Annual Actuarial Report on the Public Pension Plans in Japan
Fiscal Year 2013 (Summary)

1. Revenues and Expenditures

The following summarises the financial statuses of public pension plans in Japan based on their statutory financial statements for FY2013.[1]

❑ Financial status of the public pension plans as a whole

The revenue of the public pension plans, as a whole, was composed of JPY31.1 trillion of contribution income and JPY11.5 trillion of national and local government subsidies etc., and so on. The expenditure was mainly composed of JPY50.5 trillion of benefit disbursements. The total amount of reserves was JPY186.3 trillion on a market value basis (JPY160.7 trillion on a book value basis) as of the FY2013 end. (See **Figure 1** on the right hand side and Figure 2-1-1 in the full text of the annual report.)

Figure1 Aggregate Profit and Loss Statement (FY2013)

Item		Public pension plans as a whole
		100 million yen
Total revenue	(in book value)	503,713
Contribution income		310,539
National and local government subsidies etc.		114,605
Subsidies for the "bestowals" payments accrued in the past		10,373
Investment income	(in book value)	37,332
(Transfer from the GPIF, part of the investement income)		(21,116)
Payment of the costs of the occupational portion by relevant institutions		1,594
Payment of the minimum technical provisions by dissolved EPFs, etc.		1,449
Payment by the Welfare and Medical Service Agency		2,630
Withdrawal from the reserves		24,749
Others		※ 443
Total expenditure		507,182
Benefit disbursements		504,583
Others		2,599
Balance of revenues and expenditures	(in book value)	△ 3,469
Reserves at the fiscal year end	(in book value)	1,607,418
Change in year-end reserves from the previous year	(in book value)	△16,958
(For reference)		
Investment income	(in market value)	135,594
Reserves at the fiscal year end	(in market value)	1,863,310
Change in reserves from the previous year end	(in market value)	81,461

Note: To calculate revenues and expenditures on a consolidated basis, following contributions and corresponding revenues or expenses are excluded from the calculation of the total amounts because these are mere transfer of financial resources between two or more public pension plans: 1) the contributions of individual public pension plans to the Basic Pension, 2) the contributions to the equivalents to the benefits provided by the Basic Pension, which are prescribed by the Old Law that is still effective after the pensions reform in FY1986, 3) the contribution representing the financial adjustments between NPSP and LPSP and 4) the insurer contributions to support the JT MAA and the JR MAA both of which were merged with EPI, etc. Additionally, the amount of transfer from the surplus of the previous fiscal year (JPY1,096.5 billion) to the Basic Pension Account is excluded from "Others" (*) in the revenue items.

❑ Contributions

The contribution income was JPY25.0 trillion for the Employees' Pension Insurance (EPI), JPY1.1 trillion for the National Public Service Personnel Mutual Aid Association (NPSP), JPY3.0 trillion for the Local Public Service Personnel Mutual Aid Association (LPSP), JPY0.4 trillion for the Mutual Aid Corporation for Private School Personnel (PSP) and JPY1.6 trillion for the National Pension (NP). (See Figure 2-1-4 in the full text of the annual report.) In FY2013, contribution income decreased by 0.9% for LPSP, but increased for all other plans, resulting in a 3.0% increase in total.

❑ Benefit Expenditure

The benefit disbursements[2] were JPY23.8 trillion for EPI, JPY1.6 trillion for NPSP, JPY4.6 trillion for LPSP, JPY0.3 trillion for PSP, JPY0.9 trillion for the National Pension Account[3] of NP, and JPY19.3 trillion for the Basic Pension Account of NP. (See Figure 2-1-12 in the full text of the annual report.) In FY2013, the amount of benefit disbursements decreased by 0.3% for EPI and 11.1% for the National Pension

1 Reported amounts are expressed on a book value basis. Here, however, market value amounts are also given.

2 The benefit disbursements for each plan include those provided by the Old Law but regarded as benefits equivalent to the Basic Pensions under the New Law.

3 The benefits disbursed through the National Pension Account are mainly those provided by the old National Pension Law. The benefits disbursed through the Basic Pension Account are those of Basic Pensions provided under the New National Pension Law.

Account while increased by 5.3% for the Basic Pension Account. As a result, benefit expenditure increased by 1.3% overall.

❑ Reserves

The amount of reserves[4] was JPY123.6 trillion <JPY103.2 trillion> for EPI, JPY7.6 trillion <JPY7.3 trillion> for NPSP, JPY39.8 trillion <JPY36.7 trillion> for LPSP, JPY3.8 trillion <JPY3.5 trillion> for PSP, JPY8.4 trillion <JPY7.1 trillion> for the National Pension Account, and JPY3.0 trillion for the Basic Pension Account. As a whole, the amount of reserves increased by 4.6% <decreased by 1.0%>. (See Figure 2-1-14 in the full text of the annual report.)

❑ 'Adjusted financial status' in FY2013

We are going to compare the financial status of individual plans transversely across the plans from the actuarial viewpoint. For that purpose, we expressed the financial status of a plan slight differently from the original income statement by dividing it into the following two parts: 'annual balance of revenues and expenditures excluding investment income' and 'investment income.' Hereafter we call the financial status expressed in this way the 'adjusted financial status,' which is shown in **Figure 2**.

More specifically, the investment income and the withdrawal from the reserves of EPI and NP (National Pension Account) included in **Figure 1** are excluded on the revenue side, and the losses on sale of marketable securities, etc. of NPSP, LPSP, and PSP are excluded from "Others" on the expenditure side.

Figure 2 Adjusted Financial Status in FY2013

"This table is devised by the Actuarial Subcommittee" to analyse the financial status transversely across the plans from the actuarial viewpoint.

Item		Public pension plans as a whole
		100 million yen
Revenues (adjusted financial status base)	**Total amount**	441,632
	Contribution income	310,539
	National and local government subsidies etc.	114,605
	Subsidies for "bestowals" payments accrued in the past	10,373
	Payment of the costs of the occupational portion by relevant institutions	1,594
	Payment of the minimum technical provisions by dissolved EPFs, etc.	1,449
	Payment by the Welfare and Medical Service Agency	2,630
	Others	443
Expenditures (adjusted financial status base)	**Total amount**	507,009
	Benefit disbursements	504,583
	Others	2,426
	Annual balance of revenues and expenditures excluding investment income	△65,376
	Investment income (in market value)	135,594
	Change in year-end reserves from the previous year (in market value)	81,461
	Reserves at the fiscal year end (in market value)	1,863,310

Note: The purpose of the adjusted financial status presented in this table is to allow comparison and analysis across the plans of the financial status from the actuarial perspective. It is calculated by excluding the investment income, the withdrawal from the reserves of EPI and NP (National Pension Account), and the amount of transfer from the previous year's surplus in the Basic Pension Account on the revenue side, and the losses on sale of marketable securities of NPSP, LPSP, and PSP from "Others" on the expenditure side.
The difference between the total revenue and the total expenditure thus obtained shows the annual balance excluding investment income.

In FY2013, the total amount of revenues excluding investment income was JPY44.2 trillion and the total amount of expenditures was JPY50.7 trillion, giving a balance of negative JPY6.5 trillion. On the other hand, investment income was JPY13.6 trillion on a market value basis. As a result, the amount of reserves at the end of FY2013 increased by JPY8.1 trillion[5] to JPY186.3 trillion on a market value basis. (See **Figure 2** above and Figure 2-1-3 in the full text of the annual report.)

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4 Amounts are on a market value basis. The amounts in parentheses "< >" are on a book value basis. The amount of reserves for EPI does not include the reserves of the substitution portions kept by Employees' Pension Funds.

5 Due mainly to the fact that 'balance of revenues and expenditures on the adjusted financial status base excluding investment income' does not include the amount of transfer from the previous fiscal year's surplus in the Basic Pension Account (JPY1.1 trillion), the sum of 'balance of revenues and expenditures on the adjusted financial status base excluding investment income'

A breakdown of revenues and expenditures by plan shows negative balance in FY2013 if investment income is excluded and positive investment income on a market value basis for all the employees' plans and the National Pension Account of NP. As a result, the amount of reserves at the end of FY2013 decreased by 1.6% for NPSP, but increased by the rate between 3.6% and 5.7% for EPI, LPSP, PSP, and the National Pension Account of NP. (See **Figure 3**, Figure 2-1-3 and Figure 2-1-14 in the full text of the annual report.)

Figure 3 Adjusted Profit and Loss Statements by Pension Plan (FY2013)

	EPI	NPSP	LPSP	PSP	NP (National Pension Account)
	100 million yen	100 million yen	100 million yen	100 million yen	100 million yen
Annual balance of revenues and expenditures excluding investment income	▵38,145	▵4,704	▵13,725	▵571	▵3,739
Investment income (in market value)	95,329	3,428	27,480	2,638	6,622
Reserves at the fiscal year end (in market value)	1,236,139	76,150	398,265	38,472	84,492

Note: There is also the Basic Pension Account of NP which is not included in the table above.

2. Insured Persons

❑ The numbers of insured persons

The total number of insured persons covered by some of the employees' plans was 39.67 million as of the end of FY2013, which consists of 35.27 million for EPI, 1.06 million for NPSP, 2.83 million for LPSP and 0.51 million for PSP. In addition, the number of insured persons belonging to NP Category-1 (namely, self-employed persons, etc.) was 18.05 million and the number of those belonging to NP Category-3 (namely, spouses of the insured persons in the employees' plans) was 9.45 million. These brought the total number of insured persons covered by some of the public pension plans to 67.18 million. (See Figure 2-2-1 in the full text of the annual report.) In FY2013, the number of insured persons increased for EPI and PSP, while declined for NPSP, LPSP, NP Category-1 and Category-3. The total number of insured persons covered by some of the public plans showed a decline of 0.3% in FY2013.

❑ Average amounts of pensionable remuneration

The average amount of monthly pensionable remuneration in FY2013, including bonuses, was JPY361,000 for EPI, JPY511,000 for NPSP, JPY535,000 for LPSP, and JPY468,000 for PSP. (See Figure 2-2-6 in the full text of the annual report.) In FY2013, the amount remained unchanged from the previous fiscal year for EPI, while declined for NPSP, LPSP and PSP. (See Figure 2-2-7 in the full text of the annual report.)

3. Beneficiaries

❑ The numbers of beneficiaries

The number of beneficiaries (more precisely, persons with pensions benefit eligibilities) at the end of FY2013 was 34.56 million for EPI, 1.25 million for NPSP, 2.92 million for LPSP, 0.42 million for PSP and 31.96 million for NP. (See Figure 2-3-1 in the full text of the annual report.) The total number of beneficiaries of the public pension plans was 39.50 million, taking account of the persons with multiple

and 'investment income (on a market value basis)' does not exactly coincide with 'change in year-end reserves from the previous year (on a market value basis).'

eligibilities. The number of beneficiaries showed continuous increase for all plans in FY2013.

- **Average monthly amounts of old-age pensions (for those with long contribution periods)**

  The average monthly amount[6] of old-age pensions for beneficiaries with long contribution periods[7] (including the amount of the old-age Basic Pensions) at the end of FY2013 was JPY146,000 for the EPI[8], JPY187,000 for NPSP, JPY193,000 for LPSP, JPY188,000 for PSP and JPY55,000 for NP. These amounts take into account both the old-age Basic Pensions provided by the New Law and the old-age pensions provided by the Old Law. (See Figure 2-3-8 in the full text of the annual report.) In FY2013, the amount declined for all the employees' plans, and also declined for NP. (See Figure 2-3-11 in the full text of the annual report.)

4. Actuarial Indices

- **Pension support ratios**

  The pension support ratio[9] at the end of FY2013 was 2.32 for EPI, 1.52 for NPSP, 1.43 for LPSP, 4.04 for PSP, and 2.15 for NP[10]. These represent an increase in the case of EPI, NPSP, and PSP, a decrease in the case of NP, and no change in the case of LPSP. (See Figure 2-4-1 and Figure 2-4-2 in the full text of the annual report.) The pension support ratio of PSP is higher than other employees' plans such as EPI and thus we can say that PSP is less mature than other employees' plans. Conversely, NPSP and LPSP have lower pension support ratios and thus we can say that they are more mature.

- **Comprehensive cost rates**

  The comprehensive cost rate[11] in FY2013 was 20.1% for EPI[12], 23.7% for NPSP, 23.7% for LPSP, and 15.6% for PSP, which were all higher than the corresponding contribution rates. (See Figure 2-4-7 and Figure 2-4-9 in the full text of the annual report.) These represent an increase for LPSP, a decrease for NPSP and PSP, and no change for EPI.

5. Comparative Analysis of Actual Results to the Projections made by the 2009 Actuarial Valuation

We compared these actual situations with the projections made by the 2009 actuarial valuations and analysed the discrepancies regardless of the environment that the results of the most recent 2014 actuarial valuations were already published. It is because we strongly believe that analysing the discrepancies of the actual figures from the projected ones made by the previous quinquennial actuarial valuations and

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6 When comparing the amounts of pensions, it should be reminded that the amounts for NPSP, LPSP and PSP are inclusive of the "occupational portions" and there are also considerable differences in the male-female ratios and the average contribution periods among the plans.

7 'Beneficiaries with long contribution periods' means those of the old-age EPI pensions or the retirement pensions provided by the mutual aid associations like NPSP, with their contribution periods to individual plans fulfilling the eligibility conditions of 25 years for the old-age basic pensions. (Here, we take account of the effects of the temporary measures relaxing the eligibility condition of 25 years for specified cohorts and the special measures requiring only 15 years).

8 This amount includes the portion paid by Employees' Pension Funds on behalf of EPI.

9 That is the ratio of the number of insured persons to that of beneficiaries of old-age pensions with long contribution periods.

10 For NP, it is the ratio of the number of beneficiaries of old-age Basic Pensions to the number of insured persons belonging to Category 1-3 insured population.

11 The comprehensive cost rate is the ratio of the amount of the 'material' expenditures in the year, which the plan has to finance by itself, to the total amount of the pensionable remunerations of the plan in the fiscal year.

12 The comprehensive cost rate for EPI includes in the numerator the amount paid by Employees' Pension Funds on behalf of EPI. If we exclude the amount in the numerator, the comprehensive cost rate becomes 19.1%.

summarise the five-year performance as a whole is one of the indispensable factors in the PDCA cycle of the financial management of public pensions, if we take account of their long-term nature.

❑ Attribution analysis of the deviations in reserves

The amount of actual reserves at the end of FY2013 surpassed the projected amount for EPI, LPSP, and PSP,[13] but fell short of the projected amount for NPSP.[14] (See **Figure 4** and Figure 3-2-29 in the full text of the annual report.)

Our attribution analysis on the deviations between actual and projected reserves shows a major influence to have been the ‘essential’ rates of return on investment (where the ‘essential’ ROI means the ROI minus the salary growth rate), which exceeded the corresponding ‘essential’ ROIs assumed in the actuarial valuations throughout the period from FY2010 to FY2013. (See Figure 3-4-2 in the full text of the annual report.)

Figure 4 Differences between the actual reserves in FY2013 and the projections made by the 2009 actuarial valuations

		EPI	NPSP & LPSP	NPSP	LPSP	PSP
		trillion yen	100 million yen	100 million yen	100 million yen	100 million yen
Reserves (at the FY2013 end)	Actual amounts	149.7	474,415 <439,479>	76,150 <72,676>	398,265 <366,803>	38,472 <35,463>
	Projected amounts	140.8	464,959	78,210	386,750	36,186
Difference (= actual amounts - projected amounts)		8.9	9,455 <△25,480>	△2,060 <△5,534>	11,515 <△19,947>	2,286 <△723>
Proportion of the difference (actual amounts / projected amounts - 1) (%)		6.3	2.0 <△5.5>	△2.6 <△7.1>	3.0 <△5.2>	6.3 <△2.0>

Notes: 1. The amounts in parentheses “< >” are on a book value basis.
2. The actual amount of reserves for EPI includes the estimated amount of reserves corresponding to the substitution portion kept by Employees’ Pension Funds.
3. The actual amounts of reserves for “NPSP & LPSP” are estimates by the Actuarial Subcommittee.

❑ Evaluation of the actuarial statuses

We adjusted the projected amount of reserves made by the 2009 actuarial valuation reflecting the actual developments of nominal salary growth rates, etc.,[15] and then compared the actual amount of reserves with the adjusted amount thus obtained, which would serve as a measure (baseline) for evaluating the actuarial status of the plan. In this way, we can highlight the essential part of the deviation of the actual amounts of reserves from the projected amounts. (See **Figure 5**, Figure 3-5-2 and Figure 3-5-3 in the full text of the annual report.)

From this analysis, we found that the actual amount of reserves at the end of FY2013 exceeded the baseline for all the employees’ plans. Thus we can conclude that the actuarial status of each employees’ plan exceeded the projected actuarial status projected by the 2009 actuarial valuation[16], and that, for all the employees’ plans, the rate by which the actual amount of reserves exceeds the baseline amount surpasses any single-year downward swing in the past[17] with respect to the actual ‘essential’ ROI.

[13] Here, the amounts of actual reserves are compared to the projected amounts on a market value basis.
[14] For an analysis of the deviations between actual and projected reserves, see Chapter 3, Section 4 of the full report.
[15] For details of the technical aspects of the adjustment, see Chapter 3, Section 5 of the full report.
[16] Assessed based on a market value basis.
[17] Over the period shown in Figure 3-5-5 in the full text of the annual report.

However, we should bear in mind that the most recent 2014 actuarial valuations incorporated the actual developments of the plans up to FY2013 as much as possible and thus no financial buffer is preserved outside the projections made.

Figure 5 Evaluation of the actuarial statuses at the end of FY2013 (values are expressed by standardising the projected amount = 100)