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Germany and Japan 2.0

Addressing Common Challenges at a Global Inflection Point

Speech at Deutsche Bundesbank Frankfurt am Main

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Hiroshi Nakaso
Chairman of the Institute
Daiwa Institute of Research Ltd.

Introduction

I am very honored to be with you here today at the Bundesbank, one of the most esteemed central banks in the world. I am particularly grateful to Joachim Nagel, my longstanding comrade in the central banking community, and with whom I fought the Global Financial Crisis (GFC) together, for giving me this wonderful opportunity.

My topic today is "Germany and Japan." I delivered a speech under the same title in January 2018 in Berlin. My theme back then was that although Germany and Japan were "Ferne Gefährten (distant companions)", we could work closer together to achieve another Wirtschaftswunder (economic wonder) just as we both did in the past, transforming our nations into economic powers from the rubbles of World War II.

But in reality in 2018, Japan was still struggling to get out of the deep woods of the lost decades symbolized by persistent deflation since the asset bubble burst in the early 1990s. Now, Japan is finally back. In the meantime, we are in a challenging time perhaps undergoing an inflection point. For this reason, I think we need to work closer than ever to obtain collective wisdom to navigate the new challenging global environment. This is my theme today and that is why I added "2.0" to the title.

1. Significance of Structural Reform

Trends in Potential Growth Rates of Germany and Japan

To start with, by way of looking back our track record, **Chart 1** compares movements in potential growth rates of Japan and Germany since the 1980s. At a glance, we can see in common a prolonged downward trend shown in solid black lines. But contributing factors shown in bars tell us some differences.

There are three points. First, during the 1990s Japan saw a secular decline. It was primarily driven by a sharp contraction in capital stock (shown in pink), because under deflation, corporate firms preferred

Note: The charts referenced in the main text as Chart 1, Chart 2, etc., correspond to the slides appended at the end of this report. Specifically, Chart X refers to page X of the slide deck. As the slides do not include chart numbers in their titles, please refer to the charts by matching their page numbers.

sitting on cash to investing. This contrasts with Germany where, during the same period, the potential growth rate rose robustly reaping the benefits of globalization unleashed by détente and the fall of Berlin Wall.

Second, Germany preceded Japan in experiencing the downward demographic pressure on growth (shown in green). The negative contribution of labor input in both countries is attributed to declining labor force and shorter working hours.

Third, in recent years in Japan, improvements in total factor productivity (TFP, in blue) are contributing to the recovery of potential growth rate, while Germany seems to be constrained by a continuous erosion in TFP.

Structural Reforms to improve Labor Productivity

I think the experiences in both Japan and Germany argue in favor of structural reforms to sustain economic growth. The chart in **Chart 2** illustrates the urgency of structural reforms by focusing on Japan's experience. Here, Japan's real GDP growth rate is decomposed into labor productivity growth and rate of change in the number of employed persons, or labor input more broadly. We can see from the chart that during the 1980s, robust economic expansion was supported by strong productivity growth and a growing workforce. Over time, however, both factors have declined steadily. with labor force contribution turning negative in the 2000s.

Although the 2010s saw a temporary increase in labor input, this trend is unlikely to continue. Going forward, the demography predicts an increasingly negative contribution of labor input to growth. It is obvious from the chart that this must be more than offset by improvement in labor productivity if the Japanese economy is to maintain positive growth. What this chart suggests more broadly is that, for any country with a shrinking population including Germany, structural reforms aimed at improving labor productivity should be given high policy priority.

As our analysis on Japan's case indicates, labor productivity and labor input are the two supply-side factors that determine economic growth. Let us now see how these factors performed in Japan and Germany. The charts in **Chart 3** offer comparison of labor productivity among G7 economies. The graph on the left compares the level of productivity as of 2023. Here the US productivity level is given as the benchmark at 100. Germany ranks among the highest. Meanwhile, Japan's productivity level is only around 60% of the top leading countries, due mostly to the legacy of stagnant capital expenditure and innovation during the deflation years. This implies that there is a lot more Japan can do to catch up and fill the gap.

As a matter of fact, the chart on the right shows that Japan is quickly catching up achieving one of the highest productivity growth rates in the past two decades. I think Japan's relatively high productivity growth has much to do with the acute labor shortage that Japan has faced against the backdrop of a declining labor force. We know our manufacturing companies are competitive on a global standard. So presumably, Japan's productivity gains are achieved mainly in the services industries through a wider use of automation and advanced digital technologies (DX).

Structural Reforms to increase Labor Input

Now, I move on to **Chart 4** to have a closer look at detailed decomposition of labor input, which is one the supply-side factors that drives economic growth. The comparison between Japan and Germany over the past two decades reveals that both economies were constrained by declining population and shorter working hours. In the first decade (2005~2014), as you see in the left panel, Germany overcame the constraints by reducing unemployment (in White) and increasing the labor force participation rate (in

blue). The combined positive effects more than offset the negative contributors. Japan in the next decade (after 2015), as seen in the right pane, followed Germany's path with the same combination of lower unemployment and higher labor participation.

Japan's higher labor participation rate is much attributed to Former Prime Minister Shinzo Abe's structural reform policies or growth strategy. He championed the policy of Womenomics, which aimed to increase the number of women in leadership positions and expand overall female participation in the workforce. Complementing this was the Work Style Reform, which revised labor laws to improve parental leave, expand childcare services (e.g. building more nurseries), and promote flexible work arrangements. Meanwhile, elderly employment has also been encouraged through gradual increases in the retirement age and various reemployment support measures.

The achievement appears clearly in the charts in **Chart 5**. The two graphs in the row on the left side show changes in labor participation rates across different age groups over the past three decades in Japan. The upper left panel shows that elderly males today stay in workforce longer than at any time before. The lower left panel shows not only an across-the-board upward shift in female labor participation, but also a dramatic rise in the participation rate of the younger female generation (typically working mothers) between 25-34 years of age. As a result, the notorious "M-shaped" curve is now completely gone.

The charts on the right provide cross-country comparisons by gender in 2023. The upper right graph indicates that Japanese men today are retiring later than anyone else in other countries. The lower right chart shows around 80% of Japanese women work today. This is higher than in the US, on a par with Germany, if not as high as in Sweden. The higher labor participation in Germany and Japan certainly helped mitigate negative pressure on growth. But the room for additional increase now seems to be largely exhausted.

Going forward, demography doesn't appear optimistic. As the left panel in **Chart 6** shows, Japan has already entered what is called a "population onus society," in which the working age population declined at a faster pace than the total population. Germany, shown on the right, is a little more complex but seems to be heading the same direction.

Therefore, the only option left open for Japan to alleviate constraints on labor input is to explore the possibility of inviting more foreign workers. The graph in **Chart 7** shows the number of foreign workers in Japan has kept growing to reach 2.3 million in 2024. According to our calculation, by doubling the annual net increase from 150 thousand to 270 thousand, we can push up the level of GDP by 4% by 2040. In this case, the total number of foreign workers will reach 6.4 million, accounting for 9% of the total workforce in 2040.

For Germany, which has long pursued this path, the corresponding number is as high as 20%. I am aware of social issues that accompanied this trend. Therefore, we are keen to learn from Germany's experience in identifying a system for fostering and employing foreign workers that best meets the requirement of our economy and society. I believe a balanced combination of foreign workforce and improvement in labor productivity is necessary.

2. Monetary Policy

Policy rate hikes

Let me touch upon Japan's monetary policy. The graph in **Chart 8** compares policy rates in Japan, the US and Euro Area. As you see, the Bank of Japan (BOJ) was the first major central bank to be constrained by the "Zero Lower Bound" as early as around the turn of the century. The BOJ was a lonely forerunner that invented various sorts of so-called unconventional monetary policies including forward guidance, quantitative easing, and yield curve control.

More than two decades since then, against the backdrop of better prospect for growth and inflation, the Bank of Japan in March 2024 embarked on policy normalization by lifting all the unconventional policy measures that had been employed. After two policy rate hikes, however, the BOJ faces heightened uncertainties caused by the Trump 2.0 policies. The table in **Chart 9** shows the Bank's latest economic and inflation outlook. As the numbers in brackets indicate, both growth and inflation projections for FY 2025 and FY2026 are revised down from the January outlook. The Bank now admits that the timing when the price stability target of 2% is reached will be delayed by approximately one year and will be sometime in the latter half of FY 2026 or during the course of FY 2027.

Given the high degree of uncertainty, I understand a "wait and see" stance is necessary for now. But once the uncertainties are cleared enough for the BOJ to restore confidence in the economic and inflation trajectory to move in line with the projections, I think they will be on their way to the next rate hike, depending on economic development.

On the inflation front, the BOJ said in its April outlook that the risk of inflation is skewed to the downside. But I think there is in fact a risk also on the upside. I think so because while relatively high wage growth will likely continue into the next year against the backdrop of the acute labor shortage, firms' pricing behavior has changed in that they now find it easier to pass on higher costs to final sales prices.

Moreover, inflation expectations in Japan, as both survey-based and market-based measurements show in graphs in **Chart 10**, are in a rising trend. This is worrisome because we know from empirical studies that inflation expectations in Japan are formulated in a backward looking (adaptive) manner more influenced by actually observed inflation rates.

As the graph in **Chart 11** shows, we are facing CPI inflation rates exceeding 3% for six months in a row. It is food inflation exacerbated by the skyrocketing price of rice that we are witnessing. This runs the risk of inflation expectations over-shooting. I think monetary policy in Japan needs to be vigilant not to be left behind the curve.

Real interest rates remain deeply negative both for short-and long-term interest rates. Therefore, another couple of rate hikes won't materially change the easy monetary condition in Japan.

QT (Quantitative Tightening)

Meanwhile, in July last year the BOJ also embarked on QT, which is the second pillar of monetary policy normalization. The balance sheet reduction begins with a huge size. As the graph in **Chart 12** shows, The BOJ's overall balance sheet size stands at JPY750 trillion which is as large as 120% of nominal GDP. The asset comprises mainly JGB with an outstanding of JPY580 trillion (€3.4 trillion). Meanwhile, on the liability side, current account balances (reserves) account for 70% of the total outstanding.

Technically, the BOJ runs down the JGB as they mature. The speed of reduction will be controlled by monthly new purchases. The chart in **Chart 13** illustrates the BOJ's QT game plan. The size of monthly purchases will be reduced in steps to reach JPY2.1 trillion in Q1 of 2027. The pace of quarterly reduction in new purchases will be slowed down from JPY400 billion to JPY200 billion after April 2026.

Based on this game plan, graphs in **Chart 14** show a simulated trajectory of BOJ's JGB portfolio outstanding. The chart on the right indicates that the pace of quarterly reduction in the JGB outstanding gradually accelerates through FY 2025 to reach JPY11.8 trillion in the first quarter of 2026 as the size of JGB redemption becomes larger relative to new purchases. Thereafter, however, the pace levels off because JGB redemption is expected to peak out over time. In any case, as the left-side chart shows, the JGB portfolio is forecast to decline, but remains quite large at JPY485 trillion as of end of March 2027, which is a mere 16% (or JPY92 trillion) contraction from the period right before the start of QT.

QT aims primarily at restoring the JGB market function. In this sense, it is disconnected from monetary policy. I expect the BOJ will continue with the balance sheet contraction in a measured and predictable manner until it judges that the JGB market function is restored. The new equilibrium size of the balance sheet is unknown at this point. The BOJ will proceed with the QT paying extra attention to market reactions.

Common Challenges

There are common challenges faced by major central banks today. One issue is the impact of their shrinking balance sheets on financial markets. The graphs in **Chart 15** shows the balance sheet trajectories of the ECB and the Fed under respective QT. Reduction in assets are matched by a corresponding decline in liabilities, typically reserves which represent the size of aggregate liquidity supply. At the ECB, special facilities including TLTRO III and PELTROs have been wound down. All the asset purchase programs have stopped reinvestments by the end of 2024. Therefore, the balance sheet is expected to continue to shrink like the Fed and the BOJ.

We don't exactly know what the terminal size of the balance sheets would be for these central banks. In the interim, their interest margins were squeezed and profitability deteriorated, sometimes invoking political debate. Moreover, these days, as displayed in the charts in **Chart 16**, because of the lesser degree of central banks' involvement in the government bond markets, compounded by the ongoing, or prospect for wider fiscal deficits across the world, we see a trend move to the upside in yield curves. Japan has a steeper slope towards the super-long end. How to contain associated risks to global economic recovery remains a common challenge.

3. Implications of Trump 2.0 Policies

American Perspectives underlying Trump 2.0 policies

As shown in **Chart 17**, President Trump's policies seem to be driven by the recognition that "the past globalization did more harm than good to the US in that it created a powerful external competitor and resulted in persistent trade imbalances against the US, while internally, inequality widened. "

The US perspective is at odds with the traditional views held by the rest of the world. The US argues their military supremacy provided the post-war world with the foundation for the unprecedented peace and prosperity at the cost of young lives in the US military forces and US taxpayers. While we are

grateful for the sacrifices made, we regard the US as the biggest beneficiary of the global economic order that they themselves have advocated for and created upon the principles of multilateralism and free trade.

The US also says that excess demand for the key currency kept the USD over-valued and deprived American manufacturing industries of competitiveness, which resulted in cumulative trade deficits against trading partners. But we have envied the USD as the key currency having exorbitant privilege.

Trump 2.0 policies intend to reverse the move, once and for all, in their favor. I think we are at an inflection point, where the US is trying to replace the global economic order, which was their own creation, with a new one that better serves their national interest.

Financial Aspects of Trade Imbalances

President Trump's tenacious trade policy stems from persistently rising US trade deficits. But as indicated by the chart in **Chart 18**, the dollars paid by US importers to overseas trading partners are recycled to the US via the global financial system. Therefore, trade imbalances generate global USD circulation that in turn underpins the status of the USD as the key currency. Investment in US Treasury securities by global investors is one of the main recycling channels. In this cycle, US Treasury securities functioned as risk-free benchmark instruments.

The US needs sustained capital inflow to finance its fiscal deficit. The horizontal axis in the graph in **Chart 19** shows debt outstanding and the vertical axis fiscal deficit as measured in terms of ratios to nominal GDP of selected countries. Germany retains ample flexibility even after the "debt-brake" is removed. In contrast, Japan is an outlier. The US is also not well-positioned with its relatively large fiscal deficit. Tariff revenue may help but not enough to fill the gap. Therefore, the US needs to continue to rely substantially on global investors' underwriting of US Treasury securities.

The graph in **Chart 20** shows US Treasury securities holdings by entity type. Foreign investors are by far the largest holder with $8.5 trillion outstanding. This is followed by the MMF and the Fed, which holds $5.0 trillion and $3.8 trillion respectively. Withdrawal of global investors from US Treasury securities markets implies reduced demand for US Treasury securities, which would put upward pressure on long-term interest rates unless the US fiscal deficit is cut significantly.

The chart in **Chart 21** shows US Treasury holdings by country. You can see that China has steadily reduced its holdings since the mid-2010s as the conflict between the US escalated. The UK has climbed to become the second overtaking China. Germany doesn't appear in the chart because substantial portion of its reserves are held in gold. Japan, meanwhile, remains by far the largest holder with an outstanding of $1.1 trillion. Among Japanese holders, the government has the largest stake. As shown in the graph in **Chart 22**, out of Japan's entire foreign exchange reserves, $960 billion is in foreign securities, the bulk of which is estimated to be US Treasury securities. Thus Japan helps the US fill its fiscal deficit.

Shortly after the shockwave triggered by the April 2 "Liberation Day", there was a brief period when the value of dollar assets across the board plunged, as if a "Minsky Moment" had arrived. During this period, as you see in the graphs in **Chart 23**, Japan experienced a record high level of capital inflow totaling to JPY8.2 trillion, of which JPY3.7 trillion in equities and JPY4.5 trillion in bonds. It seemed cracks appeared in the almighty USD. What we witnessed in April may be a sign some global investors shifted a part of their portfolio away from the USD into other currencies, including the yen.

I don't think the USD supremacy will be overtaken any time soon given the dominant role it plays in the global economy. But it will likely face more challenges. This is already evident, as shown in the graphs in **Chart 24**, with the growing amount in terms of both turnover and value of the usage of the Chinese RMB in the CIPS (Cross-border Interbank Payment System), which is an efficient cross-border payment

system run by the central bank. The rising trend implies the RMB is increasingly used as a transaction currency for trade in those regions where China's economic presence is growing.

The Three Lines of Defense to protect the USD Value

Under Trump 2.0, the US authorities maintain the policy to preserve the value of the USD. In my view, they have three lines of defense to ensure it. The first is a slow-down in QT. As the table in **Chart 25** shows, the Fed in April slowed down the pace of monthly reduction in Treasury securities holdings from $25 billion to $5 billion. This helps mitigate upward pressure on long-term interest rates while retaining ample liquidity in the money market that will preclude a recurrence of such market hiccups as experienced in September 2019.

The second is the Fed's standing repo facility called the FIMA for foreign official institutions. As described in **Chart 26**, foreign central banks and monetary authorities that hold accounts at the NY Fed and possess US Treasury securities can receive dollar funding from the NY Fed against the securities they hold as collateral. In this way the FIMA repo facility prevents large scale fire-sales of US Treasury securities in times of market stress.

The last line of defense is the dollar swap lines, the structure of which is outlined in **Chart 27**. Under this arrangement, which was first founded in September 2008 to address the acute dollar liquidity crunch after the Lehman debacle, the five non-US major central banks can borrow unlimited amounts of USD from the NY Fed against their own respective currencies. The USD supplied in this way were then channeled through to every corner of the globe through open market operations conducted by the member central banks, as indicated by the BOJ's example shown on the right.

The chart in **Chart 28** shows the amount of USD provided through the swap lines in the past. It was activated in larges scales in GFC, European Debt Crisis, and Pandemic disruption. The swap lines functioned as a backstop that may be called the "Global Lender of Last Resort" to ensure the stability of global financial markets. I think it would be in our collective interest to preserve this swap line arrangement to provide for a rainy day ahead.

4. What Japan and Germany should do in an increasingly uncertain world

Transition to a new global economic order and high levels of uncertainty that I have discussed today argue strongly in favor of the view that both Germany and Japan should focus on structural reforms to enhance economic resilience and sustained growth. I want to take up three areas that I think are relevant for the two countries (see **Chart 29**).

First, reforms aimed at improving labor productivity. They include measures aimed at reducing labor market rigidity and enhancing the quality of the workforce through systematic re-skilling/recurrent education to help them keep up with technological advances. Measures targeted at mittelstand companies, which are the sources of strength for the two economies are also of particular importance.

Second, continued efforts to address climate change. Achieving carbon neutrality requires a huge amount of capital expenditure and technological innovation, which are key ingredients for growth. They include utilization of new sources of energy like hydrogen and ammonium and developing CCUS (Carbon dioxide Capture, Utilization and Storage) related technologies to cite a few examples.

Third, focus on strategic areas that determine the competitiveness and thus our engines of economic growth over the next three decades. They may include robotic AI, aero-space, EV and battery, next-generation of nuclear reactors including fusion power, and quantum computers, to name a few.

The final graphs in **Chart 30** shows every time our economies are struck by an external shock like the GFC and the Pandemic, GDP growths divert away from existing trends to the downside and often never revert to the original trend. I think this chart is an important reminder why structural reform measures to work on the supply-side of the economy to raise potential growth rates matter.

Concluding Remarks

The history of the bilateral relationship between the Bundesbank and the Bank of Japan traces back to the time of the Reichsbank and the Bank deutscher Länder. Thereafter, the Bank of Japan established an office in Frankfurt in 1956. The Bundesbank opened its Tokyo Office in 1987 and its role was expanded in 2012 to include foreign exchange reserve management. Therefore, the two central banks have been close companions.

I would like to conclude my speech by reiterating my belief that joint efforts of Germany and Japan on a broader basis in addressing common challenges ahead will develop the long-held friendship between the two countries from Ferne Gefährten into truly Enge Gefährten (close companions). Thank you very much for your attention.

PASSION FOR THE BEST

Daiwa Institute of Research

Germany and Japan 2.0

Addressing Common Challenges at a Global Inflection Point

July 8th, 2025

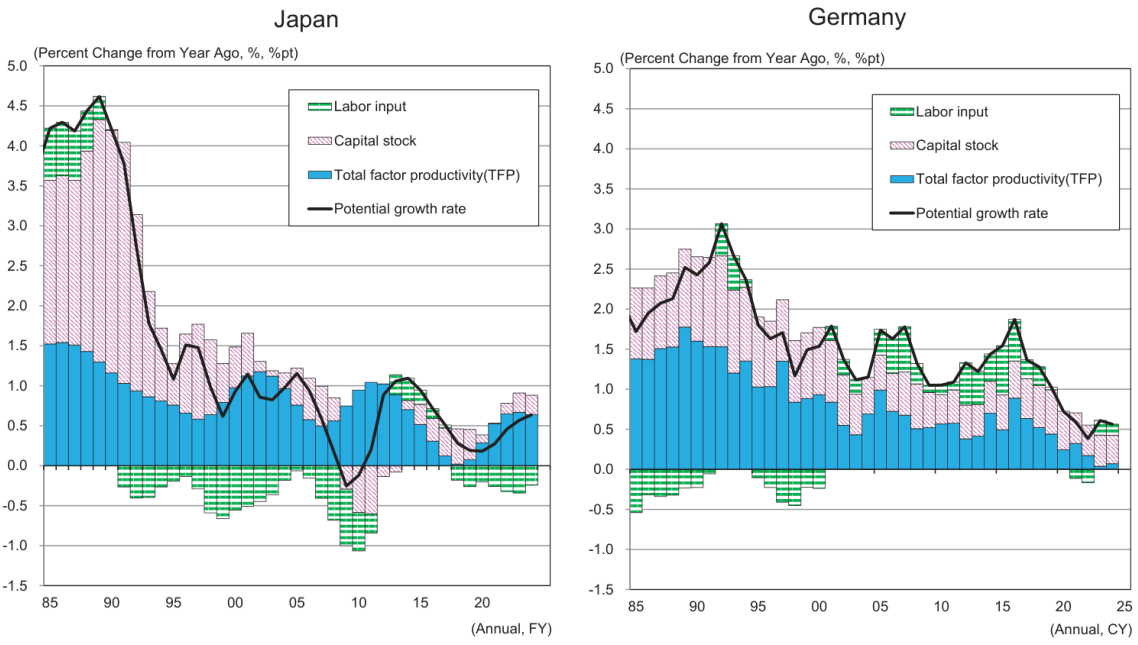
Hiroshi Nakaso

Chairman of the Institute

Daiwa Institute of Research Ltd.

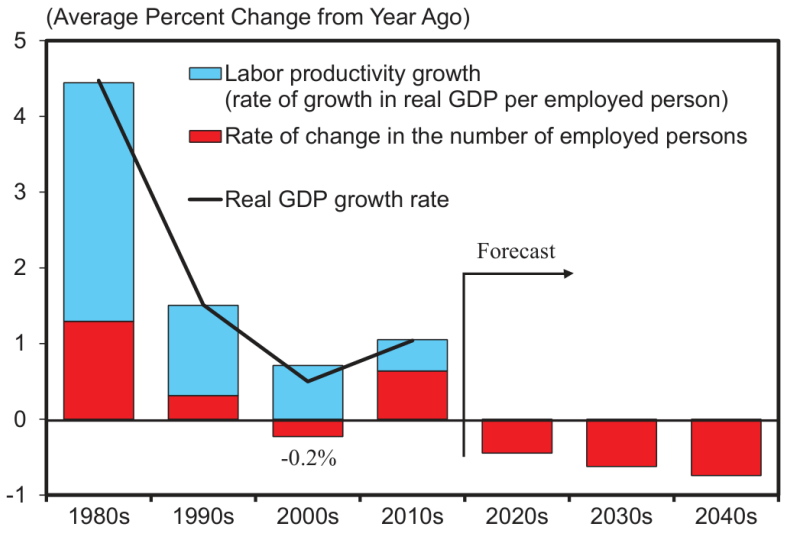
Daiwa Institute of Research

Potential Growth Rates of Japan and Germany



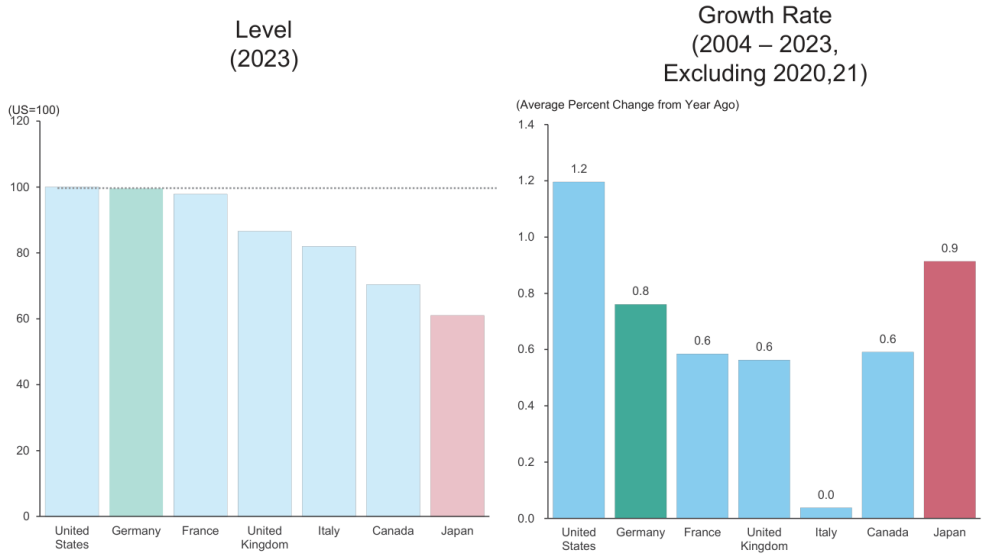
Source: BOJ, German Council of Economic Experts; compiled by DIR.

Japan's Real GDP and Labor Productivity Growth



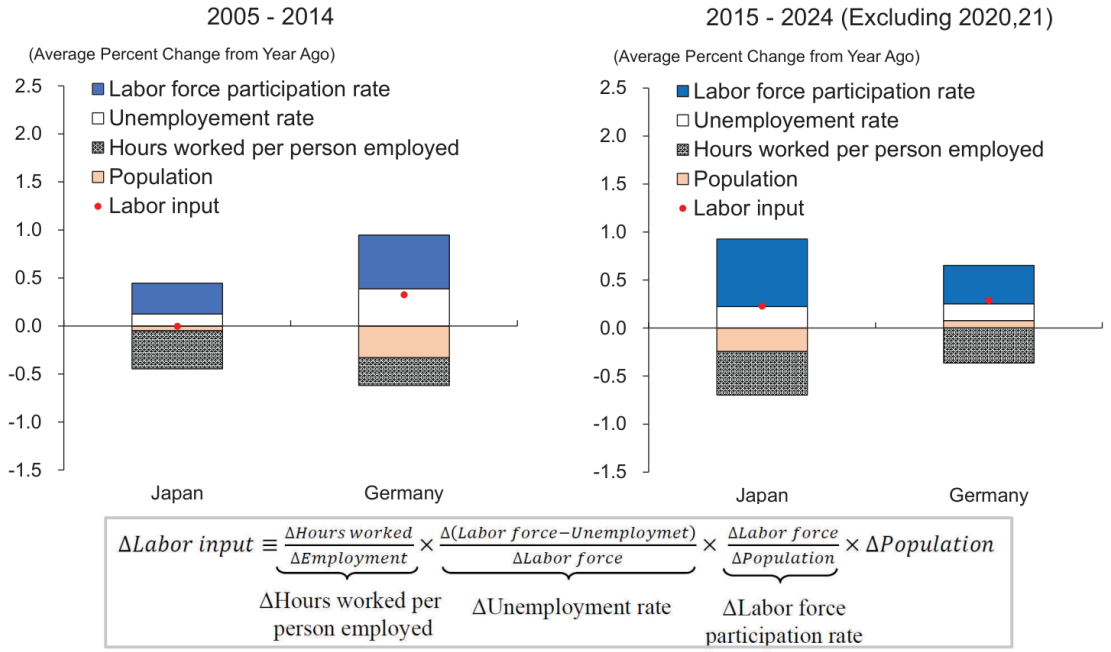
Note: Fiscal-year basis. The rates of change in the number of employed persons from 2025 onward are calculated using the population outlook (medium variant) and projected labor force participation rates (assuming the labor force participation rate for each age/sex group remains the same as in 2024).
1980s data are calculated using data from 1982 to 1989.
1990s, 2000s, 2010s data are calculated using data from 1990~1999, 2000~2009, 2010~2019 respectively.
Source: Cabinet Office, Ministry of Internal Affairs and Communications, National Institute of Population and Social Security Research, INDB; Compiled by DIR.

International Comparisons of Labor Productivity



Note: The right panel shows the average year-on-year rates of change in the real GDP per hour worked from 2004 to 2023 (excluding 2020 and 2021).
Source: OECD; compiled by DIR.

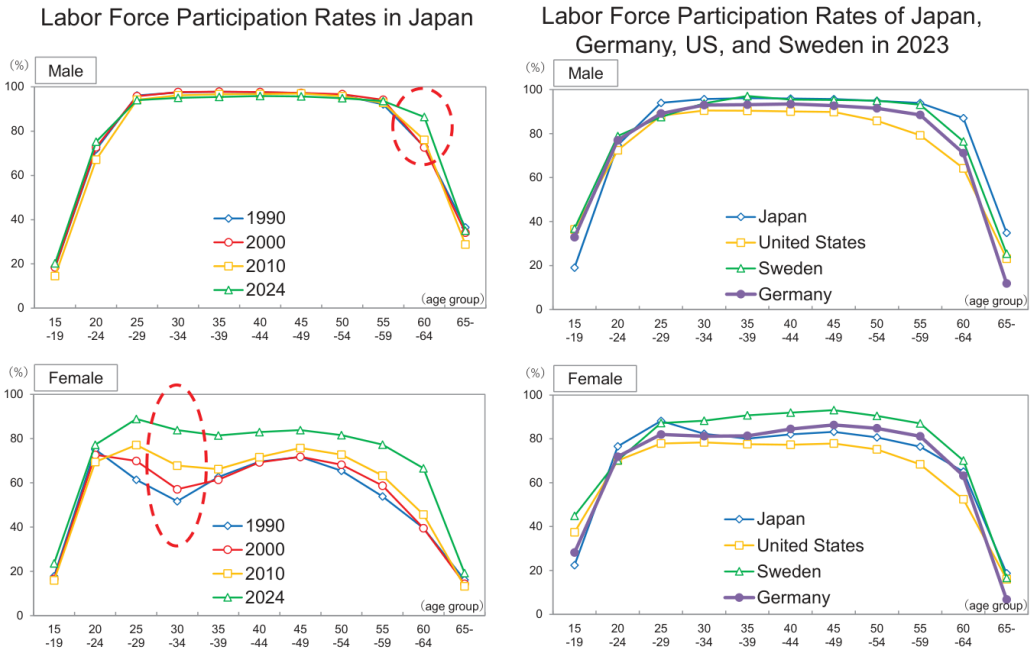
Labor Input Decomposition



$$\Delta Labor\ input \equiv \underbrace{\frac{\Delta Hours\ worked}{\Delta Employment}}_{\Delta\text{Hours worked per person employed}} \times \underbrace{\frac{\Delta(Labor\ force - Unemploymet)}{\Delta Labor\ force}}_{\Delta\text{Unemployment rate}} \times \underbrace{\frac{\Delta Labor\ force}{\Delta Population}}_{\Delta\text{Labor force participation rate}} \times \Delta Population$$

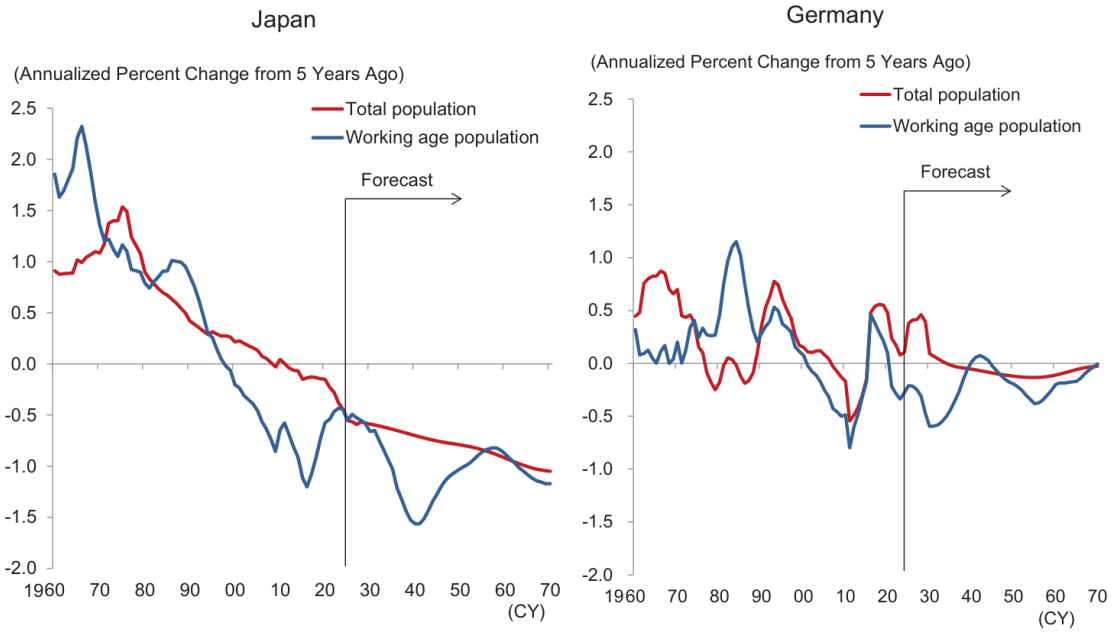
Note: Outliers (Year 2020, 2021 due to Covid-19 shock) are removed for both nations.
Source: Cabinet Office, Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare, Statistisches Bundesamt, Eurostat, OECD, INDB, Haver Analytics; Compiled by DIR.

Labor Force Participation Rates



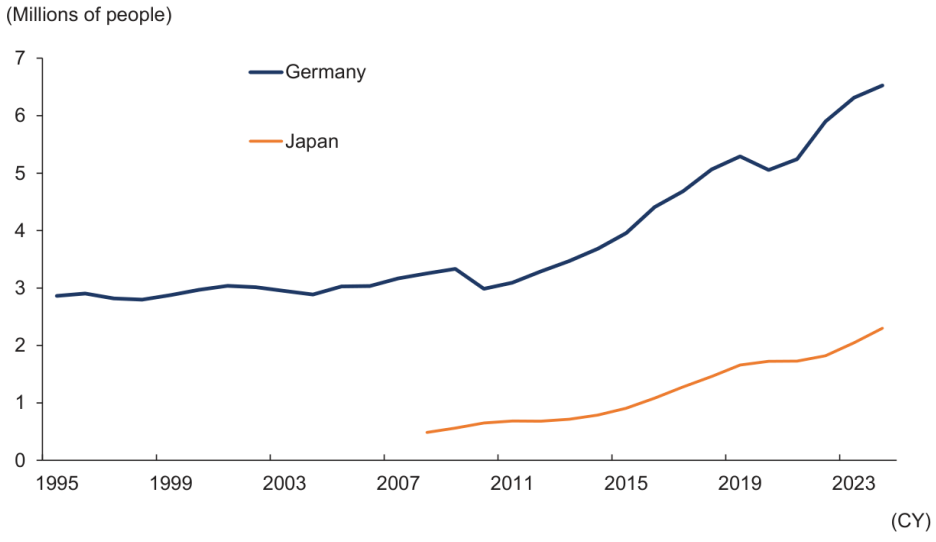
Source: Ministry of Internal Affairs and Communications, OECD; compiled by DIR.

Total Population and Working Age Population



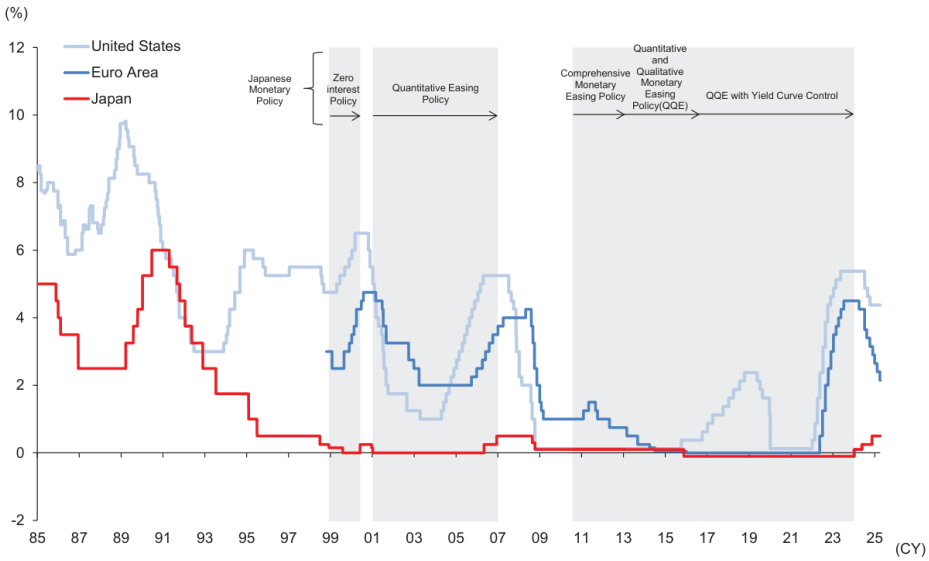
Source: Statistisches Bundesamt, Eurostat, Ministry of Internal Affairs and Communications, National Institute for Population and Social Security Research, Haver Analytics, INDB; compiled by DIR.

Foreign Workers



Note: The number of foreign workers in Japan is based on the reports from employers through “The Survey on Employment Situation of Foreign Workers”. The data for Germany is on labour force survey and covers employed foreigners aged 15 to 74.
Source: Ministry of Health, Labour and Welfare of Japan; Eurostat; compiled by DIR.

Policy Interest Rates



Note：For Japan, figures for the policy rate are; 1985-Sep.1998 (the official discount rate), Sep.1998-Mar. 2001 (the uncollateralized overnight call rate), Mar.2001- Mar.2006(the interest rates applied to current account deposits at the Bank,0.1%), Mar.2006-Apr.2013(the uncollateralized overnight call rate), Apr.2013-Feb.2016 (the interest rates applied to current account deposits at the Bank, 0.1%), Feb.2016-Mar.2024(the interest rates applied to current account deposits at the Bank, -0.1%), Mar.2024-(the uncollateralized overnight call rate).
For Euro area, figures for the policy rate is the interest rates on the main refinancing operations. For United states, figures for the policy rate is the mean of the federal funds target range.
Source: BIS, ECB, Bank of Japan, Federal Reserve Board, Haver Analytics; compiled by DIR.

Outlook for the Japanese Economy and Prices

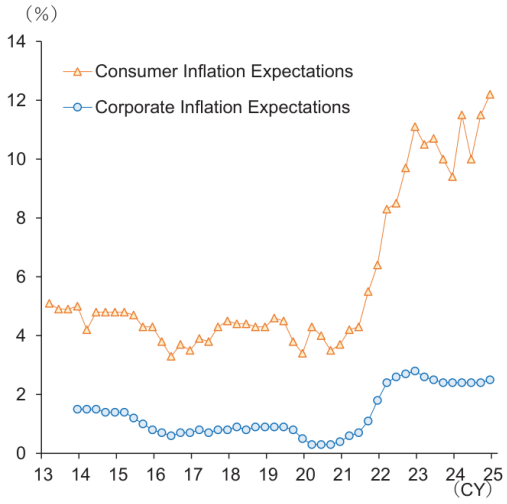
The Medians of the Bank of Japan Policy Board Members' Outlook

YOY%, pt in ()	FY2024	FY2025	FY2026
Real GDP	0.7 (+0.2)	0.5 (-0.6)	0.7 (-0.3)
CPI (All Items Less Fresh Food)	2.7 (-)	2.2 (-0.2)	1.7 (-0.3)
CPI (All Items Less Fresh Food and Energy)	2.3 (+0.1)	2.3 (+0.2)	1.8 (-0.3)

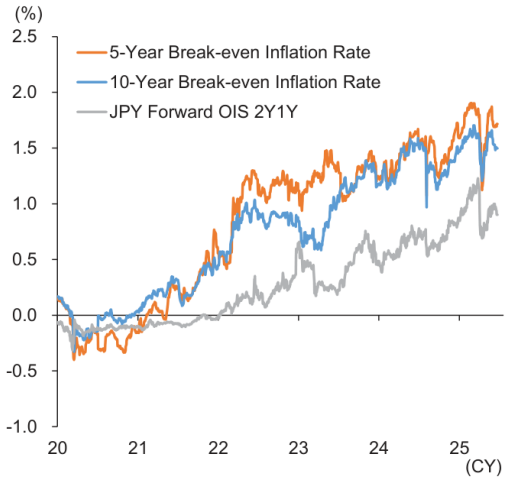
Note: The figures in parentheses indicate the revision amounts from the January 2025 forecast.
Source: Bank of Japan: Outlook for Economic Activity and Prices (April 2025); compiled by DIR.

Japan's Inflation Expectations

Survey-based



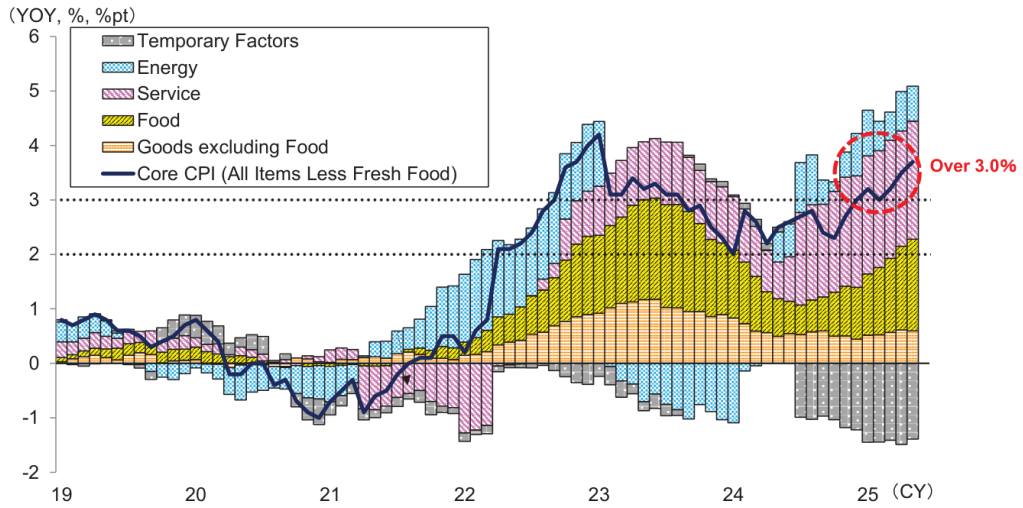
Market-based



Note: Average for consumer inflation expectations. Both are one-year expectations.
Source: "the Opinion Survey on the General Public's Views and Behavior" and "Tankan Survey" Bank of Japan; compiled by DIR.

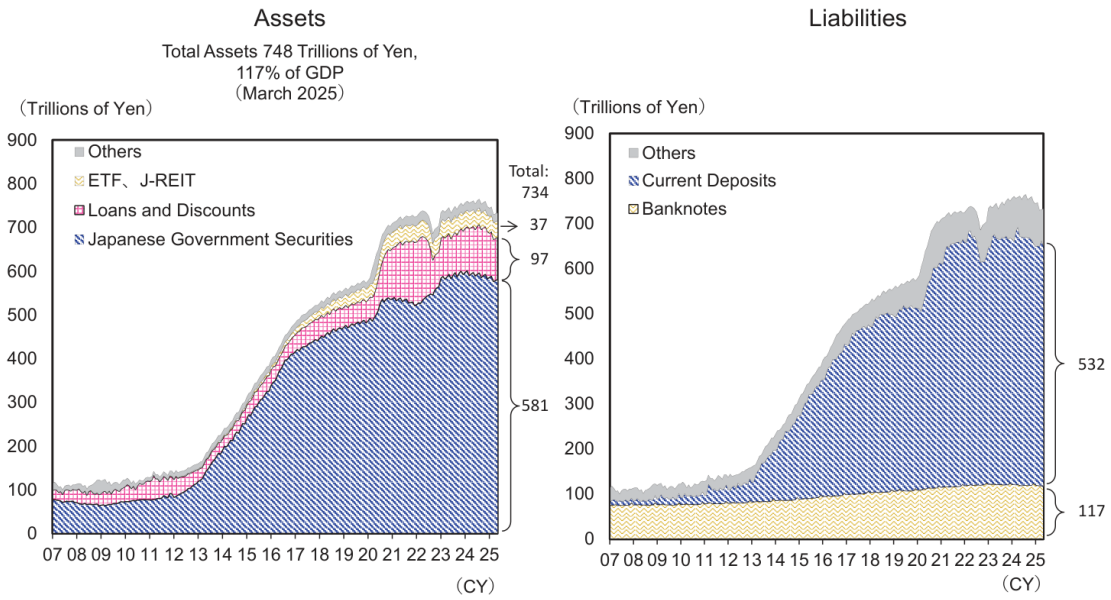
Source: Bloomberg; Compiled by DIR.

Japan's CPI and its Decomposition



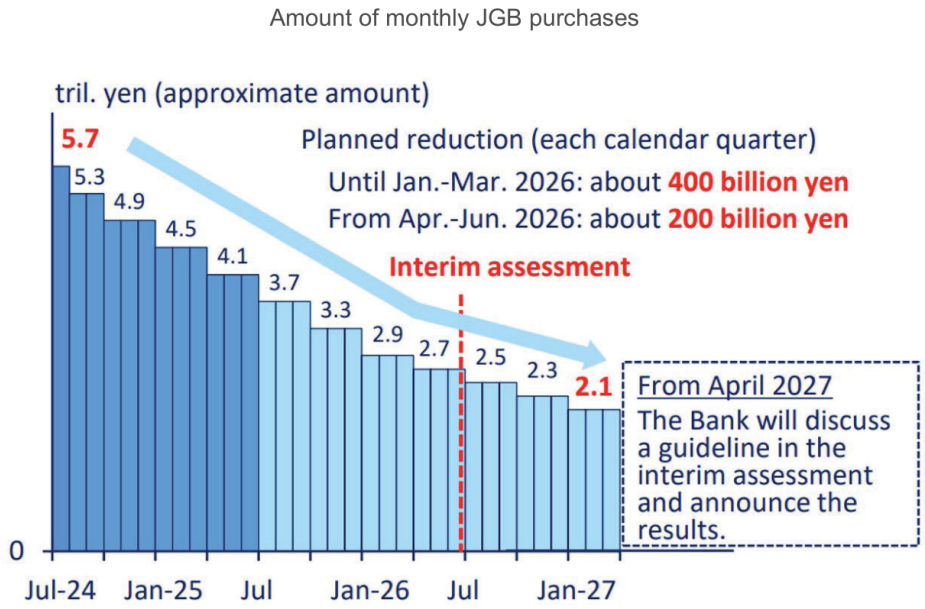
Note: Temporary factors include the effects of the increase in consumption tax, free education, travel support measures, and the decrease in mobile phone fees.
Source: Ministry of Internal Affairs and Communications, Bank of Japan; compiled by DIR.

Bank of Japan's Balance Sheet



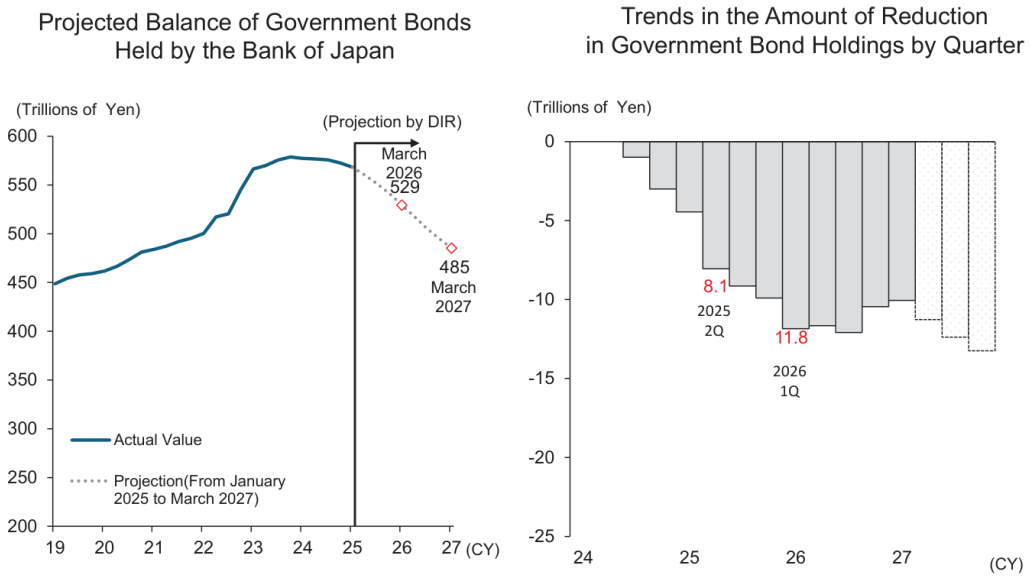
Note: Most recent values from May 2025.
Source: Bank of Japan; compiled by DIR.

Plan for Reduction of JGB Purchase Amount



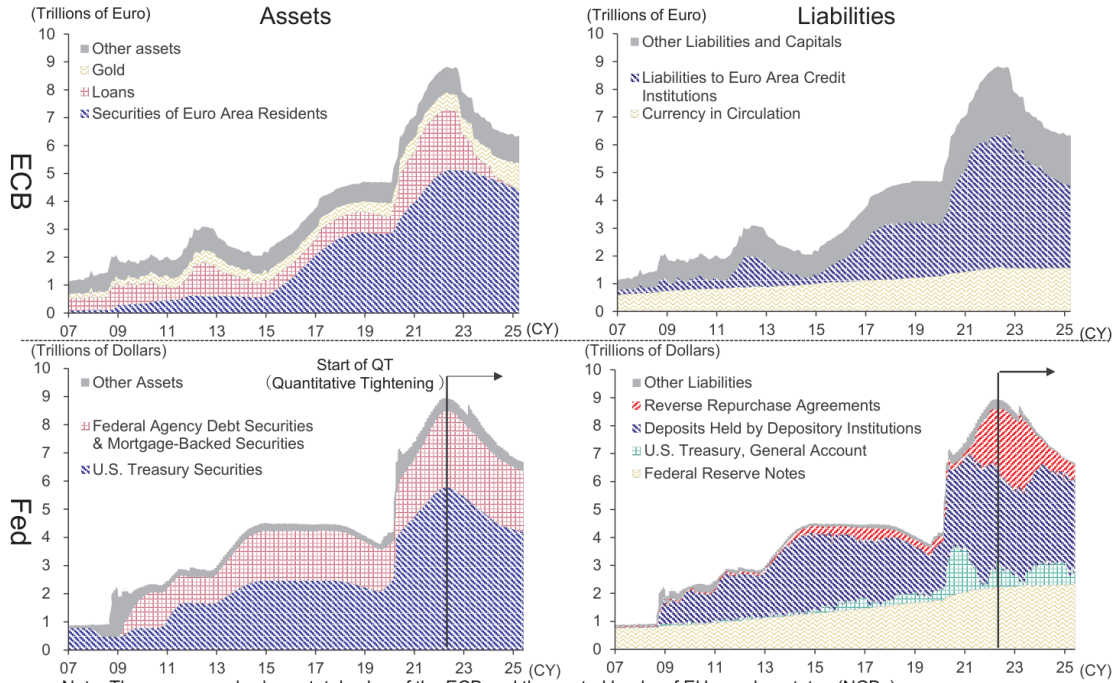
Source: Bank of Japan.

Projected Balance of Government Bonds Held by BOJ



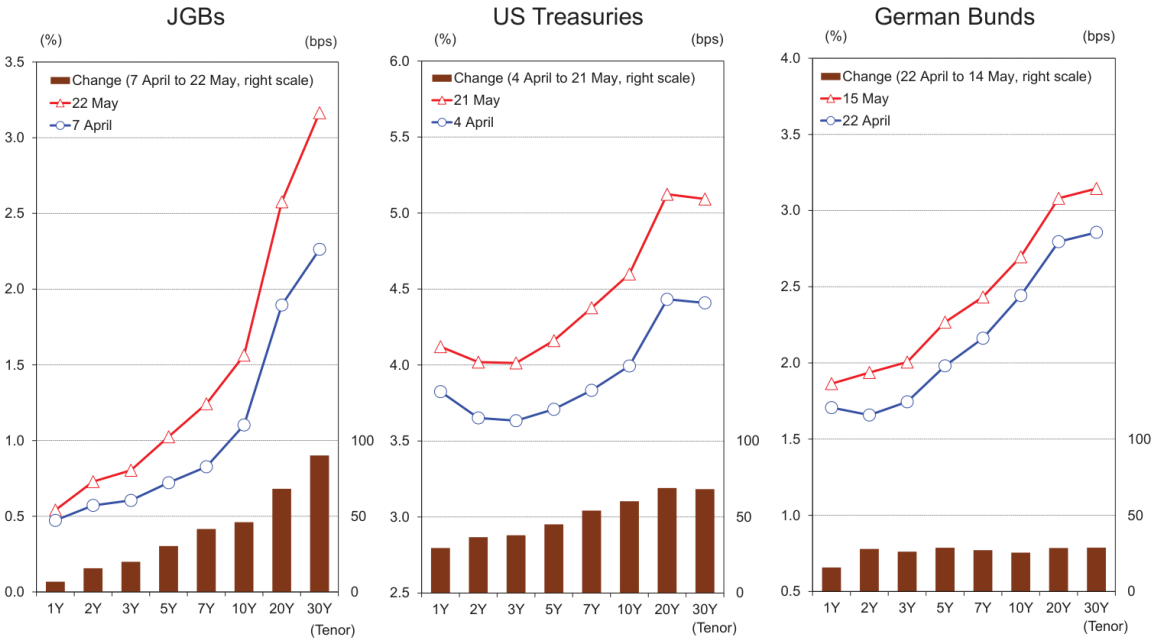
Note 1: Based on the monetary policy meeting in June 2025.
Note 2: It is assumed that the balance will be reduced as decided at the monetary policy meeting in June 2025 until March 2027. It is assumed that similar policies will be maintained after March 2027.
Source: Bank of Japan; compiled by DIR.

Eurosystem and Federal Reserve Balance Sheet



Note: The upper panels shows total value of the ECB and the central banks of EU member states (NCBs).
Source: ECB, Federal Reserve Board; compiled by DIR.

Bond Vigilantes



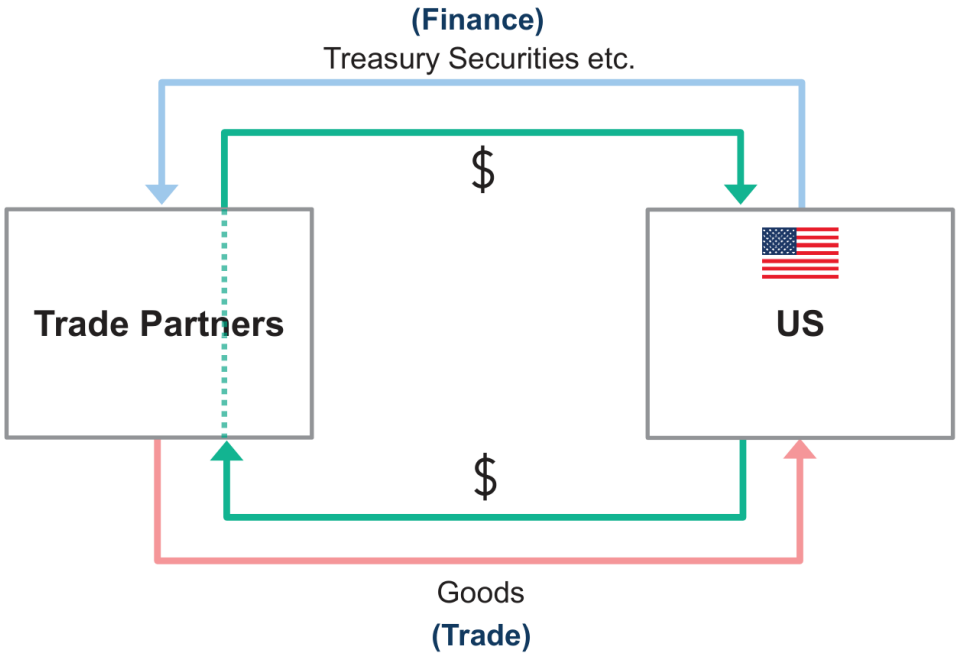
Note: The red yield curves correspond to the date on which 30-year government bonds reached their highest yields between April and May 2025. The blue curves correspond to the date on which the same bonds recorded their lowest yields during the referenced period.
Source: Bloomberg; compiled by DIR.

The Ideology of the Trump Administration

The Ideology of the Trump Administration	Conventional Thinking
• Since the end of World War II, the United States has been providing the world with two public goods for 80 years: the “security umbrella” and the “US dollar as the key currency (Dollar dominance)”	• The US is the greatest beneficiary of the free trade system
• However, these public goods have imposed a unilateral cost burden on the US	• US dollar, as the global key currency, enjoys “Exorbitant Privilege”
✓ The “security umbrella” has been paid for by the lives of American youth and the tax of its citizens	
✓ “US dollar dominance” has caused a strong dollar, leading to the hollowing out of domestic core industries and the entrenchment of a trade deficit	• The US should defend the multilateral free trade system
• The US should get rid of the unfair costs it has been bearing in the past, and prioritize the revival of domestic manufacturing as well as the restoration of the working class and local communities	

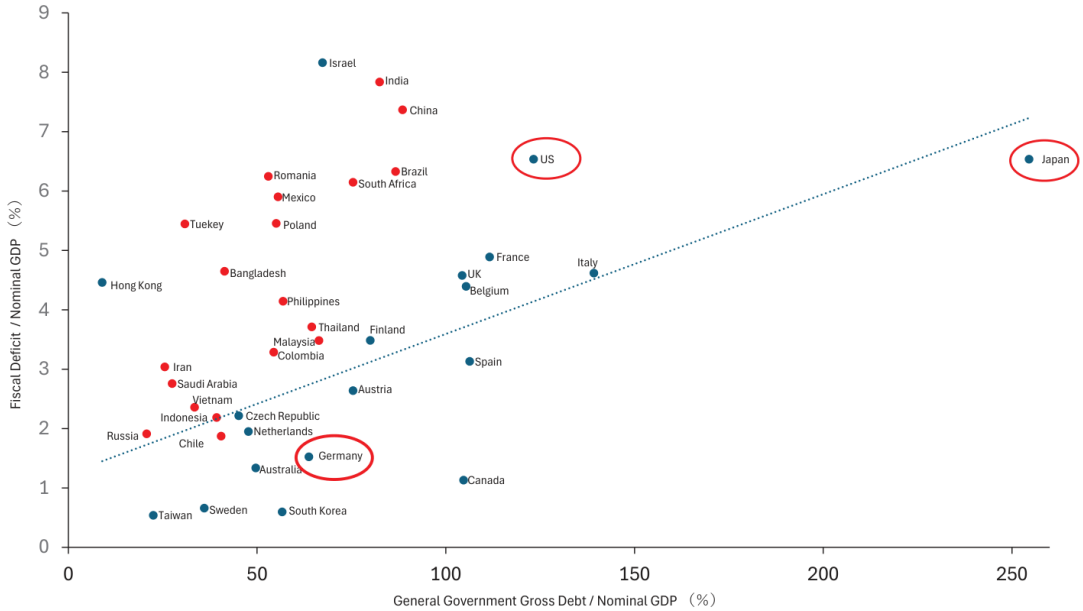
Source: Various materials; compiled by DIR.

US Trade Deficits and International Capital Inflows



Source: DIR.

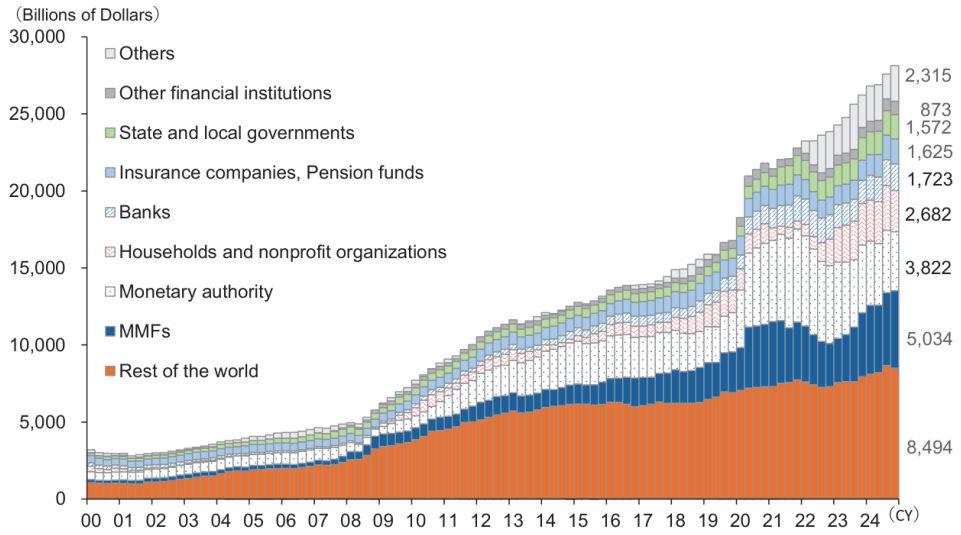
Fiscal Deficit and General Government Gross Debt to GDP



Note: As of the end of 2024. Countries with nominal GDP of less than $300 billions are not included. Emerging economies are shown in red points and advanced are in blue. Countries with a fiscal surplus, such as Argentina, Denmark, Ireland, Norway, Singapore, Switzerland, and the UAE are not indicated.

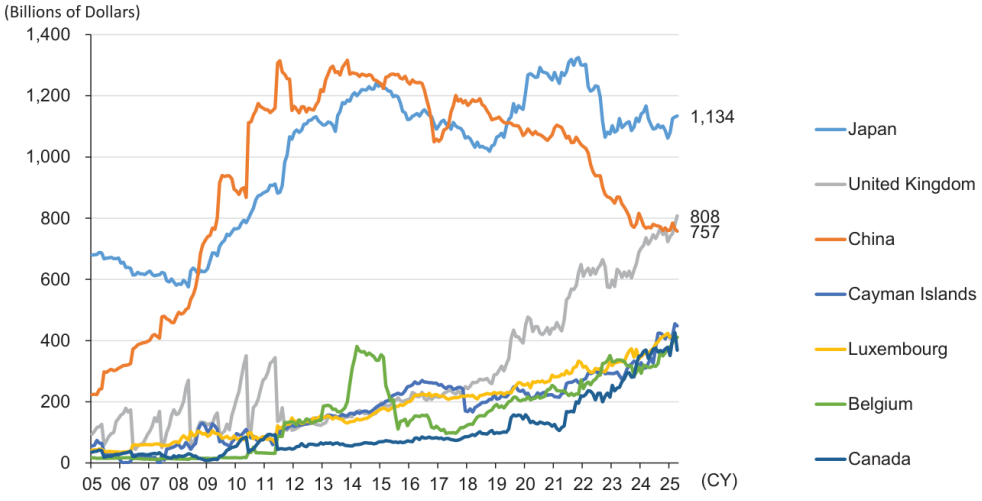
Source: IMF World Economic Outlook Database; compiled by DIR.

US Treasury Securities Holdings by Entity Type



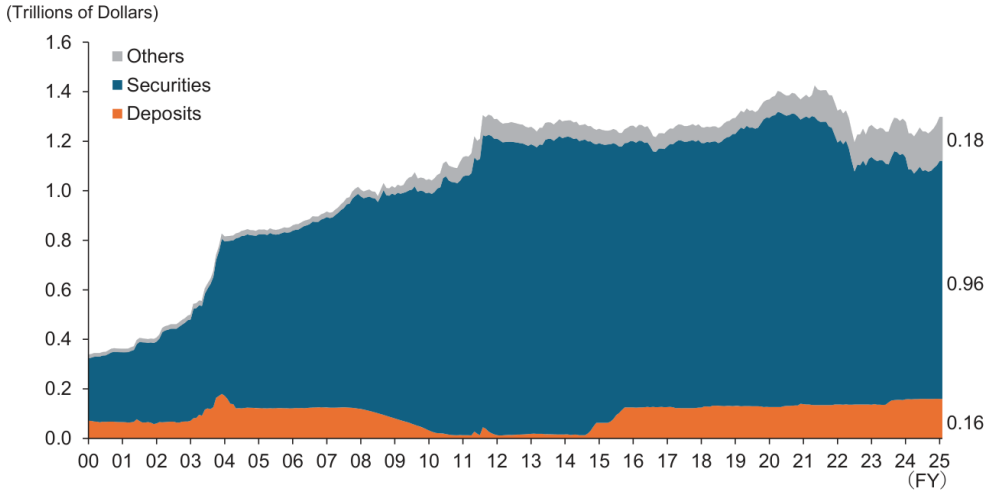
Note: The most recent value is at the end of 2024. The balance consists of marketable government bonds. The balance excludes those held by the federal government. Market value.
Source: Federal Reserve Board, Haver Analytics; compiled by DIR.

US Treasury Securities Holdings by Country



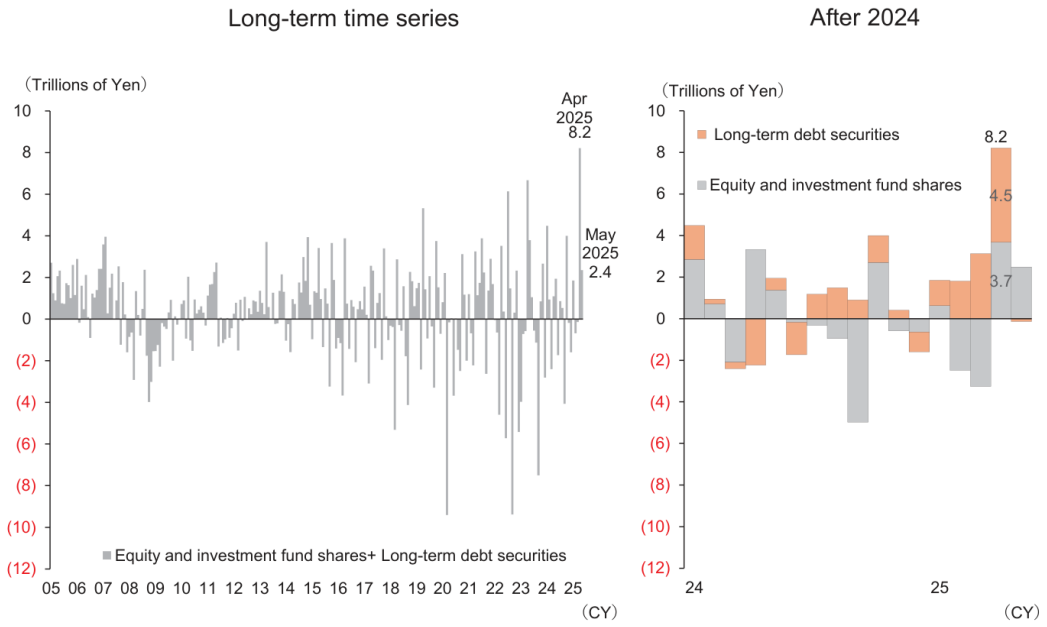
Note: The most recent value is at the end of April 2025.
Source: U.S. Treasury, Haver Analytics; compiled by DIR.

Composition of Japan's Foreign Exchange Reserves



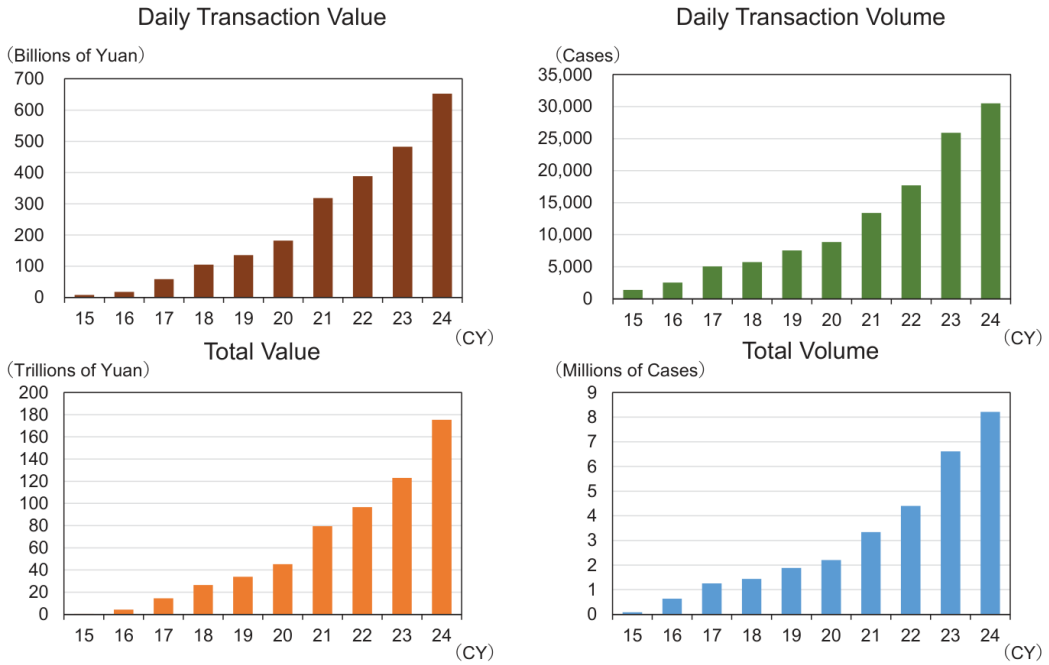
Note1: The most recent value is at the end of May 2025.
Note2: Among foreign currency-denominated securities, government bonds account for 77.2% (as of the end of fiscal year 2023).
Source: Foreign Exchange special Account Holdings of Ministry of Finance, Haver Analytics; compiled by DIR.

Portfolio Investment into Japan (Monthly)



Note: Based on Reports from Designated Major Investors. The most recent value is at the end of May 2025.
Source: Ministry of Finance; compiled by DIR.

Settlement via Cross-Border Interbank Payment System (CIPS) in China



Note:. Exchange rates: the yuan was 20 yen as of May 22, 2025.
Source: People's Bank of China; compiled by DIR.

Pace of US QT (Transition)

(Billions of Dollars)

Start Month	US Treasury Securities	Mortgage-Backed Securities, etc	Total
2022/6	30.0	17.5	47.5
2022/9	60.0	35.0	95.0
2024/6	25.0	35.0	60.0
2025/4	5.0	35.0	40.0

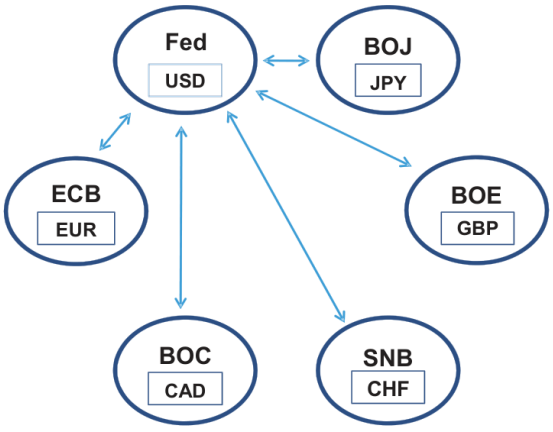
Note: Monthly Balance Reduction Target for US Treasury Securities and MBS.
Source: Federal Reserve Board; compiled by DIR.

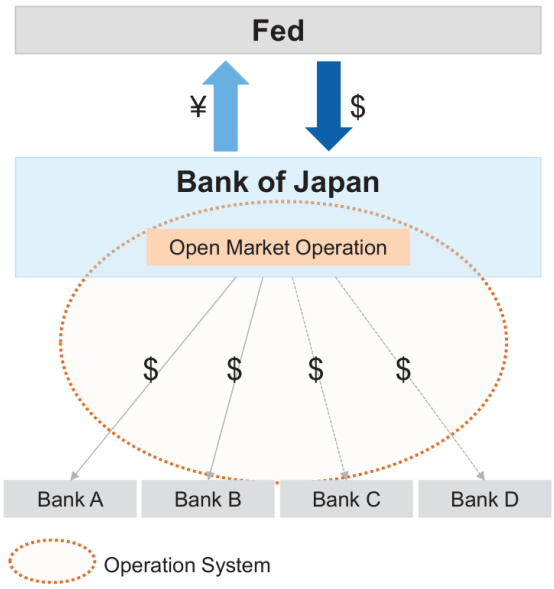
Federal Reserve's Repo Facility for Foreign Official Institutions

Aka. FIMA (Foreign and International Monetary Authorities) Repo Facility

- FIMA Repo Facility was introduced in March 2020 as part of crisis response measures and made permanent in July 2021
- It is a mechanism that provides overnight and one-week US dollar funding to foreign central banks and monetary authorities by using US Treasury securities, which they hold as part of their foreign exchange reserves, as collateral in repo transactions
- Rollover is possible for a certain period
- The offer rate is the minimum bid rate of the Standing Repo Facility (SRF) at 4.5% (as of April 17, 2025) for overnight transactions. For one-week transactions, it is the one-week Overnight Index Swap (OIS) rate plus 25 basis points
- Through the FIMA Repo Facility, foreign central banks and monetary authorities that hold accounts at the New York Fed and possess US Treasury securities can receive US dollar funding (subject to approval by the Federal Reserve)
- The FIMA Repo Facility is a system designed to prevent the large-scale selling of US Treasury securities

Structure of Currency Swap Lines

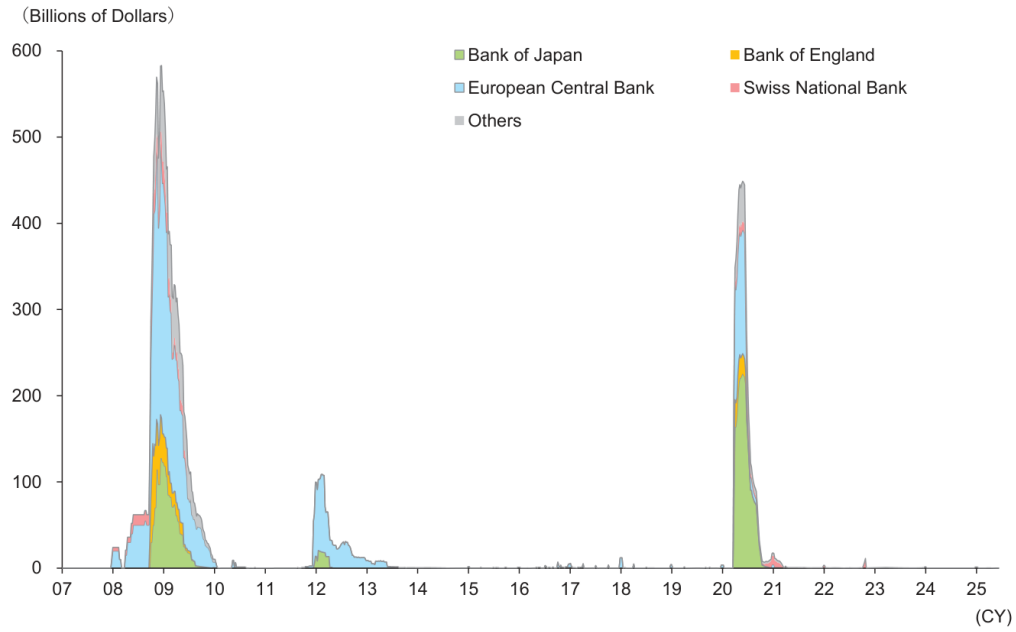




Note: Fed: Federal Reserve Board, BOJ: Bank of Japan, ECB: European Central Bank, BOE: Bank of England, BOC: Bank of Canada, SNB: Swiss National Bank.
Source: Bank of Japan; compiled by DIR.

Source: Bank of Japan; compiled by DIR.

Amount of US Dollar Liquidity-Supply from Central Banks

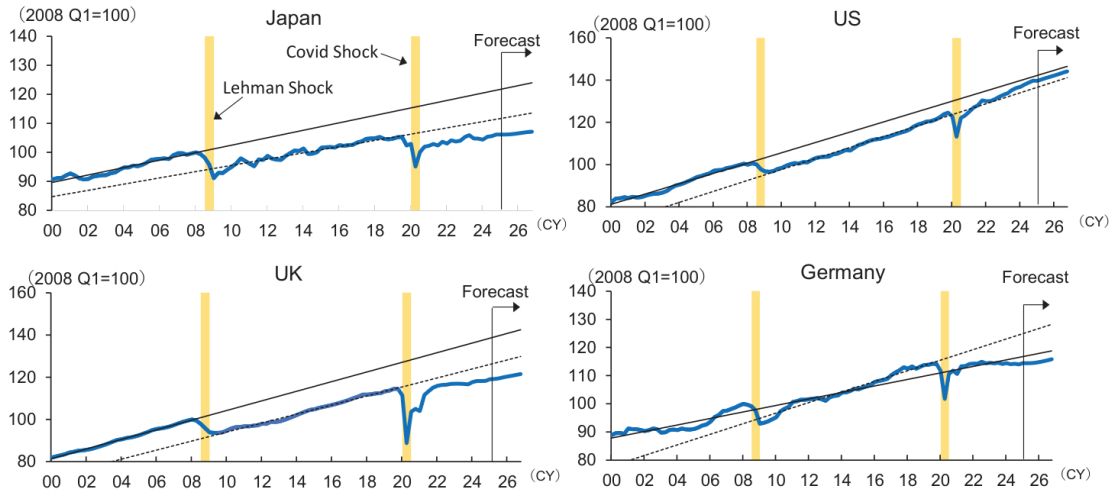


Note: Latest data as of June 11, 2025.
Source: Federal Reserve Bank of New York; complied by DIR.

Key Takeaways: What Japan and Germany Should Do

- Carry Out Reforms Aimed at Improving Labor Productivity
- Continue Efforts to Address Climate Change
- Focus on Strategic Areas Key to Long-Term Economic Competitiveness

Changes in Real GDP Trends in Major Advanced Economies



Note 1: The solid black line represents the trend from Q1 2000 to Q1 2008, while the dashed line represents the trend from Q3 2009 to Q4 2019.
Note 2: Forecasts for each nation are based on the following: Japan: Japan Center for Economic Research "ESP Forecast Survey" (published on June 16, 2025), US: Congressional Budget Office (January 17, 2025), UK: Bank of England (May 8, 2025), Germany: European Commission (May 19, 2025).
Source: Cabinet Office, Japan Center for Economic Research, US Department of Commerce, US Congressional Budget Office, UK Office for National Statistics, Bank of England, European Commission, Haver Analytics; compiled by DIR.