



Title	The Future of Social Security Pensions in Japan: A Review of the 2014 Government Actuary Report
Author(s)	Takayama, Noriyuki
Citation	
Issue Date	2015-01
Type	Technical Report
Text Version	publisher
URL	http://hdl.handle.net/10086/27048
Right	

The Future of Social Security Pensions in Japan: A Review of the 2014 Government Actuary Report

by

Noriyuki Takayama

Distinguished Scholar at the Research Institute
for Policies on Pension & Aging (RIPPA)
and
Professor Emeritus at Hitotsubashi University

January 2015

1. Introduction

In June 2014, the Ministry of Health, Labour and Welfare, Japan, made open the *2014 Actuarial Report of Social Security Pensions*. Its Actuarial Report is published every five years and the 2014 version is the latest one.

The aim of this short note is to describe the two major findings given by the 2014 report and then to reconsider the framework for actuarial evaluation of future social security pensions in Japan.

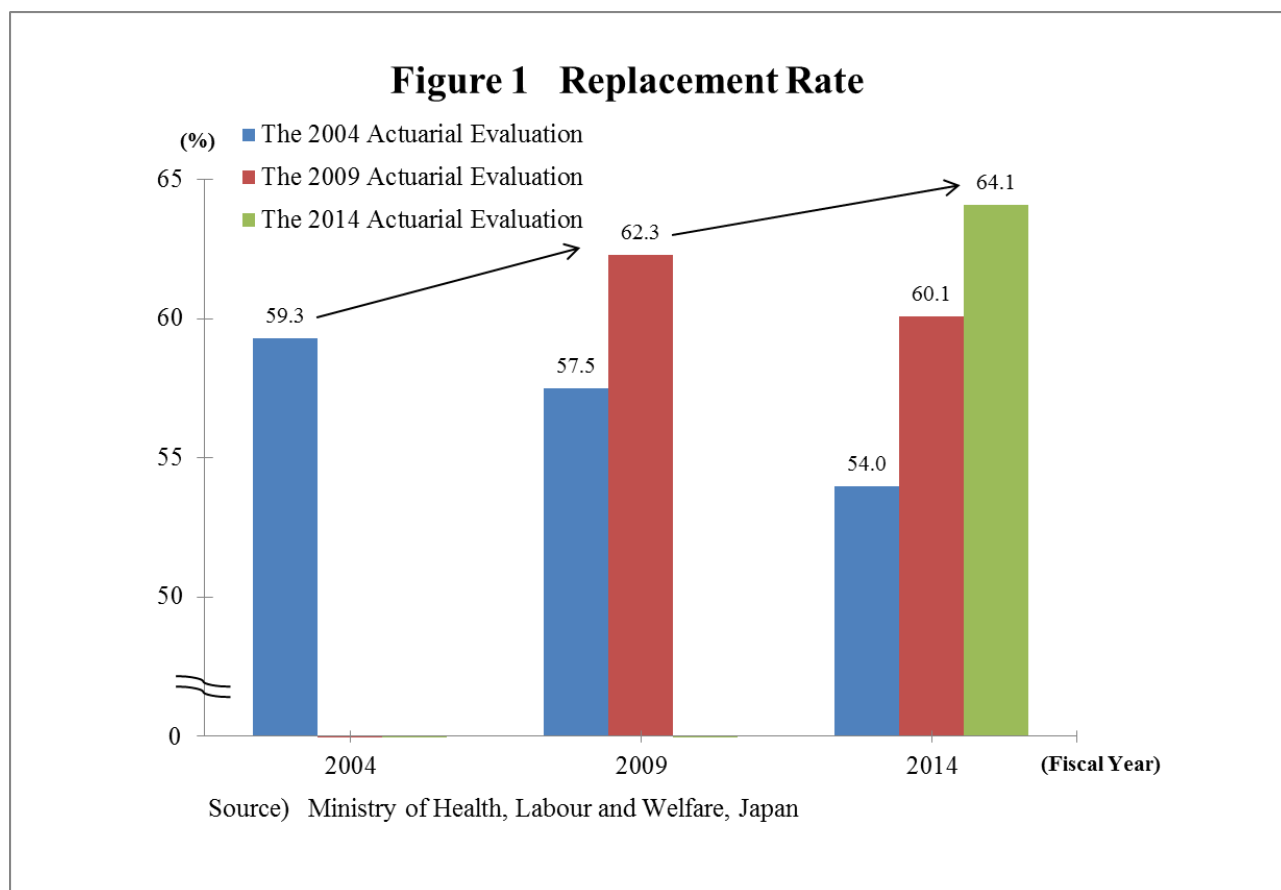
2. Two Major Findings from the 2014 Actuarial Report

Unexpected Increases in Replacement Rate for the Past 10 Years

One of the drastic reforms in Japan's social security pensions was made in 2004. The core of the 2004 reform was that the contribution rate will be fixed at a certain level in 2017 and thereafter the pension system will virtually move from a defined benefit one to a defined contribution one, and that an "automatic balance mechanism" was introduced for the pension system to have a long-term healthy financing. The automatic balance mechanism would call for a reduction of the replacement rate step by step from 60% to 50 % for the "model" male employee with his full-time housewife. According to the 2004 actuarial report, the anticipated reduction in the level of pension benefits would be 0.9% every year in real terms from 2005 on. This

percentage is to be decided by changes in demographic factors (the number of contributors and the life expectancy at age 65).

The reality for the past 10 years turned to be contrary to the 2004 anticipation. Japan had been suffering from deflation for more than a decade until 2013. During deflation, the automatic balance mechanism was suspended to work. Instead, the benefit indexation to CPI had been in operation. Moreover, the level of take-home pay for actively working employees decreased more than the decrease in the CPI in *nominal* terms for this period. Consequently, the replacement rate for the “model” male employee with his full-time housewife in the KNH (the social security pension program for private sector employees) was increased from 59% in 2004 to 64% in 2014, as is depicted in Figure 1.



This outcome is against the spirit of the 2004 reform. If Japan still preserves the baseline of the 2004 pension reform, the automatic balance mechanism needs to be redesigned to apply also in times of deflation, with benefits falling faster than the price level.

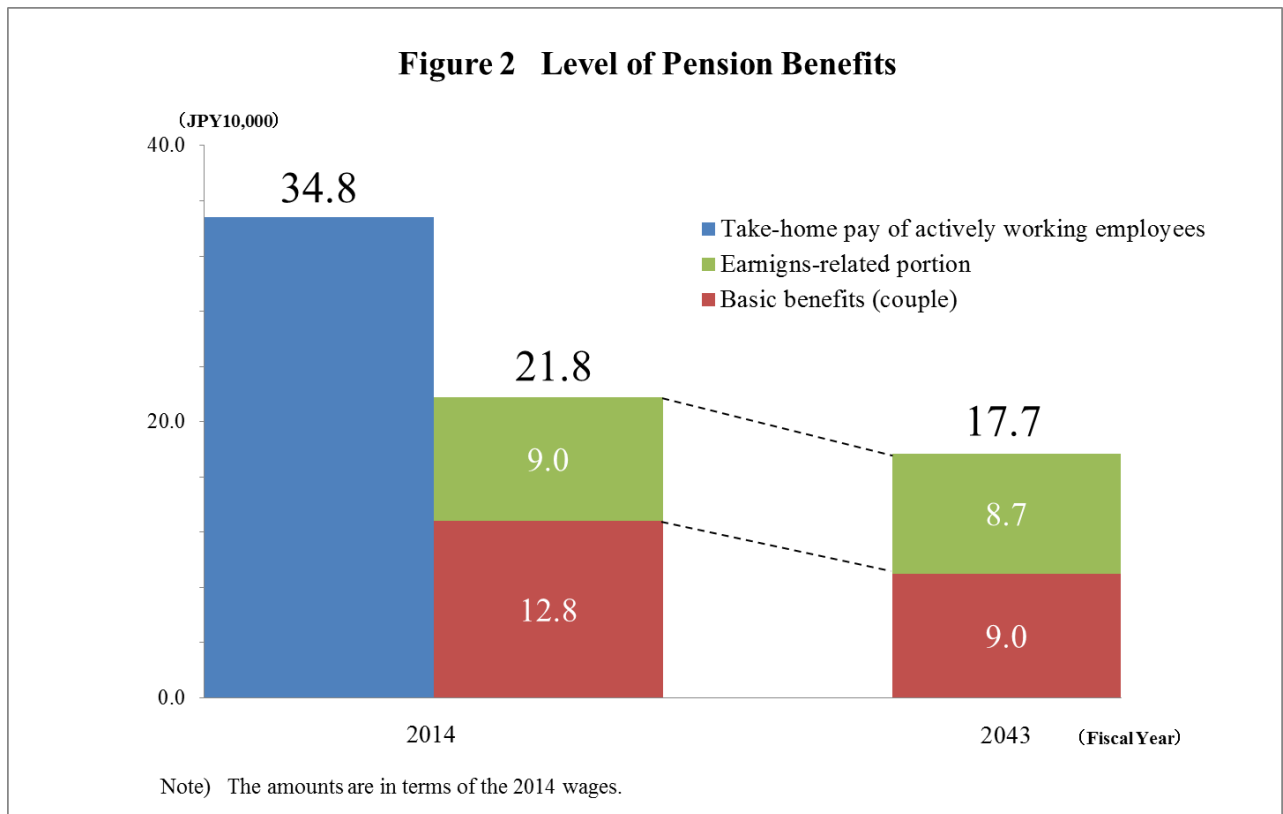
30% Cut of Basic Pension Benefits in Thirty Years Required

The 2014 Actuarial Report made several assumptions in projecting the future long-term financial performance of social security pensions in Japan. First, it followed the demographic assumptions given by the 2012 population projections of National Institute of Population and Social Security Research; optimistic, medium, and pessimistic. Take the medium case for example. The total fertility rate will be 1.35 in 2060, while the life expectancy at birth in 2060 will be 84.19 for men and 90.93 for women. Second, it assumed two cases in the labor force participation rates (LFPR); a higher case in the future and the other case where they will remain unchanged as those of 2012. Take the former case for example. The LFPR for those males in their early sixties will hike from 71% in 2012 to 87% in 2030, and the LFPR for those females in their early thirties will go up from 66% in 2012 to 82% in 2030, thereby the so-called M curve will disappear until then. Third, the report assumed eight cases in the annual rate of economic growth in *real* terms, ranging from -0.4% to 1.4%. The case C, for example, assumed 1.6% for the CPI increase, 3.4% for the wage increase, 4.8% for the rate of return from investment, and 2.5% for the rate of economic growth, all in *nominal* terms. Another case H assumed 0.6% for the CPI increase, 1.3% for the wage increase, 2.3% for the rate of return from investment, and 0.2% for the rate of economic growth.

Using the assumptions stated above, the report checked whether or not social security pensions will maintain their healthy financing for the next 100 years, and also whether or not they will continue to pay pension benefits no less than 50% as the replacement rate for the “model” male employee with his full-time dependent housewife. The result was that for the Case A to Case E with a higher LFPR, the system of social security pensions will meet two requirements above mentioned, while for the Case F to Case H with the LFPR unchanged, it will not meet them. A higher LFPR for females and elderly males in the future were found to be a decisive factor in keeping a healthy financing of social security pensions.

A healthy financing does not always promise an adequate level of pension benefits, however. The replacement rate of 50% above mentioned is the minimum in the future which is guaranteed by law for the “model” employee couple who receive combined benefits of the basic pension (the first-tier) and the earnings-related portion (the second-tier). But, no minimum guarantee has yet been provided for the level of basic benefits solely. According to the 2014 report, the monthly amount of

combined benefits for the “model” employee couple will reduce by 22% in thirty years from JPY218,000 in 2014 to JPY177,000 in 2043 in terms of the 2014 wages, whereas the monthly amount of basic benefits per person will reduce more drastically from JPY64,000 in 2014 to JPY45,000 in 2043, a 30% reduction in thirty years, as is demonstrated in Figure 2.¹



3. Framework for Actuarial Evaluation Reconsidered

Adequacy Issues

A long-term healthy financing of social security pensions is one of the most important factor for the sustainable system. Japan used to face difficulties in attaining the financial sustainability of pensions under the rapid population aging with a fertility decline and the bubble burst of her economy. The automatic balance mechanism introduced in 2004 was expected to be effective for social security pensions in Japan to attain their financial sustainability. The 2014 actuarial report shows that it will be “too powerful” to do so, forcing an unexpected drastic

¹ JPY1,000 equals USD8.5 as at 15 January 2015.

reduction in the level of basic benefits. This will cause another difficulties in maintaining an adequate amount of pension benefits for self-employed persons or atypical workers who are qualified to receive basic pensions only in their old age as earned entitlements based on their contributions.

Note that JPY45,000 is a monthly amount of basic pensions per person *before* tax and social security contributions are deducted. It will reduce further after their deductions, falling to less than JPY40,000. This will be far short of the minimum standard of living for retired elderly persons in Japan. Incidentally, the median of basic consumption expenditure on food, clothing and housing was around JPY57,000 per month for single retired persons in 2013.

An additional minimum guarantee for the level of basic benefits will be required to avoid adverse side-effects of the Japan's automatic balance mechanism.

Household or Individual for the Base of Replacement Rate

The reference unit for the replacement rate set by law in Japan is the “model” household of a male employee with his dependent full-time housewife. It is also assumed that at age 20 he marries a female of the same age. No divorce is supposed to happen in his life. He will earn the average wages/salaries for 40 years from age 20. His wife remains unchanged as a full-time housewife until age 60.

Today, such couples are very few in Japan. Dual-earner couples are very common, and few persons marry before age 20. The current rate of divorce is at around 30%. Furthermore, an increasing number of people in Japan will continue to be a single, remaining unmarried in his/her entire life.

Even within dual-earner couples, each partner has an independent household budget of his/her own.

Thus, the meaningful replacement rate should be on an individual base, and not on a household base.

Replacement Rate before or after Tax and Contributions

The current replacement rate of 50% which the 2014 actuarial report checked is calculated by the monthly amount of pension benefits for the “model” male retiree with his dependent wife divided by the average amount of take-home pay for actively working male employees. The denominator is the amount *after* tax and

social security contributions are deducted, while the numerator is the one *before* tax and social security contributions are deducted.

This is not reasonable and both the denominator and the numerator have to be denoted by the amount *after* tax and contributions.

Average Monthly Amount of Pension Benefits by Cohort and by Sex

The replacement rate which the 2014 actuarial report gives, is a *hypothetical* figure. It is calculated under specific assumptions on an earnings history. Its numerator, the amount of pension benefits, is usually higher than the average amount of them which the retired pensioners actually receive.

People are rather interested in the estimated level of old-age pensions for their own. They are keen to the average amount of pension benefits they will actually receive after retirement. The estimated average monthly amount of them by cohort and by sex is, thus, more desirable to be demonstrated in the actuarial report.

Increases in Normal Pensionable Age

The 2014 actuarial report did not refer to any increases in the normal retirement age, at all. Since 2004, the government has been sending strong messages to the public that the financial sustainability of social security pensions is promised by the automatic balance mechanism in Japan, and that increasing the normal pensionable age will have no improving effect on their financial sustainability.

These messages are true, but increasing the normal pensionable age is sure to lessen reductions in the level of pension benefits which will be required for the long-term healthy financing. Damages by cutting the level of benefits could be mitigated, and consequently the adequacy issues would not get so serious in the future.

Rate of Return from Investment

The 2014 report assumed that the rate of return from investment is (and will be) always higher than the rate of economic growth in the long future. Take the Case C for example. The assumed rate of return from investment is 4.8% per annum, while the annual rate of economic growth is 2.5% (both in nominal terms).

Japan suffers from persistent budget deficits and currently has a huge amount of government debts. The assumptions on the rate of return from investment above mentioned might induce financial collapse of national budget in the long run, leading to a serious damage on her pension financing.

An alternative assumption that the rate of return from investment is equal to the rate of economic growth in the long future, will be more natural, and worth testing in evaluating the financial performance of social security pensions.

Balance Sheet of Social Security Pensions

The latest 2014 balance sheet of social security pensions has not yet been published. Income statement is informative and the balance sheet is quite useful. Both are indispensable tools for representing the financial status of pensions.