Japan
Rating Report

SCOPE A+ STABLE OUTLOOK

Credit strengths

- Broadly diversified economy
- Exceptional funding flexibility
- Strong external position
- Resilient financial system

Credit weaknesses

- Very high debt burden
- Growth below trend
- Weak public finances
- Demographic challenges

Rating rationale and Outlook: The rating is supported by a broadly diversified economy with a wealthy population, exceptional funding flexibility, political stability and the government's commitment to reform, a strong external position, and a resilient financial system. The rating is challenged by weaknesses in the 'public finance' analysis category and reflects Scope's view that Japan's fundamentals are weakened by: i) a high public-debt burden and weak debt dynamics; ii) a weak growth outlook with growth potential that is under trend; iii) weak public finances; and iv) demographic challenges. Going forward, Scope's ongoing assessment will concentrate on how well the authorities redress the continued unfavourable public-debt trajectory via proactive initiatives. The rating Outlook is Stable and reflects Scope's view that the rating risks are balanced overall.

Figure 1: Sovereign rating categories summary

Scope's sovereign risk categories	Japan	Peer comparison		
		Average	Italy	China
Domestic economic risk				
Public finance risk				
External economic risk				
Financial risk				
Political and institutional risk				
Qualitative adjustment (notches)	1		-1	1
Final rating	A+		A-	A+

AAA AA A BBB BB B CCC CC C

NB. The comparison is based on Scope's Core Variable Scorecard (CVS) which is determined by relative rankings of key sovereign credit fundamentals. The CVS peer group average is shown together with two selected countries chosen from the entire CVS peer group. The CVS rating can be adjusted by up to three notches depending on the size of relative credit strengths or weaknesses.

Positive rating-change drivers

- Sharp acceleration of growth
- Strong debt reduction
- Successful reforms with strong increases in productivity

Negative rating-change drivers

- Sharp economic deterioration
- Deterioration in government finances
- Reversal of structural reforms

Ratings and outlook

Foreign currency

Long-term issuer rating	A+/Stable
Senior unsecured debt	A+/Stable
Short-term issuer rating	S-1+/Stable

Local currency

Long-term issuer rating	A+/Stable
Senior unsecured debt	A+/Stable
Short-term issuer rating	S-1+/Stable

Lead analyst

John Francis Opie
+49 69 6677389-13
jf.opie@scoperatings.com

Team leader

Dr Giacomo Barisone
+49 69 6677389-22
g.barisone@scoperatings.com

Scope Ratings GmbH

Neue Mainzer Straße 66-68
60311 Frankfurt am Main

Phone +49 69 6677389 0

Headquarters

Lennéstraße 5
10785 Berlin

Phone +49 30 27891 0
Fax +49 30 27891 100

info@scoperatings.com
www.scoperatings.com

Bloomberg: SCOP

Domestic economic risk

Growth potential of the economy

Growth under potential

Japan's macroeconomic performance remain a key rating challenge. Potential growth in Japan is weak and will average less than 1% during the next 10 years, below the historical trend of more than 1%[1]. The government's growth strategy – the third 'arrow' of Abenomics[2] – has been so far unable to counter the unfavourable demographics and structural bottlenecks in the labour market, which remain major factors limiting potential growth. Between 2015 and 2025, Japan's overall population will decline by 3.6%, but the nation's working-age population is expected to decline even more, by 7.2%. This, combined with the anticipated slow pace of domestic investment, constrains the economy's growth potential significantly.

Success of Abenomics

However, the success of Abenomics has been substantial. After more than a decade of negative growth from the end of the 1990s to 2012, nominal GDP growth has returned to pre-deflation dynamics. Nominal GDP grew by 9.5% between Q1 2013 and Q3 2017, supporting higher employment. Economic growth has also become more sustainable. This reversal was aided strongly by the Bank of Japan's loose monetary policy, resulting in negative interest rates (real long-term average interest rates have averaged -0.4% since early 2013). As a result, lending is up strongly, with business lending outpacing healthy household lending, aiding economic growth. Scope believes that Abenomics has improved Japanese economic resilience, with monetary policy remaining accommodative, no signs of imbalances in the private sector or externally, and a strong current-account surplus that reached a 10-year high as a share of GDP in Q3 2107.

Growth and fiscal sustainability

Faster GDP growth will be essential for fiscal sustainability. Japan has had eight quarters of uninterrupted expansion, with real GDP expected to grow at 1.6% in 2017 thanks to a continued pickup in international trade and temporary fiscal support. These eight quarters are now the second-longest growth period since the 12 quarters during the economic bubble between Q2 1986 and Q1 1989. Scope anticipates that economic growth in 2018 will be approximately 1.2%, helped by strong household and corporate investment activity, but will slow in 2019 to 0.9% as private consumption declines, due to a planned VAT increase from 8% to 10%[3] and slowing housing investment[4]. Preparations for the 2020 Olympic Games and the accompanying urban redevelopment are expected to generate one-off positive growth of 0.2-0.3 percentage points to GDP through 2018. However, given the country's deep structural constraints, Scope expects real GDP to average below 1% from 2019 to 2022.

The Japanese economy is facing a broad set of unique challenges[5] that include a declining population, an ageing workforce, slow growth in total factor productivity, and age-induced deflationary pressures[6]. Overall growth rates going forward will be dominated largely by demographic developments, resulting in an apparent long-term weakness in overall growth that does not necessarily nor accurately reflect the economy's developing dynamics. Scope expects growth in Japan to be driven mainly by increased

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[1] Analysis for this report is based on research from the IMF 2017 Article IV Consultation July 2017 (IMF Country Report 17/242); IMF Financial System Stability Assessment, Japan, September 2017 (IMF Country Report 17/285); Ministry of Finance Debt Management Report 2017; OECD Economic Survey, Japan, April 2017. Hereinafter IMF IV, IMF FSSA, MinFin and OECD. Other sources referenced individually.
[2] Scope uses Abenomics to refer to the large number of government policy reforms launched in 2013 and afterwards after the election of Shinzō Abe at the end of 2012.
[3] https://www.japantimes.co.jp/news/2017/08/05/national/politics-diplomacy/abe-reaffirms-plan-complete-doubling-consumption-tax-2019/#.WqECS2rwZGo
[4] Monthly Report of Prospects for Japan's Economy, March 2018, The Japanese Research Institute, Limited.
[5] Much of economic theory implicitly assumes a growing population. Scope considers the thesis of a balance-sheet recession to be the appropriate explanation for weakness in Japanese economic growth, above and beyond the problems of demographics. See Richard C. Koo, The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession, Wiley & Sons, Singapore, 2009
[6] Liu, Yihan and Westelius, Niklas, The Impact of Demographics on Productivity and Inflation in Japan, IMF Working Paper WP/16/237, December 2016

productivity, with automation extending into service sectors, for instance, the use of robotics and the integration of artificial intelligence into both medical and elderly care.

Economic policy framework

Growth in Japan is strongly supported by an effective economic policy framework, especially the very accommodative monetary policy pursued by the Bank of Japan and the extensive use of non-standard monetary policy measures. These include a wide variety of measures, such as targeting inflation at 2% per year, yield curve control aimed at keeping the 10-year government bond rates at 0%, as well as qualitative and quantitative easing with extensive asset purchases estimated in December 2017 at ¥ 521.4tn (95% of GDP)[7]. While there have been some indications[8] that the Bank of Japan would moderate its monetary policy, official sources have indicated that the inflation target is still too far out to consider changes before 2019[9]. Scope does not anticipate any major changes in the Japanese economic policy framework going forward as long as inflation targets have not yet been met. Average consumer prices inflation in 2017 was well below target at 0.5% in 2017 and Scope does not anticipate inflation targets being met before 2020, when inflation is forecast to reach 1.6%.

Macroeconomic stability and imbalances

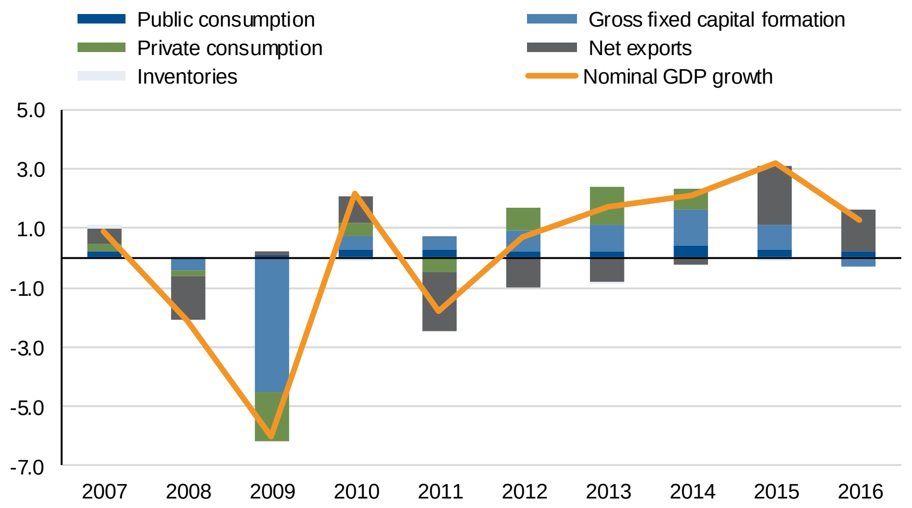
Scope views the macroeconomic stability in Japan positively. Japan's A+ rating benefits from one of the most diversified economies in the world. The country continues to be world class in key areas such as electronics and machinery. Japan enjoys a strong favourable position in both global and regional supply chains. Structural shifts within the Japanese economy are also largely positive, with greater diversification of intermediate demand and increasing value-added in both manufacturing and exports. The seasonally adjusted unemployment rate fell to 2.4% in January 2018 from 2.7% in December, reducing unemployment to its lowest since April 1993, well below the recent peak of 5.5% in July 2009.[10]

Drastic demographic decline

The Japanese workforce is one of the most highly skilled in the world, but is in decline. Between 2015 and 2025, Scope expects Japan's overall population to reduce by 3.6%, with the nation's working-age population expected to fall even faster, by 7.2%. This trend is set to worsen: over the same period, the under-14 age cohort will decline by 11.7%, underscoring the severity of demographic trends. The only age cohort expected to increase is the over 65, by 8.6%[11]. Over the same period, the Japanese economy is expected to grow cumulatively by approximately 8%, implying a need for significant productivity improvements to compensate for the falling number of workers. This unique challenge – no other major industrialised country (yet) is facing anywhere near the same demographic decline – means the Japanese economy will undergo profound changes over the next several decades.

[7] http://www.boj.or.jp/en/statistics/boj/other/acmai/release/2017/ac171231.htm/
[8] http://www.businessinsider.com/bank-of-japan-has-quietly-ended-its-easy-monetary-policy-2017-12?IR=T
[9] https://www.japantimes.co.jp/news/2018/03/09/business/cautious-boj-holds-line-monetary-policy/#.WqjeFcPwZGo
[10] http://www.stat.go.jp/english/data/roudou/lngindex.htm, Historical data Table 1. A-1.
[11] Data for Japanese demographics taken from Table 1-1, Medium-fertility and medium-mortality projection, 2016-2065 Population Projections for Japan, National Institute of Population and Social Security Research, and Scope's own calculations. The former is available at http://www.ipss.go.jp/pp-zenkoku/e/zenkoku_e2017/pp_zenkoku2017e.asp

Figure 2: Components of nominal GDP growth

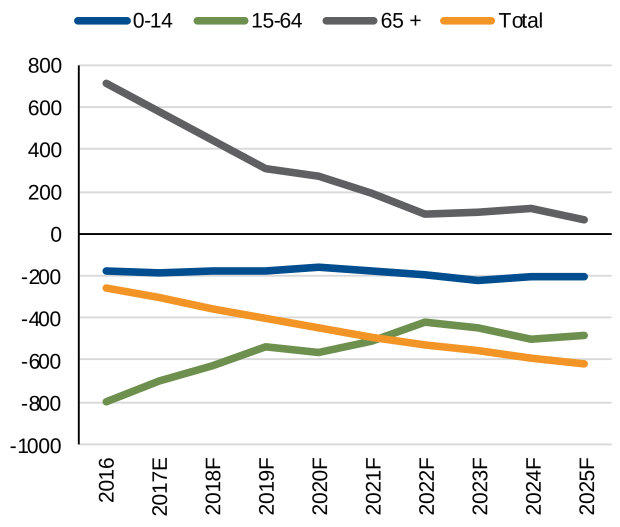


Source: National statistical accounts, calculations by Scope Rating AG

Tight employment situation

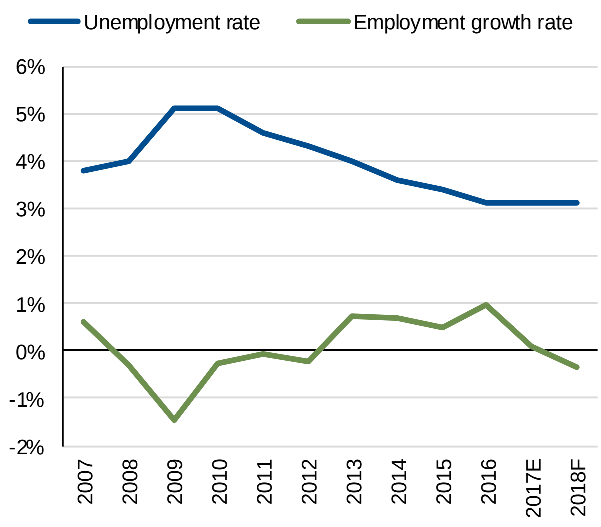
Employment development is solid. The active job vacancies-to-applications ratio in December 2017 rose to 1.59, the highest in 44 years. Employment growth continues moderately as labour force participation continues to increase. The unemployment rate fell to 2.4% in January 2018, the lowest since April 1993. While some wages are on the rise, especially in industries with major personnel shortages such as transportation and construction, overall wage increases have lagged employment growth. This is especially true of large companies, whereas SMEs have shown larger wage increases. The wages most sensitive to economic activity – part-time hourly wages – increased by an annual rate of 2.2% in December 2017. A series of supply-side Abenomics reforms has increased labour force participation (77.4% for the 15-64 cohort as of January 2018, up from an average of 73% in 2000-2010) and aims to increase productivity and competitiveness.

Figure 3: Annual changes in population by age cohort (000s)



Source: National Institute of Population and Social Security Research, Scope calculations

Figure 4: Employment and unemployment trends



Source: IMF

Public finance risk

Fiscal performance

Debt as a legacy issue

Japanese government debt has been accruing strongly since the 1992 collapse of the country's real-estate bubble as the government took on large amounts of debt to prevent economic collapse. Scope believes that the additional government spending prevented the resulting balance-sheet recession from escalating into further recessions or worse. Hence Scope sees the current accumulation of debt as largely a legacy issue, the result of the very weak recovery ('the lost decade') that arose from that bubble, the effects of which continue to weigh on the economy.

Japan's weak public finances and high debt burden are key credit weaknesses. Headline deficits averaged 6.4% of GDP from 2010 to 2017, adding to a gross debt as a percentage of GDP of 240.3% in 2017, the highest of any country rated by Scope. Public debt is projected to decrease gradually to 233.9% in 2022, due to an improving primary balance and a negative interest-growth differential. The primary deficit is also forecasted to decline from 4.0% of GDP in 2017 to 3.4% in 2018 as the impact of the supplementary budgets fades.

The headline deficit is projected to fall from -4.1% of GDP in 2017 to -3.3% in 2018. A VAT tax hike scheduled for October 2019 moves the VAT from 8% to 10% and could have a positive effect on debt dynamics to the extent that increased revenue is earmarked for debt consolidation, improving the primary balance from -2.1% of the baseline scenario to -1.1% in 2022 and reducing gross debt by 3.4% of GDP by 2022. However, it is Scope's view that the long-term target of a primary surplus by 2020 will be difficult to achieve, even with robust GDP growth.

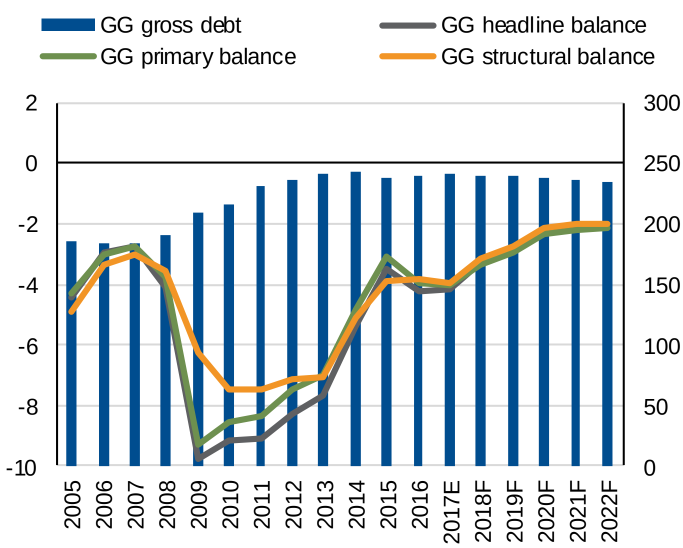
Debt sustainability

High debt burden

Japan's gross financing needs are high and amount to an estimated 29.5% of GDP in 2017, down from 54% in 2016, and are expected to increase to 42.3% in 2018 before failing to 35.9% in 2019[12]. This is the highest of all advanced economies. Going forward, this figure is expected to remain at around the same level, but some decline may be expected if the primary-balance deficit reduced and maturities extended at low interest rates. The debt profile is adequate, with no indicators exceeding early-warning benchmarks. 10-year bonds have a negative spread against US Treasuries. External financing requirements are modest at 8% of GDP at the end of 2016, reflecting the low external holdings of Japanese government debt. While government financial assets are relatively high at 119.4% of GDP in 2017, these are not necessarily liquid or available for debt repayment. Scope assumes a very conservative growth path in future.

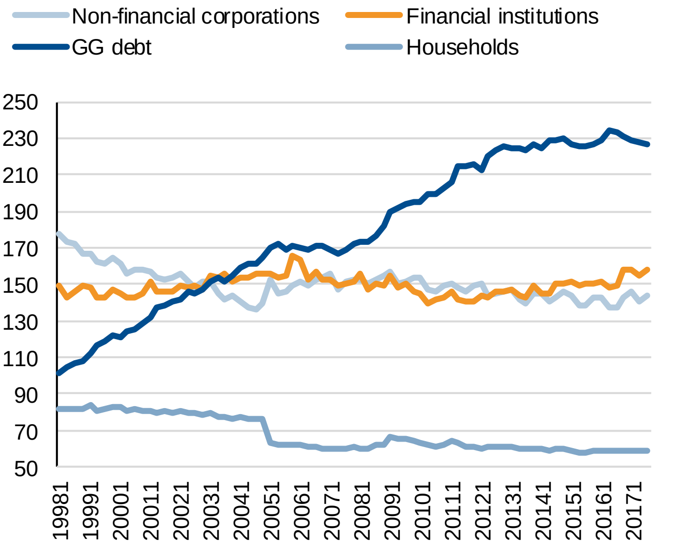
[12] IMF Fiscal Affairs Department October 2017 Fiscal Monitor, Table A23.

Figure 5: Fiscal developments (% GDP)



Source: IMF

Figure 6: Long-term development of debt (% GDP)



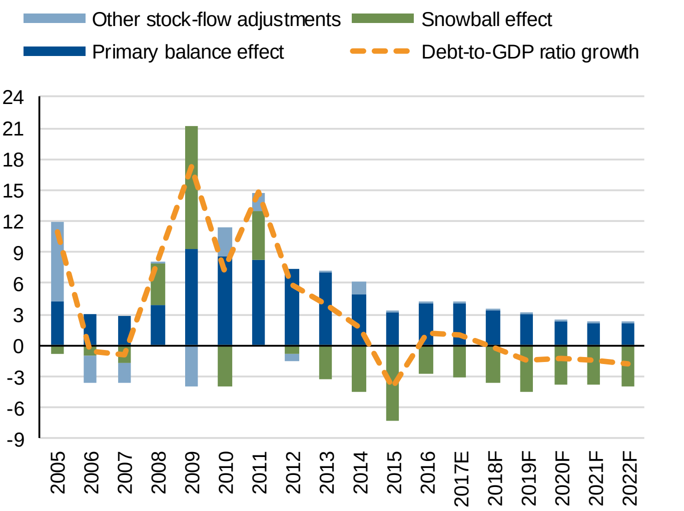
Source: Bank of Japan/Haver Analytics

Debt-sustainability framework

Under Scope's debt-sustainability analysis, a moderate reduction in Japan's public debt is possible only if the government can balance its primary balance over an extended period. Debt dynamics are sensitive to shock scenarios and shifts in market sentiment. A modest shock scenario from weak growth, strong fiscal slippages, or increased financing costs would significantly increase the debt-to-GDP ratio to over 250% in 2022 and further weaken credit fundamentals.

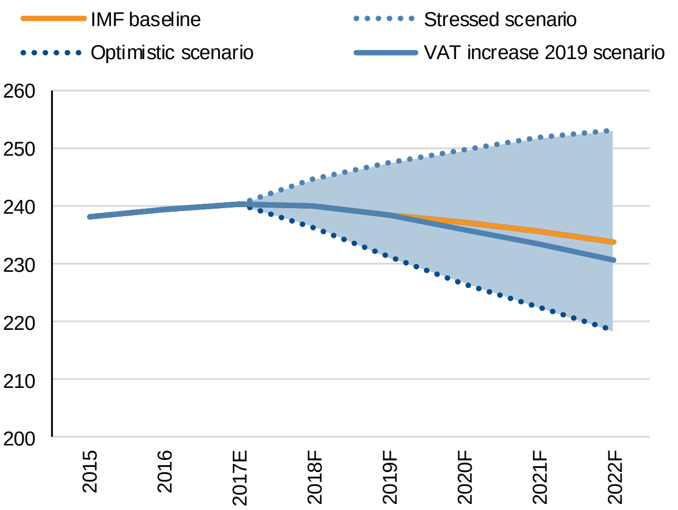
Under a dual-stress scenario of weakened growth coupled with higher primary-balance deficits, reflecting past Japanese government spending under low-growth or recession regimes, the debt-to-GDP ratio increases significantly to 244.6% of GDP in the first year, past the recent historical high of 242.1% in 2014. Such a scenario would effectively, and rapidly, wipe out the modest reductions in this key ratio, increasing it by 2022 to 253.1%. The planned introduction of an increase in the VAT in October 2019, which Scope believes would be used to address debt issues, would result in debt being reduced by 3.4% from 2019 to 2022, from 233.9% of GDP under the baseline scenario to 230.5%.

Figure 7: Debt growth (% GDP)



Source: IMF

Figure 8: Long-term development of debt (% GDP)



Source: Scope

2018-2022 average	Real GDP growth (% change)	Primary balance (% of GDP)	Real effective interest rate (%)	Debt end period (% of GDP)
Historic values (2013-2017)	1.2	-4.6	-0.5	240.3
IMF baseline	0.6	-2.6	-1.0	233.9
Optimistic scenario	1.4	-1.5	-1.0	218.5
Weak scenario	0.3	-5.8	-1.0	253.1
VAT increase 2019 scenario	0.6	0.0	-1.0	221.1

Source: Scope

Market access and funding sources

Mitigating factors to debt risks

Japan also benefits from its safe-haven status. This reflects its large domestic investor base, with 91% of Japanese government bonds held by resident investors supported by a sizeable pool of private-sector savings. The importance of the yen as global reserve currency further eases funding flexibility. Moreover, the composition of public debt helps to maintain low borrowing costs. Average debt maturity is also relatively long at eight years and eight months as of the end of 2016, but short-term debt (under two years) remains substantial at 24.8% of the total debt stock at the end of 2016. Long-term debt (5-10 years) decreased from 27.6% of debt in 2007 to 23.3% at the end of 2016, with very long-term debt (10+ years) increasing from 16.5% in 2007 to 29.3% at the end of 2016[13].

External economic risk

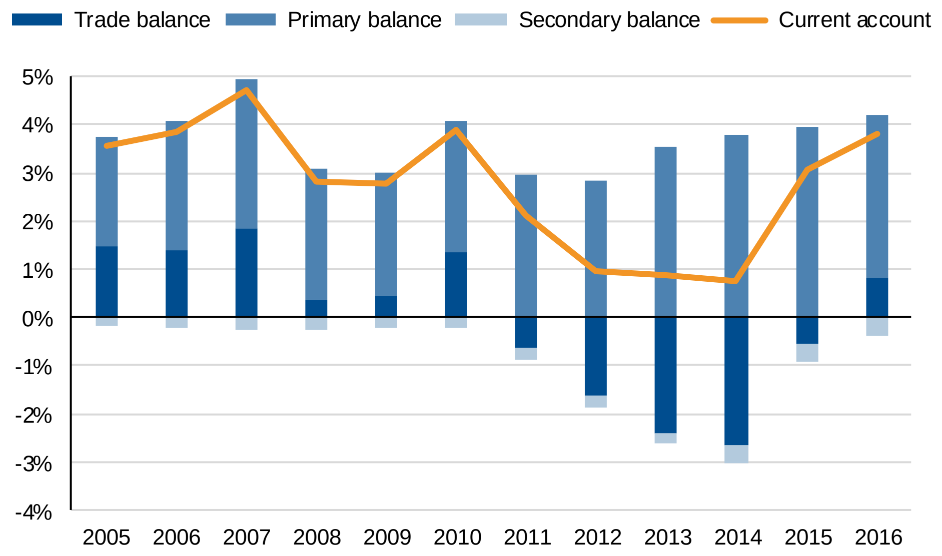
Current-account vulnerabilities

Strong external position

The ratings are further underpinned by Japan’s strong external position. A positive net international investment position of 61.0% of GDP in CY 2016[14] reflects high income flows from abroad, which has helped to maintain current-account surpluses for more than two decades. The current-account surplus has accelerated since 2015, reaching 3.9% of GDP in 2016 after several years of lows due to high energy prices and weak exports. The recent signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) should support overall economic growth in Japan by strengthening export demand with key trading partners via a reduction of both tariff and non-tariff measures[15]. Japanese export demand is strongly supported by its position in global and regional supply chains.

[13] IMF IV, p. 43.
[14] Last updated May 26. 2017
[15] http://www.bbc.com/news/business-43326314

Figure 9: Current-account balance (% GDP)



Source: IMF, Eurostat, calculations Scope Rating AG

Strong increase in net international investment position

Scope considers vulnerabilities to Japan's external position to be limited, as inward investments are concentrated in equity (rather than portfolios), and Japanese investors have a strong home bias. Foreign-exchange reserves are high at around 24% of GDP, and Japan has not directly intervened in the free-floating yen market in recent years. The country's external position is further aided by sizeable foreign income from its large net foreign-asset position[16].

External debt sustainability

Low external debt

Japan's external debt is low for an industrialised country. Total external debt was 74.0% of GDP in 2016, compared to the peer average of 84.1%. Scope views the external debt sustainability of Japan to be good in comparison with its rating group peers.

Vulnerability to short-term shocks

Debt-sustainability sensitive to shocks

More than 90% of Japanese government debt is held domestically, largely by Japanese banks, both life and non-life insurance companies, and the Bank of Japan. The domestic market for Japanese bonds is strong due to the country's high savings rate and the safe-haven status of the yen. Moreover, the Bank of Japan can, to a certain degree, monetise debt without inflationary concerns because of the persistent low inflation and interest rates[17]. Finally, the cost of interest on debt, due again to low or negative interest rates, is under 1% of GDP.

Financial stability risk

Financial sector performance

Resilient banking sector

The Japanese banking system has proven resilient in the face of significant challenges. It is one of the largest and most complex in the world: total financial assets of around 620% of GDP in September 2016, more than half of which are held by commercial banks; the three-largest banks alone hold 18% of total financial assets. The insurance sector is highly concentrated and the second-largest in the world after that of the US, with total financial assets of around 75% of GDP. Japanese banks are largely healthy, with low and

[16] IMF IV, p. 56
[17] David E. Lebow, The Monetisation of Japan's Government Debt, BIS Working Papers No. 161, 2004.

declining non-performing loan ratios and an average capitalisation of 13% of risk-weighted assets. Local-currency liquidity indicators are favourable due to the Bank of Japan's large excess reserves.

Financial sector challenges

The financial intermediation sector is facing largely structural problems, which also represent long-term challenges. The government's policies are very accommodating but domestic demand is severely limited by demographics, with both investment and domestic credit growth lacklustre. Japan's demographics are challenging the viability of its financial system as the expected search for yield (with government yields around zero or negative) will lead to riskier investments, changes to finance business models, and the need for financial oversight to adapt to these challenges. Overall, the financial sector faces a continuation of an already-long period of low interest rates, flat yield curves, and resulting weak profitability. Net interest margins are expected to shrink further. Were margins to continue to narrow, the ability of financial institutions to absorb losses may be impaired, as the persistent decline in profits would lead to a gradual pullback in financial intermediation and adverse effects on the real economy[18].

Financial sector oversight and governance

Strong financial sector oversight

Oversight of the Japanese financial sector remains strong. There is a resilient institutional framework between the JFSA[19] and the Bank of Japan, which features coordination councils and liaison committees. Close domestic coordination is well developed, including a legislative framework for external auditors to guarantee their independence[20]. Both the JFSA and the Bank of Japan implement macroprudential policy through a micro-prudential approach[21]. While the complex and sophisticated Japanese financial system exhibits some inherent fragility due to cross-border exposures, cross-shareholdings and the very high exposure to Japanese government bonds, Scope does not consider this a significant risk factor. Japan has an excellent record of crisis management and resolution compared with its peer group, with all parties strongly and actively maintaining financial stability.

Macro-financial vulnerabilities and fragility

The October 2017 Financial Stability Report[22] from the Bank of Japan stated no observable imbalances in financial and economic activities, and funding conditions for non-financial private sector lending are highly accommodative, with financial institutions as a whole showing generally strong resilience regarding capital and liquidity.[23] However, Scope believes that there are challenges to Japanese banking profitability, driven in part by overcapacity and the resulting increases in risk-taking, that if left unchecked may lead to a longer-term impairment of the ability of some Japanese banks, largely smaller and regional banks, to adequately meet lending demand[24]. Scope anticipates that the government will take a pro-active stance to address these longer-term problems going forward.

Institutional and political risk

Perceived willingness to pay

Scope considers Japan's perceived willingness to honour debt obligations in full and on time as being in line with other advanced economies and its rating peer group.

[18] Ibid, p. 53ff
[19] Financial Services Agency of Japan
[20] IMF FSSA, p. 76ff
[21] For details on this approach, see Jacek Osiński, Katharine Seal, and Lex Hordein, Macroprudential and Microprudential Policies: Toward Cohabitation, IMF Staff Discussion Note, SDN13/05, June 2013
[22] https://www.boj.or.jp/en/research/brp/fsr/data/fsr171023a.pdf
[23] Financial System Report, Bank of Japan, Oct 2017, p. 1
[24] Ibid., p. 53ff

Recent events and policy decisions

Abe re-election

The stability of the political environment in Japan was reinforced after the snap election in October 2017 that led to a strong affirmation of the administration of Shinzō Abe, which maintained its majority of two-thirds of the seats. Scope expects continuity of the Abenomics strategy first launched in 2013 aimed at bolstering growth and end deflation through a policy mix of monetary policy easing, flexible fiscal policy and structural reforms. While the exact content is still being worked out, a number of reform initiatives presented on January 22nd, 2018 by PM Abe are positive and appear well-aimed at addressing major challenges to Japan, especially the need to improve life-long productivity in the face of demographic challenges.

Political continuity

The re-election in October 2017 of provides additional continuity; upon completing his term in 2022, he will be the longest-serving prime minister since 1885. This will be his third term, but because his first term was in 2006-2007, his re-election marks his second consecutive term. Abe maintained his party's supermajority in the Diet, the Japanese parliament, providing broad, strong support for reforms and possible changes to the Japanese constitution.[25]

Significant reforms announced

Scope anticipates policy overhauls during PM Abe's second term, reflecting the need to address significant challenges. In his first policy speech[26] after re-election before the 196th session of the Diet on the 22nd of January 2018, Abe spoke of a national crisis of decreasing birth rates and a rapidly ageing society, with the need to create a "new Japan" to ensure the country's long-term viability and to maintain standards of living. This provides a first insight into potential policy changes, which will become clearer after the release of policy reports, expected during the summer of 2018, that should lead to legislative proposals by the end of that year. Given the preliminary nature of these reform proposals and the significant likelihood of changes, Scope believes it is too early to judge the efficacy of the reforms addressed in Abe's policy speech.

Briefly, upcoming rating-relevant reforms are aimed at higher wages and stronger growth, and centre on productivity improvements among SMEs, local government support for reforms, and improvements of business terms and conditions. Several milestones are set for 2020: i) a lowering of corporate tax burdens to 25% for companies actively investing and raising wages by at least 3%; ii) steps to end preferential tax treatments that do not contribute to economic activity; iii) the creation of regulatory sandboxes to encourage innovative services and business models without the constraints of existing regulations; iv) reduction of corporate tax to 20% for innovative companies; v) support of corporate governance reforms to embolden management decisions; and vi) university reforms to create innovation hubs, improve governance, support universities seeking private-sector funding, and shift government resources towards younger researchers.

Scope anticipates that the reform agenda presented by PM Abe may represent the widest-reaching reforms in Japan since the Meiji Restoration in 1868. However, these reforms face many obstacles. Scope expects reforms to crystallise during 2018. Reforms of the Japanese constitution will be the most contentious area of reform. Scope recognises that the basis for final approval of such reforms – a simple majority in a national referendum – may be elusive.

Geopolitical risk

Geopolitical risks continue

Next to the tensions surrounding North Korea, Japan is involved in numerous territorial disputes: Russian control of the southern Kuril Islands, South Korean claims to the

[25] Changes to the Japanese constitution require 2/3rds majorities in both houses of the Diet as well as a majority in a national referendum.
[26] https://japan.kantei.go.jp/98_abe/statement/201801/_00002.html

Liancourt Rocks; Chinese and Taiwanese claims of the Senkaku Islands; and Chinese claims over the Okinotorishima islands. A cornerstone policy of PM Abe's administration is to normalise Japan's global role, which has led to a commitment to collective defence, a reversal from the current doctrine of self-defence. Scope perceives that any re-writing of Article 9 of the Japanese constitution, which governs military operations, may be contentious.

Exposure to natural disaster risks

On the World Risk Index, Japan is ranked 17th, the only industrialised economy with significantly increased risk. This is due largely to frequent and occasionally severe earthquakes and monsoons in Japan, but is mitigated by the strong infrastructure in place to deal with such events. Hence, although Japan is exposed to multiple natural-disaster risks, the government's preparations are sufficiently advanced to mitigate the effects[27].

Methodology

The methodology applicable for this rating and/or rating outlook, 'Public Finance Sovereign Ratings', is available at www.scoperatings.com.

Historical default rates from Scope Ratings can be viewed in Scope's rating performance report at https://www.scoperatings.com/#governance-and-policies/regulatory-ESMA. Please also refer to the central platform (CEREP) of the European Securities and Markets Authority (ESMA) at http://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml. A comprehensive clarification of Scope's definition of default and definitions of rating notations can be found in Scope's public credit rating methodologies at www.scoperatings.com.

The rating outlook indicates the most likely direction of the rating if the rating were to change within the next 12 to 18 months. A rating change is not automatically ensured, however.

[27] http://weltrisikobericht.de/wp-content/uploads/2016/08/WorldRiskReport2016.pdf

I. Appendix: CVS and QS results

Sovereign rating scorecards

Scope's Core Variable Scorecard (CVS), which is based on relative rankings of key sovereign credit fundamentals, signals an indicative A (a) rating range for the State of Japan. This indicative rating range can be adjusted by up to three notches on the Qualitative Scorecard (QS) depending on the size of relative credit strengths or weaknesses versus peers based on analysts' qualitative analysis.

For the State of Japan, the following relative credit strengths have been identified: i) economic policy framework, ii) macroeconomic stability and imbalances, iii) market access and funding sources, iv) current-account vulnerabilities, v) external-debt sustainability, vi) recent events and policy decisions, vii) financial-sector oversight and governance, and viii) macro-financial vulnerabilities and fragility. The following relative credit weaknesses have been identified for the State of Japan: i) growth potential of the economy and ii) fiscal performance and iii) debt sustainability. The combined relative credit strengths and weaknesses indicate a sovereign rating of A+ for Japan. A rating committee has discussed and confirmed these results.

Rating overview	
CVS category rating range	a
QS adjustment	A+
Final rating	A+

To calculate the rating score within the CVS, Scope uses a minimum-maximum algorithm to determine a rating score for each of the 22 indicators. Scope calculates the minimum and maximum of each rating indicator and places each sovereign within this range. Sovereigns with the strongest results for each rating indicator receive the highest rating score; sovereigns with the weakest results receive the lowest score. The score result translates to an indicative rating range that is always presented in lower case.

Within the QS assessment, analysts conduct a comprehensive review of the qualitative factors. This includes but is not limited to economic scenario analysis, review of debt sustainability, fiscal and financial performance and policy implementation assessments.

There are three assessments per category for a total of 15. For each assessment, the analyst examines the relative position of a given sovereign within its peer group. For this purpose, additional comparative analysis beyond the variables included in the CVS is conducted. These assessments are then aggregated using the same weighting system as in the CVS.

The result is the implied QS notch adjustment, which is the basis for the analysts' recommendation to the rating committee.

II. Appendix: CVS and QS results

CVS

Rating indicator	Category weight
Domestic economic risk	35%
Economic growth	
Real GDP growth	
Real GDP volatility	
GDP per capita	
Inflation rate	
Labour & population	
Unemployment rate	
Population growth	
Public finance risk	30%
Fiscal balance	
GG public balance	
GG primary balance	
GG gross financing needs	
Public debt	
GG net debt	
Interest payments	
External economic risk	15%
International position	
International investment position	
Importance of currency	
Current-account financing	
Current-account balance	
T-W effective exchange rate	
Total external debt	
Institutional and political risk	10%
Control of corruption	
Voice & accountability	
Rule of law	
Financial risk	10%
Non-performing loans	
Liquid assets	
Credit-to-GDP gap	
Indicative rating range	a
QS adjustment	A+
Final rating	**A+**

QS

Maximum adjustment = 3 notches

	+2 notch	+1 notch	0 notch	-1 notch	-2 notch
Growth potential of the economy	○ Excellent outlook, strong growth potential	○ Strong outlook, good growth potential	○ Neutral	◉ Weak outlook, growth potential under trend	○ Very weak outlook, growth potential we under trend or negative
Economic policy framework	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
Macroeconomic stability and imbalances	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
Fiscal performance	○ Exceptionally strong performance	○ Strong performance	○ Neutral	◉ Weak performance	○ Problematic performance
Debt sustainability	○ Exceptionally strong sustainability	○ Strong sustainability	○ Neutral	○ Weak sustainability	◉ Not sustainable
Market access and funding sources	◉ Excellent access	○ Very good access	○ Neutral	○ Poor access	○ Very weak access
Current-account vulnerabilities	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
External debt sustainability	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
Vulnerability to short-term shocks	○ Excellent resilience	○ Good resilience	◉ Neutral	○ Vulnerable to shock	○ Strongly vulnerable to shocks
Perceived willingness to pay	○ Excellent	○ Good	◉ Neutral	○ Poor	○ Inadequate
Recent events and policy decisions	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
Geo-political risk	○ Excellent	○ Good	◉ Neutral	○ Poor	○ Inadequate
Financial sector performance	○ Excellent	○ Good	◉ Neutral	○ Poor	○ Inadequate
Financial sector oversight and governance	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate
Macro-financial vulnerabilities and fragility	○ Excellent	◉ Good	○ Neutral	○ Poor	○ Inadequate

* Implied QS notch adjustment = (QS notch adjustment for domestic economic risk)*0.35 + (QS notch adjustment for public finance risk)*0.30 + (QS notch adjustment for external economic risk)*0.15 + (QS notch adjustment for institutional and political risk)*0.10 + (QS notch adjustment for financial stability risk)*0.10

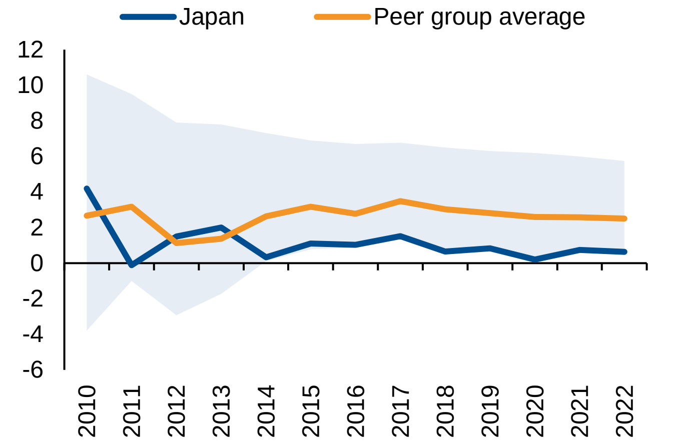
Source: Scope Ratings AG

Foreign- versus local-currency ratings

Japan's debt is predominantly issued in yen. Because of its history of openness to trade and capital flows and the yen's reserve-currency status, Scope sees no evidence that Japan would differentiate among any of its contractual debt obligations based on currency denomination.

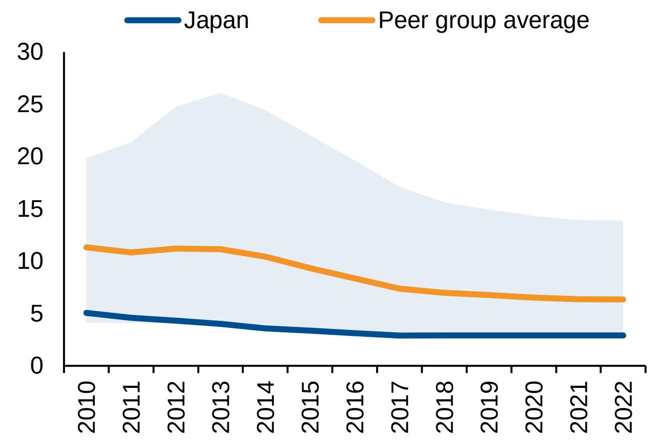
III. Appendix: Peer comparison

Figure 10: Real GDP growth



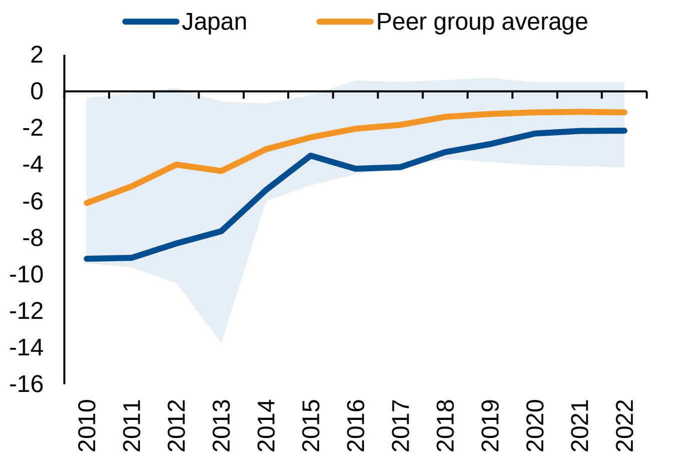
Source: IMF, Calculations Scope Ratings AG

Figure 11: Unemployment rate, % of total labour force



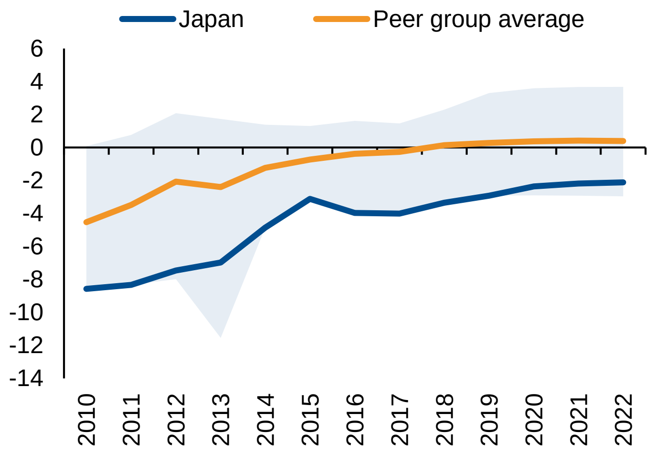
Source: IMF, Calculations Scope Ratings AG

Figure 12: General government balance, % of GDP



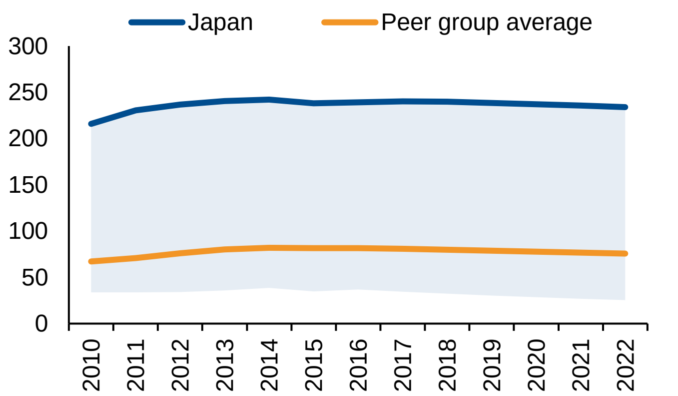
Source: IMF, Calculations Scope Ratings AG

Figure 13: General government primary balance, % of GDP



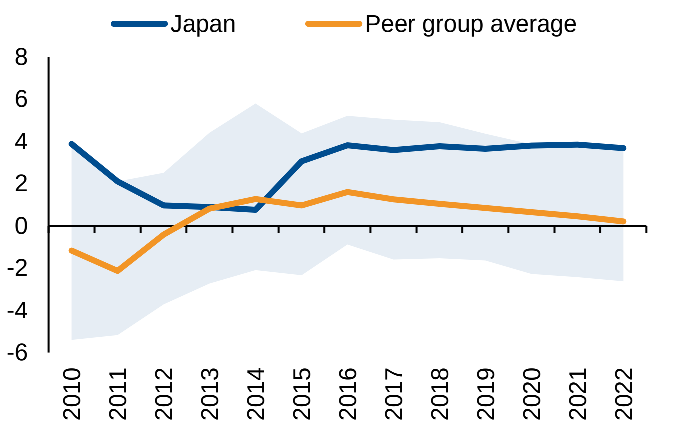
Source: IMF, Calculations Scope Ratings AG

Figure 14: General government gross debt, % of GDP



Source: IMF, Calculations Scope Ratings AG

Figure 15: Current-account balance, % of GDP



Source: IMF, Calculations Scope Ratings AG

IV. Appendix: Statistical tables

	2012	2013	2014	2015	2016	2017E	2018F
Economic performance							
Nominal GDP (JPY bn)	494.957,2	503.175,5	513.698,0	530.156,9	537.060,8	544.157,6	552.447,2
Population ('000s)	127.552,0	127.333,0	127.120,0	126.978,0	126.960,0	126.705,0	126.378,0
GDP per capita PPP (USD)	37.191,4	38.974,1	39.165,6	40.607,1	42.203,3	-	-
GDP per capita (1000 JPY)	3.880,4	3.951,7	4.041,1	4.175,2	4.230,2	4.294,7	4.371,4
Real GDP, % change	1,5	2,0	0,3	1,1	1,0	1,6	1,2
GDP growth volatility (10-year rolling SD)	2,6	2,6	2,5	2,5	2,5	2,5	2,4
CPI, % change	-0,1	0,3	2,8	0,8	-0,1	0,4	0,5
Unemployment rate (%)	4,3	4,0	3,6	3,4	3,1	2,9	2,9
Investment (% of GDP)	22,7	23,2	23,9	23,9	23,3	23,4	23,5
Gross national savings (% of GDP)	23,6	24,1	24,6	27,0	27,2	27,0	27,3
Public finances							
Net lending/borrowing (% of GDP)	-8,3	-7,6	-5,4	-3,5	-4,2	-4,1	-3,3
Primary net lending/borrowing (% of GDP)	-7,5	-7,0	-4,9	-3,1	-4,0	-4,0	-3,4
Revenue (% of GDP)	30,4	31,2	32,7	33,1	32,6	32,5	32,3
Expenditure (% of GDP)	38,7	38,9	38,0	36,7	36,8	36,7	35,7
Net Interest payments (% of GDP)	0,8	0,7	0,5	0,4	0,3	0,1	0,0
Net Interest payments (% of revenue)	2,8	2,1	1,6	1,2	0,8	0,4	-0,1
Gross debt (% of GDP)	236,6	240,5	242,1	238,1	239,3	240,3	240,0
Net debt (% of GDP)	120,5	117,4	119,0	118,4	119,8	120,9	120,7
Gross debt (% of revenue)	779,4	770,2	741,4	718,4	734,0	738,9	742,0
External vulnerability							
Gross external debt (% of GDP)	52,7	59,0	64,0	66,9	74,0	-	-
Net external debt (% of GDP)	-	-	-	-	-	-	-
Current-account balance (% of GDP)	1,0	0,9	0,8	3,1	3,8	3,6	3,8
Trade balance [FOB] (% of GDP)	-1,4	-2,3	-2,5	-0,5	0,7	0,5	-
Net direct investment (% of GDP)	1,9	2,8	2,5	3,0	2,7	3,0	-
Official forex reserves (EOP, USD bn)	1.193,1	1.202,4	1.199,7	1.179,0	1.157,8	1.202,1	-
REER, % change	-1,2	-20,5	-6,2	-6,2	13,1	-4,9	-
Nominal exchange rate (EOP, YEN/EUR)	113,6	144,7	145,2	131,1	123,4	135,0	-
Financial stability							
Non-performing loans (% of total loans)	2,4	2,1	1,7	1,5	1,4	-	-
Tier 1 Ratio (%)	11,3	11,7	12,1	12,5	13,4	-	-
Private debt (% of GDP)	207,3	204,6	205,5	201,8	201,2	-	-
Domestic credit-to-GDP gap (%)	2,2	2,6	3,2	1,8	5,8	-	-

Sources: IMF, Bank of Japan, Japanese Ministry of Finance, World Bank, United Nations, EC, Scope Ratings AG

V. Regulatory disclosures

This credit rating and/or rating outlook is issued by Scope Ratings GmbH.

Rating prepared by John F. Opie, Lead Analyst, Associate Director

Person responsible for approval of the rating Dr Giacomo Barisone, Head of Public Finance

The ratings/outlook were first assigned by Scope as subscription rating in January 2003. The subscription ratings/outlooks were last updated on 29.09.2017.

The senior unsecured debt ratings as well as the short-term issuer ratings were last updated by Scope on 29.09.2017.

The main points discussed during the rating committee were: i) Japan's demographic trends impact on economic growth potential, ii) fiscal performance and debt sustainability, iii) external position and the yen reserve currency status, iv) Prime Minister Abe's structural reforms plan, v) the banking and financial sector performance, vi) recent political and geopolitical developments, vii) natural disaster risks.

Solicitation, key sources and quality of information

The rating was initiated by Scope and was not requested by the rated entity or its agents. The rated entity and/or its agents did not participate in the ratings process. Scope had no access to accounts, management and/or other relevant internal documents for the rated entity or related third party.

The following material sources of information were used to prepare the credit rating: The Ministry of Finance of the State of Japan; Bank of Japan; the Japanese Research Institute; Mizuho Research Institute; Cabinet Office; Financial Services Agency: Ministry of Economy, Trade and Industry; Ministry of Internal Affairs and Communications (Statistics Japan); National Institute for Defense Studies; Nomura Global Markets Research; IMF; OECD; and Haver Analytics.

Scope considers the quality of information available to Scope on the rated entity or instrument to be satisfactory. The information and data supporting Scope's ratings originate from sources Scope considers to be reliable and accurate. Scope does not, however, independently verify the reliability and accuracy of the information and data.

Prior to publication, the rated entity was given the opportunity to review the rating and/or outlook and the principal grounds upon which the credit rating and/or outlook is based. Following that review, the rating was not amended before being issued.

Conditions of use / exclusion of liability

Scope Ratings GmbH, Lennéstrasse 5, 10785 Berlin, District Court for Berlin (Charlottenburg) HRB 192993 B, Managing Director(s): Dr. Stefan Bund, Torsten Hinrichs.