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CLIENT SERVICES

Cross-Sector – Japan

Aging population poses near-term and long-term credit challenges

Summary

The proportion of Japan's population aged 65 and older is set to climb to 30% by 2030 from 17% in 2000, making it the oldest country in the world. At the same time, its population is forecast to fall to 121 million in 2025 from 127 million in 2015 amid birth rates well below those required to maintain the population at steady levels. These demographic trends imply a shrinking work force, despite government policies to encourage female and elderly participation in the labor force, and in turn limited prospects for real GDP growth, declining household savings rates, a narrowing tax base and rising welfare spending.

» **Limited growth prospects challenge debt consolidation for the sovereign.** While the government's debt burden has stabilized after a decade of increases, the prospect of a significant reduction remains remote. We expect debt affordability to improve in the next few years on account of declining debt-servicing outlays, underpinned in turn by ongoing monetary stimulus and large domestic savings. Over time, however, the challenge of maintaining debt affordability will intensify if aging continues to lower household savings rates.

» **Private capital could support infrastructure funding needs of regional and local governments.** Among many large cities in Japan, rising spending on social welfare between 1995 and 2005 has come at the expense of capital spending, underinvestment in public infrastructure and spending backlogs. Private capital could play a key role in reinvigorating infrastructure spending for regional and local governments.

» **Financial institutions and life insurers seek overseas expansion, productivity gains to mitigate falling demand.** Falling loan demand and a shift towards lower-risk deposits are pressuring the profitability and growth prospects of banks. The three megabanks have announced structural overhauls that will result in a reduction of their headcount by 32,000. And faced with ultralow interest rates, both banks and insurers continue to seek opportunities for growth abroad.

» **Structured finance deals are largely insulated.**The typically short tenor of auto asset backed securities (ABS) and age caps in installment loan ABS mean the impact on these deals from Japan's aging population is minimal. While the tenor of loans in residential mortgage backed securities (RMBS) is longer, the average age of the underlying borrowers has remained stable for RMBS we rate, while mortality risks are typically mitigated by the life insurance taken out for these deals.

Japan's population is aging and on the decline

The United Nations expects the proportion of the Japanese population aged 65 and older to climb to 30% by 2030 from 17% in 2000, making it the oldest country in the world. At the same time, Japan's population is forecast to fall to 121 million in 2025 from 127 million in 2015, as the country's birth rate of 1.44 births per female in 2016 was below the 1.8 target set by the Japanese government and well below the 2.07 rate needed to maintain the current level of population (Exhibit 1).

Exhibit 1

Japan's aging population is impacting government and household finances

Key Index				
17%	2016	Population aged 65 and older	2030	30%
127 million	2015	Population	2025	121 million
1.44	2016	Births per female		2.07 → Needed
>10%	Prior to 2000	Household net savings ratio	2015	0.7%
around 160%	2008	General government debt-to-GDP ratio	2016	214%

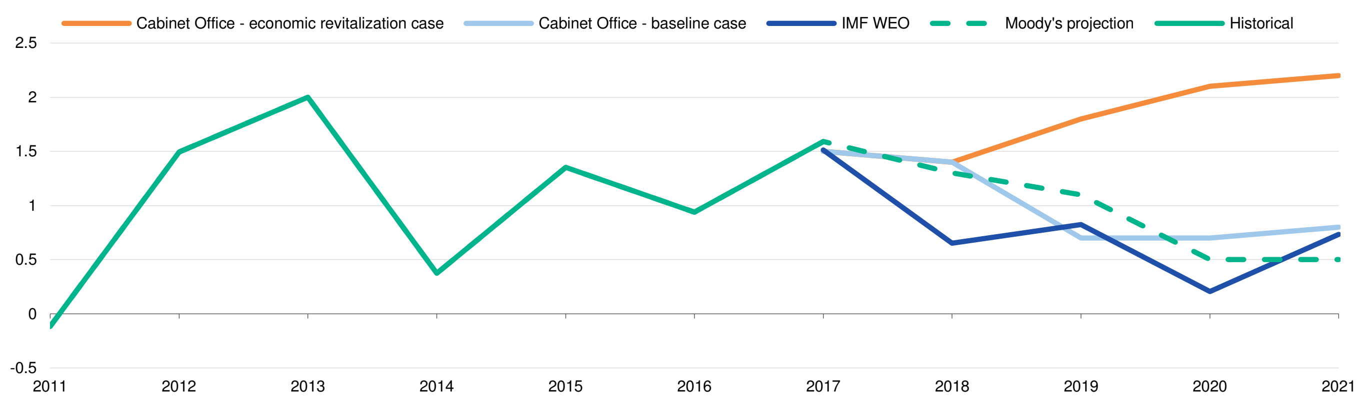
Source: Moody's Investors Service

The aging of and decline in Japan's population are exerting potential credit impacts on a wide range of areas, from the cost of sovereign debt to the performance of securitization transactions.

Although the government has implemented a host of countermeasures, including those aimed at raising female and elderly participation in the labor force, the effects of such demographic trends on GDP growth are likely to become more pronounced over the next few years, and particularly after the benefits of one-off events – such as preparations for the 2020 Olympics in Tokyo – begin to fade (Exhibit 2).

Exhibit 2

The boost from fiscal and monetary stimulus will likely dissipate in the near term
(real GDP, year-over-year change)

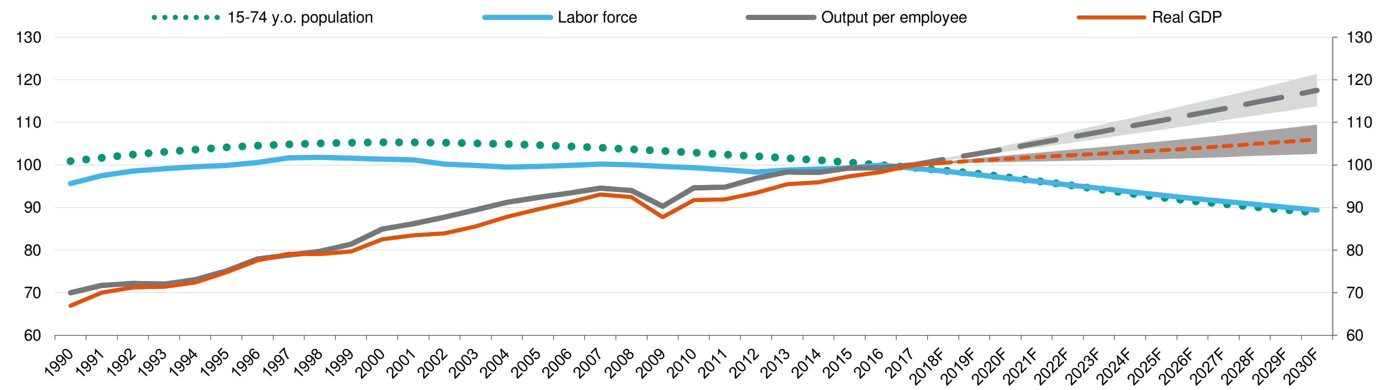


Source: Cabinet Office, IMF, Moody's Investors Service

Specifically, we expect GDP growth to decelerate from 2019 and converge towards the economy's potential growth rate at under 1%. In the long term, greater labor utilization and higher productivity may emerge as the only sources of growth for the economy (Exhibit 3).

Exhibit 3

Productivity growth will drive overall GDP growth as the labor force shrinks
(index, 2016=100)



Sources: United Nations, Ministry of Internal Affairs and Communications, Conference Board and Moody's Investors Service

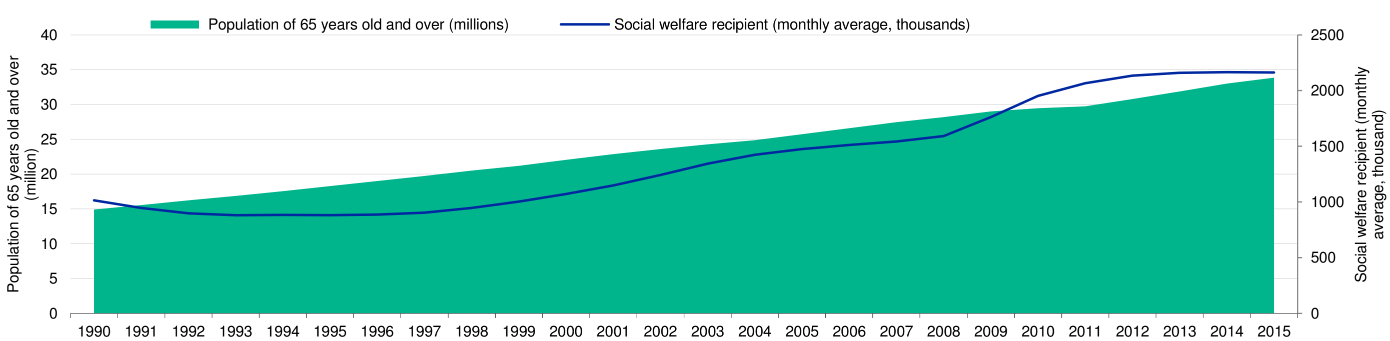
For the sovereign, very high debt affordability – as exemplified by the market for Japanese government bonds (JGBs) and in part the result of the home bias of Japanese savers -- has long helped the government sustain its very high debt burden, the largest among sovereigns rated by Moody's.

However, an older and smaller population also means declining household savings rates. Japan's household net saving ratio exceeded 10% prior to 2000, but had fallen to 0.7% in 2015, reflecting the fact that as its population ages, retirees will increasingly need to draw down from their assets. Unless offset by rising corporate profitability and savings, as in recent years, a further decline in households savings rates may erode the stock of funds available for the government to finance its borrowing needs at low cost and, as a result, its ability to maintain strong debt affordability.

Furthermore, a shrinking tax base – as the number of retired people rises – and the need to fund an ever-climbing welfare bill will add further pressure on government finances (Exhibit 4). Rising tax rates, such as the hike in the consumption tax rate in April 2014 and another scheduled increase in October 2019, are being implemented in an effort to mitigate this downward trend. At the same time, at the regional and local government level, the effects of a shrinking tax base could trigger more innovative forms of financing for infrastructure projects, for example, involving both the public and private sectors.

Exhibit 4

Welfare costs have risen in tandem with Japan's aging population



Note: Welfare costs per recipient vary depending on domicile category, and are higher in metropolitan areas where the costs of living are higher. The same welfare costs apply to all recipients in the same category.
Source: Ministry of Health, Labor and Welfare and Ministry of Internal Affairs and Communication of Japan

With the private sector, Japan's low growth prospects and the overall maturity of its domestic markets mean that more companies – including financial institutions, such as banks and insurers, as well as industrial and other corporates – will look overseas for growth opportunities.

For instance, population declines, especially among working-age individuals, will naturally reduce demand for mortality protection products over time, and in turn hurt the profitability of insurers. Meanwhile, manufacturers and other corporates face declining demand in the domestic market for their products and services.

Limited growth prospects challenges debt consolidation for the sovereign

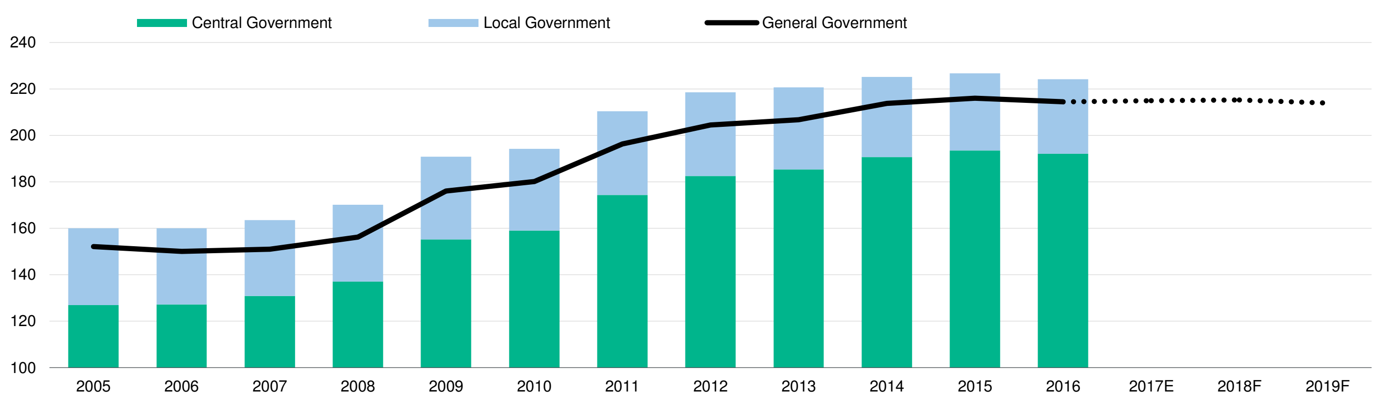
Japan holds the world's largest sovereign debt burden, at around 215% of GDP, and the foremost long-term credit challenge it faces is maintaining debt sustainability in the context of its aging population and very low potential growth.

Although the government has undertaken a number of fiscal reforms to arrest the upward debt trend and is committed to further fiscal consolidation, the prospect of significant debt reduction remains remote.

In the near term, we expect the sovereign's debt burden to remain largely stable and for debt affordability to further improve, helped by somewhat higher GDP growth at present that supports our assessment of the economy's competitiveness and effectiveness of government policies (Exhibit 5).

Exhibit 5

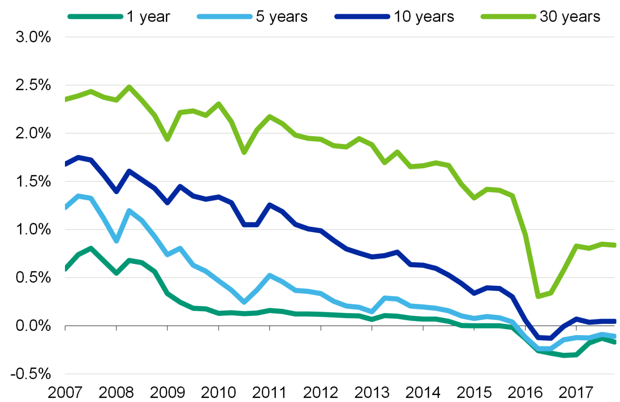
Japan's debt burden likely to stabilize after 2018, supported by lower interest expense, resumption of fiscal consolidation
(debt by level of government, GFS basis, % of GDP)



Projections exclude valuation adjustments
Sources: Cabinet Office, Moody's Investors Service

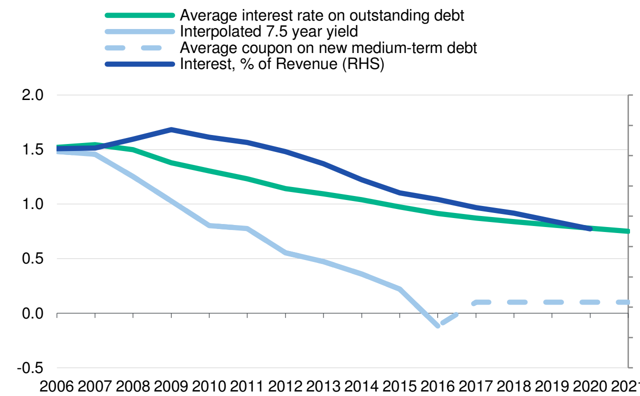
In the longer term, Japan's extraordinarily high debt burden will maintain refinancing needs at very high levels, making the sovereign's credit profile highly dependent on the continued availability of large domestic savings at a time when demographic decline and very low potential growth could undermine such flows (Exhibits 6 and 7).

Exhibit 6
Saving glut and monetary stimulus have driven yields lower...
(JGB yield, %)



Source: Tullett Prebon Information/Haver Analytics

Exhibit 7
...boosting affordability for the foreseeable future
(%)



The 7.5-year yield represents an interpolation of 5- and 10-year yields and approximately corresponds to the average yield on outstanding government debt.
Average implied interest rate is calculated by dividing general government interest expense by average outstanding general government debt on GFS basis
Sources: Tullett Prebon Information/Haver Analytics, Cabinet Office, Moody's Investors Service

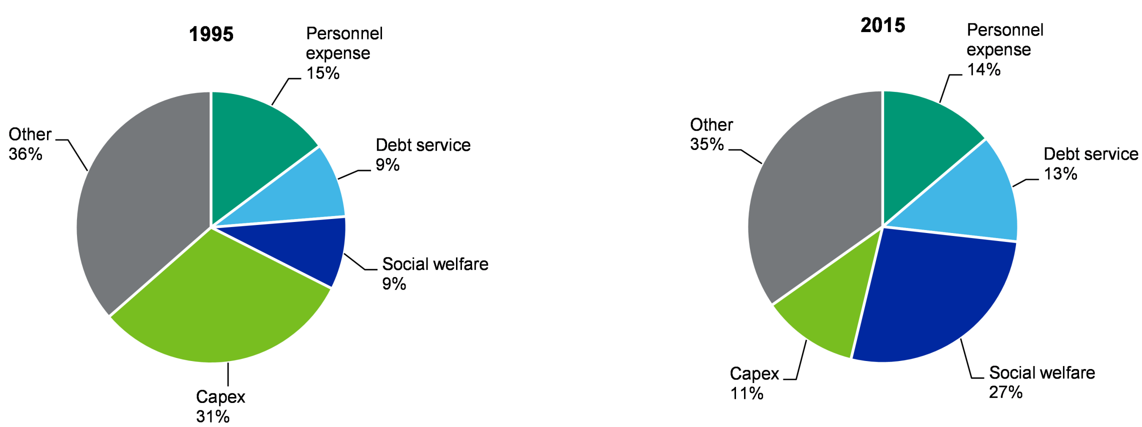
A worsening in funding conditions, if sustained, could reverse the gains in debt affordability achieved by the government since 2009.

Private capital could support the infrastructure funding needs of regional and local governments

Regional and local governments in Japan will likely see tax revenues decline and social welfare expenditure rise as a result of demographic changes. Among Japanese designated cities – namely those with populations of at least 500,000, which have been granted administrative powers and functions equivalent to regional governments – rising spending on social welfare between 1995 and 2015 has come at the expense of capital spending, which halved over the same period (Exhibit 8).

This development in turn has led to underinvestment in public infrastructure and created spending backlogs, particularly in areas such as water, sewage, housing, roads and public facilities.

Exhibit 8
Rising welfare spending has come at the expense of capital spending for regional and local governments



Note: Welfare costs per recipient vary depending on domicile category, and are higher in metropolitan areas where the costs of living are higher. The same welfare costs apply to all recipients in the same category.
Source: Ministry of Health, Labor and Welfare and Ministry of Internal Affairs and Communication of Japan

Given the cuts to capital spending already undertaken and the backlog of projects that has resulted, we do not anticipate further cuts to capital spending to help manage increases in social welfare spending.

In this situation, private capital could play a key role in reinvigorating infrastructure spending for regional and local governments. Japan's central government has encouraged local governments to open public infrastructure projects to the private sector to overcome capital spending backlogs.

If successful, PPPs/PFI could boost the financial positions of local governments.

Financial institutions: Banks and insurers seek growth overseas and productivity gains to boost profitability

With potential GDP growth limited by demographics and assets in Japan concentrated with the older generations, the financial industry is struggling with growth. For the banking sector, loans grow generally in line with nominal GDP growth. And with older generations having a strong preference for low-risk and risk-free assets, loan to deposit ratios have been declining, pressuring profits.

Various regulatory changes and the low interest rate environment have tried to spur greater investment in securities, which would benefit the securities industry, but to date have yielded limits results. It is unclear if there will be any significant change in household asset allocation.

Japan's ultralow interest rates and aging and shrinking populations have prompted its financial institutions to seek growth abroad and to support profitability through productivity gains.

Japan's three megabanks – Mitsubishi UFJ Financial Group, Inc. (A1 stable), Sumitomo Mitsui Financial Group, Inc. (A1 stable) and Mizuho Financial Group, Inc. (A1 stable) are currently undertaking structural overhauls that will reduce their overall employee count by 32,000. The banks are also fast developing new apps in the hope of attracting a shrinking customer base.

In addition to low interest rates, adverse demographic trends pose a major challenge for the insurance industry.

For life insurers, declines in population, especially among working-age individuals, will naturally reduce demand for mortality protection products over time, and in turn hurt profitability. Similarly, property & casualty (P&C) insurers face falling insurance demand.

To offset this negative impact, as well as to secure earnings sources outside the shrinking domestic market and sustainably fund policyholder dividends over the long term, insurers will continue to seek overseas expansion. Geographic diversification also allows them to gain valuable experience with more diverse product types and different mortality and interest rate trends.

Structured finance: Mitigating factors minimize risks of aging population

Aging populations – in Japan and elsewhere -- have the potential to drive up the age of the underlying borrowers in structured finance transactions, in the absence of lender underwriting practices and transaction eligibility criteria.

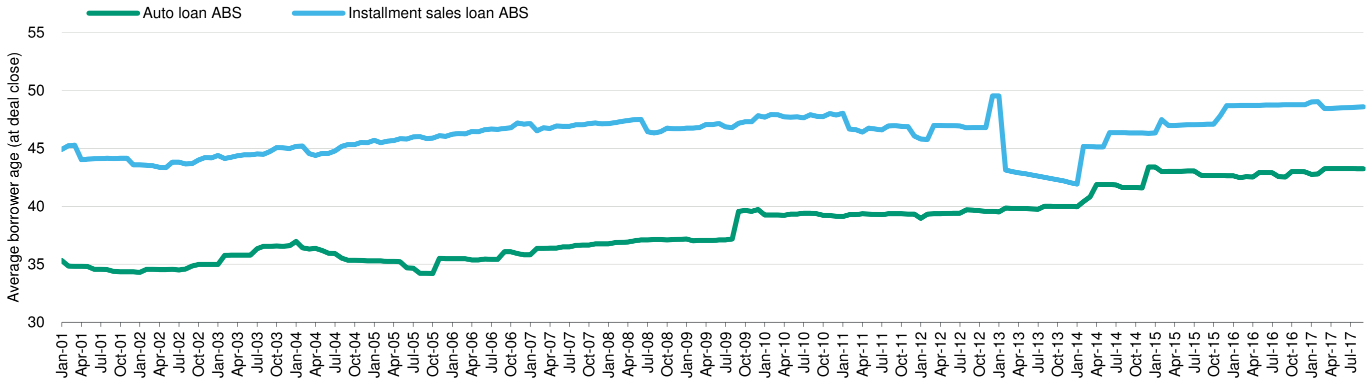
Specifically, older borrowers carry higher mortality-related risk – the risk that people die before paying off their loans -- with the lender incurring a loss on the loan.

Moreover, older borrowers are generally less resilient to income shocks, with incomes – in the case of Japan -- peaking between the ages of 50 and 59. In addition – as indicated – aging populations can weigh on economic growth and household savings rates.

However, most structured finance deals already carry characteristics to help manage these risks and, to date, we have not seen an impact on the performance of Japanese structured finance transactions that we rate, even as the average age of underlying borrowers has increased (Exhibits 9 and 10).

Exhibit 9

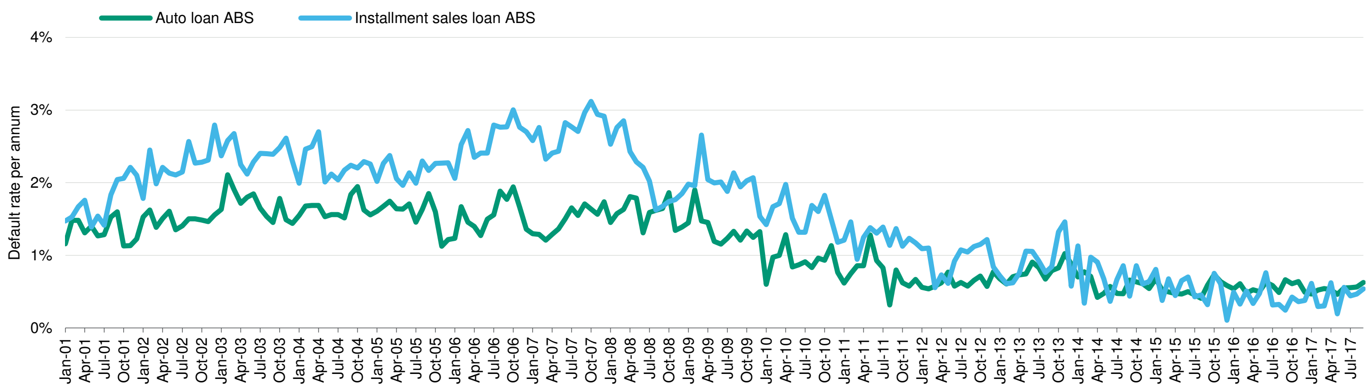
Age of borrowers in Japanese ABS deals at closing is increasing



Note: Exhibit shows figures for our performance update data series. Installment sales loan ABS does not include those deals backed by mobile phone handset installment sales receivables.
Sources: Servicing reports, arrangers, Moody's Investors Service

Exhibit 10

Auto and installment sales loan ABS have low default rates



Note: Exhibit shows figures for our performance update data series. Installment sales loan ABS does not include those deals backed by mobile phone handset installment sales receivables.
Sources: Servicing reports, Moody's Investors Service

For auto loan asset-backed securities (ABS), the average age at closing of the underlying borrowers has increased in line with the aging population. The average age of underlying borrowers was 43 for deals outstanding in 2017, compared with 34 for deals outstanding in 2001. However, the typical short five-year tenor of auto loans in Japan means that – even with the higher average age – people on average will pay off their loans by their late 40s.

For installment sales loan ABS, the average age was 49 for deals outstanding in 2017, compared with 44 for deals outstanding in 2002. However, age caps imposed by originators at loan origination or loan maturity, ranging from 65 to 75, limit the exposure to older borrowers.

In the case of Japanese RMBS, the average age of underlying borrowers has not increased for the bank-sponsored deals that we rate, although the average age has increased slightly over the past decade for agency-sponsored RMBS. And although the longer tenors of loans backing RMBS imply higher levels of mortality-related risk than for ABS, this risk is mitigated by the group life insurance policies that borrowers are typically required to take out when applying for a mortgage. When borrowers die, insurers pay off the outstanding mortgage loan.

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» Sovereigns – Asia Pacific: Investment in human capital can offset demographic drag on growth 13 August 2017

- Government of Japan – A1 stable: Annual credit analysis 17 October 2017
- Structured Finance and Sovereign – Japan, Korea and Australia: Mitigating factors will minimize risks posed by aging populations 31 January 2018
- Regional and Local Governments – Japan: Demographic changes constrain spending as tax revenues fall, welfare costs rise 26 October 2017
- Life Insurance – Japan: 2018 outlook stable as life insurers demonstrate ability to cope with low rates 11 December 2017

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