government budgets. Currently, transfers to public enterprises recorded in local government budgets total Y2.5 trillion (FY15; ordinary account). The greater part of transfers to public enterprises is for sewage systems and hospitals, with Y1.6 trillion related to the redemption of principal and interest for corporate bonds.

In the regional revitalization announced by the Abe administration, there will be need to invigorate private enterprises. One example in administration plans is enabling private enterprises to participate in the management and operation of public infrastructure owned by regional governments. If the operation rights of such assets are sold to private businesses using the concession method, this will reduce transfers to public enterprises and will contribute to regional revitalization through invigoration realized by the entry of local companies in the public infrastructure business.

What should be borne in mind regarding the sale of operation rights is the strengthening of monitoring (governance), where the government monitors business details, evaluates ex post facto, and imposes fines when necessary. Such an approach is essential when making use of market functions. Without doing so, there is risk that the quality of public services will decline. The monitoring of private businesses by local governments may give rise to new expenses. However, if the entry of private enterprises generates efficiencies and greatly reduces costs, it will be effective to entrust the operation rights of such public infrastructure to the private sector.

On the other hand, the maintenance expenses of public infrastructure that is not self-supporting will become a major issue going forward. Maintenance and repair costs recorded in local government budgets are appropriated for the maintenance expenses of roads, bridges, rivers, and parks, which currently total Y1.2 trillion (FY15; ordinary account). Moreover, a part of replacement costs are included in investment-related expenses. Collecting fees on such infrastructure is not easy, meaning that their privatization is also difficult. Hence, expenses will need to be met in full through tax revenues. For this reason, if the maintenance and replacement expenses of such public infrastructure continue to rise, this risks contributing to the future expansion of local government expenditures. To prevent such an outcome, it will be desirable to focus only on infrastructure that is truly necessary and to cover related maintenance and replacement expenses.

With the objective of augmenting funds for measures addressing the aging and consolidation of public facilities, Y0.1 trillion was recorded in FY15 local government budgets as a public facility optimization project expense (provisional name) under investment-related expenses, an expense needed for the consolidation, diverted use, and removal of public facilities based on the public facility comprehensive management plan. Also, maintenance and repair costs of public facilities were increased by Y0.1 trillion (Y1.2 trillion).

The use of local government bonds to finance the maintenance and replacement expenses (removal expenses) of public infrastructure has been prohibited by Article 5 of the Local Government Finance Act. However, starting in FY14, with the revision of a supplemental provision of the Local Government Finance Act, the use of local government bonds to finance public infrastructure removal expenses was approved as an exception based on the condition of establishing a public facility comprehensive management plan as mentioned above. Also, in FY15, the issue of public facility optimization project bonds will be approved for public facility consolidation projects, and it is anticipated that regional revitalization project bonds will be extended to cover public facility diverted-use projects. Also, while only for a limited period, it became possible in FY14 to use public enterprise bonds to finance the disposition of the facilities of public enterprises, including third-sector enterprises, for the entire project category. These are desirable measures that should also contribute to regional revitalization by promoting regional compact cities.

Since the national government has been involved in public infrastructure development in the past, the argument can be made that the financing of expenses related to the aging and consolidation of public infrastructure should be guaranteed by the national government through local allocation tax subsidies based on national treasury expenditures or on the funds for redeeming local government bonds. However, if pressure grows for higher expenditures from regional revitalization, building national resilience, and replacement investments for public infrastructure, the possibility cannot be ruled out, as

will be discussed below, that the transfer of financial resources to local governments will increase from higher public-infrastructure-related expenditures. To control public-infrastructure-related expenditures, the management of government finances will need to be strengthened by enhancing the transparency and predictability of local government finances. For example, with respect to public infrastructure, the establishment of public facility comprehensive management plans discussed above can be promoted, and the execution situation can be publicized for public works projects. Also, in relation to increasing the management efficiency of public enterprises, the Council on Economic and Fiscal Policy has proposed that management plans be prepared from a medium- to long-term perspective and that the expanded application of public enterprise accounting be promoted (this is not always applied to sewage systems which constitute a significant share of public enterprises). It will also be important to promote local public accounting to accurately understand public infrastructure managed by local governments and the recording of related expenses.

#### *3.3.2.2 The existence of local allocation tax subsidies where benefits and burdens do not coincide is preventing the economic independence of localities and the restoration of sound government finances*

Next, it will be important to re-examine the transfer of financial resources from the nation to local governments, which has encouraged the growth of public-infrastructure-related expenditures and other local government expenditures. Local allocation tax subsidies are associated with major problems in the way they are calculated and in the way the split between benefits and burdens causes allocation amounts to expand. Another problem that has been pointed out is the tendency to prioritize allocations to localities with severe shortfalls of tax revenues and with aging populations.

Local allocation tax subsidies are decided so as to eliminate the difference between standard fiscal demands and standard fiscal revenues in local government finances (Chart 3-3-5). What becomes problematic is the ease with which standard fiscal demands are overestimated and used in calculating local allocation tax subsidies. Standard fiscal demands are the sum of local governments' (standard) administrative expenses (such as education expenses and social welfare expenses). A correction coefficient is used in the calculation of administrative expenses, which takes into account local fiscal and economic conditions. This correction coefficient tends to be larger for localities with poor fiscal and economic conditions. Thus, since standard fiscal demands expand the more a locality is depressed, local allocation tax subsidies that are decided by the difference between standard fiscal revenues and standard fiscal demands tend to grow. Moreover, since the national government can step in and rescue local governments after the fact in response to local economic and financial conditions (the softening of the budget constraint for local governments), local governments have no incentive to streamline expenditures beforehand, and this has impeded efforts to raise the productivity of local economies. As a result of the large allocations of public works projects to localities to support the local economy, the productivity of private enterprises did not increase, and this has served to weaken local economies. This situation accelerated the outflow of people from localities, accelerated the aging of the local population, and worsened local government finances. As local allocation tax subsidies expanded by way of a correction coefficient that factored in these developments, localities came to depend all the more on public works projects, which may have unleashed a vicious cycle where the local economy worsened further.

**Tax Allocation and Subsidies to Local Governments, Basic Fiscal Demand, Standard Fiscal Revenues**
**Chart 3-3-5**

<table>
<tr><td rowspan="4">Expenditures</td><td>Amount in Special Fiscal Demands Due to Natural Disasters</td><td colspan="6">Amount in Basic Fiscal Demand</td><td colspan="3">Other Expenditures</td></tr>
<tr><td></td><td colspan="6"></td><td colspan="3" rowspan="2"></td></tr>
<tr><td></td><td colspan="2">Shortfall in Treasury Resources</td><td colspan="4">Standard Fiscal Revenues</td></tr>
<tr><td rowspan="3">Revenues</td><td rowspan="2">Special Tax Allocation</td><td rowspan="2">Regular Tax Allocation</td><td rowspan="3">Local Transfer Tax</td><td>75%</td><td>Reserve</td><td rowspan="2">Over-assessment of Tax</td><td rowspan="3">General Tax Not Stipulated in Local Tax Law and Earmarked Tax</td><td rowspan="3">National Treasury Disbursements: Local Govt. Bonds Usage Fees Service Charge Other</td></tr>
<tr><td colspan="2">Revenues from Standard Tax Rate</td></tr>
<tr><td colspan="2">Tax Allocation to Local Governments</td><td colspan="3">General Tax Stipulated in Local Tax Law and Portion of Earmarked Tax</td></tr>
<tr><td colspan="6"></td><td colspan="3">Local Taxes</td></tr>
</table>

Source: Seifukan no Zaiseiseido: Kuni to Chihou no Hojokin Keiyaku to Insentibu Mondai (Intergovernmental Fiscal Systems: Agreement on Subsidies Between National and Local Governments, and the Issue of Incentive) by Nobuo Akai (edited by Masaki Nakabayashi and Shingo Ishiguro in Chapter 13 of Hikaku Seido Bunseki Nyuumon; An Introduction to Comparative Institutional Analysis, published by Yuhikaku, 2010); compiled by DIR.

There is also a problem with the calculation of standard fiscal revenues. An increase in local tax revenues will basically mean an increase in standard fiscal revenues. Thus, even if local governments work to raise local tax revenues, nearly all of the increase will be offset by a decrease in local allocation tax subsidies, creating the moral hazard where efforts to raise local tax revenues are not made.

In this manner, due to the existence of a soft budget constraint and moral hazard under the current system of local allocation tax subsidies, incentives are extremely weak for local governments to raise local tax revenues through regional revitalization and to invigorate localities through regulatory reform. This system also invites the worsening of local government finances. Hence, in order to improve local economies and local government finances and to restore government finances to health at both the national and local level, the system of government finances will need to be reorganized to achieve one with incentives that prevent the expansion of expenditures and one where benefits and burdens coincide. For example, to promote the self-effort of local governments, local policies should basically be supported through local taxes. This should be accompanied by the examination of reducing local allocation tax subsidies in stages or their restructuring through rules that remove discretion. There will also be a need to examine the creation of a third-party institution with legal force that monitors these undertakings or the execution of rules and that is responsible for ensuring effectiveness. Also, so that local governments will increase tax revenues through self-effort, regulatory reform will be needed in the medium to long term, such as regional revitalization special zones as discussed below, while ceding authority to local governments at the same time.

### *3.3.2.3 The growth strategy of regional revitalization (national strategic) special zones should be paired with the reform of local government finances*

Six national strategic special zones have been established with the objective of achieving breakthroughs in reforming regulations strongly defended by vested interests where progress has been slow by setting up such zones in selected districts. In October 2014, the government determined regulatory changes to be added to the National Strategic Special Zones Act, and preparations are currently under way toward their enactment (Chart 3-3-6). Also, in aiming to be designated a new special zone, Sendai City of Miyagi Prefecture and other cities have submitted their names for the second round of selecting national strategic special zones. Additional special zones are expected to be decided around spring 2015 as regional revitalization special zones.

**Regulatory Reform in Draft Revision of the Law Concerning National Strategic Special Zones**
**Chart 3-3-6**

① Promotion of New Businesses Including Foreign Startups

Providing an Environment Where Foreigners Can Actively Participate

- Promote diversified human resources for startups where foreigners are welcome
- Make use of foreign housekeeping personnel

Simplification and Speeding Up of Paperwork to Set Up a Corporation

- Establish a one-stop center to assist in application process in order to promote new business startups including those run by foreigners.
- On-site signing of articles of encorporation by notary public (no need to travel to government office)

② Regional Revitalization Through Deregulation

- Review requirements for directorships of medical corporations
- Promote flexible work hours for elderly agricultural workers
- Establish system of educators limited to working in particular localities
- Speed up application process for establishing nonprofit corporations
- Increase private sector rental and use of government owned land
- Train foreign language speaking tour guides*

③ Make Active Use of Private Sector Know-How

- Allow private sector management of public schools
- Flexible transfer of personnel not fitting neatly into public/private sector categories
- Allow private sector management and operation of toll roads*

Source: Cabinet Office; compiled by DIR.
Note: Items followed by an asterisk (*) are included in revisions to the Law Concerning National Strategic Special Zones.

It is generally the case that, as long as the same regulations and institutional systems are in place in metropolitan and regional areas, it will be more rational to engage in economic activities in metropolitan areas that benefit from economies of agglomeration. If special zones are to have meaning in view of this situation, the intent of regional revitalization can be fulfilled by proceeding first with regulatory reform in regional areas to promote industrial clustering that builds on the comparative advantages of localities and to counter the advantages of metropolitan areas. Naturally, the possibility cannot be denied that depending too much on special zones may weaken the capacity of policies to drive the entire economy forward as they should. What will be important in attracting jobs and people to localities is the implementation of policies that will make people think you can do more interesting things there. For this reason, if bold regulatory reforms that are not possible in metropolitan areas or overseas can be announced for the newly proposed regional revitalization special zones, this may translate into the most effective form of regional revitalization.

An issue that requires addressing in this context is the restructuring and consolidation of special zones that are appearing in profusion. Given the existence of structural reform special zones and comprehensive special zones, it will be worth examining the restructuring and consolidation of existing special zones with similar principles in line with the times. Even if the concepts of special zone programs differ, it will not be constructive to create new programs in succession for political reasons.

Moreover, it will be important to invigorate localities through bold regulatory reform by means of regional revitalization special zones and to restrain local allocation tax subsidies. The government's comprehensive strategy specifies the examination of national strategic special zones and local government finances from the perspective of regional revitalization. Thus, the systemic design of

regional revitalization special zones and local allocation tax subsidies should be proceeded with as a single set.

## 3.4 The restoration of sound government finances will require the reform of fiscal and political systems that cause higher expenditures

The prioritization and rationalization of government expenditures as discussed above is an urgent issue in working toward the restoration of sound government finances. However, as indicated in Chapter 2, this alone will not be sufficient to restore government finances to health.

To restore sound government finances in earnest, it will be important to increase revenues through economic growth realized through regulatory reform. Even more important will be the reform of fiscal and political systems to eliminate structural factors driving the growth of expenditures.

As a specific direction, the fiscal system should be restructured to closely link benefits and burdens. This need is underscored by the way higher benefits from public services increase burdens at the same time. Under the current social security system and the local allocation tax subsidy system, the link between benefits and burdens does not function well, giving rise to pressure for higher expenditures. Also, compliance with rules to prevent the expansion of expenditures, like the adjustment of public pension benefits based on demographics, and the monitoring of fiscal policies by a politically independent third-party institution to ensure effectiveness should be established as policy functions so as to fully implement expenditure reductions.

As is all too apparent with the social security system, in a democracy with a declining birthrate and an aging population, policy decisions are easily biased toward prioritizing the views of the elderly generation constituting the majority. To increase the sustainability of the future economy and society, serious consideration should be given to reforming the electoral system to reflect the views of the working-age and future generations and to overcome conflicts of interest between generations (such as through Demeny voting or age-based electoral districts). The existence of institutional systems that link such benefits and burdens, the formation of rules to prevent discretionary decisions, and the establishment of independent institutions making neutral judgments will buttress the government’s commitment to medium- to long-term policies under a democratic system and will build an institutional structure that eliminates arbitrary operation. Such reforms are needed to ensure the stable operation of the institutional systems of Japan’s economy and society.

Rebuilding the fiscal system to link benefits and burdens and reforming the political system to mitigate conflicts of interest between generations will not only serve to restore government finances to health but will represent regional revitalization measures that promote the independence of localities without depending on the national government.

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- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
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When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

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