Provisional Translation

Economic and Fiscal Projections for Medium to Long Term Analysis

(Submitted to the Council on Economic and Fiscal Policy on July 25th, 2023)

Cabinet Office

Contents

1.Introduction

This projection is submitted to the Council on Economic and Fiscal Policy as basic information for evaluating the progress of economic revitalization and fiscal consolidation, and for considering medium- to long-term economic and fiscal policies.

This projection reflects the data and policies available at the time of the projection and is estimated using the "Economic and Fiscal Model," which presents the macroeconomy, public finance, and social security in an integrated manner.[1] In this July projection, based on the Basic Policy for Economic and Fiscal Management and Reform 2023[2] and discussions at the Council on Economic and Fiscal Policy, etc., we expanded the content by newly showing a breakdown of the potential growth rate by contribution, indicators on the distributional side, etc., as well as by adding detailed explanations of each scenario and indicator, risk and uncertainty analysis, and "reference case" analysis.

2. Medium to long term economic projection

This projection reflects various economic statistics and incorporates the Cabinet Office's Mid-year Economic Projection[3] up to FY2024. For FY2025 and beyond, we present the "Baseline Case," which assumes that the TFP (Total Factor Productivity) growth rate will remain at the same level as the average of the most recent business cycle, and the "Economic Growth Achieved Case," which assumes that the TFP growth rate will increase to the average of the period before the deflationary situation.[4] The key assumptions for each scenario[5] are as follows.

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[1] Considerable leeway should be given when interpreting the projections due to various uncertainties involved.

[2] Basic Policies for Economic and Fiscal Management and Reform 2023 (Cabinet Decision on June 16, 2023)
Chapter 4: Medium- to Long-term Economic and Fiscal Management
1. Sustainable economic and fiscal management from a medium- to long-term perspective
(Enhancement of medium- and long-term economic and fiscal projection and its evaluation and analysis)
In considering the medium-term economic and fiscal framework, the analysis of the medium- and long-term economic and fiscal projection, including the positioning of economic scenarios and how policy effects will manifest themselves, should be expanded.(*) In addition, the information to be disseminated externally, such as risk assessment and sensitivity analysis, taking future uncertainty into account, should be expanded.
(*) For example, explanation of the scenario where the effects of the government's measures are realized and the policy approach necessary to achieve them, compared to the scenario where the economy is projected to continue to grow at the current potential growth rate in the future.

[3] Mid-year Economic Projection for FY2023 (submitted to the Council on Economic and Fiscal Policy on July 20, 2023).

[4] Per footnote 2, this report is explained in the order of the Baseline case and the Economic Growth Achieved Case.

[5] See Appendix 1 for detailed assumptions.

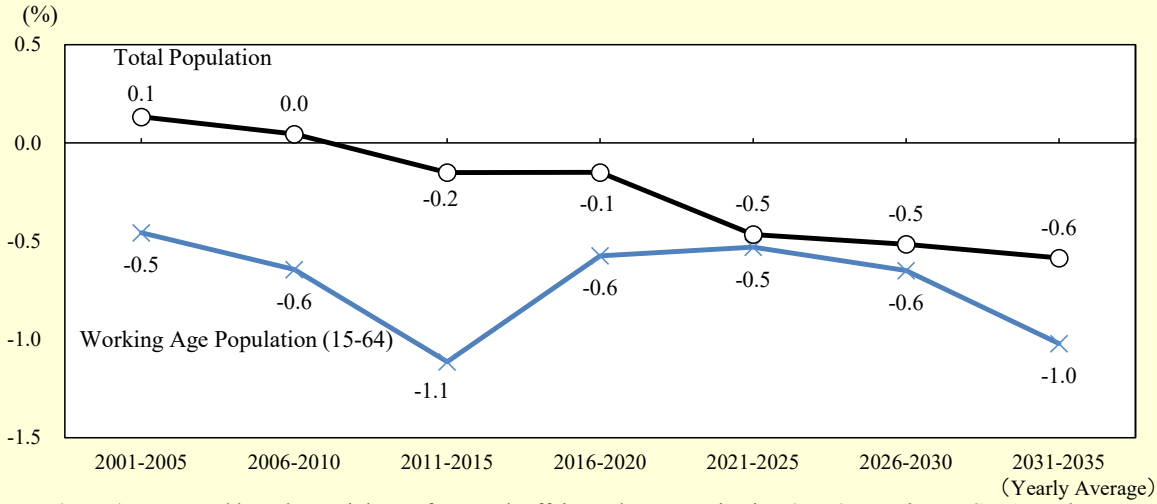
Key assumptions for each scenario

	TFP Growth Rate (0.5% in FY2022)	Labor Force Participation Rate[6] (62.6% in FY2022)
Baseline	around 0.5%, an average of the most recent business cycle[7]	Rising to some extent, especially among women and the elderly (63.8% in FY2032)
Economic Growth Achieved	reaching around 1.4%, an average for the period before the economy entered the deflationary situation[8]	Higher than baseline case, especially among women and the elderly (65.0% in FY2032)

(1) Potential growth rate

Japan's potential growth rate was 4.2% in the 1980s and 1.6% in the 1990s, and has remained below 1% since the beginning of the 2000s. As the working-age population continues to decline at an accelerating pace due to the declining birthrate and aging population, economic growth is expected to decline in the absence of changes in the economic structure and higher productivity growth than before.

Figure 1. Five-YearAverage of the Population Growth Rate



(Notes) Computed based on Ministry of Internal Affairs and Communication (MIC),*Population Census* and MIC, *Population Estimates* up to 2022, and on National Institute of Population and Social Security Research, *Population Projections for Japan: 2021-2070* from 2023.

In the Baseline Case, where TFP increases at the same rate as in the recent business cycle (around 0.5%), the contribution of capital input to the potential growth rate, which is calculated

[6] See "Labor Force Demand and Supply Estimates," Employment Policy Institute, 2008. The baseline case is based on "a case in which economic growth and labor participation advance to some extent" and the growth realization case is based on "a case in which economic growth and labor participation advance."

[7] 16th cycle (October-December 2012 to April-June 2020).

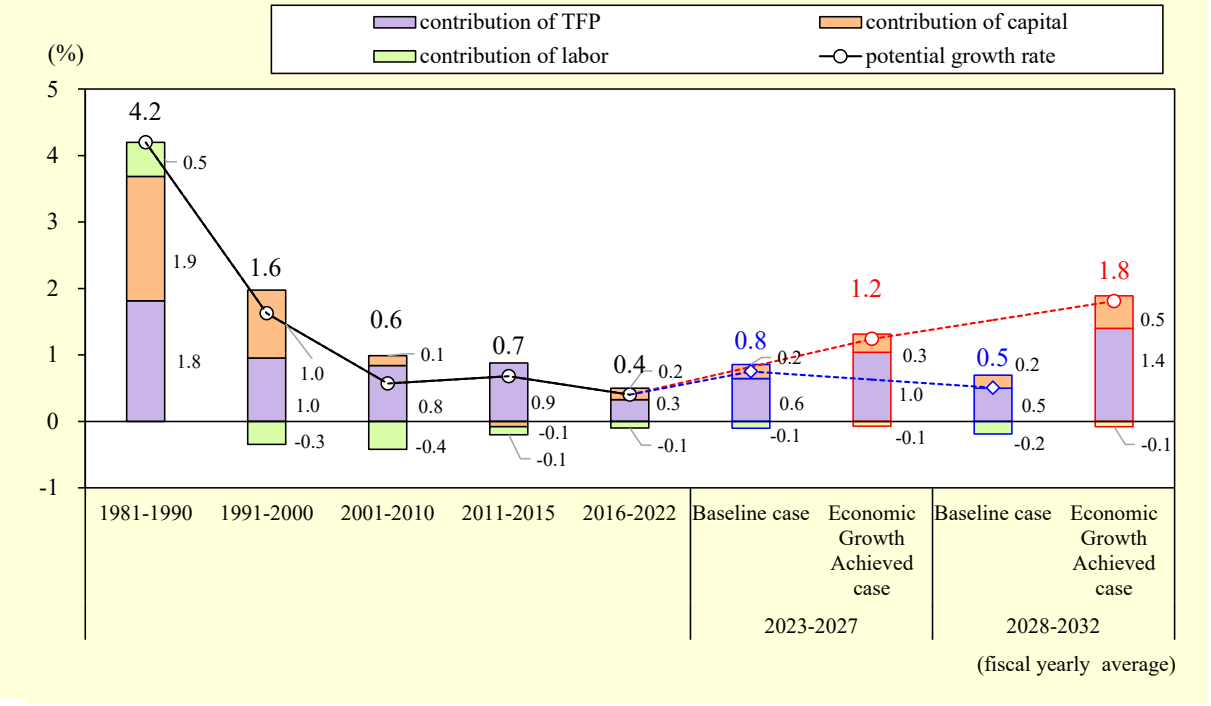
[8] Average from the past to the 12th cycle (April-June 1980 to January-March 1999). In the previous projection (January 2023), the TFP growth rate was set to reach about 1.4% in 5 years from the beginning of the estimation period, based on the estimate that TFP increased by about 0.9% pt in the 5 years from FY1982 to FY1987.

endogenously, will be slightly positive, but the negative contribution of labor input will increase due to the decline in the working-age population, although labor participation is assumed to increase to some extent. Overall, the potential growth rate is projected to remain in the mid-0% range over the medium to long term, which suggests a continuation of Japan's recent trends.

In contrast, the Economic Growth Achieved Case assumes that the TFP growth rate will reach around 1.4% by FY2027, which is the average of the period before entering the deflation situation, through stimulating innovation and improving production efficiency by promoting investment in the priority areas based on the New Form of Capitalism under public-private partnership (investment in human capital, investment in GX/DX, etc., investment in start-ups, investment in science, technology and innovation). Under this assumption, the higher rate of TFP growth and the improved earnings environment for firms promote capital investment, resulting in a higher contribution of endogenously calculated capital input. This result is also consistent with the expectation of an increase in private capital formation due to the promotion of various types of investment mentioned above. With regard to labor input, it is assumed that labor demand will increase with economic growth, and that labor participation, especially among women and the elderly, will be higher than in the baseline case due to the promotion of diverse work styles and other factors. Nevertheless, this assumption still cannot offset the impact of population decline, and the contribution of labor input will be slightly negative.[9] All in all, the potential growth rate is projected to be around 2% in the medium to long term.

[9] The number of the so-called working-age population (15-64 years old) is expected to decline at an annual rate of about -0.6% in the late 2020s, as shown in Figure 1. The population aged 15-69, which is the conventional working-age population plus those in their late 60s, is expected to decline at an annual rate of about -0.5% over the same period, which is slower than the decline in the working-age population. In the Economic Growth Achieved case, the labor participation of women and the elderly is assumed to increase, and in particular, the labor participation rate of the population in their late 60s is assumed to rise from around 53% in FY2022 to around 62% in FY2032. This means that, in addition to the traditional working-age population, the population in their late 60s and beyond is also expected to contribute to the labor force supply.

Figure 2. Decomposition of Potential Growth Rate



(2) Economic growth rate and wage growth rate

The real GDP growth rate averaged around 0.9% in FY2013 - 2019, before the COVID-19 pandemic. Subsequently, the economy was strongly affected by the suppression and easing of economic activity due to the pandemic, with significant negative growth (-4.1%) in FY2020 and positive growth (2.6%) in FY2021.

As for the short-term outlook, according to the Cabinet Office's Mid-year Economic Projection, although the economy is expected to be depressed by a slowdown in exports and other factors, a recovery in private consumption, including service consumption, and an increase in corporate capital investment are anticipated, leading to the growth of about 1.3% in real terms (about 4.4% in nominal terms) in FY2023. The moderate growth driven by private demand of about 1.2% in real terms (about 2.5% in nominal terms) is expected in FY2024.

Thereafter, supply and demand of the overall economy will adjust, and the real GDP growth rate will converge to the potential growth rate. In the Baseline Case, the real GDP growth rate will remain in the mid-0% range over the medium to long term. In the Economic Growth Achieved Case, as the potential growth rate is higher than in the Baseline Case, the real GDP growth rate is projected to be around 2% in the medium to long term. Similarly, nominal GDP growth will be in the mid-0% range in the medium to long term in the Baseline Case, and it will be around 3% in the medium to long term in the Economic Growth Achieved Case.

Figure 3. Growth Rate of Real GDP

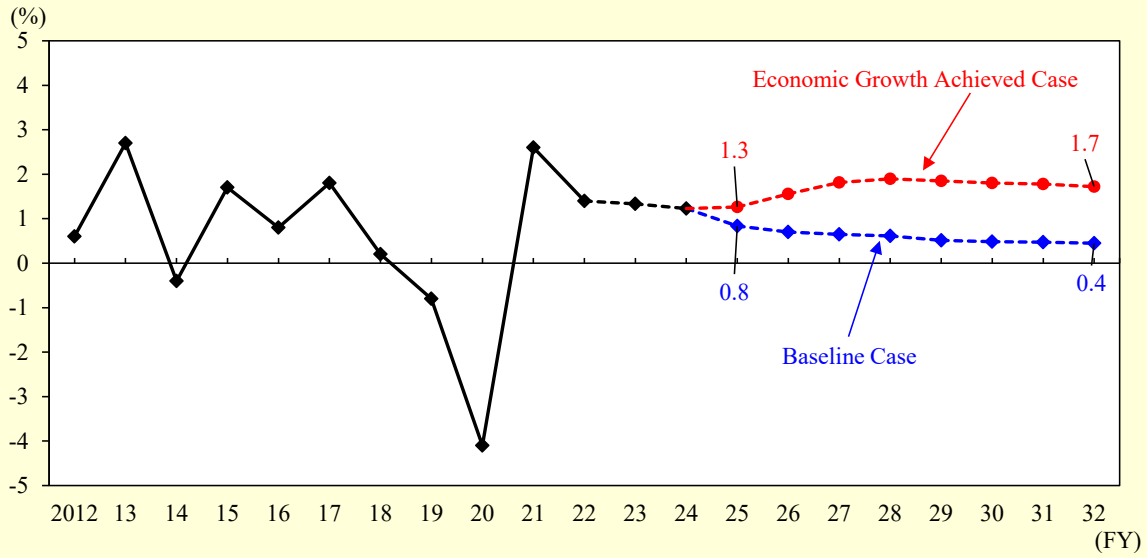
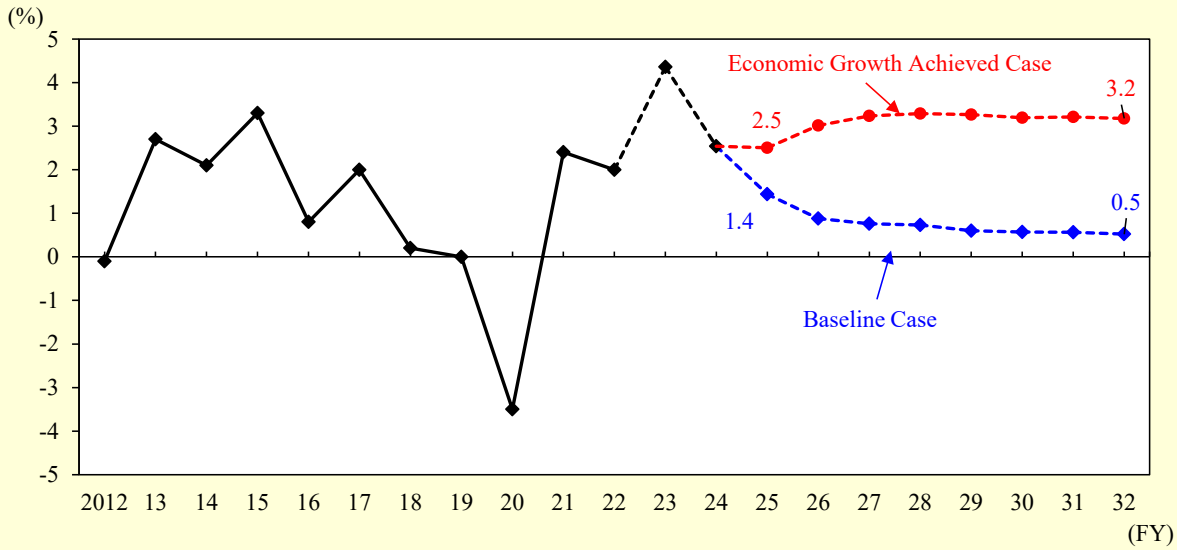
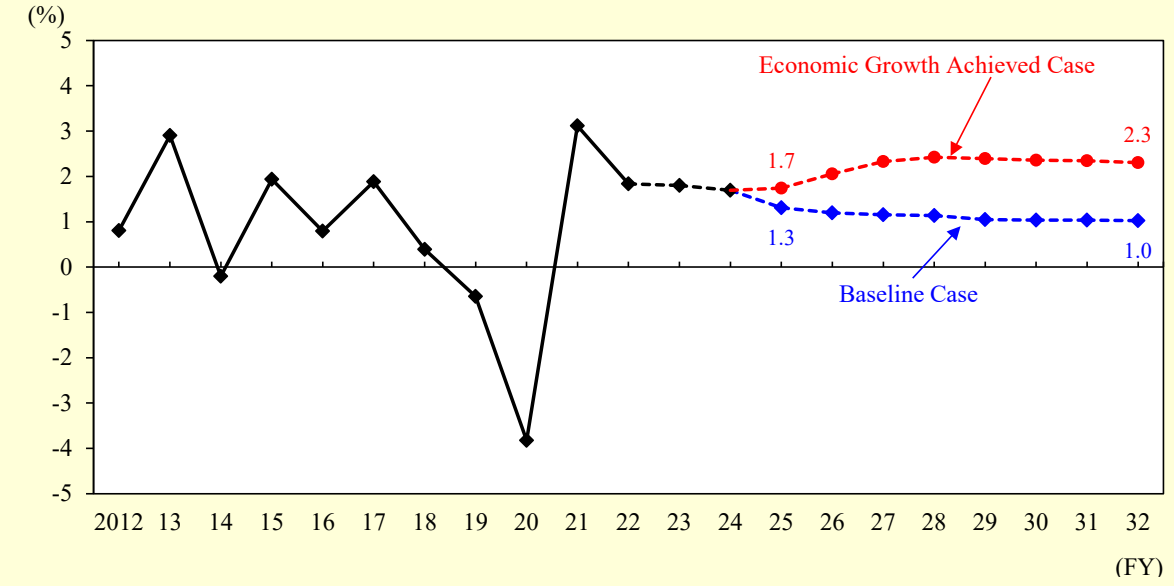


Figure 4. Growth Rate of Nominal GDP



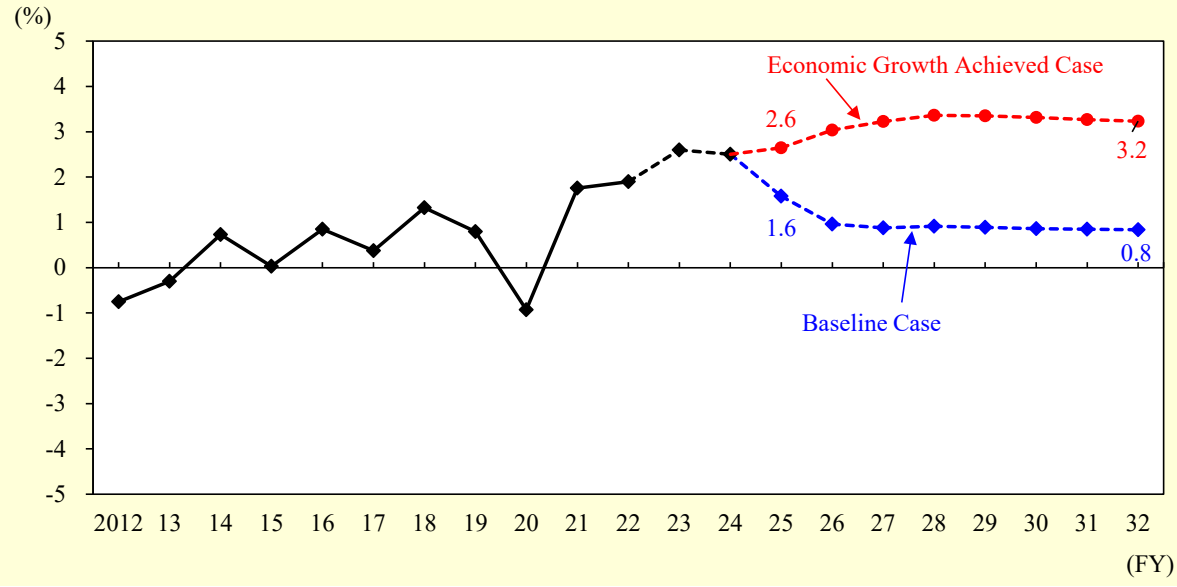
It is also important to look at per capita real GDP growth from the perspective of people's standard of living and productivity, given the prospect that population decline will be intensified in the future. The real GDP per capita growth rate will be higher than the real GDP growth rate due to the impact of population decline and is projected to be around 1% in the Baseline Case and more than 2% in the Economic Growth Achieved Case.

Figure 5. Growth Rate of Per Capita Real GDP



Next, we look at the rate of wage growth to check the distributional aspect, such as whether wage growth has been achieved in line with economic growth.

Figure 6. Growth Rate of Nominal Wage



The wage growth rate[10] averaged around 0.5% over the nine years in FY2013 - 2021, pushed down due to the increase in the ratio of non-regular employees amid the improvement in the labor participation of women and the elderly,[11] but also raised up by boosting factors such as the tightening of labor supply and demand in recent years. In FY2023, the wage growth rate is expected to be around 2.6% as the spring wage negotiation ("Shunto") resulted in the highest

[10] Wage growth per employee (nominal).
[11] See Cabinet Office (2022), Chapter 2, Section 1.

level of wage revision in around 30 years. In FY2024, the rate is expected to be around 2.5%.

Subsequently, in the Baseline Case, as the TFP growth rate does not increase, and the rates of increase in labor productivity and prices remain modest, the wage growth rate in the medium- to long-term stays around 1%. In the Economic Growth Achieved Case, the wage growth rate in the medium- to long-term is projected to be around 3%, as capital formation is more advanced than in the Baseline Case, labor productivity increases, and prices rise in line with increased demand, etc., under a relatively high economic growth rate.

With regard to real wage growth, which is calculated by subtracting the consumer price inflation rate (discussed below) from the wage growth rate, it is about 0% over the medium to long term in the Baseline Case, and about 1% in the Economic Growth Achieved Case as the wage growth rate is much higher than the CPI inflation rate.

(3) Consumer prices, long-term interest rates

Since the end of 2013, amid a non-deflationary situation, the CPI growth rate averaged about 0.8%[12] in FY2013-2019. In FY2020 and FY2021, when COVID-19 spread, the rates were 0.2% and 0.1%, respectively, amid sluggish demand due to the cumulative declaration of states of emergency, etc. In FY2022, the rate was 3.2% due to price increases, mainly in energy and food products, and is expected to be around 2.6% in FY2023 and 1.9% in FY2024.

In the Baseline Case, the CPI growth rate is projected to remain in the mid-0% range in the medium to long term. The nominal long-term interest rate is projected to rise to around 1% in the medium to long term.

In the Economic Growth Achieved Case, the CPI growth rate is projected to move at about 2% over the medium to long term as the potential growth rate increases. Since the CPI growth rate is projected to reach a stable 2% in FY2026, the nominal long-term interest rate is assumed to remain at the current level through FY2025 and then is projected to rise to around 3% in the medium to long term in line with economic growth.

[12] The series of *Consumer Price Index* excluding the impact of the consumption tax rate hike is about 0.5% (the Ministry of Internal Affairs and Communication).

Figure 7. Growth Rate of CPI

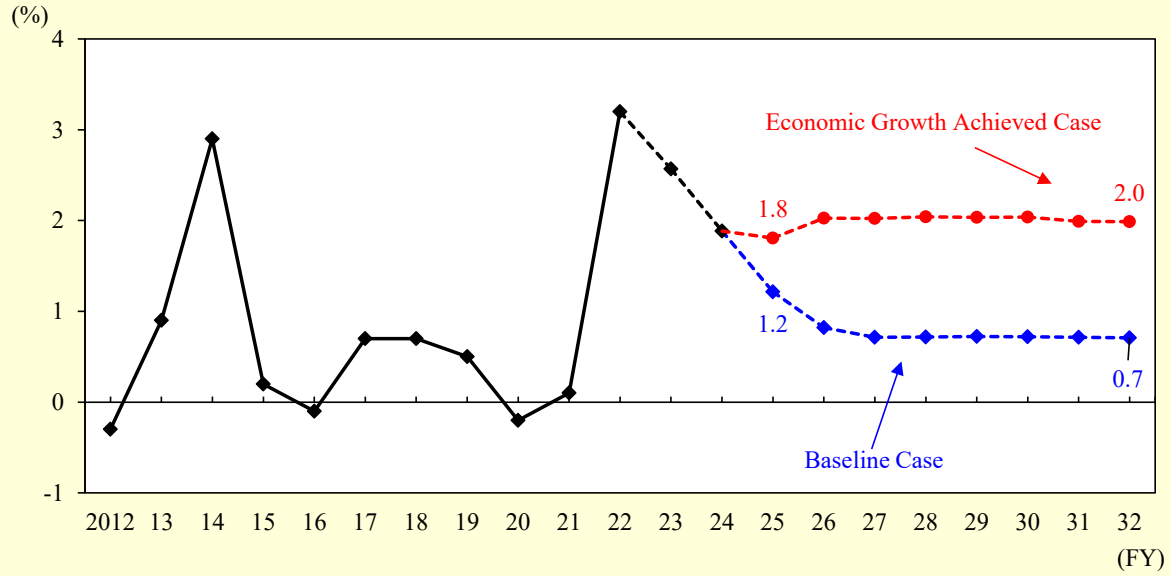
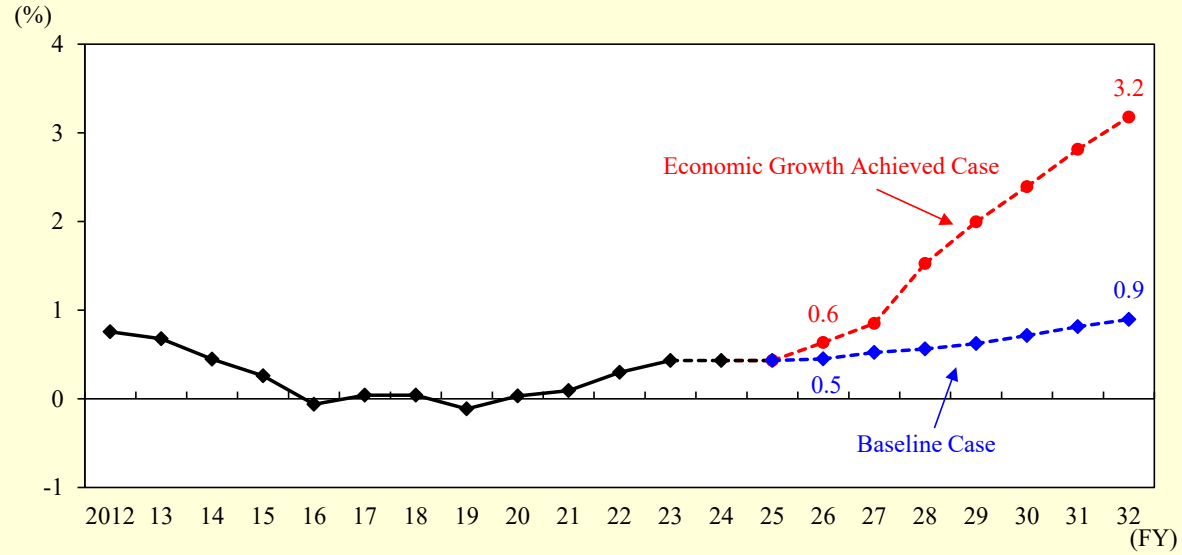


Figure 8. Nominal Long -term Interest Rate



3. Medium to long term fiscal projection

On the fiscal side, reflecting the FY2023 budget, etc. the fiscal projections that are consistent with two economic scenarios presented in the previous section are shown.[13] With regard to expenditures, the defense capacity buildup, national resilience measures, etc., whose specific sizes are already decided in the multi-year plans, are reflected in the projection. Social security expenditures are assumed to increase, reflecting factors such as the population aging and the rate of price and wage increases, while other general expenditures are assumed to increase at the rate of price increases. As for revenues, tax revenues and other revenues are assumed to increase in line with the macroeconomic variables.[14] The fiscal resources for strengthening defense capabilities are assumed to be secured in line with the "Defense Buildup Plan" until FY2027, and after that, necessary measures are assumed to be taken in the same manner as in FY2027.

(1) Primary balance and fiscal balance for central and local governments combined

The ratio of primary balance (PB)[15] to GDP for central and local governments steadily improved since FY2013 until the spread of COVID-19 (around -1.9% in FY2018),[16] because of the promotion of expenditure reforms in the initial budget, nominal GDP expansion, increased revenue due to consumption tax rate hike, etc., regardless of the population aging and the increase in expenditure due to supplementary budgets, etc. Subsequently, due to the increase in expenditures associated with the spread of COVID-19, the PB was around -9.1% in FY2020 and -5.5% in FY2021. In FY2022 and FY2023, although an increase in revenue is expected, the increase in expenditures (that mostly contribute to supporting the economy) based on the successive economic measures, including measures against the infectious disease, oil price and price hikes, etc., is projected to result in a deterioration of PB (around -5.0% in FY2022 and -4.7% FY2023). In FY2024, since it is assumed that most expenditures for these economic measures will be executed by FY2023, the PB is projected to be around -0.8%, recovering to the level before the deterioration of the PB due to the increase in expenditures.

Then, in the baseline case, the PB is projected to be around -0.4% in FY2025, improving to near zero in FY2026 and FY2027, followed by a gradual deterioration.[17] This is because the increase in revenue, which grows at the same rate as nominal GDP growth, is projected to be

[13] See Appendix 1 for detailed assumptions.

[14] The underlying tax revenue trend based on the Provisional FY2022 Settlement and current economic trends is taken into account.

[15] The primary balance (PB) is an indicator of how much of the cost of providing various administrative services, including social security and public works (policy expenses), is covered by tax revenues and other sources. This section discusses trends in PB, excluding expenditures and fiscal resources for the recovery and reconstruction measures and GX measures.

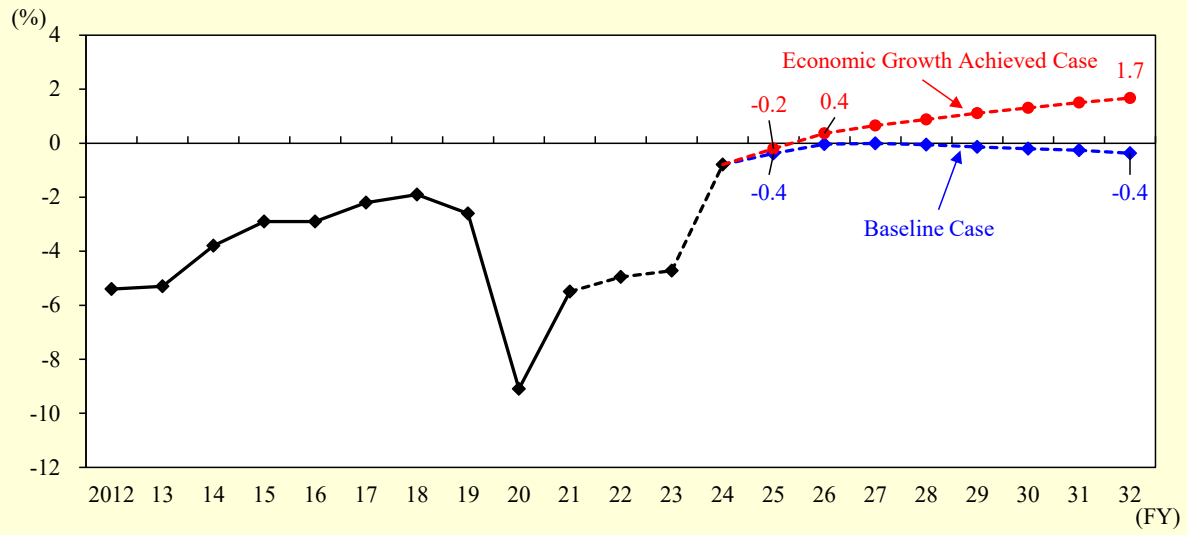
[16] See Cabinet Office (2022), Chapter 1, Section 3, for information on past financial conditions, including the period of the COVID-19 pandemic.

[17] 'Defense Buildup Plan' and 'The Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience' are included in this projection. The additional budget and finance scheme addressed in 'Children's Future Strategic Policy' are not included in this projection, since their concrete items and sizes will be decided later. These assumptions also apply to the Economic Growth Achieved Case.

less than the increase in expenditures, which grows due to the population aging, prices and wages, and other factors.[18] The ratio of fiscal balance to GDP for central and local governments gradually increases due to interest expenses in response to rising interest rates, at a faster deterioration pace compared to the PB during the projection period.

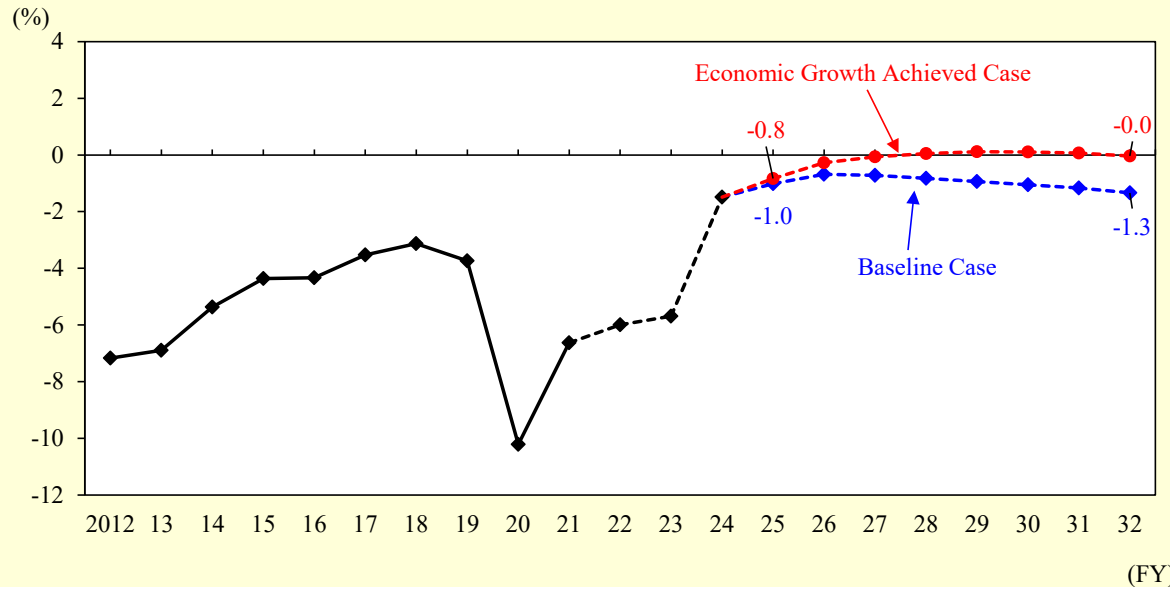
In the Economic Growth Achieved Case, the PB-to-GDP ratio for central and local governments combined is around -0.2% in FY2025, with a surplus in FY2026, followed by a growing surplus during the projection period.[19] This is because the increase in revenue, which grows at the same rate as nominal GDP growth, is projected to exceed the increase in expenditures, which grows due to the population aging, price and wage factors, and other factors.[20] In addition, the fiscal balance-to-GDP ratio for central and local governments combined, while the PB is projected to remain in surplus after FY2026, is projected to remain near zero during the projection period since interest expenses are projected to expand in response to rising interest rates.

Figure 9. Primary Balance of Central and Local Governments Combined (Ratio to Nominal GDP)



[18] See BOX 1.
[19] The effect on improvement in the primary balance by efforts for spending efficiency is assumed to be around 1.3 trillion yen per year in the Economic Growth Achieved Case when the impact on the economy is taken into consideration, based on the materials submitted to the Council on Economic and Fiscal Policy by the members from the private sector (May 28, 2018) and those by the Cabinet Office (July 21, 2021). Calculating mechanically based on this assumption, if the efforts for spending efficiency carried out thus far are continued, the primary surplus will be achieved in FY2025, around a year earlier, in the same case.
[20] See BOX 1.

Figure 10. Fiscal Balance of Central and Local Governments Combined (Ratio toNominal GDP)



(2) Outstanding debt of central and local governments

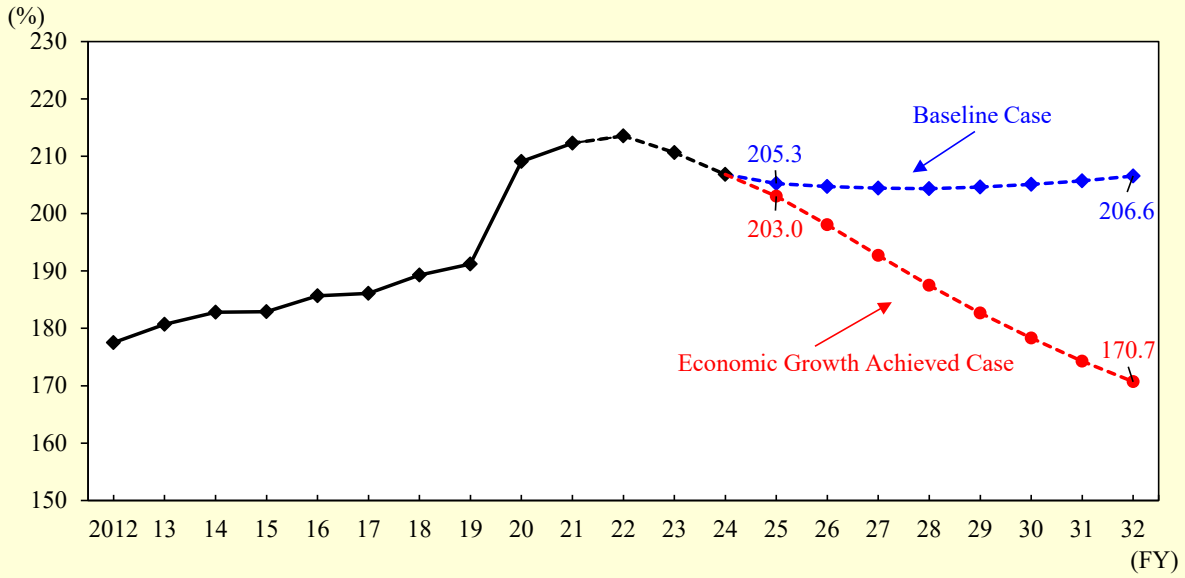
The ratio of outstanding debt of central and local governments combined to GDP has been on an upward trend in the 2000s against the backdrop of the PB deficits and sluggish nominal GDP growth, and rose sharply during the Great Recession. After FY2013, the pace of increase slowed with the improvement of the PB and the increase in nominal GDP. However, due to the impact of the COVID-19 pandemic and the supplementary budget to deal with it, it rose significantly again, reaching around 213.5% in FY2022. For the time being, due to the expansion of nominal GDP and other factors, it is projected to turn downward to around 210.6% in FY2023 and 206.9% in FY2024.

Then, in the Baseline Case, in the latter half of the projection period the ratio turns to go up, as the outstanding debt, the numerator, increases due to the effect of the deterioration of the PB and fiscal balance, while the nominal GDP, the denominator, grows only modestly.

In the Economic Growth Achieved Case, the increase in the outstanding debt, the numerator, is projected to decline steadily over the projection period as a result of the improvement in the PB and fiscal balances, while the nominal GDP, the denominator, is projected to expand. Eventually the ratio steadily tends downward in the projection period.

It should be noted that as long-term interest rates rise, existing bonds issued at lower interest rates will be refinanced at higher rates.

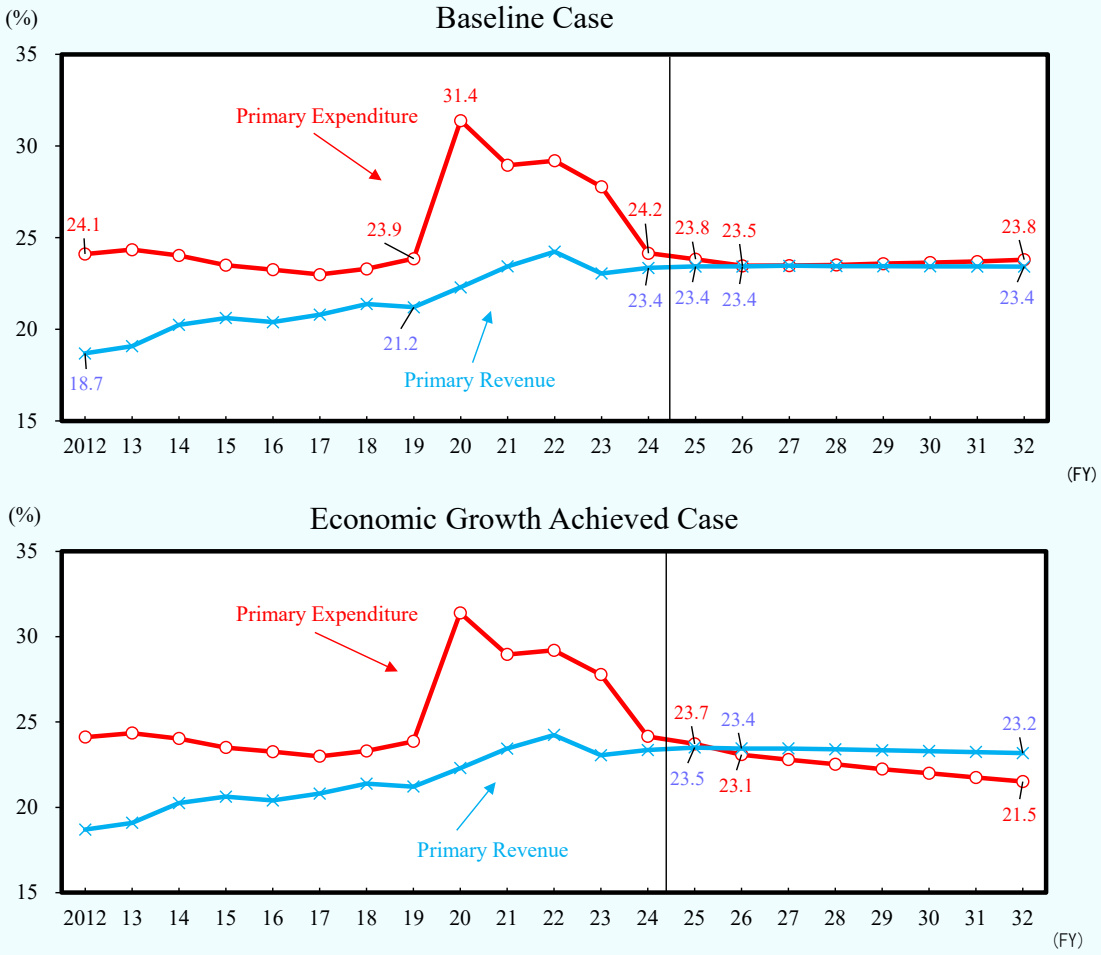
Figure 11. Outstanding Debt of Central and Local Govenrments Combined (Ratio to Nominal GDP)



<BOX 1> The PB movements by revenue and expenditure

Since PB is the difference between primary revenue and primary expenditure, PB worsens if the revenue growth is less than the expenditure growth, and improves if the revenue growth is greater than the expenditure growth. The two economic scenarios in this projection show the former in the Baseline Case and the latter in the Economic Growth Achieved Case.

Primary Revenue and Expenditure (Central and local governments, Percent of GDP)



(Notes) 1.The classification is based on Government Finance Statistics manual 2014.
2.The primary revenue is “revenue” minus “interest income”.
3.The primary expenditure is “expenditure” minus “interest payment”.
4.Excluding revenue and expenditure for recovery and reconstruction measures and GX measures.
5.These primary revenue and expenditure remove transfers between central and local governments.

This differences between the Baseline Case and the Economic Growth Achieved Case are caused by the difference between the mechanisms that determine revenue growth and those that determine expenditure growth, as described below.

- As for the revenue growth, it is generally defined by trends in tax revenues, which account for the bulk of revenue. Since tax revenues are linked to macroeconomic variables, such as household income, consumption, and corporate earnings, they generally have a strong correlation with nominal GDP. In this estimation as well, the growth of overall tax revenues is consequently linked to the growth of nominal GDP.(*1) For this reason, the ratio of the primary revenue to GDP does not differ in the two cases.

- As for the expenditure growth, social security expenditures fluctuate to reflect aging factors and the rate of price and wage increases, while other general expenditures fluctuate in line with the rate of price increases. Since there is no difference in the aging factor between the two cases, the difference in expenditure growth is mainly caused by the difference in the rate of price increases.(*2) When looking at this as a percentage of GDP, the difference between the rate of price inflation and the nominal GDP growth rate becomes important. In the Baseline Case, since the inflation rate and nominal GDP growth rate are similar over the medium to long term, the primary expenditure to GDP ratio does not change so much, while in the Economic Growth Achieved Case, since the inflation rate is lower than the nominal GDP growth rate, the primary expenditure to GDP ratio declines slowly.

(*1) Calculating the tax revenue elasticity looking at the relationship between the two, it is about 1 in the medium to long term under both of the two scenarios.
(*2) Differences in the rate of wage growth will also have an impact, but the impact of differences in the rate of price growth will be larger because the expenditure weights involved with wage growth are relatively small.

<BOX 2> Factors affecting the PB change in FY2025

The PB for the central and local governments in FY2025 is projected be around -1.3 trillion yen (-0.2% of GDP) in the Economic Growth Achieved Case, an improvement of about 0.2 trillion yen from the Economic Growth Achieved Case projected in January 2023.

As for revenue, while an underlying increase in tax revenues based on an upward revision of tax revenues in the Provisional FY2022 Settlement and recent economic trends is assumed, a decrease in revenues due to a decline in nominal GDP growth from the previous projection reflecting the latest economic trends, etc., contributes slightly to the deterioration of the PB in FY2025.

As for expenditure side, while there is an increase in expenditures due to the rise in the inflation rate, etc. from the previous projections, a decrease in expenditures due to a mechanical calculation based on an assumption that the expenditure in FY2024 is reduced by about half of the amount that the expenditure reform could curve if it is continued (the same assumption as in past projections), contributes to an improvement in the PB in FY2025.

Factors of the PB change in FY2025

(appx. trillion Yen)

	Contribution to the PB	Primary balance in FY 2025
Primary balance in January 2023 projection		− 1.5
Factors on revenue side ・assumption on the underlying tax revenue growth ・downswing of the nominal GDP growth rate	 ＋ 1.2 − 1.4	
Factors on outlays side ・upswing of the inflation rate ・assumption on the expenditure reform	 − 0.2 ＋ 0.7	
Primary balance in July 2023 projection		− 1.3

(Notes) 1. Considerable leeway should be given when interpreting this table, including assumptions on this projection.
2. Figures in this table are rounded to the nearest unit, so the sum of factors and the change of PB do not match.

4. Risk and Uncertainty

The medium to long term economic and fiscal projections described so far entail various risks and uncertainties. In the short term, there is a risk that a downturn in overseas economies puts downward pressure on Japanese economy, and it is also necessary to pay close attention to rising prices, fluctuations in financial and capital markets, and other factors. Furthermore, looking at the medium to long term time horizon, for example, risks and uncertainties that follow are included.[21]

In order to understand the path and quantitative effect of external impacts of these risks and uncertainties on the Japanese economy and public finances, we conduct a sensitivity analysis based on mechanical calculations of the impact of a decline in the growth rate and an increase in nominal long-term interest rates. Please note that this sensitivity analysis is conducted mechanically, and is not discussed with specific scenarios or specific policy changes in mind.

i) Changes in medium to long term economic growth

The IMF World Economic Outlook[22] points out several downside risks to global economic growth due to such factors as demand restraint coming from monetary tightening, continued price hikes, high levels of public and private debt in emerging and developing countries, a slowdown in the Chinese economy, Russian aggression against Ukraine, and geopolitical and geoeconomic fragmentation.[23] Such a downturn in the global economy puts downward pressure on production and corporate performance through lower exports, etc. If this impact is prolonged, it will have a negative impact on Japan's medium to long term economic growth through sluggish investment, etc.[24]

In the current domestic economy, while there are some factors that could move the medium to long term growth path upward, such as the ongoing digitalization triggered by the COVID-19 pandemic, wage hikes, and continued high investment motivation, there are also factors that could move the path downward, such as a decline in the expected medium to long term growth rate amid greater economic volatility.

In the following, we conduct a sensitivity analysis based on a mechanical calculation of the impact of a decline in the potential growth rate. Here, we assume that the rate of increase in TFP

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[21] Those listed here are examples. Risks and uncertainties are not limited to these.

[22] While the IMF (2023a) cites as upside risks an increase in household consumption on the back of excess savings from COVID-19 and a tight labor market, as well as the resolution of supply chain fragmentation and stabilization of the labor market, the downside risks are considered more significant. As external risks to Japan's economic growth, the IMF (2023b) cites geoeconomic fragmentation and geopolitical tensions, a sharp slowdown in the global economy, commodity price volatility, natural disasters, and cyber threats. Regarding the oil prices in the future, the World Bank (2023) points to the risk of higher prices, such as higher demand in China and lower production in OPEC+ (plus), the U.S., and other countries, as well as the risks of lower prices due to lower demand accompanying lower growth in the global economy.

[23] Geoeconomic fragmentation refers to the dissolution of policy-based economic integration based on strategic thinking such as security and autocracy (Aiyar et al., 2023).

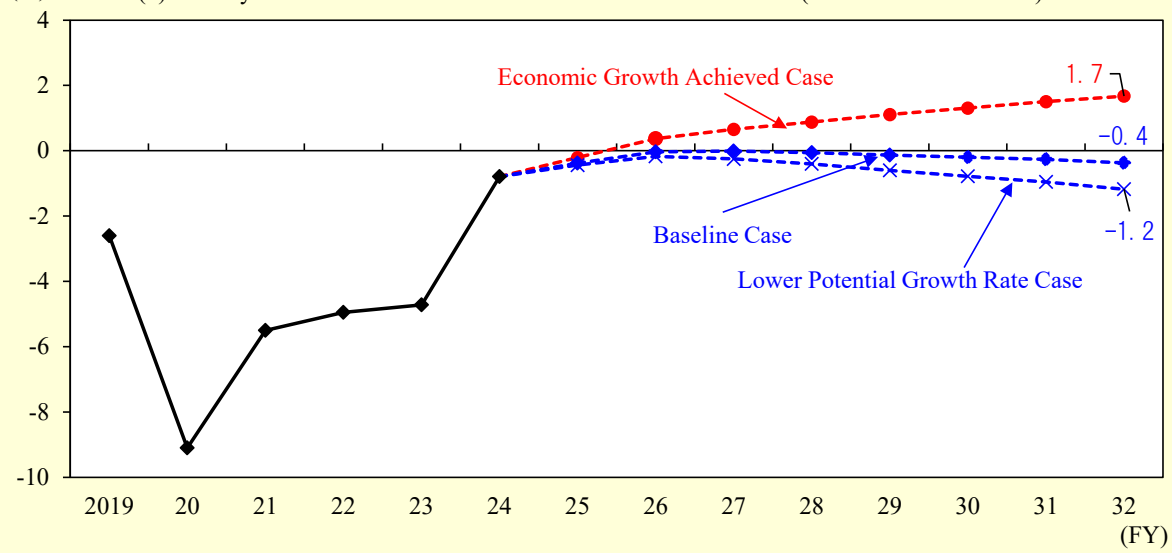
[24] For related analysis, see Cabinet Office Director General for Economic Research (2023), Chapter 1, Section 3.

was continuously reduced by about 0.5 percentage points relative to the Baseline Case. As a result, combined with a decrease in capital input, the potential growth rate declined by about 0.8% pt in the final year of the estimation period (FY2032). Due to the revenue decline resulting from the lower growth rate, the ratio of PB to GDP deteriorated by about 0.8% pt and the ratio of outstanding debt to GDP increased by about 8.2% pt in the final year of the projection period.

Figure 12. Lower Potential Growth Rate Case

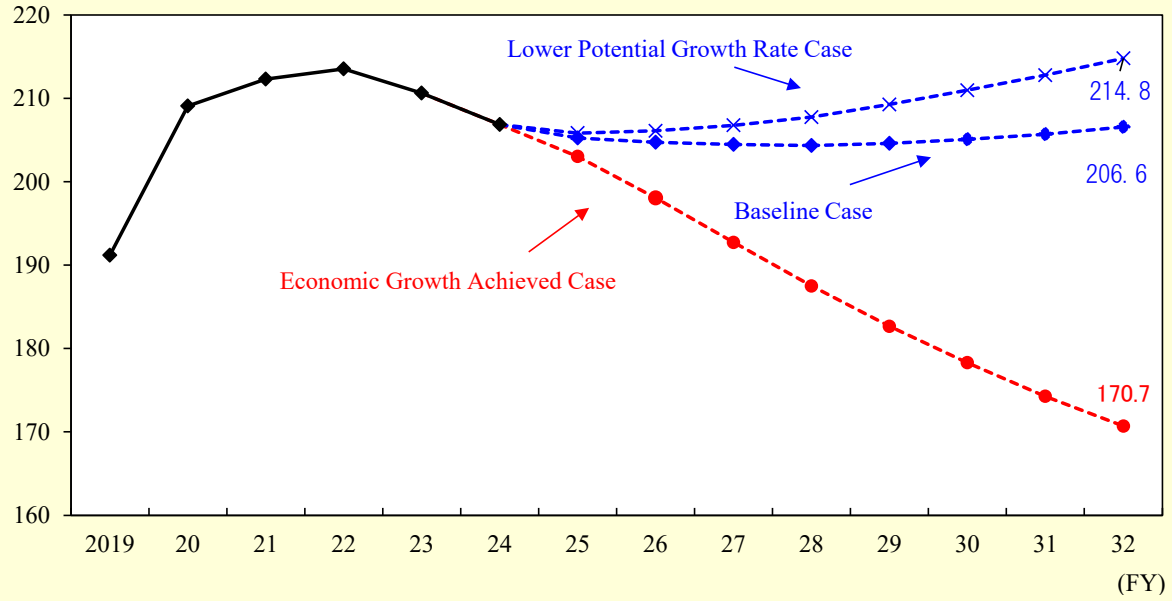
(%)

(1) Primary Balance of Central and Local Governments Combined (Ratio to Nominal GDP)



(%)

(2) Outstanding Debt of Central and Local Govenrments Combined (Ratio to Nominal GDP)



(3) Table

(%), [Ratio to Nominal GDP %], Trillions of Yen

FY	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Potential Growth Rate	(0.2)	(0.3)	(0.6)	(0.9)	(0.4)	(0.2)	(0.1)	(0.0)	(▲0.2)	(▲0.2)	(▲0.3)	(▲0.4)
Nominal GDP	550.7	561.9	586.4	601.3	608.2	611.3	613.5	615.2	615.7	616.0	616.4	616.3
Primary Balance of Central and Local Government Combined (Ratio to Nominal GDP)	[▲5.5]	[▲5.0]	[▲4.7]	[▲0.8]	[▲0.4]	[▲0.2]	[▲0.3]	[▲0.4]	[▲0.6]	[▲0.8]	[▲1.0]	[▲1.2]
Outstanding Debt (Ratio to Nominal GDP)	[212.3]	[213.5]	[210.6]	[206.9]	[205.8]	[206.1]	[206.8]	[207.8]	[209.3]	[211.0]	[212.8]	[214.8]

(Notes) 1. This sensitivity analysis is based on the multiplier table in "Economic and Fiscal Model (FY2018 version)".
2. The low potential growth rate case refers to a case in which the TFP growth rate is 0.5%pt lower than the baseline case continuously during the projection period (after FY2025) under conditions in which other exogenous variables remain unchanged.

(ii) Rise in interest rates

Since the end of 2021, as overseas long-term interest rates have risen, there was a phase where monetary tightening by Europe and the U.S. put upward pressure on interest rates in Japan.

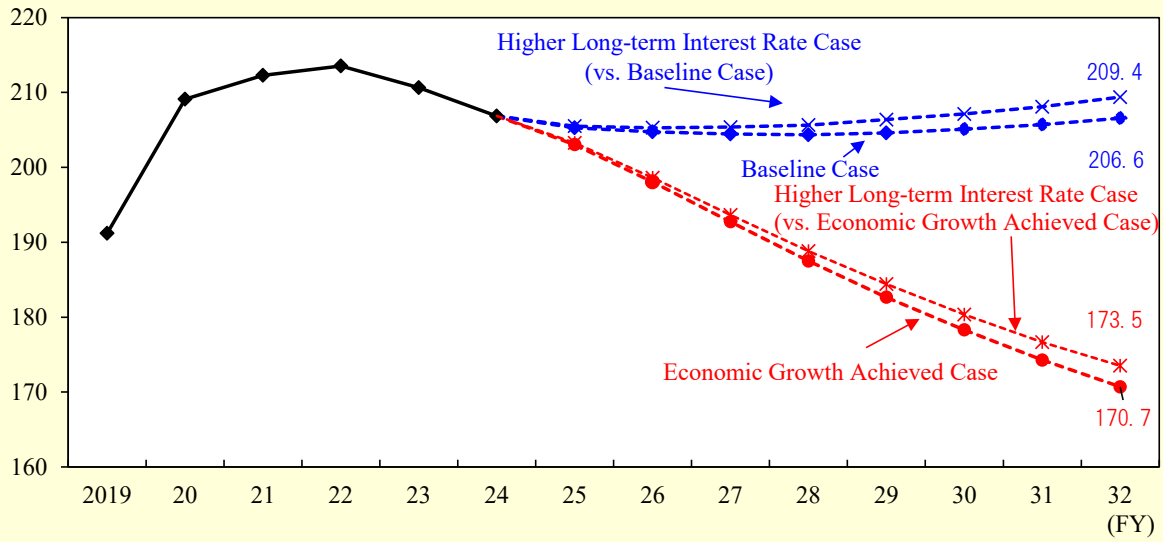
A rise in long-term interest rates could have several impacts on the economy and public finance through various channels.[25] For example, by restraining investment, etc., it could have a negative impact on the real economy. If nominal long-term interest rates rise relative to the nominal GDP growth rate, by worsening the fiscal balance and increasing the ratio of outstanding debt, etc., to the GDP, it could have a negative impact on fiscal conditions.

In the following, we conduct a sensitivity analysis based on a mechanical estimate of the impact of a rise in long-term interest rates. Specifically, we set the long-term interest rate to continuously rise by about 0.5% pt relative to each case. Since interest expenses increased due to the rise in interest rates on newly issued and refinanced bonds, the ratio of the outstanding debt to GDP rose by about 2.8% pt in the final year of the projection period in both cases.

[25] As for the economic impact of a rise in long-term interest rates, see, for example, Cabinet Office Director General for Economic Research (2005), Chapter 2, Section 1.

Figure 13. Higher Long-term Interest Rate Case

(%) (1) Outstanding Debt of Central and Local Govenrments Combined (Ratio to Nominal GDP)



(2) Table

＜vs. Baseline Case＞

(%), [Ratio to Nominal GDP %]

FY	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Nominal Long-term Interest Rate	(0.1)	(0.3)	(0.4)	(0.4)	(0.9)	(1.0)	(1.0)	(1.1)	(1.1)	(1.2)	(1.3)	(1.4)
Outstanding Debt (Ratio to Nominal GDP)	[212.3]	[213.5]	[210.6]	[206.9]	[205.5]	[205.3]	[205.4]	[205.6]	[206.4]	[207.1]	[208.1]	[209.4]

＜vs. Economic Growth Achieved Case＞

(%), [Ratio to Nominal GDP %]

FY	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Nominal Long-term Interest Rate	(0.1)	(0.3)	(0.4)	(0.4)	(0.9)	(1.1)	(1.4)	(2.0)	(2.5)	(2.9)	(3.3)	(3.7)
Outstanding Debt (Ratio to Nominal GDP)	[212.3]	[213.5]	[210.6]	[206.9]	[203.3]	[198.6]	[193.6]	[188.8]	[184.4]	[180.3]	[176.7]	[173.5]

(Notes) 1. This sensitivity analysis is based on the multiplier table in "Economic and Fiscal Model (FY2018 version)".
2. The higher long-term interest rate case refers to a case in which long-term interest rates were 0.5%pt higher than those in both cases continuously during the projection period (after FY2025) under conditions in which other exogenous variables remain unchanged.

(iii) Response to economic fluctuations, etc.

When various economic shocks have occurred, there has often been additional fiscal spending to deal with the crisis. The ratio of central and local governments outstanding debt to GDP rose by about 100% pt over the past 20 years (FY2002-2022), but especially by about 40% pt[26] in the five years following the Great Recession and the response to the COVID-19 pandemic.

While it is desirable for the economy to stabilize at an early stage through the fiscal adjustment in response to large shocks, supplementary budgets have been compiled in the past as a flexible response to occasional economic conditions, even when the shocks are not as large as the Great Recession or the pandemic. In the past, the policy expenditures related to the primary balance in the general account of the central government[27] have tended to swing upward from the initial budgets to the settlement of accounts, at an average of about 3 trillion yen per year[28] from FY2013 to FY2019.

Supplementary budgets in the general account are compiled in cases of particular urgency under the Public Finance Act,[29] and this projection shows figures that do not incorporate such expenditures that are not specifically envisioned at this time. While the government works to prevent emergency fiscal spending from becoming more prolonged and permanent than necessary, at the same time, it is necessary to realize wise spending so that the spending has a high effect on stable economic growth.

In addition to the above, various uncertainties are involved, such as the impact of wage negotiations on wage trends, the impact of the price pass-on situation on price and wage trends, and the continuity of the upward trends in tax revenues, etc. Therefore, considerable leeway should be given when interpreting the projections shown here.

It is important that these risks and uncertainties be kept in mind when discussing medium and long term economic and fiscal policy, and in order to contribute to these discussions, it is useful to show the impact of these risks and uncertainties in the medium- and long-term projections.

[26] Changes in the ratio of outstanding debt to GDP in FY2009-2010 and FY2020-2022. The outstanding debt has increased by about 600 trillion yen over the past 20 years, of which about 230 trillion yen, or about 40%, has increased over the past five years.

[27] Total expenditures less interest payments and debt redemption costs (excluding subsidy bonds).

[28] Average of the difference between the initial budget and the closing primary budgeted expenses of the general account for FY2013-FY2019. Note that the pre-Great Recession period, FY2002-2008, was about 2 trillion yen.

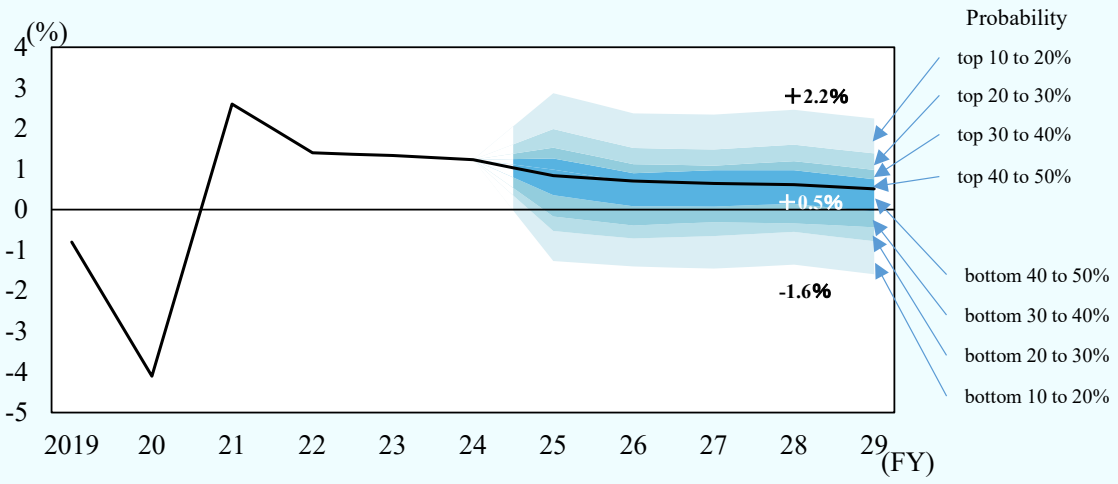
[29] Article 29 of the Public Finance Act.

<BOX 3> Fan chart of real GDP growth

As considerable leeway should be given when interpreting the medium to long term projections shown here, one method for examining that range is fan chart analysis, which shows the projected distribution of estimates. Here, a fan chart is created for the uncertainty regarding the projection of real GDP growth in the Baseline Case, with reference to the methodology from the Office for Budget Responsibility (OBR) in the UK.(*) The past forecast error is applied to each year of the analysis period (FY2025 to FY2029) setting the baseline estimate as a standard value (the median of the probability distribution), using stochastic simulation.

The results of this analysis indicate that there is an 80% probability that the actual GDP growth rate falls within a range of about ±2% pt around the Baseline estimate. For real GDP growth in FY2029 (the baseline case is 0.5%), the top 10% threshold is 2.2% and the bottom 10% threshold is -1.6%, resulting in a slightly larger downside magnitude. As the baseline real GDP growth rate declines, the probability of a swing to negative growth increases.

Real GDP Growth Rate Fan Chart



(Notes)
1. Computed using a stochastic simulation based on vector auto regression and bootstrap methods.
2. Data from FY 1981 to FY 2022 is used.
3. The analysis period is set for five years according to the custom of international and foreign institutions.

(*) See Steel (2021). In addition to the OBR methodology referenced here, similar methods are used by the Congressional Budget Office (CBO) in the US, the IMF, the European Commission, and other agencies that make forecasts to indicate the range of their estimates.

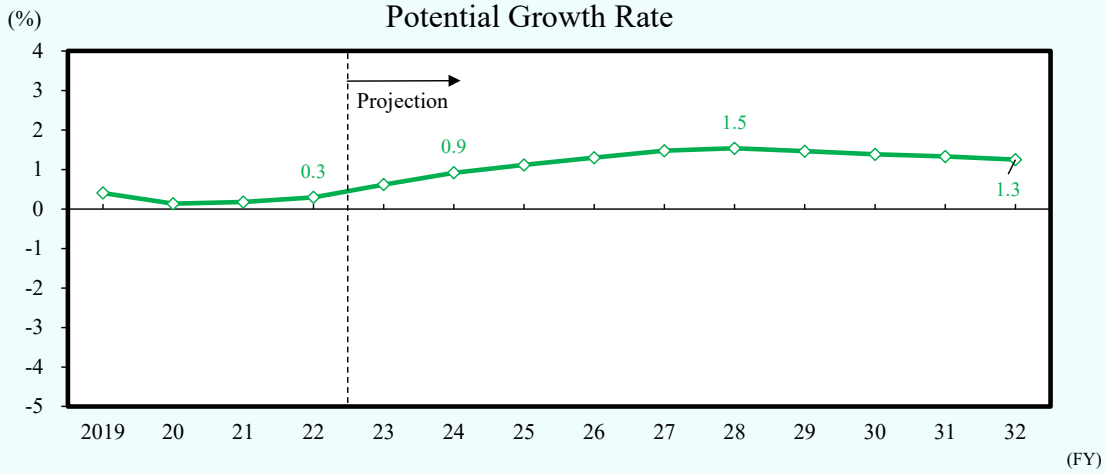
<BOX 4> Analysis of Reference Case

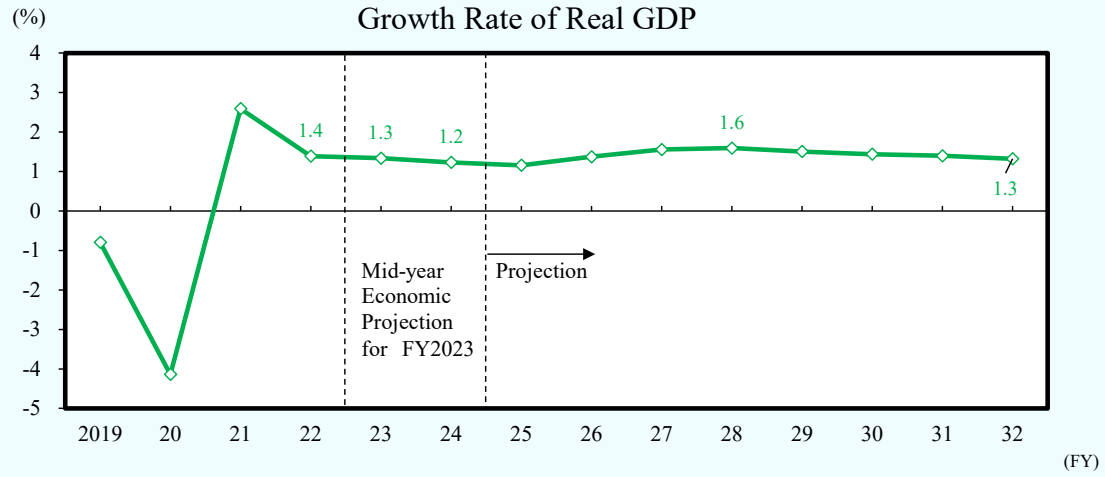
In the Economic Growth Achieved Case, the TFP growth rate is assumed to reach about 1.4%, which is the average TFP growth in the period before entering the deflationary situation. Here an alternative scenario with a different TFP growth rate assumption is studied. In this "Reference Case" the TFP growth rate is assumed to reach about 1.1%, which is the average of the past 40 years,(*1) and the estimates of a couple of economic and fiscal variables are conducted.(*2)

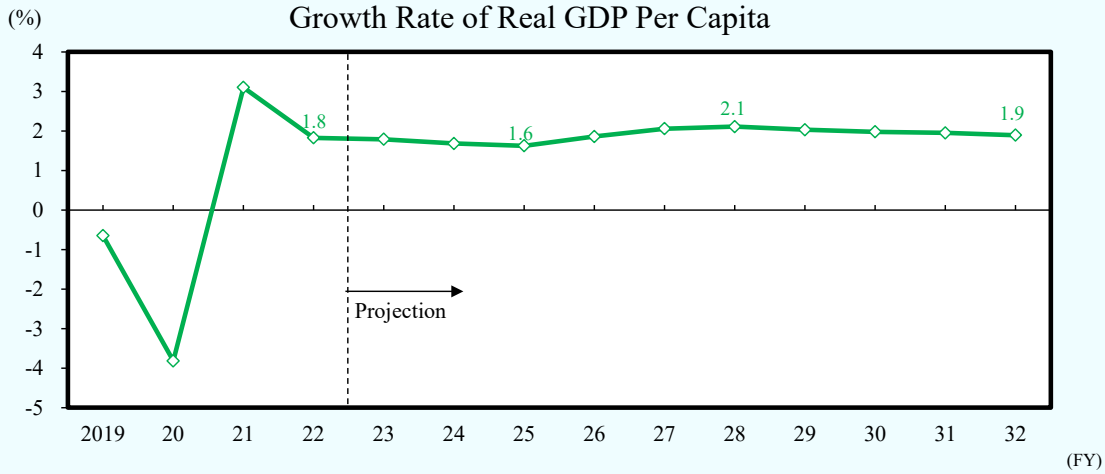
In terms of the economy, both potential growth and real GDP growth are estimated to reach the mid-1% range in the second half of the 2020s. In addition, the real GDP per capita growth rate is estimated to be around 2%.

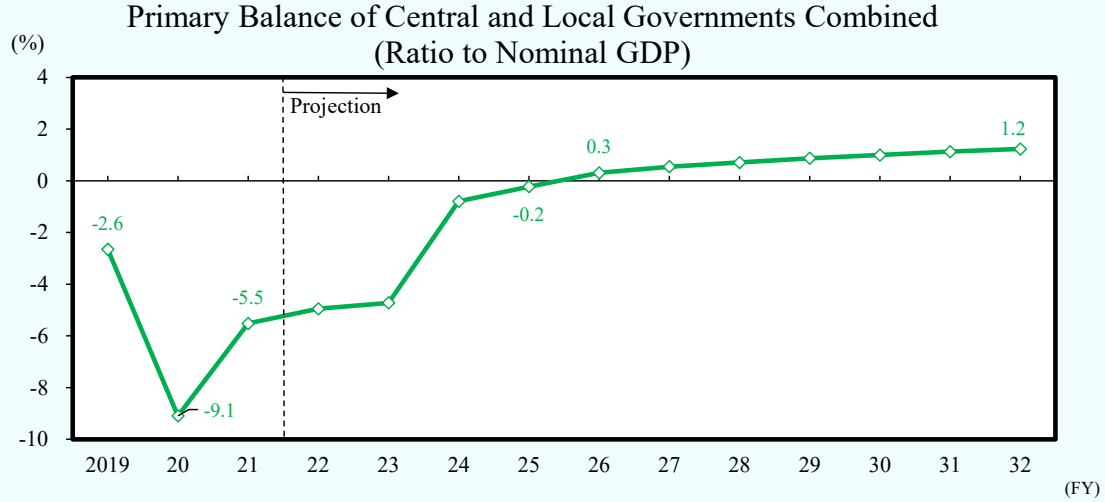
From the fiscal perspective, although the growth rate is lower than in the Economic Growth Achieved Case, the PB-to-GDP ratio for central and local governments combined is estimated to return to surplus in FY2026, and if the efforts for expenditure efficiency are continued, the PB surplus will be achieved in FY2025, around one year earlier, as in the Economic Growth Achieved Case. Thereafter, since the PB-to-GDP ratio is estimated to continue to improve, the ratio of outstanding debt to GDP is estimated to decline, albeit at a slower pace than in the Economic Growth Achieved Case.

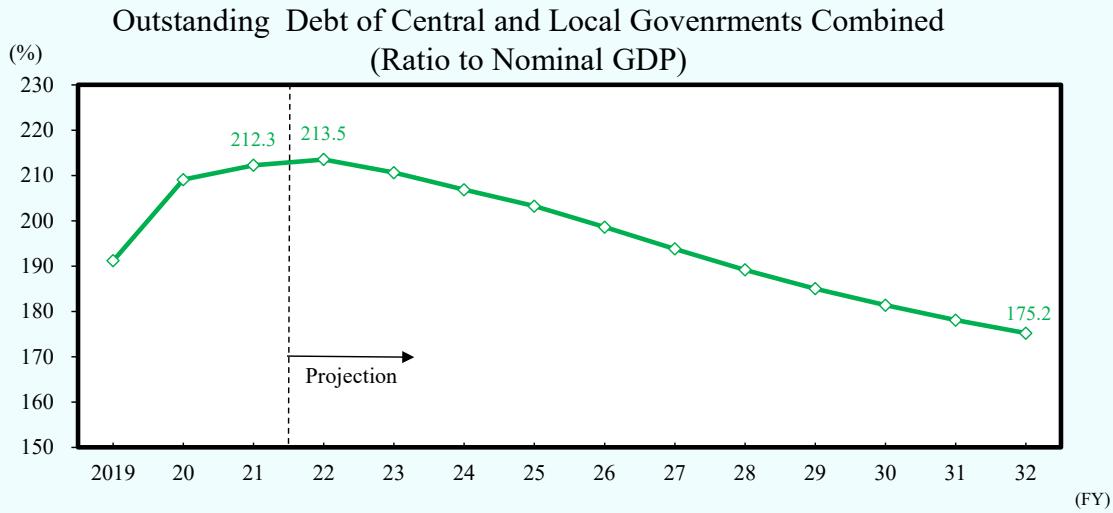
Economic and Fiscal Pictures of the Reference Case











(*1) Average rate of increase in TFP from Apr-Jun 1980 to Apr-Jun 2020.
(*2) Estimates are made using the multiplier table in the Economic and Fiscal Model (2018 version).

<BOX 5> The rate of increase in TFP

Total Factor Productivity (TFP) represents the increase in value added that is not attributable to increases in capital and labor input, which includes, for example, technological progress (development of product services and upgrading of machinery and equipment), improvements in worker capacity, and more efficient allocation of production resources.

A couple of previous studies on the effects of the policies on economic growth rates are summarized in the table below. The government's policy of fostering investment in human capital, investment in GX/DX, and promotion of startups is expected to have similar effects.

Growth-pushing effect based on previous studies

	Assumptions	Push-up effects (annualized)	References
Investment in human capital	Investment in education and training by companies (stock per employee) rises 5% annually(*1)	About 0.1% pt. (Labor productivity growth rate(*2))	Morikawa (2018a,b)
	Ratio of part-time workers declines 0.5% pt annually(*3)	About 0.2% pt (Labor productivity growth rate)	Morikawa (2018a,b)
GX/DX and other investments	R&D investment to GDP ratio increases by 0.5% pt(*4)	About 0.2% pt (Rate of increase in TFP)	Morikawa(2015)
	Green public investment (from 1% of GDP to zero after 10 years), subsidies for renewable energy (80% subsidy rate), carbon pricing (increase of about 7% per year), etc.	About 0.1% pt (GDP increase by about 2% in about 15 years)	IMF(2020)
Promotion of startups, etc.	Regarding the score on administrative barriers to startups (OECD Product Market Regulation Index), Japan attains the lowest barriers in the OECD (0.6 points to 0 points in 2018)	About 0.1% pt (GDP per capita increase by about 0.6% in 10 years)	OECD(2021)
	The TFP-pushing effect of firms' entry/exit and reallocation doubles compared to the mid-2010s(*5)	About 0.2% pt (Rate of increase in TFP)	Kim, Fukao, Gon, Ikeuchi (2023)

(Notes) The purpose of the figures presented here is to provide an approximate magnitude of the policy effects. In light of the analysis limitations and caveats as described below, these figures presented should be understood with considerable latitude in their interpretation and application.

① assumptions and policies do not match completely.
② assumptions regarding the push-up effect are based on past and foreign analyses, etc., and need to be kept in mind when applying the effect to Japan's economy.
③ there is no explicit consideration of the time lag that may exist between the implementation of the policy and the manifestation of its effects.
④ those shown as level effects are simply converted to growth rate push-up effects.

To evaluate the actual policy packages comprehensively, while overlapping effects and interactions among policies must be kept in mind, the approximate magnitude and direction of the policies can be estimated by adding up the individually measured policy effects. For example, regarding the growth-pushing effects in the above research examples, the direct effects on TFP and labor productivity (totaling about 0.7% pt) can be added to the current TFP growth rate of about 0.5%, resulting in a TFP growth rate of slightly more than 1%. This is equivalent to the average rate of increase in TFP over the past 40 years, up to the most recent business cycle (the most recent business cycle assumed in the Baseline Case),(*6) and is also comparable to the rate of increase in TFP assumed in the US.(*7)

Even greater growth-raising effects are expected by adding policies that have not been quantified here and by materializing and accelerating policies that have already begun to move. At present, the policy effects are not sufficiently quantified for many policies. It is hoped that studies of the policy effects will be promoted in the comprehensive examination of policies that contribute to growth from the perspective of EBPM. (*8)

(*1) The amount of intangible assets that can be calculated from investment in human capital such as corporate training expenses is about 3.1 trillion yen in 2021 (from JIP Database). This 5% increase is about 150 billion yen. Note that a package of human investment measures worth 1 trillion yen over five years is implemented.
(*2) Labor productivity here is the amount of value added per worker. Labor productivity is often used as a productivity indicator instead of TFP because it is easier to measure than TFP.
(*3) The ratio of non-regular employees declined from 38.3% in 2019 to 36.9% in 2022, an average annual decline of about 0.5% pt.
(*4) The amount of R&D investment is about 20 trillion yen in FY2021 (about 3.6% of GDP, based on the "Survey on Science and Technology Research" by the Ministry of Internal Affairs and Communications). Note that the guideline for investment in the "Sixth Science, Technology and Innovation Basic Plan" (FY2021-2025) is an annual average of about 24 trillion yen, and R&D investment is expected to increase.
(*5) According to Kim, Fukao, Gong, and Ikeuchi (2023), the TFP-pushing effect of firms' entry/exit and reallocation is about 0.2% pt per year from 2012 to 2018. Note that the average rate of business openings and closings during 2012-2018 is about 6% in Japan, while it is about 19% in the US and 25% in the UK, more than twice as high.
(*6) TFP growth rate for the Reference Case analyzed in BOX 4.
(*7) CBO (2023). The TFP growth rate set for the US economy for 2023-33 is 1.1% (non-farm private sector).
(*8) Evidence-Based Policy Making.

Results of Projection (Table)

Economic Growth Achieved Case

【Macroeconomy】

(%), [ratio to GDP, %], Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Potential GDP Growth	(0.2)	(0.3)	(0.6)	(0.9)	(1.3)	(1.6)	(1.8)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)
Real GDP Growth	(2.6)	(1.4)	(1.3)	(1.2)	(1.3)	(1.6)	(1.8)	(1.9)	(1.9)	(1.8)	(1.8)	(1.7)
Real GNI Growth	(2.2)	(0.5)	(2.1)	(1.3)	(1.7)	(1.7)	(1.8)	(1.9)	(1.8)	(1.8)	(1.8)	(1.7)
Nominal GDP Growth	(2.4)	(2.0)	(4.4)	(2.5)	(2.5)	(3.0)	(3.2)	(3.3)	(3.3)	(3.2)	(3.2)	(3.2)
Nominal GDP	550.7	561.9	586.4	601.3	616.3	634.9	655.5	677.1	699.1	721.5	744.6	768.3
Real GDP Per Capita Growth	(3.1)	(1.8)	(1.8)	(1.7)	(1.7)	(2.1)	(2.3)	(2.4)	(2.4)	(2.4)	(2.3)	(2.3)
Nominal GNI Per Capita (※Ten thousand yen)	462	478	500	516	531	548	567	588	609	631	654	678
Wage Growth	(1.8)	(1.9)	(2.6)	(2.5)	(2.6)	(3.0)	(3.2)	(3.4)	(3.4)	(3.3)	(3.3)	(3.2)
Unemployment Rate	(2.8)	(2.6)	(2.5)	(2.4)	(2.4)	(2.5)	(2.5)	(2.5)	(2.6)	(2.6)	(2.6)	(2.6)
Change of Price												
Consumer Prices	(0.1)	(3.2)	(2.6)	(1.9)	(1.8)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)
GDP Deflator	(−0.2)	(0.6)	(3.0)	(1.3)	(1.2)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)
Nominal Long-term Interest Rate	(0.1)	(0.3)	(0.4)	(0.4)	(0.4)	(0.6)	(0.9)	(1.5)	(2.0)	(2.4)	(2.8)	(3.2)
Balance by Sector												
General Government	[−5.9]	[−4.8]	[−4.7]	[−0.5]	[0.2]	[0.8]	[1.0]	[1.1]	[1.1]	[1.1]	[1.1]	[1.0]
Households	[5.8]	[3.4]	[2.4]	[2.2]	[2.3]	[2.4]	[2.4]	[2.4]	[2.4]	[2.5]	[2.6]	[2.6]
Corporations	[3.7]	[3.1]	[4.8]	[0.8]	[0.4]	[−0.3]	[−0.5]	[−0.7]	[−0.7]	[−0.8]	[−0.9]	[−0.9]
Overseas	[−3.6]	[−1.7]	[−2.5]	[−2.5]	[−2.9]	[−2.9]	[−2.8]	[−2.8]	[−2.8]	[−2.8]	[−2.8]	[−2.8]

【Central and Local Governments' Public Finances】

(Excluding the expenditures and the fiscal resources for the recovery and reconstruction measures and GX measures)

[ratio to GDP, %], Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Primary Balance	− 30.4	− 27.8	− 27.7	− 4.8	− 1.3	2.3	4.3	5.9	7.7	9.4	11.2	12.9
(ratio to nominal GDP)	[−5.5]	[−5.0]	[−4.7]	[−0.8]	[−0.2]	[0.4]	[0.7]	[0.9]	[1.1]	[1.3]	[1.5]	[1.7]
Central Government	− 35.6	− 30.7	− 33.0	− 11.3	− 9.4	− 7.4	− 6.3	− 5.3	− 4.5	− 3.8	− 3.1	− 2.4
(ratio to nominal GDP)	[−6.5]	[−5.5]	[−5.6]	[−1.9]	[−1.5]	[−1.2]	[−1.0]	[−0.8]	[−0.6]	[−0.5]	[−0.4]	[−0.3]
Local Government	5.2	2.9	5.3	6.5	8.1	9.7	10.6	11.2	12.2	13.2	14.3	15.2
(ratio to nominal GDP)	[0.9]	[0.5]	[0.9]	[1.1]	[1.3]	[1.5]	[1.6]	[1.7]	[1.7]	[1.8]	[1.9]	[2.0]
Fiscal Balance	− 36.5	− 33.7	− 33.4	− 9.0	− 5.1	− 1.8	− 0.4	0.3	0.8	0.8	0.5	− 0.3
(ratio to nominal GDP)	[−6.6]	[−6.0]	[−5.7]	[−1.5]	[−0.8]	[−0.3]	[−0.1]	[0.0]	[0.1]	[0.1]	[0.1]	[−0.0]
Central Government	− 40.7	− 35.4	− 37.6	− 14.5	− 12.3	− 10.6	− 10.1	− 10.2	− 10.8	− 11.8	− 13.2	− 15.0
(ratio to nominal GDP)	[−7.4]	[−6.3]	[−6.4]	[−2.4]	[−2.0]	[−1.7]	[−1.5]	[−1.5]	[−1.5]	[−1.6]	[−1.8]	[−2.0]
Local Government	4.2	1.7	4.3	5.5	7.2	8.8	9.7	10.5	11.6	12.6	13.7	14.7
(ratio to nominal GDP)	[0.8]	[0.3]	[0.7]	[0.9]	[1.2]	[1.4]	[1.5]	[1.5]	[1.7]	[1.7]	[1.8]	[1.9]
Outstanding Debt	1168.9	1199.9	1235.1	1243.8	1251.4	1257.6	1263.4	1269.5	1277.1	1286.4	1297.7	1311.5
(ratio to nominal GDP)	[212.3]	[213.5]	[210.6]	[206.9]	[203.0]	[198.1]	[192.7]	[187.5]	[182.7]	[178.3]	[174.3]	[170.7]
Central Government	994.7	1029.0	1069.1	1083.7	1097.9	1110.6	1122.9	1135.5	1149.0	1163.8	1180.2	1198.7
(ratio to nominal GDP)	[180.6]	[183.1]	[182.3]	[180.2]	[178.1]	[174.9]	[171.3]	[167.7]	[164.3]	[161.3]	[158.5]	[156.0]
Local Government	174.2	170.9	166.1	160.1	153.5	147.0	140.4	134.1	128.1	122.6	117.5	112.8
(ratio to nominal GDP)	[31.6]	[30.4]	[28.3]	[26.6]	[24.9]	[23.1]	[21.4]	[19.8]	[18.3]	[17.0]	[15.8]	[14.7]

【General Account of Central Government】

Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Expenditures	144.6	132.4	114.4	111.6	114.3	115.4	118.3	121.6	125.6	130.2	135.1	140.6
(Policy Expenditures)	120.5	108.9	89.5	87.0	88.9	89.4	91.4	93.4	95.6	97.9	100.1	102.5
Social Security-related Expenditures	50.2	43.9	36.9	37.6	38.4	39.2	40.1	41.0	42.0	42.9	43.8	44.8
Local Allocation Tax Grants, etc.	19.6	17.5	16.4	17.9	18.6	19.1	19.8	20.2	20.8	21.5	22.2	22.9
Others	50.3	47.1	35.8	31.2	31.6	30.7	31.1	31.8	32.4	33.1	33.7	34.4
Bond Expenditures	24.6	23.9	25.3	24.9	25.8	26.4	27.3	28.6	30.4	32.7	35.4	38.5
Debt Repayment	17.0	16.3	16.4	17.0	17.6	17.9	18.1	18.3	18.6	18.9	19.3	19.7
Interest Payment	7.2	7.1	8.5	7.5	7.7	8.1	8.8	9.8	11.4	13.4	15.7	18.4
Revenues	89.3	85.3	78.8	80.0	82.5	84.9	88.1	91.1	94.0	97.1	100.2	103.3
Tax Revenue	67.0	71.1	69.4	72.0	74.5	76.7	79.2	81.9	84.5	87.2	90.0	92.8
Other Revenues	22.2	14.2	9.3	8.0	8.1	8.2	8.9	9.2	9.5	9.8	10.2	10.5
Primary Balance in General Account of Central Government	− 31.2	− 23.6	− 10.8	− 7.0	− 6.3	− 4.5	− 3.3	− 2.3	− 1.6	− 0.8	0.0	0.8

【Ordinary Account of Local Government】

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Expenditures	122.4	106.7	100.2	103.9	106.8	107.1	109.9	112.7	115.8	119.0	122.5	126.0
Debt Repayment and Interest Payment	12.6	11.4	11.3	11.5	12.2	12.1	12.0	11.9	11.5	11.3	11.0	10.9
Revenues	109.1	95.4	90.0	94.4	97.2	98.6	101.4	104.2	107.3	110.7	114.2	118.0
Tax Revenue	44.8	46.7	46.5	48.4	50.0	51.5	53.0	54.7	56.5	58.2	60.0	61.8
Primary Balance in Ordinary Account of Local Government	4.6	3.9	4.9	6.0	7.2	8.8	9.6	10.4	11.5	12.8	14.3	15.9

Notes 1. In "General Account of Central Government", FY2021 is based on the Settlement, FY2022 is based on theProvisional FY2022 Settlement, and FY2023 is based on the FY2023 Budget. In "Ordinary Account of Local Government," FY2021 is based on the Settlement.

2. "Policy Expenditures" is General Account Expenditures excluding interest payments, redemption of the national debt (excluding subsidy bonds) and carry-back of settlement deficit compensation.

3. Debt Repayment in Bond Expenditures excludes subsidy bonds.

4. In "General Account of Central Government," "Other Revenues" in FY2021 and FY2022 consist of non-tax revenues and preceding fiscal year surplus received (around 44.7 trillion yen in FY2021 and around 32.1 trillion yen in FY2022) excluding the balance of fiscal resources carried forward to the next year (around 22.4 trillion yen in FY2021 and around 18.0 trillion yen in FY2022).

5. In "Ordinary Account of Local Government," "Revenues" excludes local bonds, reduction of reserve, and the balance of fiscal resources carried forward from total revenues. "Tax Revenue" is the total sum of local taxes and local transfer taxes.

Baseline Case

【Macroeconomy】

(%), [ratio to GDP, %], Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Potential GDP Growth	(0.2)	(0.3)	(0.6)	(0.9)	(0.9)	(0.7)	(0.6)	(0.6)	(0.5)	(0.5)	(0.5)	(0.4)
Real GDP Growth	(2.6)	(1.4)	(1.3)	(1.2)	(0.8)	(0.7)	(0.6)	(0.6)	(0.5)	(0.5)	(0.5)	(0.4)
Real GNI Growth	(2.2)	(0.5)	(2.1)	(1.3)	(1.2)	(0.9)	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)
Nominal GDP Growth	(2.4)	(2.0)	(4.4)	(2.5)	(1.4)	(0.9)	(0.8)	(0.7)	(0.6)	(0.6)	(0.6)	(0.5)
Nominal GDP	550.7	561.9	586.4	601.3	609.9	615.3	620.0	624.5	628.3	631.8	635.4	638.7
Real GDP Per Capita Growth	(3.1)	(1.8)	(1.8)	(1.7)	(1.3)	(1.2)	(1.2)	(1.1)	(1.0)	(1.0)	(1.0)	(1.0)
Nominal GNI Per Capita (※Ten thousand yen)	462	478	500	516	526	532	537	543	550	556	562	568
Wage Growth	(1.8)	(1.9)	(2.6)	(2.5)	(1.6)	(1.0)	(0.9)	(0.9)	(0.9)	(0.9)	(0.8)	(0.8)
Unemployment Rate	(2.8)	(2.6)	(2.5)	(2.4)	(2.4)	(2.5)	(2.5)	(2.5)	(2.6)	(2.6)	(2.6)	(2.6)
Change of Price												
Consumer Prices	(0.1)	(3.2)	(2.6)	(1.9)	(1.2)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)
GDP Deflator	(−0.2)	(0.6)	(3.0)	(1.3)	(0.6)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Nominal Long-term Interest Rate	(0.1)	(0.3)	(0.4)	(0.4)	(0.4)	(0.5)	(0.5)	(0.6)	(0.6)	(0.7)	(0.8)	(0.9)
Balance by Sector												
General Government	[−5.9]	[−4.8]	[−4.7]	[−0.5]	[−0.2]	[0.1]	[−0.1]	[−0.2]	[−0.4]	[−0.7]	[−0.7]	[−0.7]
Households	[5.8]	[3.4]	[2.4]	[2.2]	[2.2]	[2.2]	[2.2]	[2.1]	[2.0]	[2.0]	[2.0]	[2.0]
Corporations	[3.7]	[3.1]	[4.8]	[0.8]	[0.9]	[0.7]	[0.7]	[0.8]	[1.0]	[1.3]	[1.3]	[1.3]
Overseas	[−3.6]	[−1.7]	[−2.5]	[−2.5]	[−2.9]	[−3.0]	[−2.8]	[−2.7]	[−2.6]	[−2.6]	[−2.6]	[−2.6]

【Central and Local Governments' Public Finances】

(Excluding the expenditures and the fiscal resources for the recovery and reconstruction measures and GX measures)

[ratio to GDP, %], Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Primary Balance	− 30.4	− 27.8	− 27.7	− 4.8	− 2.3	− 0.2	− 0.1	− 0.4	− 0.9	− 1.3	− 1.7	− 2.4
(ratio to nominal GDP)	[−5.5]	[−5.0]	[−4.7]	[−0.8]	[−0.4]	[−0.0]	[−0.0]	[−0.1]	[−0.1]	[−0.2]	[−0.3]	[−0.4]
Central Government	− 35.6	− 30.7	− 33.0	− 11.3	− 9.7	− 8.4	− 8.1	− 7.9	− 8.2	− 8.4	− 8.6	− 9.1
(ratio to nominal GDP)	[−6.5]	[−5.5]	[−5.6]	[−1.9]	[−1.6]	[−1.4]	[−1.3]	[−1.3]	[−1.3]	[−1.3]	[−1.3]	[−1.4]
Local Government	5.2	2.9	5.3	6.5	7.4	8.2	8.0	7.6	7.3	7.1	6.9	6.7
(ratio to nominal GDP)	[0.9]	[0.5]	[0.9]	[1.1]	[1.2]	[1.3]	[1.3]	[1.2]	[1.2]	[1.1]	[1.1]	[1.1]
Fiscal Balance	− 36.5	− 33.7	− 33.4	− 9.0	− 6.2	− 4.2	− 4.5	− 5.1	− 5.9	− 6.6	− 7.4	− 8.6
(ratio to nominal GDP)	[−6.6]	[−6.0]	[−5.7]	[−1.5]	[−1.0]	[−0.7]	[−0.7]	[−0.8]	[−0.9]	[−1.0]	[−1.2]	[−1.3]
Central Government	− 40.7	− 35.4	− 37.6	− 14.5	− 12.6	− 11.5	− 11.6	− 11.9	− 12.4	− 13.0	− 13.6	− 14.6
(ratio to nominal GDP)	[−7.4]	[−6.3]	[−6.4]	[−2.4]	[−2.1]	[−1.9]	[−1.9]	[−1.9]	[−2.0]	[−2.1]	[−2.1]	[−2.3]
Local Government	4.2	1.7	4.3	5.5	6.4	7.2	7.1	6.7	6.5	6.3	6.2	6.0
(ratio to nominal GDP)	[0.8]	[0.3]	[0.7]	[0.9]	[1.1]	[1.2]	[1.1]	[1.1]	[1.0]	[1.0]	[1.0]	[0.9]
Outstanding Debt	1168.9	1199.9	1235.1	1243.8	1252.0	1259.8	1267.6	1276.1	1285.5	1295.8	1307.0	1319.5
(ratio to nominal GDP)	[212.3]	[213.5]	[210.6]	[206.9]	[205.3]	[204.7]	[204.5]	[204.3]	[204.6]	[205.1]	[205.7]	[206.6]
Central Government	994.7	1029.0	1069.1	1083.7	1098.4	1112.4	1126.3	1140.7	1155.6	1171.2	1187.5	1204.7
(ratio to nominal GDP)	[180.6]	[183.1]	[182.3]	[180.2]	[180.1]	[180.8]	[181.7]	[182.7]	[183.9]	[185.4]	[186.9]	[188.6]
Local Government	174.2	170.9	166.1	160.1	153.5	147.4	141.3	135.4	129.9	124.6	119.5	114.8
(ratio to nominal GDP)	[31.6]	[30.4]	[28.3]	[26.6]	[25.2]	[24.0]	[22.8]	[21.7]	[20.7]	[19.7]	[18.8]	[18.0]

【General Account of Central Government】

Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Expenditures	144.6	132.4	114.4	111.6	113.8	113.8	115.2	116.3	117.6	119.0	120.4	122.0
(Policy Expenditures)	120.5	108.9	89.5	87.0	88.4	88.0	88.7	89.2	90.0	90.7	91.4	92.2
Social Security-related Expenditures	50.2	43.9	36.9	37.6	38.3	38.7	39.2	39.7	40.2	40.6	41.0	41.4
Local Allocation Tax Grants, etc.	19.6	17.5	16.4	17.9	18.3	18.5	18.6	18.5	18.5	18.6	18.7	18.8
Others	50.3	47.1	35.8	31.2	31.4	30.4	30.5	30.7	30.9	31.1	31.3	31.6
Bond Expenditures	24.6	23.9	25.3	24.9	25.8	26.3	26.9	27.4	28.0	28.6	29.4	30.2
Debt Repayment	17.0	16.3	16.4	17.0	17.6	17.9	18.1	18.3	18.6	18.8	19.1	19.4
Interest Payment	7.2	7.1	8.5	7.5	7.7	8.0	8.4	8.7	9.1	9.4	9.9	10.4
Revenues	89.3	85.3	78.8	80.0	81.4	82.2	83.3	83.8	84.3	84.8	85.3	85.8
Tax Revenue	67.0	71.1	69.4	72.0	73.4	74.1	74.6	75.1	75.5	75.9	76.3	76.7
Other Revenues	22.2	14.2	9.3	8.0	8.0	8.1	8.6	8.7	8.8	8.9	9.0	9.1
Primary Balance in General Account of Central Government	− 31.2	− 23.6	− 10.8	− 7.0	− 6.9	− 5.8	− 5.4	− 5.4	− 5.7	− 5.9	− 6.1	− 6.4

【Ordinary Account of Local Government】

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Expenditures	122.4	106.7	100.2	103.9	105.6	104.7	105.4	105.9	106.4	106.9	107.5	108.1
Debt Repayment and Interest Payment	12.6	11.4	11.3	11.5	12.2	12.1	12.0	11.9	11.5	11.2	10.9	10.7
Revenues	109.1	95.4	90.0	94.4	96.0	95.5	96.1	96.4	96.9	97.5	98.1	98.7
Tax Revenue	44.8	46.7	46.5	48.4	49.3	49.7	50.0	50.4	50.7	50.9	51.2	51.5
Primary Balance in Ordinary Account of Local Government	4.6	3.9	4.9	6.0	6.5	7.2	7.0	6.5	6.2	6.0	5.8	5.5

Notes 1. In "General Account of Central Government", FY2021 is based on the Settlement, FY2022 is based on theProvisional FY2022 Settlement, and FY2023 is based on the FY2023 Budget. In "Ordinary Account of Local Government," FY2021 is based on the Settlement.

2. "Policy Expenditures" is General Account Expenditures excluding interest payments, redemption of the national debt (excluding subsidy bonds) and carry-back of settlement deficit compensation.

3. Debt Repayment in Bond Expenditures excludes subsidy bonds.

4. In "General Account of Central Government," "Other Revenues" in FY2021 and FY2022 consist of non-tax revenues and preceding fiscal year surplus received (around 44.7 trillion yen in FY2021 and around 32.1 trillion yen in FY2022) excluding the balance of fiscal resources carried forward to the next year (around 22.4 trillion yen in FY2021 and around 18.0 trillion yen in FY2022).

5. In "Ordinary Account of Local Government," "Revenues" excludes local bonds, reduction of reserve, and the balance of fiscal resources carried forward from total revenues. "Tax Revenue" is the total sum of local taxes and local transfer taxes.

【Central and Local Governments' Public Finances】

（Including the expenditures and the fiscal resources fo the recovery and reconstruction measures and GX measures）

Economic Growth Achieved Case

(%), [ratio to GDP, %], Trillions of Yen

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Primary Balance	− 30.4	− 28.2	− 28.7	− 6.5	− 2.9	0.8	2.8	4.4	6.2	7.9	9.6	11.3
(ratio to nominal GDP)	[−5.5]	[−5.0]	[−4.9]	[−1.1]	[−0.5]	[0.1]	[0.4]	[0.7]	[0.9]	[1.1]	[1.3]	[1.5]
Central Government	− 35.6	− 31.2	− 34.0	− 13.1	− 11.0	− 8.9	− 7.8	− 6.8	− 6.0	− 5.3	− 4.6	− 3.9
(ratio to nominal GDP)	[−6.5]	[−5.6]	[−5.8]	[−2.2]	[−1.8]	[−1.4]	[−1.2]	[−1.0]	[−0.9]	[−0.7]	[−0.6]	[−0.5]
Local Government	5.2	2.9	5.3	6.6	8.1	9.7	10.6	11.2	12.2	13.2	14.3	15.2
(ratio to nominal GDP)	[0.9]	[0.5]	[0.9]	[1.1]	[1.3]	[1.5]	[1.6]	[1.7]	[1.7]	[1.8]	[1.9]	[2.0]
Fiscal Balance	− 36.5	− 34.1	− 34.4	− 10.7	− 6.8	− 3.3	− 2.0	− 1.3	− 0.9	− 1.0	− 1.3	− 2.2
(ratio to nominal GDP)	[−6.6]	[−6.1]	[−5.9]	[−1.8]	[−1.1]	[−0.5]	[−0.3]	[−0.2]	[−0.1]	[−0.1]	[−0.2]	[−0.3]
Central Government	− 40.8	− 35.9	− 38.7	− 16.3	− 14.0	− 12.2	− 11.7	− 11.8	− 12.4	− 13.6	− 15.0	− 16.9
(ratio to nominal GDP)	[−7.4]	[−6.4]	[−6.6]	[−2.7]	[−2.3]	[−1.9]	[−1.8]	[−1.7]	[−1.8]	[−1.9]	[−2.0]	[−2.2]
Local Government	4.3	1.8	4.3	5.6	7.2	8.8	9.7	10.5	11.6	12.6	13.7	14.7
(ratio to nominal GDP)	[0.8]	[0.3]	[0.7]	[0.9]	[1.2]	[1.4]	[1.5]	[1.5]	[1.7]	[1.7]	[1.8]	[1.9]
Outstanding Debt	1174.9	1206.6	1242.0	1252.6	1262.1	1270.1	1277.7	1285.6	1295.0	1306.2	1319.5	1335.4
(ratio to nominal GDP)	[213.4]	[214.7]	[211.8]	[208.3]	[204.8]	[200.0]	[194.9]	[189.9]	[185.2]	[181.0]	[177.2]	[173.8]
Central Government	1000.2	1035.3	1075.6	1092.2	1108.2	1122.8	1136.9	1151.2	1166.6	1183.3	1201.7	1222.2
(ratio to nominal GDP)	[181.6]	[184.3]	[183.4]	[181.6]	[179.8]	[176.8]	[173.4]	[170.0]	[166.9]	[164.0]	[161.4]	[159.1]
Local Government	174.7	171.3	166.4	160.5	153.9	147.3	140.8	134.4	128.4	122.9	117.8	113.1
(ratio to nominal GDP)	[31.7]	[30.5]	[28.4]	[26.7]	[25.0]	[23.2]	[21.5]	[19.8]	[18.4]	[17.0]	[15.8]	[14.7]

Baseline Case

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
Primary Balance	− 30.4	− 28.2	− 28.7	− 6.5	− 4.0	− 1.7	− 1.6	− 1.9	− 2.4	− 2.8	− 3.2	− 3.9
(ratio to nominal GDP)	[−5.5]	[−5.0]	[−4.9]	[−1.1]	[−0.7]	[−0.3]	[−0.3]	[−0.3]	[−0.4]	[−0.4]	[−0.5]	[−0.6]
Central Government	− 35.6	− 31.2	− 34.0	− 13.1	− 11.4	− 9.9	− 9.6	− 9.4	− 9.7	− 9.9	− 10.1	− 10.6
(ratio to nominal GDP)	[−6.5]	[−5.6]	[−5.8]	[−2.2]	[−1.9]	[−1.6]	[−1.5]	[−1.5]	[−1.5]	[−1.6]	[−1.6]	[−1.7]
Local Government	5.2	2.9	5.3	6.6	7.4	8.2	8.0	7.6	7.3	7.1	6.9	6.7
(ratio to nominal GDP)	[0.9]	[0.5]	[0.9]	[1.1]	[1.2]	[1.3]	[1.3]	[1.2]	[1.2]	[1.1]	[1.1]	[1.1]
Fiscal Balance	− 36.5	− 34.1	− 34.4	− 10.7	− 7.9	− 5.8	− 6.0	− 6.7	− 7.5	− 8.3	− 9.1	− 10.2
(ratio to nominal GDP)	[−6.6]	[−6.1]	[−5.9]	[−1.8]	[−1.3]	[−0.9]	[−1.0]	[−1.1]	[−1.2]	[−1.3]	[−1.4]	[−1.6]
Central Government	− 40.8	− 35.9	− 38.7	− 16.3	− 14.3	− 13.0	− 13.2	− 13.5	− 14.0	− 14.6	− 15.2	− 16.2
(ratio to nominal GDP)	[−7.4]	[−6.4]	[−6.6]	[−2.7]	[−2.3]	[−2.1]	[−2.1]	[−2.2]	[−2.2]	[−2.3]	[−2.4]	[−2.5]
Local Government	4.3	1.8	4.3	5.6	6.5	7.3	7.1	6.7	6.5	6.3	6.2	6.0
(ratio to nominal GDP)	[0.8]	[0.3]	[0.7]	[0.9]	[1.1]	[1.2]	[1.1]	[1.1]	[1.0]	[1.0]	[1.0]	[0.9]
Outstanding Debt	1174.9	1206.6	1242.0	1252.6	1262.7	1272.3	1281.9	1292.1	1303.3	1315.4	1328.5	1342.7
(ratio to nominal GDP)	[213.4]	[214.7]	[211.8]	[208.3]	[207.0]	[206.8]	[206.8]	[206.9]	[207.5]	[208.2]	[209.1]	[210.2]
Central Government	1000.2	1035.3	1075.6	1092.2	1108.8	1124.6	1140.3	1156.4	1173.1	1190.5	1208.6	1227.7
(ratio to nominal GDP)	[181.6]	[184.3]	[183.4]	[181.6]	[181.8]	[182.8]	[183.9]	[185.2]	[186.7]	[188.4]	[190.2]	[192.2]
Local Government	174.7	171.3	166.4	160.5	153.8	147.7	141.6	135.8	130.2	124.9	119.8	115.1
(ratio to nominal GDP)	[31.7]	[30.5]	[28.4]	[26.7]	[25.2]	[24.0]	[22.8]	[21.7]	[20.7]	[19.8]	[18.9]	[18.0]

(Notes)

1. "Consumer Price" refers to the general index (nationwide).

2. "Per Capita Real GDP Growth" is the change rate of the real GDP divided by the total population. "Per Employee Wage Growth" is the change rate of the total wages and salaries divided by the total employees.

3. "Balance by Sector" represents "Net lending/net borrowing" in the System of National Accounts (hereinafter "SNA"). Balance by Sector of Households includes NPISHs (non-profit institutions serving households). Balance by Sector of Corporations includes statistical discrepancies.

4. "Fiscal Balance" (hereinafter "FB") of the central and local governments represents "Net lending/net borrowing" in the SNA. "Primary Balance" (hereinafter "PB") equals FB minus net receivable interest (receivable interest [excluding FISIM] minus payable interest [excluding FISIM]). The PBs of both the central and local governments include some special accounts in addition to the general account. Although the debt repayments and interest payments of the Special Account for the Local Allocation and Local Transfer Tax (hereinafter SALALTT) are classified as central government in SNA, in accordance with their contributions, here they are divided into central and local governments.

   It should be noted that the PB in the "General Account of Central Government" equals the sum of "Tax Revenue" and "Other Revenues" minus "General Account Expenditure Excluding Debt Repayment and Interest Payment." The PB in the "Ordinary Account of Local Government" equals "Revenues" minus "Expenditure" excluding "Debt Repayment and Interest Payment" and "Reserves."

5. The figures for "Balance by Sector" for the general government and the FB and the PB of the central and local governments exclude the transfer of debts from the Japan Expressway Holding and Debt Repayment Agency to the general account in FY2008 and the payment from the Japan Expressway Holding and Debt Repayment Agency to the general account in FY2011 as one-off factors.

6. "Outstanding Debt" is the sum of general bonds, local government bonds, and borrowing in SALALTT. The central government's share of the borrowing allocated to the general account in FY2007 is included under outstanding debt in order to maintain the continuity of indices. Borrowing in SALALTT is included in outstanding debt of the local government.

7. The amount of "the expenditures and the fiscal resources for GX measures" refers to the expenditures eligible for the issuance of "Decarbonized Growth-Oriented Economic Structure Transition Bonds," which are funded by future financial resources obtained through carbon pricing, and the fiscal resources for its reimbursement.

8. The amount of "the expenditures and the fiscal resources for the recovery and reconstruction measures" is the amount of expenditures for recovery and reconstruction from the Great East Japan Earthquake that exceeds the transfer from the general account, which is compensated for by the reduction of other existing expenditures, and is securely financed by such fiscal resources as reconstruction bonds, securing further non-tax revenues, and special taxation for reconstruction, and the amount of the above fiscal resources.

   Based on the "Act on Special Measures Concerning the Handling of Environment

Pollution by Radioactive Materials Discharged by the NPS Accident Associated with the Tohoku District – Off the Pacific Ocean Earthquake That Occurred on March 11, 2011" (date of promulgation: August 30, 2011), the expenditure concerning the decontamination and interim storage facility project that has been reimbursed from Tokyo Electric Power Company (hereinafter "TEPCO") also includes the expenditures for the recovery and reconstruction measures, deemed to ensure the corresponding resources, considering the progress of payment from TEPCO.

(Appendix 1) Detailed Assumptions

The future population is based on the National Institute of Population and Social Security Research's "Population Projections for Japan" (estimated in 2023) with the births (deaths) median estimates of total population (including foreigners in Japan). The economic growth rate and inflation rate, etc. are based on the "Annual Report on National Accounts for 2021," etc. until FY2021, and the "Quarterly Estimates of GDP for January-March 2023 (Second Preliminary)," etc. for FY2022, the "Mid-year Economic Projection for 2023 (July 20, 2023, submitted to the Council on Economic and Fiscal Policy)," etc. for FY2023 and FY2024.

(1) Macroeconomy

Baseline Case

a) Total Factor Productivity (TFP) Growth Rate

-The TFP growth rate stays around 0.5%. (Average from Oct-Dec 2012 to Apr-Jun 2020 (16th business cycle)).

b) Labor Force

<Labor Force Participation (LFP) Rate>

- The LFP rate shifts gradually based on the estimates of labor supply and demand for the "case in which economic growth and labor participation are partly achieved" shown by the "Labor Policy Study Group" (January 15, 2019) (for example, the LFP rate among females aged 25-44 gradually rises from around 82 % in FY2022 to 90% in FY2032, the LFP rate among males aged 65-69 gradually rises from around 63% in FY2022 to 66% in FY 2032, and the LFP rate among females aged 65-69 gradually rises from around 42% in FY2022 to 49% in FY2032).

c) World Economy, etc.

< Real GDP Growth Rate of World Economy (considering the export shares from Japan [10 major destination countries])>

-The growth rate moves at around 2.9% to 3.1% annually from FY2025 to FY2028, based on the "World Economic Outlook" (WEO) by the IMF (April 2023). From FY2029 onward, it remains constant, at around 2.9%.

< Inflation Rate (considering the export shares from Japan [10 major destination countries])>

-The inflation rate moves at around 1.9% to 2.0% annually from FY2025 to FY2028, based on the WEO (April 2023). From FY2029 onward, it remains constant, at around 2.0%.

<Crude Oil Prices>

-Based on the assumptions of the Cabinet Office's "Mid-year Economic Projection for FY2023," constant from FY2024 onward ($81.3 per barrel).

Economic Growth Achieved Case

Differences from the "Baseline Case" are as follows:

a) TFP Growth Rate

-The TFP growth rate reaches around 1.4 %, the average for the period before the Japanese economy entered the deflationary situation (April-June 1980 to January-March 1999).

b) Labor Force

< Labor Force Participation (LFP) Rate >

-The LFP rate shifts gradually based on the estimates of labor supply and demand for the "case in which economic growth and labor participation are achieved" shown by the "Labor Policy Study Group" (January 15, 2019) (for example, the LFP rate among females aged 25-44 gradually rises from around 82% in FY2022 to 91% in FY2032, the LFP rate among males aged 65-69 gradually rises from around 63% in FY2022 to 70% in FY2032, and the LFP rate among females aged 65-69 gradually rises from around 42% in FY2022 to 53% in FY2032).

(2) Revenue

- Tax revenues of the general account of the central government in FY2021 reflect the "FY2021 Settlement," those in FY2022 reflect the "Provisional FY2022 Settlement" and those in FY2023 reflect the "FY2023 Budget."
- For central and local revenues, the underlying trends based on the "Provisional FY2022 Settlement" and current economic trends are considered.
- Based on the "the Act to Partially Amend the Income Tax Act and Others" (Act Number 3, 2023), and other sources, the legislated tax system is assumed to continue.
- Based on the "Act on Special Measures for Securing Fiscal Resources Necessary to Implement Measures for Reconstruction Following the Great East Japan Earthquake" (Act Number 117, 2011) and the "Act on Temporary Special Provision on Local Tax to Secure Necessary Fiscal Resources for Local Governments to Implement Policies for Disaster Prevention Related to Recovery from the Great East Japan Earthquake" (Act Number 118, 2011), the projections reflect the implementation of the special tax for reconstruction and the rise in the individual inhabitant tax on a per capita basis. The tax rate cut in the special income tax for reconstruction and the extension of its taxable period along with securing fiscal resources for the implementation of defense capability buildup are not assumed, as its implementation period etc. are not decided.

(3) Expenditures

- The expenditures of the general account of the central government in FY2021 reflect the "FY2021 Settlement," those in FY2022 reflect the "Provisional FY2022 Settlement," and those in FY2023 reflect the "FY2023 Budget."
- The expenditures for FY2024, taking into account trends in prices and wages, and the expenditure reform effort thus far, and excluding factors such as the population aging consequently, are calculated mechanically with a reduction in expenditure growth by about half of the amount that the expenditure reform effort could curve if it is continued.
  - From FY2025, social security expenditures increase, reflecting the population aging and price and wage developments, and other expenditures (excluding the expenditures explained below in the specific period for the defense capability buildup and the national resilience) increase along with the inflation rate (constant in real terms).
- The additional expenditures of two trillion yen are assumed in FY2024 and FY2025 respectively, based on "Five-Year Acceleration Measures for Disaster Risk Reduction, and National Resilience" and the implementation progress of its budgets in the past.
  - Social security expenditures reflects the "Act to Partially Amend the National Pension Act and Others to Enhance National Pension System" (Act Number 40, 2020), and the "Act to Partially Amend the Health Insurance Act and Others to Build Social Security System Oriented to All Generations" (Act Number 66, 2021), the "Act Partially Amending the Health Insurance Act and Other Act in Order to Establish a Sustainable Social Security System That Covers to All Generations" (Act Number 31, 2023).

- The series of social security-related expenditures is endogenously obtained within the "Economic and Fiscal Model" based on future demographics and macroeconomic dynamics. Considerable leeway should be given when interpreting the projections since the series is significantly affected by policies and other external factors.
- The additional expenses and financial resources for the measures to counter declining birthrates based on the "Children's Future Strategic Policy" (Cabinet Decision, June 13, 2023) are not incorporated in this projection, as the specific details and scale of these measures are expected to become clear during the future budget compilation process.

(4) Assumptions on the Expenditures and Financial Resources for the Implementation of Defense Capability Buildup

- Based on the "Defense Buildup Program" (Cabinet Decision, December 16, 2022) etc., the assumptions are as follows:
- The total expenditures for the necessary level of defense capability buildup for five years from FY2023 to FY2027 amount to around 43 trillion yen. The expenditures in FY2023 reflect around 6.6 trillion yen of the FY2023 Budget, those in FY2027 are around 8.9 trillion yen based on the program, and those from FY2024 to FY2026 are allocated around 8.9 trillion yen in each year. The rest of those is added to the expenditures in FY2023 (only in the "Central and Local Governments' Public Finances"). From FY2028 onward, the expenditures increase along with the inflation rate, in line with other general expenditures.
- For financial resources related to the program, the necessary measures will be taken to secure financial resources for the additional expenditures of the annual defense budgets for five years from FY2023 to FY 2027 (around 40.5 trillion yen in total). The measures include reform of expenditures, utilization of settlement surplus, creation of defense capability reinforcement funds utilizing non-tax revenue, and tax measures (not all of the non-tax revenue, including the new funds, in the FY2023 Budget are included in the calculation of the primary balance of central and local governments). The FY2023 Budget is reflected and the rest of the financial resources is allocated from FY2024 to FY2027, so that the financial resources for each year are linked to the additional expenditures of the annual defense budgets. All of the financial resources are added to the Other Revenues In the General Account of the central government without assuming any breakdown (in the "Central and Local Governments' Public Finance," the ratio of the financial resources which are not included in the calculation of the primary balance is taken into consideration). The financial resources are counted as those for the year in which they are generated, based on the rule of the SNA. From FY2028 onward, the necessary measures will be assumed to be taken, as in FY2027.

(5) Assumptions on the Expenditures and Financial Resources for the Implementation of GX

- Based on the "Basic Policy for Realization of GX" (Cabinet Decision, February 10, 2023) and the "Law on Promotion of Smooth Transition to a Decarbonized Growth-Oriented Economic Structure" (Law No. 32, 2023), the assumptions are as follows:
- The total expenditures of around 20 trillion yen will be budgeted in the Special Account for energy measure for the 10 years from FY2023 to FY2032. As for the allocation to each year, the expenditures excluding 1.6 trillion yen of FY2022 and FY2023 are equally allocated to each of remaining years.
- The expenditure that amounts to around 20 trillion yen is assumed to be financed by issuing "Decarbonized Growth-Oriented Economic Structure Transition Bonds" funded by future financial resources through carbon pricing. While the Basic Policy includes the introduction of the fossil fuel surcharge as carbon pricing in FY2018, this projection does not incorporate the scheme since its specific volume is yet to be clear.

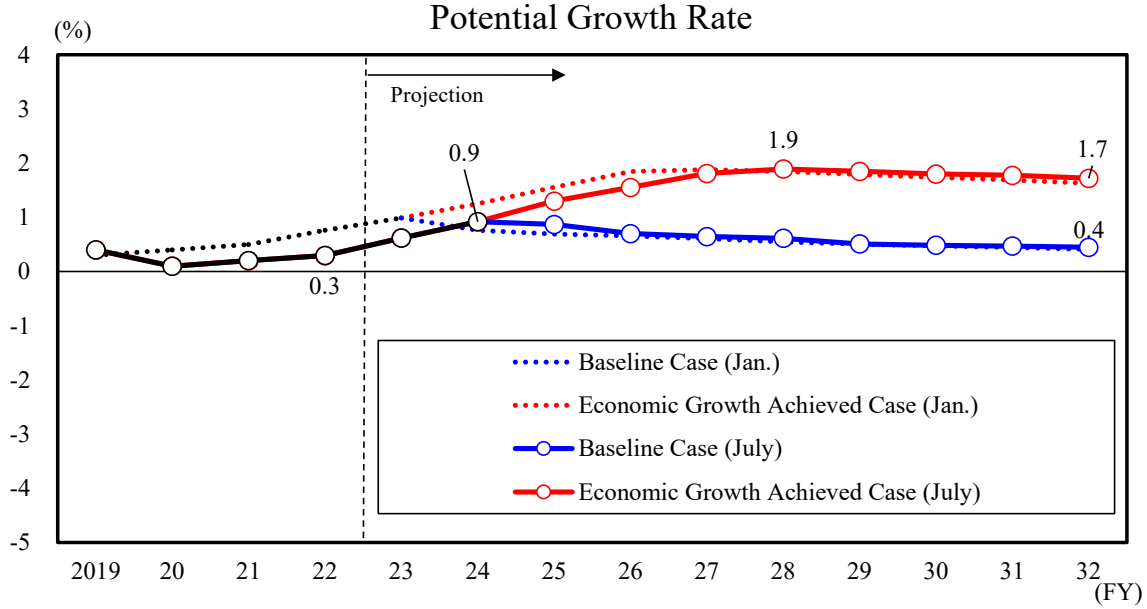
- The "Decarbonized Growth-Oriented Economic Structure Transition Bonds" are to be redeemed by FY2050 with the future financial resources secured from carbon pricing. Since this framework is designed to be balanced by expenditures and financial resources neutrally on a multi-year basis, the figures in the "Central and Local Governments' Public Finances" exclude the expenditures and the fiscal resources for GX measures (specifically, the figures exclude the expenditures and the fiscal resources for both recovery and reconstruction measures and GX measures; the figures including the amount of these expenditures and financial resources are also shown separately).

(6) Assumptions on the Expenditures and Financial Resources for Recovery and Reconstruction from the Great East Japan Earthquake

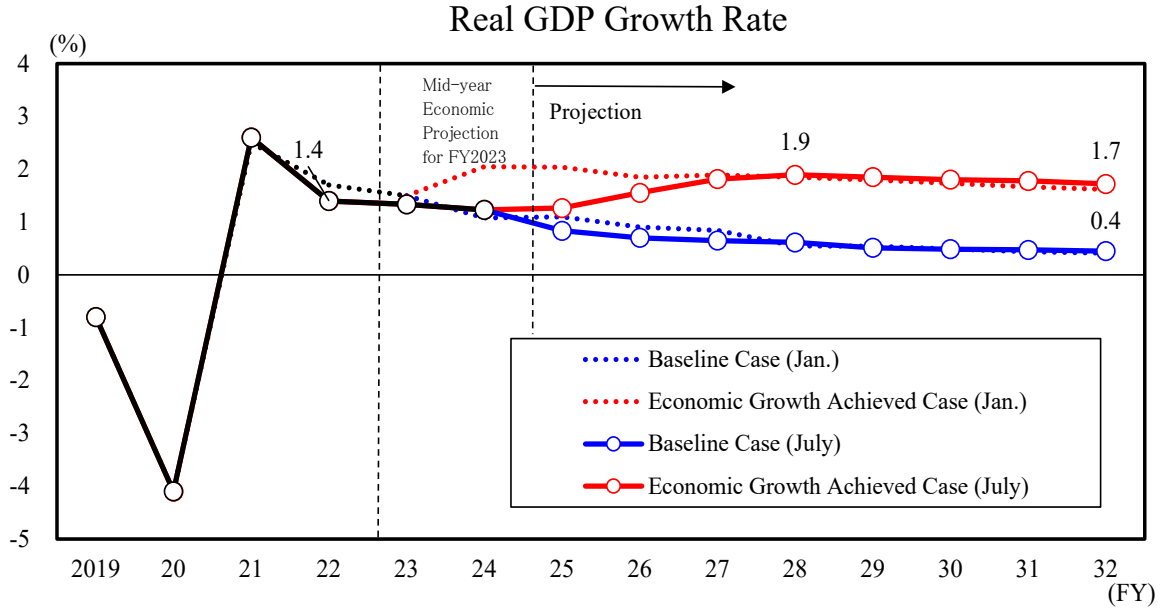
- Expenditures are assumed at around 31.3 trillion yen until FY2020 and around 1.6 trillion yen in five years from FY2021, based on the "Recovery and Reconstruction Work for the Five-Year Period Starting in FY2016" (Reconstruction Promotion Conference Decision, June 24, 2015), the "Scale and Funding Sources for Recovery and Reconstruction Work during the Reconstruction including the Five-Year Period Starting in FY2016" (Cabinet Decision, June 30, 2015), the "Reconstruction Efforts from FY2021" (Decision by the Reconstruction Promotion Council, July 17, 2020) and others.
- In the projections, it is assumed that around 32.9 trillion yen of revenue resources will be secured by the special tax for reconstruction, a reduction of expenditures, non-tax revenues and others based on the "Basic Guidelines for the Third Supplementary Budget in FY2011 and the Fiscal Resources for Reconstruction" (Cabinet decision, October 7, 2011), the "Scale and Funding Sources for Recovery and Reconstruction Work from Now On" (Reconstruction Promotion Conference Decision, January 29, 2013), the "Recovery and Reconstruction Work for the Five-Year Period Starting in FY2016" (Reconstruction Promotion Conference Decision, June 24, 2015), the "Scale and Funding Sources for Recovery and Reconstruction Work during the Reconstruction including the Five-Year Period Starting in FY2016" (Cabinet Decision, June 30, 2015), the "Reconstruction Efforts from FY2021" (Decision by Reconstruction Promotion Council, July 17, 2020) and others. The tax rate cut in the special income tax for reconstruction and the extension of its taxable period along with securing fiscal resources for the implementation of defense capability buildup are not assumed, as its implementation period etc. are not decided.
- The expenditure concerning the decontamination and interim storage project facility which will be reimbursed from TEPCO and the actual payment corresponding to it are assumed to be approximately 5.8 trillion yen in total, based on the "Basic Guideline for Accelerating the Reconstruction of Fukushima from the Nuclear Disaster" (Cabinet Decision, December 20, 2016), and the pattern of expenditure and revenue is assumed based on the progress of implementation and payment to date.

(Appendix 2) Comparison with the Previous Projection

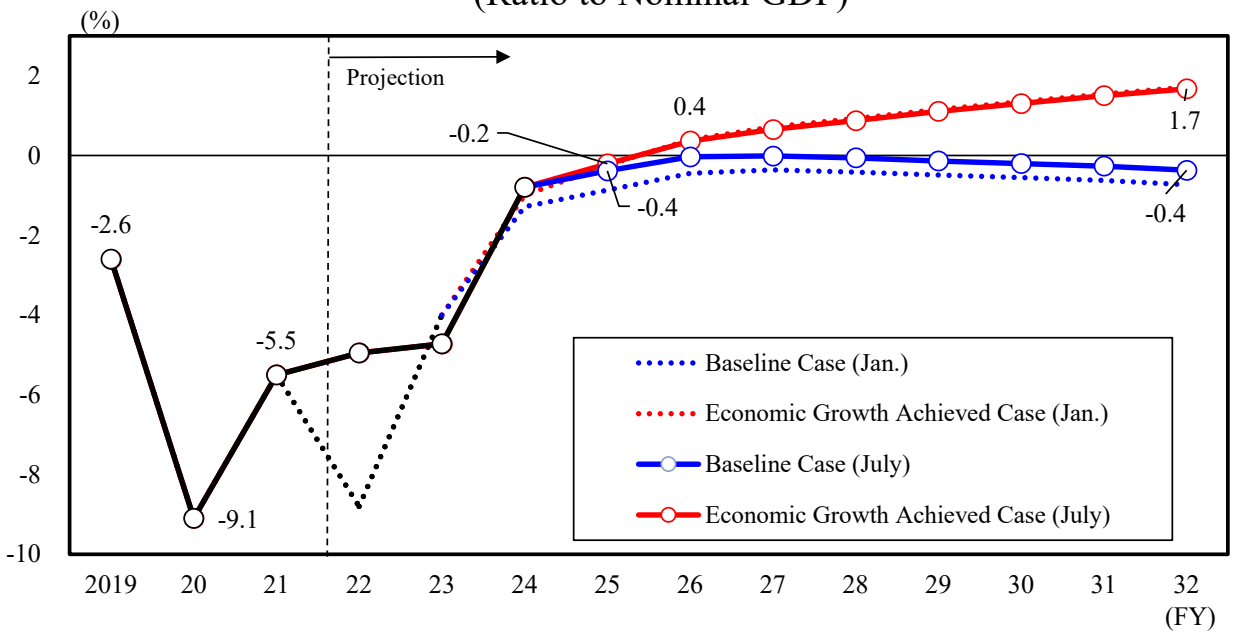
Potential Growth Rate



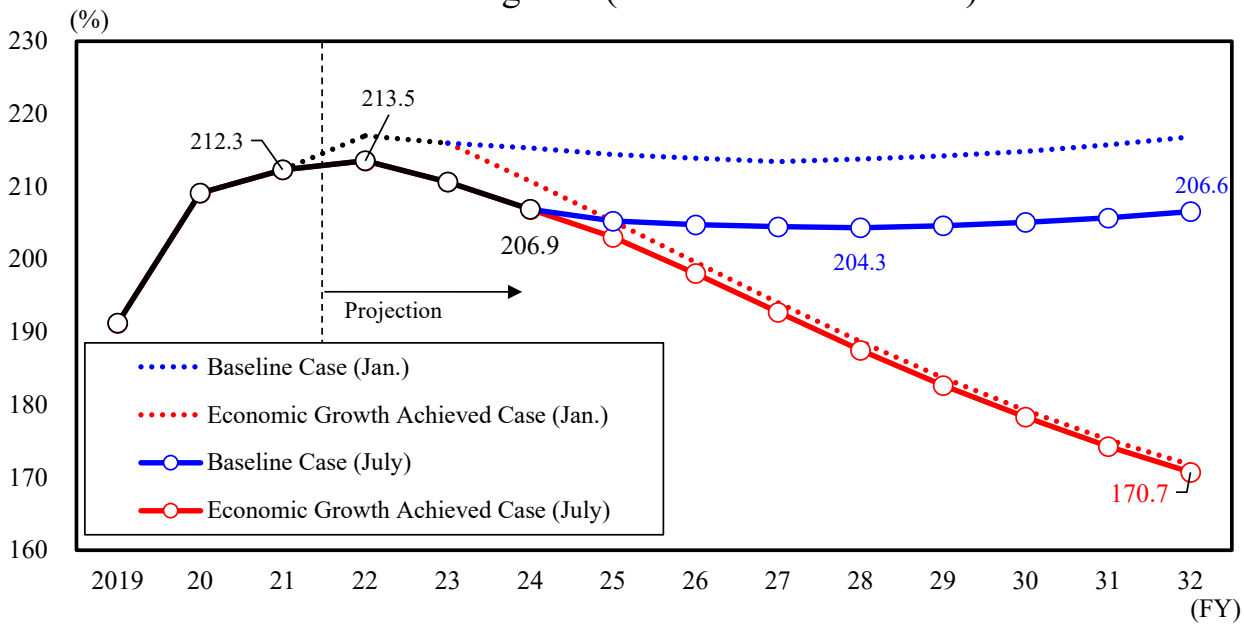
Real GDP Growth Rate



Primary balance of Central and Local Governmnet Combined (Ratio to Nominal GDP)



Outstanding debt (Ratio to Nominal GDP)



(Appendix 3) Comparison with private sector forecasts

Below is the comparison of this projection with the average of domestic economists' forecasts. As for real GDP growth after FY2025, the Baseline Case is about the same as the average, while the Economic Growth Achieved Case is higher than the higher average.

As for the consumer price inflation rate after FY2025, the Baseline Case is the same as the lower average, while the Economic Growth Achieved Case is the same as the higher average.

Real GDP Growth rate

（FY, app.%）

		2023	24	25-29 average	30-34 average
Cabinet office "Medium to Long Term Analysis" ※until 2032	Baseline Case	1.3	1.2	0.7	0.5
	Economic Growth Achieved Case	1.3	1.2	1.7	1.8
Privete Sector Forcasts (ESP Forecast)	Lower Average	0.8	0.7	0.5	0.2
	Average	1.2	1.1	0.8	0.6
	Higher Average	1.5	1.4	1.2	1.0

Change of Consumer Price

（FY,app.%）

		2023	24	25-29 average	30-34 average
Cabinet office "Medium to Long Term Analysis" ※until 2032	Baseline Case	2.6	1.9	0.8	0.7
	Economic Growth Achieved Case	2.6	1.9	2.0	2.0
Privete Sector Forcasts (ESP Forecast)	Lower Average	2.3	1.0	0.7	0.5
	Average	2.6	1.7	1.3	1.3
	Higher Average	2.9	2.3	2.0	2.0

(Notes) FY2023 and FY2024 private-sector forecasts are based on the Japan Center for Economic Research's "ESP Forecast Survey" (July 2023); FY2025-29 and FY2030-34 are based on long-term forecasts from the same survey (June 2023). Lower and higher averages are averages of the lowest 8 forecasters and those of the highest 8 forecasters of about 40 forecasters, respectively. Consumer Price of ESP Forecast Survey is a composite series excluding fresh food.

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