

# Population aging and public finances in Japan

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## **Abstract**

Population aging has generally been thought to impair the sustainability of both fiscal budget balances and government debt via a deterioration in social security finances and a decline in household savings. However, in some respects Japan's aging population actually increases Japan's fiscal sustainability. Population aging in Japan has in fact been increasing private-sector net savings and thereby boosting Japan's fiscal sustainability. Population aging not only helps to (1) maintain household net savings via a structural decline in housing demand but also helps to (2) boost the private corporate sector's net savings via a decline in the expected economic growth rate. Furthermore, expectations that prices will fall for land and other real estate as society ages tend to lead to a shift in the structure of household financial assets in particular in a direction that supports supply-demand for government debt, namely toward deposits, insurance policies, and pensions. But we still see a risk of supply-demand for government debt being severely impaired in the near term if, owing to some kind of shock, the Japanese private sector's asset structure were to shift substantially away from deposits, insurance policies, and pensions and into other assets. The government, therefore, must continue with its efforts to strengthen sustainability and in particular to stabilize social security finances as the Japanese population ages. We see a risk of a further rise in healthcare and long-term care costs from 2025, by which time all of the baby boomer generation will have entered the 75 years and older age group.

## **Introduction**

The problem of deterioration in Japan's fiscal situation as its population ages has been pointed out on many occasions. The increase in social security costs accompanying the aging of society and the related deterioration in social security finances are seen as being particularly serious problems.

Meanwhile, JGB yields generally remain low and stable, partly owing to a series of bold monetary easing policies by the BOJ. Credit indicators, of which JGB yields are a key example, do not show any signs that back up concerns about the fiscal situation in Japan. Based on these points, there is a strongly held but optimistic view that saying there is a possibility of fiscal instability and fiscal crisis in Japan because of the aging of society is simply crying wolf.

In this report, we reassess the impact of population aging on Japan's fiscal situation from a variety of different angles in order to consider whether fiscal instability or a fiscal crisis could materialize as a result of population aging and what the triggers and route for this might be.

## **1. Population aging and the fiscal budget balance**

### **Historical fiscal budget balance, impact on government debt**

First, we look back at the impact population aging has had on Japan's fiscal situation up to now.

Figures 1 and 2 show the cumulative contribution of the main general expenditure items and each general revenue item to cumulative growth in government debt (the cumulative increase in outstanding JGBs) since FY90, when issuance of deficit-funding JGBs was reduced to zero.

Looking at expenditure items, we can see that at the beginning of the 1990s, with the financial system unstable after the end of the asset bubble, public works spending made a comparatively large contribution to the rise in government debt owing to the economic stimulus measures implemented to support the economy. However, as a result of moves to reduce public works spending in the fiscal restructuring carried out under the Koizumi administration in 2001-06, the impact of public works spending on growth in government debt currently is currently broadly neutral.

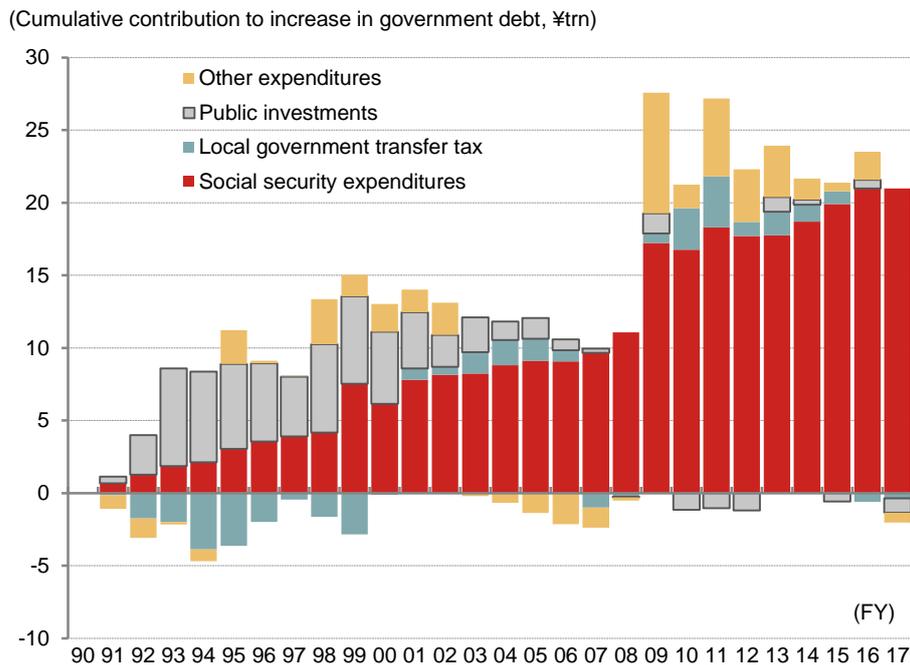
During the period since FY90, social security spending has steadily contributed to the accumulation of government debt. At present, most of the cumulative growth in government debt can be explained by growth in social security expenditure. This point can be seen as the current Japanese government increasing debt solely because of the aging of the population.

We now look at factors behind growth in government debt from the revenue side. Until around FY10, which was affected by the economic downturn after the global financial crisis that started in 2008, cumulative growth in government debt continued as tax revenues fell. From FY13, however, tax revenues recovered to a considerable degree as the economy recovered under the second Abe government and tax revenues returned to being a broadly neutral factor for changes in government debt even on a cumulative basis.

Based on the above points, although the situation could change in response to economic trends or changes in the government's fiscal stance, we think that for the time being the pace of growth in social security spending will be just about the only factor determining the rate of increase in Japanese government debt. It could thus be said that the fate of Japan's fiscal situation is starting to depend solely on costs associated with the aging of Japan's population.

**Fig. 1: Contribution of major general expenditure items to cumulative growth in government debt since FY90**

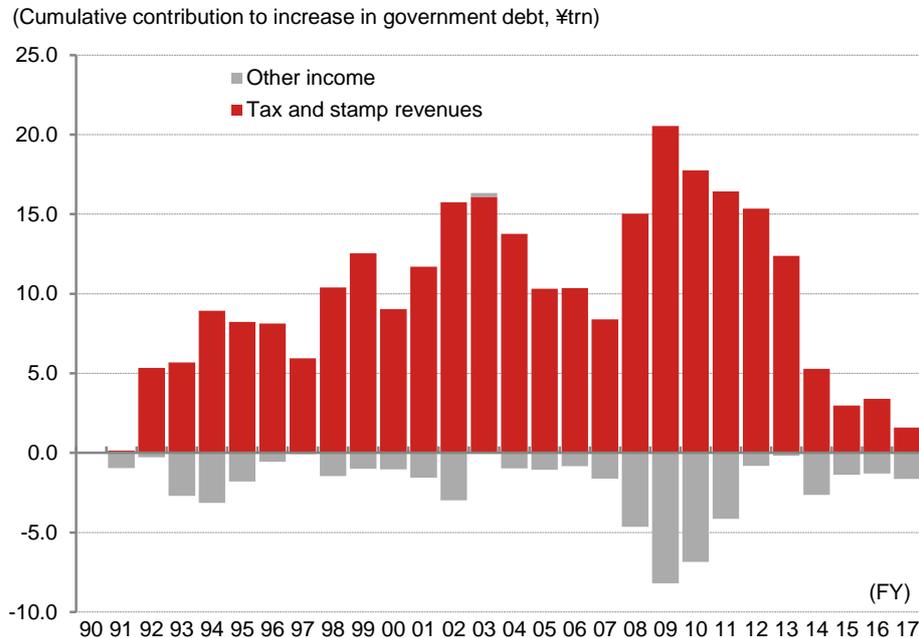
Recent growth in government debt almost entirely attributable to growth in social security spending



Source: Nomura, based on MOF data

**Fig. 2: Contribution of general revenue items to cumulative growth in government debt since FY90**

Changes in tax revenues have become broadly neutral for government debt owing to increase in tax revenues in second Abe administration



Source: Nomura, based on MOF data

## Outlook for social security costs

From the viewpoint of population aging, what is the outlook for the key factor for Japan's government finances, namely social security costs?

We think the government's basic stance is that pension financing looks sustainable to an extent owing to the outline of integrated social security and tax reforms approved by the Cabinet on 17 February 2012. Of course, this assumes hiking as planned of the consumption tax, which will be important for maintaining the balance between insurance premiums and the burden on the state. Nevertheless, we think it is highly significant that the balance between pension payouts and macro conditions such as wages and prices has been corrected owing to the introduction of a macroeconomic sliding scale.

Meanwhile, we see healthcare costs as representing a major challenge in future. We regard Japan as notable for the abrupt rise in per capita healthcare expenditure for the 75 years and older age group. All of the baby boomer generation will have entered the 75 years and older age group by 2025 and we thus expect that, within overall social security costs, healthcare expenditure will expand substantially. We think that the same will be true for long-term care expenditure too.

**Fig. 3: Healthcare and long-term care costs by age group**

Abrupt rise in costs for people aged 75 and over

	Healthcare (CY2014)		Long-term care (CY2014)		Estimated population as of CY2025 ('000)	Vs CY2014 ('000)
	Per capita healthcare expenditure	Per capita state burden	Per capita long-term care costs	Per capita state burden		
Aged 65-74	¥554,000	¥78,000	¥55,000	¥15,000	14,790	-2,300
Aged 75 and over	¥907,000	¥356,000	¥532,000	¥145,000	21,790	+5,900

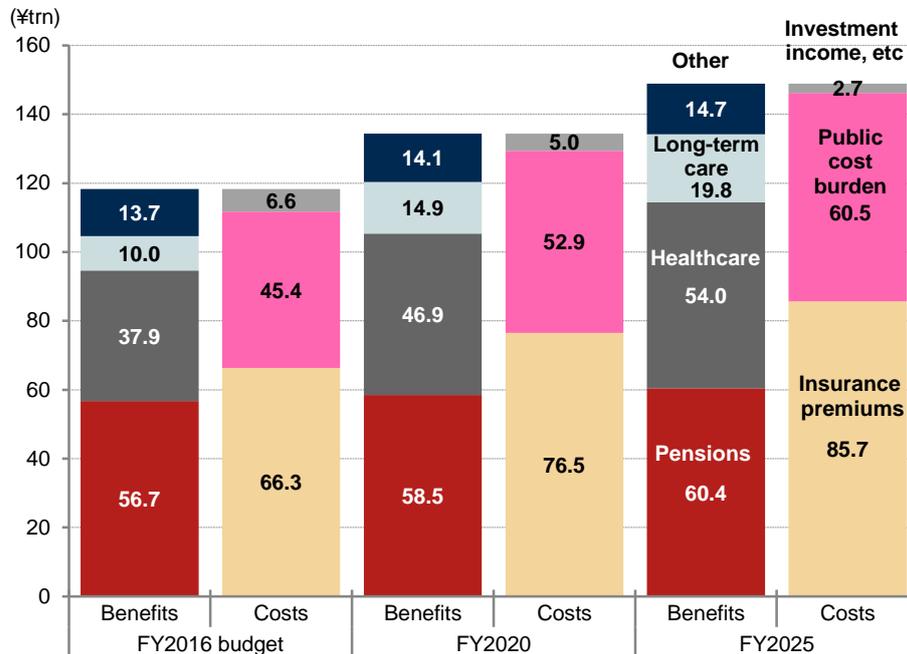
Source: Nomura, based on Ministry of Health, Labor, and Welfare (MHLW) and Ministry of Internal Affairs and Communications (MIC) data

The government's projections (revised in March 2012) for overall social security expenditure in 2025 are for approximate growth compared with FY16 of ¥30trn in benefit costs and ¥15trn in the public burden excluding insurance premium income (Figure 4).

Expansion in social security expenditure is now more or less the only factor that threatens to cause Japan's fiscal balance to deteriorate and its national debt to expand. In order to ensure the sustainability of the government's fiscal budgets and debt, we therefore think it is now extremely important to take steps to restrict healthcare and long-term care costs in particular among overall social security expenditure, in preparation for the baby boomer generation reaching the 75 and older age group.

**Fig. 4: Medium-term outlook for social security benefits and costs**

Further increase in social security cost burden as baby boomer generation reaches 75 and older age group through FY25



Note: (1) FY16 is initial budget basis. (2) FY20 and FY25 based on government projections revised in March 2012.

Source: Nomura, based on MHLW data

## Government policy on restricting social security expenditure

The government's Basic Policies on Economic and Fiscal Management and Reform have in recent years set out the following policies aimed at restricting overall social security expenditure and in particular spending on healthcare and long-term care.

The first policy is reform of the healthcare and long-term care provision systems.

The Japanese healthcare system is notable for its universal coverage of the population by healthcare insurance, in principle, while patients can freely choose and access the hospitals and physicians they want to use. Meanwhile, medical institutions provide treatment for patients who come to them and their income increases in proportion to the medical services they provide.

The government recognizes that this structure is liable to push up healthcare expenditure and therefore proposes reforming the healthcare and long-term care systems via such measures as (1) introducing mild access restrictions, such as a fixed charge for outpatient treatment in hospitals, (2) strengthening regional government authorities' powers to make local healthcare more efficient, for example by reorganizing hospital beds, and (3) encouraging a correction of the regional divergence in healthcare

costs.

The second policy is to make healthcare cost burdens fair and based on the ability to pay, including for people in the 75 and older age group, and seeking to make benefits reasonable relative to cost.

The third policy is reform of systems including the revision of reimbursement fees and drug prices. Regarding the revision of drug prices, the basic policy for radical reform of the drug pricing system issued on 20 December 2016 calls for drug price surveys of major companies to be conducted annually instead of biennially. The government also intends to drive up the competitiveness of pharmaceutical companies for example by strengthening incentives to create innovative new drugs and to restrict overall costs related to pharmaceuticals.

The government's Basic Policies on Economic and Fiscal Management and Reform 2017 approved by the Cabinet on 9 June 2017 particularly emphasize the need for measures to restrict pharmaceutical costs, which are said to reach around ¥10trn annually.

## **2. Sustainability of Japan's fiscal situation and population aging (1): from the point of view of flow**

Thus far we have analyzed the likely impact of the aging of Japan's population on fiscal sustainability and looked at the necessary conditions for strengthening fiscal sustainability and the steps that have currently been taken in this regard.

We next consider the likely impact that population aging will have on the sustainability of Japan's fiscal situation via changes in flows of funds. We first examine how population aging affects the sustainability of government debt from the viewpoint of government debt supply-demand on a flow basis.

### **Mainstream view thus far**

First, we look at the mainstream view thus far of population aging and the sustainability of government debt.

Population aging has been seen not only as reducing fiscal budget sustainability via a rise in social security costs but also as eroding government debt sustainability by reducing the capacity to absorb government debt via a decline in household sector savings.

At the same time, population aging has been recognized as a factor that causes supply to fall and demand to increase from the viewpoint of the supply-demand balance for goods and services and also for labor and therefore has been seen as a factor that increases inflationary pressure. If population aging does indeed have an inflationary

impact on the overall economy, then it could actually be a factor that increases the sustainability of government debt.

### **Conventional thinking on population aging is being overturned**

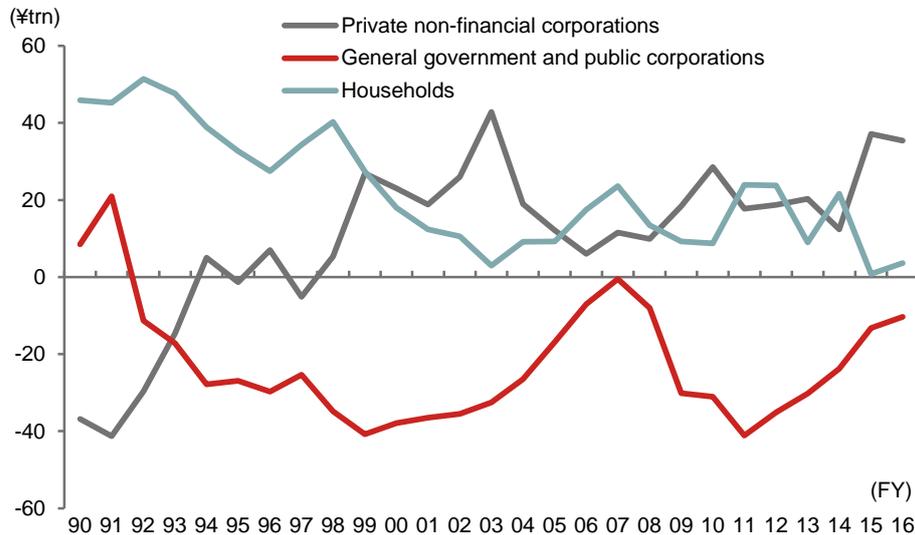
We think that the above conventional thinking on how population aging affects fiscal and government debt sustainability is now in the process of being overturned.

In Japan in particular household sector savings have only declined very slowly as the population's average age has climbed. We think that deflationary economic conditions, and in particular the deflation mindset that remains deep-rooted among Japanese people, may have contributed to the maintenance of household savings amid population aging.

Furthermore, it is recognized that corporations' net savings tend to expand as a consequence of deflationary economic conditions persisting while the population ages. Population aging has driven down the corporate sector's expectations for longer-term growth in demand and corporations have maintained a tendency to restrict investment, while their net cash flow has remained positive. This net expansion in corporate savings is also a factor that increases the sustainability of government debt, which has continued to expand as the population has aged.

**Fig. 5: Financial surplus or deficit (investment-savings balance) by sector**

Maintenance of substantial net savings by private sector as population ages



Note: Shows calendar year data for FY16.

Source: Nomura, based on BOJ data

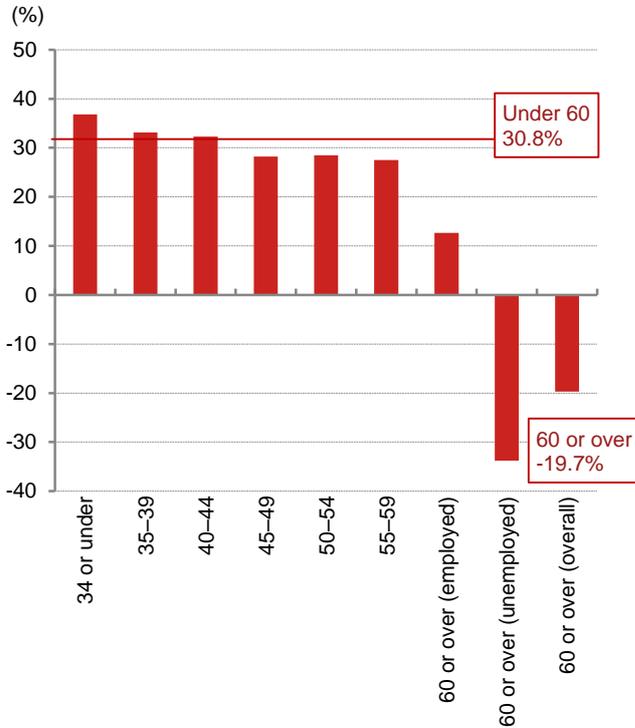
### Population aging and investment-savings balance by sector

We identify the following factors behind the incipient overturning of the conventional thinking on population aging and fiscal sustainability as described above.

Looking first at the impact of population aging on the household sector savings rate, we think that population aging is a negative factor for household savings, in line with the existing mainstream view. After updating the analysis in our 24 August 2016 Global Research report [Sustainability of national debt financing within Japan](#) we now estimate that the average savings rate based on the *Family Income and Expenditure Survey* (FIES) falls 0.4% when the percentage of the population aged 60 or over increases by 1ppt.

**Fig. 6: Savings rates of different age groups**

Savings rate tends to fall sharply after retirement



Note: Savings rates are those of the householders in each age group in MIC's FIES.  
Source: Nomura, based on MIC data

**Fig. 7: Impact of population aging on savings rate**

(%)

Relationship between savings rate and age

	Working households (including those aged 60 or over who are not working)		
		Under 60	60 or over
Percentage	100	61.5	38.5
Disposable income weighting	100	70.2	29.8
Savings rate	15.7	30.8	-19.7

Assuming 1ppt increase in percentage of population aged 60 or over

	Working households (including those aged 60 or over who are not working)		
		Under 60	60 or over
Percentage	100	60.5	39.5
Disposable income weighting	100	69.3	30.7
Savings rate	15.3	30.8	-19.7

Change in savings rate assuming that percentage of people aged 60 or over increases by 1ppt

Impact on savings rate: **-0.4%** (= 15.3% - 15.7%)

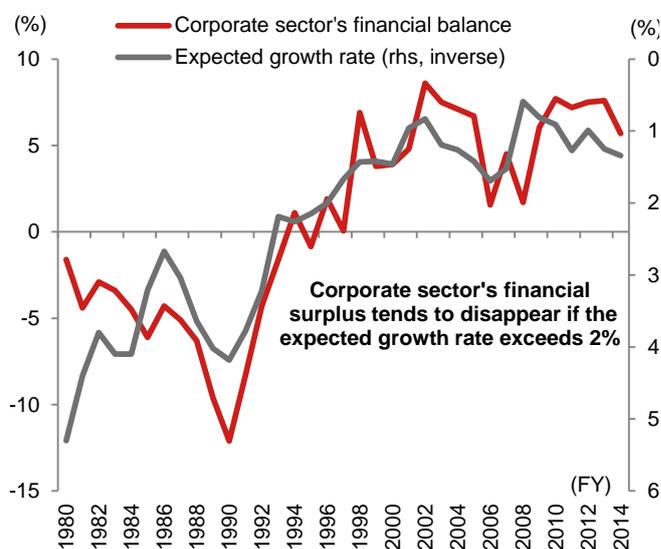
Note: Savings rates for each age group are as in Figure 6.  
Source: Nomura, based on MIC data

Meanwhile, the decline in the number of households accompanying population aging is a negative factor for housing demand and housing investment. We expect that the negative impact on housing investment caused by a decline in the number of households

will outweigh the negative impact on savings caused by population aging, with the result that household sector net savings will remain positive.

Turning to the corporate sector, we think that a reduction in investment stemming from a decline in expected growth has become a major factor behind growth in net savings. In the previous report mentioned above, we drew the conclusion that the expected growth rate would have to exceed 2% for the corporate sector's net savings (fund surplus) to be eliminated.

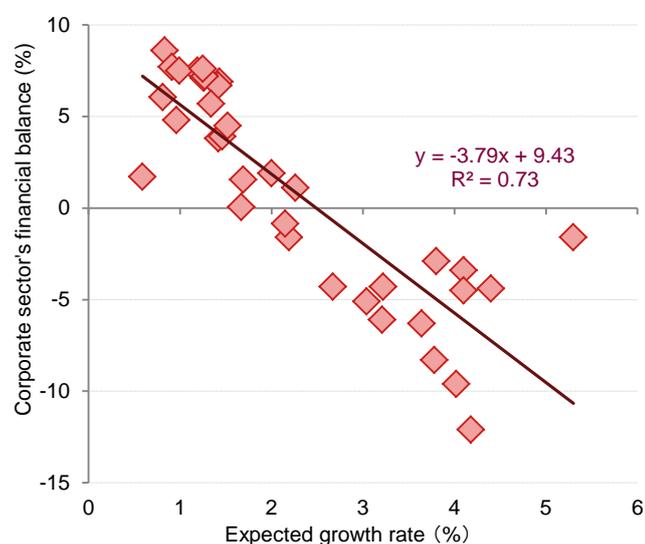
**Fig. 8: Relationship between expected growth rate and corporate sector's savings-investment balance**



Note: The financial balance is given in terms of nominal GDP. The corporate sector here includes both nonfinancial corporations and financial institutions.  
Source: Nomura, based on Cabinet Office statistics

**Fig. 9: Regression of corporate sector's savings-investment balance using expected growth rate**

Sample period: FY80–14



Note: The financial balance is given in terms of nominal GDP. The corporate sector here includes both nonfinancial corporations and financial institutions.  
Source: Nomura, based on Cabinet Office statistics

In our medium-term economic forecasts issued in November 2016 (see our 28 November 2016 Global Research report [Japan medium-term macroeconomic outlook 2017](#)), we estimated the general government primary balance under our main scenario, an upside scenario, and a downside scenario. Our estimates suggest that under all three scenarios it will be difficult to attain the current target for fiscal reconstruction, namely a balancing of the general government primary balance by FY20. We also concluded that balancing of the general government primary balance by the end of our forecast period, FY25, was only likely under the upside scenario.

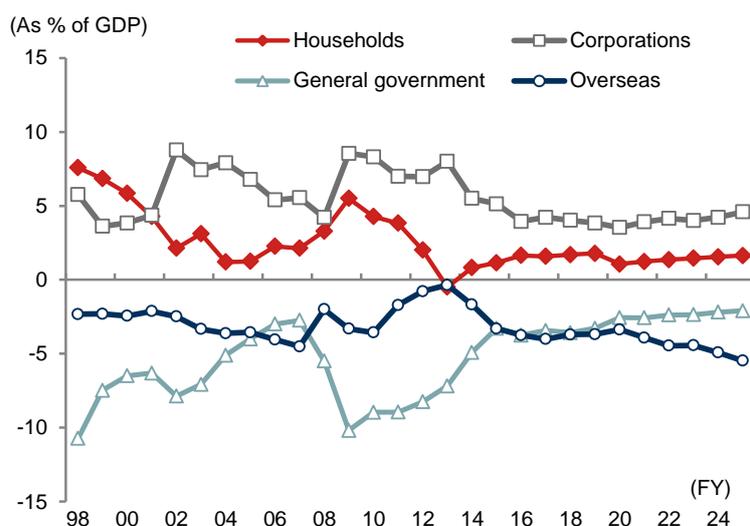
Furthermore, we concluded that under all of the three scenarios the current account (≡ the sum of financial surpluses or deficits at all Japanese economic entities) was likely to maintain a surplus equivalent to around 5% of GDP up to the end of our forecast period,

FY25. We have now recalculated our estimates under the main scenario using our most recent (as of 8 June) economic forecasts for the three years up to FY19 (see our 8 June 2017 Global Research report [Japan: FY17-19 economic outlook revisions](#)) and also discounting the postponement of the next consumption tax hike until October 2019, but our conclusions are largely unchanged. Our forecasts suggest that from the viewpoint of flow the likelihood is low that the sustainability of public-sector liabilities will become impaired during the medium-term timeframe up to around FY25.

Even if fiscal reconstruction aimed at balancing the primary balance is delayed, we expect that the sustainability of government fiscal financing and debt will be underpinned by lower demand for housing from the household sector amid population aging and by the corporate sector's net savings remaining at a high level owing to a decline in the expected growth rate.

**Fig. 10: Fresh estimates of investment-savings balance by sector under main scenario in our medium-term forecasts**

Updated economic forecasts up to FY19, assuming consumption tax hike is postponed



Note: (1) Households = households + private nonprofit institutions serving households; corporations = nonfinancial corporations + financial corporations. (2) Actual values up to FY15, Nomura estimates from FY16.

Source: Nomura, based on BOJ and Cabinet Office data

### 3. Government debt and population aging (2): from the perspective of stock

When considering the relationship between population aging and fiscal sustainability, we need to consider not only the flow-basis impact on the capacity to absorb government debt from changes in the private sector's net savings but also the stock-basis impact on government debt sustainability from changes in the private sector's net assets.

Even if the private sector's net savings are sufficient to support government debt financing ( $\equiv$  the fiscal deficit) each year, in the case of a substantial shift in the structure of the private sector's financial assets to assets that do not effectively support supply-demand conditions for government debt we would see a risk of supply-demand for government debt collapsing and of impairment of debt sustainability, even if the flow-basis fund balance for government debt is maintained.

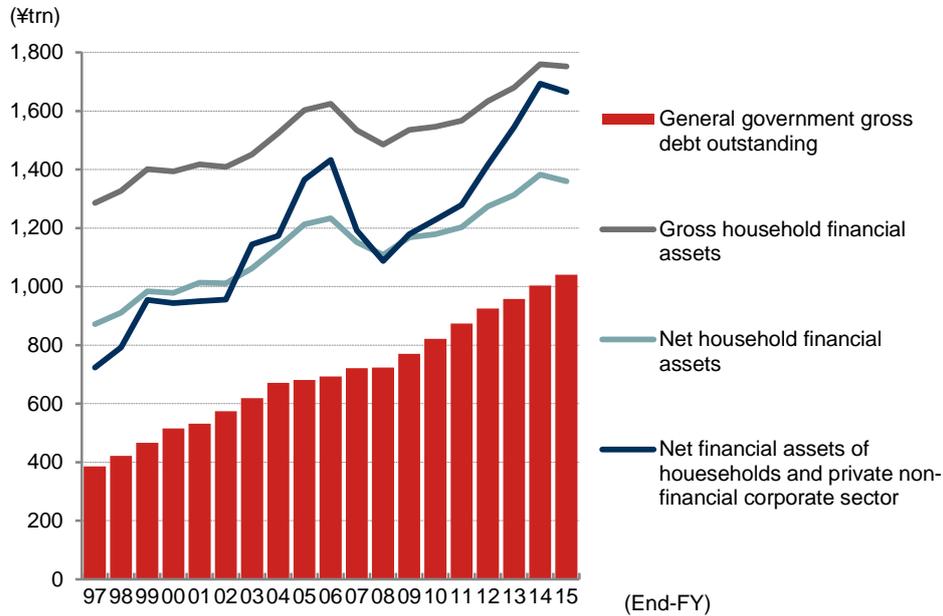
### **Relationship between private sector's (net) financial assets and outstanding government debt**

First we look at the quantitative relationship between the private sector's (net) financial assets and outstanding government debt.

Based on the BOJ's *Flow of Funds Accounts*, general government debt stood at ¥1,041trn as of end-FY15. Meanwhile, the household sector's financial assets stood at ¥1,752trn, with net financial assets of ¥1,360trn excluding housing loans and other financial liabilities. The household sector's net financial assets were thus much greater than outstanding government debt. Furthermore, the total rises to ¥1,665trn after adding the net financial assets held by the private nonfinancial corporate sector to households' net financial assets. Looking at the relationship between private-sector financial assets (regardless of whether gross or net) and the government's outstanding debt, we see little that is likely to cause a collapse in the supply-demand balance for government debt.

**Fig. 11: Relationship between government debt and private-sector financial assets**

We see low likelihood of supply-demand balance problems for government debt based on relationship with private-sector financial assets



Source: Nomura, based on BOJ data

### **We expect private-sector financial assets to remain greater than outstanding government debt over medium term**

In our medium-term economic forecasts mentioned earlier, we estimated the household sector’s outstanding financial assets and outstanding general government debt under each of the three scenarios. For the period beyond FY25, we have extrapolated using growth rates as of 2025. We conclude that outstanding general government debt will exceed the household sector’s outstanding financial assets in FY39 under our main scenario and in FY33 under the downside scenario. However, within the term of our medium-term economic forecasts, we see a low likelihood of the sustainability of government debt becoming impaired and fiscal budget concerns arising under any of the three scenarios.

### **Possibility of structural shift in private-sector financial assets**

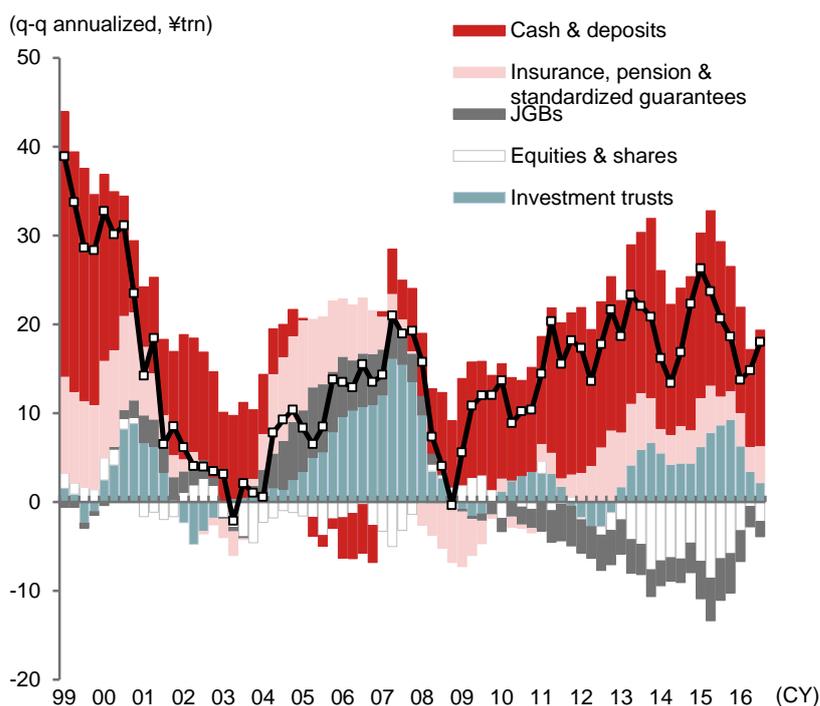
What is the likelihood of a shift in the structure of private-sector financial assets to assets do not effectively support government debt?

Looking first at the current situation, we think that above all the structure of the household sector’s financial assets has actually been continuing to shift in a direction that increases the sustainability of government debt. That is to say, within household

financial assets the weighting of deposits, insurance policies, and pensions (“Insurance, pension, and standardized guarantees” in the BOJ's *Flow of Funds Accounts*) has continued to increase, and these assets strongly underpin supply-demand for government debt securities via portfolio investment by financial institutions and fund management institutions.

**Fig. 12: Changes in household financial assets and breakdown**

Continued marked growth in secure assets such as deposits, insurance, pensions



Source: Nomura, based on BOJ data

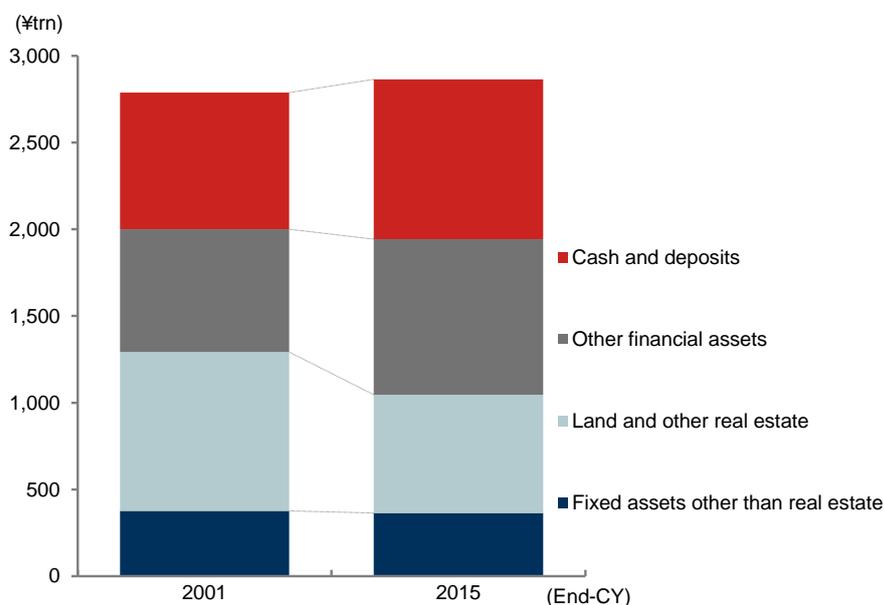
We think it is worth noting that not only have household financial assets been maintaining an overall growth trajectory despite the savings ratio falling as the population has aged but also the weighting of deposits, insurance policies, and pensions within household financial assets has continued to rise. We think it is important to note that household financial assets are being supported by changes in stock as well as by flow-basis net savings.

Based on the stock data in the national economic statistics issued by the Cabinet Office, the weighting of land and other real estate within household sector financial assets has recently fallen sharply. This might reflect: (1) a declining trend in the appraised value of housing land in response to population aging and decline; and (2) progress in the disposal of land and other real estate that has been inherited, for example. Looking at

(2) in particular, we see a high likelihood that funds realized through the sale of land and other real estate are being deposited with financial institutions and then left there. We assume that land and other real estate owned by the household sector is tending to be sold off following inheritance, for example, with the sale proceeds then being deposited at financial institutions, because of deep-rooted concerns over a decline in the value of real estate. Demand for housing will probably fall steadily owing to population aging and decline and we think that strong concerns over price declines are likely especially with regard to housing land in regional Japan. Under these conditions, households where the weighting of land and other real estate within overall asset portfolios has increased as a result of inheritance are likely to view the overall risk balance of their portfolios as having deteriorated. We think that they are therefore likely to have an incentive to seek to improve their portfolios' risk balance by selling real estate and thereby taking possession of secure assets in the form of cash and deposits. If the shift in the structure of households' financial assets described above continues, we think that the increase in household financial assets and growth in deposits, insurance policies, and pensions, which strongly underpin supply-demand for government debt, are likely to continue, even if net savings decline as the population ages.

**Fig. 13: Breakdown of household assets including physical assets**

Marked decline in land and other real estate



Source: Nomura, based on BOJ data

However, a change in the household sector's expectations regarding asset values could

trigger a major change of direction for the structure of household assets. For example, expectations of a rise in prices of Japanese physical assets could strengthen owing to some kind of shock or conversely expectations could strengthen for a decline in the value of yen assets as a whole, including deposits, insurance policies, and pensions. This would mean a risk of a sudden shift away from deposits, insurance policies, and pensions, which strongly underpin supply-demand for government debt, toward other assets, which could cause a collapse in supply-demand for government debt.

## 4. Conclusion

In Chapter 1 we saw how it has been becoming clear that growth in social security expenditure is more or less entirely responsible for the increase in Japanese government debt. Against this backdrop, a further rise in healthcare and long-term care costs from 2025 is a concern, because all of the baby boomer generation will have entered the 75 years and older age group by 2025. Each year, in its Basic Policies on Economic and Fiscal Management and Reform, the government has emphasized the need to reduce medical and long-term care costs, and it has been working to limit growth in social security expenditure. We see good prospects for results from these efforts.

However, we must not forget that population aging has in fact been making Japan's fiscal budget balance and government debt more sustainable. As we pointed out in Chapter 2, population aging drives down the household savings rate, but (1) a structural reduction in households' demand for housing investment and (2) expansion in the corporate sector's net savings resulting from a decline in the expected growth rate are both conducive to a private-sector net fund surplus that is sufficient to cover the government's fund shortage.

However, even if the private sector's net fund surplus is sufficient to cover the government's fund shortage on a flow basis, the sustainability of government debt could of course still be impaired if the structure of private-sector financial assets were to shift in a direction that causes supply-demand conditions for government debt to deteriorate. In Chapter 3 we looked at how in Japan the structure of household-sector financial assets in particular has been tending to shift in a direction that supports supply-demand for government debt, namely toward deposits, insurance policies, and pensions, because of expectations that prices will fall for land and other real estate as the population ages.

We thus think that population aging in Japan has actually been making Japan's fiscal budget balance and government debt more sustainable, but we still see a risk of supply-demand for government debt being severely impaired in the short term if the Japanese private sector's asset structure were to shift substantially owing to some kind of shock. We thus think the government must continue with its efforts to strengthen sustainability and in particular to stabilize social security finances as the Japanese population ages.