INTERNATIONAL MONETARY FUND

IMF Country Report No. 23/127

# JAPAN

March 2023

## 2023 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR JAPAN

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2023 Article IV consultation with Japan, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its March 22, 2023 consideration of the staff report that concluded the Article IV consultation with Japan.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on March 22, 2023, following discussions that ended on January 26, 2023, with the officials of Japan on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on March 7, 2023.
- An **Informational Annex** prepared by the IMF staff.
- A **Staff Supplement** updating information on recent developments.
- A **Statement by the Executive Director** for Japan.

The document listed below have been or will be separately released.

Selected Issues

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**International Monetary Fund**
**Washington, D.C.**

PRESS RELEASE

PR23/100

# IMF Executive Board Concludes 2023 Article IV Consultation with Japan

**FOR IMMEDIATE RELEASE**

**Washington, DC – March 30, 2023:** On March 22, **t**he Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with Japan.

The economy continues to recover driven by domestic demand while a weaker global economy has been weighing on external demand. Real GDP increased by 1.1 percent in 2022 and remains below the level in 2019 (on an annual basis). Private consumption led the recovery and private investment also rebounded. Industrial production recovered strongly during the summer as supply chain constraints due to lockdowns eased. Headline inflation has been above 2 percent y/y since April driven by external factors including the lagged effects of higher commodity prices and yen depreciation. The current account surplus has narrowed to 2.1 percent of GDP in 2022 due to a sharp rise in the value of commodity imports, and the external position in 2022 is assessed as broadly in line with medium-term fundamentals and desirable policies. The banking sector remains resilient, with capital adequacy and liquidity ratios above regulatory requirements, but interest and credit risks have increased.

The economic recovery is projected to continue in the near term amid pent-up demand, supply chain improvements, border reopening and policy support. Growth is expected to accelerate to 1.3 percent in 2023 driven by private consumption and business fixed investment. The output gap is projected to close in early 2023. Exports will rise as supply side constraints ease and inbound tourists return. Inflation is expected to rise further in early 2023 due to the delayed effect of yen depreciation and border reopening before declining again. The primary fiscal deficit will stay elevated in 2023 following the adoption of the October 2022 fiscal package. The current account surplus is projected to bounce to an average of 2.9 percent of GDP in 2023 driven by lower commodity prices and inbound tourism. An aging and declining population will continue to be a major macroeconomic challenge in the medium and long term.

While domestic risks are balanced, there are significant external downside risks. Downside risks to growth include: 1) deepening geo economic fragmentation and geopolitical tensions; 2) an abrupt slowdown of the global economy; 3) commodity price volatility; 4) natural disasters and 5) cyberthreats. In addition, there are risks to the economy that could arise from any abrupt change of the current monetary policy framework. Upside risks to growth include a more robust recovery of consumption, especially services, and a stronger-than-expected recovery of inbound tourism. As regards inflation, risks are two-sided, albeit with the upside more prominent in the short term.

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

**Executive Board Assessment[2]**

Executive Directors welcomed that the recovery would continue in the near term, supported by pent-up demand, supply chain improvements, border reopening, and policy support. Noting that the growth outlook is subject to significant external downside risks and longer-term structural challenges, Directors agreed that near-term policies should focus on achieving the two percent inflation target durably and preserving financial stability. At the same time, they stressed that medium-term policies should focus on reducing fiscal vulnerabilities and transitioning to a more dynamic, digitalized, green, and inclusive economy.

Directors stressed that growth-friendly fiscal consolidation is warranted to rebuild fiscal buffers and ensure debt sustainability, and it should be underpinned by a credible medium-term fiscal framework to reduce the primary deficit and put the debt-to-GDP ratio on a clear downward path. In this context, Directors emphasized that pandemic-related fiscal support should be withdrawn in a timely manner, and consolidation efforts should include both revenue and expenditure measures, including better targeted fiscal support to vulnerable households.

Directors broadly agreed that maintaining an accommodative monetary policy stance remains appropriate to achieve the two percent inflation target durably. Noting two-sided risks to inflation, many Directors encouraged the authorities to consider options for introducing more flexibility under the yield curve control framework to better manage those risks and help address the side effects of prolonged easing. Many Directors, however, stressed the need to avoid a premature exit from monetary easing and agreed with the authorities that maintaining the current monetary policy framework is appropriate. More broadly, Directors emphasized that any changes to monetary policy settings will need to be well communicated to facilitate smoother transitions and protect financial stability. They also underscored that the exchange rate should continue to act as the main shock absorber, limiting foreign exchange interventions to special circumstances, including disorderly market conditions.

Directors noted that, while the financial sector has been robust to several global headwinds this year, interest-rate and credit risks have increased and warrant close monitoring. They recommended considering appropriate implementation of macroprudential policies to curb financial vulnerabilities as they emerge.

Directors concurred that structural policies should help boost income growth, support startups, deepen digitalization, and achieve climate targets. They agreed that labor market policies should encourage more women and older persons to join the work force, reduce labor market duality, and improve mobility. Directors encouraged the Digital Agency to continue coordinating and implementing policies to digitalize the public sector. They emphasized that higher carbon pricing could help Japan achieve its climate-related targets in a growth-friendly way, and it should be accompanied by measures to protect the most vulnerable people and to enable an orderly transition from high-emission to low-carbon sectors.

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[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

## Table 1. Japan: Selected Economic Indicators, 2019–24

| | 2019 | 2020 | 2021 | 2022 Est. | 2023 Proj. | 2024 Proj. |
|---|---|---|---|---|---|---|
| | | | *(In percent change)* | | | |
| Growth | | | | | | |
| Real GDP | -0.4 | -4.3 | 2.1 | 1.1 | 1.3 | 1.0 |
| Domestic demand | 0.0 | -3.4 | 1.1 | 1.7 | 1.5 | 1.0 |
| Private consumption | -0.6 | -4.7 | 0.4 | 2.1 | 1.7 | 1.0 |
| Gross Private Fixed Investment | 0.2 | -5.4 | 0.4 | 0.8 | 2.5 | 2.0 |
| Business investment | -0.7 | -4.9 | 0.8 | 1.9 | 3.1 | 2.4 |
| Residential investment | 4.1 | -7.9 | -1.1 | -4.7 | -0.8 | 0.0 |
| Government consumption | 1.9 | 2.4 | 3.5 | 1.5 | 0.1 | 0.5 |
| Public investment | 1.9 | 3.4 | -1.9 | -7.1 | 1.4 | 0.4 |
| Stockbuilding | -0.1 | -0.5 | 0.2 | 0.5 | -0.1 | 0.0 |
| Net exports | -0.4 | -0.8 | 1.0 | -0.6 | -0.1 | 0.0 |
| Exports of goods and services | -1.5 | -11.6 | 11.7 | 4.9 | 4.0 | 1.9 |
| Imports of goods and services | 1.0 | -6.8 | 5.0 | 7.9 | 4.3 | 1.7 |
| Output Gap | 0.7 | -2.9 | -1.6 | -0.9 | -0.1 | 0.2 |
| | | | *(In percent change, period average)* | | | |
| Inflation | | | | | | |
| Headline CPI | 0.5 | 0.0 | -0.2 | 2.5 | 2.7 | 2.2 |
| GDP deflator | 0.6 | 0.9 | -0.2 | 0.3 | 3.8 | 2.6 |
| | | | *(In percent of GDP)* | | | |
| Government | | | | | | |
| Revenue | 34.2 | 35.5 | 36.6 | 36.2 | 35.7 | 35.4 |
| Expenditure | 37.3 | 44.6 | 42.8 | 44.0 | 42.1 | 39.4 |
| Overall Balance | -3.0 | -9.1 | -6.2 | -7.8 | -6.4 | -4.0 |
| Primary balance | -2.4 | -8.4 | -5.6 | -7.5 | -6.2 | -3.8 |
| Structural primary balance | -2.6 | -7.5 | -5.6 | -7.4 | -6.2 | -3.9 |
| Public debt, gross | 236.4 | 258.7 | 255.4 | 261.3 | 258.2 | 256.3 |
| | | | *(In percent change, end-of-period)* | | | |
| Macro-financial | | | | | | |
| Base money | 2.8 | 19.2 | 8.5 | -5.6 | 2.3 | 3.8 |
| Broad money | 2.1 | 7.4 | 2.9 | 2.7 | 5.5 | 4.0 |
| Credit to the private sector | 3.2 | 6.1 | 1.8 | 4.6 | 2.4 | 2.0 |
| Non-financial corporate debt in percent of GDP | 139.3 | 152.1 | 155.7 | 154.9 | 151.3 | 147.7 |
| | | | *(In percent)* | | | |
| Interest rate | | | | | | |
| Overnight call rate, uncollateralized (end-of-period) | -0.1 | 0.0 | 0.0 | 0.0 | … | … |
| 10-year JGB yield (end-of-period) | 0.0 | 0.0 | 0.1 | 0.4 | … | … |
| | | | *(In billions of USD)* | | | |
| Balance of payments | | | | | | |
| Current account balance | 176.3 | 147.9 | 197.3 | 90.0 | 131.8 | 180.3 |
| Percent of GDP | 3.4 | 2.9 | 3.9 | 2.1 | 3.0 | 4.0 |
| Trade balance | 1.4 | 26.6 | 15.6 | -117.8 | -83.0 | -25.6 |
| Percent of GDP | 0.0 | 0.5 | 0.3 | -2.8 | -1.9 | -0.6 |
| Exports of goods, f.o.b. | 695.0 | 630.6 | 748.6 | 751.2 | 779.3 | 814.6 |
| Imports of goods, f.o.b. | 693.6 | 604.0 | 732.9 | 869.1 | 862.3 | 840.2 |
| Energy imports | 131.9 | 89.1 | 127.8 | 194.0 | 162.3 | 152.1 |
| | | | *(In percent of GDP)* | | | |
| FDI, net | 4.3 | 1.7 | 3.6 | 3.2 | 3.1 | 3.2 |
| Portfolio Investment | 1.7 | 0.8 | -4.0 | -3.4 | -0.7 | -0.8 |
| | | | *(In billions of USD)* | | | |
| Change in reserves | 25.5 | 10.9 | 62.8 | -47.4 | 11.5 | 11.5 |
| Total reserves minus gold (in billions of US$) | 1286.3 | 1348.2 | 1356.2 | 1178.3 | … | … |
| | | | *(In units, period average)* | | | |
| Exchange rates | | | | | | |
| Yen/dollar rate | 109.0 | 106.8 | 109.8 | 131.5 | … | … |
| Yen/euro rate | 122.0 | 121.9 | 129.9 | 138.6 | … | … |
| Real effective exchange rate (ULC-based, 2010=100) | 75.2 | 75.3 | 73.0 | 62.0 | … | … |
| Real effective exchange rate (CPI-based, 2010=100) | 76.6 | 77.3 | 70.7 | 60.9 | … | … |
| | | | *(In percent)* | | | |
| Demographic Indicators | | | | | | |
| Population Growth | -0.2 | -0.3 | -0.3 | -0.3 | -0.4 | -0.5 |
| Old-age dependency | 47.6 | 48.3 | 48.7 | 48.9 | 49.3 | 49.8 |

Sources: Haver Analytics; OECD; Japanese authorities; and IMF staff estimates and projections.

INTERNATIONAL MONETARY FUND

# JAPAN

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION

March 7 2023

## KEY ISSUES

**Context**. **Japan is navigating the recovery from the pandemic and the implications of the war in Ukraine.** COVID-19 related restrictions have been gradually reduced since 2022, with border reopening last October. Headline inflation has recorded levels not seen in four decades.

**Outlook and risks**. Japan's economic recovery is expected to continue, supported by pent-up demand, supply chain improvements, border reopening, and policy support. Inflation is expected to rise further in early 2023, reflecting the delayed effect of yen depreciation and border reopening before declining again. While domestic risks are balanced, there are significant external downside risks to growth.

**Policy lines.**

- In the near term, policies should focus on achieving the 2 percent inflation target durably, without overshooting significantly, while preserving financial stability, and in the medium-term to reduce fiscal vulnerabilities and transition to a more dynamic, resilient, and inclusive economy.
- Pandemic-related **fiscal** support should be withdrawn more quickly, and fiscal consolidation is warranted to rebuild fiscal buffers and ensure debt sustainability. Growth-friendly fiscal consolidation should be underpinned by a credible medium-term fiscal framework to reduce the primary deficit and the debt-to-GDP ratio.
- While an accommodative monetary policy stance remains appropriate, given the two-sided risks to inflation, more flexibility in longer term yields is warranted to better manage risks and help address the costly side effects of prolonged easing.
- Interest rate and credit risks in the **financial** sector warrant close monitoring. These risks include credit exposures to leveraged overseas borrowers and large domestic borrowers. The resilience to US dollar liquidity stress should be further improved. Macroprudential policies aiming to curb vulnerabilities from growth in housing loans could be considered.
- **Structural** policies should help boost income growth, support startups, deepen digitalization, and achieve climate targets. Labor market policies should encourage more women and older persons to join the work force and reduce labor market duality. Higher carbon pricing could help Japan achieve its climate targets in a growth-friendly way.

Approved By
**Sanjaya Panth (APD) and Kenneth Kang (SPR)**

Discussions with officials took place between January 11 and 26, 2023. The team comprised R. Salgado (mission chief), K. Asao, P. Khera, P. Lopez Murphy, R. Xu, T. Xu (all APD), S. Fendoglu (MCM), J. Schmittmann, and H. Seitani (both OAP). Executive Director J. Mizuguchi and S. Panth (APD) joined some meetings. The First Deputy Managing Director and some mission members met with Finance Minister Suzuki and BOJ Governor Kuroda. S. Abebe and K. Chahande (both APD) assisted in the preparation of this report.

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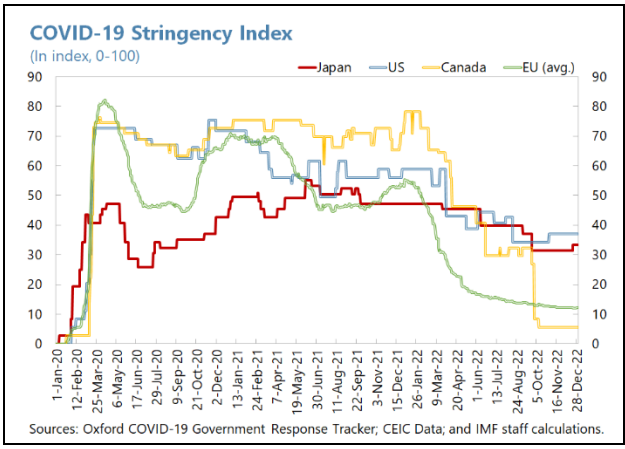
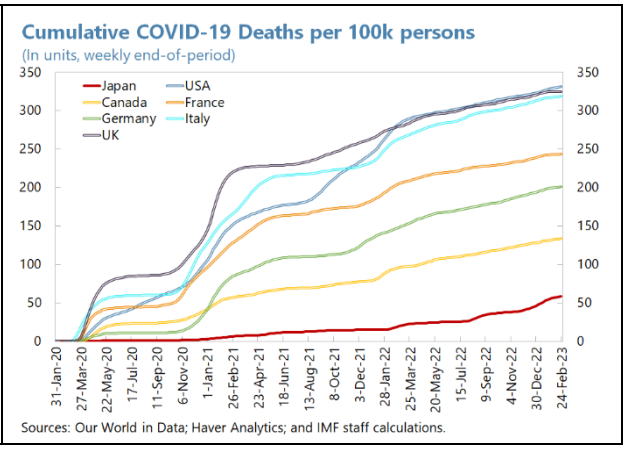
# CONTEXT

**1. Japan is navigating the recovery from the pandemic and the implications of the war in Ukraine.** Since 2022, the government has been gradually relaxing COVID-19-related restrictions and the borders were reopened in October. Death rates from COVID-19 remain well below other advanced economies and the economic recovery is firm. Japan has been hit by the war in Ukraine as a commodity importer alongside lingering supply chain disruptions; and headline inflation has recorded levels not seen in four decades. An important challenge going forward is that the economy regains dynamism to overcome structural challenges from population ageing and low productivity growth.




**2. This is occurring against a longer-term background of slow growth, muted inflation pressures for decades, large fiscal deficits, and a remarkable build-up in government debt.** Japan has achieved modest real GDP growth rates since the bubble burst in the early 1990s.[1] Fiscal policy has featured persistent fiscal deficits and a steady increase in the public debt-to-GDP ratio.[2] CPI inflation has recorded an average of 0.3 percent since 1992, with periods of deflation especially in the early 2000s.

**3. The Kishida administration started in October 2021 and aims to make capitalism more resilient and sustainable.** The cabinet published the economic policy agenda on "a new form of capitalism" in June. The goal is to overcome challenges such as inequality and climate change, and to enhance economic security. Policy priorities include: (i) human capital and distribution, (ii) science, technology and innovation, (iii) start-ups and open innovation, and (iv) Green Transformation and Digital Transformation, with the latter two expanding on efforts by the previous Suga administration.

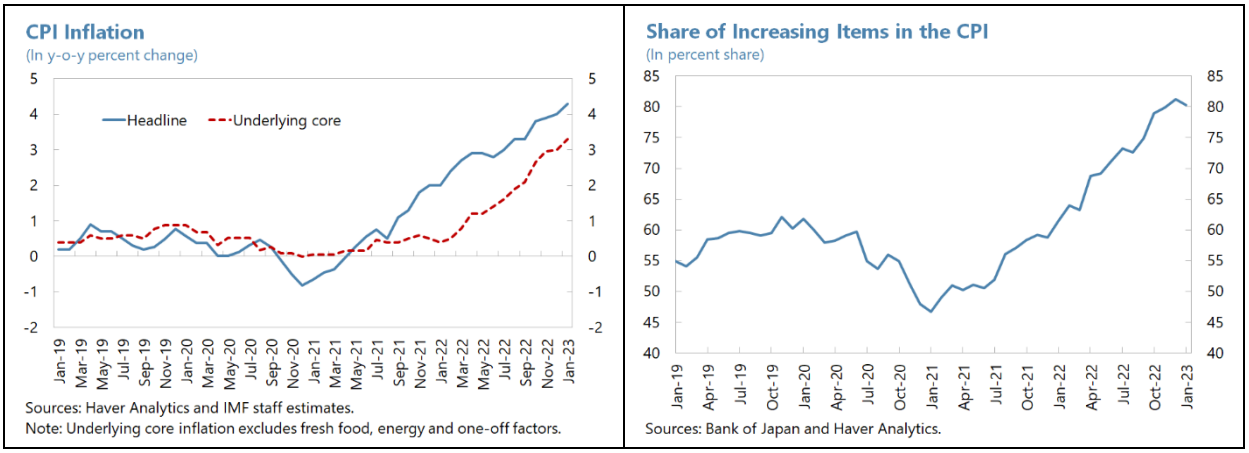
[1] Real GDP per capita growth in Japan averaged 0.6 percent during 1992-2021 compared to 1.1 percent in other G7 economies.

[2] Gross public debt increased from 62 percent of GDP in 1991 to 262 percent of GDP in 2021.

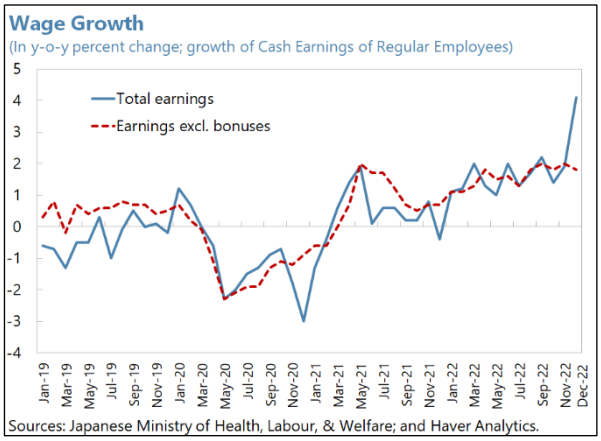
# RECENT DEVELOPMENTS

**4. The economy continues to recover driven by domestic demand while a weaker global economy has been weighing on external demand**. Real GDP increased by 1.1 percent in 2022 and remains below the level in 2019 (on an annual basis). Private consumption led the recovery and private investment also rebounded (Figure 1). Industrial production recovered strongly during the summer as supply chain constraints due to lockdowns eased.

**5. Inflation has accelerated in recent months, with more wide-spread price increases**. Headline inflation has been above 2 percent y/y since April driven by external factors including the lagged effects of higher commodity prices and yen depreciation. In January, headline inflation was at 4.3 percent y/y and staff's estimate of underlying core inflation was at 3.3 percent y/y.[3] The share of price-increasing items is rising steadily as the higher cost of raw materials has been passed on to many goods and services. Survey-based medium-term inflation expectations for firms have risen above 2 percent (Figure 2, middle left) whereas households' expectations remain around 1 percent in 2022Q4 (Annex I). Market-based inflation expectations remain well below 2 percent (Figure 2, middle right).




**6. The passthrough from inflation to wages has been limited so far**. Wage growth has been outpaced by inflation despite an unemployment rate at 2.5 percent, a labor force participation rate at a historical peak of 63 percent, and a steadily growing job opening-to-applicants ratio (Figure 5). The modest wage pressures reflect the outcome of the annual wage negotiations in spring 2022 in which the agreed average base pay increase was only 0.6 percent




[3] Underlying core inflation is defined here as headline inflation excluding energy, fresh food, and one-offs.

and a history of stagnant nominal wages in the last 25 years (see *2023 Japan: Selected Issues* paper "Structural Barriers to Wage Income Growth in Japan"). That said, total wage growth has accelerated to 4.8 percent y/y in December, while base wage (i.e., excluding bonuses) growth was 1.9 percent y/y.[4]

**7. The Japanese authorities announced a large fiscal package in late October.**[5] It was designed to cushion the impact of higher inflation on households and corporates, and to accelerate the agenda of the new form of capitalism. It included subsidies to electricity, gas, oil, and cash transfers to child-rearing households (see paragraph 18). This package was preceded by smaller ones that were adopted in April and September after the budget for FY2022 was adopted on April 1.

**Japan: Fiscal Packages Released in 2022**

**April Package**

Above-the-line expenditure by central and local governments: ¥2.7 trillion (0.5 percent of GDP)

**September Package 1/**

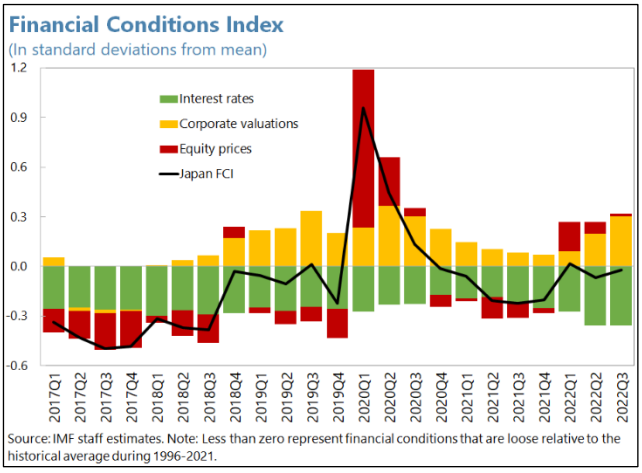
Above-the-line expenditure by central and local governments: ¥3.5 trillion (0.6 percent of GDP)

**October Package**

Above-the-line expenditure by central and local governments: ¥23.9 trillion (4.3 percent of GDP)

Sources: Japan Cabinet Office, Japan Ministry of Finance, and IMF staff calculation.
1/ The authorities count the fiscal measures announced in September as a part of the October package, but we categorize them as an independent one, since they were announced separately. Also, the authorities spent ¥0.3 trillion from their contingency reserve fund in July.

**8. Monetary policy remains ultra-accommodative, with the recent tweak to Yield Curve Control (YCC) by the Bank of Japan (BoJ) aimed at making it more sustainable.** The BoJ has underscored that monetary easing will continue unless inflation picks up durably, and that stagnant wage inflation could limit a sustainable pickup in inflation. Amidst upward market pressure on its yield cap from rising global interest rates in December, the BoJ widened the band around its zero percent 10-year Japanese Government Bond (JGB) yield target from 0.25 to 0.50 percent as well as significantly expanded its purchases of JGBs. Meanwhile, it left its short-term policy rate at minus 0.1 percent. In January, the BoJ also

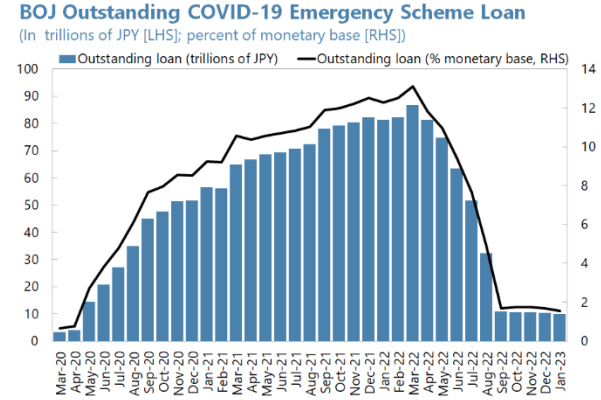


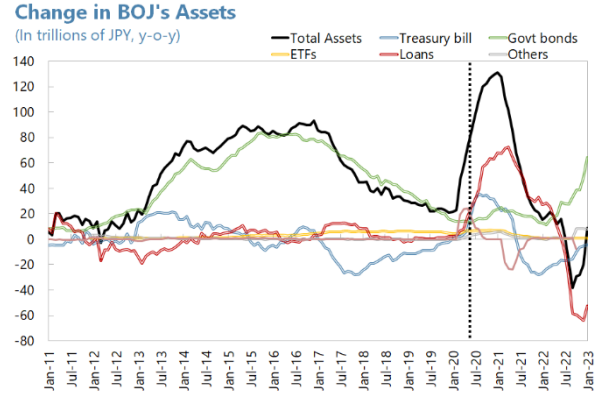

[4] Base wage growth is less volatile than total wage growth and is a more reliable indicator of underlying wage dynamics.

[5] The impact of the October package on the fiscal deficit is mainly mitigated by better-than-expected revenue performance.

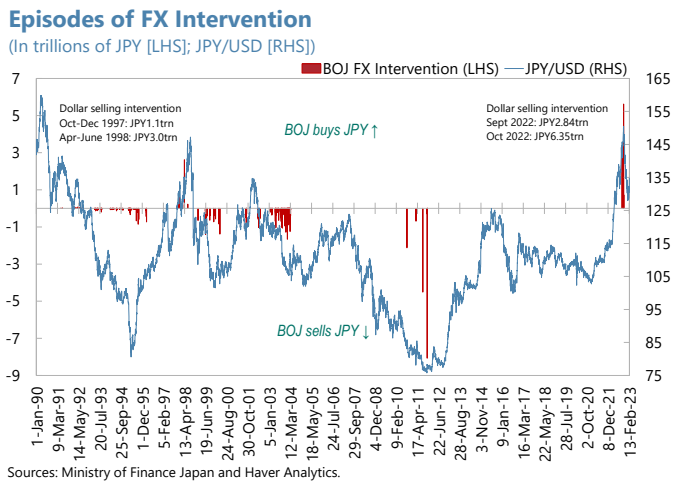
expanded its fund-supplying operations against pooled collateral – i.e., provision of funds to banks to indirectly push down JGB yields by incentivizing banks to invest in JGBs. Private sector credit growth remains strong at 4.5 percent y/y (end-December)—including due to firms' elevated demand for financing amidst higher input costs and economic recovery (Figure 3)[6].

**9. Balance sheet accommodation has increased in recent months.** The BoJ's balance sheet expanded significantly in response to the pandemic—rising from 110 percent of GDP at end-2019 to 135 percent of GDP in 2022Q1. While unwinding of COVID-related special lending measures has led to a decline in the BoJ's balance sheet and monetary base, it is being offset by a substantial increase in its quantitative easing across JGB maturities to defend its yield cap (since the Fed started to raise rates in March 2022) as well as by the recent expansion in its fund-supplying operations (Figure 3).



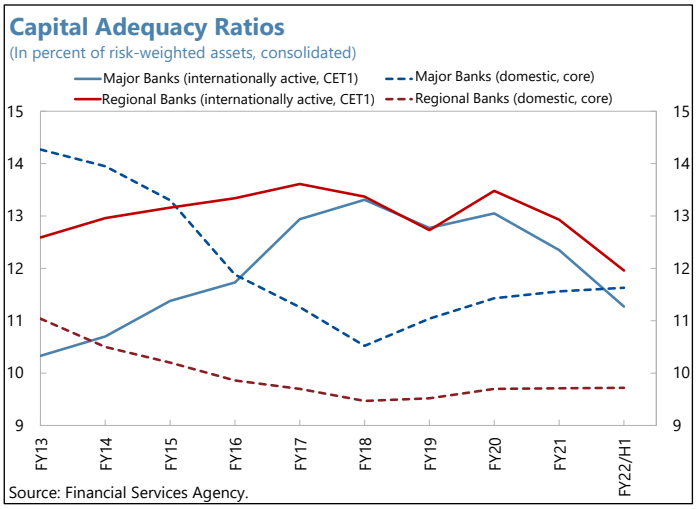




**10. The monetary policy divergence between Japan and its peers has contributed to a large yen depreciation, triggering foreign exchange intervention (FXI) to support the yen for the first time since 1998**. By mid-September, the yen had weakened by nearly 27 percent against the US dollar since the Fed started to raise policy rates in March 2022. Worried that the yen's excessive volatility could hurt the Japanese economy, the authorities intervened to support the yen: (i) on September 22, there was a first intervention of nearly USD20 billion; (ii) in October, there were further interventions amounting to around USD43 billion. This is equivalent to 5 percent of forex reserves at end-August, with forex reserves declining to US$1.08 trillion at end-October.

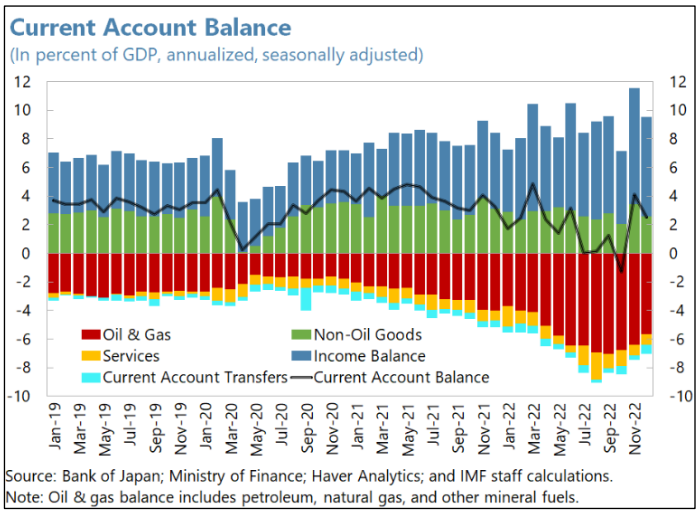



[6] Based on loans from domestically licensed banks.

**11. The financial sector weathered several headwinds last year, including monetary policy tightening by other central banks and the global economic slowdown**. Capital adequacy ratios of internationally active banks continue to remain well above regulatory minimums, despite valuation losses on overseas securities holdings and higher foreign currency funding/hedging costs. Common equity Tier 1 capital ratio of internationally active banks have declined by close to 1 percentage point on average from end-March to end-September 2022, while the core capital ratio (excluding unrealized valuation losses) has been flat for domestically-oriented banks. Non-performing loans ticked up only marginally (reaching 0.8 and 1.8 percent for major and regional banks as of end-September 2022, respectively). Interest rate risks on banking books are elevated, especially for smaller banks given their higher and longer-tenor JGB holdings since the start of the pandemic. The direct exposure of the financial sector to the war in Ukraine has been limited.



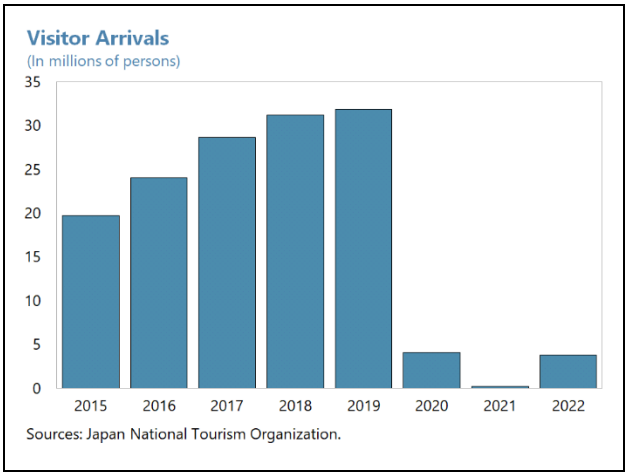

**12. The current account surplus has narrowed significantly due to a sharp rise in the value of commodity imports**. It declined to 2.1 percent of GDP in 2022 from 3.9 percent in 2021 and a 3.8 percent of GDP average in 2016-19.[7] This is mainly driven by a deterioration in the trade balance reflecting higher commodity import prices amid Japan's high reliance on imported energy sources, outpacing the rise in exports as supply bottlenecks gradually ease. The external position in 2022 is assessed as broadly in line with medium-term fundamentals and desirable policies (Annex II). This assessment is preliminary; a final assessment will be presented in the 2023 External Sector Report.

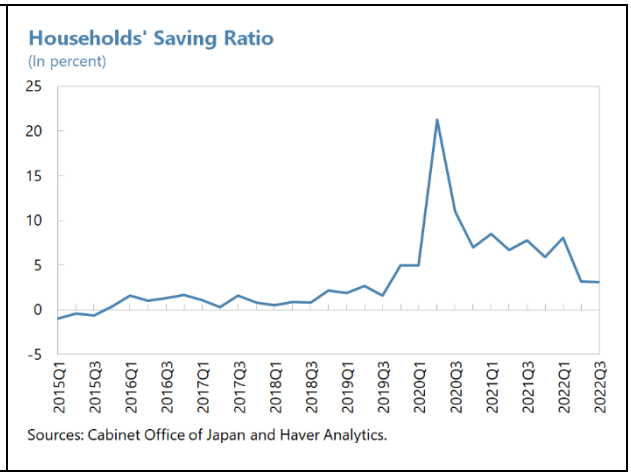



[7] Historical data revisions have led to a change in the 2021 current account surplus from 2.9 percent in the 2022 Article IV staff report to 4 percent. This is driven by an upward revision in the primary income balance from reinvested earnings.

# OUTLOOK AND RISKS

**13. The economic recovery is projected to continue in the near term amid pent-up demand, supply chain improvements, border reopening and policy support.** Growth is expected to increase modestly to 1.3 percent in 2023 driven by private consumption and business fixed investment. The output gap is projected to close in early 2023.[8] The consumption of services will be supported by savings accumulated during the pandemic and transfers included in the October fiscal package. Exports will rise as supply side constraints ease and inbound tourists return. High corporate profits from a depreciated yen and delays in implementing previous projects will support business investment. The primary fiscal deficit will stay elevated in 2023 following the adoption of the October 2022 fiscal package. The current account surplus is projected to bounce to an average of 3 percent of GDP in 2023 driven by lower commodity prices and inbound tourism.




**14. Inflation is expected to rise further in early 2023 due to the delayed effect of yen depreciation and border reopening before declining again.** Inflation is projected to peak in 2023Q1 and gradually fall below 2 percent by end-2024 as cost increases from higher import prices and a more depreciated yen wane, along with the impact of the new energy subsidies included in the October fiscal package. Amid a tighter labor market, base wage growth is expected to accelerate in 2023 but will likely stay below the level that the BoJ considers consistent with achieving the 2 percent inflation target in a sustainable manner.[9]

**15. An aging and declining population will continue to be a major macroeconomic challenge in the medium and long term.** Official projections anticipate the population will rapidly age and shrink by about 30 percent in the next 40 years. This will be a drag on potential growth as well as a risk to fiscal sustainability, with potential financial stability implications.

[8] Output gap estimates have been revised since the 2022 Article IV consultation using a methodology that is very similar to the one used by the Bank of Japan (Annex III).

[9] Wage growth of 3 percent would be consistent with inflation of 2 percent and labor productivity growth of 1 percent.

Labor market rigidities also limit productivity growth and the reflation of the economy. Under baseline assumptions, headline inflation is projected to remain around 1.5 percent in the medium term, below the BoJ's 2 percent inflation target. The current account surplus is projected to remain close to 3.8 percent of GDP, broadly corresponding to the income surplus arising from Japan's large positive net international investment position and high net returns.

**16. While domestic risks are balanced, there are significant external downside risks.** Downside risks to growth include: 1) deepening geo economic fragmentation and geopolitical tensions; 2) an abrupt slowdown of the global economy; 3) commodity price volatility; 4) natural disasters and 5) cyberthreats. In addition, there are risks to the economy that could arise from any abrupt change of the current monetary policy framework. Upside risks to growth include a more robust recovery of consumption, especially services, and a stronger-than-expected recovery of inbound tourism (Annex IV). As regards inflation, risks are two-sided, albeit with the upside more prominent in the short term.

***Authorities' Views***

**17. The authorities broadly agreed with the Fund staff's assessment on the economic outlook and near-term risks.** Like staff, they expected real GDP growth to remain strong in 2023, before gradually converging to its medium-term potential. They expected inflation to decelerate in 2023 due to energy subsidies from the government and the waning effects of high import prices in 2022. The authorities concurred with the preliminary assessment that Japan's 2022 external position was broadly in line with medium-term fundamentals and desirable policies.

# ECONOMIC POLICIES

*The discussions focused on the combination of policies that are needed in the near term to achieve the 2 percent inflation target durably, without overshooting significantly, while preserving financial stability, and in the medium-term to reduce fiscal vulnerabilities and transition to a more dynamic, resilient, and inclusive economy.*

*Near term policies: Given the high uncertainty on the inflation outlook and the narrowing output gap, more flexibility in longer-term yields should be considered. Prospectively, this could lead to a smoother transition to a neutral monetary stance, once it is clear that the inflation target will be durably achieved. Changes in monetary policy settings should be properly planned and communicated, including to reduce financial sector risks. Macroprudential and other policies should seek to curb financial sector vulnerabilities. Pandemic-related fiscal support should be withdrawn quickly, and new measures limited and targeted only to vulnerable households to avoid overheating the economy. Steps are needed to boost labor income and achieve a virtuous cycle of income and growth.*

*Medium-term policies: Growth-friendly and credible fiscal consolidation is necessary over the medium term to put public debt on a downward path and to rebuild fiscal buffers. Financial support measures should be limited to viable firms to prevent the survival of low-productivity*

*firms. Labor market and fiscal reforms are warranted to raise potential growth, reduce gender inequalities, and offset the drag from fiscal consolidation. Promoting green and digital investment could help achieve climate targets and reap the benefits of the digital economy.*

## A. Fiscal Policy

**18. The large fiscal package adopted in October 2022 could have been smaller and better designed.** The package is expected to mitigate the fiscal drag for 2023 and 2024 as the effect of past stimuli measures dissipates. However, there are some concerns. First, the size of the stimulus is too large given the output gap is projected to close in 2023, while the debt to GDP is already at a high level. Second, on the composition side, the new electricity[10] and gas subsidy, as well as the existing petroleum subsidy, which is being extended, are not targeted towards vulnerable households. Targeted subsidies would have had a stronger impact on GDP growth and less distorted energy consumption (Annex V). Also, the cash transfer to child-rearing households could have been targeted. Untargeted support will lead to higher household savings (see Annex VI) because of the low propensity to consume in Japan. Lastly, measures relating to needed structural reforms, such as digitalization and climate change, are limited.

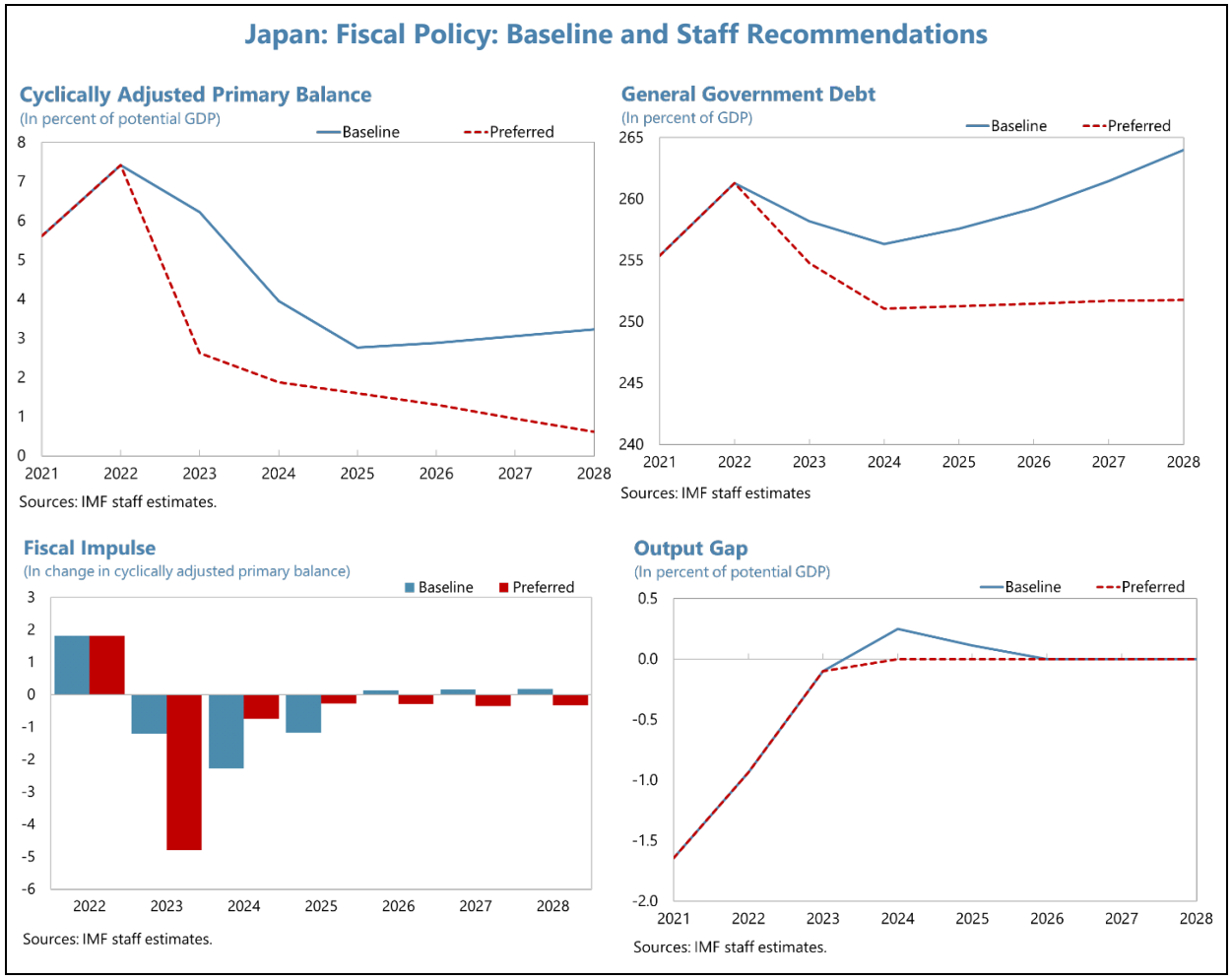
**19. Amid the ongoing recovery, rising inflation, tighter labor markets, and a closing output gap, fiscal policy support should be withdrawn more quickly**. The combination of the fiscal packages and the budget for FY2023 will result in a primary deficit of 6.2 percent of GDP in 2023. Although Japan still has some fiscal space in the near term, the stimulus measures lead to a further narrowing of that space. Amid resilient private demand and a closing output gap, the projected fiscal support in 2023 will have very limited impact in further raising output and instead would aggravate fiscal vulnerabilities. Moreover, it could add to inflation, which would require a stronger monetary tightening response, increasing the cost of fiscal financing and worsening the debt dynamics (Section D). Staff recommends a significantly faster consolidation in 2023 compared to the baseline mainly by unwinding the non-targeted transfer measures with a fiscal multiplier of 0.1[11], and a more significant consolidation over the medium term (see Text Figure below). As government spending pressures continue to rise in certain policy areas, such as national security, green transformation, and child-related policies, any additional spending measures should be targeted to low-incomes and come hand in hand with revenue raising measures.

**20. Under current policies, the public debt-to-GDP ratio will increase steadily in the medium and long term** (Annex VII). The primary deficit in percent of GDP is projected to decline in the near term as the stimulus measures phase out, but to rise in the medium and long term to accommodate age-related spending pressures, especially for health and long-term care. The

[10] Electricity companies have requested prices increases which could offset the subsidy. But the government will not respond to those price increases until early 2023 or later. Therefore, they are not incorporated in the projections.

[11] For example, fiscal packages during 2020-22 included untargeted transfers to households, which had a low fiscal multiplier due to the low propensity to consume in Japan. See Annex III of the 2022 Japan Article IV report.

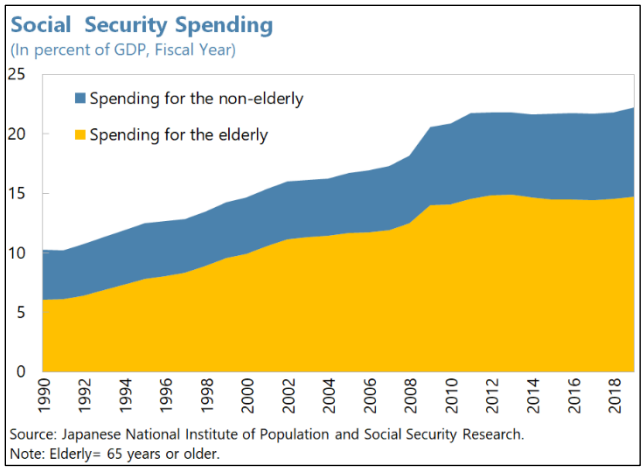
interest-growth differential is projected to become less favorable as a declining working age population weighs on potential growth. Against this backdrop, with the public debt-to-GDP ratio on an upward path, interest rates could increase suddenly, and sovereign stress could emerge.




**21. Fiscal consolidation is warranted to rebuild fiscal buffers and ensure debt sustainability over the medium to long term**. This should be underpinned by a credible medium-term fiscal framework to reduce the primary deficit and put the debt-to-GDP ratio on a clear downward path. The following measures could help bolster the credibility of the fiscal framework:

- *Adopting realistic projections.* GDP growth rates and fiscal balances projected by the Cabinet Office biannually have historically been too optimistic, particularly those under the high-growth scenario. The recent practice of including more realistic assumptions and implementing sensitivity analysis based on lower potential growth are steps in the right direction. However, more realistic scenarios are still warranted especially when discussing medium term fiscal targets. A fiscal council could be tasked to evaluate the realism of macro-projections provided that it has operational independence and resources commensurate to their remit.

- *Strengthening the fiscal framework.* Budget expenditures ceilings do not limit actual government expenditures given the established practice of adopting supplementary budgets. This practice breaks the link between the annual budget and medium-term fiscal targets. The budget process should be reformed so that budget expenditure ceilings are binding, budget documents explain how the budget is consistent with achieving medium-term fiscal targets, fiscal targets are underpinned by specific measures, and supplementary budgets are formulated only when unexpected large shocks occur.




- *Balancing debt sustainability while protecting growth.* The authorities should continue to assess progress towards the FY2025 primary balance target, weighing fiscal consolidation against the need to provide fiscal support to preserve growth if adverse shocks materialize (see *2022 Japan: Selected Issues* paper "Post-Pandemic Fiscal Policy: Implications from the Buffer-Stock Model of Government).

**22. Fiscal consolidation requires both revenue and expenditure measures.** Japan has relatively low tax revenues and relatively high age-related spending compared to peers. The increase in government spending in the last 30 years is accounted for by social security. In this context, fiscal consolidation should include:

- Policies to contain health and long-term care. Nozaki and others (2017) show that spending in these areas could increase to 14 percent of GDP by 2030. Possible measures include a mix of reforms to: (i) improve spending efficiency (e.g., more use of generic drugs, shorter duration of in-patient care, enhanced market-based drug pricing) and (ii) target measures (e.g., higher copayments for high-income seniors, limiting the scope of covered services and drugs). These measures could help contain the age-related expenditure while preserving the excellent health outcomes already achieved by Japan's healthcare system.

- Policies to increase government revenues. Options for raising revenues include: unifying and increasing the consumption tax standard rate; strengthening property taxation by removing the preferential treatment of residential land; rationalizing allowances and deductions in personal income taxation; increasing the capital income tax rate; and increasing premiums of social insurance (see *2022 Japan: Selected Issues* paper "Options for Revenue Mobilization").

- Policies to strengthen the safety net. There seems to be a clear gap in the safety net for the working poor (see *2023 Japan: Selected Issues* paper "Options to Strengthen the Safety Net in Japan"). In that context, an earned income tax credit (EITC) scheme, which provides tax credits for low-income earners, could be considered in Japan since it plays an important role in many

advanced economies for poverty reduction while enhancing labor participation. An EITC would also help to rationalize existing untargeted transfers.

***Authorities' Views***

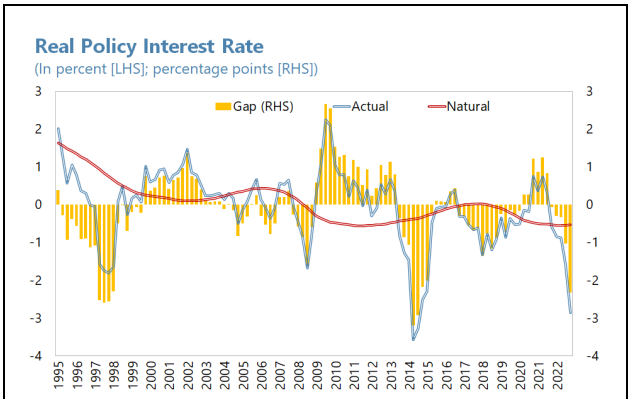
**23. The Ministry of Finance agreed on the need for a withdrawal from special supporting measures coping with the economic downturn and difficulties caused by COVID-19.** Officials stressed that progress has been made in the withdrawal from COVID-related measures, including the termination in January of the temporary expansion of the Employment Adjustment Subsidy. The energy subsidies will be terminated this fall to help proceed with their decarbonization initiative. They added that the withdrawal from these supportive measures should be carefully undertaken in a growth-friendly manner.

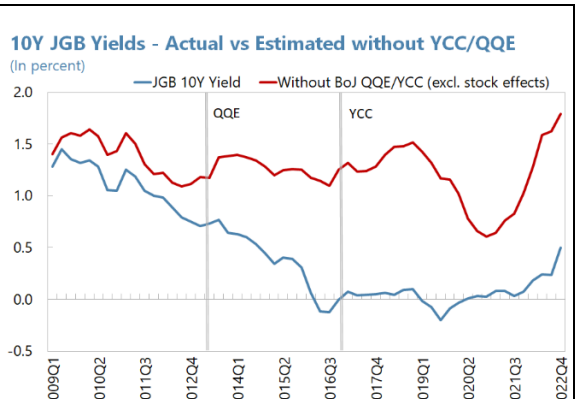
**24. They concurred on the need for fiscal consolidation in the medium to long term amid rising spending pressures.** There is currently a planned increase in expenditure on national security, green transformation, and child-related policies. However, the concrete offsetting revenue measures are not yet finalized, such as the timing of the introduction of tax measures for national security and the details of growth-friendly carbon pricing. The Ministry of Finance agreed that any additional spending measures should be targeted and accompanied by revenue measures. On Japan's fiscal framework, they acknowledged the argument that the practice of adopting supplemental budgets undermines fiscal discipline, which should be strengthened to put public debt on a downward path. They emphasized the necessity to work on achieving their medium-term fiscal target, while recognizing that policies should not be constrained by the current timeline to reach neutral primary balance by FY2025, and that the adoption of necessary policies can be consistent with achieving the fiscal consolidation target.

**25. They stressed that fiscal structural reforms are in progress.** These reforms included the further expansion of the employees' health/pension insurance coverage to part-time workers last October. Also, they noted that information sharing among the central and local governments needs to be improved to make fiscal transfers more timely and better targeted.

## B. Monetary Policy

**26. An accommodative monetary policy stance remains appropriate but needs to be supported by other policies to achieve the 2 percent inflation target sustainably**. With higher inflation, monetary policy is now more accommodative as measured by the gap between the actual and natural short-term interest rate. While an overall accommodative stance is helping stimulate domestic demand, without a more substantial acceleration in wage growth, inflation will fall below the 2 percent target by end-2024, as the effects of cost increases led by the rise in import prices and a more depreciated yen are likely to wane. It is thus necessary to simultaneously implement other policies to raise households' purchasing power through improvement in wages, in line with the inflation target (see *2023 Japan: Selected Issues* paper "Structural Barriers to Wage Income Growth in Japan").



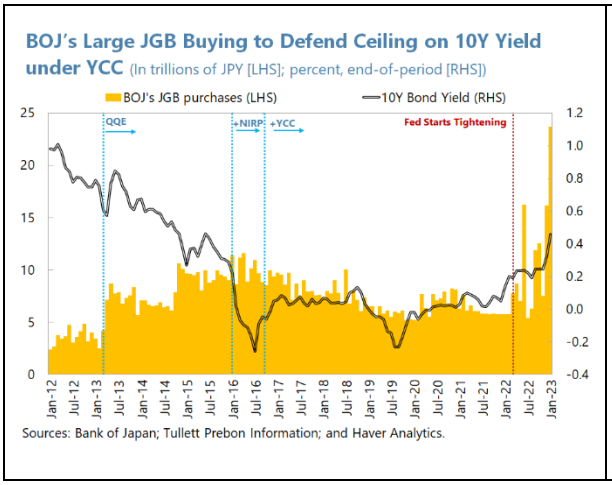



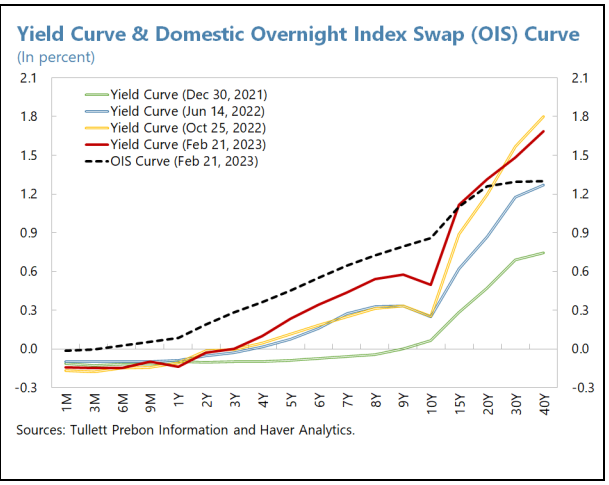

**27. Nonetheless, there is exceptionally high uncertainty around baseline inflation projections with both upside and downside risks.** Notwithstanding a long history of very low inflation, in the near term, upside risks to inflation are more prominent amidst a narrowing output gap and lower real interest rates. These include upside price pressures from delayed effects of yen depreciation, border reopening, second round effects of imported inflation, fiscal support, and higher-than-expected wage growth. Staff estimates that a 10 percent depreciation would lead to a 0.7 percent increase in the CPI level after three to four quarters. Moreover, border reopening is expected to boost services consumption and tighten the labor market. In addition, Japan's largely backward-looking inflation expectations could prolong high inflation once it emerges. Downside risks arise mainly from a slowdown in the global economy along with rigidity in inflation expectations and prolonged weak wage growth due to structural factors in the labor market.

**28. To better manage the two-sided risks around inflation, more flexibility in longer term yields should be considered.** If inflation pressures appear more persistent, with sustained increase in nominal wage growth and economic recovery, more flexibility would automatically allow for a rise in long term rates. Prospectively, this could lead to a smoother transition to a neutral monetary stance once there is stronger evidence that the inflation target has been durably achieved. At the same time, it would also make monetary policy nimble in case further easing is warranted if for example a global recession materializes. Allowing such flexibility, while still underscoring the commitment to keeping the current negative policy rate unchanged until the 2 percent target is durably achieved would help avoid abrupt changes later. At the same time, providing clear guidance on the pre-conditions for a gradual policy rate lift off would help anchor market expectations and strengthen the credibility of BoJ's commitment to achieving its inflation target.

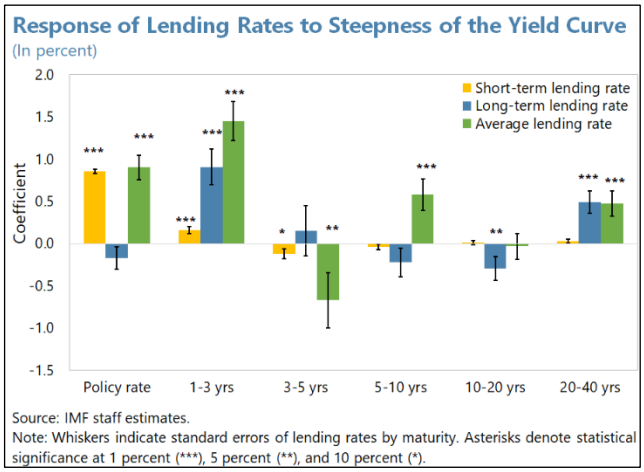
**29. This could also help address the mounting costly side-effects of prolonged easing.** Given the BoJ's outlier stance as other central banks normalize, market participants have continuously challenged the upper ceiling of the 10-year JGB yield target under the YCC framework. This market pressure has continued even after the December decision to widen the 10-year target band to +/- 50 bps. In response, the BoJ has purchased large amounts of JGBs in recent months and it now holds close to 82 percent of outstanding 10-year JGBs as of mid-February, an increase of 15 percentage points since the Fed tightening cycle began in March 2022. These purchases have reduced

liquidity in the JGB market, with market surveys indicating a sharp deterioration in bond market functioning since May. With markets repricing a higher U.S. terminal policy rate, there is a risk that pressures on the 10-year JGB upper ceiling target could increase, requiring additional intervention by the BoJ. Moreover, the yield curve has become distorted—the JGB yields of 8-9-year maturities have risen above that of the 10-year, and there is a sharp rise in yields for JGBs longer than 10-year maturity.




**30. The impact on real activity of changes in the long-term rates would be smaller than those in the short-term rates**[12]—hence, lowering potential risks of derailing the economic recovery and achieving price stability goals. This would also help reduce the degree of balance sheet accommodation, as the BoJ will likely need to purchase fewer JGBs. As of January 2023, about 80 percent of the BoJ's total assets are composed of JGBs, followed by 5 percent of Exchange Traded Fund (ETFs) and 2 percent combined of equities, Real Estate Investment Trusts (REITs), corporate bonds and commercial paper. Moreover, allowing higher longer-term rates and reducing the size of the balance sheet before raising the short-term policy rate could help lower risks to the BoJ's balance sheet–i.e., from a negative yield spread between assets and liabilities.[13]




[12] Staff's empirical analysis indicates that the JGB yield curve up to 3 years matters the most for economic activity, which is consistent with the average duration of loans in Japan of close to 3.5 years.

[13] Balance sheet normalization should be part of a broader strategy beyond reducing JGB holdings as BoJ's holdings of ETFs, equities, REITs, corporate bonds and commercial paper could create distortions which may impair market function and raise credit and governance risks.

**31. In this context, the BoJ could consider the following options to allow further flexibility and increases in long-term yields**— widening the 10-year target band and/or raising the 10-year target, shortening the yield curve target, or shifting from a JGB yield target to a quantity target of JGB purchases. While each of these options could allow higher long-term yields, and thus could imply some policy tightening, keeping its policy rate unchanged until the 2 percent target is durably achieved would keep monetary policy highly accommodative. The BoJ would need to carefully assess the pros and cons of each strategy. For instance, further widening the 10-year band around the yield target would entail a minor adjustment to the current YCC framework, however the fluctuation range will have to be wide enough for market forces to play a leading role thus minimizing the need for continued BoJ intervention. On the other hand, moving to a quantity-based approach instead would not entail defending a particular yield level and the side-effects that come with it, however the quantity of the BoJ's JGB purchases would need to be state-contingent and adjusted if yields moved up too rapidly (such that it could impair financial stability). Lastly, moving to a shorter-term yield target would help ensure that the short-term yields (which matters more for real activity) continue to stay low until the 2 percent target is durably achieved, but the BoJ may face similar costly side-effects that come with targeting a particular yield level. Moreover, in the scenario that the upside inflation risk materializes sooner than expected, monetary stimulus withdrawal will have to be much stronger–short-term rates may have to rise much earlier and above the neutral rate to anchor inflation back towards its 2 percent target (Section D).

**32. FXI was triggered by the volatility of the yen.** While the yen depreciation since March 2022 largely reflects interest rate differentials, empirical analysis suggests that the exchange rate has depreciated more than implied by underlying drivers since June. In general, FXI could help lower "excessive" volatility and keep the pace of the yen's depreciation better aligned with fundamentals and well-functioning markets, but its effects are likely temporary (Annex VIII). In principle, fluctuations in the exchange rate help absorb shocks. Hence, use of FXI should be limited to special circumstances such as disorderly market conditions, risks to financial stability because of sharp yen movements, and/or concerns that currency movements could de-anchor inflation expectations.

***Authorities' Views***

**33. The BoJ emphasized two-sided risks to inflation and stressed the need to stick with the current monetary framework and settings**. Although they acknowledged that Japan could be at an inflection point when it comes to inflation, they project tepid wage growth, which stands in the way of achieving the 2 percent target in a sustainable manner and allows time to adjust monetary policy gradually once needed. Amid downside risks to inflation and a protracted battle to break decades of a "deflationary mindset", the BoJ's key priority is to avoid a premature exit from monetary easing.

**34. The BoJ is confident that the recent measures and modifications to the conduct of the YCC will help improve market functioning while maintaining accommodative financial conditions**. Widening the 10-year yield fluctuation band will allow for more market-driven interest rates and should not be misconstrued as a move towards tightening. This combined with scaling up of the BoJ's fixed-rate JGB purchase operations across various maturities would encourage a

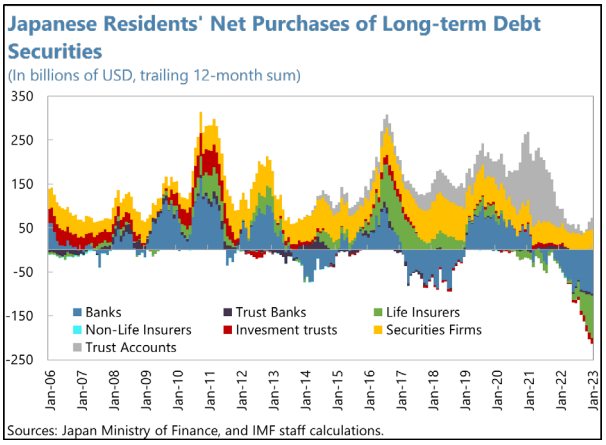
smoother formation of the entire yield curve. Enhancement of the funds supplying operation against pooled collateral in January would allow the BoJ to push down longer-term interest rates without needing to directly purchase bonds.

**35. The authorities emphasized that the FXI conducted in 2022 was aimed at addressing excess volatility, and that their action was effective in this regard.** They pointed out that the yen's depreciation at that time was rapid and one-sided, and that speculative trading was behind such moves. They noted that the FXI was clearly in line with international norms of exchange rate policy as agreed at G7, G20 and IMFC, particularly in the sense that it didn't target any exchange rate level. Moreover, they stressed that the Ministry of Finance (MoF) and BoJ pursue different policy objectives, with the BoJ aiming for domestic price stability while MoF responsible for exchange rate stability, and thus there is no inconsistency between the FXI by MOF and the BOJ's monetary policy stance.

## C. Preserving Financial Stability

**36. While the financial sector has been robust to several global headwinds this year, risks have increased amid monetary policy tightening in other peer economies and the slowdown in global economic activity**. Major internationally-active banks have increasingly been relying on more stable foreign-currency funding sources since mid-2010s (by lengthening the tenor of cross-currency swaps and strengthening the dollar deposit base), and steady efforts to further improve resilience to US dollar liquidity stress are warranted, including continuing to assess risks due to unused committed foreign currency credit lines at elevated levels. Amid the global slowdown and potential escalation of geopolitical risks, overseas credit risks, especially for leveraged borrowers, require close monitoring. Moreover, a global slowdown could weigh on large domestic customers.

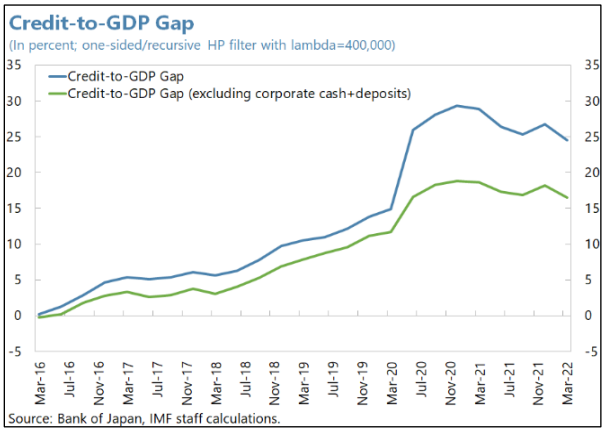
**37. Overseas exposures also weighed on non-bank financial institutions (NBFIs), in part mitigated by the yen depreciation**. Against the backdrop of ultra-low domestic yields for long, life insurers and pension funds had been significantly increasing their overseas holdings over the past decade to help boost returns, and in turn are exposed to the sharp changes in overseas market valuations. Although the Japanese Government Pension Investment Fund (GPIF) had negative investment returns in 2022, cumulative investment returns rates remain well above long-term targets, given its diversified portfolio and prudent investment strategies. Life insurers' statutory solvency margins remain well above regulatory minimums on average, though global headwinds weigh. Amid rising overseas yields and currency hedging costs, life insurers, along with banks, incurred valuation losses on securities holdings and reduced their overseas bond holdings



Sources: Japan Ministry of Finance, and IMF staff calculations.

significantly potentially contributing to the rise in overseas yields. They reportedly lowered hedging and re-allocated some of their overseas allocation toward riskier assets.

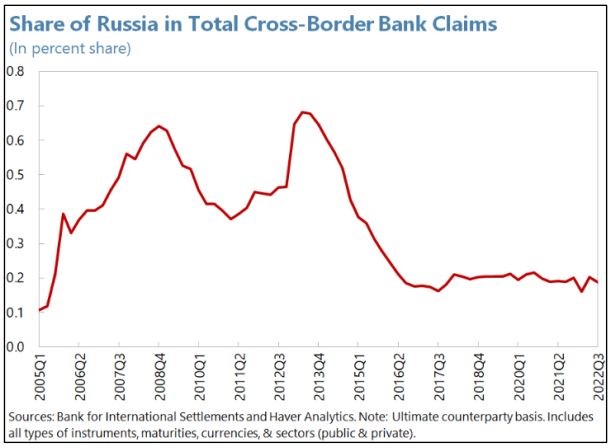
**38. Credit imbalances, measured by BIS credit-to-GDP gap, are high by historical standards, in part driven by the sharp drop in GDP at the outset of pandemic.** The credit-to-GDP ratio is nearly 25 percent above its one-sided long-term trend (as of March-2022) and is still 16 percent net of corporate savings. Credit imbalances often point to less efficient monitoring of risks and macro-financial vulnerabilities (Annex IX), and hence calls for closer scrutiny. The recent expansion in credit is driven by increasing loans to corporates (nearly half of which are publicly guaranteed) as well as housing and commercial real estate loans. The growth in housing loans, albeit moderate compared to international peers, continues to be above its historical trend since the pandemic. Authorities should remain vigilant to potential vulnerabilities that may arise due to the large fraction of floating-rate mortgages (which are typically linked to short-term market rates), increasing loan-to-income ratios, and the rising share of borrowers with high debt servicing ratios. Macroprudential policies aiming to curb vulnerabilities from growth in housing loans could be considered. The recourse nature of mortgage lending could mitigate risks to lenders, though could imply adverse impact on household consumption if risks materialize. Moreover, real estate property acquisitions by foreign investors reached highest levels since over one-and-a-half decade, and could imply higher exposure to developments in foreign real estate markets going forward. Continued vigilance on credit risks that may arise as pandemic-era support measures taper and reducing the public credit guarantee ratio for new loans (to encourage better risk assessment by lenders going forward and mitigate risks arising from lending to potentially unviable firms are warranted (see also Japan - 2022 Article IV Staff Report). Finally, credit risks that may arise from firms with limited ability to pass rising raw material costs to sales prices require close monitoring.




**39. The recent collapse of FTX has brought to the forefront potential hidden vulnerabilities in the crypto universe**. Continued vigilance on risks, including vulnerability to runs and wider spillover effects, and greater transparency by exchanges of their reserves and balance sheets is warranted. The FSA has assessed the money laundering/terrorism financing (ML/TF) risks presented by crypto assets as high and passed legislation, expected to be in effect in 2023, on crypto asset transfers in line with the "travel rule" imposed by the FATF standards.

**40. The direct exposure of the financial sector to the Russia-Ukraine conflict region is limited**. Japanese banks' claims on Russia and Ukraine prior to the War had been limited (about 9 billion US dollars, or less than 0.2 percent of total claims of banks in Russia). Japan-domiciled investment funds also have a low exposure to Russian assets, with less than 0.1 percent of their net asset

values. Indirect effects via its contribution to a global economic slowdown and exposure to more affected regions, and elevated cyber risks warrant attention.




**41. Overall, risks to financial stability appear higher compared to last year**. This reflects the significant increase in overseas interest rates, the global economic slowdown, interest rate risk on some banking books at elevated levels, and credit growth continuing to be above its historical trend with some signs of build up of risks.[14]

**42. The FSA's continued efforts to strengthen supervision and regulation in line with the 2017 FSAP recommendations are welcome (Annex X)**, including broadening the scope of systemic risk assessment, further strengthening the foreign currency liquidity stress testing framework, revamping the "Early Warning System" to timely identify banks with medium-term profitability concerns, and transition to the economic-value-based solvency regime for insurers.

- *Microprudential supervision and regulation*. Banks should enhance their risk management and capacity to harness the potential benefits of expanding into new business areas allowed by recent amendments to the Banking Act, including those that aim to support revitalization of regional economies. The pandemic-related policy support should be unwound as the recovery gains further traction to avoid delaying materialization of credit risks and enhance banks' assessment of viability of borrowers.

- *Macroprudential supervision and regulation*. Closer monitoring of market risks by the FSA is timely, and planned efforts to further strengthen risk monitoring of NBFIs and their interconnectedness with banks and other financial institutions is welcome. The FSA should continue to broaden the scope of systemic risk assessment and enhance its macroprudential toolkit available to address risks as they emerge.

- *Transition to economic-value based solvency regime for life insurers*. Incentivized to match the duration of their assets and liabilities under the new solvency regime to be in effect in 2025, life insurers with low fee incomes may choose to employ leverage-based investment strategies. Going forward, close monitoring would be warranted if any vulnerability is built up in the medium-term horizon.

[14] This said, Japanese mega banks reduced their yen duration risk significantly (with average maturity of their JGB holdings of 1-2 years), and assuming conditions warrant, higher domestic yields would likely benefit banks in the medium term. Moreover, some banks are reportedly planning to apply Basel III risk weighting scheme to their housing loans starting in March 2023 (and others from March 2024).

***Authorities' Views***

**43. The authorities broadly agreed with the Fund staff's assessment.** The FSA and the BoJ noted appropriate risk management by banks and non-bank financial institutions. The FSA has enhanced its market risk divisions and enlarged its dedicated teams monitoring not only major but also some regional banks. Authorities do not assess risks to housing loans as a significant concern at this time, given that the mortgage market is mostly bank-based in Japan unlike some other jurisdictions and well supervised, and the delinquency rate has remained low. Banks also set aside sufficient level of capital including for risks arising from mortgage loans. The BoJ expects no major change in corporate loan delinquencies going forward as pandemic-related support measures unwind. The FSA assesses risks from the FTX failure posed to Japan as limited, underlining that crypto asset trading platforms are registered and supervised at the FSA, and the law requires them to segregate customers' asset properly. The FTX failure however highlights the importance of cross-border cooperation going forward.

## D. Alternative Scenario: Sustained Inflation Pressures

**44. In the alternative scenario, we consider the case where headline and core inflation reach 5 percent by early 2024**, driven by higher-than-expected wage increases. Persistently high inflation would require fiscal, monetary, and financial policy responses. [15]

**45. A much stronger monetary tightening response would be warranted to bring inflation back to the target.** Given Japan's highly backward-looking formation of inflation expectations, inflation will likely stay higher for longer and will need a much stronger monetary tightening response. Both short-term and long-term interest rates will have to rise–pushing interest rates above the neutral rate by mid-2024 resulting in a larger contractionary impact on the economy in comparison to when there is less inertia in expectations formation[16]–which would bring inflation down to the target by late-2025 (Text Figure).[17, 18] Nonetheless, the BoJ may be constrained in normalizing policy too quickly especially given that the current stance is still far from its neutral rate. In this regard, the BoJ may need to implement targeted and temporary measures while tightening to ensure sufficient liquidity support and ensure proper market functioning.[19]

[15] In the underlying model, higher inflation is driven by a demand shock which follows an AR(1) process with a persistence parameter of close to 0.7.

[16] The underlying model does not capture the financial sector impact of the rise in interest rates, and hence likely underestimates the negative output costs of stronger monetary tightening.

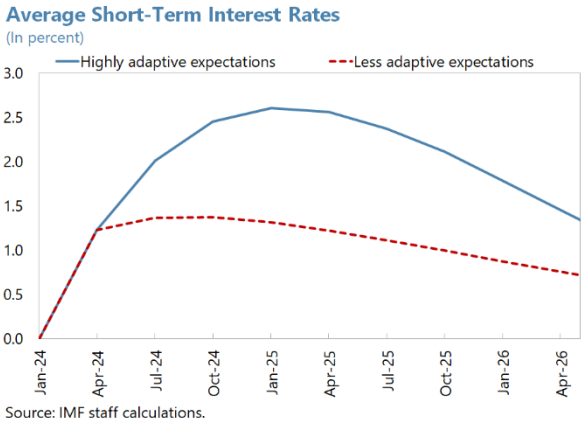
[17] Nominal neutral rate estimates for Japan range from 1 to 2 percent based on different methodologies.

[18] The path of inflation and the optimal interest rate are sensitive to assumptions about the model parameters.

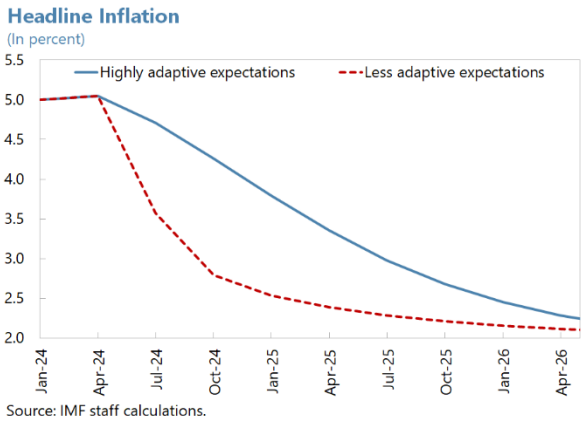
[19] For instance, the BoJ may need to relax terms and conditions to access its current Funds-supplying/absorbing operations to purchase/sell Japanese government securities with repurchase agreements and its complementary lending facilities (to provide loans to financial institutions).

## Japan: Monetary Tightening Scenarios with Adaptive Expectations[1]

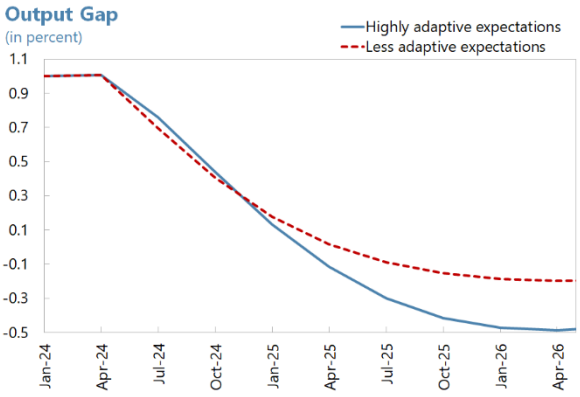
*Japan's inflation expectations are highly backward-looking with observed inflation estimated to contribute close to 65 percent towards formation of inflation expectations (blue line). We compare this to a scenario where inflation expectations are half as adaptive (red line).*




Source: IMF staff calculations.




Source: IMF staff calculations.



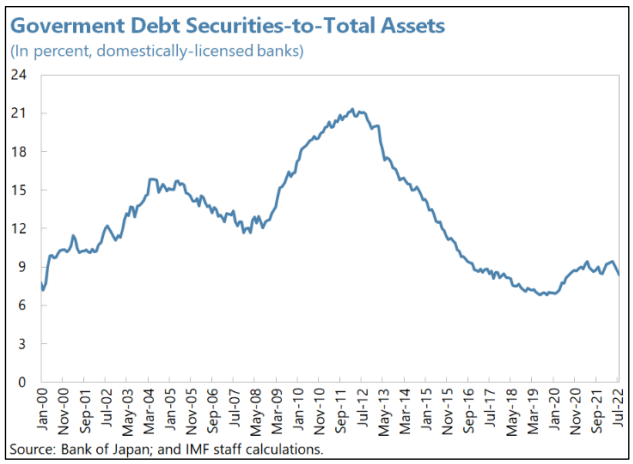

Sources: IMF staff calculations.

[1] A small Dynamic Stochastic General Equilibrium (DSGE) model is estimated for Japan. The model features a price Phillips curve and a limited rationality expectation formation process, which is called adaptative learning (forthcoming IMF working paper).

**46. Fiscal policy should also respond if inflation is persistently above target**. Faster withdrawal of pandemic-related spending would be warranted to dampen domestic demand. As interest rates rise, the cost of borrowing may increase and the transfer of BOJ profits to the government may decrease, worsening the debt dynamics and strengthening the case for fiscal consolidation. Targeted transfers could be made to mitigate adverse effects on the economy and protect the vulnerable, which would offset the fiscal withdrawal while avoiding inflationary pressure. Government spending should focus on priority areas, such as on green and digital transformation.

**47. Any changes to YCC would have short and medium-term financial stability implications that should be monitored, and the authorities should be ready to intervene to preserve financial stability**:

- Domestic banks have increased their JGB holdings during the pandemic, in part driven by significant deposit inflows against the backdrop of pandemic-era fiscal stimulus, exposing them further to movements in JGB yields. While an increase in JGB yields could entail valuation losses on banks, with likely stronger losses for smaller banks compared to their capital, a steepening of the JGB yield curve will tend to improve banks' profitability, as historically, lending margins improve with a steeper yield curve (see *2023 Japan: Selected Issues* paper "JGB Yield Curve and Macro-Financial Stability: How would a steeper JGB yield curve affect bank profitability?"). Banks that have reduced duration risk would be better positioned to absorb the short-term negative impact on bond valuations.




- Leveraged financial institutions with hedging strategies that cannot absorb large changes in yields may in principle feed an adverse loop of rising yields and deleveraging. An orderly change in yields is key and a proper assessment of risks on this front requires availability of high-quality data. According to the latest Financial System Report, Japan's pension funds follow simple investment strategies without leverage.

- A rise in short-term domestic interest rates could pose risks to households, amid higher loan-to-income and debt service-to-income ratios and high share of variable rates for mortgage loans.

- Finally, a rise in JGB yields could have global spillovers, affecting overseas yields through portfolio rebalancing by international investors with implications for overseas financial and macroeconomic conditions (Annex XI).

***Authorities' Views***

**48. The BoJ views the likelihood of staff's alternative scenario as highly unlikely, given labor market structural constraints that would limit a significant acceleration in wages.** They are more concerned about a scenario where a global recession pushes Japan back into a low inflation/deflation environment. Nonetheless, they noted that once the 2 percent inflation target is expected to be achieved in a sustainable manner, modification of YCC could be possible. Risks of disruptions to the market from modifying YCC would be contained–given Japan's low neutral rates and stock effects of BoJ's large JGB holdings–which would help avoid large swings in sovereign bond yields.

**49. The authorities broadly concurred with staff's assessment on potential financial stability implications of higher domestic interest rates.** The FSA highlighted that they have further strengthened market risk monitoring for both major and some regional banks amid the

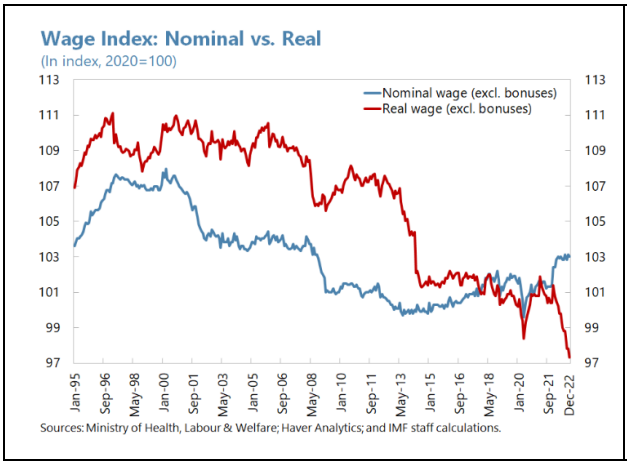
recent increase in yields and that NBFIs follow relatively conservative investment strategies unlike some other jurisdictions--which would limit potential amplification effects. The BoJ assessed housing market financial stability risks to be limited given historically low mortgage delinquency rates in Japan. The BoJ also pointed out that a potential rise in short-term rates could benefit floating-rate mortgage lenders.

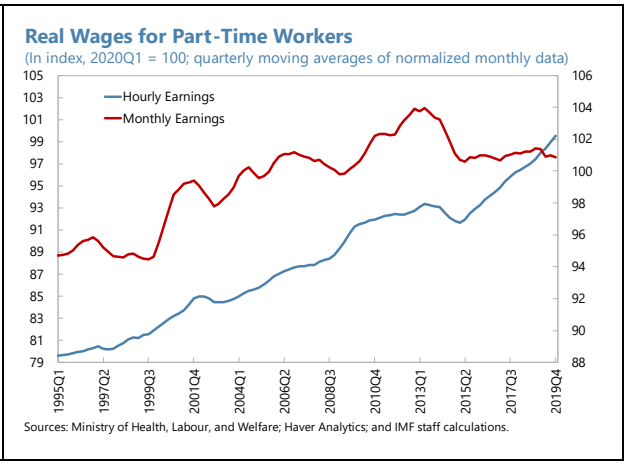
## E. Supporting the New form of Capitalism

*The reform priorities under the new form of capitalism are in line with past recommendations to ensure a green, inclusive, and sustainable recovery in Japan. However, the detailed implementation plans are still being prepared and warrant fleshing out. A credible and decisive push on reforms along the lines indicated below is crucial to boost Japan's potential growth.*

### Achieving the Virtuous Cycle of Income and Growth

**50. Despite significant growth in hourly wages in the last decade, average monthly earnings have declined since 2000 in real terms**. The decline in monthly income mainly reflects the rise of part-time workers and their declining hours (see *2023 Japan: Selected Issues* paper "Structural Barriers to Wage Income Growth in Japan"). More women started working part-time partly thanks to improved childcare options, and seniors increasingly worked after retirement partly due to higher pension eligibility age. Although hourly wages have increased sharply among part-time workers, various benefit policies for dependent spouses imposed an implicit cap on women's monthly income, such as the spousal deduction and the exemption of social security contributions. Such an implicit income cap has also reduced the effect of various minimum wage hikes and worsened the labor shortage, as women had to cut hours to stay below the income threshold to get such benefits. In general, the stagnant income level has weakened domestic demand and compromised the reflationary efforts by the authorities.



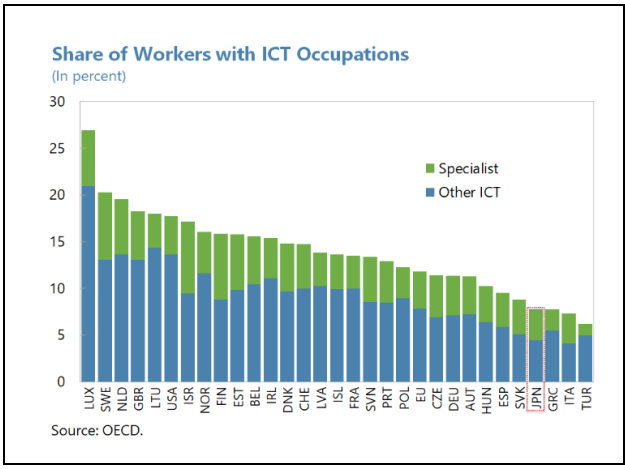



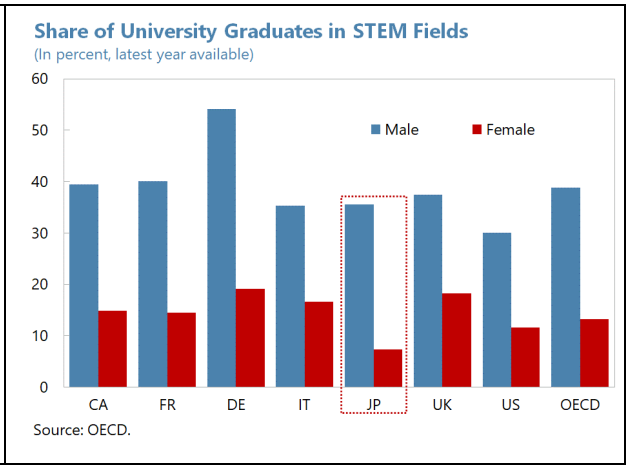

**51. Raising labor income will help reinvigorate domestic demand and lift growth, which in turn would increase labor income, forming a virtuous cycle and helping achieve the 2-percent inflation target durably**. The government's new form of capitalism policies to boost income growth should focus on three dimensions: labor supply, wage growth, and labor productivity.

- First, policies should continue to boost female and senior labor supply. To encourage more women to join the labor force, it is essential to advance the *work-style reforms*, including through telework.[20] Working from home during the pandemic has induced husbands to increase household production and allowed working mothers to put in an additional eight hours or more per week according to a recent study.[21] Flexible work arrangements could help women retain their full-time jobs at childbirth and improve their career prospects. The social security and tax distortions related to dependent spouses should also be eliminated to allow for voluntary increases in working hours. Further removing obstacles to the employment of older persons would improve labor supply.

- Second, the government can encourage higher wage growth through structural reforms. Reducing labor market duality and improving mobility can enhance workers' bargaining power and speed up wage growth. Shifting to job-based employment and to merit-based pay will support wage growth.

- And third, strengthening the workforce in STEM fields could enhance innovation, facilitate digitalization, and raise labor productivity. Japan is experiencing a slowdown in innovation and digitalization. A binding constraint cited by companies in pursuit of digital transformation is the shortage of skilled tech professionals. Compared to other OECD countries, the share of workers in Japan with ICT backgrounds is one of the lowest. The shortage in the talent pool is partly driven by the relatively low pay of tech professionals under Japan's seniority-based promotion system. Women in Japan are also more under-represented in STEM fields compared to other advanced economies (see *2023 Japan: Selected Issues paper* "A New Growth Engine for Japan: Women in STEM Fields"). To raise labor productivity, policies should strengthen training and reskilling in STEM fields for existing workers, and encourage more students to pursue STEM careers, especially among women. Raising the returns to STEM education, including through merit-based promotions and flexible work arrangements, can help achieve that goal. The work style reform since 2018 and the recent requirement to publish gender pay gaps can help in this regard.




[20] The Japanese government introduced a comprehensive work-style reform package in 2018. The aim is to modernize Japan's labor laws, including by reducing excessive working hours, increasing flexibility and eliminating differences in working conditions for regular and nonregular employees. The measures have been gradually phased in since 2019.

[21] See "Telework in the spread of COVID-19" by Okubo, T., 2022. Information Economics and Policy, 60.

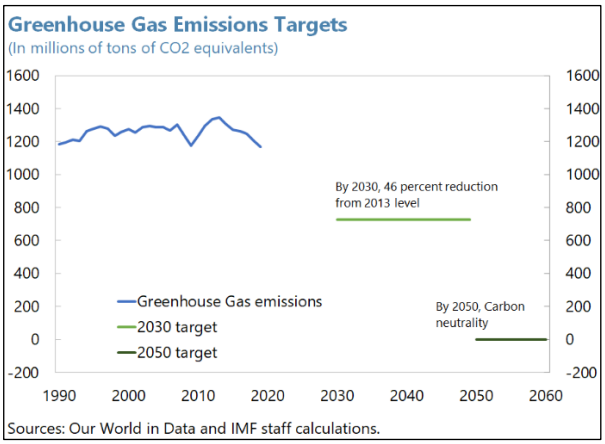
## Accelerating Startups and Open Innovation

**52. Promoting startups in Japan requires a holistic approach to address the constraints in the labor market, as well as improving the financing options and entrepreneurial education.** The "grand design of the new form of capitalism" includes measures to support venture capital, such as through public capital investment. In addition, it recognizes the constraint of personal guarantees on entrepreneurship, highlights the importance of entrepreneurial education, and strengthens the role of universities as startup hubs. Better availability of venture capital equity funding is crucial to support startups and innovation. Reduced personal guarantees could help encourage entrepreneurship and allow unproductive firms to exit, which could in turn support investment and innovation, generate employment, and improve productivity. Furthermore, a more flexible labor market and a gradual shift from the lifetime employment system could encourage the most talented college graduates to venture and create new companies and have a reasonable backup option in case startups fail (Annex XII).

**53. The government can encourage corporate investment and innovation through tax incentives.** Staff analysis suggests that Japanese firms are holding more cash due to their increasing share of intangible capital in the presence of financial frictions (see *2023 Japan: Selected Issues* paper "Drivers of Corporate Cash Holdings in Japan"*).* Since intangible capital, such as patents, trademarks and other intellectual property, is hardly collateralizable, firms need to hold more cash for future investment and innovation. To encourage firms to invest, fiscal incentives can be used to increase the return to investment, especially in ICT technology and R&D.

## Transitioning to a Low-Carbon Economy

**54. Japan is exposed to risks associated with climate change** (see *2022 Japan Article IV* report). Japan's exposure to climate-driven hazards is above average for advanced economies. A mitigating factor is Japan's high adaptive capacity to natural disasters. The planned transition to net zero greenhouse gas (GHG) emissions by 2050 will require a substantial transformation of the Japanese economy, presenting risks and opportunities to businesses, and associated policies will have distributional consequences that need to be well managed to maintain support for emission mitigation, reduce the risk of disorderly adjustment, and protect vulnerable parts of society. High reliance on fossil fuels for energy production implies a challenging transition and the need for large investments in alternative energy sources.




**55. Japan's commitment to achieving net zero emissions by 2050 with an upgraded interim target for a 46 percent reduction in GHG emissions by 2030, relative to 2013 levels, is welcome**. As the seventh largest emitter of GHGs, Japan's contributions to reducing global

emissions are important. The country's green transformation strategy currently is centered around investment in decarbonization, green technology, and measures to incentivize private funding for green projects. The government is committed to expanding carbon pricing from current low levels beginning in FY2028. They plan to rely on both emission permit auctions and surcharges, with details yet to be decided. Revenues from carbon pricing will be used to service green transformation bonds, which will fund public green investment. The government plans to restart nuclear power plants, and the development of new facilities is under consideration. On climate finance, the FSA has published the "Supervisory Guidance on Climate-related Risk Management and Client Engagement". In addition, the BoJ and FSA have completed a pilot scenario analysis exercise on climate-related risks with major banks and insurers, and the BoJ has disbursed about 0.6 percent of GDP to banks in its funds-supplying operations to support climate finance.

**56. Japan will need additional policies to reach its climate targets**. A comprehensive policy package with green investments to decarbonize electricity and transport, the largest sources of emissions, and gradually rising carbon pricing could help Japan to achieve its targets in a growth-friendly way (see *2022 Japan: Selected Issues* paper "Japan: Climate Change Policy Options"). Without higher carbon pricing it would be difficult and more costly to achieve the targets. Regulatory actions and the elimination of untargeted subsidies for gas, electricity, and fuel would also support the transition.

**57. Climate policies should be underpinned by measures to protect vulnerable people and enable an orderly transition of high emission sectors to low carbon**. While firms on average would be able to absorb even a high carbon tax of $150 per ton of CO2, a significant percentage of financially weaker firms concentrated in high emission sectors (energy, utilities, materials) could be at risk (see *2023 Japan: Selected Issues* paper "The Financial Impact of Carbon Taxation on Corporates"). To minimize the risk of a disorderly adjustment, policies should be designed to help high-emission sectors to begin the transition without delay including through clear carbon pricing pathways and transition finance support. Green finance should continue to play a supporting role for the transition through funding of green and transition activities, and appropriate management of climate financial risks. Vulnerable households should be protected with targeted transfers.

### Continuing the Digital Push and Other Reforms

**58. The Digital Agency should continue to coordinate and implement policies to digitalize the public sector.** Significant progress has been made, including by expanding the coverage of the "My Number" digital ID cards. However, data sharing between government agencies is still limited, impairing the government's ability to conduct targeted transfers to vulnerable households, which the government's policy to standardize local government IT systems and facilitate information sharing among the central government and local governments will help address. Other priorities outlined by the Digital Agency such as further expanding the coverage of "My Number" digital ID cards and linking them to the provision of public and private services are also essential to ensure an inclusive digital transformation. Policies should also support a safe and inclusive digital transformation of the private sector, including by enhancing training on IT skills, ensuring data privacy, digital literacy, consumer protection, and cybersecurity.

**59. Reform efforts in other areas, such as corporate governance and trade policies, should continue.**

- The Corporate Governance Code was revised in June 2021 to enhance board independence, promote diversity, and focus on sustainability and Environment, Social, and Governance (ESG). Building on recent progress, corporate governance reforms could be further strengthened by ensuring effective corporate governance practices and disclosure.

- Japan has taken a lead globally and regionally to promote more open, stable, and transparent trade policies. Japan should continue to work actively with international partners to strengthen the rules-based multilateral trading system, including ensuring effective WTO dispute settlement.

***Authorities' Views***

**60. The authorities welcomed staff's recommendations on labor market reforms.** They acknowledged distortions in the current social security system that discouraged second income earners and have introduced measures to expand the employee's insurance coverage to part-time workers. On labor mobility, they planned to encourage workers to take second jobs, but noted that firms' life-time employment model was based on preferences of employees and employers and not due to labor laws. They appreciated the proposal to promote women in STEM fields and concurred with the need to reduce explicit and implicit gender gaps.

**61. The authorities are committed to accelerate startups and deepen digitalization.** The authorities intend to increase the amount of investment in startups by more than tenfold through the startup development five-year plan. The authorities noted that significant process has been made by the new Digital Agency, including by expanding coverage of the "My Number" digital ID cards. Other initiatives such as "the Vision for a Digital Garden City Nation" are aimed to achieve rural-urban digital integration and transformation.

**62. The authorities are developing policy measures to achieve their emission reductions targets.** The decarbonization of energy production is a priority and they expect to achieve this through expansion of renewable energy, a full restart of nuclear power plants, and investment in hydrogen and ammonia. The authorities are committed to further strengthening climate-related financial risk assessment and management and to developing green financial markets to support the transition to net zero emissions.

# STAFF APPRAISAL

**63. Japan's economic recovery is expected to continue, supported by pent-up demand, supply chain improvements, border reopening, and policy support.** Following more wide-spread price increases in recent months, inflation is expected to rise further in early 2023, reflecting the delayed effect of yen depreciation and border reopening. The primary fiscal deficit is expected to stay elevated this year, following the adoption of last October's supplementary budget. The

current account surplus is expected to improve this year, driven by lower commodity prices and inbound tourism. The external position is preliminarily assessed as broadly in line with medium-term fundamentals and desirable policies. While domestic risks are balanced, there are significant external downside risks to growth. While risks to inflation are two-sided, upside risks are more prominent amidst a narrowing output gap and lower real interest rates.

**64. Pandemic-related fiscal support should be withdrawn more quickly, and fiscal consolidation is warranted to rebuild fiscal buffers and ensure debt sustainability.** As government spending pressures continue to rise in certain policy areas, any additional spending measures should be targeted to the vulnerable and come hand in hand with revenue raising measures. Under current policies, the public debt-to-GDP ratio will increase steadily in the medium and long term to accommodate age-related spending pressures. Growth-friendly fiscal consolidation should be underpinned by a credible medium-term fiscal framework to reduce the primary deficit and put the debt-to-GDP ratio on a clear downward path. Policy efforts should include both revenue and expenditure measures to contain the costs of health and long-term care, improve revenue mobilization, and strengthen the social safety net for the working poor.

**65. While an accommodative monetary policy stance remains appropriate, more flexibility in longer term yields would help better manage inflation risks.** This could also help address the costly side effects of prolonged easing. Providing clear guidance on the pre-conditions for a gradual policy rate change in the future would help anchor market expectations and strengthen the credibility of the BoJ's commitment to achieving its inflation target. Well communicated changes to monetary policy settings will facilitate smoother transitions and protect financial stability. The exchange rate should act as the main shock absorber, with FXI limited to special circumstances including disorderly market conditions.

**66. The financial sector has been robust to several global headwinds this year, but interest rate and credit risks have increased and warrant close monitoring.** The banking sector remains resilient, with capital adequacy and liquidity ratios above regulatory requirements. Valuation losses on overseas securities holdings and higher foreign currency funding/hedging costs have weighed on bank and non-bank financial institutions. Steady efforts to further improve the resilience to US dollar liquidity stress are warranted, as well as a close monitoring of the credit exposures to leveraged overseas borrowers and large domestic borrowers. Furthermore, macroprudential policies aiming to curb vulnerabilities from growth in housing loans could be considered.

**67. Structural policies should help boost income growth, support startups, deepen digitalization, and achieve climate targets.** Labor market policies should encourage more women and older persons to join the work force, reduce labor market duality, improve mobility, and strengthen the workforce in STEM fields. Accelerating startups requires improved access to venture capital funding and entrepreneur education, more dynamic firm entry and exit with reduced personal guarantees, and additional flexibility in the labor market. The Digital Agency should continue to coordinate and implement policies to digitalize the public sector. Policies should also support a safe and inclusive digital transformation of the private sector. Higher carbon pricing could

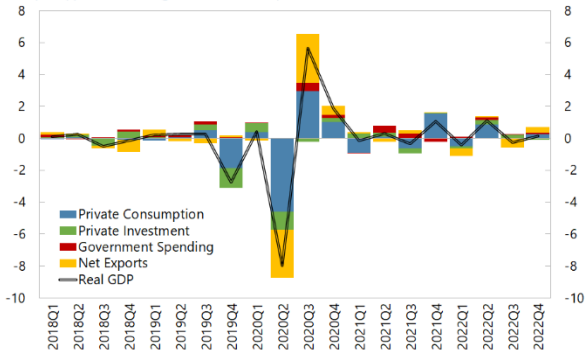
help Japan to achieve its targets in a growth-friendly way but should be companied by measures to protect vulnerable people and enable an orderly transition of high emission sectors to low carbon.

**68. It is recommended that the next Article IV consultation take place on the standard 12-month cycle**.

## Figure 1. Japan: Recent Economic Developments

*Domestic demand continued to recover while external demand weakens.*

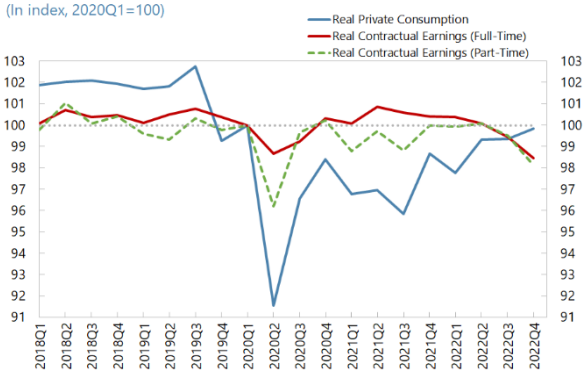
**Contributions to Real GDP Growth**
(In q-o-q percent change, chained 2015p SAAR)




Sources: Cabinet Office of Japan; Haver Analytics; and IMF staff calculations.

*However, real consumption and wages are still below pre-pandemic level.*

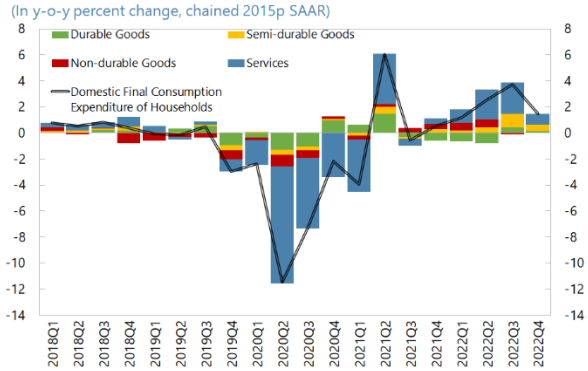
**Real Wage and Real Consumption Growth**
(In index, 2020Q1=100)




Sources: Haver Analytics and IMF staff calculations.

*Private consumption is recovering, led by services.*

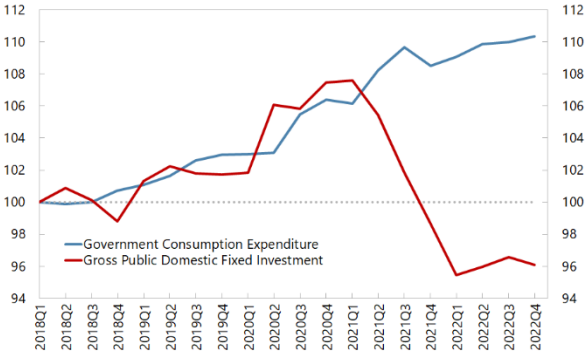
**Domestic Final Household Consumption Expenditure by Type**
(In y-o-y percent change, chained 2015p SAAR)




Sources: Cabinet Office of Japan; Haver Analytics; and IMF staff calculations.

*Real public investment has declined since 2021 reflecting higher input prices and supply chain constraints.*

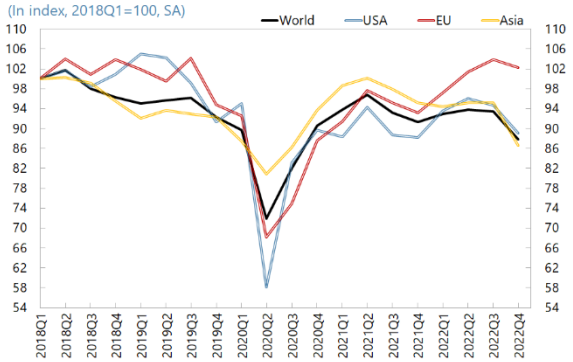
**Real Government Consumption and Investment**
(In index, 2018Q1=100, SAAR)




Sources: Cabinet Office of Japan; Haver Analytics; and IMF staff calculations.

*Exports have rebounded as supply constraints eased.*

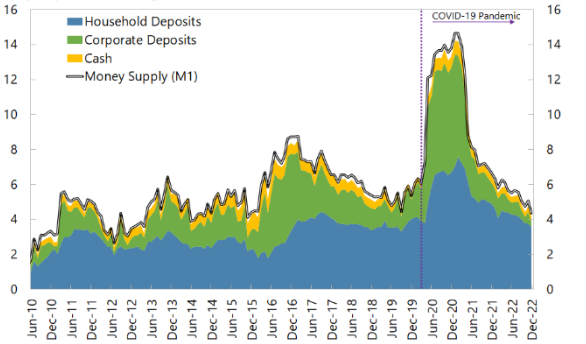
**Real Export by Destination**
(In index, 2018Q1=100, SA)




Sources: Japan Ministry of Finance; Haver Analytics; and IMF staff calculations.

*Money stock has normalized as corporates pay down their loans and households spend the stimulus.*

**Contributions to Growth in Money Stock**
(In y-o-y percent change)

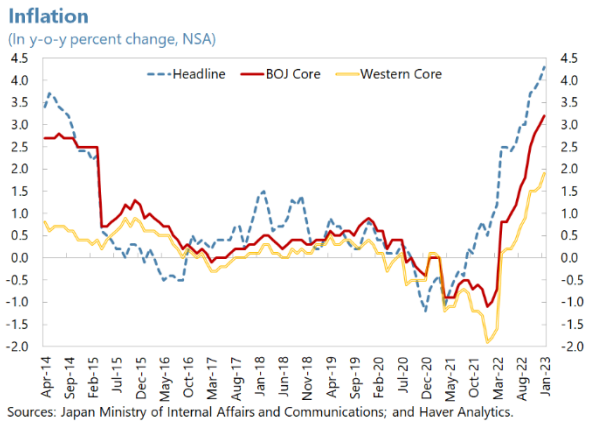



Sources: Bank of Japan, Haver Analytics, and IMF staff calculations.

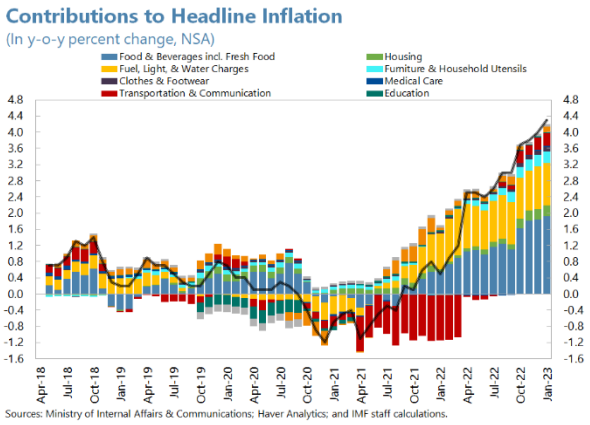
## Figure 2. Japan: Inflation Developments

*Headline and BoJ core inflation has risen above target…*

*… due to broad-based price increases.*



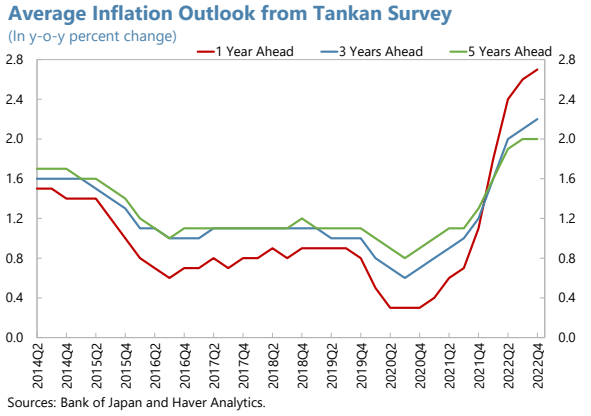

Sources: Japan Ministry of Internal Affairs and Communications; and Haver Analytics.



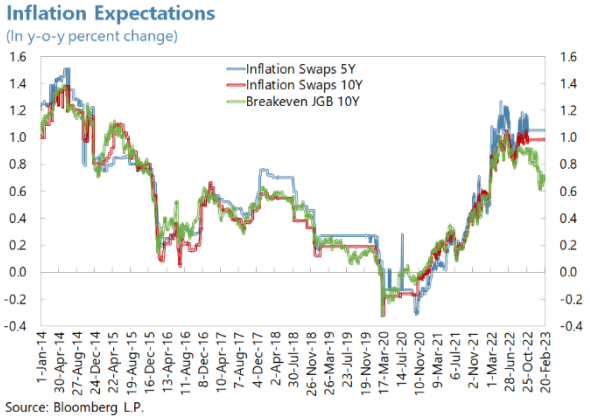

Sources: Ministry of Internal Affairs & Communications; Haver Analytics; and IMF staff calculations.

*Survey-based inflation outlooks have also risen above the target…*

*… while market-based inflation expectations remain low.*



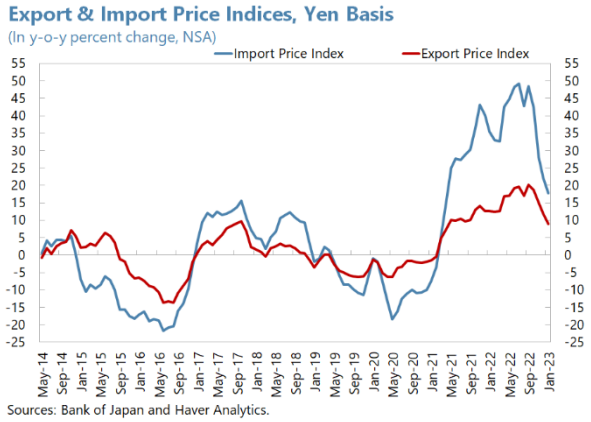

Sources: Bank of Japan and Haver Analytics.



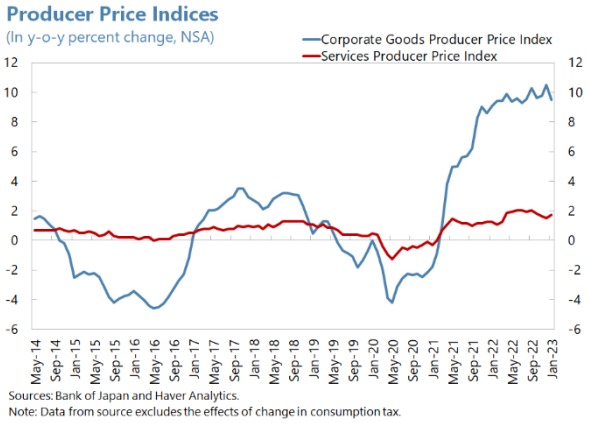

Source: Bloomberg L.P.

*The recent surge of inflation is driven by import prices…*

*… while price of services is still recovering.*




Sources: Bank of Japan and Haver Analytics.



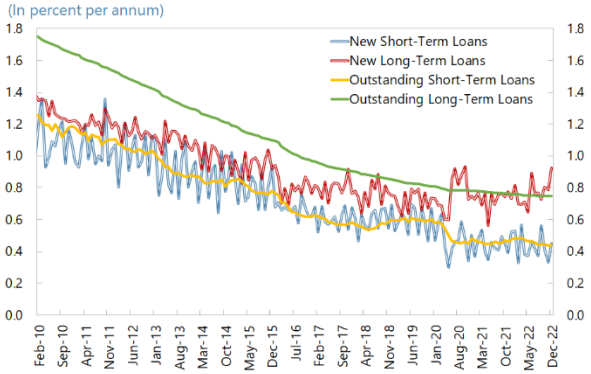

Sources: Bank of Japan and Haver Analytics.
Note: Data from source excludes the effects of change in consumption tax.

## Figure 3. Japan: Monetary and Credit Conditions

*BoJ's monetary easing under YCC is keeping firms' funding costs low supported by low bank lending rates.*

### Bank Lending Rates

(In percent per annum)

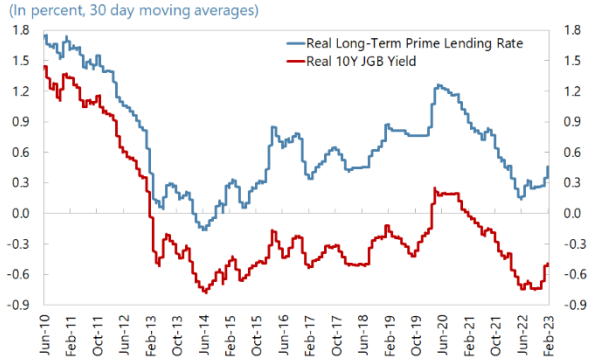



Sources: Bank of Japan and CEIC Data Limited.

*Real lending rates and real 10-year Japanese government bond yields have also declined as inflation rises.*

### Real Interest Rates

(In percent, 30 day moving averages)

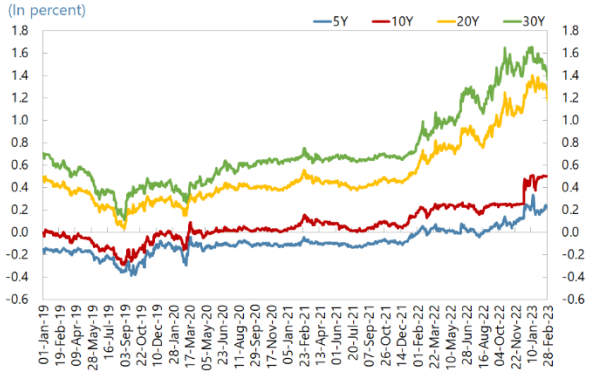



Note: Real rates are obtained by subtracting 10 year inflation swaps from nominal rates.
Sources: Bank of Japan; Bloomberg L.P.; CEIC Data Limited; and IMF staff calculations.

*However, nominal bond yields beyond 10-year maturity have increased significantly following global monetary tightening*

### Japanese Government Bond Yields

(In percent)

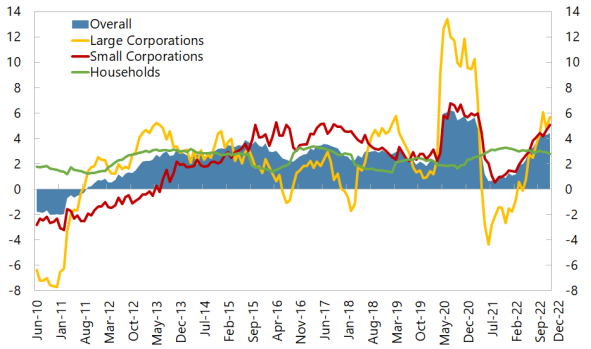



Sources: Tullett Prebon Information and Haver Analytics.

*Credit growth to firms has picked up amidst higher input costs and resumption in economic activity.*

### Growth in Lending by Domestically Licensed Banks

(In y-o-y percent change)

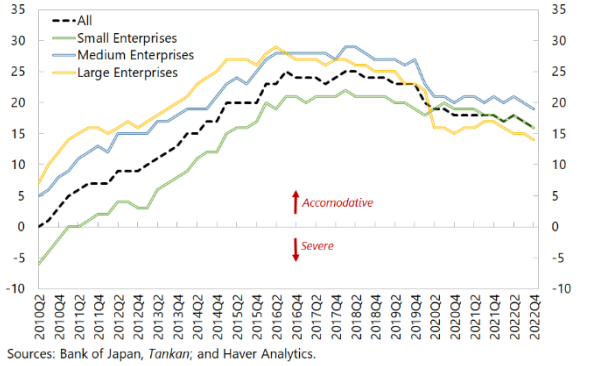



Sources: Bank of Japan; Haver Analytics; and IMF staff calculations.

*Firms' perception of bank lending attitudes have remained broadly accommodative.*

### Perception of Lending Attitudes by Firms

(In percent balance, diffusion index [accomodative - severe])

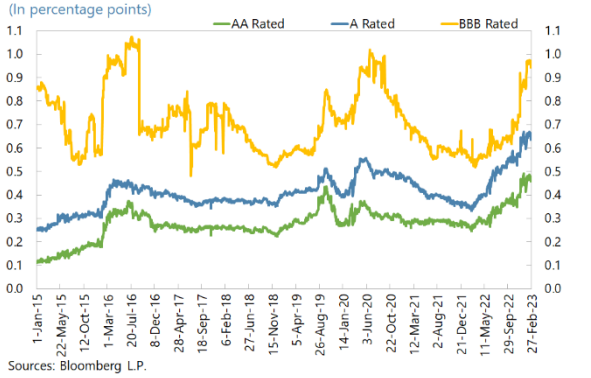



Sources: Bank of Japan, *Tankan*; and Haver Analytics.

*However, corporate bond spreads have increased in line with widening of credit spreads abroad.*

### Corporate - Government 5 Year Bonds Spreads

(In percentage points)



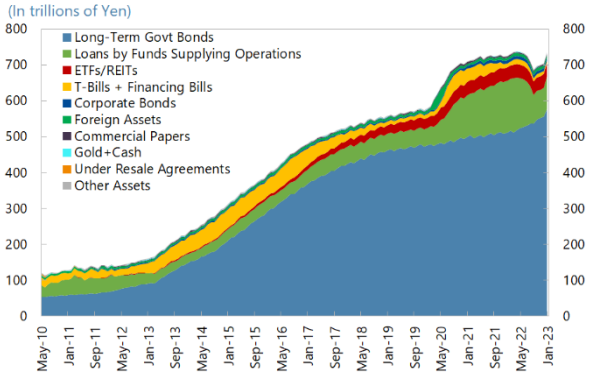

Sources: Bloomberg L.P.

## Figure 3. Japan Monetary and Credit Conditions (concluded)

*Balance sheet accommodation by the BoJ has increased in recent months…*

**Bank of Japan Accounts: Assets**

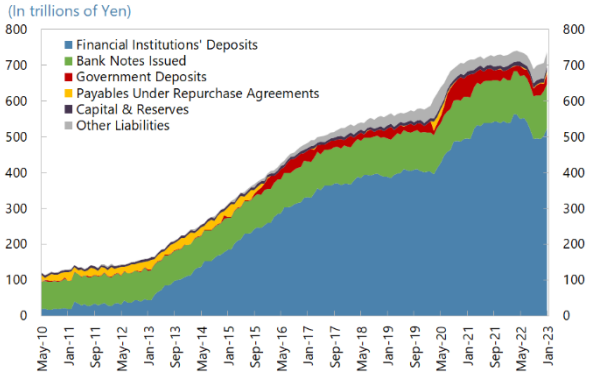
(In trillions of Yen)




Sources: Bank of Japan and Haver Analytics.

**Bank of Japan Accounts: Liabilities**

(In trillions of Yen)



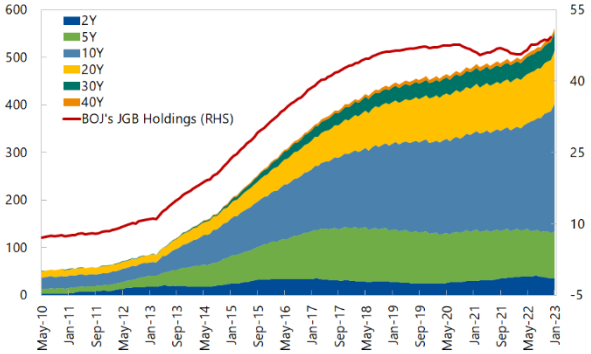

Sources: Bank of Japan and Haver Analytics.

*…due to significant scaling up of its JGB purchases to defend the YCC yield target.*

*Although unwinding of COVID-related lending measures has led to a negative y/y change in the monetary base.*

**Bank of Japan's JGB Holdings by Maturity**

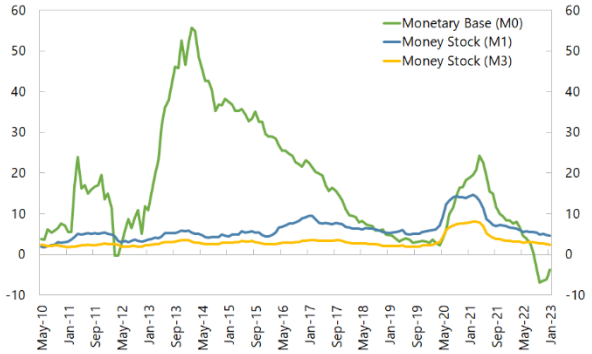
(In trillions of Yen [LHS]; percent share[RHS])




Sources: Bank of Japan and Haver Analytics.

**Money Stock**

(In y-o-y percent change)



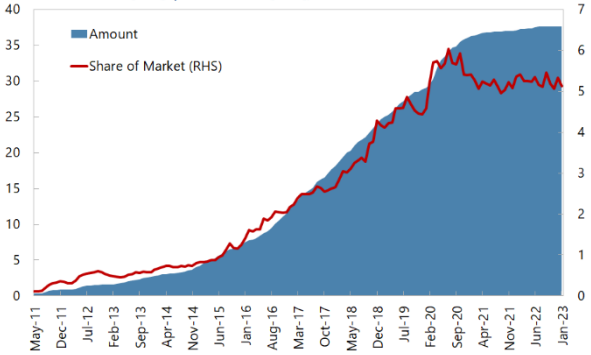

Sources: Bank of Japan and Haver Analytics.

*BoJ's purchases of ETFs and J-REITs have also declined after rising sharply in response to the pandemic.*

*The costs of international dollar funding have increased more recently amid high uncertainty.*

**Bank of Japan's Outstanding ETFs and REITs**

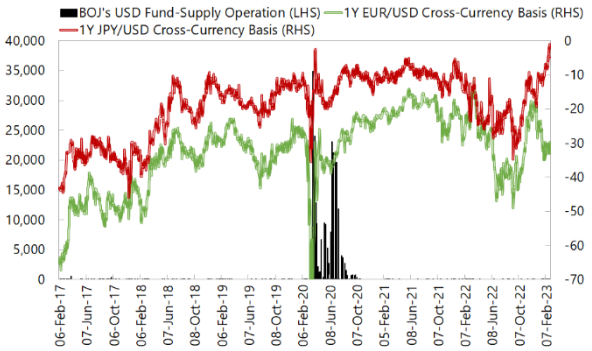
(In trillions of Yen [LHS]; percent share [RHS])




Sources: Bank of Japan; Investment Trust Association; Haver Analytics; & IMF staff calculations.

**Bank of Japan Lending - USD Funds-Supplying Operation**

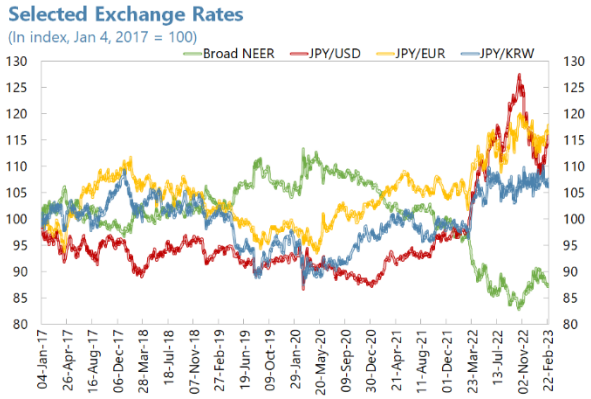
(In millions of USD)




Sources: Bank of Japan; Haver Analytics; and Thomson Reuters Eikon.

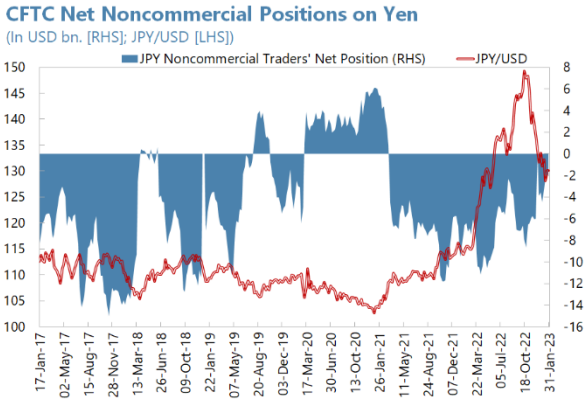
## Figure 4. Japan: Financial Markets Developments

*The yen has depreciated sharply against major currencies and trading partners...*



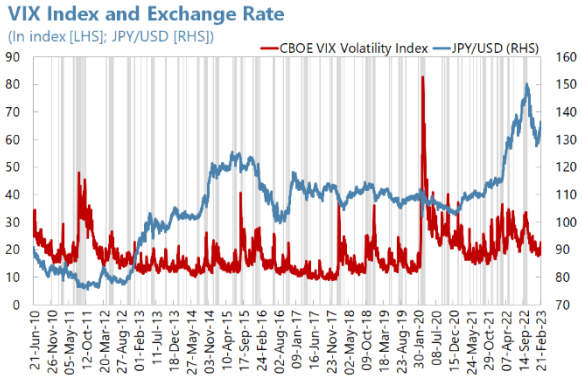

Sources: Bank of Japan; Bank of Korea; J.P. Morgan; and IMF staff calculations.

*...with higher short yen position recently.*



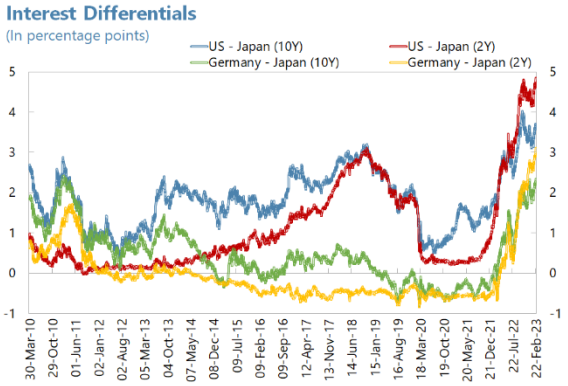

Sources: Commodity Futures Trading Commission; Wall Street Journal; and Haver Analytics.

*Global risk aversion is elevated since the start of the year, while safe haven flows appear muted.*



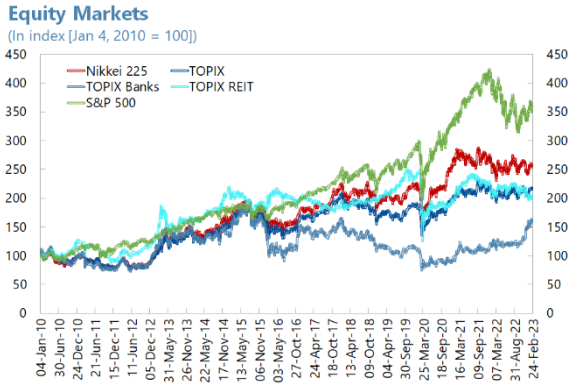

Sources: Wall Street Journal and Haver Analytics.
Note: Shaded areas refer to risk-off episodes with VIX one std. deviation above 60-day MA.

*There has been an increasing monetary policy divergence between Japan and other major countries, reflected in sharply higher interest rate differentials.*



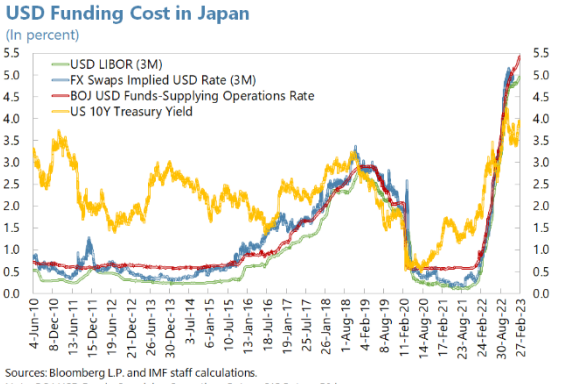

Sources: Tullett Prebon Information and Haver Analytics.

*The stock market correction, as seen in the U.S. since Fed tightening, is rather muted in Japan amid continuing loose monetary policy.*




Sources: Financial Times; Japan Exchange Group; Standard & Poor's; and Haver Analytics.

*U.S. dollar funding costs have increased quite sharply especially since the start of the Fed monetary policy tightening.*

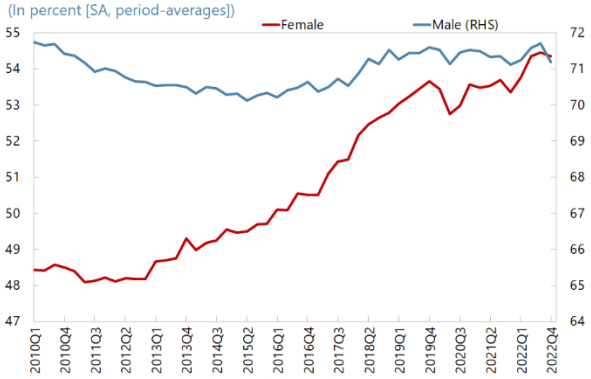



Sources: Bloomberg L.P. and IMF staff calculations.
Note: BOJ USD Funds-Supplying Operations Rate = OIS Rate + 50 bps.

## Figure 5. Japan: Labor Market and Wage Developments

*Labor force participation has recovered beyond the pre-pandemic level.*

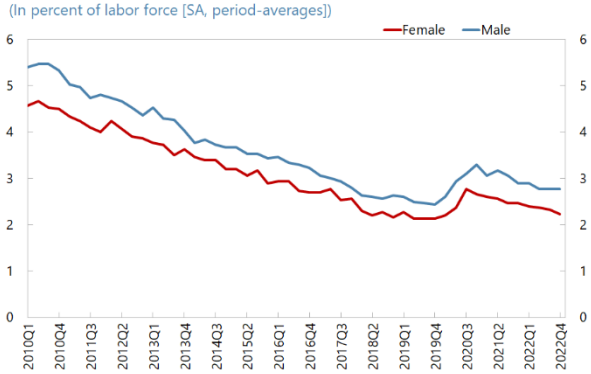
**Labor Force Participation Rate**
(In percent [SA, period-averages])




Sources: Ministry of Internal Affairs and Communications and Haver Anaytics.

*The unemployment rate is also approaching historically low levels.*

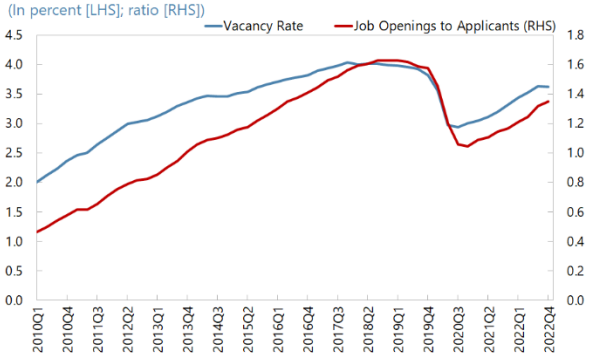
**Unemployment Rate**
(In percent of labor force [SA, period-averages])




Sources: Ministry of Internal Affairs and Communications and Haver Analytics.

*Job openings to applicants continue to increase…*

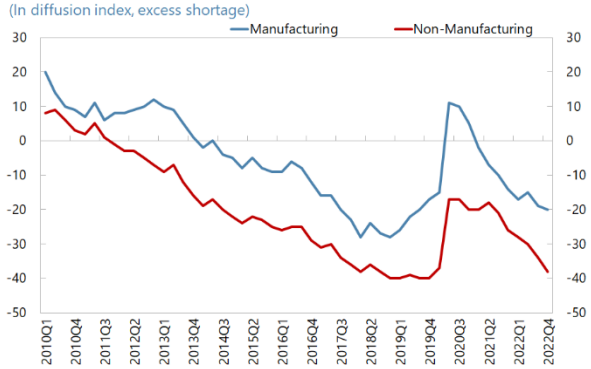
**Vacancy Rate & Ratio of Job Openings to Applicants**
(In percent [LHS]; ratio [RHS])




Sources: Ministry of Health, Labour, & Welfare; and Haver Analytics. Note: Data are seasonally adjusted.
Vacancy rate is the number of available jobs that remain unfilled as a percentage of the available labor force.

*… as labor shortages worsen.*

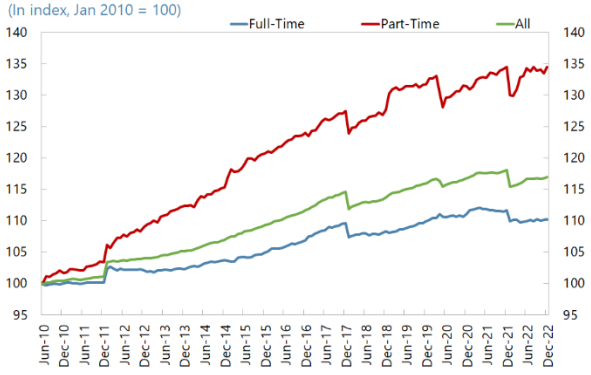
**Tankan Enterprise Survey: Employment Conditions**
(In diffusion index, excess shortage)




Sources: Bank of Japan, *Tankan Survey*; and Haver Analytics.

*Employment has returned to pre-pandemic level, with faster recovery in the number of part-time workers.*

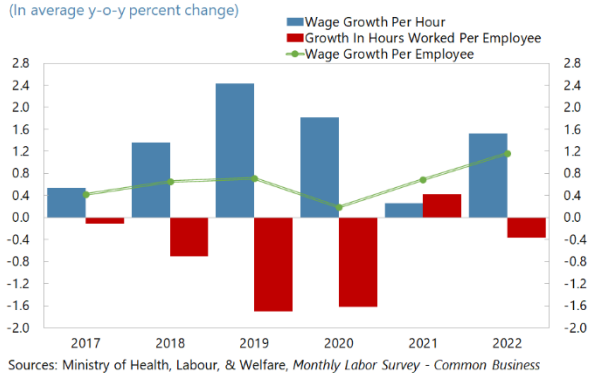
**Growth of Regular Employees by Type**
(In index, Jan 2010 = 100)




Sources: Ministry of Internal Affairs & Communications; Have Analytics; and IMF staff

*Labor income has risen as both hourly wage and hours increased.*

**Nominal Wage Growth per Full-Time Employee**
(In average y-o-y percent change)



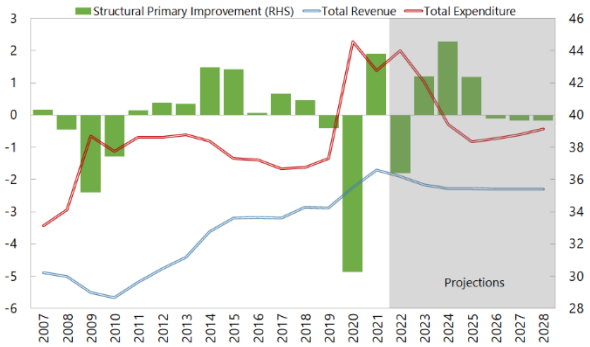

Sources: Ministry of Health, Labour, & Welfare, *Monthly Labor Survey - Common Business Establishments*; Haver Analytics; and IMF staff calculations.

## Figure 6. Japan: Fiscal Developments and Sustainability

*The fiscal balance is projected to improve in the near-term, as stimulus measures phase out.*

### General Government Fiscal Balance

(In percent of GDP)

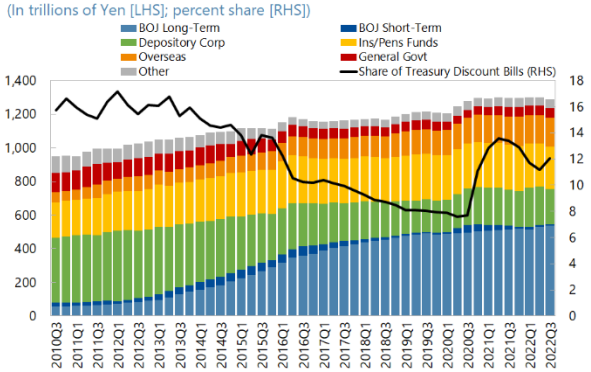



Sources: IMF, World Economic Outlook; and IMF staff estimates.

*JGBs are largely held by the BOJ and domestic investors, while the ratio of short-term debt is increasing.*

### Public Debt Financing

(In trillions of Yen [LHS]; percent share [RHS])

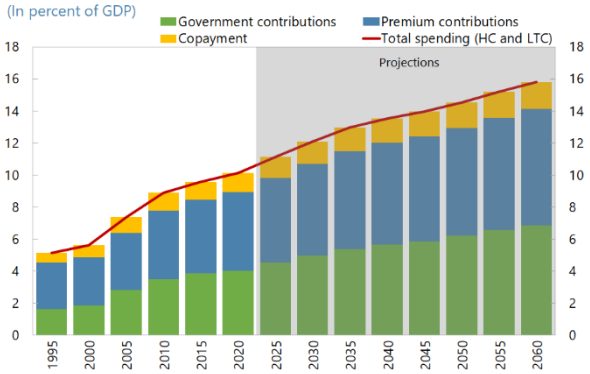



Sources: Bank of Japan; Haver Analytics; and IMF staff calculations.

*Social security spending continues to rise over the long term, incurring higher costs to younger generations...*

### Financing of Health Care and Long-Term Care

(In percent of GDP)

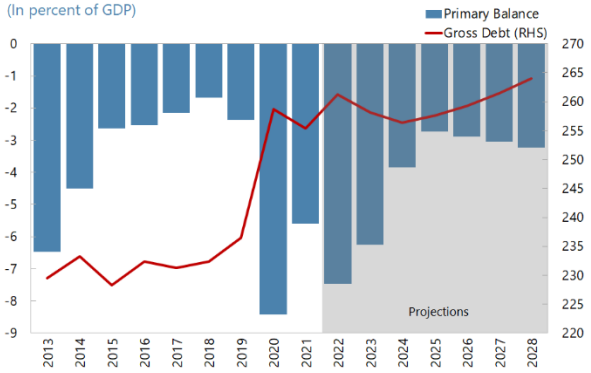



Sources: Ministry of Health, Labor, and Welfare; and IMF staff estimates.

*...and posing risk to Japan's fiscal sustainability.*

### Gross Public Debt and Primary Balance

(In percent of GDP)

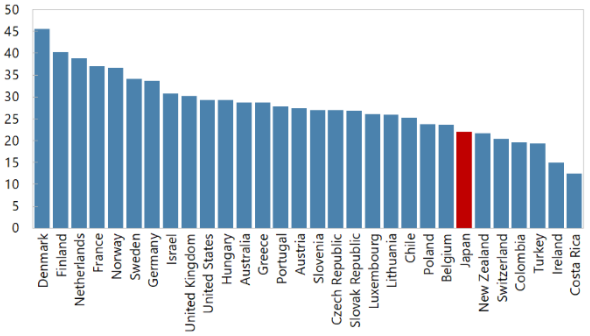



Sources: Cabinet Office of Japan and IMF staff estimates.

*Relative to peers, Japan's share of non-social security spending has remained low...*

### OECD: Public Spending excl. Social Security & Interest, 2021

(In percent of GDP)

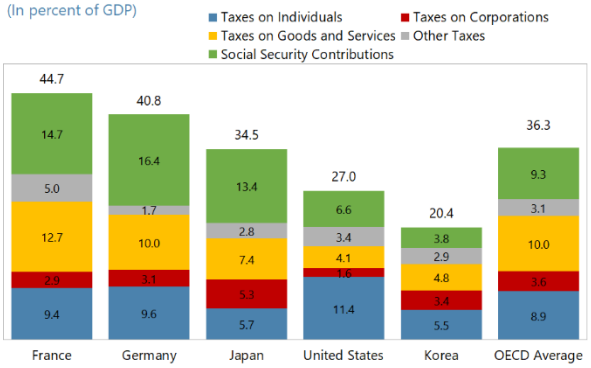



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: OECD countries with missing data have been omitted.

*...and there is a room for tax mobilization.*

### General Government Tax & Social Security Revenue, 2021

(In percent of GDP)

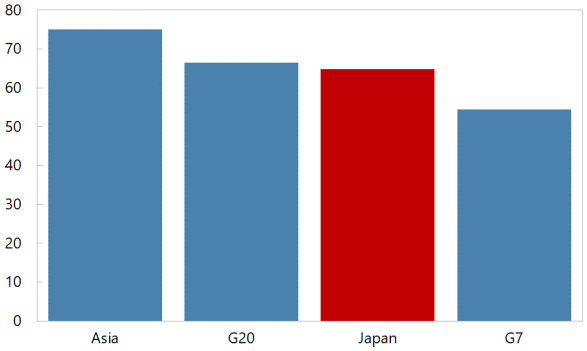



Sources: Cabinet Office of Japan; and IMF, *World Economic Outlook*; and IMF staff calculations.

## Figure 7. Japan: Climate Change

*Japan is one of the most vulnerable to climate change among major advanced economies.*

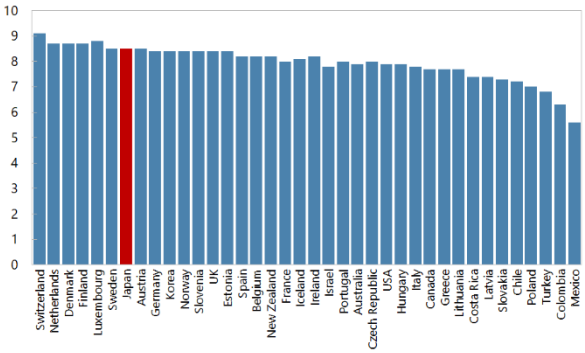
**Global Climate Risk Index**
(In index, 2000-19 average)




Source: German Watch, *Global Climate Risk Index 2021.*

*While Japan has strong adaptive capacity to handle climate-related risks to physical exposures…*

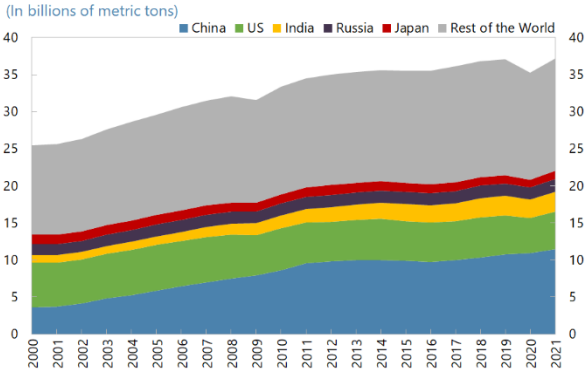
**OECD: Climate Change Coping Capacity, 2022**
(In index, 0-10 [higher score means more capacity to cope with climate change risk])




Sources: Index for Risk Management (INFORM); and Haver Analytics.

*…the country is one of the largest carbon emitters in the world, exposing it to transition risks.*

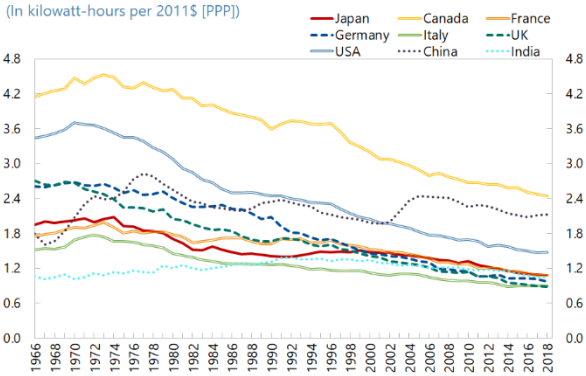
**Global CO2 Emissions**
(In billions of metric tons)




Sources: Global Carbon Atlas and Haver Analytics.

*The energy intensity of GDP has declined in Japan, but less so than in some other large advanced economies…*

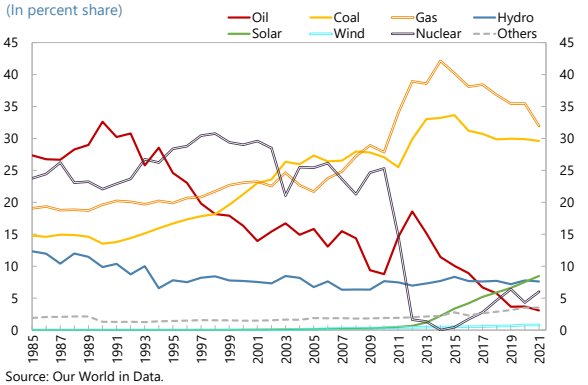
**Energy Intensity: Primary Energy Consumption per GDP**
(In kilowatt-hours per 2011$ [PPP])




Source: Our World in Data.

*The share of fossil fuels in electricity production remains high, partially reflecting a decline in nuclear energy's contribution following the 2011 tsunami.*

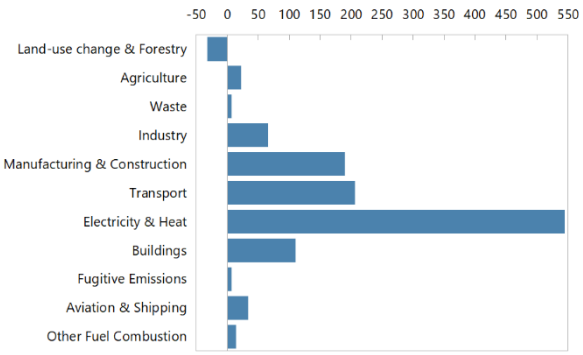
**Share of Electricity Production by Source**
(In percent share)




Source: Our World in Data.

*The main source of emissions in Japan is electricity and heat production, followed by transport and manufacturing/construction.*

**Greenhouse Gas Emissions by Sector, 2019**
(In million tons of $CO_2$ equivalent)




Source: Our World in Data.

## Table 1. Japan: Selected Economic Indicators, 2019-24

| Nominal GDP: US$ 4,234 Billion (2022) | | | GDP per capita: US$ 33,822 (2022) | | | |
|---|---|---|---|---|---|---|
| Population: 125 Million (2022) | | | Quota: SDR 30.8 billion (2022) | | | |
| | 2019 | 2020 | 2021 | 2022 Est. | 2023 Proj. | 2024 |
| | | | *(In percent change)* | | | |
| Growth | | | | | | |
| Real GDP | -0.4 | -4.3 | 2.1 | 1.1 | 1.3 | 1.0 |
| Domestic demand | 0.0 | -3.4 | 1.1 | 1.7 | 1.5 | 1.0 |
| Private consumption | -0.6 | -4.7 | 0.4 | 2.1 | 1.7 | 1.0 |
| Gross Private Fixed Investment | 0.2 | -5.4 | 0.4 | 0.8 | 2.5 | 2.0 |
| Business investment | -0.7 | -4.9 | 0.8 | 1.9 | 3.1 | 2.4 |
| Residential investment | 4.1 | -7.9 | -1.1 | -4.7 | -0.8 | 0.0 |
| Government consumption | 1.9 | 2.4 | 3.5 | 1.5 | 0.1 | 0.5 |
| Public investment | 1.9 | 3.4 | -1.9 | -7.1 | 1.4 | 0.4 |
| Stockbuilding | -0.1 | -0.5 | 0.2 | 0.5 | -0.1 | 0.0 |
| Net exports | -0.4 | -0.8 | 1.0 | -0.6 | -0.1 | 0.0 |
| Exports of goods and services | -1.5 | -11.6 | 11.7 | 4.9 | 4.0 | 1.9 |
| Imports of goods and services | 1.0 | -6.8 | 5.0 | 7.9 | 4.3 | 1.7 |
| Output Gap | 0.7 | -2.9 | -1.6 | -0.9 | -0.1 | 0.2 |
| | | | *(In percent change, period average)* | | | |
| Inflation | | | | | | |
| Headline CPI | 0.5 | 0.0 | -0.2 | 2.5 | 2.7 | 2.2 |
| GDP deflator | 0.6 | 0.9 | -0.2 | 0.3 | 3.8 | 2.6 |
| | | | *(In percent of GDP)* | | | |
| Government | | | | | | |
| Revenue | 34.2 | 35.5 | 36.6 | 36.2 | 35.7 | 35.4 |
| Expenditure | 37.3 | 44.6 | 42.8 | 44.0 | 42.1 | 39.4 |
| Overall Balance | -3.0 | -9.1 | -6.2 | -7.8 | -6.4 | -4.0 |
| Primary balance | -2.4 | -8.4 | -5.6 | -7.5 | -6.2 | -3.8 |
| Structural primary balance | -2.6 | -7.5 | -5.6 | -7.4 | -6.2 | -3.9 |
| Public debt, gross | 236.4 | 258.7 | 255.4 | 261.3 | 258.2 | 256.3 |
| | | | *(In percent change, end-of-period)* | | | |
| Macro-financial | | | | | | |
| Base money | 2.8 | 19.2 | 8.5 | -5.6 | 2.3 | 3.8 |
| Broad money | 2.1 | 7.4 | 2.9 | 2.7 | 5.5 | 4.0 |
| Credit to the private sector | 3.2 | 6.1 | 1.8 | 4.6 | 2.4 | 2.0 |
| Non-financial corporate debt in percent of GDP | 139.3 | 152.1 | 155.7 | 154.9 | 151.3 | 147.7 |
| | | | *(In percent)* | | | |
| Interest rate | | | | | | |
| Overnight call rate, uncollateralized (end-of-period) | -0.1 | 0.0 | 0.0 | 0.0 | ... | ... |
| 10-year JGB yield (end-of-period) | 0.0 | 0.0 | 0.1 | 0.4 | ... | ... |
| | | | *(In billions of USD)* | | | |
| Balance of payments | | | | | | |
| Current account balance | 176.3 | 147.9 | 197.3 | 90.0 | 131.8 | 180.3 |
| Percent of GDP | 3.4 | 2.9 | 3.9 | 2.1 | 3.0 | 4.0 |
| Trade balance | 1.4 | 26.6 | 15.6 | -117.8 | -83.0 | -25.6 |
| Percent of GDP | 0.0 | 0.5 | 0.3 | -2.8 | -1.9 | -0.6 |
| Exports of goods, f.o.b. | 695.0 | 630.6 | 748.6 | 751.2 | 779.3 | 814.6 |
| Imports of goods, f.o.b. | 693.6 | 604.0 | 732.9 | 869.1 | 862.3 | 840.2 |
| Energy imports | 131.9 | 89.1 | 127.8 | 194.0 | 162.3 | 152.1 |
| | | | *(In percent of GDP)* | | | |
| FDI, net | 4.3 | 1.7 | 3.6 | 3.2 | 3.1 | 3.2 |
| Portfolio Investment | 1.7 | 0.8 | -4.0 | -3.4 | -0.7 | -0.8 |
| | | | *(In billions of USD)* | | | |
| Change in reserves | 25.5 | 10.9 | 62.8 | -47.4 | 11.5 | 11.5 |
| Total reserves minus gold (in billions of US$) | 1286.3 | 1348.2 | 1356.2 | 1178.3 | ... | ... |
| | | | *(In units, period average)* | | | |
| Exchange rates | | | | | | |
| Yen/dollar rate | 109.0 | 106.8 | 109.8 | 131.5 | ... | ... |
| Yen/euro rate | 122.0 | 121.9 | 129.9 | 138.6 | ... | ... |
| Real effective exchange rate (ULC-based, 2010=100) | 75.2 | 75.3 | 73.0 | 62.0 | ... | ... |
| Real effective exchange rate (CPI-based, 2010=100) | 76.6 | 77.3 | 70.7 | 60.9 | ... | ... |
| | | | *(In percent)* | | | |
| Demographic Indicators | | | | | | |
| Population Growth | -0.2 | -0.3 | -0.3 | -0.3 | -0.4 | -0.5 |
| Old-age dependency | 47.6 | 48.3 | 48.7 | 48.9 | 49.3 | 49.8 |

Sources: Haver Analytics; OECD; Japanese authorities; and IMF staff estimates and projections.

## Table 2. Japan: Monetary Authority Accounts and Monetary Survey, 2020-24

| | 2020 | 2021 | 2022 | 2023 Proj. | 2024 |
|---|---|---|---|---|---|
| | | | *(In trillions of JPY)* | | |
| **Monetary Authority** | | | | | |
| Net foreign assets | -19.5 | -17.5 | -21.8 | -21.5 | -21.2 |
| Net domestic assets | 637.1 | 699.6 | 654.4 | 668.4 | 692.4 |
| Net domestic credit | 674.7 | 741.7 | 696.6 | 710.6 | 734.6 |
| Net credit to non-financial public sector | 437.3 | 454.5 | 464.4 | 474.4 | 494.4 |
| Credit to the private sector | 9.7 | 10.4 | 10.4 | 10.4 | 10.4 |
| Net credit to financial corporations | 227.6 | 276.8 | 221.7 | 225.7 | 229.7 |
| Other items net | -37.6 | -42.2 | -42.2 | -42.2 | -42.2 |
| Monetary base | 617.6 | 670.1 | 632.6 | 646.8 | 671.1 |
| **Monetary Survey (Depository Corporations)** | | | | | |
| Net foreign assets | 92.7 | 95.7 | 106.0 | 110.6 | 115.0 |
| Net domestic assets | 1,443.4 | 1,496.3 | 1,493.7 | 1,577.0 | 1,639.6 |
| Net domestic credit | 1,567.4 | 1,609.9 | 1,627.3 | 1,715.6 | 1,783.2 |
| Net credit to nonfinancial public sector | 700.4 | 706.4 | 729.9 | 801.7 | 855.4 |
| Credit to the private sector | 648.1 | 660.0 | 690.5 | 707.0 | 720.8 |
| Net credit to other financial institutions | 218.9 | 243.5 | 206.9 | 206.9 | 206.9 |
| Other items net | -124.0 | -113.6 | -133.6 | -138.6 | -143.6 |
| Broad money | 1,513.8 | 1,557.4 | 1,599.7 | 1,687.6 | 1,754.6 |
| Currency in circulation | 112.4 | 116.2 | 113.8 | 121.5 | 127.8 |
| Current deposits | 854.9 | 908.6 | 955.3 | 1,029.5 | 1,084.2 |
| Other deposits | 546.5 | 532.6 | 530.6 | 536.6 | 542.6 |
| | | | *(In percent of GDP)* | | |
| Net credit to other financial institutions | 40.6 | 44.3 | 37.2 | 35.3 | 34.1 |
| Credit to the private sector from depository corporations | 120.2 | 120.1 | 124.0 | 120.7 | 118.7 |
| Corporate debt (includes loans and securities other than shares) | 152.1 | 155.7 | 154.9 | 151.3 | 147.7 |
| Household debt in percent of disposable income | 112.3 | 118.6 | 119.0 | 120.2 | 120.3 |
| | | | *(Y-o-Y growth in percent)* | | |
| Base money | 19.2 | 8.5 | -5.6 | 2.3 | 3.8 |
| Broad money | 7.4 | 2.9 | 2.7 | 5.5 | 4.0 |
| Credit to the private sector from depository corporations | 6.1 | 1.8 | 4.6 | 2.4 | 2.0 |
| Corporate loans by domestically licensed banks | 8.1 | -0.6 | 1.5 | 1.7 | 1.4 |
| Housing loans | 3.0 | 3.5 | 3.2 | 2.0 | 2.0 |
| Credit to the private sector from all financial institutions | 8.1 | 1.9 | 4.7 | 2.5 | 2.0 |
| Memorandum items: | | | | | |
| Velocity of broad money | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 |
| Money multiplier (broad money) | 2.5 | 2.3 | 2.5 | 2.6 | 2.6 |
| Loan-to-deposit ratio (percent) 1/ | 53.2 | 52.8 | 52.6 | 51.0 | 50.2 |

Sources: Bank of Japan; Haver; IMF staff estimates and projections.
1/ Defined as the ratio of credits to the private sector and net credit to other financial institutions to customer deposits.

## Table 3. Japan: External Sector Summary, 2020-28

| | 2020 | 2021 | 2022 Est. | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Proj. | | | | | |
| **Balance of Payments** | | | | *(In billions of USD)* | | | | | |
| Current account balance | 147.9 | 197.3 | 90.0 | 131.8 | 180.3 | 182.2 | 190.1 | 194.7 | 210.4 |
| Trade balance (goods) | 26.6 | 15.6 | -117.8 | -83.0 | -25.6 | -27.6 | -27.8 | -23.5 | -13.2 |
| Exports of goods | 630.6 | 748.6 | 751.2 | 779.3 | 814.6 | 832.9 | 848.4 | 864.2 | 889.1 |
| Imports of goods | 604.0 | 732.9 | 869.1 | 862.3 | 840.2 | 860.5 | 876.2 | 887.7 | 902.3 |
| Imports of goods, Oil | 59.1 | 88.9 | 129.9 | 108.7 | 101.9 | 95.7 | 90.9 | 86.8 | 83.3 |
| Services balance | -34.2 | -38.5 | -42.8 | -16.5 | -12.0 | -12.2 | -12.7 | -13.1 | -13.6 |
| Credits | 170.0 | 183.6 | 211.1 | 218.7 | 226.6 | 231.8 | 237.1 | 237.1 | 237.1 |
| Debits | 204.1 | 211.8 | 219.9 | 228.2 | 236.9 | 245.9 | 255.3 | 255.3 | 255.3 |
| Income balance | 179.6 | 242.4 | 269.7 | 250.3 | 237.0 | 242.0 | 251.7 | 249.9 | 253.3 |
| Credits | 277.3 | 346.0 | 379.9 | 371.7 | 346.4 | 349.3 | 364.6 | 364.8 | 368.1 |
| Debits | 97.7 | 103.6 | 110.2 | 121.4 | 109.4 | 107.3 | 112.9 | 114.9 | 114.8 |
| Current net transfers | -24.2 | -22.2 | -19.1 | -19.1 | -19.1 | -20.1 | -21.1 | -18.6 | -16.1 |
| Capital account | -1.9 | -3.8 | -0.8 | -2.6 | -2.7 | -2.5 | -2.6 | -2.7 | -2.7 |
| Financial account | 130.1 | 154.5 | 63.8 | 129.1 | 177.6 | 179.7 | 187.5 | 191.9 | 207.7 |
| Direct investment, net | 85.4 | 177.8 | 134.1 | 135.4 | 142.8 | 142.6 | 162.5 | 164.6 | 173.9 |
| Portfolio investment, net | 38.5 | -199.2 | -143.2 | -32.4 | -36.3 | -69.1 | -77.6 | -59.6 | -57.4 |
| Other investment, net | -12.4 | 91.0 | 80.9 | -24.7 | 20.1 | 55.4 | 51.8 | 36.1 | 40.3 |
| Financial derivatives, net | 7.8 | 22.1 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 |
| Reserve assets | 10.9 | 62.8 | -47.4 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| Errors and omissions, net | -15.8 | -39.0 | -25.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | *(In percent of GDP)* | | | | | |
| Current account balance | 2.9 | 3.9 | 2.1 | 3.0 | 4.0 | 3.9 | 3.9 | 3.8 | 3.9 |
| Trade balance (goods) | 0.5 | 0.3 | -2.8 | -1.9 | -0.6 | -0.6 | -0.6 | -0.5 | -0.2 |
| Exports of goods | 12.5 | 15.0 | 17.7 | 17.7 | 18.0 | 17.6 | 17.2 | 17.0 | 16.6 |
| Imports of goods | 12.0 | 14.6 | 20.5 | 19.6 | 18.6 | 18.2 | 17.8 | 17.5 | 16.9 |
| Services balance | -0.7 | -0.8 | -1.0 | -0.4 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 |
| Income balance | 3.6 | 4.8 | 6.4 | 5.7 | 5.2 | 5.1 | 5.1 | 4.9 | 4.7 |
| **Global Assumptions** | | | | | | | | | |
| Oil prices (US$/barrel) | 41.8 | 69.2 | 96.4 | 81.3 | 76.8 | 72.7 | 69.6 | 67.0 | 64.8 |
| *(Percent change)* | -32.0 | 65.8 | 39.2 | -15.6 | -5.5 | -5.3 | -4.3 | -3.7 | -3.3 |
| *Memorandum items:* | | | | | | | | | |
| Nominal GDP (US$ billion) | 5,048.8 | 5,005.5 | 4,233.5 | 4,409.7 | 4,526.5 | 4,731.5 | 4,923.4 | 5,077.1 | 5,344.0 |
| Net foreign assets (NFA)/GDP, US$ basis | 67.7 | 72.3 | 87.0 | 86.4 | 88.1 | 88.1 | 88.5 | 89.6 | 89.0 |
| Return on NFA (in percent), US$ basis | 5.3 | 6.7 | 7.3 | 6.6 | 5.9 | 5.8 | 5.8 | 5.5 | 5.3 |
| Net export contribution to growth | -0.9 | 1.1 | -0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Sources: Haver Analytics; Japanese authorities; and IMF staff estimates and projections.

## Table 4. Japan: General Government Operations, 2019-28

(In percent of GDP)

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 Proj. | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total revenue | 34.2 | 35.5 | 36.6 | 36.2 | 35.7 | 35.4 | 35.4 | 35.4 | 35.4 | 35.4 |
| Taxes 1/ | 18.9 | 19.7 | 20.8 | 20.2 | 19.8 | 19.8 | 19.9 | 19.9 | 19.9 | 19.9 |
| Social contributions | 13.3 | 13.7 | 13.7 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| o/w Social security contributions | 12.9 | 13.3 | 13.3 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 |
| Other revenue | 2.1 | 2.1 | 2.1 | 2.5 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 |
| o/w interest income | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Total expenditure | 37.3 | 44.6 | 42.8 | 44.0 | 42.1 | 39.4 | 38.3 | 38.5 | 38.8 | 39.1 |
| Expense | 36.5 | 43.7 | 42.0 | 43.3 | 41.4 | 38.7 | 37.5 | 37.7 | 37.9 | 38.3 |
| Consumption | 12.1 | 12.6 | 13.0 | 13.1 | 12.4 | 12.1 | 12.0 | 11.9 | 11.8 | 11.8 |
| Social benefits | 20.0 | 21.1 | 21.1 | 21.2 | 20.6 | 20.3 | 20.3 | 20.3 | 20.3 | 20.5 |
| o/w Social security benefits | 17.7 | 18.6 | 18.4 | 18.6 | 18.1 | 17.8 | 17.8 | 17.8 | 17.9 | 18.0 |
| Interest | 1.7 | 1.7 | 1.6 | 1.4 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 | 1.5 |
| Other expense | 2.8 | 8.3 | 6.3 | 7.6 | 7.1 | 5.2 | 4.1 | 4.3 | 4.5 | 4.5 |
| (Memo) Compensation of employees 2/ | 5.2 | 5.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| (Memo) Use of goods and services 2/ | 3.4 | 4.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Net investment in nonfinancial assets | 0.8 | 0.9 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 |
| Gross investment in nonfinancial assets | 4.2 | 4.5 | 4.4 | 4.2 | 4.1 | 4.0 | 4.0 | 3.9 | 3.9 | 3.9 |
| o/w public investment | 3.9 | 4.2 | 4.2 | 4.0 | 3.9 | 3.8 | 3.8 | 3.8 | 3.8 | 3.7 |
| o/w land acquisition | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| (less) Consumption of fixed capital | 3.4 | 3.6 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 | 3.1 | 3.1 |
| Net lending/borrowing (overall balance) | -3.0 | -9.1 | -6.2 | -7.8 | -6.4 | -4.0 | -2.9 | -3.1 | -3.4 | -3.7 |
| Excluding social security fund | -3.8 | -9.6 | -6.8 | -8.4 | -6.8 | -4.3 | -3.2 | -3.4 | -3.6 | -4.0 |
| Primary balance | -2.4 | -8.4 | -5.6 | -7.5 | -6.2 | -3.8 | -2.7 | -2.9 | -3.1 | -3.2 |
| Structural balance 3/ | -3.3 | -8.1 | -6.2 | -7.8 | -6.4 | -4.1 | -2.9 | -3.1 | -3.4 | -3.7 |
| Structural primary balance 3/ | -2.6 | -7.5 | -5.6 | -7.4 | -6.2 | -3.9 | -2.8 | -2.9 | -3.1 | -3.2 |
| Stock positions 4/ | | | | | | | | | | |
| Debt | | | | | | | | | | |
| Gross 5/ | 236.4 | 258.7 | 255.4 | 261.3 | 258.2 | 256.3 | 257.6 | 259.2 | 261.5 | 264.0 |
| Net | 151.7 | 162.3 | 156.9 | 162.7 | 161.0 | 159.3 | 159.2 | 159.4 | 160.2 | 161.3 |
| Net worth | 17.3 | 12.7 | ... | ... | ... | ... | ... | ... | ... | ... |
| Nonfinancial assets | 140.4 | 145.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Produced assets | 118.7 | 122.8 | ... | ... | ... | ... | ... | ... | ... | ... |
| Non-produced assets | 21.7 | 22.2 | ... | ... | ... | ... | ... | ... | ... | ... |
| Net financial worth | -123.1 | -132.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| Financial assets | 116.4 | 129.7 | ... | ... | ... | ... | ... | ... | ... | ... |
| Monetary Gold and SDR, etc. | 0.4 | 0.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Currency and deposits | 15.4 | 22.6 | ... | ... | ... | ... | ... | ... | ... | ... |
| Loans | 4.0 | 3.5 | ... | ... | ... | ... | ... | ... | ... | ... |
| Debt securities | 13.1 | 12.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Equity and investment fund shares | 31.7 | 33.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| o/w shares | 11.7 | 12.7 | ... | ... | ... | ... | ... | ... | ... | ... |
| Insurance, pension and standardized guarantee schemes | 0.0 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Financial derivatives and employee stock options | 0.0 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Other financial assets | 51.8 | 57.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Liabilities | 239.5 | 262.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Monetary Gold and SDR, etc. | 0.3 | 0.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| Currency and deposits | 0.0 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Loans | 27.3 | 28.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Debt securities | 199.8 | 219.2 | ... | ... | ... | ... | ... | ... | ... | ... |
| Equity and investment fund shares | 3.1 | 3.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| Insurance, pension and standardized guarantee schemes | 0.0 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Financial derivatives and employee stock options | 0.0 | 0.0 | ... | ... | ... | ... | ... | ... | ... | ... |
| Other liabilities | 9.0 | 11.1 | ... | ... | ... | ... | ... | ... | ... | ... |
| *Memorandum item:* | | | | | | | | | | |
| Nominal GDP (trillion yen) | 557.9 | 539.1 | 549.4 | 556.7 | 585.6 | 607.1 | 618.9 | 630.2 | 640.7 | 651.4 |

Sources: Japan Cabinet Office; IMF staff estimates and projections.
1/ Including fines.
2/ Fiscal year basis.
3/ In percent of potential GDP.
4/ Market value basis.
5/ Nonconsolidated basis.

## Table 5. Japan: Medium-Term Projections, 2020-28

| | 2020 | 2021 | 2022 Est. | 2023 Proj. | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | *(In percent change)* | | | | | |
| Real GDP | -4.3 | 2.1 | 1.1 | 1.3 | 1.0 | 0.6 | 0.5 | 0.4 | 0.4 |
| Private final consumption | -4.7 | 0.4 | 2.1 | 1.7 | 1.0 | 0.5 | 0.4 | 0.3 | 0.3 |
| Government consumption | 2.4 | 3.5 | 1.5 | 0.1 | 0.5 | 0.7 | 0.8 | 0.9 | 1.1 |
| Gross Private fixed investment | -5.4 | 0.4 | 0.8 | 2.5 | 2.0 | 0.8 | 0.5 | 0.3 | 0.3 |
| Public investment | 3.4 | -1.9 | -7.1 | 1.4 | 0.4 | 0.3 | -0.4 | 0.2 | 0.1 |
| Stockbuilding (contribution to growth) | -0.5 | 0.2 | 0.5 | -0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Exports | -11.6 | 11.7 | 4.9 | 4.0 | 1.9 | 2.0 | 1.8 | 1.7 | 1.7 |
| Imports | -6.8 | 5.0 | 7.9 | 4.3 | 1.7 | 2.1 | 1.9 | 1.7 | 1.7 |
| Total domestic demand | -3.4 | 1.1 | 1.7 | 1.5 | 1.0 | 0.6 | 0.5 | 0.4 | 0.4 |
| Net exports (contribution) | -0.9 | 1.1 | -0.6 | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Real GDP per Capita | -4.0 | 2.4 | 1.3 | 1.7 | 1.5 | 1.1 | 1.0 | 0.9 | 1.0 |
| Private final consumption per Capita | -4.4 | 0.7 | 2.4 | 2.2 | 1.5 | 1.0 | 0.9 | 0.8 | 0.8 |
| Unemployment rate (percent) | 2.8 | 2.8 | 2.6 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Headline CPI inflation (average) | 0.0 | -0.2 | 2.5 | 2.7 | 2.2 | 1.6 | 1.5 | 1.5 | 1.5 |
| Output gap (in percent of potential output) | -2.9 | -1.6 | -0.9 | -0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 |
| | | | | *(In percent of GDP)* | | | | | |
| Overall fiscal balance | -9.1 | -6.2 | -7.8 | -6.4 | -4.0 | -2.9 | -3.1 | -3.4 | -3.7 |
| Primary balance | -8.4 | -5.6 | -7.5 | -6.2 | -3.8 | -2.7 | -2.9 | -3.1 | -3.2 |
| General government debt | | | | | | | | | |
| Gross | 258.7 | 255.4 | 261.3 | 258.2 | 256.3 | 257.6 | 259.2 | 261.5 | 264.0 |
| Net | 162.3 | 156.9 | 162.7 | 161.0 | 159.3 | 159.2 | 159.4 | 160.2 | 161.3 |
| Current account balance | 2.9 | 3.9 | 2.1 | 3.0 | 4.0 | 3.9 | 3.9 | 3.8 | 3.9 |
| National savings | 28.2 | 29.5 | 28.8 | 28.9 | 29.5 | 29.4 | 29.5 | 29.4 | 29.4 |
| Private | 32.6 | 31.2 | 32.3 | 31.1 | 29.3 | 28.1 | 28.4 | 28.6 | 29.0 |
| Public | -4.5 | -1.7 | -3.5 | -2.1 | 0.2 | 1.3 | 1.1 | 0.8 | 0.5 |
| National investment | 25.3 | 25.6 | 26.6 | 25.9 | 25.5 | 25.6 | 25.6 | 25.6 | 25.5 |
| Private | 19.6 | 20.1 | 21.4 | 20.8 | 20.5 | 20.6 | 20.5 | 20.5 | 20.5 |
| Public | 5.6 | 5.5 | 5.3 | 5.1 | 5.0 | 5.0 | 5.1 | 5.1 | 5.0 |

Sources: Haver Analytics; Japanese authorities; and IMF staff estimates and projections.

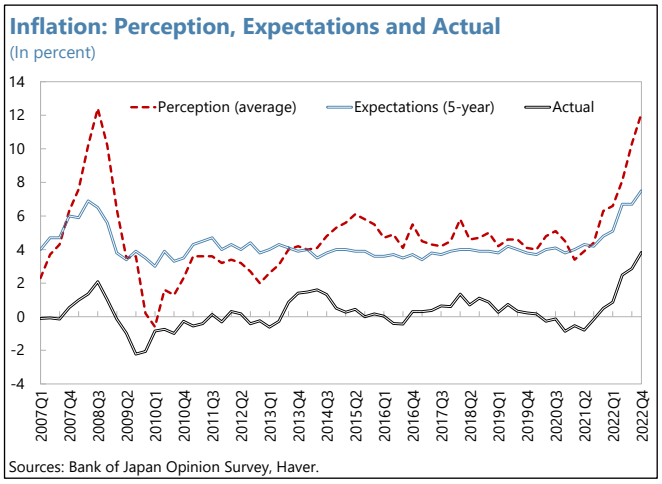
## Table 6. Japan: Financial Soundness Indicators, 2017-22 1/

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **Capital Adequacy** | | | | | | |
| Regulatory capital to risk-weighted assets 2/3/ | 16.0 | 17.1 | 17.2 | 16.4 | 16.6 | 15.4 |
| Regulatory tier 1 capital to risk-weighted assets | 13.5 | 14.9 | 15.1 | 14.3 | 14.6 | 13.8 |
| NPL net of provisions/capital 2/4/ | 6.2 | 4.8 | 4.3 | 4.8 | 5.7 | 4.6 |
| **Asset Quality** | | | | | | |
| Non-performing loans (NPL) to total loans ratio 2/4/ | 1.3 | 1.1 | 1.1 | 1.1 | 1.2 | 1.3 |
| Sectoral distribution of loans 4/5/ | | | | | | |
| Residents | 90.2 | 90.2 | 90.5 | 89.1 | ... | ... |
| Deposit-takers | 4.7 | 5.0 | 5.0 | 4.6 | ... | ... |
| Central bank | 0.0 | 0.0 | 0.0 | 2.2 | ... | ... |
| Other financial corporations | 9.7 | 9.6 | 10.2 | 10.0 | ... | ... |
| General government | 8.7 | 8.7 | 8.4 | 7.9 | ... | ... |
| Non-financial corporations | 36.8 | 36.1 | 36.4 | 35.3 | ... | ... |
| Other domestic sectors | 30.4 | 30.8 | 30.6 | 29.1 | ... | ... |
| Non-residents | 9.8 | 9.8 | 9.5 | 10.9 | ... | ... |
| **Earnings and Profitability** | | | | | | |
| Return on assets 2/4/ | 0.2 | 0.2 | 0.1 | -0.1 | 0.1 | 0.1 |
| Return on equity 2/4/ | 5.1 | 5.4 | 2.3 | -1.3 | 3.5 | 2.6 |
| Interest margin | 1.1 | 1.1 | 1.1 | 1.0 | 0.9 | 0.9 |
| Net interest income to gross income 2/4/ | 62.6 | 62.2 | 70.4 | 60.3 | 63.5 | 69.1 |
| Non-interest expenses to gross income 2/4/ | 67.8 | 69.0 | 82.7 | 73.5 | 70.7 | 69.8 |
| Personnel expenses to non-interest expenses 2/4/ | 59.6 | 44.2 | 43.7 | 43.0 | 42.9 | 42.7 |
| **Liquidity** | | | | | | |
| Liquid assets to total assets 2/4/ | 28.7 | 29.6 | 29.4 | 29.5 | 34.4 | 35.8 |
| Liquid assets to short-term liabilities 2/4/ | 49.7 | 49.9 | 49.2 | 47.4 | 52.6 | 53.3 |
| Non-interbank loans-to-customer-deposits 2/4/ | 73.3 | 71.7 | 71.7 | 71.9 | 67.8 | 67.3 |
| **Other** | | | | | | |
| Capital-to-total assets 2/3/ | 4.9 | 5.2 | 5.2 | 4.7 | 4.6 | 4.3 |
| Gross derivative asset to capital 2/4/ | 43.8 | 35.8 | 35.2 | 55.8 | 43.3 | 57.1 |
| Gross derivative liability to capital 2/4/ | 42.3 | 33.2 | 33.7 | 52.0 | 42.7 | 59.9 |

Sources: IMF, Financial Soundness Indicators (FSI) database.
1/ Data for these series are for Q1 of each year.
2/ Including city banks and regional banks but not shinkin banks.
3/ Aggregated based on a consolidated basis.
4/ Aggregated based on an unconsolidated basis.
5/ Including all deposit-taking institutions in Japan.

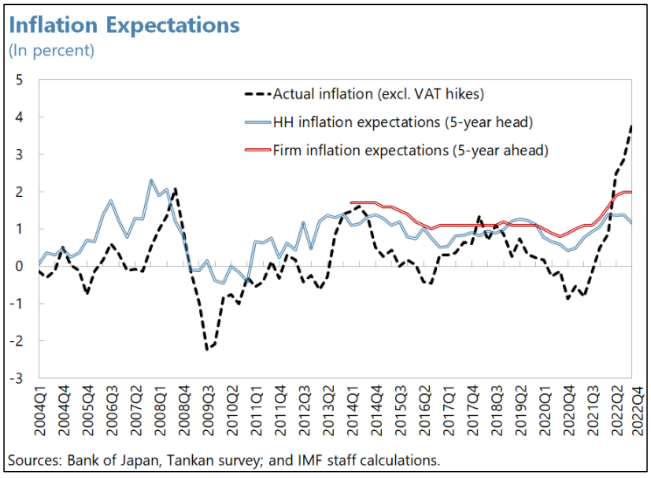
# Annex I. Estimating Household Inflation Expectations

**1. Households' inflation expectations based on *quantitative* survey responses are biased upward.** The Bank of Japan conducts a quarterly Opinion Survey on the General Public's Views and Behavior. Households provide a number on their inflation expectations, as well as a qualitative response on whether prices will go up, or down, or remain the same. The quantitative responses are biased upward, as households tend to react more to positive inflation shocks than to negative inflation shocks, they are subject to bunching bias (most responses are integers and multiples of 5), and are influenced by outliers.[1]




**2. To avoid such bias, the qualitative survey responses can be used to quantify inflation expectations using a modified Carlson-Parkin method.[2]** The original Carlson-Parkin method was modified to accommodate the five choices in the Opinion Survey: prices will "go up significantly, "go up slightly", "remain almost the same", "go down slightly", or "go down significantly".[3]

**3. The estimated household inflation expectations remain well below the 2 percent inflation target in 2022Q4.** The average of household inflation expectations is calibrated to be equal to the average of actual inflation, eliminating the upward bias. Compared to the quantitative survey responses, the estimates are also less volatile. Based on this estimate, inflation expectations have risen since 2021 but remain well below BoJ's two-percent inflation target.




[1] Kamada, K., "Downward Rigidity in Households' Price Expectations: An Analysis Based on the Bank of Japan's Opinion Survey on the General Public's Views and Behavior", Bank of Japan Working Paper 13-E-15, 2013.

[2] Carlson J. A. and M. Parkin, "Inflation Expectations", Economica, vol. 42, 1975, pp 123-138.

[3] For details of the modified Carlson-Parkin method, see Ito, Y. and S. Kaihatsu, "Effects of Inflation and Wage Expectations on Consumer Spending: Evidence from Micro Data", Bank of Japan Working Paper 16-E-7, 2016.

# Annex II. External Sector Assessment

**Overall Assessment:** *On a preliminary basis, and adjusting for transitory factors, the external position in 2022 is assessed to be broadly in line with the level implied by medium-term fundamentals and desirable policies. A final assessment will be presented in the 2023 External Sector Report.* The current account (CA) surplus declined to 2.1 percent of GDP in 2022 from 3.9 percent in 2021. This is because the impact of higher prices on Japan's commodity imports largely offsets improvement in Japan's exports (as supply disruptions fade) and a larger primary income balance reflecting the sharp depreciation. Japan's CA surplus is expected to continue over the medium term, mainly driven by its income surplus arising from a large positive net international investment position (NIIP) and high net returns.

**Potential Policy Responses:** Given the closing output gap and the high uncertainty around the inflation outlook, more flexibility in monetary policy accompanied by bold structural reforms and a credible and specific medium-term fiscal consolidation plan is needed to maintain an external position consistent with medium-term fundamentals and desirable policies. Priority should be given to labor market and fiscal reforms that stimulate private demand, raise potential growth, and promote digital/ green investment. While fiscal consolidation will push the current account surplus higher, this would be offset by higher investment and a decrease in private savings post pandemic-era highs and due to demographic related decline. Japan's global leadership role to promote more open, stable, and transparent trade policies in regional/ multilateral trade agreements should continue.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background**. Japan's NIIP has risen significantly reaching 83 percent of GDP at end-September 2022, up from 72 percent in 2021 and an average of 61.7 percent pre-pandemic (2016-2019). This has been largely driven by an increase in foreign assets related to outward FDI and the positive valuation effects from yen depreciation. On the back of CA surpluses, the NIIP is projected to stabilize at around 87 percent of GDP in the medium term. Japan holds the world's largest stock of net foreign assets.<br>**Assessment.** Japan's foreign asset holdings are well diversified, both by geography and risk classes. As of September 2022, gross foreign assets largely comprise portfolio investment accounting for about 39 percent of the total, followed by 20 percent of FDI. At end-2021, portfolio investment was about 20 percent yen-denominated and 53.5 percent U.S. dollar-denominated. In the event of yen appreciation against the U.S. dollar, the risk of negative valuation effects could materialize. Liabilities' vulnerabilities are contained, given that equity and direct investment account for a third of gross foreign liabilities. The NIIP is estimated to have generated a net annual investment income of 7.3 percent of GDP in 2022 owing to the sharp depreciation. Japan's large positive NIIP is partly related to the asset accumulation for old-age consumption; a gradual deaccumulation of such assets is expected over the long term. | | | | | |
| End-September 2022 (% GDP) | NIIP: 82.9 | Gross Assets: 253.2 | Debt Assets: 90 | Gross Liab.: 170.3 | Debt Liab.: 95.7 | |
| **Current Account** | **Background.** Japan's CA surplus reflects a sizable income balance, reaching a historical high at 6.4 percent of GDP in 2022, owing to its large net foreign asset position. The CA surplus declined to 2.1 percent of GDP in 2022, from 3.9 percent in 2021. The merchandize trade balance shifted from a surplus of 0.3 percent in 2021 to a deficit of 2.8 percent in 2022, driven by higher prices for commodity imports. Offshoring of production overseas over the years has limited the positive impact of yen's depreciation on exports, which may take time to materialize. The lower merchandize trade balance is expected to be offset by a 1.5 percent improvement in the primary income balance reflecting sharp depreciation. In the medium-term, the CA balance is projected to stabilize at a level of about 3.8 percent of GDP.<br>**Assessment.** The 2022 CA assessment uses the EBA model, in which the estimated cyclically-adjusted CA is 3.2 percent of GDP and the cyclically-adjusted CA norm is estimated at 3.9 percent of GDP, with a standard error of 1.1 percent of GDP. The IMF staff estimates a 2022 CA norm range between 2.8 and 5 percent of GDP. After factoring in the transitory impacts of the COVID-19 crisis on the CA in relation to travel services including tourism equivalent to 0.3 percent of GDP (transport adjustor is at 0 percent) the 2022 CA gap midpoint is assessed at −0.4 percent of GDP, with the CA gap range between −1.5 and 0.7 percent of GDP. The EBA-identified policy gaps reflect relatively greater medium-term fiscal consolidation needs, as well as a positive credit gap, in relation to medium-term desired policy.[1] The overall gap is accounted for by the residual, potentially reflecting structural impediments and country-specific factors not included in the model, such as investment bottlenecks, including entrepreneurship entry barriers and corporate savings distortions. | | | | | | |
| 2022 (% GDP) | CA: 2.1 | Cycl. Adj. CA: 3.2 | EBA Norm: 3.9 | EBA Gap: -0.7 | COVID-19 Adj.: 0.3 | Other Adj.: 0.0 | Staff Gap: -0.4 |
| **Real Exchange Rate** | **Background.** The REER has depreciated sharply in 2022 by close to 14 percent, following a depreciation of 8.7 percent in 2021. This reflects a sharp rise in inflation in Japan's major trading partners combined with the yen's nominal depreciation against major currencies as a result of widening interest rate differentials amid global monetary tightening.<br>**Assessment.** The IMF staff CA gap implies a REER gap of 2.4 percent in 2022 (applying an estimated elasticity of 0.17). The EBA REER level and index models deliver REER gaps of −29.4 and −29.2 percent, respectively, for the 2022 average REER. However, these models are not used for the assessment because they do not capture Japan-specific factors well. Consistent with the IMF staff CA gap, the REER gap is assessed to be in the range of −4.1 to 8.8 percent, with a midpoint of 2.4 percent. | | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The financial account recorded net outflows in 2022, mirroring the CA surplus, and declined to 1.9 percent of GDP in 2022 from 3.1 percent in 2021. Net FDI outflows are projected at 3.1 percent of GDP, primarily driven by outward FDI flows to North America, Asia and Europe. Net portfolio inflows recorded at 3.4 percent of GDP lower than 4 percent in 2021 reflecting both lower demand for yen-denominated assets due to divergence in monetary policy as well as lower net portfolio outflows amid increased global financial volatility. Net short yen positions have emerged since early 2021, due to the relative strength of the USD amid changes in monetary policy stances.<br>**Assessment.** Vulnerabilities are limited. Inward investment tends to be equity-based, and the home bias of Japanese investors is strong. So far, outward spillovers from Japan's policies to financial conditions in other economies (interest rates, credit growth) are contained. | | | | | | |
| **FX Intervention and Reserves Level** | **Background.** Reflecting legacy accumulation, reserves stood at US$1.3 trillion or about 30 percent of GDP at end-2021. They declined to US$1.12 trillion by end-2022 as the FX intervention and valuation effects from rising foreign bond yields more than offset other factors that would support reserves, such as income gains from foreign bond holdings.<br>**Assessment.** The exchange rate is free floating. The authorities intervened to support the yen in September and October for the first time since 1998, with the size of the intervention equivalent to 5 percent of forex reserves in end-August. FX interventions should be isolated and limited to addressing disorderly market conditions. | | | | | | |

[1] IMF staff recommends allowing the estimated credit-to-GDP gap to decline gradually over the medium-term from its currently estimated level of 25 percent (16 percent net of corporate savings) with a corresponding policy setting (P*) for the credit-to-GDP gap in five years of 9 percent of GDP. This is consistent with the reduction envisaged earlier in the 2022 External Sector Report.

# Annex III. The New Methodology for Estimating the Output Gap[1]

**1. A new method is adopted to estimate the output gap in Japan to avoid issues with the HP filter and large GDP revisions.** The previous method estimated potential GDP first and then the output gap as the difference between potential GDP and actual GDP. However, this method relied on the HP filter that suffers from various issues.[2] In addition, the output gap was subject to large revisions when actual GDP was revised. The new method, which is used by the Bank of Japan (BoJ), calculates the output gap directly, using the labor input gap and capital input gap.[3] It relies on statistics on the utilization of labor and capital rather than on GDP statistics because factor utilization statistics are more timely and less prone to large revisions. In this report, the output gap is estimated following the BoJ methodology, with an update on the employment rate gap and some ad hoc adjustments for the supply shock during the pandemic.

**2. The labor input gap, which is the sum of the labor force input gap, the employment rate gap and the hours worked gap, remained negative in the third quarter of 2022.**

- **For the labor force participation rate (LFPR) gap**, the BoJ methodology is used to allow for sharp kinks in the trend in each peak of the business cycle. The pandemic has slowed the trend growth of LFPR due to the economic downturn. LFPR gap turned negative during 2020-21 but has recently turned positive as the economy recovers.

- **For the employment rate gap**, the BoJ methodology is updated by estimating the trend unemployment rate using vacancy and unemployment rate data after 2000.[4] The pandemic disrupted the improving streak of employment gap since 2010. Nevertheless, the gap has remained positive due to various government support measures.

- **For the hours worked gap**, the BoJ updated its methodology in 2017 to capture the structural decline in working hours due to the increase of female and senior workers. The hours gap slumped in the beginning of the pandemic and has since recovered. The gap remains negative as of 2022Q3.

- **Adding up the three factors, the labor input gap remained negative in Japan.** This mainly reflects subdued hours by workers, especially in the services sector. Consumption of services remains below the pre-pandemic level in Japan due to repeated COVID-19 waves.

**3. The capital input gap has turned positive thanks to external demand and improving supply chains.** The utilization rate in non-manufacturing is estimated using the capacity utilization

[1] Prepared by Rui Xu (APD).

[2] Hamilton, J., "Why You Should Never Use the Hodrick-Prescott Filter", NBER Working Paper 23429, 2017.

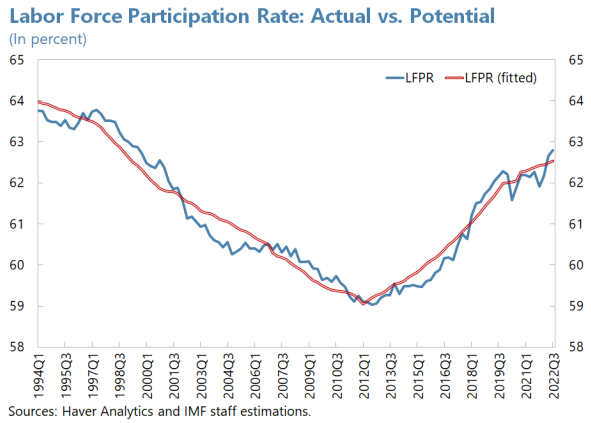
[3] Kawamoto, T., T. Ozaki, N. Kato, and K. Maehashi, "Methodology for Estimating Output Gap and Potential Growth Rate: An Update", Bank of Japan Reports and Research Papers, 2017.

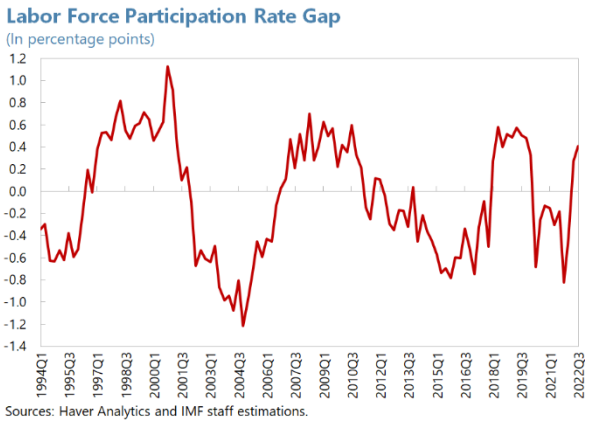
[4] The original BoJ methodology estimates the empirical relationship between the unemployment rate and vacancy rate in 1990-93.

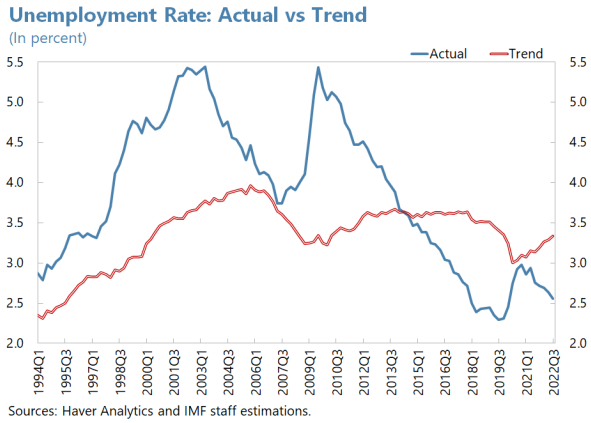
DI in the *Tankan* survey. The utilization rate in manufacturing is calculated by dividing the actual production index by the trend-adjusted capacity index. This approach incorporates the economic depreciation of technology by using the newly available depreciation-adjusted capital stock data, and the time trend. The utilization gap is then defined as the percent deviation of the utilization rate from its long-run average. After a sharp drop in 2020Q2, the utilization gap in manufacturing has been recovering, despite periodic disruptions from supply chain issues.

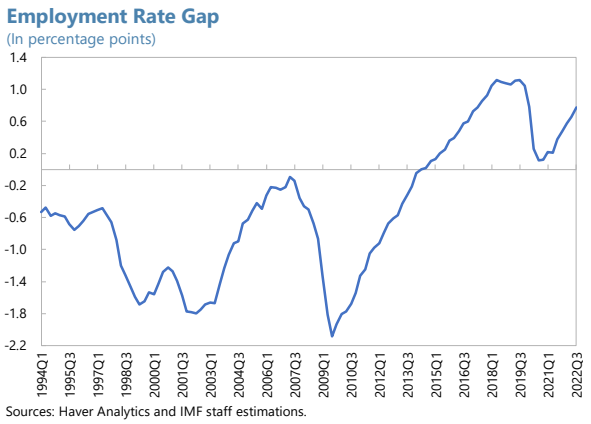
**4. Based on the new method, there is a small negative output gap in 2022Q3.** Staff's estimate is close to the estimate by the BoJ. Going forward, the output gap will likely turn positive in the near term under supportive fiscal and monetary policies.

**Figure 1. Japan: Output Gap Decomposition**



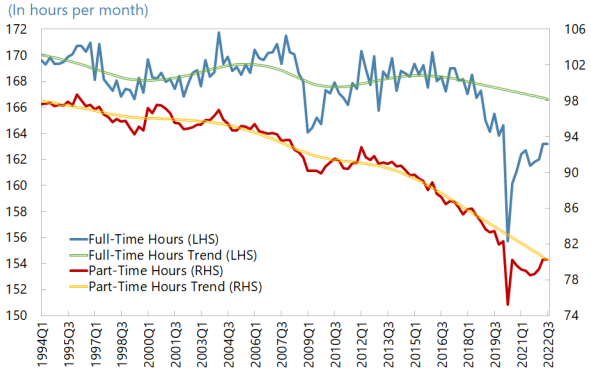



## Figure 1. Japan: Output Gap Decomposition (concluded)

### Hours Worked: Actual vs Trend

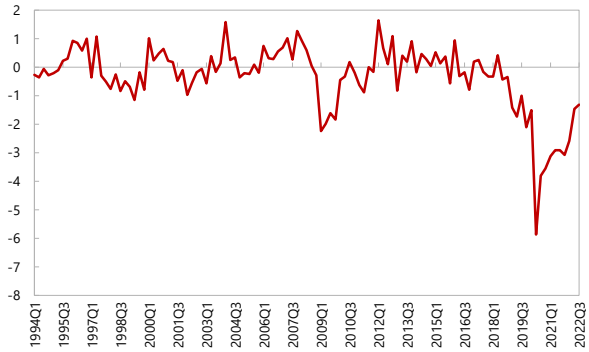
(In hours per month)




Sources: Haver Analytics and IMF staff estimations.

### Hours Worked Gap

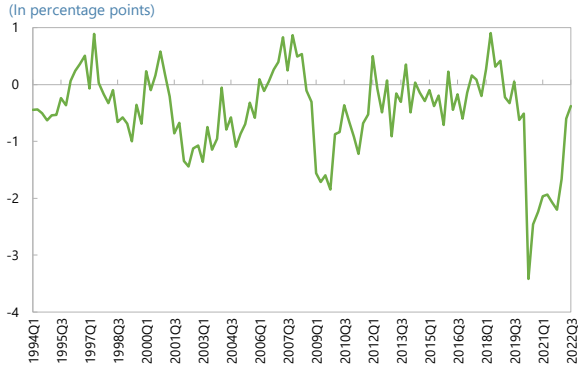
(In percentage points)



Sources: Haver Analytics and IMF staff estimations.

### Labor Input Gap

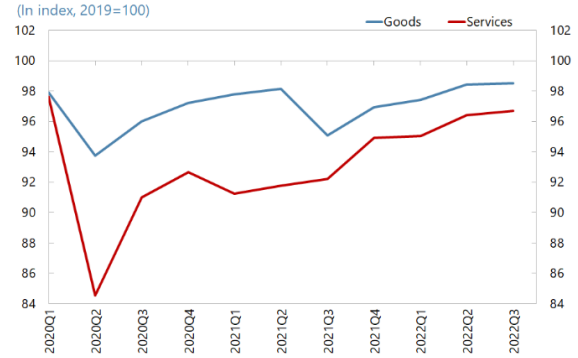
(In percentage points)



Sources: Haver Analytics and IMF staff estimations.

### Consumption: Goods vs. Services

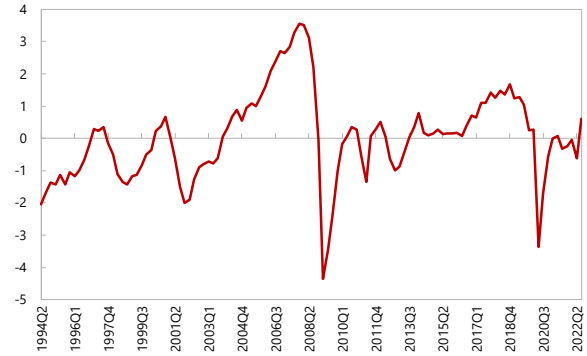
(In index, 2019=100)




Sources: Cabinet Office of Japan; Haver Analytics; and IMF staff calculations.

### Capital Input Gap

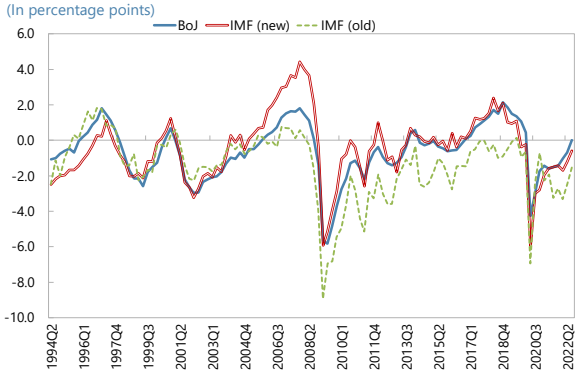
(In percentage points)



Sources: Haver Analytics and IMF staff estimations.

### Output Gap

(In percentage points)




Sources: Bank of Japan; Haver Analytics; and IMF staff estimations.

# Annex IV. Risk Assessment Matrix[1]

| Source of Risk | Likelihood | Source | Expected Impact | Main Impacts → Recommended Policy Actions |
|---|---|---|---|---|
| Deepening geo-economic fragmentation and geopolitical tensions | High | External | High | Trade disruption and supply chain constraints. → continue to pursue open market policies and enhance supply chain resilience. |
| An abrupt slowdown of the global economy | High | External | High | Negative spillovers through financial and trade channels that could be offset somewhat by lower commodity prices. → Fiscal and monetary easing to support aggregate demand. |
| Commodity price volatility | Medium | External | Medium | Volatile commodity prices → Fiscal and monetary policy to support aggregate demand. |
| Stronger than expected rebound in inbound tourism | Medium | Domestic | Medium | The reopening of the borders may attract huge numbers of international travelers that may boost private consumption. → Be ready to withdraw policy support faster to avoid overheating. |
| Higher frequency and severity of natural disasters related to climate change | Medium | External | High | Climate-related losses could reduce real GDP and increase fiscal costs. Transition risks resulting in shifts in asset values could undermine investor confidence. → Strengthen climate adaptation and mitigation efforts and provide relief to affected households. |
| Disorderly exit from yield curve control framework | Medium | Domestic | High | Financial instability caused by the repricing of risky assets. → Communicate clearly to financial markets any revisions to the monetary policy framework. |
| Cyberthreats | Medium | External | High | Cyber-attacks on critical infrastructure and interconnected financial systems that trigger systemic financial instability or widely disrupt socio-economic activities and remote work arrangements. → Take-pre-emptive measures to prevent cyberattacks and do contingent planning to build resilience if there is an attack. |
| Bond market stress from a reassessment of sovereign risk | Low | Domestic | High | An increase in the sovereign risk premium would worsen public debt dynamics and cause distress in the financial sector. → Adopt a credible medium-term fiscal consolidation to put debt on a downward path. |

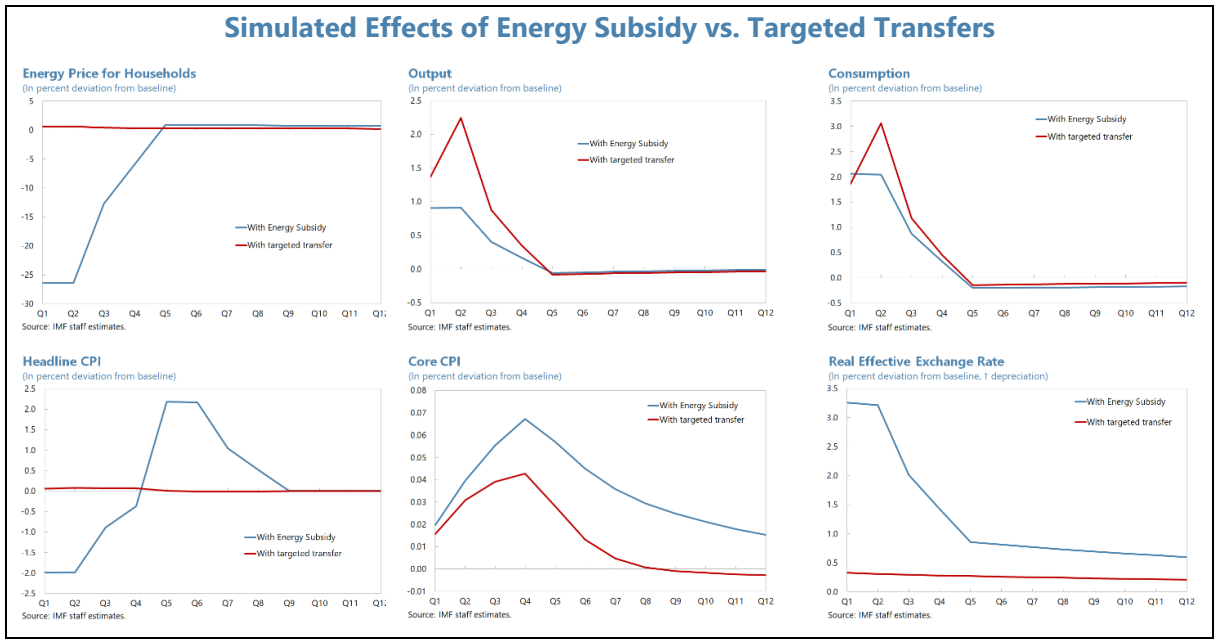
[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood of risks listed is the staff's subjective assessment of the risks surrounding the baseline ("L" (low) is meant to indicate a probability below 10 percent, "M" (medium) a probability between 10 percent and 30 percent, and "H" (high) a probability of 30 percent or more). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

# Annex V. The Impact of Japan's Energy Subsidy[1]

**1. Although helpful in mitigating near-term headline inflation, energy subsidies can be fiscally expensive and worsen the current account.** To illustrate the general equilibrium effects of the energy subsidy in the new fiscal package, a Quantitative model for the Integrated Policy Framework (QIPF) is calibrated to Japan. The simulation assumes a 28 percent subsidy of household energy consumption in 2023H1, declining to 14 percent in Q3, 7 percent in Q4 and 0 thereafter. Energy consumption will be higher with the subsidy, which will worsen the current account, depreciate the yen, and have negative environmental effects. Output will improve at the cost of a higher fiscal deficit and permanently higher debt levels.[2]

**2. Furthermore, while the energy subsidies can help mitigate the inflationary impact of imported fuel, the effects will be temporary**. Simulations suggest that after four quarters, headline inflation will be higher than without the subsidy. In addition, core inflation will remain persistently higher in the scenario with the subsidies.

**3. At the same fiscal cost, targeted cash transfers to vulnerable households can boost output by more**. Assuming 20 percent of the population are liquidity-constrained agents with higher propensity to consume, targeted transfers to those households are more effective in lifting aggregate consumption. The boost to output is even larger as households substitute away from imported energy towards domestically produced goods. A wider adoption of "My Number" could potentially help collect the necessary household data to conduct better-targeted transfers.




[1] Prepared by Marcin Kolasa and Rui Xu. The model is only for illustration purposes and not used for the baseline projections.

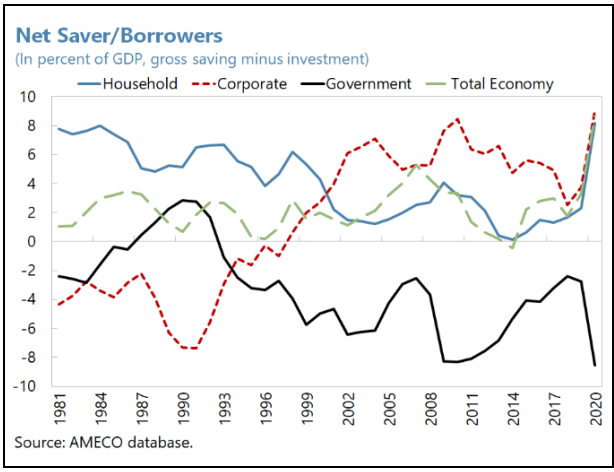
[2] The fiscal multipliers used in the simulation are not specific to Japan, which has lower ones, but that does not qualitatively affect the results.

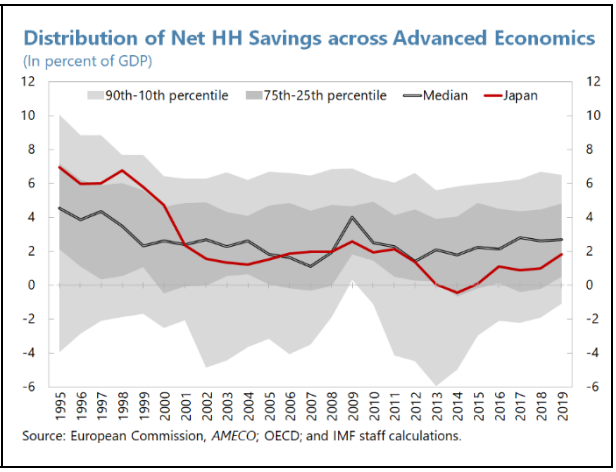
# Annex VI. What Drives Japanese Household Savings?[1]

*This annex reviews the evolution of household savings behavior and analyzes its key drivers. There is a long-term downward trend in the household savings rate in Japan; however, this trend has reversed since 2016. While old-age dependency plays a key role, empirical analysis indicates fiscal and monetary policy has also affected household savings. Moreover, there is significant evidence of strong substitutability with corporate savings. The future trajectory of household savings decisions matters for the internal and external balance of the economy, especially given Japan's high public debt. Going forward, the presence of a clear and credible fiscal framework and strengthening the sustainability of the social safety net, in combination with structural reforms, would help reduce households' precautionary saving (boost consumption) and support corporate investment. Moreover, improving financial literacy will encourage households to diversify high cash/deposit savings into higher-yielding investments, which would help secure higher financial sustainability in their old age.*

## A. Developments in Household Savings

**1. The composition of private savings in Japan has changed overtime, with a substantial compositional shift from household to corporate savings.** Household savings have been trending down after peaking at 23 percent of household disposable income in 1974. While this is consistent with declining household savings trends across advanced economies, the decline in Japan has been much larger. However, this decline has been offset by changes in corporate net savings, which has kept the economy's overall savings-investment balance positive leading to continued current account surpluses.



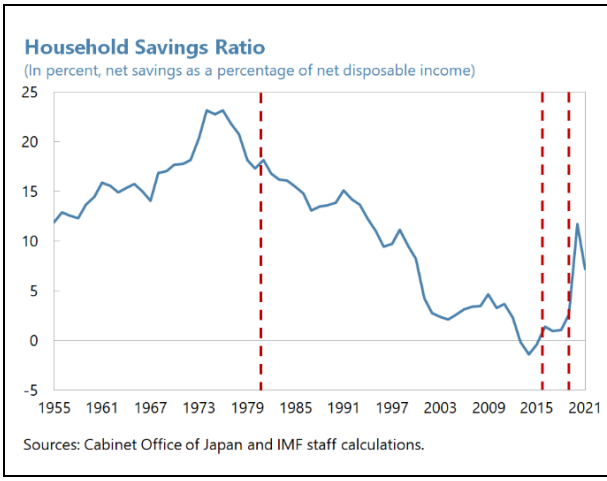

**2. Japanese household savings pattern has evolved over the years, and can be categorized in three phases before the pandemic:**

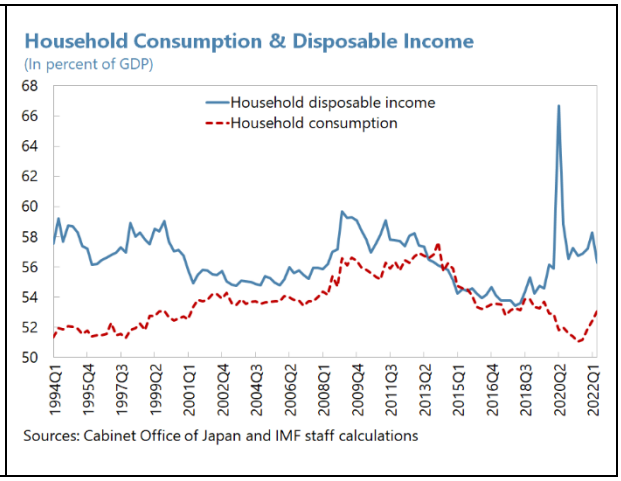
- **The first phase** was of an increasing and high savings rate until the 1980s driven by rapid post- war economic growth, increasing household incomes as well as tax incentives for

[1] Prepared by Purva Khera (APD) with support from Ted Zhu (OAP) and Kaustubh Chahande (APD).

saving,[2] and an under-developed social security system which incentivized higher savings for retirement.

- **The second phase** is of a falling savings rate starting 1980s. Several factors are found to contribute to this: the country's ageing population, abolition of the tax breaks for savings, decreasing/stagnant labor income growth and improvement in public pension benefits. In 2013, net household savings rate (as a percent of GDP and net disposable income) turned negative – as spending surged ahead of the consumption tax rate hike in April 2014.[3]




- **The third phase** starts in 2016 when the household savings rate started to rebound but continued to remain at a low level until the COVID-19 pandemic. While there are no empirical studies explaining this reversing trend, there is conjecture that this could likely be driven by concerns about fiscal sustainability including the social security system given the already high public debt—which resulted in a fall in consumer confidence.

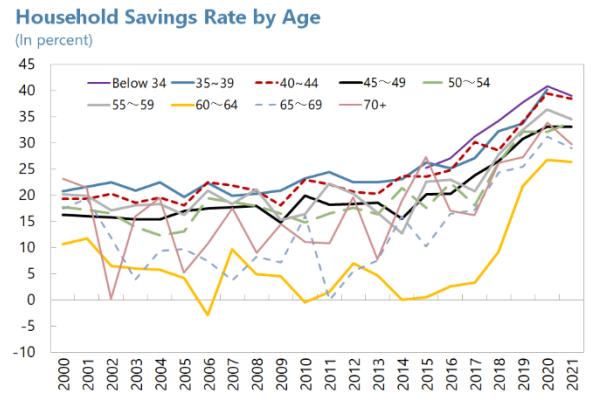
**3. The household savings rate rose sharply during the pandemic amidst uncertainty,** reaching a peak of more than 20 percent of household disposable income**.** This reflected cash handouts from the government which were mostly saved by the households. It led to an excess savings of close to 11 percent of GDP. However, more recently we see that households have started to spend some of their excess savings, although the saving rate remains above the pre-pandemic levels/norm (Saito, 2020).

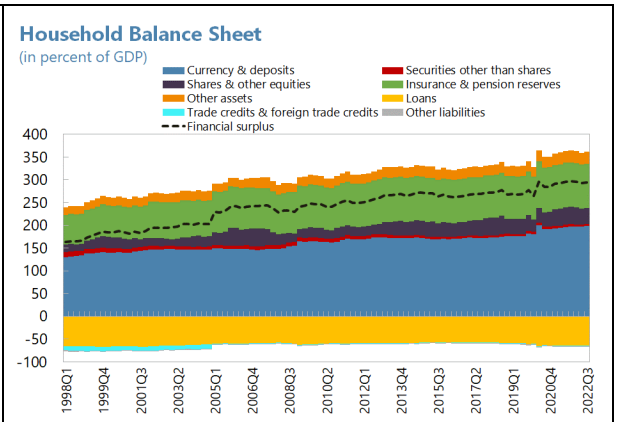
**4. These changing patterns in household savings are observed across all age groups, implying that it is driven by more than just demographic factors.** According to the Family Income and Expenditure Survey, savings rates across different age groups seem to follow similar

[2] A proportion of private savings, including the interest income, was exempt from taxation.

[3] The result was a surge in consumption before April (which means it took place in FY2013), and a drop of consumption after April (which means it took place in FY2014).

patterns over time.[4] Moreover, younger Japanese (age groups below 45) tend to save the highest proportion of their disposable incomes (Japan Consumer Affairs Agency, 2017).




**5. Japanese households mostly keep their savings as cash and deposits.** Households have a strong bias towards less risky financial assets and hold close to 55 percent of their financial assets as cash and deposit, in comparison to about 20 percent in the United States (US), 25 percent in the United Kingdom (UK), and 34 percent in the Euro Area. As a result, and given the ultra-low interest rates in Japan, the value of household financial assets in Japan has increased only 1.4 times over the last 20 years—in comparison to the US where it has tripled and to the UK where it has increased by 2.3 times.[5]

## B. Key Drivers of Household Savings

Box 1 lays out the empirical strategy and discusses the underlying data. Table 1 reports the results of the estimation. In the following sub-sections, we analyze the potential drivers of Japan's household savings rate one by one.

### Demographics

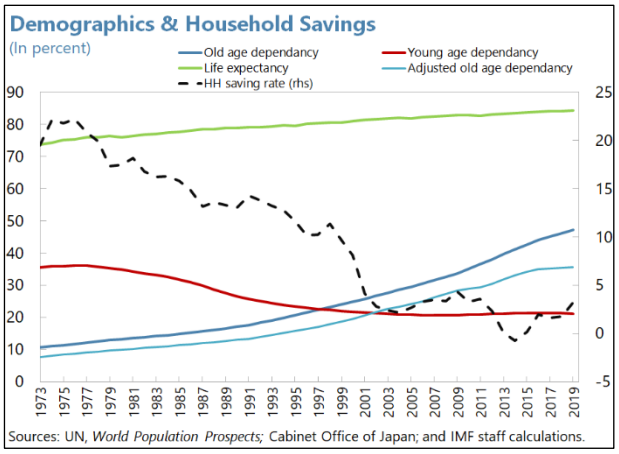
**6. Japan is one of the fastest ageing societies.** The share of population aged 65 and older (i.e., the old age dependency ratio) has increased from 10 percent in 1973 to 47 percent in 2019. When adjusted for the increasing old-age employment, the increase has been smaller from 8 percent to 36 percent. Moreover, life expectancy of the population has also been gradually rising.

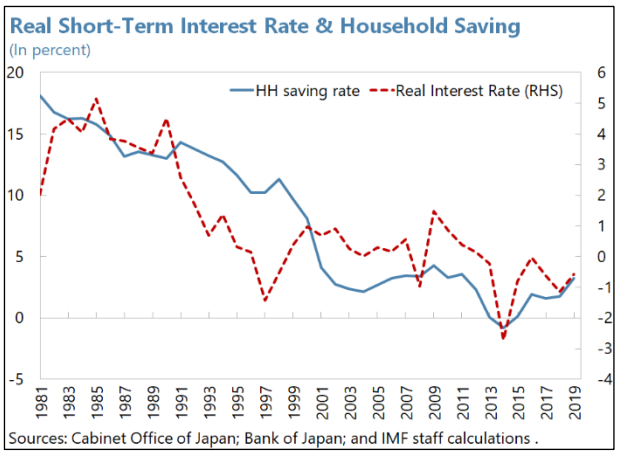
**7. Rising old age dependency ratio is associated with lower household savings.** The predictions of the life-cycle hypothesis are supported in that the old age dependency ratio has a

[4] Several factors explain the substantial difference in the household savings rate data in Japan's national accounts versus the household survey: (ii) differences in the range of households covered; (ii) differences in the concepts of income and consumption; and (iii) non-sampling errors in household surveys (Unayama and Yoneda, 2018).

[5] See https://www.cas.go.jp/jp/seisaku/atarashii_sihonsyugi/pdf/ap2022en.pdf

negative effect on household saving rates. On the other hand, young age dependency and life expectancy do not appear to have a significant impact.



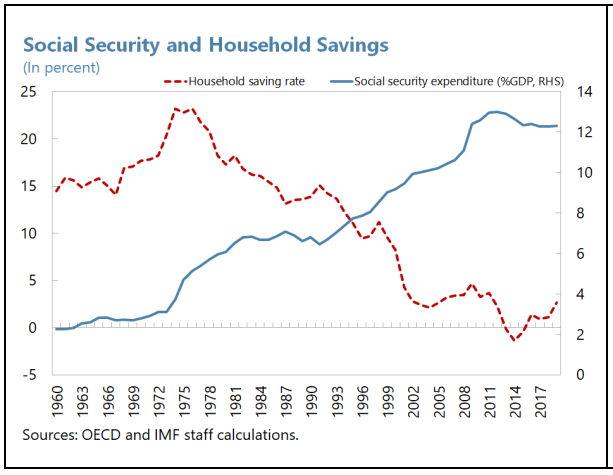



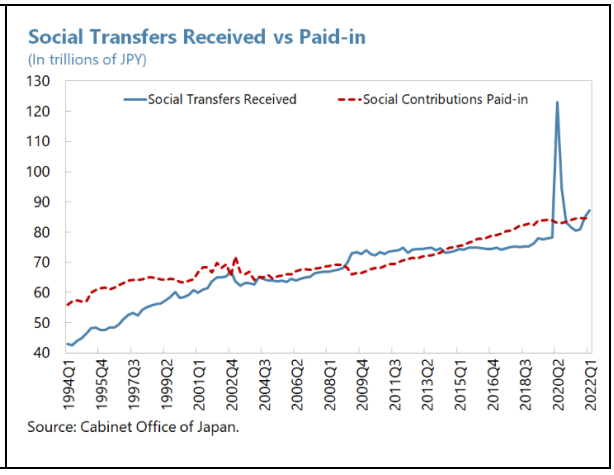

## Monetary Policy

**8. Monetary easing is associated with lower household savings rate via the interest rate channel.** Conventionally speaking, a falling interest rate discourages savings because of lower returns, i.e., the substitution effect. On the other, there is an income effect as the lower interest rates decreases the rate of return on savings so that people may try to compensate by increasing their aggregate amount of savings. We find that the substitution effect dominates the income effect. Moreover, since Japanese households have kept more than half of their total financial assets in cash and deposits, low interest rates have lowered their return/income from savings, further depressing their ability to increase their savings.

## Fiscal Policy

**9. Higher social security spending by the government is significantly associated with lower household savings.** This is because households need to save less for retirement and health. Social security spending as a share of GDP has increased from around 3 percent in 1960 to close to 13 percent in 2019.

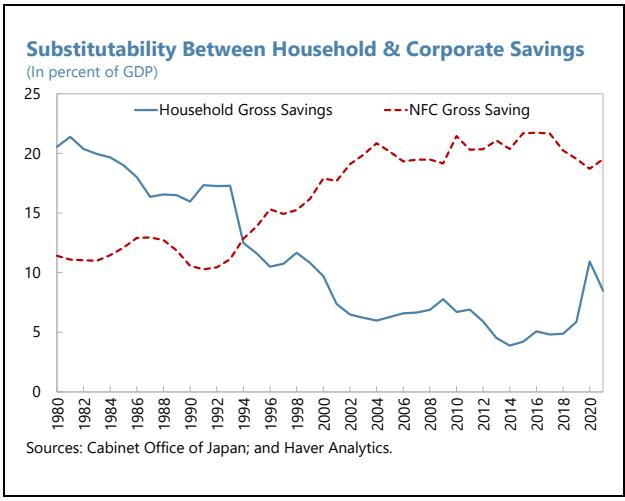


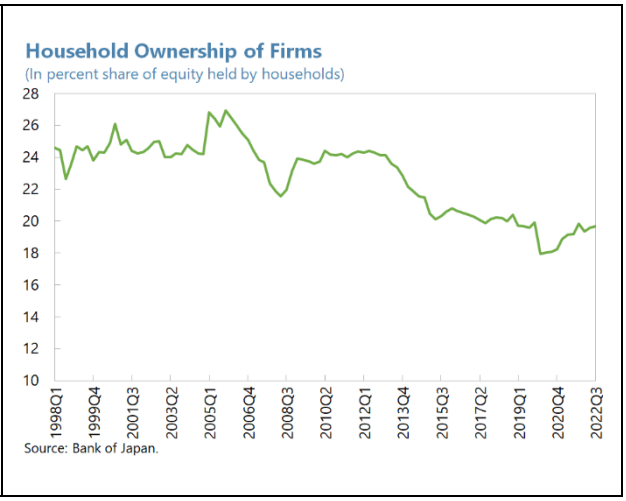



**10. On the other hand, fiscal expansions are linked with increase in Japanese household savings.** This is consistent with the theoretical and empirical findings in the literature, which suggest that rising public deficits could trigger precautionary savings of households as they expect higher taxes and lower government expenditure in the future (Takeda and Ookoshi, 2022). Moreover, given Japan's high public debt, concerns about fiscal sustainability including the sustainability of the social security system could be driving higher savings (Nakata, 2009). This is consistent with the rise in household savings starting 2016—when reforms of various programs (including pensions) halted the rise in social transfers.

### Corporate Savings

**11. There is strong evidence of substitutability between corporate and household savings.** The theory on substitutability between household and corporate savings assumes that households are the ultimate holders of companies. While Japanese households do not hold so much of corporate shares, some evidence suggests that a large share of firms in Japan are in private ownership among the wealthy[6]—who have been increasing their cash holdings, merely representing a shift from household to corporate savings (Matsubayashi, 2008).




## C. Policy Implications

**12. The future trajectory of private savings matters for the internal and external balance of the economy.** Household savings as a share of GDP could resume its decline due to ageing of the population—Japan's old age dependency ratio is expected to rise to more than 80 percent of the working age population in 2050 (see UN world population statistics). However, ageing will also put upward pressure on fiscal expenditure or lower fiscal savings as age-related fiscal spending (healthcare and pensions) will rise—which could encourage households to increase their precautionary savings and depress consumption activities.

[6] See IMF Country Report No. 19/124.

**13. A credible fiscal framework in combination with structural reforms will help shift the drivers of the economy from an unsustainable public saving-investment position to one driven by the private sector.** A credible medium-term fiscal framework to reduce the deficit and put the debt-to-GDP path on a clear downward path could help bolster the credibility of the fiscal framework and diminish policy uncertainty, which would help bolster household consumption and corporate investment. This would include policies to ensure sustainability of the social security spending by containing health and long-term care expenditure, while also closing the gaps in the safety nets for the working poor (*see Japan 2023 Selected Issues Paper "Options to Strengthen the Safety Net in Japan*").

**14. Improving financial literacy will help facilitate diversification of household savings from cash and deposits to higher-yielding investments.** Financial literacy in Japan remains low in comparison to peers, which is one of the key factors why Japanese households hold a large share of assets as cash. For example, Japanese respondents scored an average of 7 percentage points lower on comparable questions in the 2019 financial literacy survey than respondents in the United States, Germany, and the United Kingdom. Diversifying away from cash into higher-yielding investments would move households toward greater financial sustainability in old age by increasing their interest income and benefits of sustained increases in corporate value to all households.

## Box 1. Empirical Estimation and Results

Based on data availability, yearly data spanning from 1980 to 2019 is used. In line with the empirical literature on household saving behavior, the following OLS equation is estimated:

$$\Delta HH\ saving_t = \alpha + \beta_i \Delta X_{i,t} + \epsilon_t$$

where the household savings behavior, i.e., the dependent variable, is defined as the aggregate net household savings as a share of disposable income and also as a share of GDP. Following the literature, our regressors (*X*) include a standard group of variables: the rate of growth of real per capita income, current wage income deflated by the CPI (real wages), expected income which is approximated by labor productivity growth, and private credit flow relative to GDP to capture consumers' access to borrowing. The monetary policy variable is the real interest rate, defined as ln[(1+i)/(1+π)], which is calculated using the Tokyo repo rate. We attempt to capture Ricardian effects by including as a regressor the public saving to GDP ratio, and also include government's social security expenditure as a share of GDP to capture households' precautionary savings. Demographic factors are represented by the old and young-age dependency ratios, defined as the share of population over age 64 and population under age 15 as a share of the productive population (aged 15-64), as well as life expectancy. To ensure stationarity, all variables (except income variables, real wages, labor productivity) are first differenced.

To tackle potential endogeneity related issues, two specifications were tested: (i) taking lagged values of the regressors; and (ii) using the system generalized method of moments (GMM) estimation method, which is commonly used in the private savings literature. The key estimation results are robust to both specifications, however, given the relatively short time series used in our regression, specification (ii) is not reliable.

**Determinants of Household Savings**

| Variables | Net Household Savings as a % of GDP | Net Household Savings as a % of Disposable Income |
|---|---|---|
| **Real Short-Term Rate** | **0.188*** | **0.311**** |
| | **(0.092)** | **(0.146)** |
| **Public Savings** | **-0.455**** | **-0.713***** |
| | **(0.153)** | **(0.243)** |
| Private sector credit | 0.027* | 0.076* |
| | (0.030) | (0.043) |
| **Social Security Expenditure** | **-1.877***** | **-2.974***** |
| | **(0.483)** | **(0.766)** |
| Real wages | 8.477** | 13.442** |
| | (3.751) | (5.944) |
| **Corporate Savings** | **-0.276**** | **-0.394*** |
| | **(0.127)** | **(0.201)** |
| Labor productivity | 0.300*** | 0.436** |
| | (0.103) | (0.163) |
| Real growth rate of per capita GDP | -0.089 | -0.144 |
| | (0.128) | (0.203) |
| **Old Age Dependency** | **-1.071*** | **-1.778*** |
| | **(0.548)** | **(0.868)3** |
| **Young Age Dependency** | **-0.103** | **-0.034** |
| | **(0.673)** | **(1.067)** |
| **Life Expectancy** | **-0.457** | **-0.653** |
| | **(0.468)** | **(0.742)** |
| Observations | 45 | 45 |
| R-squared | 0.645 | 0.634 |

Standard errors are in parentheses. All variables are in first difference terms. All regressions include a constant term.
*, **, *** denote statistical significance at the 1, 5 and 10 percent level.

# References

Consumer affairs Agency, Government of Japan, 2017, "Consumer White Paper 2017", Part 1, Chapter 3 [Special Feature] Consumption by Young People [White Paper] (in Japanese)

International Monetary Fund (IMF). "Wealth Inequality and Private Savings in Germany", Selected Issues Paper. IMF Country Report No. 19/124

Matsubayashi, Y., 2008, "Substitutability of Savings by Sector: Japan-U.S. Comparison", Kobe University Annual Report of Economics Research, Vol. 53, 67-86 (in Japanese)

Nakata, K., 2009, "The Long-term Trend and Outlook of Japan's Household Savings Rate", Quarterly Journal of Policy and Management Studies, Vol.1, 113-128 (in Japanese)

Saito, J., 2022, "Why is the household savings rate rising?", Japan Center for Economic Research (in Japanese)

Takeda, Y., and T. Ookoshi, 2002, "Household precautionary savings in Japan: theory and empirical evidence", Quarterly Journal of Household Economics, No.55, 69-79 (in Japanese)

Unayama, T. and Y. Yoneda, 2018, "Differences between household savings rates in Japan's Family Income and Expenditure Survey and SNA," Policy Research Institute, Ministry of Finance, Japan, Financial Review, Vol.134, 191-205 (in Japanese)

# Annex VII. Sovereign Risk and Debt Sustainability Analysis

*The sizeable fiscal response to the COVID-19 outbreak and to the spillovers from the war in Ukraine pushed up the fiscal deficit in 2020–22 and is expected to gradually return to pre-pandemic levels, in percent of GDP, by 2025. Public debt is projected to rise as a share of GDP over the medium and long term as age-related expenditures feed into debt dynamics. Although gross financing needs are elevated, the risks of debt distress are moderate as rollover risks are mitigated by the large domestic investor base and by the debt profile. A credible medium-term fiscal adjustment containing social security spending and a revenue-enhancing tax reform is warranted to put public debt on a downward path.*

**1.** **Background**. An unprecedented fiscal expansion was introduced to mitigate the impact of the pandemic and of the war in Ukraine, increasing the primary deficit from 2.4 percent of GDP in 2019 to an average of 7.2 percent of GDP in 2020–22. Sovereign borrowing costs remain low underpinned by accommodative monetary policy, but headline inflation is picking up. The yen has depreciated by 25 percent vis-à-vis the US dollar during 2022 due to diverging monetary policies between the Bank of Japan and other central banks in advanced economies.

**2.** **Baseline**. Staff's baseline scenario is based on the budget for FY2022 and the fiscal packages adopted in April, September, and October 2022. Under this baseline, the primary deficit will remain elevated in 2023 and return to pre-pandemic levels in 2025 as policy support is withdrawn. Public debt is projected to rise over the long term driven by age-related spending pressures and by a less favorable interest-growth differential. Gross public debt is projected to increase from 255 percent of GDP in 2021 to 268 percent of GDP in 2031.

**3.** **Realism**. Historical forecasts point to some pessimism in staff's projections for the primary deficit and public debt. Having said that, the projected debt path is within the normal historical range observed in peer countries. The projected fiscal adjustment appears as an outlier compared with historical and cross-country experience but is realistic given the large but temporary fiscal expansion put in place to mitigate the impact of the pandemic and the spillovers from the war in Ukraine.

**4.** **Risks and mitigating factors**. High and rising debt levels under the baseline erode fiscal buffers and expose Japan to a range of shocks. The debt-to-GDP ratio could jump significantly if growth slumps and could rise gradually (given the debt profile) but persistently if interest rates increase. However, mitigating factors include: a long average maturity that limits the pass-through from higher yields to effective interest rates, a large domestic investor base, and the yield curve control framework by the Bank of Japan.

## Figure 1. Japan: Risk of Sovereign Stress

| Horizon | Mechanical Signal | Final Assessment | Comments |
|---|---|---|---|
| **Overall** | … | Moderate | Staff's assessment of the overall risk of sovereign stress is moderate against mechanical signals of high risk **at near and medium-term mechanical signals**.The overall risk of sovereign stress is moderate, reflecting Japan's domestic investor base, home bias, and public debt with long maturity and denominated in local currency. |
| **Near Term 1/** | | | |
| **Medium Term** | High<br>... | Moderate | Staff's assessment of medium-term risk of sovereign stress is moderate against a mechanical signal of high. The latter is driven by an elevated debt level at the end of the projection horizon and large average gross financing needs under the baseline. Risks are mitigated by the large domestic investor base and the debt profile. |
| **Long Term** | … | Moderate | Long-term risks are moderate as aging-related expenditures on health and social security feed into debt dynamics. |
| **Sustainability Assessment 2/** | Not required for surveillance countries | Not required for surveillance countries | Not required. |
| **Debt Stabilization in the Baseline** | | | No |

### Debt Sustainability Analysis Assessment Summary Assessment

Commentary: Japan is at a moderate overall risk of sovereign stress. Under current policies, debt is projected to increase in the medium and long term driven by a less favourable interest growth-differential and by age-related spending pressures. The primary deficit is projected to remain high in 2022-23, following the October 2022 fiscal package, and decline to its pre-COVID-19 level in 2025 as measures supporting the recovery are phased out. Age-related spending pressures weigh on the primary deficit in the medium and long term. Athough sovereign stress risks according to mechanical signals are high, they are mitigated by a large domestic investor base and a favorable debt profile. A credible fiscal consolidation containing age-related spending and mobilizing tax revenues is warranted to put debt on a downward path and reduce risks.

Source: Fund staff.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

2/ A debt sustainability assessment is optional for surveillance-only cases and mandatory in cases where there is a Fund arrangement. The mechanical signal of the debt sustainability assessment is deleted before publication. In surveillance-only cases or cases with IMF arrangements with normal access, the qualifier indicating probability of sustainable debt ("with high probability" or "but not with high probability") is deleted before publication.

## Figure 2. Japan: Debt Coverage and Disclosures

| | | | | | | Comments |
|---|---|---|---|---|---|---|
| **1. Debt Coverage in the DSA: 1/** | CG | GG | NFPS | CPS | Other | |
| **1a. If central government, are non-central government entities insignificant?** | | | | | n.a. | |

**2. Subsectors Included in the Chosen Coverage in (1) Above:**

| CPS | NFPS | GG: expected | CG | | Subsectors Captured in the Baseline | Inclusion | Comments |
|---|---|---|---|---|---|---|---|
| | | | | 1 | Budgetary central government | Yes | |
| | | | | 2 | Extra budgetary funds (EBFs) | No | Not applicable |
| | | | | 3 | Social security funds (SSFs) | Yes | |
| | | | | 4 | State governments | Yes | |
| | | | | 5 | Local governments | Yes | |
| | | | | 6 | Public nonfinancial corporations | No | |
| | | | | 7 | Central bank | No | |
| | | | | 8 | Other public financial corporations | No | |

| | | | | | |
|---|---|---|---|---|---|
| **3. Instrument Coverage:** | Currency & deposits | Loans | Debt securities | Oth acct. payable 2/ | IPSGSs 3/ |

| | | | | | |
|---|---|---|---|---|---|
| **4. Accounting Principles:** | Basis of Recording | | Valuation of Debt Stock | | |
| | Non-cash basis 4/ | Cash basis | Nominal value 5/ | Face value 6/ | Market value 7/ |

| | | |
|---|---|---|
| **5. Debt Consolidation Across Sectors:** | Consolidated | Non-consolidated |

**Color Code:** chosen coverage; Missing from recommended coverage; Not applicable

**Reporting on Intra-Government Debt Holdings**

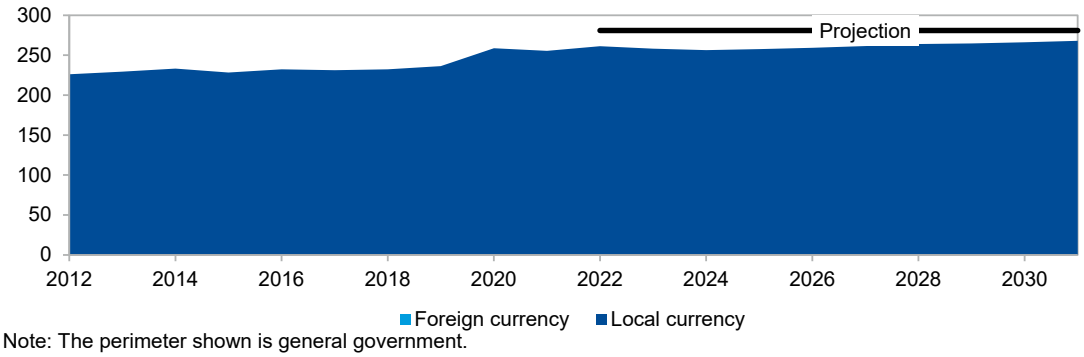
| CPS | NFPS | GG: expected | CG | | Issuer \ Holder | Budget. Central Govt | Extra-Budget. Funds | Social Security Funds | State Govt | Local Govt. | Nonfin. Pub. Corp. | Central Bank | Oth. Pub. Fin Corp | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | Budget. central govt | | | | | | | | | 0 |
| | | | | 2 | Extra-budget. funds | | | | | | | | | 0 |
| | | | | 3 | Social security funds | | | | | | | | | 0 |
| | | | | 4 | State govt. | | | | | | | | | 0 |
| | | | | 5 | Local govt. | | | | | | | | | 0 |
| | | | | 6 | Nonfin pub. corp. | | | | | | | | | 0 |
| | | | | 7 | Central bank | | | | | | | | | 0 |
| | | | | 8 | Oth. pub. fin. corp | | | | | | | | | 0 |
| | | | | | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.
4/ Includes accrual recording, commitment basis, due for payment, etc.
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.
7/ Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.

Commentary: Debt coverage is general government. While gross debt is the main indicator, net debt is also important in Japan, given the large financial assets held by the government. It should be noted, however, that not all the financial assets are available to meet debt obligations. The holdings include, for example, social security assets for future obligations.

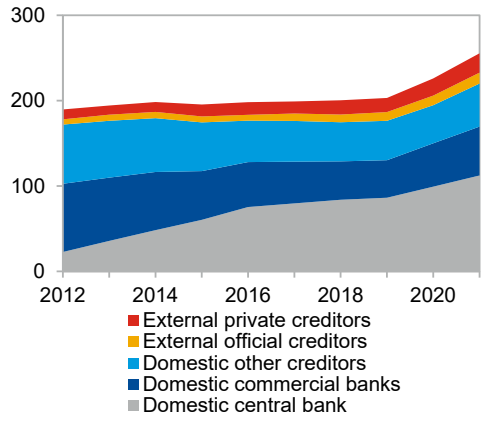
## Figure 3. Japan: Debt Structure Indicators

### Debt by Currency (percent of GDP)



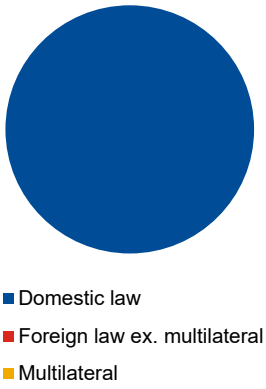

Note: The perimeter shown is general government.

### Public Debt by Holder (percent of GDP)



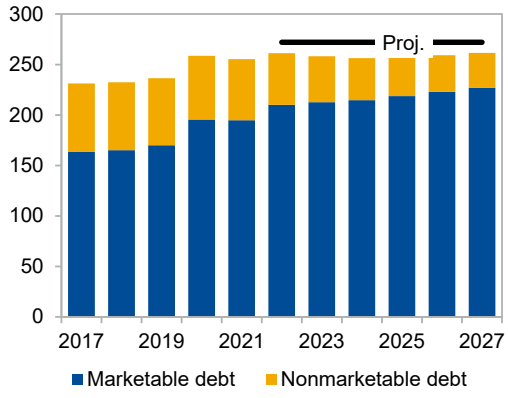

Note: The perimeter shown is general government.

### Public Debt by Governing L+B109aw, 2021 (percent)



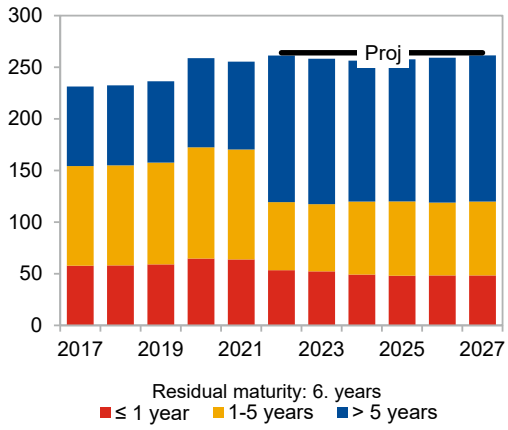

Note: The perimeter shown is general government.

### Debt by Instruments (percent of GDP)




Note: The perimeter shown is general government.

### Public Debt by Maturity (percent of GDP)



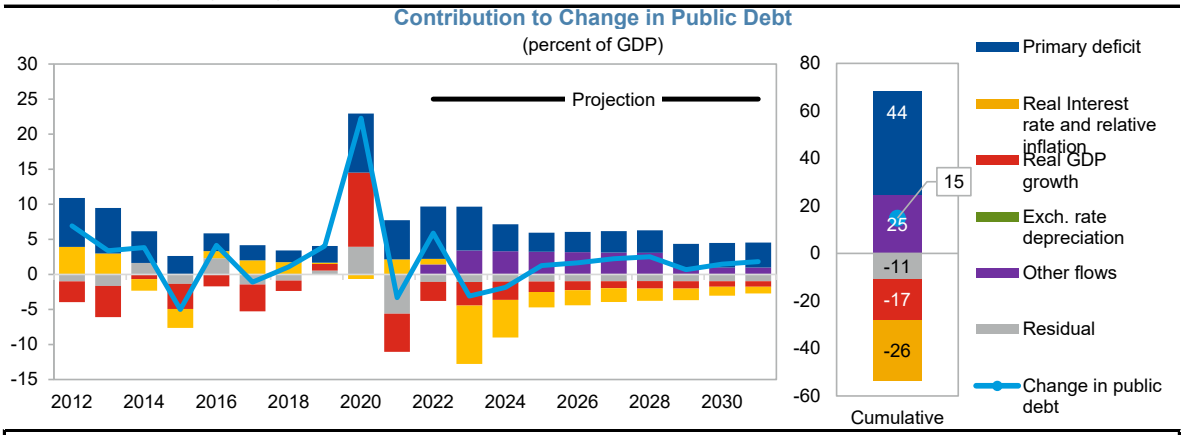

Note: The perimeter shown is general government.

Commentary: Domestic creditors held more than 85 percent of public debt in 2021. Within domestic creditors, the share held by the Bank of Japan increased significantly over the last decade from 12 percent in 2012 to 44 percent in 2021. All public debt is governed by domestic law. Debt is mostly long term, with an average residual maturity above 6 years.

## Figure 4. Japan: Baseline Scenario

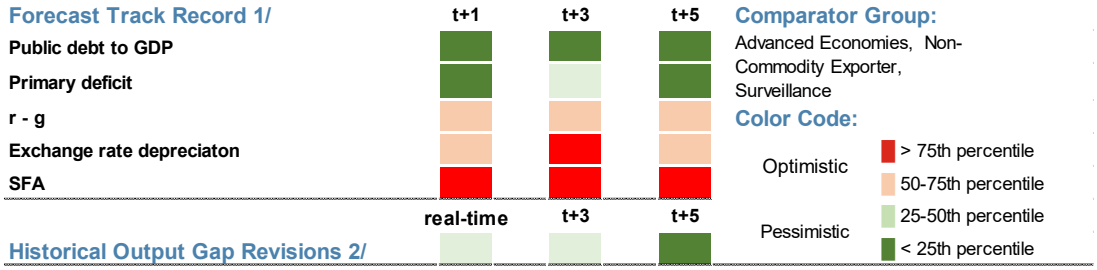
(Percent of GDP unless indicated otherwise)

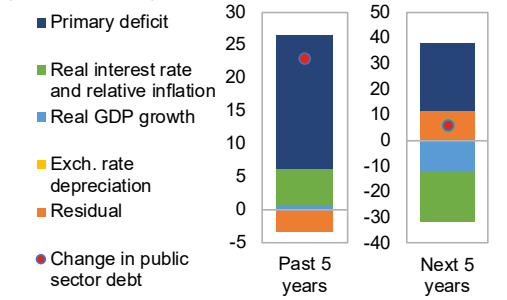
| | Actual | Medium-Term projection | | | | | | Extended Projection | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| Public debt | 255.4 | 261.3 | 258.2 | 256.3 | 257.6 | 259.2 | 261.5 | 264.0 | 264.7 | 266.1 | 268.0 |
| Change in public debt | -3.3 | 5.9 | -3.1 | -1.9 | 1.3 | 1.7 | 2.2 | 2.5 | 0.7 | 1.5 | 1.8 |
| Contribution of identified flows | | 7.0 | -2.0 | -0.8 | 2.3 | 2.6 | 3.2 | 3.5 | 1.7 | 2.4 | 2.8 |
| Primary deficit | 5.6 | 7.5 | 6.2 | 3.8 | 2.7 | 2.9 | 3.1 | 3.2 | 3.4 | 3.5 | 3.6 |
| Noninterest revenues | 35.6 | 35.1 | 34.6 | 34.4 | 34.4 | 34.4 | 34.4 | 34.4 | 34.4 | 34.4 | 34.4 |
| Noninterest expenditures | 41.2 | 42.6 | 40.9 | 38.3 | 37.1 | 37.3 | 37.5 | 37.7 | 37.8 | 37.9 | 38.0 |
| Automatic debt dynamics | -3.3 | -1.9 | -11.7 | -8.0 | -3.7 | -3.4 | -3.0 | -2.8 | -2.7 | -2.1 | -1.8 |
| Real interest rate and relative inflation | 2.1 | 0.8 | -8.3 | -5.4 | -2.2 | -2.2 | -2.0 | -1.7 | -1.7 | -1.3 | -1.0 |
| Real growth rate | -5.4 | -2.7 | -3.4 | -2.6 | -1.5 | -1.3 | -1.0 | -1.1 | -1.1 | -0.8 | -0.8 |
| Real exchange rate | 0.0 | … | … | … | … | … | … | … | … | … | … |
| Other identified flows | 0.0 | 1.4 | 3.4 | 3.3 | 3.2 | 3.2 | 3.1 | 3.1 | 1.0 | 1.0 | 1.0 |
| Contingent liabilities | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other transactions | 0.0 | 1.4 | 3.4 | 3.3 | 3.2 | 3.2 | 3.1 | 3.1 | 1.0 | 1.0 | 1.0 |
| Contribution of residual | -5.6 | -1.1 | -1.1 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 | -1.0 |
| Gross financing needs | 68.0 | 62.1 | 57.2 | 54.9 | 52.9 | 52.9 | 54.4 | 55.3 | 56.0 | 54.9 | 54.3 |
| of which: debt service | 63.4 | 55.7 | 52.0 | 52.1 | 51.2 | 51.0 | 52.3 | 53.0 | 53.6 | 52.3 | 51.7 |
| Local currency | 63.4 | 55.7 | 52.0 | 52.1 | 51.2 | 51.0 | 52.3 | 53.0 | 53.6 | 52.3 | 51.7 |
| Foreign currency | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Memo: | | | | | | | | | | | |
| Real GDP growth (percent) | 2.1 | 1.1 | 1.3 | 1.0 | 0.6 | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 |
| Inflation (GDP deflator; percent) | -0.2 | 0.3 | 3.8 | 2.6 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Nominal GDP growth (percent) | 1.9 | 1.3 | 5.2 | 3.7 | 1.9 | 1.8 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 |
| Effective interest rate (percent) | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 1.0 |

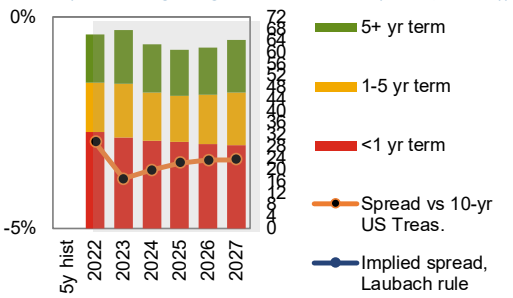


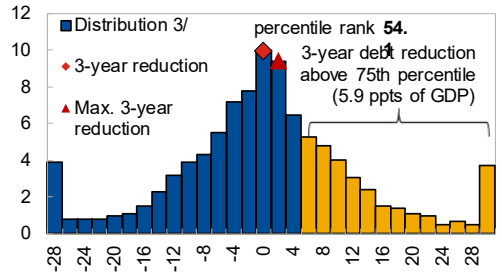

Staff commentary: Public debt will rise over the forecast horizon, reflecting a primary deficit that remains about 3 ppts of GDP above its debt stabilizing level in 2031.

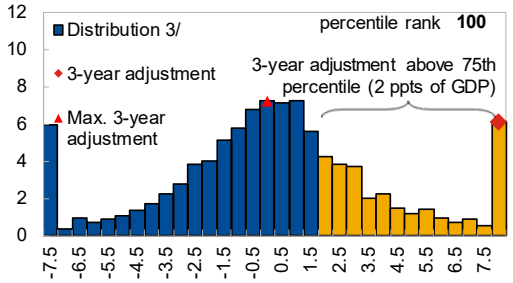
## Figure 5. Japan: Realism of Baseline Assumptions

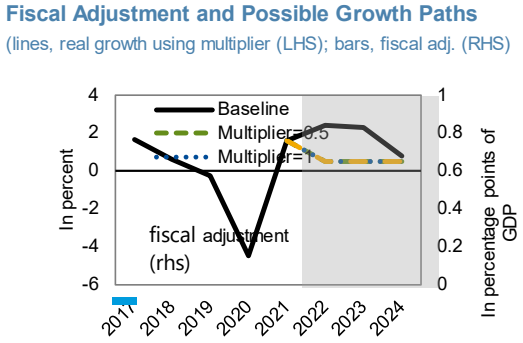


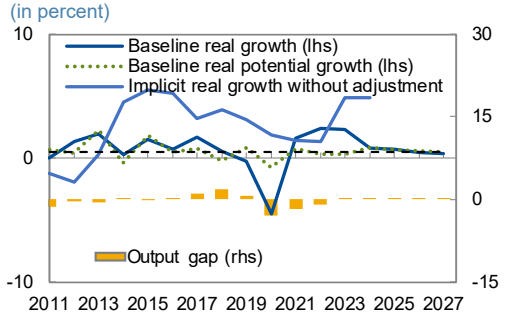



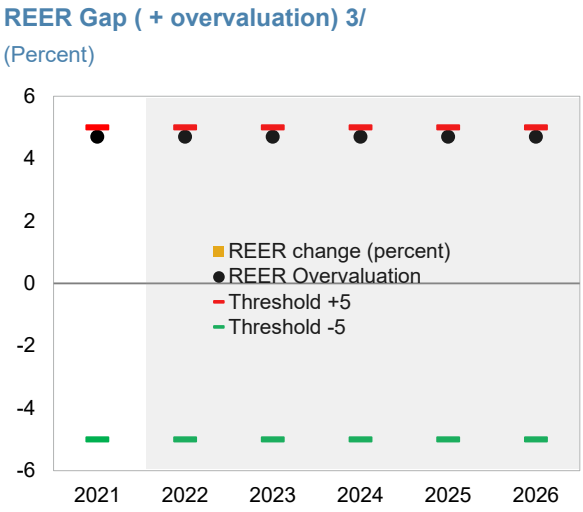

Commentary: The realism analysis shows a large median forecast error for medium-term primary defiict and public debt projections over 2011-19, suggestiong a pessimistic bias. The projected three-year adjustment in the cyclically-adjusted primary balance is high compared to the historical expertience. However, this is explained by the unwinding of support measures during the pandemic.

Source : IMF Staff.

1/ Projections made in the October and April WEO vintage.

2/ Data cover annual obervations from 1990 to 2019 for MAC advanced and emerging economies. Percent of sample on vertical axis.

**Figure 5. Japan: Realism of Baseline Assumptions** (concluded)




3/ Starting point reflects the team's assessment of the initial overvaluation from EBA (or EBA-Lite).

## Figure 6. Japan: Medium-term Risk Analysis

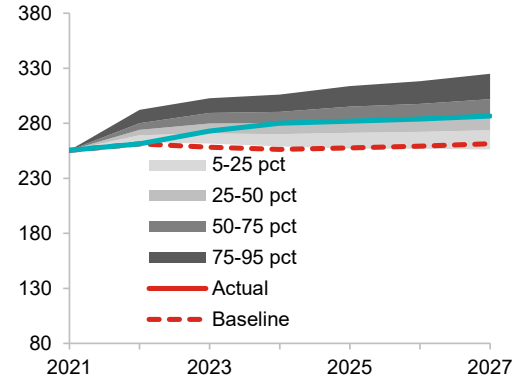
### Debt Fanchart and GFN Financeability Indexes

(percent of GDP unless otherwise indicated)

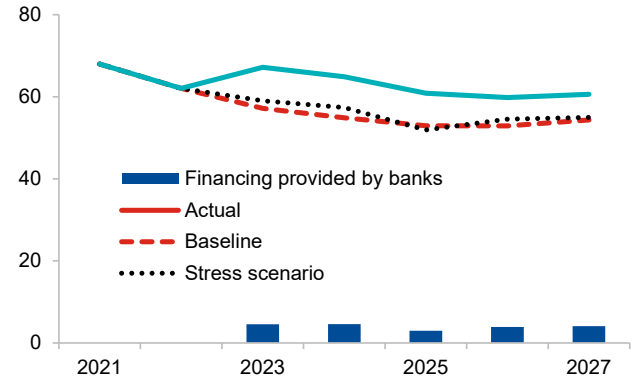
| Module | Indicator | Value | Risk Index | Risk Signal | Advanced E., Non-Com. Exporter, Surveillance (0 25 50 75 100) |
|---|---|---|---|---|---|
| Debt fanchart module | Fanchart width | 68.8 | 1.0 | … | |
| | Probability of debt not stabilizing (pct) | 53.0 | 0.4 | … | |
| | Terminal debt level x institutions index | 65.4 | 1.4 | … | |
| | **Debt fanchart index** | **…** | **2.9** | **High** | |
| GFN finance-ability module | Average GFN in baseline | 55.7 | 19.0 | … | |
| | Bank claims on government (pct bank assets) | 11.7 | 3.8 | … | |
| | Chg. in claims on govt. in stress (pct bank assets) | 1.2 | 0.4 | … | |
| | **GFN financeability index** | **…** | **23.2** | **High** | |

Legend: Interquartile range; Japan

### Final Fanchart (pct of GDP)




### Gross Financing Needs (pct of GDP)

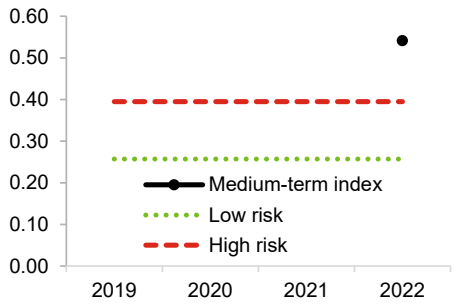



Triggered stress tests (stress tests not activated in gray)

Banking crisis | Commodity prices | Exchange rate | Contingent liab. | Natural disaster

### Medium-Term Index

(index number)




### Medium-Term Risk Analysis

| | Low Risk Threshold | High Risk Threhsold | Weight in MTI | Normalized Level |
|---|---|---|---|---|
| Debt fanchart index | 1.1 | 2.1 | 0.5 | 0.6 |
| GFN finaceability index | 7.6 | 17.9 | 0.5 | 0.4 |
| Medium-term index (MTI) | 0.3 | 0.4 | … | 0.5, High |

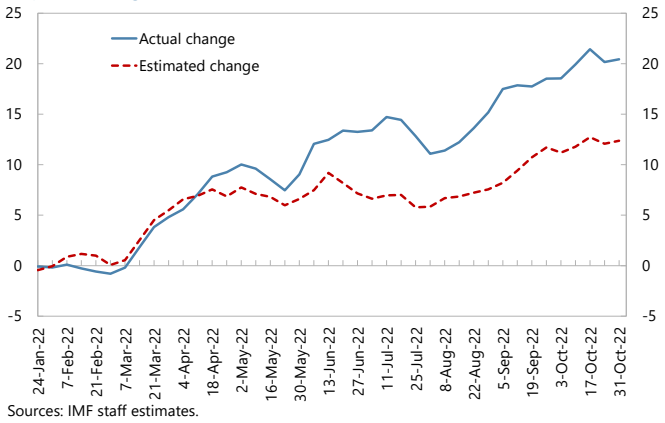
Prob. of missed crisis, 2022-2027 (if stress not predicted): 81.8 pct.

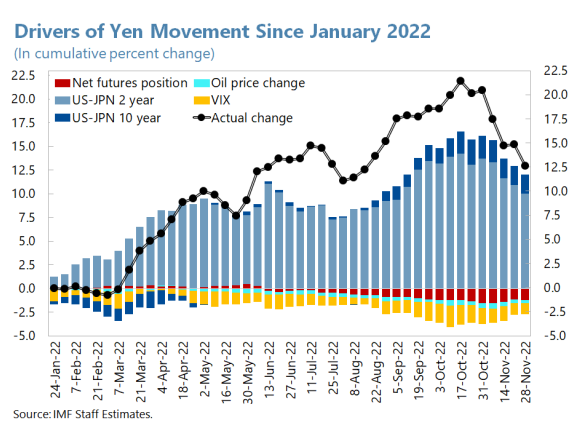
Prob. of false alarm, 2022-2027 (if stress predicted): 3.4 pct.

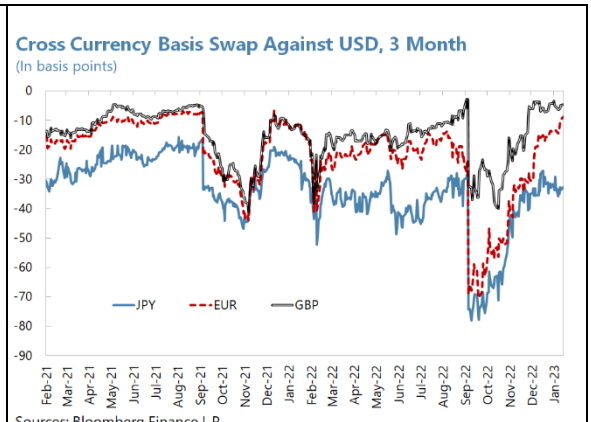
Commentary: The Debt Fanchart and GFN Financeability Modules both point to high risk. For the fanchart, this reflects debt levels that are high even when adjusted by institutional quality. High financing mainly risk reflects high average GFNs but also some significant bank financing in the baseline. The bankig stress test is activated reflecting a large positive credit gap (BIS measure).

# Annex VIII. Exchange Rate Movement and FXI in 2022

**1. While interest rate differentials between Japan and its peers have been the main driver of the yen depreciation, there have been some recent periods of especially sharp yen movements.** A VAR analysis—using weekly data from January 2009 to November 2022—indicates that the yen depreciated more than implied by underlying drivers since June. There is also some evidence that speculation may explain part of this "excessive" depreciation--for example, the increases in net short positions. Option implied USD/JPY volatility has been significantly elevated since March 2022 reflecting high uncertainty and realized volatility. Although it is difficult to measure the extent of carry trades, net yen short positions and interoffice assets of foreign bank branches, which are used as a proxy, have also increased, though still lower than historical peak levels. These typically work as a shock amplifier, potentially putting more downward pressure on the yen as they build up, and these positions could be reversed quickly and abruptly and trigger a sharp yen appreciation cycle, for instance, if global recession fears escalate. It is also noteworthy that premia in foreign exchange (FX) markets also widened during September to November—based on cross-currency basis swap, potentially indicating financial frictions.

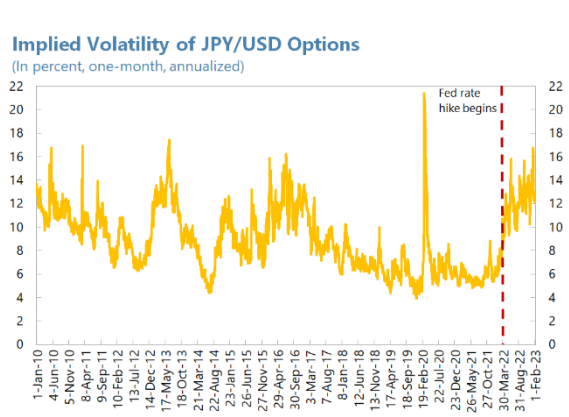


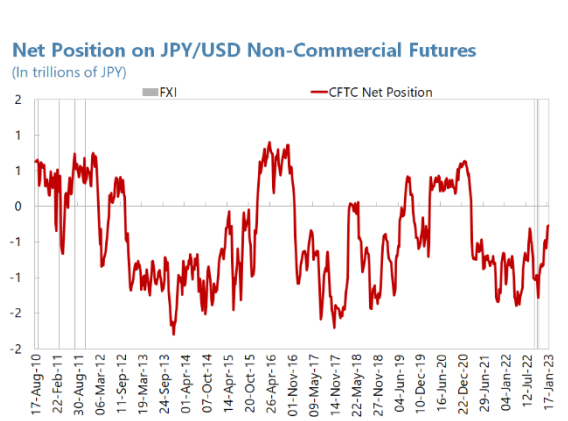



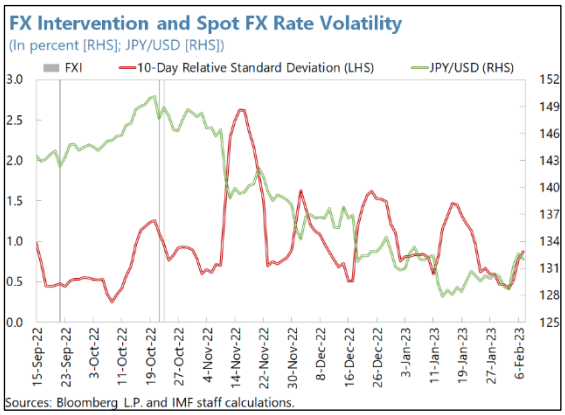

**2. Concerned that the sharp yen movements could hamper Japan's recovery, the authorities intervened to support the yen**. The depreciation has contributed to higher inflation and has had a dampening effect on consumer confidence. While a weaker yen is good for exports and inbound tourism, the benefit has been limited so far due to supply chain disruptions and border

closures, as well as offshoring of production over the years. It also has adverse effects on SMEs and non-exporting firms, which can only pass down higher input costs with delay. Sharp movements in the yen also elevates uncertainty in general, which could hurt consumption and investment, and could elevate domestic credit risks for banks, especially for loans to borrowers with less buffers against rising energy input costs.




**3. FXI could help smooth the path of the exchange rate**. Exchange rate volatility declined somewhat for a limited duration following the interventions, and there was also some reversal in net yen short positions. Moreover, there is some evidence in the literature that FXI is effective at decreasing the pace of an appreciation or depreciation in the short run.[1]



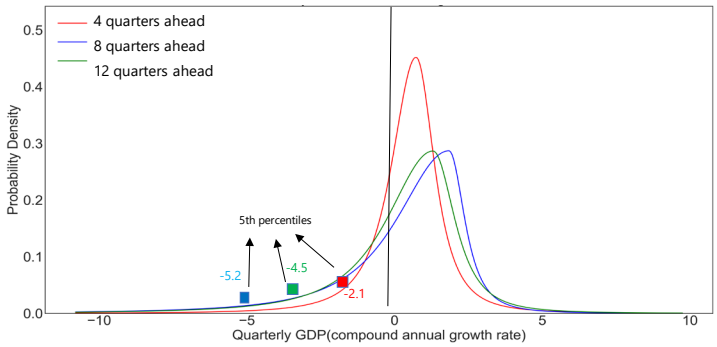

**4. Historical experience indicates, however, that the effects may be short-lived, especially given the high depth of the USD-JPY markets.** Japan had intervened to strengthen the yen during the 1998 Asian financial crisis, when the exchange rate had reached around 146 to the dollar. Specifically, the two rounds of intervention conducted then (in April 1998 and June 1998) led to the yen appreciating between 3-5 percent vis-à-vis USD each time, but the gains were reversed in the subsequent 2 weeks or so.

[1] Using daily intervention data for 33 central banks from 1995-2011, including Japan, Fratzscher et al (2019) show that FXI can be effective at smoothing exchange rates and lowering the pace of appreciation/depreciation in the short-run (measured as the exchange rate change during and for five trading days after the intervention being smaller than during the five trading days leading up to the intervention), particularly during episodes of high volatility.

# Annex IX. Growth at Risk

**1. Macro-financial vulnerabilities can be a useful predictor for the evolution of risks to future economic activity**. These vulnerabilities often increase during buoyant macroeconomic conditions, spurred by, e.g., loose monitoring of risks by lenders and lax credit constraints for borrowers amid surging asset prices. As risks build up, a sudden tightening of financial conditions could then pose significant downside risks to growth in the medium term. Along these lines, the growth-at-risk (GaR) framework takes into consideration the entire distribution of future growth in economic activity, and importantly for policy making, help better understand drivers of the left tail of the distribution (Adrian and others, 2019; Prasad and other, 2019).

**Growth-at-Risk**
(In probabilities [0-1]; as of end-2022Q2)




Source: IMF staff calculations.

**2. The GaR for Japan points to elevated downside risks over a longer horizon**.[1] Specifically, over a short term (4 quarters), relatively benign financial conditions appear to limit downside risks, with GaR at the 5th percentile at -2.1 percent. Given relatively loose domestic financial conditions as of 2022Q2 and potential build-up of risks, costly deleveraging could occur if financial conditions got tighter. Quantifying such risks, the forecasted distribution over the medium term has significantly fatter tails, with GaR at the 5th percentile lower than -4 percent.

[1] Estimating the GaR requires choosing variables that would capture the extent of macro-financial vulnerabilities. Following earlier works on the construction of financial conditions indices (IMF, 2018; 2022), real short-term interest rate, interbank spread, corporate local debt spread, equity prices return and volatility are used to construct a domestic financial conditions index (FCI). While the list is certainly not exhaustive, this set of variables appears to capture well the overall tightness of financial conditions. The FCI for Japan, as shown in paragraph 6 in-text Figure, tightened sharply in the run-up to and during the Global Financial Crisis and at the outset of the pandemic. The FCI is tighter mildly since mid-last year, following several quarters of easing amid policy support during the pandemic. In addition to the domestic FCI, an estimated FCI for the U.S. is used in the GaR estimation (Federal Reserve Bank of Chicago National Financial Conditions Index).

# Annex X. Progress on 2017 FSAP Key Recommendations

| Fund Recommendations | Time Frame[1] | Update on Progress |
|---|---|---|
| **Cross-Cutting Issues** | | |
| Further raise corporate governance standards to bolster independence of board and oversight functions from senior management across banking and insurance sectors (FSA). | NT | The Corporate Governance Code was revised further in June 2021, with a focus on enhancing board independence (in addition to promoting corporate diversity and attention to sustainability and ESG considerations). The revised Code increases the required number of independent directors from at least two to at least one-third of the board for prime market listed companies (where necessary, a majority of the board members should be elected as independent directors), and requires establishing nomination and remuneration committees. Major financial institutions, including the three megabank groups, have completed transition to "Company with Nominating committee, etc." as outlined in Japan's Companies Act. The FSA also encourages these institutions to advance their group-wide global governance including through engaging in dialogues with overseas authorities, as well as regional financial institutions to advance governance reforms tailored to their scale and business characteristics. Per "the Comprehensive Guidelines for Supervision for Insurance Companies", it is required for insurance companies to appoint at least two outside directors since 2016. Supervisory guidelines were revised in light of the ComFrame in 2020 to bolster effective group-wide supervision of internationally-active insurance groups (IAIGs). |
| Further develop internal processes to support full risk-based supervision for banks, insurers, and securities firms (FSA, SESC). | I | The FSA published "Principles of Prudential Policy" in March 2019, laying out its forward-looking approach to macroprudential and microprudential supervision. It solicited comments on a draft "Supervisory Guideline" paper clarifying internal supervisory procedures under this new approach in October 2019. The FSA has also enhanced risk-based AML/CFT/CPF measures at financial institutions, as recognized in the FATF 4th Mutual Evaluation Report of Japan published in August 2021. FSA conducts personnel training by field experts (including on-demand video training, online lectures/workshops/conferences), and assigns personnel flexibly each year. |
| Consider enhancing independence of the FSA and BoJ in key supervisory issues (PM, MoF, FSA, BoJ). | MT | Under consideration by the authorities. |
| **Systemic Risks** | | |
| Develop own supervisory stress testing model for both solvency and liquidity risk analysis for banks, and for solvency risk analysis for insurers, as well as stress test large exposures periodically (FSA). | NT | Since 2019, the FSA and the BoJ have been conducting common stress testing using authority scenarios for major financial institutions. In addition, the FSA periodically requests from megabanks a list of credit amounts and internal ratings of domestic and foreign client exposures (to simulate the effects of the downgrading of credit ratings of such exposures on credit costs). FSA conducts simplified stress tests on all insurance companies based on data, including on market and credit risks, submitted by insurance companies by using stress scenarios at the severity of the Lehman Shock. FSA periodically collects data on exposures and ratings of major insurance companies to identify large concentration in specific borrowers and sectors. |

[1] I-Immediate" is within one year; "NT-near-term" is 1–3 years; "MT-medium-term" is 3–5 years.

| Fund Recommendations | Time Frame[1] | Update on Progress |
|---|---|---|
| Continue conducting liquidity stress testing regularly for significant foreign currencies and require banks to hold sufficient counterbalancing capacity, particularly high-quality liquid assets (FSA). | I | In cooperation with the BoJ, the FSA continued to conduct foreign currency liquidity stress tests for three megabanks (using freely set scenarios), as well as engage with the banks with regards to the depth and frequency of internal foreign currency liquidity stress tests. The FSA has confirmed that that the three megabanks conduct frequent foreign currency liquidity stress testing. The FSA has also strengthened cooperation with the host authorities, including conducting an intensive review of foreign currency liquidity risk management by the three megabanks jointly with the host authorities. FSA also launched an annual joint survey with the BoJ on foreign currency liquidity of the three megabanks in FY2021. |
| **Financial Sector Oversight** | | |
| Give the FSA the power to set capital requirements for banks based on specific risk profiles (Gov). | I | The FSA's revamped "Early Warning Mechanism" achieves a result similar to Pillar 2 capital buffers, by identifying banks with medium-term profitability or soundness concerns and engaging their management to take early remedial actions. In particular, the FSA periodically simulates each bank's core net profit or capital ratio under stressed conditions for a horizon of about 5 years. It then conducts in-depth dialogues with the management of banks with medium-term profitability or soundness concerns on their business outlooks, discussing their economic forecasts, revenue diversification or cost reduction plans, capacity to make profits on securities. and capital policies. Finally, for those banks whose profitability or capitalization prospects remain inadequate following in-depth dialogues, the FSA takes further actions as necessary to address the identified issues, such as conducting a governance review via on-site inspections, or issuing a business improvement order. |
| Take further steps to implement an economic-value-based solvency regime for insurers (FSA). | NT | In line with the recommendations put forward in June 2020 by The Advisory Council on the Economic Value-based Solvency Framework (which comprises external experts and was established in May 2019), the FSA aims to conduct annual field testing for all insurance companies, finalize the standards in 2024, and apply the new solvency regulations from 2025. The "Insurance Capital Standard" will be introduced as a capital standard for Internationally Active Insurance Groups (IAIGs) in 2025 after a five-year monitoring period from 2020. The FSA also released a document in June 2021 that comprehensively summarizes the state of the deliberations so far, and published in June 2022 the basic contents of the new framework to promote a seamless shift. |
| Introduce more specific periodic reporting requirements and more proactive investigations into related party transactions (FSA). | I | The FSA requires that banks which conduct transactions with a related party where arm's length rule may apply should seek approval. The requirements for this approval have been clarified by the Regulation for Enforcement of the Banking Act and the supervisory guidelines. In 2022, no case was approved among the three mega banks. In addition, the FSA imposes business scope restrictions on banking groups. As a result, the FSA considers the effect of related party transactions on the soundness of banks' business to be limited, and assesses that the existing framework as sufficient enough to prevent violations of the arm's-length rule. |
| Ensure robust supervision of the systemically important securities firms by ensuring access to a sufficient number of experienced staff and | I | A dedicated team (Monitoring Office for Major Securities Firms) has been established to monitor major securities firms. This team conducts year-round monitoring in cooperation with the Securities Division and the Securities and Exchange Surveillance Commission. For the monitoring |

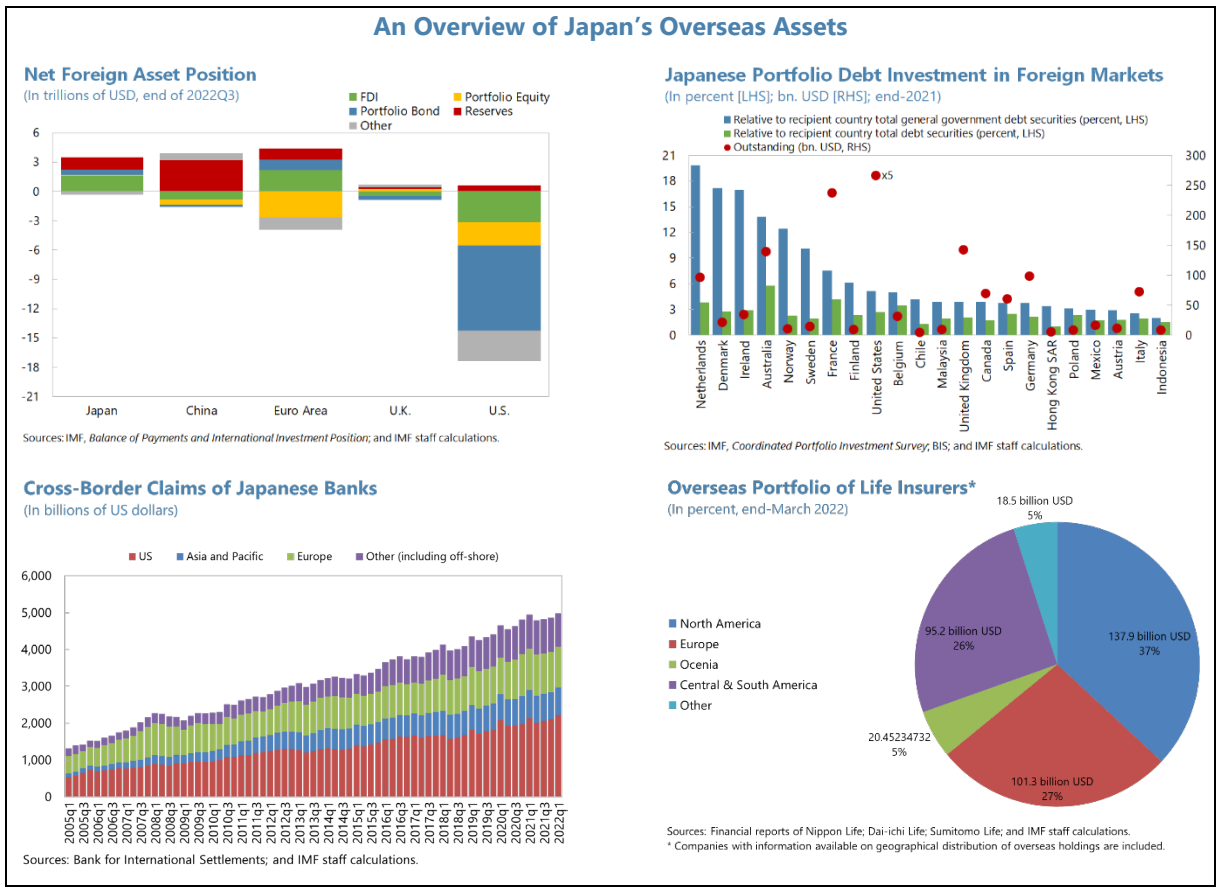
| Fund Recommendations | Time Frame[1] | Update on Progress |
|---|---|---|
| onsite monitoring of overseas operations (FSA, SESC). | | of overseas operations of major Japanese securities firms, the team conducts on-site investigations (once in FY2017, four times in FY2018, remotely or via interviews since the pandemic outbreak). |
| Enhance recovery plan further by including extreme stress scenarios while ensuring continuity of critical services and mitigating contagion risks through clearing members (JSCC). | I | In Listed Derivatives clearing, the JSCC set a cap on the cash call to non-defaulting clearing members, after consuming all resources set in the revised scheme. |
| Address recovery planning issues on regulation for central counterparties (FSA). | I | FSA revised the "Comprehensive Guidelines for Supervision of Financial Market Infrastructures" in June 2022. In accordance with these supervisory guidelines, the FSA requires Japan Securities Clearing Corporation (JSCC) to develop and submit a recovery plan once a year (or when important changes have been made to their business and group structure). |
| **Macroprudential Policy** | | |
| Clarify the mandate of the Council for Cooperation on Financial Stability (FSA, BoJ). | NT | The Council has convened bi-annually since 2014, with the aim of exchanging views on the state of the financial system and financial markets, with a view to strengthening their cooperation regarding macroprudential policy. Lower-level liaison meetings are held to discuss the necessity of raising the countercyclical capital buffer (CCyB) and the effective measures including macroprudential policies, and reports to the Council. Since 2020, the FSA and BoJ have been coordinating on reducing the burden on financial institutions to avoid reporting duplications and to achieve higher-quality monitoring. |
| Consider proactively enhancing the macroprudential toolbox, including sectoral tools (FSA). | NT | The FSA has been monitoring emerging sources of systemic risks through its microprudential supervision with a view also on macroeconomic dynamics, covering topics such as lending to the real estate sector, monitoring of CLO holdings, and foreign currency liquidity management, jointly with the BoJ. It also conducts a systemic risk assessment jointly with the BoJ under the CCyB framework on a quarterly basis, and explicitly specifies indicators to be used for and overall process for determining CCyB rates in supervisory guidelines. |
| Continue to broaden and deepen the scope of systemic risk assessments (FSA, BoJ). | NT | Since FY2021, FSA has been conducting cross-sectional monitoring of market risks, including domestic and foreign interest rate risks, for some regional banks and major life insurers (in addition to major banks). FSA is considering starting a new data collection framework for non-banks (funds) in order to strengthen risk monitoring and analyze their interconnectedness with banks and other financial institutions. Per the "IAIS Holistic Framework for Systemic Risk," FSA has monitored the risk management of IAIGs and other required companies for issues key to systemic risk assessment, including liquidity risk management, macro exposures, and interconnectedness since FY2020. Recognizing evolving risks to financial system, including those due to climate change, overseas exposures, and structural headwinds to profitability, and implications of emergence of FinTech, FSA has dedicated monitoring teams for nine major banking groups, five major securities companies, and a dedicated monitoring team for FinTech companies. |

| Fund Recommendations | Time Frame[1] | Update on Progress |
|---|---|---|
| **Crisis Management, Resolution, and Financial Safety Nets** | | |
| Strengthen resolution framework by removing ambiguities in the choice of tools, introducing a statutory bail-in power, clarifying triggers to enable early entry into resolution, and ensure that the role for the courts does not hinder effective resolution (FSA). | NT | The FSA has made efforts to limit financial institutions' need for temporary public support through various measures to improve their resolvability. The FSA's July 2017 report contains recommendations for further strengthening the resolution framework. |
| Consider broadening the perimeter of institutions to establish loss-absorbing capacity (FSA). | NT | FSA published "The Revisions to The FSA's Approach to Introduce the TLAC Framework" as an implementation policy for Total Loss Absorbing Capacity (TLAC) requirements in Japan (April 2018). With the amendments to public notice based on the Banking Act and the FIEA, TLAC requirements have been adopted to G-SIBs in Japan since March 2019, pursuant to the FSB's TLAC Term Sheet. In addition to G-SIBs, FSA intends to apply the TLAC requirements to the financial groups designated as D-SIBs which are deemed of particular need for a cross-border resolution arrangement and of particular systemic significance to Japanese financial system if they fail. Specifically, TLAC requirements have been applied to a DSIB since March 2021. JFSA will continue to monitor the situation to see if any financial institutions are newly designated as G-SIBs or if any Japanese D-SIBs meet the aforementioned criteria in the future. |
| Encourage earlier prompt corrective action and provide a clearer path to resolution (FSA). | NT | The FSA's revamped "Early Warning Mechanism" helps guide its supervisory interventions to ensure that banks take early remedial actions to safeguard their soundness. In particular, the FSA periodically simulates each bank's (roughly) 5-year core net profit or capital ratio under stressed conditions. It then conducts in-depth dialogues with the management of banks regarding medium-term profitability or soundness concerns on their business outlooks, discussing their economic forecasts, revenue diversification or cost reduction plans, capacity to make profits on securities, and capital policies. Finally, for those banks whose profitability or capitalization prospects remain inadequate following in-depth dialogues, the FSA takes further actions as necessary to address the identified issues, such as conducting a governance review via on-site inspections, or issuing a business improvement order. Moreover, (i) a pre-determined corrective action order is issued if capital adequacy or leverage ratios fall below the minimum requirements; (ii) restrictions on capital distributions are introduced if capital buffers fall below a certain level. |
| Enhance crisis preparedness and coordination via an interagency crisis management forum (MoF, Minister for FS, BoJ, FSA, DICJ). | NT | The FSA regularly exchange views with the Deposit Insurance Corporation of Japan (DICJ), a resolution enforcement agency that it supervises. The FSA, the MoF, the BoJ, and the DCIJ cooperate on a daily basis in taking measures to enhance resolvability for financial institutions as well as the agencies' crisis preparedness. Authorities (the FSA, the BoJ, the DICJ) and Japanese G-SIBs met at a joint workshop in October 2022 for testing and assurance and to exchange views including with regards to cases of foreign G-SIBs. |
| Establish an orderly resolution regime, following international guidance, for central counterparties and other FMI operators (FSA). | MT | Under consideration by the authorities. |
| Strengthen the framework for the provision of emergency liquidity assistance and tighten preconditions for the use of temporary public funding in resolution (MoF, BoJ). | NT | Under consideration by the authorities. |

| Fund Recommendations | Time Frame[1] | Update on Progress |
|---|---|---|
| **Financial Intermediation** | | |
| Continue engaging with banks on implications of macroeconomic and demographic trends and take actions on a timely basis when viability concerns are identified for individual institutions (FSA). | I | As summarized in "Strategic Priorities July 2021-June 2022", the FSA has taken several measures, including enacting amendments to the "Anti-Monopoly Act", establishment of a grant scheme for regional banks that aims to improve their business efficiency through measures such as mergers, and promoting digitalization and regional revitalization. The FSA is also engaging with institutions with regards to their stance on IT strategy and digital transformation ("Strategic Priorities July 2022-June 2023") |
| Encourage banks to evolve risk management practices in line with new business activities (FSA). | NT | Acknowledging the possibility of potential vulnerabilities being masked by large support programs, the FSA noted that they encourage regional banks to build capacity to provision in a more forward-looking manner. Recent amendment to the Banking Act that allows banks to expand their business scope and increase their stakes in firms up to 100 percent to support regional vitalization and debt restructuring if needed is expected to gain footing if/when conditions warrant. |
| Encourage regional and *Shinkin* banks to review measures such as cost reduction, consolidation, income diversification, and fee structures to address medium-term profitability concerns (FSA, Gov). | NT | "Special Deposit Facility to Enhance the Resilience of the Regional Financial System" implemented by the BoJ in November 2020 aims to strengthen regional financial institutions' business foundations (scheduled to end in March 2023). The scheme provides extra interest on current account balances held by regional financial institutions that meet certain requirements (streamlining overhead costs and providing credible plans for mergers, business integration, or certain forms of acquisitions that would strengthen business foundations). 2021 amendments to the Banking Act provide further flexibility in business operations for banks. The FSA, through its revamped "Early Warning System", also encourages banks to take targeted measures to address medium-term profitability concerns. The Parliament also approved a legislation in May 2020 that would exempt merger and acquisitions (M&A) between domestic regional banks from the anti-monopoly law (provided that the FSA approves the M&A plan as credibly promoting profitability and enhancing financial services). |
| Lower coverage of credit guarantees (SME Agency). | MT | The government introduced full public credit guarantees for eligible SMEs at the outbreak of the pandemic (where SMEs facing a significant drop in y/y sales were deemed eligible). The FSA allowed banks to assign zero risk-weights to such loans, and exercised regulatory flexibility and allowed banks to flexibly adjust/renew the terms recognizant of business difficulties during the pandemic. The government also expanded the program of effective zero interest loans without collateral to private sector banks (where interest subsidies are paid directly to private sector banks by the Organization for Small & Medium Enterprises and Regional Innovation). |

# Annex XI. Spillovers from a Rise in JGB Yields

**1. Changes in long-term interest rates in Japan could have significant spillover effects on global yields**. Japan has the largest net foreign asset position in the world ($3.2 trillion US dollars, as of 2022Q3), mainly reflecting large official reserves (held mostly as U.S. Treasury securities), foreign direct investment, and outward portfolio investment by banks, life insurers, and pension funds. Japanese banks' cross-border claims are also large, amounting to nearly 4.6 trillion US dollars as of end-June 2022. Portfolio debt holdings, which are presumably more sensitive to yield changes, are mostly tilted toward the U.S. and Europe. Relative to local destination markets, Japanese portfolio debt holdings are meaningfully large for several destination markets, including some European countries, Australia, and the U.S. Moreover, Japanese financial institutions had been increasingly investing abroad amid ultra-low domestic yields, potentially suggesting stronger spillovers over time. Foreigners are also active players in Japanese equity and JGB markets and could also serve as a transmitter of shocks from Japan to the rest of the world. Depending on the potential impact on the risk-taking capacity of Japanese financial institutions and of foreigners investing in Japanese assets, a large increase in long-term domestic yields could have significant spillover effects on the rest of the world, including global yields.

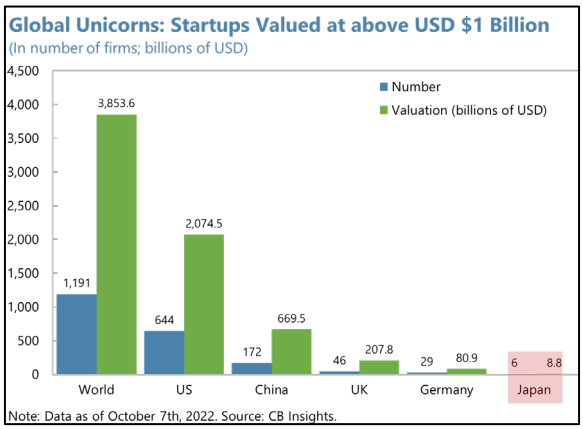


**2. There could be several channels underpinning spillovers from Japan to the rest of the world, including via portfolio reallocation by Japanese investors**. Moreover, a sharp rise in JGB yields, especially if it is due to an increase in risk premium (rather than strengthening of the economy), could induce further capital losses on bond holders and trigger deleveraging including overseas positions. This impact could be larger if the rise in JGB yields is accompanied by a sharp drop in domestic equity prices. Historically, global sovereign yields and JGB yields are highly correlated (especially before YCC) and higher domestic yields could lead to increases in overseas yields, including in emerging markets in case global risk premia rises. Staff analysis suggests that an unexpected increase in the slope of the JGB yield curve of 100 basis points is associated with an increase in the slope of the U.S. Treasury yield curve by close to 10 basis points (see *2023 Japan: Selected Issues* paper "JGB Yield Curve and Macro-Financial Stability: How would a steeper JGB yield curve affect bank profitability?"). Moreover, yield spillovers could be larger in debt markets where Japanese investors have a higher share and they re-patriate in case of higher long-term JGB yields.

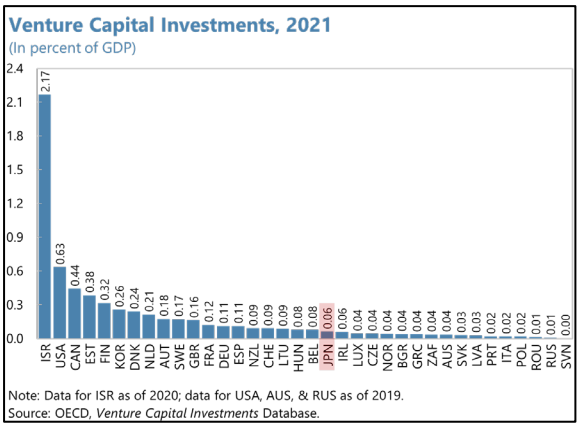
# Annex XII. Startups and Innovation[1]

*Improved access to venture capital equity funding and entrepreneurship education, more dynamic firm entry and exit with reduced personal guarantees, and additional flexibility in the labor market can encourage entrepreneurship and support startups in Japan.*

**1. The size of the startup ecosystem in Japan remains relatively small by international standards.** The number of unicorns, defined as startups valued at and above one billion US dollars, stood at six in Japan in 2022 (out of about 1200 globally), which is considerably lower than the United States (U.S.), China, and the United Kingdom.[2] Similarly, the valuation of unicorns in Japan was about 8.8 billion dollars in 2022, compared with 2 trillion dollars in the U.S. Unicorns in Japan are mostly based in Tokyo, with a focus on FinTech, artificial intelligence, and mobile and communications.




**2. International experience suggests that venture capital funding is a crucial factor in supporting startups.** Venture capital investment provides startup companies with private equity financing when they do not have access to capital markets, bank loans, or other debt instruments at the early stage of their businesses. In addition, a network of "business angels", who invest in startups and provide advice and access to their networks, is also crucial for the development of startups (OECD, 2021). Currently, the share of venture capital investment remains relatively low in Japan at 0.06 percent of GDP, compared with above 2 percent in Israel and 0.63 percent in the U.S., possibly due to the relatively low profitability and early exits of startups in Japan. Expanding the scale and the availability of venture capital equity investment can help support startups in Japan.



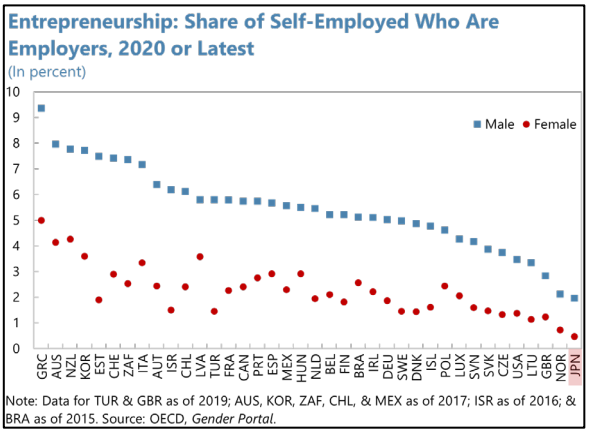

**3. Dynamic firm entry and exit and reduced personal liabilities can encourage entrepreneurship and innovation.** The exit rate of Japanese firms remains relatively low by international standards. Personal guarantees imply that bankruptcy could be associated with the loss of the entrepreneur's home and other assets not directly linked

[1] Prepared by TengTeng Xu (APD) with support from Kaustubh Chahande (APD).

[2] CB Insights, "The Complete List of Unicorn Companies", October 2022.


the bankrupt firm (OECD, 2017). Social stigma also contributes to the low use of personal insolvency (Garrido, et. al., 2020). As a result, owners of non-viable small firms have incentives to rollover loans to prevent bankruptcy and to support "zombie" firms, resulting in low investment, employment growth and productivity growth in Japan (Hong et. al., 2021). Reduced personal guarantees could help encourage entrepreneurship and allow unproductive firms to exit, which could in turn support investment and innovation, generate employment, and improve productivity. However, reduced personal guarantees may imply a rise in the cost of bank loans, which again underscores the importance of venture capital equity financing for startups.

**4. Entrepreneurship education and more flexible labor markets can help develop human capital and support startups.** Entrepreneurship education can help improve the perception and the image of entrepreneurship, as less than one third of the working-age population in Japan views it as a good career choice (OECD, 2017). A closer collaboration between universities and startups can help spur innovation and translate research to entrepreneurship.[3] Furthermore, a gradual shift from the lifelong employment system could encourage young talents to consider setting up their own companies and to have a second chance in case startups fail.




**5. The grand design of the new form of capitalism[4] appropriately targeted key areas to improve innovation and to encourage startups.** On financing, the plan includes measures to expand public capital investment in venture capital and to redirect personal financial assets and long-term investment funds to venture investment. On risk culture, the plan recognizes the constraints of personal guarantees on entrepreneurship and plans to revise the system of personal guarantees for startup fundings. Furthermore, the plan highlights the importance of entrepreneurship education and strengthening the

[3] A number of leading universities in the U.S. have designated resources to encourage startups, see for example, Stanford, Harvard, and MIT.

[4] See Cabinet Secretariat (2022) for detailed proposals.

relationship between startups and universities. A successful implementation of the startup development plan and further flexibility in the labor market would be crucial to encourage startups and innovation in Japan.

# References

Cabinet Secretariat (2022), "Grand Design and Action Plan for a New Form of Capitalism", Japan Government Cabinet Secretariat, July 7, 2022.

Garrido, J., Nadeem, S., Riad, N., DeLong, C., Rendak, N., and A., Rosha (2020), "Tackling Private Over-Indebtedness in Asia: Economic and Legal Aspects", IMF Working Paper No. 2020/172.

Hong, G., Igan, D. and D. Lee (2021), "Zombies on the Brink: Evidence from Japan on the Reversal of Monetary Policy Effectiveness", IMF Working Papers No. 2021/44.

OECD (2021), "OECD Economic Surveys, Japan", December 2021.

OECD (2017), "OECD Economic Surveys, Japan", April 2017.

INTERNATIONAL MONETARY FUND

# JAPAN

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

March 7, 2023

Prepared By

Asia and Pacific Department (In consultation with other departments)

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# FUND RELATIONS

(As of January 31, 2023)

**Membership Status:** Joined: August 13, 1952; Article VIII

**General Resources Account:**

| | SDR Million | Percent Quota |
|---|---|---|
| Quota | 30,820.50 | 100.00 |
| IMF's Holdings of Currency (Holdings Rate) | 23,034.24 | 74.74 |
| Reserve Tranche Position | 7,805.67 | 25.33 |
| Lending to the Fund | | |
| New Arrangements to Borrow | 320.78 | |

**SDR Department:**

| | SDR Million | Percent Allocation |
|---|---|---|
| Net cumulative allocation | 41,825.03 | 100.00 |
| Holdings | 44,547.81 | 106.51 |

**Outstanding Purchases and Loans:** None

**Latest Financial Arrangements:**

| Type | Date of Arrangement | Expiration Date | Amount Approved (SDR Millions) | Amount Drawn (SDR Millions) |
|---|---|---|---|---|
| Stand-By | Mar 11, 1964 | Mar 10, 1965 | 305.00 | 0.00 |
| Stand-By | Jan 19, 1962 | Jan 18, 1963 | 305.00 | 0.00 |

**Overdue Obligations and Projected Payments to Fund [1]**

**(SDR Million; based on existing use of resources and present holdings of SDRs):**

| | | Forthcoming | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| Principal | | | | | |
| **Charges/Interest** | **0.53** | **0.53** | **0.53** | **0.53** | **0.53** |
| **Total** | **0.53** | **0.53** | **0.53** | **0.53** | **0.53** |

[1] When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

**Exchange Arrangement:**

Japan maintains a free-floating exchange rate regime. Japan conducted interventions for the first time since 2011. On September 22, there was a first intervention of nearly USD20 billion. In October, there were further interventions amounting to around USD43 billion. The Ministry of Finance publishes foreign exchange intervention information on its website. The exchange system is free of multiple currency practices and of restrictions on the making of payments and transfers for current international transactions, with the exceptions of restrictions imposed solely for the preservation of national or international security that have been notified to the Fund pursuant to Executive Board Decision No. 144–(52/51).

**Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) Framework:**

Japan underwent an assessment of its AML/CFT framework against the AML/CFT standard by the Financial Action Task Force (FATF) and the Asia/Pacific Group (APG) in 2021. The assessment found significant improvements since the 2008 evaluation, including amendments to the AML/CFT legislative framework which introduced the obligation to identify and verify beneficial ownership information of legal persons, the extension of the scope of customer due diligence (CDD) measures, including with regards to politically exposed persons (PEPs), and the adoption of enforceable guidelines for financial institutions (FIs) by financial supervisors. Nevertheless, significant deficiencies were identified, including technical gaps affecting the reporting of suspicious transactions by Designated Non-Financial Businesses and Professions (DNFBPs), the dissuasiveness of sanctions for ML offenses, and the implementation of UN-imposed targeted financial sanctions. Japan's AML/CFT regime was found to be only moderately effective in eight of the 11 areas reviewed, including ML investigation and prosecution, confiscation of proceeds of crime, AML/CFT supervision of FIs and DNFBPs, and transparency of legal persons. Japan will continue to be monitored by the FATF on its progress under the enhanced follow-up framework, with the expectation that most, if not all, technical deficiencies will be addressed by end-2024.

**Article IV Consultation:**

The 2022 Article IV consultation discussions were held between January 3 and 26, 2022; the Executive Board discussed the Staff Report (IMF Country Report No. 22/99) and concluded the consultation on April 1, 2022. The concluding statement, staff report, selected issues paper, and press release were all published.

**FSAP:**

A mandatory financial stability assessment was conducted in time for the 2017 Article IV consultation, in line with the five-year cycle for member countries with financial sectors that are determined to be systemically important, pursuant to Decision No. 15495-(13/111), adopted December 6, 2013. The Financial System Stability Assessment (FSSA) report for the 2017 assessment has been published (Country Report No.17/244) and is available on the web at:

https://www.imf.org/en/Publications/CR/Issues/2017/07/31/Japan-Financial-System-Stability-Assessment-45151.

**Technical Assistance:** None

**Resident Representatives:** None

# STATISTICAL ISSUES

Economic and financial data provided to the Fund are considered adequate for surveillance purposes. Since April 2016, Japan has adhered to the Special Data Dissemination Standard (SDDS) Plus and it meets the SDDS Plus specifications for the coverage, periodicity, and timeliness of data. Japan is also progressing in the implementation of the G-20 Data Gaps Initiative (DGI-2) recommendations. It started reporting quarterly General Government Gross Debt data in April 2018 and the global Security Financial Transactions data to the Financial Stability Board in 2019. It also started disseminating quarterly General Government Operations in line with SDDS Plus requirements in 2021. Japan has committed to address the limited data availability to compile Securities Statistics and sectoral accounts. The last mission on the Observance of Standards and Codes (data ROSC) took place in 2005 with a report published in March 2006 (available at https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Japan-Report-on-the-Observance-of-Standards-and-Codes-ROSC-Data-Module-19054).

## Table 1. Japan: Table of Common Indicators Required for Surveillance

(As of February 21, 2023)

| | Date of Latest Observation | Date Received | Frequency of Data[6] | Frequency of Reporting[6] | Frequency of Publication[6] |
|---|---|---|---|---|---|
| Exchange Rates | Feb. 21, 2023 | Feb. 21, 2023 | D | D | D |
| International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1] | Jan. 2023 | Feb. 6, 2023 | M | M | M |
| Reserve/Base Money | Jan. 2023 | Feb. 1, 2023 | M | M | M |
| Broad Money | Aug. 2022 | Nov. 15, 2022 | M | M | M |
| International Investment Position | 2022Q3 | Dec. 8, 2022 | Q | Q | Q |
| Central Bank Balance Sheet | Jan. 2023 | Feb. 2, 2023 | M | M | M |
| Consolidated Balance Sheet of the Banking System | Nov. 2022 | Dec. 29, 2022 | M | M | M |
| Interest Rates[2] | Feb. 21, 2023 | Feb. 21, 2023 | D | D | D |
| Consumer Price Index | Dec. 2022 | Jan. 19, 2023 | M | M | M |
| Revenue, Expenditure, Balance and Composition of Financing[3] – General Government[4] | 2021 | Jan. 20, 2023 | A | A | A |
| Revenue, Expenditure, Balance and Composition of Financing[3] – Central Government | 2021 | Jan. 20, 2023 | A | A | A |
| Stocks of Central Government and Central Government-Guaranteed Debt[5] | 2022Q4 | Feb. 10, 2023 | Q | Q | Q |
| External Current Account Balance | Dec. 2022 | Feb. 8, 2023 | M | M | M |
| Exports and Imports of Goods and Services | Jan. 2023 | Feb. 15, 2023 | M | M | M |
| GDP/GNP | 2022Q4 | Feb. 14, 2023 | Q | Q | Q |
| Gross External Debt | 2022Q3 | Dec. 7, 2022 | Q | Q | Q |

[1] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[2] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
[3] Foreign, domestic bank, and domestic nonbank financing.
[4] The general government consists of the central government (budgetary funds and extra budgetary funds), local governments, and social security funds.
[5] Including currency and maturity composition.
[6] Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).

INTERNATIONAL MONETARY FUND

# JAPAN

## STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—SUPPLEMENTARY INFORMATION

March 17, 2023

Prepared By

Asia and Pacific Department

*This supplement reports on developments and provides information that has become available since the staff report was issued to the Executive Board on March 8, 2023. The update does not alter the thrust of the staff appraisal.*

**1. Recent data releases continue to be in line with staff projections**. The second read of 2022Q4 GDP was weaker than the first read, which lowered 2022 growth by 0.1 percentage point to 1 percent. The carryover effect on 2023 is negligible, leaving staff's growth projections intact. Tokyo inflation in February, which is a leading indicator for national inflation, was in line with staff projections—core inflation continued to rise while headline inflation dropped by 1.1 percentage point due to the new energy subsidy included in the October 2022 fiscal package. While base wage growth (including part-time workers) slowed to 0.8 percent in January, the first round of the Spring wage negotiations, covering mainly larger companies, indicate a potentially significant acceleration in base wage growth.

**2. At its March 9-10 monetary policy meeting (MPM), the Bank of Japan (BoJ) left its monetary policy settings unchanged, in line with market expectations.** This was the last meeting under Haruhiko Kuroda's governorship. In his post-meeting press remarks, he reiterated that it is still too premature to discuss an exit from BoJ's ultra-loose policy, which is needed to support firms' ability to raise wages and thus to achieve the 2 percent inflation target in a sustainable manner. On March 10, the parliament also formally approved Kazuo Ueda, currently an academic economist, as the new Governor starting April 9. Staff's assessment and recommendations on monetary policy remain unchanged

**3. Market pressure on Japanese Government Bond (JGB) yields has since eased.** The MPM coincided with the news about the Silicon Valley Bank's (SVB) collapse. The 10-year JGB yield subsequently dropped significantly—touching close to 0.17 percent on March 14—the lowest level since August 2022. Longer-term JGB yields have also declined, reflecting both: (i) traders pulling back from bets on a possible

policy surprise at the March MPM by the BoJ; and (ii) lower U.S. treasury yields following the news about SVB. The Japanese yen appreciated by close to 3 percent (cumulatively) between March 9-16 driven mainly by lower short-term US-Japan government bond interest rate differentials.

**4. However, the failure of SVB, concerns over Credit Suisse, and the ensuing turmoil in the global equity markets have led to a significant drop in Japanese banks' stock prices.** Amid increased market scrutiny over Japanese financial institutions' unrealized losses on their bond holdings, heightened investor risk aversion globally, and the flattening in the JGB yield curve (impacting prospective bank profitability), Japanese banks' stock prices dropped by about 16 percent on average (with stronger impact for some smaller banks) between March 9-16. As Japanese equities declined, the BoJ bought 70.1 billion yen each in Exchange Traded Funds (ETF) on two consecutive days—March 13 and 14—respectively.[1] This, combined with the limited direct exposure of Japanese banks to the SVB and Credit Suisse, and the respective authorities' prompt actions to prevent further spillovers, are among the factors helping limit a stronger adverse impact on the Japanese financial system. Staff's assessment of risks to financial stability remains broadly unchanged.

[1] ETF purchases are part of BoJ's monetary easing measures.

**Statement by Jun Mizuguchi, Executive Director for Japan,**
**Mikari Kashima, Alternate Executive Director, and Inaho Ogihara, Advisor to the Executive Director**
**March 22, 2023**

We welcome the productive policy discussions between staff and FDMD Gopinath's first visit to Japan in January 2023, and thank staff for their high-quality Staff Report and Selected Issues Paper. Since the previous Article IV mission in January 2022, the Japanese economy has been impacted by exogenous stress such as Russia's war in Ukraine and the resulting increase in energy and food prices, while recovering from the COVID-19 pandemic. The Government has taken multiple fiscal measures in 2022 to overcome challenges arising from higher price and revitalize the economy, while potential risks, such as concerns of a global economic downturn amid ongoing global monetary tightening, remain elevated.

In the Article IV consultation, the authorities discussed with staff various structural challenges facing Japan, such as climate change, digitalization, weak wage growth, and the aging population. The Government is accelerating reforms to address these challenges, and thereby achieve sustainable and inclusive economic growth and pursue fiscal consolidation. In this regard, the Cabinet approved *the Basic Policy on Economic and Fiscal Management and Reform 2022*, *Grand Design and Action Plan for a New Form of Capitalism*, and the FY2023 budget plan, which focus on key growth drivers (green and digital transformation, measures to address the declining birthrate and low wage growth), integrated economic and fiscal reforms, and a firm commitment to the fiscal consolidation target.

The Japanese authorities' views on the staff analysis and recommendations are broadly summarized in the "Authorities' Views" section of the Staff Report, but we would like to offer the following specific points.

### *Recent Economic Developments*

**While the Japanese economy is picking up, it faces a range of risks.** With the normalization of economic and social activities from the pandemic, the Japanese economy is moderately picking up supported mainly by private demand, and most GDP components recovered to their pre-COVID level in 2022. On the other hand, the services sector, which was severely impacted by the pandemic, is recovering more slowly than in other advanced economies. In addition, both corporate goods and consumer prices increased to their highest levels in 40 years, amid the global surge in inflation and exchange rate volatility. The economy is expected to continue expanding in the near term, supported by government economic policies. However, as the Staff Report illustrates, there are downside risks associated with global energy and food price developments, global tightening, and an economic downturn.

### *Fiscal Policy*

**The Government adopted multiple economic measures in FY 2022 and in the budget plan for FY 2023 to address important domestic and external challenges Japan faces.**

As risks over global inflation and an economic downturn persist, it is critical that Japan's economy is put on a private-sector demand-led sustainable growth path, while overcoming challenges arising from higher price. Against this backdrop, the Government formulated comprehensive economic measures in October last year. In addition, the budget plan for FY2023 has reinforced efforts to tackle the internal and external challenges facing Japan, including the threat to national security, the declining birthrate, and climate change. The direction of temporary fiscal support is in line with staff's advice, including the gradual withdrawal of COVID-related measures and the reduction of the energy subsidies this year. The authorities also agreed with staff on the need to make fiscal transfers more timely and targeted.

**The Government will advance expenditure and revenue reforms to achieve the fiscal target.** Due to the COVID-19 response and successive supplemental budgets, Japan's fiscal position has become unprecedentedly severe, with the outstanding debt of Central and Local Governments to GDP ratio projected to reach about 217 percent at end-March 2023. It is crucial to give due consideration to fiscal consolidation in implementing necessary policy measures to address the challenges described above. For example, defense capabilities will be dramatically reinforced in light of the national security environment surrounding Japan, and financial resources will be secured to maintain stable defense capabilities in the future. The Government also continues to work on various reforms, including reforms to the social security system, which accounts for most of the future growth in expenditure. For example, through the annual review of drug prices and revisions to out-of-pocket medical expenses for late-stage elderly, we have been successful in keeping the necessary increase in social security expenditures within the level equivalent to the expected increase due to population aging. Furthermore, the Government will work on improving the quality of the budget by promoting digitalization and introducing incentives for each policy objective. The Government will continue fiscal consolidation efforts to achieve the fiscal target of a consolidated (central and local Government) primary balance surplus in FY2025.

***Monetary Policy***

**The Bank of Japan (BOJ) will continue with Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control, aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner.** The year-on-year rate of increase in the CPI (all items less fresh food) is likely to decelerate toward the middle of fiscal 2023 due to the effects of pushing down energy prices from the government's economic measures and to a waning of the effects of a pass-through to consumer prices of cost increases led by a rise in import prices. Thereafter, the rate of increase is projected to accelerate again moderately on the back of improvement in the output gap, rises in medium- to long-term inflation expectations and in wage growth, and a waning of the effects of the economic measures pushing down energy prices. For the time being, while closely monitoring the impact of COVID-19, the Bank will support financing, mainly of firms, and maintain stability in financial markets, and will not hesitate to take additional easing measures if necessary. Regarding the staff's recommendations on monetary policy, the BOJ considers that it is necessary to be mindful of both upside and downside risks to price developments, and that maintaining the current monetary policy

framework is appropriate. The BOJ will continue to implement the most appropriate policy measures, taking into account economic, price, and financial developments.

*Financial Sector*

**Japan's financial system has been maintaining stability on the whole**. The capital adequacy ratios of banks are sufficiently above their regulatory requirements, and lenders have kept the ratios of performing loans and investment grade loans high for both domestic and foreign lending. The results of the macro stress testing by the BOJ indicate that Japanese financial institutions on the whole are resilient, and that Japan's financial system remains stable. Regarding risks in Japan's housing loan market, which was discussed in the Staff Report, the delinquency rate has been at a historically low level, and there are no significant vulnerabilities at this point. The authorities will closely monitor the impact of rising foreign interest rates on the profitability of financial institutions, as well as the influence of rising energy and raw material prices on credit risks. The authorities will also continue to monitor the impact of future developments in the domestic and international economies and financial markets, including the impact of recent U.S. bank failures on the stability of the financial system.

**Going forward, policy measures will focus on facilitating financial institutions' efforts to support businesses, bolstering financial institutions' business foundations, and developing a financial system dedicated towards addressing structural challenges**. The authorities are encouraging financial institutions to take proactive measures to provide support for firms' cash flow and for business improvement and transformation, in light of the challenging environment including from price increases. The authorities will also encourage financial institutions to strengthen their governance and their risk management of credit, security holdings and foreign currency funding. Furthermore, in order to address structural challenges such as climate change and the aging population, the authorities will take measures to promote sustainable finance and to facilitate a transition to a digital society from a financial perspective. In addition, the authorities will continue their efforts to address AML/CTF issues and cyber risks, as well as ensure confidence in the financial system.

*External Sector*

**Many currencies in the exchange market moved significantly with increased volatility in 2022.** Particularly, the Japanese yen moved in a rapid and one-sided manner, with speculative trading behind such moves. While exchange rates should be determined in the market in principle, it should be noted that "excess volatility or disorderly movements in exchange rates can have adverse implications for economic and financial stability," as internationally agreed at the IMFC and the G20/G7. The authorities intervened in the exchange market to address excess volatility in September and October 2022 for the first time since 2011 in line with these international norms of exchange rate policy. We view our intervention was effective in mitigating excess volatility driven by speculation.

**We agree with staff's preliminary assessment that the projected 2022 current account balance is broadly in line with fundamentals and desired policies, and the related**

**policy recommendations.** As noted above, the Government will continue to promote fiscal consolidation as well as structural reforms. The EBA methodology is based on the concept that assumes a link between the exchange rate and the current account balance. However, we should keep in mind the following: 1) the share of the income balance, which is not subject to exchange rate movements, accounts for a dominant portion of the current account balance, particularly in advanced economies; and 2) exchange rates are greatly affected by capital transactions, which are expanding and have little to do with current account transactions. In addition, we should further rigorously reevaluate the validity of this proposition as consumption behaviors and allocation of factors of production have not necessarily changed while many countries are currently facing the depreciation of their currencies against the U.S. dollar. Going forward, we urge the Fund to review the EBA methodology so that it appropriately considers the nature of the income account and the effect of capital transactions, and to reconsider the concept of linking exchange rates to the assessment of current account balances.

***Growth Strategy and Structural Reforms***

**The Government has set up a new strategy to achieve sustainable and inclusive growth through public and private cooperation**. In June 2022, a new government strategy, *Grand Design and Action Plan for a New Form of Capitalism*, was developed to address structural issues in the Japanese economy, which were also mentioned in the Staff Report. Under the concept of a "New Form of Capitalism", an approach of "both the market and the public" will be encouraged to address the emerging social problems that cannot be solved by the market alone. In addition, challenges will be seen not as obstacles, but as sources of growth drivers to promote inclusive and sustainable growth.

1) **Labor market reforms will be bolstered to enhance sustainable wage increases.** As discussed in the Staff Report, one major issue facing Japan is that wage increases have remained low for a long time. In order to achieve wage increases in small- and medium-sized firms, the Government will pursue measures to enhance labor productivity, optimize small and medium-sized business subcontracting, and ensure appropriate pass-through of input costs. Facilitating labor mobility to growth industries and reskilling efforts are also a priority to enhance labor productivity and increase wages.

2) **Investment in DX (Digital Transformation) and Innovation will be promoted**. The Digital Agency, which was founded in 2021, will encourage online government procedures and the digitization of health insurance cards utilizing individual number cards. Medical and architectural DX will also be enhanced, such as establishing standardized electronic medical record information, promotion of data use of 3D city models for buildings and unique identification numbers for land and buildings. Also, as Japan's existing regulatory frameworks often do not meet the needs of new business models and services, 40,000 relevant laws and regulations are being reviewed. In June 2022, the "Plan for a Comprehensive Review of Regulations in light of the Digital Principles" was published, and the corresponding bill will be submitted to the Diet. Furthermore, the Government will continue supporting

innovation and start-ups as a key area of investment. In this regard, we welcome the insightful analysis in Annex XII.

**It is imperative for Japan to take immediate action to reverse the declining birthrate.** To ensure society and the economy can thrive sustainably and inclusively, Japan has committed to prioritizing policies that support children and childcare. Specific measures are being discussed to reinforce this strategy, such as financial assistance and support for early education, and subsidies to care services. The Children and Families Agency will be founded in April of this year, and a broad framework for future actions will be published by June.

**The Government will encourage the efforts of all generations and the local community to establish an inclusive economic society**. In order to further promote female's active engagement and close the gender wage gap, last year, the Government broadened the scope of companies required to develop action plans and made it mandatory for large companies to provide information on gender wage gaps. The Government will also pursue social security reforms to remove any disincentives for female labor participation and make the systems neutral regarding work styles and time. The generational imbalance between the benefits from and contributions to social spending is also a structural challenge the Government will tackle. Furthermore, focus will also be placed on support for vibrant local communities, with the revival of inbound tourism, and expansion of the export of agricultural, forestry and fishery products and food. Digital services are a source of value creation and are crucial to solving the challenges facing Japan's rural areas. Digital infrastructure such as optical fiber connections and 5G and new services including automated driving will be promoted in this regard.

### *Climate Change*

**The Government will promote green transformation (GX) of society and the economy with the aim of meeting international commitments, strengthening Japan's industrial competitiveness, and boosting economic growth.** Climate change is the biggest challenge to be overcome under the new capitalism society, with the Government committed to reducing greenhouse gas emissions by 46% by FY 2030 and achieving net-zero greenhouse gas emissions by 2050. Under the *Basic Policy for the Realization of GX*, which was approved by the Cabinet in February 2023, the Government and private sector will invest over 150 trillion yen over the next ten years towards GX, while ensuring that renewable energy is prioritized as a primary energy source. Under the basic policy, the Government will issue new government bonds, estimated to be 20 trillion yen and the bonds will be backed by expected revenue increase through carbon pricing. The Government intends to promote public-private investment, including on promoting thorough energy efficiency, expanding new and decarbonized power sources such as hydrogen and ammonia, and the development of innovative technologies. These initiatives will significantly increase predictability for corporate investment and accelerate decarbonization efforts among the private sector.

**Efforts to address climate-related financial risks have been steadily progressing.** Major financial institutions have enhanced their capacity to conduct scenario analyses. The Financial Services Agency (FSA) and the BOJ, in cooperation with three major banks and

three major non-life insurance groups, conducted a pilot scenario analysis exercise on climate-related risks. Moreover, a growing number of regional financial institutions have endorsed the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and have enhanced their disclosure based on the TCFD framework. The FSA released in July 2022 the "Supervisory Guidance on Climate- related Risk Management and Client Engagement," which showcased examples of financial institutions' climate-related risk management and their support for clients' responses to climate change. Also, as part of efforts to improve the market environment toward carbon neutrality, including from the perspective of preventing greenwashing, “the Code of Conduct for ESG Evaluation and Data Providers” was published at the end of last year. Furthermore, the "Comprehensive Supervisory Guidelines for Financial Instruments Business Operators, etc. regarding ESG Investment Trusts" is scheduled to be formulated by the end of March 2023.

***Conclusion***

Our authorities highly value their close collaboration with the Fund and look forward to deepening discussions with staff to tackle domestic and international macroeconomic challenges. Finally, the authorities wish to thank again the Mission Chief, Mr. Salgado, and his team for their insightful analysis and policy discussions presented in the Staff Report and Selected Issues Paper.