

# Annual Actuarial Report on the Public Pension System in Japan Fiscal Year 2016 (Summary)

## 1. Adjusted Financial Status

The adjusted financial status of the public pension system as a whole in FY2016 is as follows:

The Actuarial Subcommittee compares the financial status of individual schemes transversely across the schemes from the actuarial point of view. For that purpose, the Subcommittee expressed the financial status of a scheme slightly differently from the original income statement by dividing it into the following two parts: “Annual balance of revenues and expenditures excluding investment income”<sup>1</sup> and “Investment income.” Hereafter we call the financial status expressed in this way the ‘Adjusted financial status.’

### □ Adjusted financial status of the public pension system as a whole

The revenue of the public pension system as a whole was composed of JPY35.8 trillion of contribution income, JPY12.4 trillion of national and local government subsidies, etc., and so on. The total amount of revenues excluding investment income was JPY53.5 trillion. The expenditure was mainly composed of JPY51.3 trillion of benefit disbursements, and the total amount of expenditures was JPY51.7 trillion. As a result of these, the annual balance of revenues and expenditures excluding investment income was a positive JPY1.8 trillion. Note, however, that it turns around to be a negative JPY2.5 trillion if temporary factors are excluded, such as “Payment of the minimum technical provisions by dissolved Employees’ Pension Funds (EPFs), etc.”

On the other hand, the investment income was JPY9.2 trillion on a market value basis.

The amount of reserves of the public pension system as a whole at the end of FY2016 was JPY185.8 trillion on a market value basis (See Figure 1 above and Figure 2-3-2 in the full text of the annual report.).

**Figure 1 Adjusted financial status (FY2016)**

Item		Public pension system as a whole
		JPY 100 million
<b>Reserves at the previous fiscal year end (a)</b> (on a market value basis)		1,747,161
<b>Revenues</b> (adjusted financial status base)	<b>Total amount</b>	535,019 <span style="float: right;">Note 1</span>
	Contribution income	357,927
	National and local government subsidies etc.	123,811
	Subsidies for the "bestowals" payments accrued in the past	6,130
	Payment of the costs of the occupational portion by relevant institutions	959
	Payment of the minimum technical provisions by dissolved EPFs, etc.	43,844
	Payment by the Welfare and Medical Service Agency	1,661
	Others	660
<b>Expenditures</b> (adjusted financial status base)	<b>Total amount</b>	516,626 <span style="float: right;">Note 1</span>
	Benefit disbursements	513,481
	Others	2,881
<b>Annual balance of revenues and expenditures excluding investment income (b)</b>		18,392 <△25,452 > <span style="float: right;">Note 2</span>
<b>Investment income (c)</b> (on a market value basis)		91,819
<b>Others (d)</b> (on a market value basis)		870 <span style="float: right;">Note 3</span>
<b>Reserves at the fiscal year end (a + b + c + d)</b> (on a market value basis)		1,858,241
<b>Change in reserves from the previous fiscal year end</b> (on a market value basis)		111,080

Note 1: From the FY2016 settlement of accounts of each scheme, it was found that the sum of contributions to the Basic Pension (BP) and revenues of contributions to BP as well as the sum of benefits equivalent to BP and revenues of contributions to the equivalents to the benefits provided by BP did not cancel each other out between revenues and expenditures under the public pension system as a whole. Because of this, the portion of difference (contributions to BP: JPY26.4 billion, contributions to the equivalents to the benefits provided by BP: JPY2.6 billion) is included in the total revenues and total expenditures of the public pension system as a whole, respectively.

Note 2: The figure in < > indicates the amount excluding the “Payment of the minimum technical provisions by dissolved EPFs, etc.”

Note 3: The amount recorded as "Others (d)" is the sum of "Transfer to reserves from the Business Account" in EPI Account and the National Pension Account of NP, and the amount of adjustment of provisionally sorted reserves according to the unification of the employees' pension schemes in NPO-MAAs, LPO-MAAs and PSTE-MAA.

<sup>1</sup> It is calculated by excluding “Investment income” and “Withdrawal from reserves” of the National Pension Account of the National Pension (NP) and the Basic Pension Account of NP on the revenue side, and by excluding “Losses on the sale of marketable securities, etc.” of the National Public Officers Mutual Aid Associations (NPO-MAAs) and the Local Public Officers Mutual Aid Associations (LPO-MAAs) from “Others” on the expenditure side.

## ❑ Contributions

The contribution income was JPY34.3 trillion for the Employees' Pension Insurance (EPI) (by implementation organization, JPY29.5 trillion for EPI Account, JPY1.2 trillion for NPO-MAAs, JPY3.2 trillion for LPO-MAAs and JPY0.4 trillion for the Private School Teachers/Employees Mutual Aid Association (PSTE-MAA)), and JPY1.5 trillion for the National Pension Account of NP. Accordingly, the contribution income for the public pension system as a whole was JPY35.8 trillion (See Figure 2-3-5 in the full text of annual report.).

## ❑ Benefit Expenditures

The benefit disbursements<sup>2</sup> were JPY29.0 trillion for EPI (by implementation organization, JPY23.5 trillion for EPI Account, JPY1.4 trillion for NPO-MAAs, JPY3.9 trillion for LPO-MAAs and JPY0.3 trillion for PSTE-MAA), JPY0.6 trillion for the National Pension Account of NP<sup>3</sup>, and JPY21.7 trillion for the Basic Pension Account of NP. Thus, the sum of benefit disbursements for the public pension system as a whole was JPY51.3 trillion (See Figure 2-3-20 in the full text of annual report.).

## ❑ Reserves

The amount of reserves at the end of FY2016 was JPY173.7 trillion for EPI (by implementation organization, JPY144.4 trillion for EPI Account<sup>4</sup>, JPY7.1 trillion for NPO-MAAs, JPY20.0 trillion for LPO-MAAs and JPY2.1 trillion for PSTE-MAA), JPY9.0 trillion for the National Pension Account of NP, and JPY3.2 trillion for the Basic Pension Account of NP on a market value basis. The amount of reserves for public pension system as a whole was JPY185.8 trillion (See Figure 2-3-24 in the full text of annual report.).

## ❑ Adjusted Financial Status

A breakdown of the adjusted financial status by each scheme and implementation organization of EPI shows that the annual balance of revenues and expenditures excluding the investment income was negative except for EPI Account and PSTE-MAA. Note, however, that the balance for EPI Account also turns out to be negative if temporary factors are excluded, such as the "Payment of the minimum technical provisions by dissolved EPFs, etc."

On the other hand, the investment income (on a market value basis) was positive for each scheme (See Figure 2, Figure 2-3-2, Figure 2-3-16 and Figure 2-3-22 in the full text of annual report.).

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

<sup>3</sup> The benefits disbursed through the National Pension Account of NP are mainly those provided by the old National Pension Law. The benefits disbursed through the Basic Pension Account of NP are those of Basic Pensions provided under the new National Pension Law.

<sup>4</sup> The amount of reserves for EPI does not include the reserves of the substitution portions kept by EPFs.

**Figure 2 Adjusted financial status by scheme and implementation organization of EPI (FY2016)**

	EPI					NP	
	EPI Account	NPO-MAAs	LPO-MAAs	PSTE-MAA	Total amount	National Pension Account	Basic Pension Account
	JPY 100 million	JPY 100 million	JPY 100 million	JPY 100 million	JPY 100 million	JPY 100 million	JPY 100 million
Reserves at the previous fiscal year end (a) (on a market value basis)	1,339,311	71,552	195,697	20,652	1,627,212	87,768	32,181
Annual balance of revenues and expenditures excluding investment income (b)	30,955 <Δ12,889> Note 1	Δ2,401	Δ6,922	128	21,761 <Δ22,083> Note 1	Δ3,064	Δ305
Investment income (c) (on a market value basis)	74,076	2,591	9,102	1,146	86,915	4,854	49
Others (d) Note 2 (on a market value basis)	120	Δ597	2,601	Δ1,365	760	110	-
Reserves at the fiscal year end (a + b + c + d) (on a market value basis)	1,444,462	71,145	200,478	20,562	1,736,648	89,668	31,926
Change in reserves from the previous fiscal year end (on a market value basis)	105,151	Δ 407	4,781	Δ 90	109,436	1,900	Δ 255

Note 1 The figures in <> indicate the amount excluding “Payment of the minimum technical provisions by dissolved EPFs, etc.”

Note 2 The amount recorded as “Others (d)” is the sum of “Transfer to reserves from the Business Account” in EPI Account and the National Pension Account of NP, and the amount of adjustment of provisionally sorted reserves according to the unification of the employees’ pension schemes in NPO-MAAs, LPO-MAAs and PSTE-MAA.

## 2. Insured Persons

### □ The numbers of insured persons

The number of insured persons was 42.66 million for EPI (by category of EPI insured persons, 38.22 million for Category-1 (private employees), 1.07 million for Category-2 (national public officers), 2.84 million for Category-3 (local public officers), and 0.54 million for Category-4 (private school teachers/employees)). In addition, the number of insured persons belonging to NP Category-1 (namely, self-employed persons, etc.) was 15.75 million and the number of those belonging to NP Category-3 (namely, dependent spouses of EPI insured persons) was 8.89 million. These brought the total number of insured persons for the public pension system as a whole to 67.31 million. While the number of insured persons of both NP Category-1 and Category-3 decreased, that of EPI insured persons increased, resulting in an increase of 0.3% for the public pension system as a whole.

The number of EPI insured persons shows an increase of 3.3%, but it is reduced to 2.6% if part-time workers are excluded that have been recognized as eligible for EPI since the expanded application of eligibility in October 2016. Thus, the increased number equivalent to 0.7% for EPI is due to the expanded application (See Figure 2-1-1 in the full text of annual report.).

### □ Average amounts of pensionable remuneration for EPI

The average amount of monthly pensionable remuneration, including bonuses, was JPY383 thousand for EPI. The amount by category of EPI insured persons was JPY365 thousand for Category-1 (private employees), JPY546 thousand for Category-2 (national public officers), JPY546 thousand for Category-3 (local public workers) and JPY463 thousand for Category-4 (private school teachers/employees). The amount for FY2016 decreased except that of Category-2 (national public officers). As a factor of the decrease for Category-1 (private employees), it seems to be affected by the expanded application of eligibility for part-time workers in October 2016. Although the amount for Category-1 (private employees) except the part-time workers shows an increase of 0.1%, the part-time workers who have relatively low amount were recognized as eligible for insured persons due to the expanded application, resulting in a decrease of the amount as a whole (See Figure 2-1-6 in the full text of annual report.).

### **3. Beneficiaries**

#### **□ The numbers of beneficiaries**

The numbers of beneficiaries (more precisely, persons with pensions benefit eligibilities) were 36.26 million for former EPI, 1.28 million for NPO-MAAs, 3.07 million for LPO-MAAs, 0.49 million for PSTE-MAA and 34.47 million for NP (Basic Pensions provided by the New Law and National Pensions provided by the Old Law). The total number of beneficiaries of the public pension schemes was 40.1 million, excluding the duplication of beneficiaries due to multiple eligibilities. The number of beneficiaries continues to increase in all the schemes, but not in NPO-MAAs (See Figure 2-2-2 in the full text of annual report.).

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

The average monthly amount of old-age pensions for beneficiaries with long contribution periods<sup>5</sup> (including the amount of the old-age Basic Pensions and not including the amount of the occupational pension portions of NPO-MAAs, LPO-MAAs and PSTE-MAA) was JPY150 thousand for EPI (including the portion paid by EPFs on behalf of EPI), and JPY55 thousand for NP (Basic Pensions under the New Law and National Pensions under the Old Law). By implementation organization of EPI<sup>6</sup>, the amount was JPY146 thousand for former EPI (including the portion paid by EPFs), JPY172 thousand for NPO-MAAs, JPY175 thousand for LPO-MAAs, and JPY174 thousand for PSTE-MAA (See Figure 2-2-12 and Figure 2-2-13 in the full text of annual report.).

### **4. Actuarial Indices**

#### **□ Pension support ratios**

The pension support ratio on a beneficiary basis<sup>7</sup> increased 0.08 points to 2.30 for EPI, while decreasing 0.03 points to 1.99 for the Basic Pension<sup>8</sup>, as compared with the previous fiscal year end, respectively (See Figure 2-4-2 in the full text of annual report.).

#### **□ Reserve ratios**

The reserve ratio<sup>9</sup> was 4.9 for EPI<sup>10</sup> and 6.6 for the National Pension Account of NP<sup>11</sup>, down from the previous fiscal year each (See Figure 2-4-7 in the text of annual report.).

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<sup>5</sup> 'Beneficiaries with long contribution periods' means those of the old-age EPI pensions or the retirement pensions provided by the Mutual Aid Associations like NPO-MAAs, with their contribution periods to individual schemes 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).

<sup>6</sup> When comparing the amounts of pensions, it should be reminded that there are considerable differences in the male-female ratios and the average contribution periods among the implementation organizations.

<sup>7</sup> Pension support ratio on a beneficiary basis is the ratio of the number of insured persons to the number of beneficiaries of old-age and retirement pensions.

<sup>8</sup> Pension support ratio of the Basic Pension is the ratio of the number of NP Category 1 to 3 insured persons to the number of beneficiaries of old-age Basic Pension.

<sup>9</sup> The reserve ratio is the ratio of reserve at the previous fiscal year end to the comprehensive cost (the amount of the 'essential' expenditures in the year which the scheme has to finance by itself).

<sup>10</sup> For the reserve for EPI, an estimate is used that includes the portion paid by EPFs on behalf of EPI and the deferred amount of national government subsidies.

<sup>11</sup> For the reserve for the National Pension Account of NP, an estimate is used that includes the deferred amount of national government subsidies.

## 5. Comparative Analysis of Actual Results to the Projections made by the 2014 Financial Verification

### □ Attribution analysis of the deviation in reserves

The amount of actual reserves for EPI and the National Pension Account of NP (on a market value basis) at the end of FY2016 surpassed the projected amount in any of cases C, E and G in the 2014 Financial Verification<sup>12</sup> (See Figure 3, and Figure 3-2-35 in the full text of annual report.). This is mostly attributed to the reserves at the end of FY2014<sup>13</sup> substantially greater than projected, in addition to the fact that the sum of contributions caused by generating factors pertaining to FY2016 turned around to be positive.

From the breakdown by generating factors pertaining to FY2016, it is found that the higher ‘essential’ rate of return on investment<sup>14</sup> than assumed in the Financial Verification greatly contributed to the deviation in any case for EPI and the National Pension Account of NP. Also, the demographic factors contributed positively in any case for EPI and the National Pension Account of NP (See Figure 3, Figure 3-4-2 in the full text of annual report.).

**Figure 3 Contribution of generating factors to deviation of actual reserves at FY2016-end from the projections made by the 2014 Financial Verification**

Factors causing deviation from the projections		Case C		Case E		Case G	
		EPI	NP National Pension Account	EPI	NP National Pension Account	EPI	NP National Pension Account
		Trillion yen	Trillion yen	Trillion yen	Trillion yen	Trillion yen	Trillion yen
Deviation of actual amount of reserves at FY2016-end from the projections		21.13	0.74	21.13	0.74	24.19	0.84
Deviation of actual amount of reserves at FY2014-end from the projections		22.28	0.82	22.28	0.82	22.78	0.84
Contribution of generating factors in FY2015, total		Δ7.78	Δ0.36	Δ7.78	Δ0.36	Δ6.56	Δ0.31
FY2015	Nominal rate of return on investment B <sub>2015</sub>	Δ9.08	Δ0.54	Δ9.08	Δ0.54	Δ8.57	Δ0.51
	‘Essential’ rate of return on investment B <sub>2015-1</sub>	Δ5.27	Δ0.30	Δ5.27	Δ0.30	Δ6.25	Δ0.37
	Salary growth rate B <sub>2015-2</sub>	Δ3.81	Δ0.24	Δ3.81	Δ0.24	Δ2.32	Δ0.15
	Annual balance of revenues and expenditures excluding investment income C <sub>2015</sub>	1.30	0.18	1.30	0.18	2.02	0.20
	Change in contribution income caused by deviation of salary growth rate C <sub>2015-1</sub>	Δ0.49	-	Δ0.49	-	Δ0.34	-
	Change in benefit costs caused by deviation of salary growth rate and inflation rate C <sub>2015-2</sub>	-	-	-	-	-	-
	Demographic factors C <sub>2015-3</sub>	1.33	0.01	1.33	0.01	1.91	0.01
	Number of insured persons C <sub>2015-3-1</sub>	1.37	Δ0.00	1.37	Δ0.00	1.93	Δ0.00
	Number of beneficiaries C <sub>2015-3-2</sub>	Δ0.04	0.01	Δ0.04	0.01	Δ0.01	0.01
	Modified indexation rate C <sub>2015-4</sub>	Δ0.08	Δ0.00	Δ0.08	Δ0.00	Δ0.08	Δ0.00
Others C <sub>2015-5</sub>	0.54	0.18	0.54	0.18	0.52	0.19	
Contributions of generating factors in FY2016, total		6.64	0.27	6.64	0.27	7.97	0.31
FY2016	Nominal rate of return on investment B <sub>2016</sub>	5.10	0.24	5.10	0.24	5.53	0.27
	‘Essential’ rate of return on investment B <sub>2016-1</sub>	9.39	0.51	9.39	0.51	9.36	0.51
	Salary growth rate B <sub>2016-2</sub>	Δ4.29	Δ0.27	Δ4.29	Δ0.27	Δ3.84	Δ0.24
	Annual balance of revenues and expenditures excluding investment income C <sub>2016</sub>	1.54	0.04	1.54	0.04	2.44	0.05
	Change in contribution income caused by deviation of salary growth rate C <sub>2016-1</sub>	Δ0.89	-	Δ0.89	-	Δ0.70	-
	Change in benefit costs caused by deviation of salary growth rate and inflation rate C <sub>2016-2</sub>	0.70	0.03	0.70	0.03	0.54	0.03
	Demographic factors C <sub>2016-3</sub>	2.00	0.05	2.00	0.05	1.86	0.05
	Number of insured persons C <sub>2016-3-1</sub>	2.03	0.03	2.03	0.03	1.89	0.04
	Number of beneficiaries C <sub>2016-3-2</sub>	Δ0.03	0.02	Δ0.03	0.02	Δ0.03	0.02
	Modified indexation rate C <sub>2016-4</sub>	Δ0.43	Δ0.02	Δ0.43	Δ0.02	Δ0.46	Δ0.02
Others C <sub>2016-5</sub>	0.16	Δ0.02	0.16	Δ0.02	1.20	Δ0.00	

<sup>12</sup> Although only cases C, E and G are shown as examples here, this is not intended to indicate that the Actuarial Subcommittee positions these cases as basic or standard cases of the 2014 Financial Verification.

<sup>13</sup> The reserves at the end of FY2014 were calculated by using estimates of EPI equivalent portion for the reserves for Mutual Aid Associations.

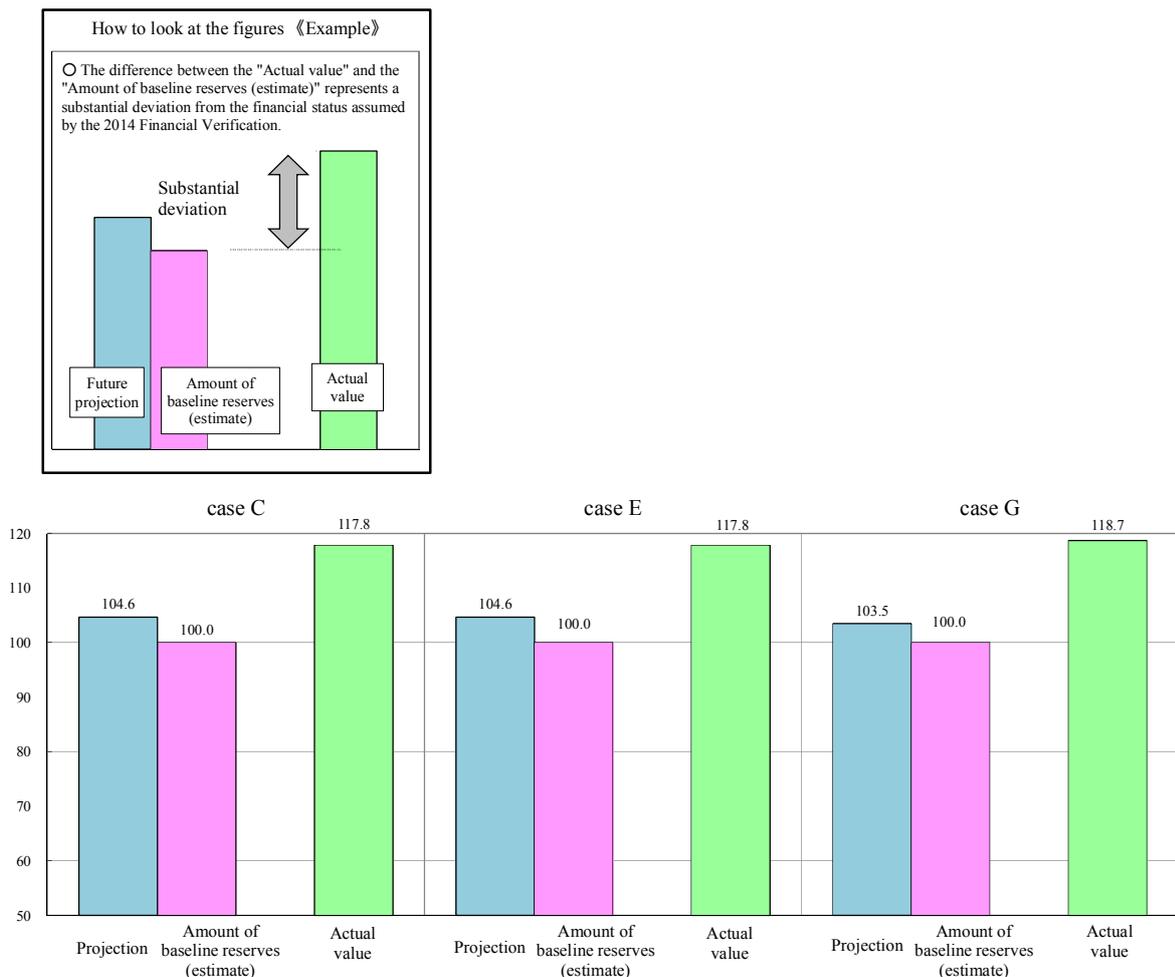
<sup>14</sup> The ‘essential’ rate of return on investment means the rate of return on investment minus the salary growth rate.

**□ Evaluation of the actuarial statuses for EPI**

The Actuarial Subcommittee adjusts the amount of reserves for EPI projected by the 2014 Financial Verification in order to reflect the actual developments of nominal salary growth rates, etc.,<sup>15</sup> and then compares the actual amount of reserves with the adjusted amount thus obtained, which would serve as a baseline for evaluating the actuarial status of the scheme. In this way, the Subcommittee can highlight the essential part of the deviation of the actual amounts of reserves from the projected amounts (See Figure 4, Figure 3-5-1 and Figure 3-5-2 in the full text of annual report.).

From this analysis, it was found that the actual amount of reserves for EPI at the end of FY2016 exceeded the “baseline reserves (estimate) for evaluation” by approximately 17.8% - 18.7% in any of the cases C, E and G. Note, however, that when assessing this result, it needs to take into account that there may occur again a deviation between actual and premised inflation rate, salary growth rate and rate of return on investment in the future, and approximately 90% of the financial resources for pension benefit<sup>16</sup> are covered by contribution income and national and local government subsidies etc. for the concerned year while such resources available from the reserves account for only 10% or so. In any case, from the perspective of fiscal management of public pensions, we should pay attention to the long-term trend of actuarial status, regardless of the short-term trend including those of demographic and economic factors.

**Figure 4 Evaluation of the actuarial status for EPI at the end of FY2016**  
**[Indicated against the amount of baseline reserves (estimate) (=100)]**



<sup>15</sup> For details of the technical aspects of the adjustment, see Chapter 3, Section 5 of the full text of annual report.

<sup>16</sup> This is shown by an average for around 100 years based on the projections in the Financial Verification.