BOJ Reports & Research Papers

March 2016

# Results of Revision to the Flow of Funds Accounts Based on 2008SNA

Research and Statistics Department
Bank of Japan

March 2016

**Research and Statistics Department**
**Bank of Japan**

# Results of Revision to the Flow of Funds Accounts Based on 2008SNA

## 1. Introduction

In October 2013, the Bank of Japan (the Research and Statistics Department, which is the section responsible for compiling and publishing statistics) announced for public consultation its project on revising the Flow of Funds Accounts in line with the 2008SNA recommendations[1]. In response, the Bank received valuable comments and suggestions, and after taking them into account, the Bank presented the final draft in June 2014[2]. Since then, the Bank had been finalizing details of the revised Flow of Funds Accounts (based on 2008SNA, hereinafter referred to as the "New Flow of Funds Accounts"). The New Flow of Funds Accounts was released on March 25, 2016. This was the first substantial revision since 1999 (revision based on 1993SNA, hereinafter referred to as the "Former Flow of Funds Accounts").

This paper provides details of the major changes resulting from the current revision of the Flow of Funds Accounts and also shows the quantitative impact of the revision on stocks and transaction flows. The overview of the revision, including detailed items, is summarized in Section 11.

## 2. Summary of Revision of the Flow of Funds Accounts

The current revision of the Flow of Funds Accounts has incorporated the recommendations of 2008SNA[3] as much as possible, in order to maintain both convenience of international comparison and consistency with the National Accounts Statistics (Figure 1).

Such revision is intended to improve the accuracy of the Flow of Funds Accounts and increase its usefulness for users. Moreover, consideration has been given to not placing an excessive burden on

---

[1] "Revision to the Flow of Funds Accounts based on 2008SNA: Public Consultation" (in Japanese, Research and Statistics Department of the Bank of Japan, October 17, 2013)

[2] "The Implementation of 2008SNA Recommendations in Japan's Flow of Funds Accounts" (Research and Statistics Department of the Bank of Japan, July 18, 2014)

[3] 2008SNA: System of National Accounts 2008 is the standard for compiling national accounts. It was discussed and adopted by the United Nations Statistical Commission. It is a new standard replacing 1993SNA. The national accounts statistics in Japan is scheduled to be revised in line with the 2008SNA in December 2016.

financial institutions and affiliated groups which cooperate with the Bank in submitting source materials.

The following are major points for the revisions of the Flow of Funds Accounts. **The first point is the sophistication of the method for recording financial transactions.** Considering that corporate pensions and investment trusts have increased in importance with the ageing of society and the trend of moving from saving to investment, the Bank has improved the accuracy of the statistics by: (i) applying accrual accounting completely to corporate pensions and (ii) changing the method for recording retained earnings and distribution in investment trusts. **The second point is the revision of transaction items.** The Bank has newly incorporated financial transactions which were not covered by the Former Flow of Funds Accounts, including (iii) Provisions for calls under standardized guarantees, and (iv) Employee stock options. **The third point is the revision of the classification for institutional sectors.** The Bank has newly established (v) Captive financial institutions and revised the classification of holding companies. After this revision, the number of sectors in the Flow of Funds Accounts has increased from the former 45 to **50 sectors** (Figure 2), while the number of transaction items from the former 51 to **57 items** (Figure 3).

The following sections explain the details of the revision concerning five points—(i) **Corporate pensions,** (ii) **Investment trusts,** (iii) **Provisions for calls under standardized guarantees,** (iv) **Employee stock options, and** (v) **Captive financial institutions—**and show the quantitative impact of this revision on the stocks and transaction flows. Furthermore, since the above revisions have a substantial impact on the stocks of assets/liabilities and financial surplus/deficit of the household sector and the private nonfinancial corporation sector, this paper explains the impact on (vi) **the stocks of assets and liabilities in major sectors, and** (vii) **financial surplus and deficit in major sectors**, by presenting figures. Finally, this papers also explains (viii) **details of the published data series**, such as the starting time of the data and seasonally adjusted figures for the New Flow of Funds Accounts.

Please note that the figures in this paper are preliminary figures as of March 1, before the publication of the official statistics.

## 3. Pension Entitlements for Corporate Pensions

### (1) Pension System in Japan and the Coverage of the Flow of Funds Accounts

The pension system in Japan is a so-called three-tier system. In addition to the two-tier public pension, consisting of the national pension (basic pension) which is given commonly to all Japanese nationals, and employee pension (employees' pension and mutual aid pension) which provides an additional earnings-related pension in addition to the national pension, there are private pensions such as corporate pensions (the Employees' Pension Fund, defined benefit corporate pensions, and defined contribution schemes (corporate type)), other pensions (the National Pension Fund and defined contribution schemes (individual type)), and individual annuity insurance provided by life insurance companies (Figure 4).

Among these, private pensions - **corporate pensions, other pensions and individual annuity insurance - are covered as financial assets of households** by the Flow of Funds Accounts[4]. Moreover, the funds which are accumulated to provide pensions and lump-sum retirement benefits for employees of private companies and the self-employed are classified in the independent institutional sector "**Pension funds**" (i.e., Corporate pensions and Other pensions). Managed assets etc. owned by pension funds are recorded on the asset side of pension funds, while liabilities to households are on the liability side.

### (2) Main Points of Revision of the New Flow of Funds Accounts

Regarding corporate pensions, which account for 60% of private pensions in terms of the stocks, the New Flow of Funds Accounts (i) **distinguishes defined benefit schemes and defined contribution schemes** and records them separately as independent sectors, and (ii) **calculates pension entitlements under defined benefit schemes (stocks and flows) on an accrual basis**, and explicitly records, as an independent item, claims of pension funds on pension managers (so-called the "underfunded pension obligations").[5] As a result, it becomes possible to understand more accurately and in more detail the financial assets/liabilities and transaction flows of corporate pensions which are attracting attention with the ageing of society.

---

[4] On the other hand, public pensions in Japan do not link contributions and benefits, nor do they make the source data needed to calculate pension entitlements sufficiently available. Accordingly, public pensions are beyond the scope of the recording of pension entitlements under the New Flow of Funds Accounts, similarly as under the Former Flow of Funds Accounts.

[5] Under the Former Flow of Funds Accounts, those for listed companies are recorded as part of accounts receivable/payable.

**(Separate Recording of Defined Benefit Schemes and Defined Contribution Schemes)**

The New Flow of Funds Accounts follows the recommendations of 2008SNA to **record** corporate pensions **separately** in two sectors with different characteristics, namely, **defined benefit schemes and defined contribution schemes**. This is because, while the two types of pension schemes are common in managing pension assets, they differ completely in their characteristics for the relationship between households as obligees of pension entitlements and companies as obligors of pension liabilities, and therefore, should be treated separately.

**(Method for Recording Defined Benefit Schemes)**

The defined benefit scheme is the pension scheme in which employers (companies) promise employees (households) that they will provide, for a certain period of time after retirement, pensions calculated from such elements as the working period and salary of employees based on a certain formula. Accordingly, the claims households have for pensions (the pension entitlements) need to be **calculated from the amount of future pensions to be provided promised by companies to households (accrual accounting)**, not from the managed assets owned by the pension fund.

Based on such point of view, under the New Flow of Funds Accounts, the stock of the pension entitlements is calculated as the discounted present value of the future payment based on the actuarial calculation of pensions (outstanding liabilities for retirement benefits) (Figure 5)[6]. Moreover, the transaction flow of pension entitlements is calculated by deducting the pensions paid from the pension entitlements gained (amount of gross increase) based on the actuarial calculation of pensions[7]. It means the inflow of funds from households to the pension fund if this figure is positive, and the outflow of funds from the pension fund to households if negative.

If pension entitlements are understood in this way on an accrual basis, pension entitlements may exceed the assets owned by the pension fund (shortage of the accumulated amount). In such a case,

---

[6] According to the current accounting standard for retirement benefits, the discount rate applied to the calculation of the present value is the yield of equivalent to risk-free bonds such as JGB, government agency bonds, or high quality corporate bonds, which reflects expected defrayment period of each pension. The current standard requires recalculation when the amount of retirement benefits changes more than 10% compared to those in the previous period.

[7] Since the idea of transaction flows is somewhat complicated, a supplementary explanation follows. Under the New Flow of Funds Accounts, when new pension entitlements are provided by companies to employees (households), the gross increase in the pension entitlements is regarded as being distributed to households as income, after which such income is entrusted to the pension fund (inflow of funds from households to the pension fund, i.e., an increase in the managed financial assets). On the other hand, payment of pensions is regarded as the withdrawal of pension entitlements (outflow of funds from the pension fund to households, i.e., a decrease in the managed financial assets).

the difference between the two is recorded on the asset side of the pension fund as **Claims of pension funds on pension managers.** These claims are the claims the pension fund holds with respect to the employer (company), and the **liabilities promised to pay to the pension fund in the future (underfunded pension obligations**[8]**)** for companies.

**(Method for Recording Defined Contribution Schemes)**

Under the defined contribution schemes, households and companies contribute and accumulate funds, and the assets managed in the funds will be withdrawn as payment in the future (pension entitlements); therefore, companies (employers) do not commit in advance to the amount of future payment. Accordingly, the claims (the pension entitlements) households (employees) have are **the outstanding assets accumulated by managing the contributions from households and companies.** Under the New Flow of Funds Accounts, flows and stocks of defined contribution schemes are recorded independently, while their calculation methods are the same as the Former Flow of Funds Accounts.

### (3) Source Data and Estimation Methods under the New Flow of Funds Accounts

**(Defined Benefit Schemes)**

In order to compile the stocks of assets/liabilities and transaction flows of the defined benefit schemes, data is necessary for the stocks of pension assets, pension entitlements (liability to pay retirement benefits), and flows of newly provided pension entitlements. Regarding pension assets, the amount of managed assets of the total corporate pensions on a market value basis can be obtained from the data on entrusted assets of the trustees (trust banks, life insurance companies, etc.). However, for the remaining items, there is no comprehensive data covering the total.

The Bank estimates the stock of the total corporate pensions, including those of unlisted companies, and transaction flows, after compiling the data based on accounting for retirement benefits disclosed by the financial statements of individual companies (outstanding pension assets and retirement benefit liabilities, and pension costs including service costs and interest costs) (Figure 6) and aggregating to the total number for the listed companies[9] (over 3,000 companies). The

---

[8] There are two types of shortage of accumulate funds: one for which cash and other assets are not contributed to the corporate fund but are recorded as expenses; and the other, for which neither asset contribution nor recording of expenses is done (unrecognized liabilities). While the former is not necessarily the shortage of accumulated funds under the corporate accounting, this paper uses the term "shortage of accumulated funds" to include the former.

[9] Data is compiled not only from listed companies but also from some unlisted companies for which corporate financial data concerning corporate pensions can be found (the same shall apply below).

specific method for calculation is as follows.

Regarding **stocks**, the outstanding pension entitlements for all corporate pensions are calculated by multiplying the **outstanding amount of retirement benefit obligations on a listed company basis** [10] by the "**grossing up ratio**" **(i.e., outstanding pension assets of all corporate pensions/outstanding pension assets of listed companies)**[11] (Figure 7(1)). In this estimation, the ratio of pension assets to retirement benefit obligations is implicitly assumed to be the same for both listed and unlisted companies. Moreover, the amount calculated by deducting the outstanding pension assets from the outstanding pension entitlements for the estimated corporate pensions as a whole[12] is the outstanding claims of pension funds on pension managers of corporate pensions as a whole.

Regarding **flows**, the **service costs and interest costs**[13] which correspond to the gross increase of pension entitlements in corporate accounting, are compiled by using the available figures of listed companies. And then, the value for corporate pensions as a whole is estimated by multiplying the compiled service costs and interest costs by the same **grossing up ratio** as used for the estimate of stocks (Figure 7 (2)). The transaction flows are estimated by **deducting the actual amount of pensions paid** - estimated from the documents of various pension funds - from that number.

**(Defined Contribution Schemes)**

The stock of pension entitlements is recorded as the entrusted assets for management on a market price basis reported by trustees. Flows are the amount corresponding to the contributions by households and companies, deducted the amount paid and added interest and dividend income generated from pension assets[14]. While it differs in that **it shows the defined contribution schemes independently**, its method for estimation is the same as that for the Former Flow of Funds Accounts.

---

[10] Retirement benefit obligations in retirement benefit accounting include lump-sum retirement benefits other than pensions. Accordingly, the stocks/flows of defined benefit schemes include lump-sum retirement benefits to some extent.

[11] All corporate pensions mean the employees' pension funds, defined benefit corporate pensions, and qualified retirement pension plans.

[12] Strictly speaking, the outstanding pension entitlements here include the outstanding financial derivatives recorded in the liabilities of defined benefit schemes.

[13] The gross increase in pension entitlements in the actuarial calculation is the sum of: (i) the increase reflecting the number of working years and increased wages because employees in this period have worked one additional term, and (ii) the increase in discounted present value because the period of future pension payment becomes closer by one term. (i) and (ii) correspond to the service costs and interest costs, respectively, in corporate accounting.

[14] In the transaction flows of defined contribution schemes, interests and dividends generated by pension assets are assumed as if they were distributed to households, and then reinvested in pension funds (inflow from households to pension funds).

**(4) Provision of Long Term Time-series Data on Pension Entitlements and Claims of Pension Funds on Pension Managers**

For the New Flow of Funds Accounts, retroactive data of the stocks on a new basis are provided in principle from the first quarter of 2005 (FY2004 on a fiscal year basis) onwards. Retroactive data for **pension entitlements of corporate pensions (retirement benefit obligations**) and **stock of claims of pension funds on pension managers, however, are also provided as a reference series on a fiscal year basis from FY1993**, in consideration of the needs of users, (Figure 9). While this reference series is basically estimated by the same method as used for the official series from FY2004, some allowances should be made in using them on the less accuracy of the estimates because of difficulties obtaining sufficient source data for the older points in time.

**(5) Effects on Figures in the New Flow of Funds Accounts**

**(Stock of Pension Entitlements for Corporate Pensions)**

**Outstanding pension entitlements (stocks)** at the end of FY2014 was 138 trillion yen for corporate pensions as a whole, of which 130 trillion yen was for defined benefits schemes and 7 trillion yen for defined contribution schemes[15]. As such, **defined benefits schemes account for the major part (95%)**, while defined contribution schemes have a small share (Figure 8(1)). This is different from the situation in the U.S. where defined contribution schemes have a high share (Figure 8(2))[16].

As a result of this revision, the stock of pension entitlements increased by **an annual average of approximately 15 trillion yen** from the former balance, mainly due to the increased coverage for corporate pensions.

Looking at changes in **outstanding pension entitlements**[17], those for **defined benefits schemes** increased rapidly from 79 trillion yen at the end of FY1993, reaching a peak at the end of FY2002 at 184 trillion yen (Figure 9).

Subsequently, they have been on a gradual decreasing trend. Regarding the background, it can be pointed out that: (i) During the first half of 2000, companies cut the levels of pension payments as

---

[15] Regarding figures in this paper, totals may not agree exactly with the figure in the total due to fraction processing by rounding (the same applies hereafter).

[16] In pension funds in the U.S., defined benefit schemes account for 38%, while defined contribution schemes account for 62% (as of the end of September 2015).

[17] See footnote 12.

part of restructuring processes; (ii) Since the second half of the 2000s, with the retirement of baby boomers, payments for pensions and lump-sum retirement benefits have been increasing, pension entitlements have been decreasing; (iii) An increasing number of companies, mainly small- and medium-sized, have abolished corporate pensions; and (iv) With lower returns to investment, an increasing number of companies have returned the contracted-out portion of public pensions back to the Japanese Government, and as a result, pension entitlements for the portion have been decreasing[18].

On the other hand, with regard to those of defined contribution schemes from FY2004, they have been on an increasing trend from 1 trillion yen at the end of FY2004 (Figure 8(1)) because companies have been gradually shifting from defined benefit schemes to defined contribution schemes, aiming to reduce their pension payments.

**(Transaction Flows of Corporate Pensions)**

Next, looking at **flows of pension entitlements from FY2005,** defined benefit schemes have gradually increased the outflow of funds from pension funds to households from -0.3 trillion yen in FY2005 to -2.5 trillion yen in FY2014 (annual average of -1.4 trillion yen for the period). This reflects the fact that recipients of corporate pensions have been increasing in recent years with the retirement of baby boomers. On the other hand, defined contribution schemes have been recording positive inflows at an annual average of 0.5 trillion yen or so (inflows into corporate pensions), showing contrasting trends (Figure 8(3)).

As a result of this revision, flows of pension entitlements have been **revised downward by an annual average of 2.3 trillion yen,** indicating a different picture that outflows of funds from corporate pensions to households started from an earlier point in time. This is because the New Flow of Funds Accounts does not record the increase in pension entitlements when the cash is actually paid into pensions funds (cash accounting) but when companies promise their employees to provide pensions in the future (accrual accounting). Companies generally promise payments first, and thereafter pay cash in corporate pension funds. Consequently, the recorded amount of pension entitlements increased in the 1990s and earlier when baby boomers remain actively employed, with the flow to corporate pensions (inflow of funds) revised upward, whereas the amount decreased in

[18] Nevertheless, the stock of pension entitlements under defined benefit schemes turned to an increase towards the end of FY2014. This is because the discount rate used for the actuarial calculation of pensions declined substantially due to the effect of the considerable decrease of the long-term interest rates in recent years, causing an increase in pension entitlements (liabilities for retirement benefits) which are calculated as the discounted present value of the future pension payment.

the 2000s and later when baby boomers retired, with the flow revised downward. Reflecting such a change in transaction flows, **households' financial surplus** also decreased.

**(Claims of pension funds on pension managers)**

The stock of **Claims of pension funds on pension managers,** which is calculated as the difference between retirement benefit obligations and assets of corporate pensions, substantially increased from 26 trillion yen at the end of FY1993 to **a peak of 102 trillion yen at the end of FY2002**, because managed assets of pensions did not increase, partly due to deteriorating performance from stagnant stock prices etc., despite the rapid increase in pension entitlements in the 1990s[19]. In the early 2000s, a shortage of reserves by corporate pensions became a major topic with the introduction of retirement benefit accounting; the New Flows of Funds Statistics revealed its magnitude for the first time. Subsequently, with the reduction of pension entitlements[20] and the improvement of the performance of managed assets, shortage of reserves for pensions turned to a substantial decrease to 25 trillion yen at the end of FY2014[21].

## (6) Corporate Pensions: Difference in Composition of Assets between Defined Benefit and Defined Contribution Schemes

In the New Flow of Funds Accounts, corporate pensions are divided into two categories, defined benefit and defined contribution schemes, and assets and liabilities are independently recorded, enabling us to understand the difference in the composition of assets. This is an advantage of the New Flow of Funds Accounts.

Regarding the composition ratio of assets at the end of FY2014, for defined benefit schemes, bonds account for 25%, equity for 9%, outward investment in securities (foreign bonds and stocks) for 23%, while claims of pension funds on pension managers (shortage of reserves for corporate pensions) for nearly 20% (Figure 10(1)). In comparison to public pensions (employees' pensions and

---

[19] At this point in time, with the introduction of retirement benefit accounting, there was a large difference between the conventionally recorded liabilities (reserve for retirement allowance) and newly calculated retirement benefit obligations. Under the corporate accounting at the time, such a difference was not to be entered in the balance sheet of companies at once but to be dealt with over time.

[20] In FY2002, corporate pensions are allowed to return their contracted-out portion of employees' pension back to the government. Therefore, subsequent rise in returning contracted-out portion may partly explain the reduction of pension entitlements for the years immediately after FY2002. Despite the fact that entrusted assets consist of the earnings related portion and contracted-out portion, the two portions are treated equally in calculating pension entitlements, due to lack of source data distinguishing the two portions.

[21] As explained in footnote 8, the figure for the end of FY2014 still includes the part for which expenses were recorded and the one for which expenses were not yet recorded (unrecognized liabilities). Under the current accounting standards, both are entered as liabilities in the balance sheet of companies, while the latter (unrecognized liabilities) is also recorded in the section for net assets.

mutual aid pensions), it is observed that defined benefit schemes have a smaller holding ratio of risk assets such as equity and outward investment in securities, while still relying heavily on the creditworthiness (ability to pay liabilities) of parent companies (Figure 10(4)).

Moreover, in the composition of assets of defined contribution schemes, investment trusts account for 56%, while cash and deposits account for 43% (Figure 10(2)). It indicates that assets managed are selected by individual participants on their own responsibility, and many of them are risk-averse and placing priority on management of safe assets.

## 4. Retained Earnings and Distributions from Investment Trusts

### (1) Recording Method of Investment Trusts and Issues in the Former Flow of Funds Accounts

#### (Recording Method of Investment Trusts under the Former Flow of Funds Accounts)

While investment trusts in Japan (hereinafter referred to as the "Investment Trusts") had a smaller significance than those in the U.S. and major European countries, in the trend of "From Saving to Investment," their amounts outstanding have been increasing substantially since the beginning of the 2000s. Their importance has been gradually increasing particularly in the household sector where the amounts outstanding nearly tripled from 34 trillion yen at the end of FY2000 to 95 trillion yen at the end of FY2014, with its share in the financial assets reaching 6% (Figure 11(1), (2)). As for the asset-side composition of Investment Trusts (at the end of FY2014), outward investment in securities increased to account for over 50%, reflecting the fact that households, confronting with the continued low interest rates, have preferred investments with higher yields in foreign stocks or bonds denominated in foreign currencies (Figure 11(3)) .

Investment Trusts are regarded as an independent sector in the Flow of Fund Accounts, with the assets (stock and bonds etc.) are recorded on the asset side, and investment trust beneficiary certificates on the liability side (Figure 12(1)). In the Flow of Funds Accounts, the amounts outstanding of Investment Trusts (Investment trust beneficiary certificates) have a sufficient degree of accuracy, by reflecting the total amounts of net asset value which derive from evaluating the working assets on a mark to market basis provided by the Investment Trust Association in Japan, and are listed on the liability side as the investment trust beneficially certificates.

On the other hand, transaction flows of Investment Trusts under the Former Flow of Funds Accounts are calculated by deducting outflows of funds (amounts of cancellation and redemption) from inflows of funds (amounts purchased by investors (Figure 12(2)), using aggregate data. As a result, under the former transaction flows, those figures arising from active transactions by investors of investment trust beneficiary certificates are recorded. This flow also includes additional purchase of investment trust beneficiary certificates (so-called "Reinvestment"), with the help of paid distributions.

**(Issues for the Recording Method of Transaction Flows)**

However, such method has some problems. First, **the treatment of earnings is not distributed to investors as distributions ("retained earnings")**. Investment Trusts are just a conduit which gather money from many investors and manage the assets efficiently, with the income passing through. Therefore, their earnings should be regarded as **belongings to investors (to be recorded as income)** regardless of whether they are distributed or not (Figure 12(3)). So, retained earnings which are not distributed to investors should also be included in transaction flows as **re-investment of distributions**. Second, distributions of Investment Trusts include distributions not only from **investment returns of management such as interests or dividends but other revenues.** Under the Former Flow of Funds Accounts, since distribution of Investment Trusts is a transfer of income in real side, they are not included in transaction flows of Investment trust beneficiary certificates in financial side. However, if distributions are generated from principal or capital gains, they should be seen as **withdrawal of funds (outflow of funds) from Investment Trusts,** therefore need to be included in transaction flows.

### （2）Recording Method of Transaction Flows in the New Flow of Funds Accounts

Taking these matters into consideration, under the New Flow of Funds Accounts, the recording methods are changed in capturing the transaction flows concerning **retained earnings** and **distributions** from principal or capital gains of investment trusts. Given the increased significance of Investment Trusts in the financial assets of households, improved accuracy of transaction flows of Investment Trusts is essential to improve the accuracy of estimating households' financial surpluses and deficits.

**(Recording Method of Retained Earnings)**

While Investment Trusts pay out most of the interests and dividends gained from asset management as distributions, they keep some earnings and reinvest them in stocks and bonds instead of distributing. There are some Investment Trusts which take such investment policies, aiming to improve performance and pay out distributions steadily through the effect of compound interests. In the New Flow of Funds Accounts, retained earnings acquired from the interest and dividend income of working assets are recorded as **distributed to investors at first**, then recorded **as if they were reinvested by investors(inflow of funds from investors to Investment Trusts**) in accordance with the recommendation of 2008SNA(Figure13(1)). Such treatment enables us to record all interest and dividend income transactions that should be recorded as financial transactions from investors to Investment Trusts in the Flow of Funds Accounts, regardless of the distribution policies of Investment Trusts.

In addition to interest and dividend income, there are earnings from capital gains in the source of accumulated retained earnings. However, since capital gains are not recognized as income under the SNA, retained earnings from them are not regarded as if they are distributed to the investors then reinvested in the investment trusts (Figure13(2)). While retained earnings from capital gains are recorded as the increase in the market price of investment trust beneficiary certificates on the liability side (to reconciliation), it is consistent with the increase in capital gains of working assets on the asset side (to reconciliation).

**(Recording Method of Distribution)**

Investment Trusts can pay out from (i) interest and dividend income, (ii) capital gains, and (iii) principal. Among them, **distributions from principal or capital gains** are recorded as **withdrawal of investment trust beneficiary certificates by investors (outflows of funds from Investment Trusts to investors)** in the New Flow of Funds Accounts[22] (Figure 14).

After the start of the 2000s, many Investment Trusts mainly managing assets denominated in foreign currencies, which have increased amounts outstanding substantially, are committed to pay out a certain amount of distributions every month, regardless of their performances. In many cases, such Investment Trusts pay out distributions exceeding interest and dividend income in the phase of this deteriorating performance situation after the Collapse of Lehman Brothers. As such distributions are called "refunds of principal," they are clearly **withdrawal (outflow of funds) of the principal (investment trust beneficiary certificates) itself**.

Distributions from capital gains are also recorded as **withdrawal (outflow of funds) of**

---

[22] Sources of distributions by Investment Trusts include (iv) (undistributed) retained earnings accumulated up to the previous period, in addition to (i), (ii) and (iii). Among (iv), those from interest and dividend income will be at first distributed to investors as income in the period when retained earnings are generated. And the investors reinvest them in the investment trusts (i.e., they are added to principal), therefore, in the next period, they will be the equivalent for (iii) distributions from principal. Moreover, those from capital gains can be regarded in the same way as (ii) distributions from capital gains. Accordingly, (iv) will be recorded as withdrawal of investment trust beneficiary certificates by investors (outflows of funds from Investment Trusts to investors), like (ii) or (iii).

**investment trust beneficiary certificates.** This corresponds with the fact that capital gains do not yield cash until they are realized, and the equivalent amount of working assets needs to be sold as the source of distributions. In order to be consistent with the outflow of funds on the asset side, it is appropriate to assume that the outflow of funds occur also on the liability side.

### (3) Source Data and Estimation Method for the New Flow of Funds Accounts

While figures for amount outstanding and transaction flows are made from aggregate data published by Investment Trusts Association in Japan and other institutions, such data does not include the aggregate data for retained earnings in Investment Trusts or distributions sorted by sources.

Then, the Bank, sampling top 150 or more Investment Trusts which account for over 70% in total net assets value among publicly offered stock investment trusts excluding certain funds such as ETFs, calculates retained earnings from interest and dividend income and distributions from principal and capital gains, making use of data on interest and dividend income, capital gains, amount of distributed earnings, and sources of distributions recorded in investment reports of individual funds. Moreover, by grossing up, retained earnings from interest and dividend income and distributions from principal and capital gains are estimated as a whole, letting them in transaction flows of investment trusts in the New Flow of Funds Accounts (Figure 15, see Annex for details of estimation methods).

Due to the restraints on source data, "retained earnings from interest and dividend income" are reflected in figures since the third quarter of 2012. As for distributions from principal and capital gains, accurate figures can be used since the third quarter of 2012. An alternative figure of "distributions from principal" is calculated before the second quarter of 2012. However, looking at the data for the past several years when the markets are recovering, distributions from capital gains should have been small. As a result, "distributions from principal and capital gains" are almost same as "distributions from principal (refunds of principal)". Given this point, it is called "Distributions from principal etc." in the following sections.

### (4) Effects on Figures in the New Flow of Funds Accounts

While the above revision of recording methods for retained earnings and distributions do not have an effect on the amounts outstanding of Investment Trusts, it has a substantial effect on transaction flows of Investment Trusts.

First, (i) **annual retained earnings from interest and dividend income** reached **around 1.5 trillion yen** from FY2013 to FY2014 (Figure 16(1)). With the recent rise of stock prices and further depreciation of yen, investment performance has recovered, mainly in the stock investment trusts, and more earnings are retained in themselves.

Next, concerning **(ii) distributions from principal etc.,** with the plunging prices of stocks and bonds in the U.S., Europe and emerging countries after the Collapse of Lehman Brothers as well as a rapid appreciation of the yen, interest and dividend income decreased substantially. In order to make compensate for it, distributions from principal (refund of principal) increased drastically from around FY2007, reaching a peak of **3.7 trillion yen (annually**) in FY2011 (Figure 16(2)). During this period, **about 80% of distributions from investment trusts were generated from principal**. Despite the deterioration in performance, investment trusts mainly managing assets in foreign currencies continued to pay out steadily every month as promised, thereby decreased their working assets considerably. While "proper" distributions from interest and dividend income have gradually increased since FY2012, with the help of improved performances, distributions from principal etc. still account for half the amount of total distributions even recently (around 3 trillion yen[23]).

In the New Flow of Funds Accounts, the above two factors are reflected in transaction flows. Considering the two factors, (ii) distributions from principal etc. contribute more significantly to the transaction flows than (i) retained earnings from interest and dividend income, so they are revised in the direction of reducing inflow of funds from investors since FY2005 (Figure 17(1)). While under the Former Flow of Funds Accounts, the inflow of funds into Investment Trusts has been consistent since FY2005 (net purchase of investment trust beneficiary certificates), in the New Flow of Funds Accounts, **the annual inflow of funds has been smaller compared with the former statistics**, due to the contribution of (ii) distributions from principal etc. (refunds of investment trusts principal). **Especially in FY2008 and FY2011, it turned out that outflow of funds from Investment Trusts (net sales of investment trust beneficiary certificates) occurred.** The phenomenon is true of flow of funds between households and Investment Trusts (Figure 17(2)). In this way, the New Flows of Funds Account Statistics enables to capture inflows and outflows of Investment Trusts (investors' stances in investment) more accurately.

[23] Given that retained earnings from interest and dividend income have substantially increased, it is likely that distributions from retained earnings prior to the previous period account for a certain part of distributions from principal etc.

## 5. Provisions for Calls under Standardized Guarantees

### (1) New Recording of Standardized Guarantees

Under the traditional SNA, guarantees, with some exceptions, have not been regarded as financial assets/liabilities because they are contingent; one or more conditions should be fulfilled before transactions take place. However, while this basic idea being kept, 2008SNA recommends to record as financial assets/liabilities the guarantees issued in large numbers for fairly small amounts along identical lines ("Standardized Guarantees") as an exception, because the expected value of calls under the guarantees can be reasonably estimated if a certain amount of cases are compiled (as they can be seen as financial transactions similar to insurance transactions).

In Japan, Standardized Guarantees include not only **the public credit guarantee programs for companies and individuals** but also **loan guarantees for individuals provided by private financial institutions**. In accordance with 2008SNA recommendations, the New Flow of Funds Accounts recognizes these Standardized Guarantees as financial transactions, recording their reserves and unearned guarantee fees as the transaction item "Provisions for Calls under Standardized Guarantees," as a breakdown of insurance, pension and standardized guarantees.

### (2) Source Data and Estimation Method for Provisions for Calls under Standardized Guarantees

Among transactions to be recorded as Standardized Guarantees, though some provisions of public credit guarantee programs for companies and individuals can be calculated from published data, no source data exists for amounts **outstanding of housing loan guarantees and provisions for calls under housing loan guarantees**, which account for most of loan guarantees for individuals.

Accordingly, the Bank conducts surveys on guarantee companies affiliated with banks and cooperative financial institutions, and estimates at first **the rate of provision for calls against the amount of housing loan guarantees** in the sample. Next, the Bank estimates **the amount of housing loan guarantees** in the economy as a whole by using figures of housing loans in the Flow of Funds Accounts, taking into account the percentage of loans guaranteed**.** And then, provisions for calls are estimated by multiplying the amount of housing loan guarantees with the estimated rate of provisions for calls against the amount of housing loans (Figure 18). **Finally, adding provisions for calls under standardized guarantees by public credit guarantee programs** to it, these estimated figures are recorded as liabilities of a newly established sector "Standardized Guarantee Institutions." This new transaction item enables the macroeconomic analysis of standardized guarantee transactions, which has been difficult at an aggregated level.

Provisions for calls under standardized guarantees are also recorded as the assets of households and companies paying out the guarantee fees. This reflects the fact that, in Japan, most guarantee fees are long-term fixed and paid in lump sum, and unearned guarantee fees are directly refunded to households and companies in the event of advanced repayment.

With the restraints of source data, figures for public credit guarantee programs are recorded from the first quarter of 2010 onwards, and ones for housing loan guarantees are added to them from the first quarter of 2013 onwards.

### (3) Effects on Figures in the New Flow of Funds Accounts

**The amounts outstanding of Provisions for Calls under Standardized Guarantees** have been almost flat in the last several years, with a total of **2.5 trillion yen** at the end of FY2014 in housing loan guarantees and public credit guarantee programs (Figure 19(1)). This is because the rate of provisions for calls under housing loan guarantees has been to some extent on a decreasing trend in recent years, while the amounts outstanding of housing loans have been increasing gradually (Figure 19(2)). In this way, using the New Flow of Funds Accounts, the amount of the buffers ("reserves") for defaults ("subrogation") on lending covered by credit guarantees including housing loans can be observed.

## 6. Employee Stock Options

### (1) New Recording of Employee Stock Options

**(Employee Stock Options)**

Employee stock options are the rights, given by companies to their executives and employees to purchase the shares of the company, and are widely used in many companies mainly in the U.S. and Europe as a success bonus to increase the incentives of executives and employees to work. For employee stock options, the exercise price is determined at the grant date, and option holders are entitled to purchase the shares of their company at a strike price after a certain vesting period, between the vesting date and expiration date.

**(Recording Method of Employee Stock Options)**

Against the background of the clarification of their treatment in corporate accounting, 2008SNA recommends that employee stock options are recorded as income and financial transactions. In response to this recommendation, employee stock options are recorded in the New Flow of Funds Accounts.

Specifically, **employee stock options are regarded as compensation paid to executives and employees in the vesting period, and the amount is recorded as financial assets**. Such treatment is consistent with the understanding of both employees and companies, which will contribute to describing actual situation accurately. When recording them as financial assets, given that employee stock options in the vesting period are subject to various conditions to be qualified, including the need to continue working until the vesting date, they are recorded under the transaction item "Others" without being regarded as financial derivatives. On the other hand, they are regarded as one of the financial derivatives in the exercise period until the expiration date, and recorded in the transaction item "Employee stock options" as a sub-item of financial derivatives and employee stock options. The recording sectors are households on the asset side, and private nonfinancial corporations on the liability side[24].

**(2) Source Data and Estimation Method of Employee Stock Options**

While there is no aggregate data for employee stock options, almost all "**Share options"** covered by "Financial Statements Statistics of Corporations by Industry" by the Ministry of Finance can be regarded as employee stock options, and therefore, **their outstanding amount is used as an approximation for that of employee stock options** (Figure 20(1)). Moreover, by using the data on the ratio between the number of the outstanding unvested stock options (corresponding to those in the vesting period) and the number of the outstanding vested but unexercised stock options (corresponding to those in the exercise period) which can be obtained from financial statements of individual companies, the outstanding share options are apportioned to those in the vesting and exercise periods, and recorded separately in the transaction item "Others" and the transaction item "Employee stock options" under financial derivatives and employee stock options. With the restraints of source data, employee stock options are recorded from the second quarter of 2007.

**(3) Effects on Figures in the New Flow of Funds Accounts**

**The outstanding amount of employee stock options** currently stays in a small amount, with **over 400 billion yen** at the end of FY2014, for the total of transaction item "Others" and the transaction item "Employee stock options" under financial derivatives and employee stock options. Nevertheless,

---

[24] Whereas employee stock options are also issued in sectors other than private nonfinancial corporations, since their amount is minimal, the entire amount is recorded as being issued by private nonfinancial corporations.

considering that they remained over 200 billion yen from FY2010 to the end of FY2013, the pace of increase was accelerated somewhat in FY2014 due to the rise in stock prices and economic recovery (Figure 20(2)). Financial surplus of households (income of households) generated by the provision of employee stock options increased from tens of billions of yen annually to about 200 billion yen annually in FY2014.

## 7. Captive Financial Institutions

### (1) New Recording of Captive Financial Institutions

2008SNA recommends that a new sub-sector, "**Captive Financial Institutions**" be introduced under the sector, "Financial institutions." These "captive financial institutions" are defined as "entities providing financial services, where most of either their assets or liabilities are not transacted on open financial markets. " It seems to aim at classifying independently **those which have weaker financial intermediation functions than other financial institutions, transacting within only a limited group of units in financial investment and fund raising etc.,** even if they resemble other financial institutions in balance-sheet structure and other external appearances.

### (2) New Recording of Public Captive Financial Institutions in the New Flow of Funds Accounts

When this concept is applied to Japan's Flow of Funds Accounts, **some financial institutions that are prior to revision classified in "government financial institutions" would fall into the definition of "captive financial institutions."** Specifically, they include Japan Expressway Holding and the Debt Repayment Agency (an entity which owns the expressways previously owned by four former highway public corporations, and leases them to expressway companies) and Japan Finance Organization for Municipalities (a financial institution to make loans to municipalities and local public enterprises) among others. Therefore, they are separated from "government financial institutions" and included in a new sub-sector of "**public captive financial institutions**" (Figure 21 (1) (2))[25].

In this way, by making institutional sectors more detailed, it becomes easier to see the developments in each sector, focusing on whether substantial financial intermediation functions exist. For example, after separating "public captive financial institutions," the existing "government

---

[25] As for the entities corresponding to captive financial institutions, 2008SNA envisages private ones such as holding companies without headquarter functions and special purpose entities other than securitization vehicles. However, since we cannot confirm their existence by data in Japan at present, we will establish only "public captive financial institutions," which does not currently include private sector entities.

financial institutions" will become a group of public financial institutions with relatively strong financial intermediation functions. As a result, the new "government financial institutions" will become easier to compare with other private financial institutions, which will meet more diversified analytical needs.

### (3) Effects on Figures in the New Flow of Funds Accounts

**The outstanding financial assets of "public captive financial institutions"** after separated from "government financial institutions" are **59 trillion yen** for the average of FY2004-FY2014 (Figure 21(3)). The discontinuity in the stock in FY2005 from the previous year is due to the establishment of Japan Expressway Holding and Debt Repayment Agency in the fourth quarter of 2005, after the privatization of the four former highway public corporations. The amounts outstanding of financial assets of "public captive financial institutions" have been flat since then. On the other hand, the amounts outstanding of financial assets of "government financial institutions" after separating "public captive financial institutions" is 140 trillion yen at the end of FY2004, which gradually decreased toward the end of FY2008, and afterwards was leveling off, at 122 trillion yen at the end of FY2014.

While "government financial institutions" in the Former Flow of Funds Accounts included the discontinuity from the above institutional change and was rather difficult to use for analysis, the figures for "government financial institutions" on the new basis reflect reality more accurately.

## 8. Effects of Revision on Outstanding Assets/Liabilities of Households/Private Nonfinancial Corporations

The substantial changes of the Flow of Funds Accounts explained in Section 3-7 affect the outstanding assets/liabilities of households and private nonfinancial corporations. In particular, changes in compilation method of defined benefit schemes in corporate pensions have a major effect on the asset side of the household sector, giving a similar effect on the liability side of private nonfinancial corporations as a counterpart of corporation pensions. The following shows the impact of changes in the amounts outstanding for these two sectors[26]:

[26] In addition, outstanding assets of general government are revised upward by 14 trillion yen on the average of FY2004 - 2014 from the Former Flow of Funds Accounts. This is because "Other equity" of the Fiscal Loan Fund Account of the Special Account for Fiscal Investment and Loan Program as well as the equity for retained earnings of Postal Savings owned by Japan Post etc. are newly recorded in outstanding assets of general government.

**(1) Households**

In the New Flow of Funds Accounts, **the amounts outstanding assets of households** are **revised upward by 15 trillion yen** on an average of FY2004-FY2014 from the former basis, albeit with some differences for individual years (Figure 22(1)). This is because **the pension entitlements**, which is recorded as assets of households, are **substantially revised upward** mainly due to the fact that the pension entitlements is **changed to be calculated on an accrual basis** based on the discounted present value of future pension benefits based on the actuarial calculation of pensions (outstanding retirement benefit obligations), and that **the coverage is expanded** to corporate pensions as a whole which includes unlisted companies. As a result, the existing peak of outstanding household assets on a fiscal year basis in the New Flow of Funds Accounts is 1,716 trillion yen at the end of FY2014, which is an upward revision of 16 trillion yen from 1,700 trillion yen in the Former Flow of Funds Accounts.

**(2) Private Nonfinancial Corporations**

In the New Flow of Funds Accounts, **the amounts outstanding of total liabilities of private nonfinancial corporations** are **revised upward by 16 trillion yen** on the average of FY2004-FY2014 from the former basis, albeit with some differences for individual years (Figure 22(2)). This is because **claims of pension funds on pension managers (underfunded pension obligations)** that are recorded as liabilities of private nonfinancial corporations**, are substantially revised upward.** This is due to the expansion of the coverage for corporate pensions to those of all companies including those other than listed ones, which is consistent with the upward revision of pension entitlements, i.e., assets of households[27].

## 9. Effects of Revision on Financial Surplus or Deficit of Households/Private Nonfinancial Corporations

Regarding changes in financial surplus or deficit of major sectors in the New Flow of Funds Accounts, **there is no major change from the former trends that households and private nonfinancial corporations are entities with financial surplus, while general government and overseas are entities with financial deficit** (Figure 23). Nonetheless, the effect on households and

[27] Nevertheless, at the end of FY2014, outstanding liabilities of private nonfinancial institutions on a new basis are revised downward from the former one. While this is technical reflecting the change in the market price evaluation on unlisted shares (changed from preliminary to final figures), it is a relatively large change owing to the recent high volatility in stock prices (-20 trillion yen).

private nonfinancial corporations is significant due to the above-mentioned changes in methods for recording transaction flows of defined benefit pension schemes and Investment Trusts etc. The following shows the impact of the revision on transaction flows for these two sectors[28]:

**(1) Households**

Reflecting this revision, on the average of FY2005-FY2014, the **financial surplus of households** is revised downward **by about 4 trillion yen** from the financial surplus of 19 trillion yen on the former basis to 15 trillion yen on the new basis (Figure 24(1)). This is because, with the change to an accrual basis of the recording criteria for pension entitlements, **transaction flows of pension entitlements under defined benefit schemes** are revised by over 2 trillion yen on the average of FY2005-FY2014, and **those of investment trust beneficiary certificates** due to the distributions derived from the principal and capital gains slightly less than 2 trillion yen, respectively, **in the direction of lowering** financial surplus of households (Figure 24(2)). Downward revision of households' financial surplus is somewhat large at 6 - 7 trillion yen in FY2013-FY2014. This is because, with the change to the accrual accounting, transaction flows of pension entitlements under defined benefit schemes are revised somewhat larger in the direction of lowering financial surplus of households.

**(2) Private Nonfinancial Corporations**

On the average of FY2005-FY2014, **the financial surplus of private nonfinancial corporations** in the New Flow of Funds Accounts is **revised upward by over 1 trillion yen** from over 16 trillion yen to about mid-17 trillion yen (Figure 25(1)). As mentioned above, this is mainly due to the change to an accrual basis in recording pension entitlements of households[29].

---

[28] In addition, regarding general government, financial deficit increases by about mid-4 trillion yen level on the average of FY2005 - FY2014 from the former one (Figure 25(2)). This is because "Other equity" of the Fiscal Loan Fund Account of the Special Account for Fiscal Investment and Loan Program is newly recorded as assets of general government, and after FY2006, transfers of reserves from the Account to general government are recorded as financial transactions, namely, recorded in outflow of funds as withdrawal of equity. Due to this change in the rules for recording, the financial deficit of general government increased by as much as 12 trillion yen in FY2006.

[29] The effect of downward revision of flows of households' investment trust beneficiary certificates on the counterparty sector is shown as an upward revision of financial surplus or deficit of not private nonfinancial corporations but securities investment trusts.

## 10. Data Series

### (1) Provision of Retroactive series

In the New Flow of Funds Accounts released on March 25, 2016, for the amounts outstanding (stock), the Bank provides data retroactively **from the first quarter of 2005 on a quarterly basis, from FY2004 on a fiscal year basis, and from CY2005 on a calendar year basis**. For transaction flows, moreover, the Bank provides data retroactively from the second quarter of 2005 on a quarterly basis, from FY2005 on a fiscal year basis, and from CY2006 on a calendar year basis.

Nevertheless, there are some data series, such as "provisions for calls under standardized guarantees" and "employee stock options" etc., which cannot go back to the first quarter of 2005 due to the restraints on source data. Figure 26 shows such data series with shorter retroactive periods.

In consideration of strong needs from users for long-term time series, in the **BOJ Time-Series Data Search**, the Bank **links, without modifications, the time series data before the fourth quarter of 2004 in the Former Flow of Funds Accounts to the data in the New Flow of Funds Accounts** starting in the first quarter of 2005, and **provide them as the data of the same time series**[30]**.**

However, in the New Flow of Funds Accounts, substantial changes have been made to the structures of sectors and transaction items in the Former Flow of Funds Accounts. Even under the same name, their definition, coverage and estimation method are changed in some cases; moreover, figures in other sectors or transaction items are also changed in some cases, due to the indirect effects of the changed sectors and transaction items. Information on such data discontinuities is included in the notes of each time series to be outputted with data at the time of download from the "BOJ Time Series Data Search." When using the series, it is appreciated to take these attributes into consideration.

### (2) Release of Seasonally Adjusted Figures

There is certain seasonality in the series of financial surplus or deficit. Accordingly, in order to improve convenience for users, the Bank newly **provides seasonally adjusted quarterly figures of financial surplus or deficit in the four major sectors (households, private nonfinancial corporations, general government, and overseas).** Seasonally adjusted figures are calculated by

---

[30] For transaction flows, the data linkage point is moved forward by one quarter.

using the seasonal adjustment program X-12-ARIMA (for details including specifications, see Figure 27). The Bank will conduct an annual retroactive revision to the model when the final data for one year becomes available, and for the upcoming year, calculate seasonally adjusted figures by using the forecast of seasonal factors. From FY2005 onwards, the seasonally adjusted figures average out seasonal changes for households, private nonfinancial corporations, general government, and overseas, making it easier to capture the underlying trends (Figure 28).

## 11. Overview of the Revision

In addition to major revisions explained above, the following provides an overview of the revision results including detailed items. Changes in figures following the revision are shown in Figure 29.

**Results of Revision to the Flow of Funds Accounts Based on 2008SNA**

### 1. Revision of Institutional Sector Classification

- The number of sectors after the revision based on 2008SNA has changed from the former 45 to 50 sectors.

#### (1-1) Captive financial institutions

- "Public captive financial institutions" is established as a subsector of financial institutions; institutions which belonged to "Government financial institutions" but fall under the definition of "Captive financial institutions" in 2008SNA, with relatively weak financial intermediation functions, are now separated and reclassified to "Public captive financial institutions."

- The amounts outstanding of financial assets of those classified in "Public captive financial institutions," after separated from "Government financial institutions" are 59 trillion yen for the average of FY2004-FY2014, while those of the institutions remaining in "Government financial institutions" are 121 trillion yen.

#### (1-2) Classification of holding companies

- Among holding companies with headquarter functions, holding companies of financial institutions which were prior to revision classified as "Domestically licensed banks" and "Securities companies" etc. in accordance with the major business of subsidiaries have been reclassified into "Financial holding companies," a new sub-sector of "Financial auxiliaries."

### 2. Improved Treatment of Financial Products and Financial Assets

- After the revision based on 2008SNA, the number of transactions items has changed from the former 51 to 57 items.

**(2-1) Pension entitlements for corporate pensions**

- Defined benefit schemes and defined contribution schemes are recorded separately.
- Pension entitlements (stock and flow) under defined benefit schemes are calculated and recorded on an accrual basis. As a result, the stock increased by an annual average of about 15 trillion yen compared to that of former basis. As for the recent changes in stocks, it has been on a decreasing trend from 141 trillion yen at the end of FY2004 to 130 trillion yen at the end of FY2014. Transaction flows were revised downward by the annual average of 2.3 trillion yen, indicating that outflow of funds from corporate pensions to households started earlier.
- As a result of such revisions, financial surplus of households decreases by the annual average of 2.3 trillion yen compared to the one on a former basis.
- For the pension entitlements (stock and flow) under defined contribution schemes, the estimation method is the same as on a former basis, while they are shown separately. Transaction flows have been positive at the annual average of about 0.5 trillion yen, whereas the stock has steadily increased from 1 trillion yen at the end of FY2004 to 7 trillion yen at the end of FY2014.
- Moreover, claims of pension funds on pension managers are explicitly recorded. The stock of claims of pension funds on pension managers increased to a peak of 102 trillion yen at the end of FY2002 and turned to decrease to 25 trillion yen at the end of 2014.
- In addition, for the stock of pension entitlements (retirement benefit obligations) under defined benefit schemes and for the stock of claims of pension funds on pension managers, the annual figures from FY1993 are provided for reference.

**(2-2) Retained earnings and distributions by Investment Trusts**

- Retained earnings originating from income gains of Investment Trusts are treated as if investors (mainly households) receive them as income and then reinvest.
- Distributions originating from principal and capital gains, distinguished from distributions originating from income gains, are recorded as withdrawal of investment trust beneficiary certificates by investors (mainly households) (reduction of savings by households).
- Transaction flows of households' investment trust beneficiary certificates were revised downward by 1.9 trillion yen per annum on the average of FY2005-FY2014, because downward

revision due to the recording of distributions originating from principal and capital gains exceeded the upward revision due to the recording of retained earnings.

- As a result, financial surplus or deficit of households saw financial surplus decrease by 1.9 trillion yen annually on a former basis on the average of FY2005-FY2014.

**(2-3) Provisions for calls under standardized guarantees**

- Based on the source data obtained from the surveys conducted by the Bank on guarantee companies affiliated with banks and cooperative financial institutions etc., provisions for calls under standardized guarantees concerning housing loans are estimated, and recorded after combined with provisions for calls under standardized guarantees by public credit guarantee programs.
- The stock of provisions for calls under standardized guarantees was 2.5 trillion yen at the end of FY2014.
- Provisions for calls under standardized guarantees are recorded as the assets for households and corporations which are paying guarantee fees.

**(2-4) Employee stock options**

- Using the outstanding amount of share options in Financial Statements Statistics of Corporations by Industry as basic statistics, employee stock options are estimated and recorded as a new transaction item. When dividing into financial assets in "Others" and "Employee stock options" under "Financial derivatives and employee stock options," apportionment will be conducted using the information obtained from financial statements of companies.
- The outstanding employee stock options at the end of FY2014 was over 400 billion yen in total, combining financial assets in "Others" and "Employee stock options" under "Financial derivatives and employee stock options."

**(2-5) Listed shares/Unlisted shares/Other equity**

- The former "Shares" are renamed as "Listed shares."
- Shares which are not listed are recorded as "Unlisted shares."
- Equities in partnerships (unlimited partnerships limited partnerships, and limited liability companies) and various legal entities other than in the form of corporations - which are in principle imposed restrictions on transfer of equity - are recorded as "Other equity."

**(2-6) Cash/Deposits/Inter-bank positions**

- The amount of deposits made by financial institutions reported on the liability side of banks' balance sheets plus the amount of call money are published as figures corresponding to "Interbank positions" recommended by 2008SNA to record.

- However, since it is difficult to identify creditor sectors, they are not be listed in the core accounts of the Flow of Funds Accounts. Instead, the figures with the debtor sectors are listed in the "Time series table" which is a reference series of the Flow of Funds Accounts.

**(2-7) Index-linked bonds**

- For any index-linked bonds, due to the considerable constraints on data availability, a certain degree of accuracy for estimation may not be achievable with the recommended method in 2008SNA. Accordingly, the Bank does not apply the recommended method in 2008SNA but continue the former recording method of treating changes in principal due to changes in indexes as changes in market prices (reconciliation amount).

**(2-8) Non-performing loans**

- The Bank continues the former recording method which is more in line with the principles of SNA: namely, loans on a real value (fair value) basis are recorded in core accounts, deducting write-offs of non-performing loans. Loans on a nominal basis continue to be listed as a reference series.

**(2-9) Bills purchased and sold**

- The transaction item "Bills purchased and sold" has been abolished and integrated into "Call loans and bills."

**(2-10) Mortgage securities**

- The transaction item "Mortgage securities" has been abolished and integrated into "Structured-financing instruments."

**(2-11) Direct investment**

- Reinvestment of earnings is added in the scope of outward direct investment, in addition to equity other than reinvestment earnings. Reinvestment of earnings is also added in the scope of investment in domestic equity from abroad.

**(2-12) Withdrawal of equity by government**

- Government's equity is recorded in the fiscal loan fund, and transfer of reserves from fiscal loan fund to central government is recorded as withdrawal of equity in the flow.

### 3. Provision of Retroactive Series and Seasonally Adjusted Figures

**(3-1) Provision of retroactive series**

- In the New Flow of Funds Accounts released on March 25, 2016, for the stock, the Bank provides data retroactively from the 1st quarter of 2005 on a quarterly basis, FY2004 on a fiscal year basis, and CY2005 on a calendar year basis.
- For transaction flows, the Bank provides data retroactively from the second quarter of 2005 on a quarterly basis, from FY2005 on a fiscal year basis, and from CY2006 on a calendar year basis.
- Figure 26 shows the data series with shorter retroactive periods, due to the restraints on source data.
- In the "BOJ Time-Series Data Search," the Bank links, without modifications, the time series data before the fourth quarter of 2004 in the Former Flow of Funds Accounts to the data in the New Flow of Funds Accounts starting in the first quarter of 2005, and provide it as data of the same time series.

**(3-2) Provision of seasonally adjusted figures**

- The Bank provides seasonally adjusted figures as a reference series for quarterly figures of financial surplus or deficit in the four major sectors (households, private nonfinancial corporations, general government, and overseas).

## 12. Conclusion

This paper presented the results of the revision on the Flow of Funds Accounts based on 2008SNA. This revision was achieved through many discussions at the Bank, taking into consideration valuable comments and suggestions which were given to us by many people. The Bank would like to express our sincere gratitude to those who were kind enough to make such contributions.

Going forward, taking your comments and suggestions into account, the Bank will not stop with this revision but would like to continue our persistent efforts so that the Bank can improve the Flow of Funds Accounts, and thereby provide more useful statistics to you, our users.

Figure 1

# Outline of Implementing the 2008SNA

- The United Nations Statistical Commission updated its manual from the 1993SNA to 2008SNA with the following three purposes in view:
  - (i) To clarify the unclear points in the 1993SNA.
  - (ii) To incorporate the rapidly changing economic environment.
  - (iii) To make changes that are consistent with statistical standards and manuals of international organizations (ESA95: the European version of the SNA; MFSM: Monetary and Financial Statistics Manual; GFSM: Government Finance Statistics Manual) released after the 1993SNA.

  ➢ Nevertheless, the 2008SNA basically follows the footsteps of the 1993SNA and the underlying concept remains mostly unchanged, unlike drastic revisions made to the 1993SNA, such as introducing the accrual basis, market value basis, reconciliation charts, etc.

- Changes proposed for the 2008SNA manual are decomposed into the six categories below. Among these changes, the capitalization of research and development on the production side and the recording of the employment-related pensions on an accrual basis on the distribution side are regarded to have a significant impact on the national accounts.

Clarify statistical units and revise institutional sectors
- <u>Clarify definitions of holding companies and head offices</u>
- Recognize special purpose entities
- <u>Changes in sub-sectors of financial institutions</u> (captive financial institutions, etc.)

Clarify transaction concerning government and public sectors
- Categorize private, public, and government sectors
- <u>Change in recording exceptional payment of public companies as withdrawal of equity by government</u>

Further clarify transactions to be included in production
- Capitalize research and development
- Capitalize defense expenditure
- Improve FISIM estimation method
- Clarify output of central bank

Improve treatment of financial products and assets
- <u>Record employment-related pensions on an accrual basis</u>
- <u>Treatment of employee stock options</u>
- <u>Standardized guarantees</u>
- Index-linked bonds
- <u>Pension entitlements to employment-related pensions</u>
- <u>Classification of financial assets</u>
- <u>Retained earnings of investment trusts</u>

→Many categories may have impact on the distribution of income account.

Expand the boundary and clarify concepts of assets and capital formation, etc.
- Re-classify non-financial assets
- Introduce a new concept of capital services
- Introduce intellectual property products

Overseas transactions (conforming changes to reflect the new Balance of Payments manual)
- Exports/imports of goods for processing
- Merchanting

Note: Underlines indicate treatments corresponding to this Flow of Funds Account (hereafter, in figures, referred to as "FFA") revision.

# List of Sectors in the New FFA

**<Former>**

**45 sectors**

- Nonfinancial corporations
  - Public nonfinancial corporations
  - Private nonfinancial corporations
- Financial institutions
  - Central bank
  - Depository corporations
    - Banks
      - Domestically licensed banks
      - Foreign banks in Japan
      - Financial institutions for agriculture, forestry, and fisheries
      - Financial institutions for small businesses
    - Collectively managed trusts
  - Insurance and pension funds
    - Insurance
      - Life insurance
      - Nonlife insurance
        - Of which: private nonlife insurance companies
      - Mutual aid insurance
    - Pension funds
      - Corporate pensions
      - Other pensions
  - Other financial intermediaries
    - Securities investment trusts
      - Bond investment trusts
        - Of which: money management funds and money reserve funds
      - Stock investment trusts
    - Nonbanks
      - Finance companies
      - Structured-financing special purpose companies and trusts
    - Public financial institutions
      - Fiscal Loan Fund
      - Government financial institutions
    - Financial dealers and brokers
      - Of which: securities companies
  - Financial auxiliaries (financial institutions other than intermediaries)
- General government
  - Central government
  - Local governments
  - Social security funds
    - Of which: public pensions
- Households
- Private nonprofit institutions serving households
- Overseas

- Domestic nonfinancial sector
- Pension total

**<New>**

**50 sectors**

- Nonfinancial corporations
  - Public nonfinancial corporations
  - Private nonfinancial corporations
- Financial institutions
  - Central bank
  - Depository corporations
    - Banks
      - Domestically licensed banks
      - Foreign banks in Japan
      - Financial institutions for agriculture, forestry, and fisheries
      - Financial institutions for small businesses
    - Collectively managed trusts
  - Securities investment trusts
    - Bond investment trusts
      - Of which: MMF and MRF
    - Stock investment trusts
  - Insurance and pension funds
    - Insurance
      - Life insurance
      - Nonlife insurance
        - Of which: private nonlife insurance companies
        - Of which: standardized guarantee institutions → New sector
      - Mutual aid insurance
    - Pension funds
      - Corporate pensions
        - Defined benefit schemes → New sector
        - Defined contribution schemes → New sector
      - Other pensions
  - Other financial intermediaries
    - Nonbanks
      - Finance companies
      - Structured-financing special purpose companies and trusts
    - Public financial institutions
      - Fiscal Loan Fund
      - Government financial institutions
    - Financial dealers and brokers
      - Of which: securities companies
  - Financial auxiliaries
    - Of which: financial holding companies → New sector
  - Public captive financial institutions → New sector
- General government
  - Central government
  - Local governments
  - Social security funds
    - Of which: public pensions
- Households
- Private nonprofit institutions serving households
- Overseas

- Domestic nonfinancial sector
- Pension total

Figure 3

# List of Transaction Items in the New FFA

## <Former>

**51 items**

- Currency and deposits
  - Currency
  - Deposits with the Bank of Japan
  - Government deposits
  - Transferable deposits
  - Time and savings deposits
  - Certificates of deposit
  - Foreign currency deposits
- Deposits with the Fiscal Loan Fund
- Loans
  - Bank of Japan loans
  - Call loans and money
  - Bills purchased and sold
  - Loans by private financial institutions
    - Housing loans
    - Consumer credit
    - Loans to companies and governments
  - Loans by public financial institutions
    - Of which: housing loans
  - Loans by the nonfinancial sector
  - Installment credit (not included in consumer credit)
  - Repurchase agreements and securities lending transactions
- Securities other than shares
  - Treasury discount bills
  - Central government securities and FILP bonds
  - Local government securities
  - Public corporation securities
  - Bank debentures
  - Industrial securities
  - External securities issued by residents
  - Commercial paper
  - Investment trust beneficiary certificates
  - Trust beneficiary rights
  - Structured-financing instruments
  - Mortgage securities
- Shares and other equities
  - Of which: shares
- Financial derivatives
  - Forward-type instruments
  - Option-type instruments
- Insurance and pension reserves
  - Insurance reserves
  - Pension reserves
- Deposits money
- Trade credits and foreign trade credits
- Accounts receivable/payable
- Outward direct investment
- Outward investment in securities
- Other external claims and debts
  - Of which: gold and SDRs etc.
- Others
- Financial surplus or deficit (Transactions)
- Difference between financial assets and liabilities (Assets and Liabilities)
- Reconciliation between Flows and Stocks
- Total

(Reference)

- Loans outstanding by private financial institutions (book value basis)

## <New>

**57 items**

- Currency and deposits
  - Currency
  - Deposits with the Bank of Japan
  - Government deposits
  - Transferable deposits
  - Time and savings deposits
  - Certificates of deposit
  - Foreign currency deposits
- Deposits with the Fiscal Loan Fund
- Loans
  - Bank of Japan loans
  - Call loans and bills — Merged with "Bills purchased and sold"
  - Loans by private financial institutions
    - Housing loans
    - Consumer credit
    - Loans to companies and governments
  - Loans by public financial institutions
    - Of which: housing loans
  - Loans by nonfinancial sectors
  - Installment credit (not included in consumer credit)
  - Repurchase agreements and securities lending transactions
- Debt securities — Renamed
  - Treasury discount bills
  - Central government securities and FILP bonds
  - Local government securities
  - Public corporation securities
  - Bank debentures
  - Industrial securities
  - External securities issued by residents
  - Commercial paper
  - Trust beneficiary rights
  - Structured-financing instruments — Merged with "Mortgage securities"
- Equity and investment fund shares
  - Equity — Renamed
    - Listed shares
    - Unlisted shares — Reclassified in detail
    - Other equity — Reclassified in detail
  - Investment trust beneficiary certificates
- Insurance, pension and standardized guarantees — Renamed
  - Non-life insurance technical reserves — Reclassified in detail
  - Life insurance reserves — Reclassified in detail
  - Annuity entitlements — Reclassified in detail
  - Pension entitlements — Reclassified in detail
  - Claims of pension funds on pension managers — Reclassified in detail
  - Provisions for calls under standardized guarantees — New item
- Financial derivatives and employee stock options
  - Forward-type instruments
  - Option-type instruments
  - Employee stock options — New item
- Deposits money
- Trade credits and foreign trade credits
- Accounts receivable/payable
- Outward direct investment
- Outward investment in securities
- Other external claims and debts
  - Of which: gold and SDRs etc.
- Others
- Financial surplus or deficit (Transactions)
- Difference between financial assets and liabilities (Assets and Liabilities)
- Difference in reconciliation amounts
- Total

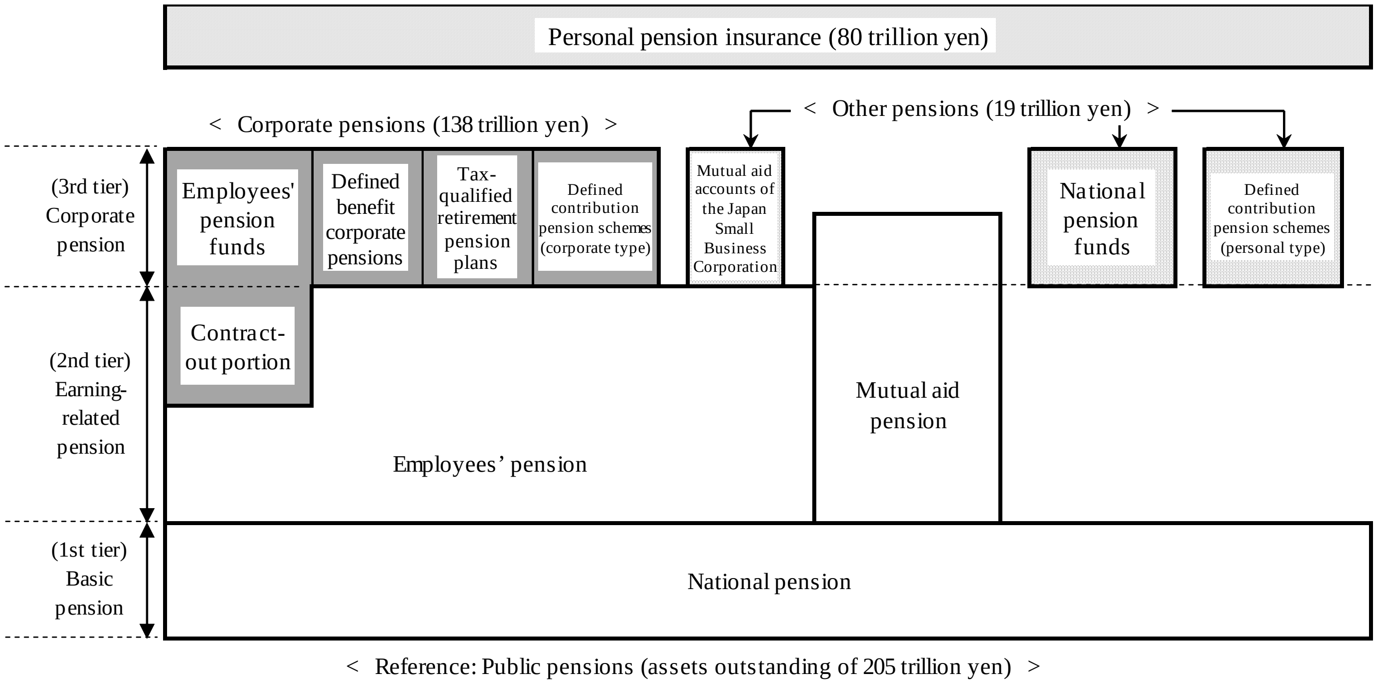
(Reference)

- Deposits by financial institutions and call loans — New item
- Loans outstanding by private financial institutions (book value basis)

Figure 4

# Japan's Pension System

## (1) Classification of pensions and amounts outstanding of pension entitlements




Notes: 1. In the FFA, shaded areas are recognized as pension assets of households and other areas (public pensions) as assets of social security funds. Corporate pensions include claims of pension funds on pension managers.

2. The tax-qualified retirement pension plans was abolished at the end of March 2012.

3. Figures of annuity entitlements are used for personal pension insurance.

4. Figures are those of March-end 2015.

## (2) Corporate pensions: defined benefit schemes and defined contribution schemes

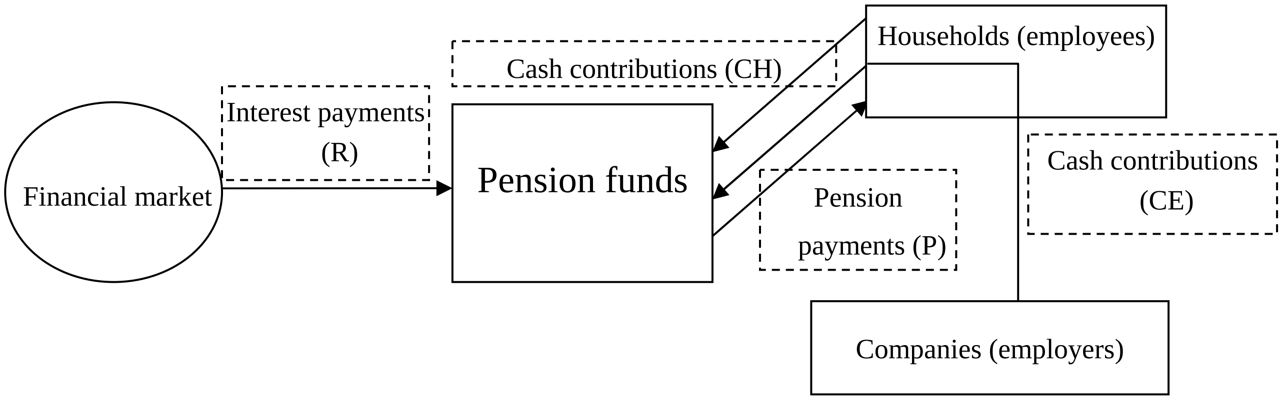
| Pension type | Description | Example |
|---|---|---|
| Defined benefit schemes | • Employee (household) receives the promised benefits following retirement.<br>• Employer (company) holds responsible for managing the asset portfolio and in the case when the amount of promised benefits is not achieved, the employer must supplement this shortage. | • Employees' pension funds<br>• Defined benefit corporate pensions<br>• Tax-qualified retirement pension plans see note 2 above |
| Defined contribution schemes | • Contributions from employer are fixed.<br>• Employee holds responsible for managing the asset portfolio and pension payments change depending on the result. | • Defined contribution pension schemes (corporate type) |

FIgure 5

# Recording Methods of Corporate Pensions in the FFA

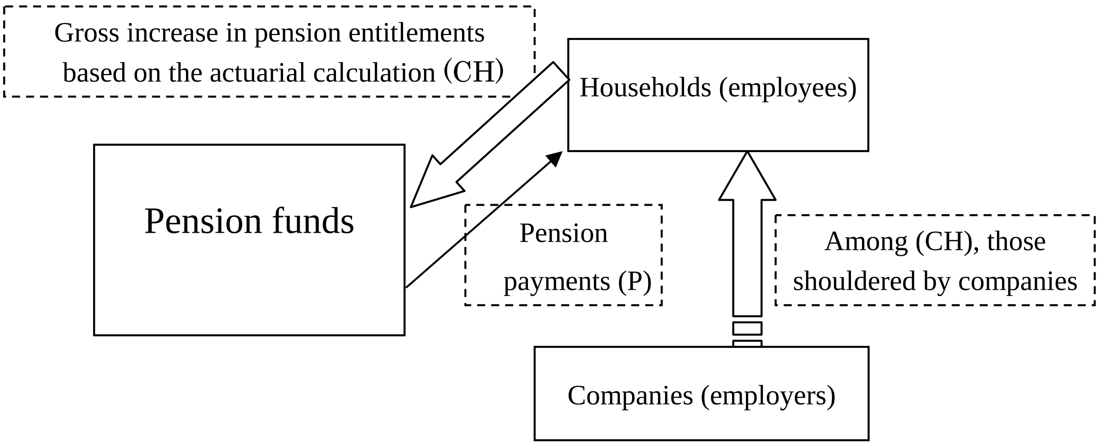
(1) Recording methods in the Former FFA (1993SNA basis)

(Defined benefit schemes and defined contribution schemes recorded together)




- ✧ Flow of pension entitlements (assets of households and liabilities of pension funds):
  Cash contributions made by households (CH) + Cash contributions made by companies (CE) + Interest payments (R) – Pension payments (P)
- ✧ Stock of pension entitlements (amounts outstanding) is derived from adding the rise in the market value of assets to the accumulated amount of the above flow.

(2) Recording Methods of defined benefit schemes in the new FFA (2008SNA basis)




- ✧ Transaction flow of pension entitlements (assets of households and liabilities of pension funds):
  Gross increase in pension entitlements based on the actuarial calculation (CH) – Pension payments (P)
- ✧ Stock of pension entitlements (amounts outstanding) is calculated as the discounted present value of the future pension payment based on the actuarial calculation of pensions (retirement benefits obligations).
- ✧ Recording methods of defined contribution schemes in the New FFA is the same as that in the Former FFA (1993SNA basis).

Figure 6

## Items Subject to Disclosure in Accordance with Retirement Accounting Rules (Excerpt)

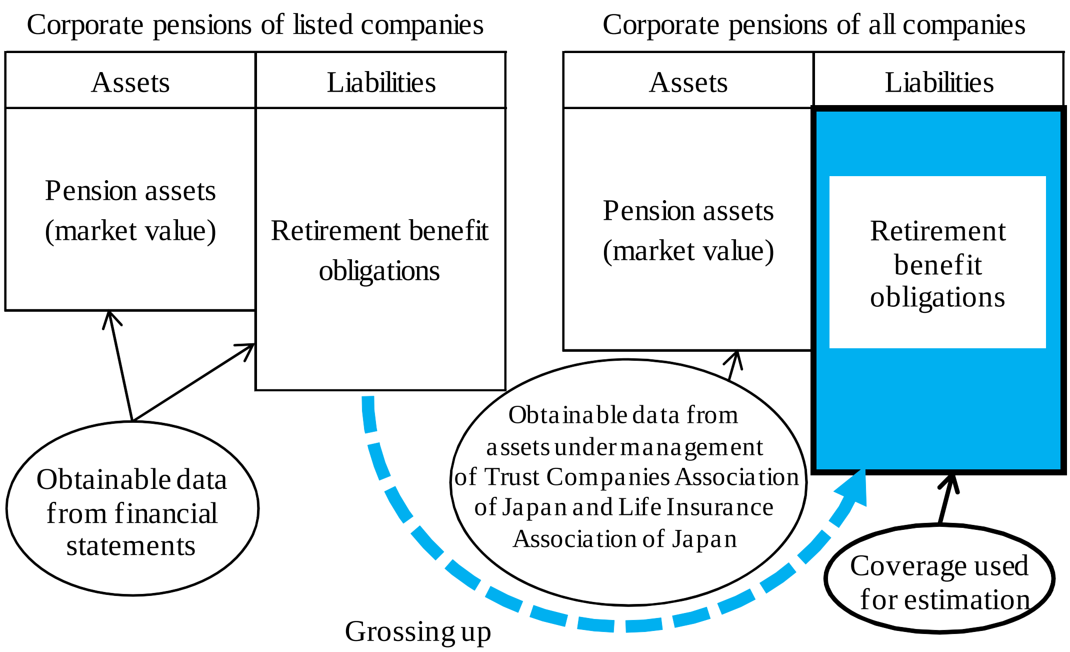
| Item (in corporate accounting) | Description | Required to be disclosed or not |
|---|---|---|
| **Stock** | | |
| Retired benefit obligations | Accrued-to-date obligations estimated by discounting expected total retirement benefits obligations at the time of retirement. | Yes |
| Pension assets | Assets contributed and managed for retirement benefits (market value). | Yes |
| Unrecognized liabilities | | Yes |
| Actuarial gain and loss | Difference between assumptions and results, difference caused by changes in assumptions, or gap between expected returns and actual investment returns. | Yes |
| Past service liabilities | Increase/decrease in retired benefit obligations due to changes in retirement benefits as a result of revised retirement benefit rules, etc. | Yes |
| Transition obligations | Difference between retirement benefit obligations at the time of introducing new accounting standard minus pension assets and reserve for retirement allowance under the old standard. | Yes |
| Accrued pension cost | Derived from deducting pension assets and unrecognized liabilities from retired benefit obligations. | Yes |
| **Changes in stock** | | |
| service costs | Present value of retirement benefits as compensation for labor in relevant term. | Yes |
| Interest costs | Interest accrued to retired benefit obligations at end of previous term and derived by multiplying discount rate with the amount of retired benefit obligations at previous term-end. | Yes |
| Pension benefits | Pensions payments including lump-sum payments to recipients. | No |
| Difference in actuarial gain and loss (accrued amount) | Difference between assumptions and results or difference caused by changes in assumptions. | No |
| Past service costs (accrued amount) | Increase/decrease in retired benefit obligations due to changes in retirement benefits as a result of revised retirement benefit rules, etc. | No |
| Transition obligations (accrued amount) | Difference between retirement benefit obligations at the time of introducing new accounting standard minus pension assets and reserve for retirement allowance under the old standard. | No |

Note: Items in bold boxes were used for calculating defined benefit schemes.

Figure 7

## Estimation Methods of Stock/Flow of Defined Benefit Schemes on Accrual Basis

### (1) Stock (amounts outstanding)




1. Pension entitlements (retirement benefit obligations)

$$\begin{pmatrix}\text{Retirement benefit}\\ \text{obligations of all companies}\end{pmatrix} = \frac{\text{Total assets under management of all companies (market value)}}{\text{Total pension assets of listed companies (market value)}} \times \begin{pmatrix}\text{Retirement benefit}\\ \text{obligations of listed companies}\end{pmatrix}$$

2. Claims of pension funds on pension managers

$$\begin{pmatrix}\text{Claims of pension funds}\\ \text{on pension managers}\end{pmatrix} = \begin{pmatrix}\text{Pension entitlements}\\ \text{of all companies}\end{pmatrix} - \begin{pmatrix}\text{Pension assets}\\ \text{of all companies}\end{pmatrix}$$

### (2) Transaction flow

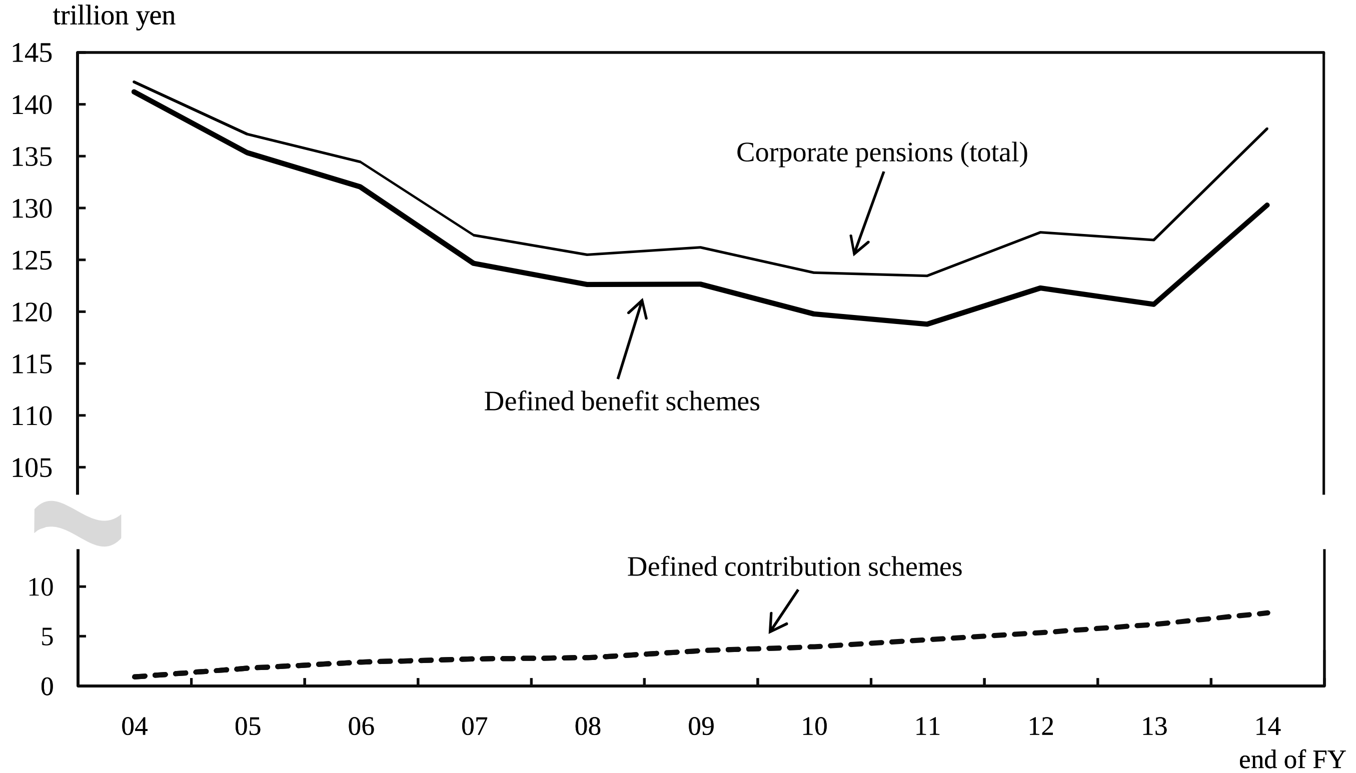
$$(\text{Transaction flow}) = \left\{\begin{pmatrix}\text{service cost}\\ \text{of listed companies}\end{pmatrix} + \begin{pmatrix}\text{Interest cost}\\ \text{of listed companies}\end{pmatrix}\right\} \times \frac{\text{Total assets under management of all companies (market value)}}{\text{Total pension assets of listed companies (market value)}} - \begin{pmatrix}\text{Actual}\\ \text{pension benefits}\end{pmatrix}$$

Note: Data of all companies are those of companies using the three funds of employees' pension funds, defined benefit schemes, and tax-qualified retirement pension plans. Some unlisted companies are included in listed companies since their data on financial statements associated with corporate pensions are obtainable.

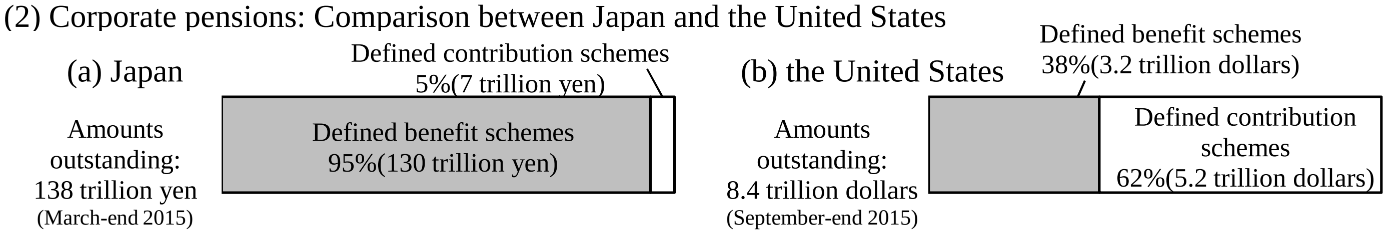
Figure 8

# Pension Entitlements for Corporate Pensions (Retirement benefit obligations)

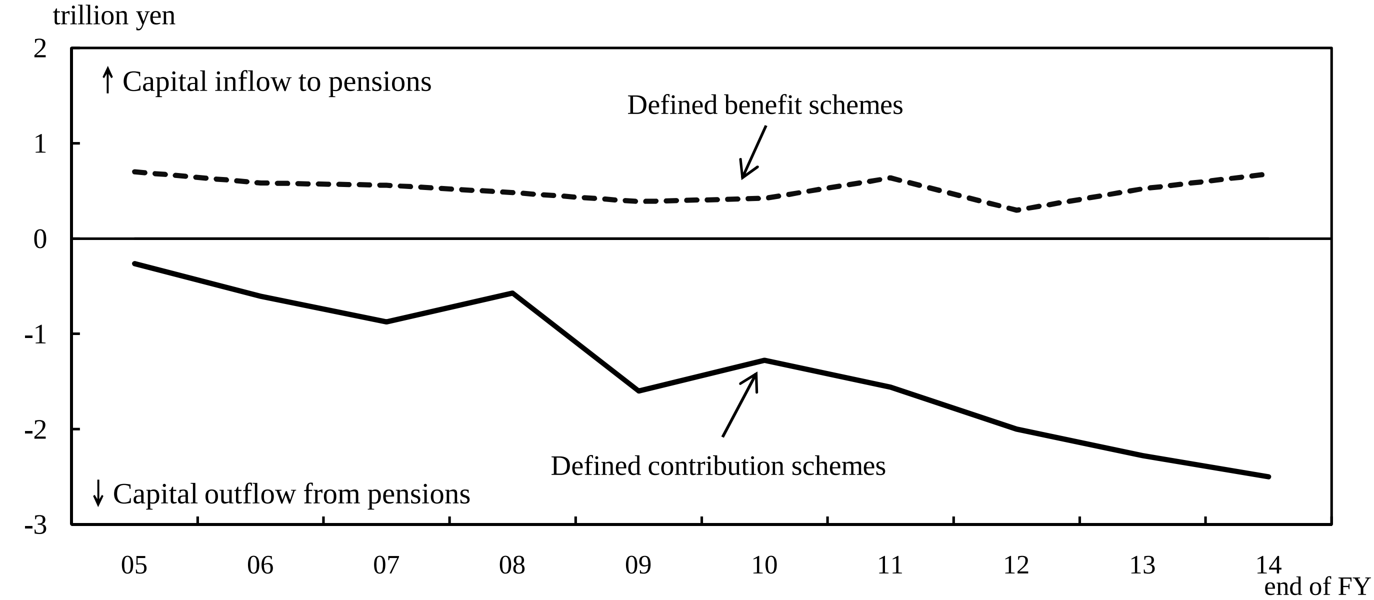
(1) Pension entitlements: Stock (amounts outstanding)




(2) Corporate pensions: Comparison between Japan and the United States




(3) Pension entitlements: Transaction flow

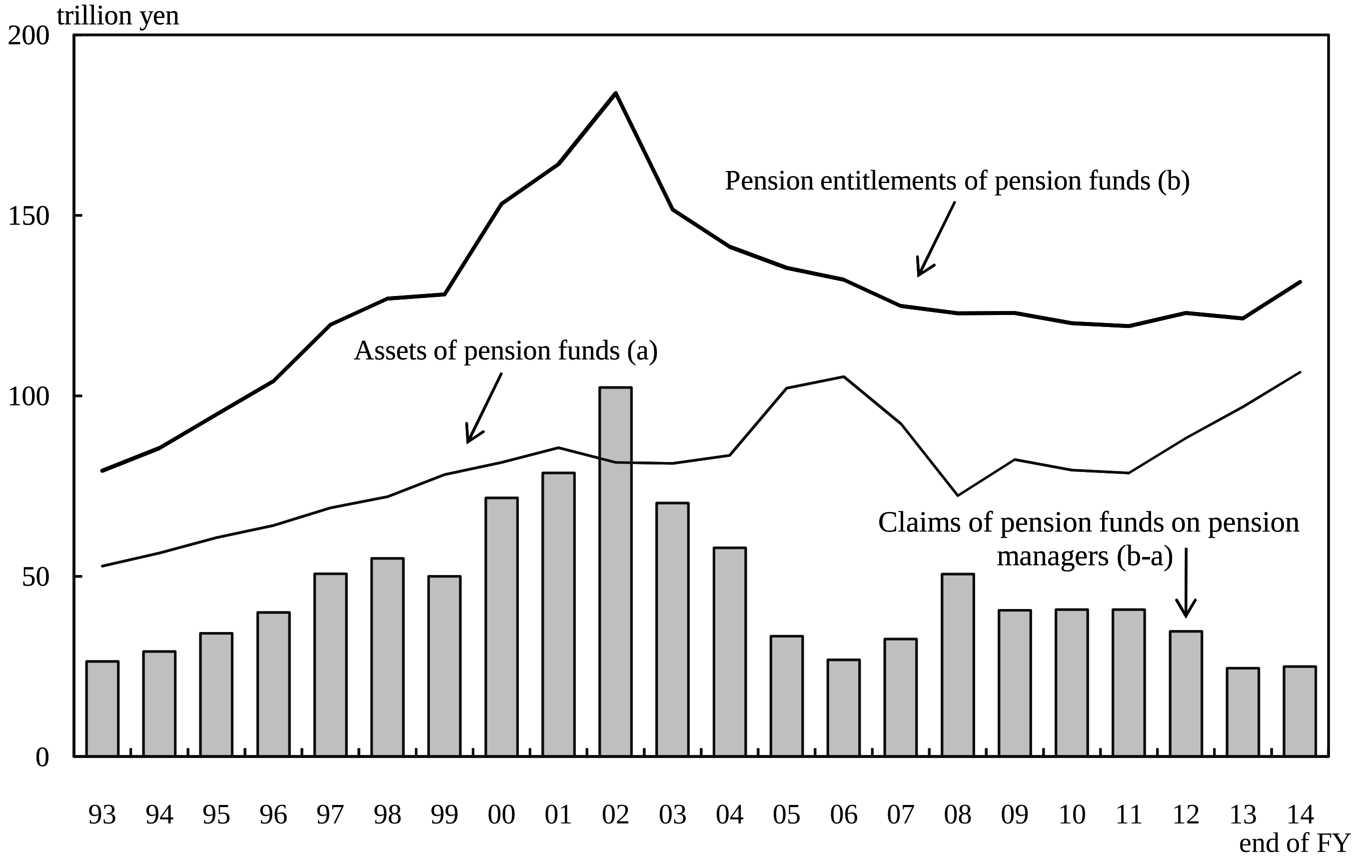



Note: 1. Regarding (1), Corporate pensions (total) = defined benefit scheme + defined contribution scheme.
2. Regarding (a) of (2), totals is not exact due to rounding.

Figure 9

# Pension Entitlements for Corporate pensions (Defined Benefit Schemes) and Claims of Pension Funds on Pension Managers

## (1) Trend in amounts outstanding




Note: "Pension entitlements of pension funds (b)" is a liability of defined benefit schemes and includes financial derivatives.

## (2) Estimation methods

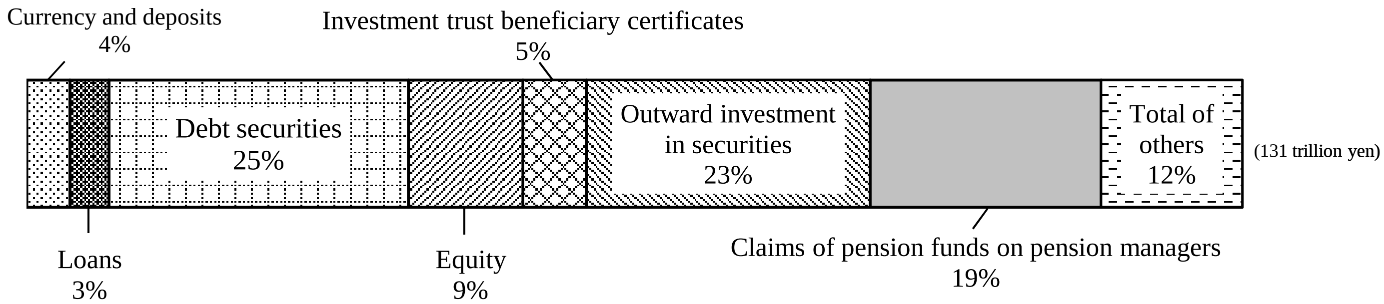
Pension entitlements of defined benefit schemes up until FY2003 are the reference, calcurated in the following methods:

| | |
|---|---|
| FYs 2000-2003: | Calculated in the same way as in Figure 7 using data in financial statements. |
| FYs 1993-1999: | For this period, among all pension schemes (employees' pension funds, tax-qualified retirement pension plans, and retirement lump sum grants), only figures of employees' pension funds were available for retirement benefit obligations based on actuarial calculation.<br>Hence, the estimates are conducted based on the above FY2000 figure of pension entitlements, by carrying back year-on-year change of the retirement benefit obligations of employees' pension funds released by the Pension Fund Association (policy reserves are used for FY1993-1996). |

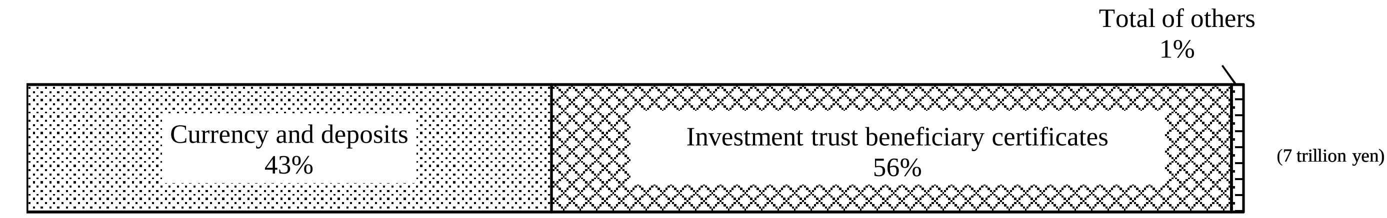
Figure 10

# Composition of Pension Assets (End of FY2014)

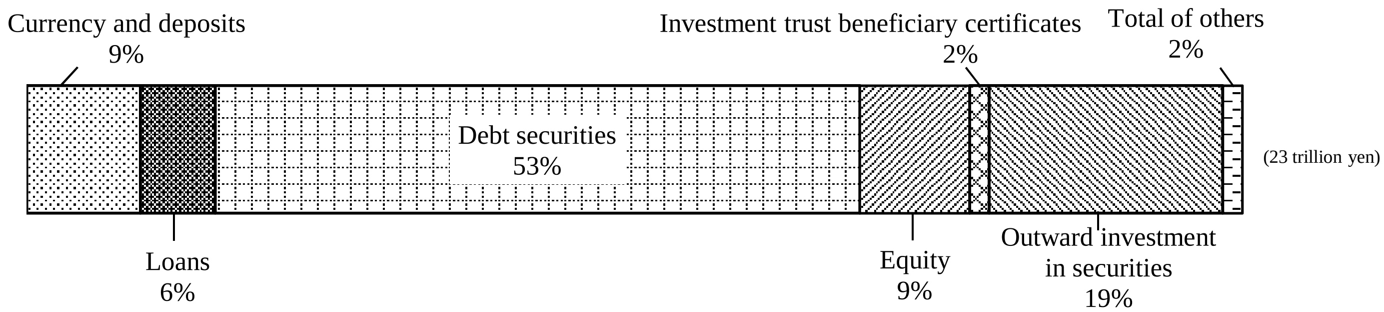
## (1) Corporate pension: Defined benefit schemes



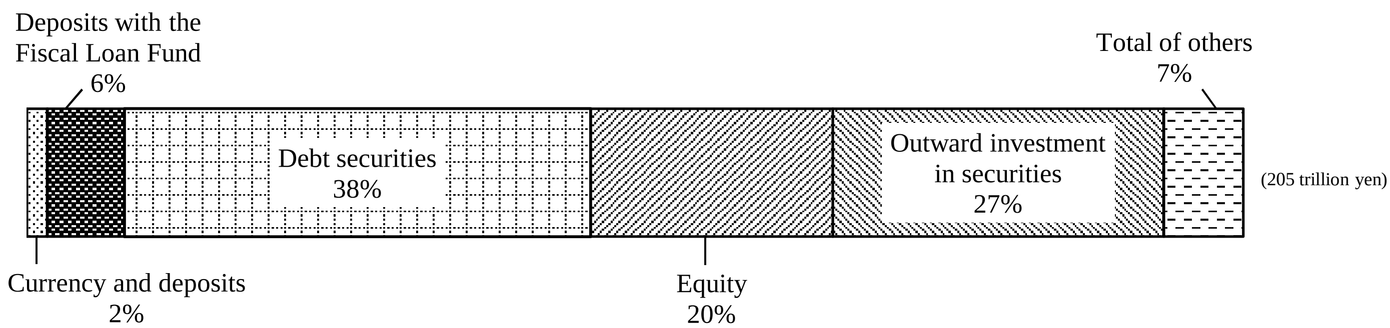

## (2) Corporate pension: Defined contribution schemes




## (3) Other pensions (National pension funds, Defined-contribution pension (personal type), etc. )



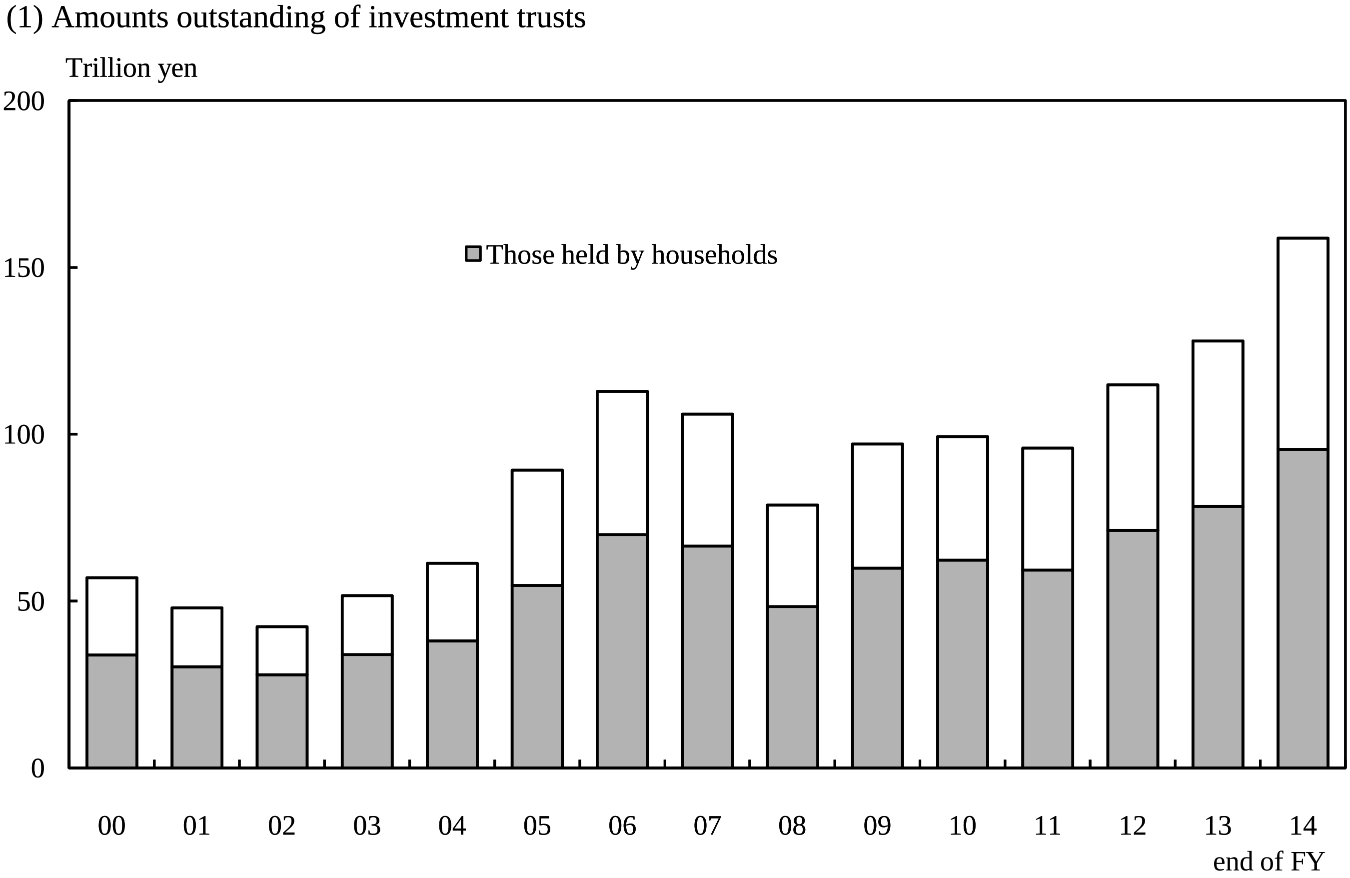

## (4) Public pensions (Employees' pension fund and mutual aid pension)

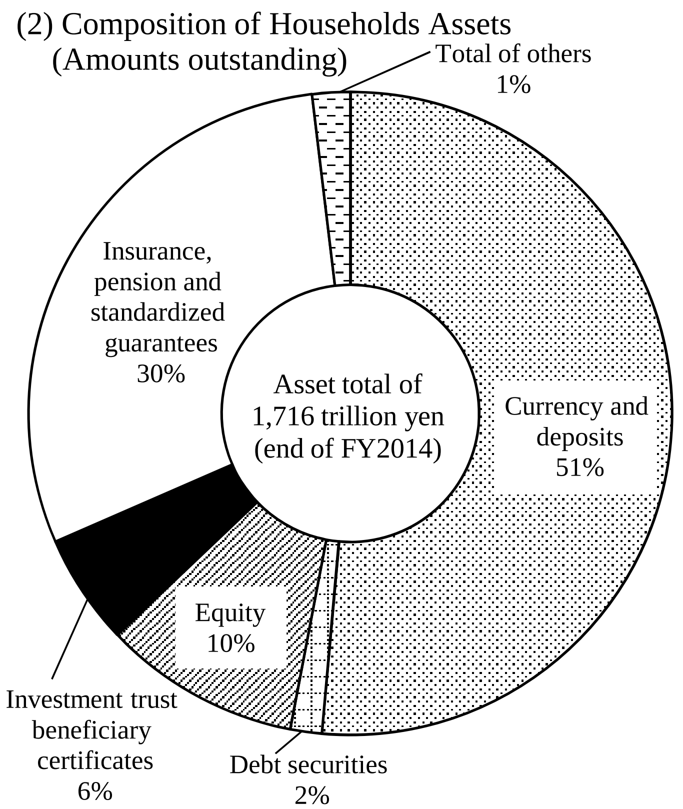


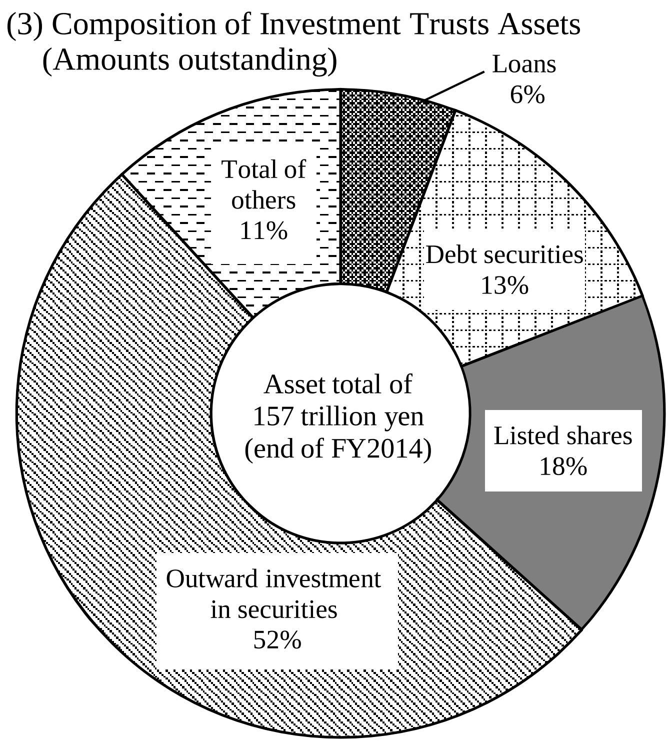

Note: "Total of others" includes rounded figures.

Figure 11

# Overview of Investment Trusts



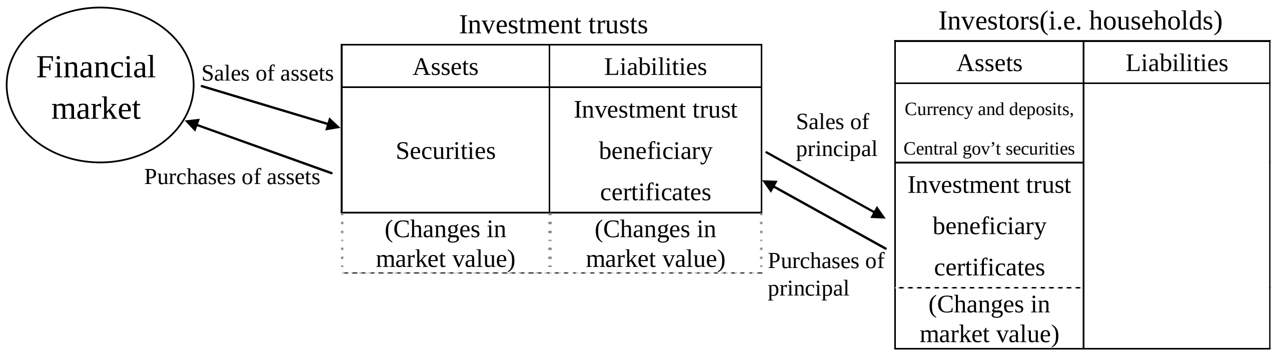




Notes: 1. Figures through FY2003 are those of the Former FFA
2. "Total of others" include rounded figures.
3. (1) and (2) include real estate investment trusts.

Figure 12

# Recording Methods of Investment Trusts

## (1) Stocks (amounts outstanding)




## (2) Transaction flows (Former FFA basis)

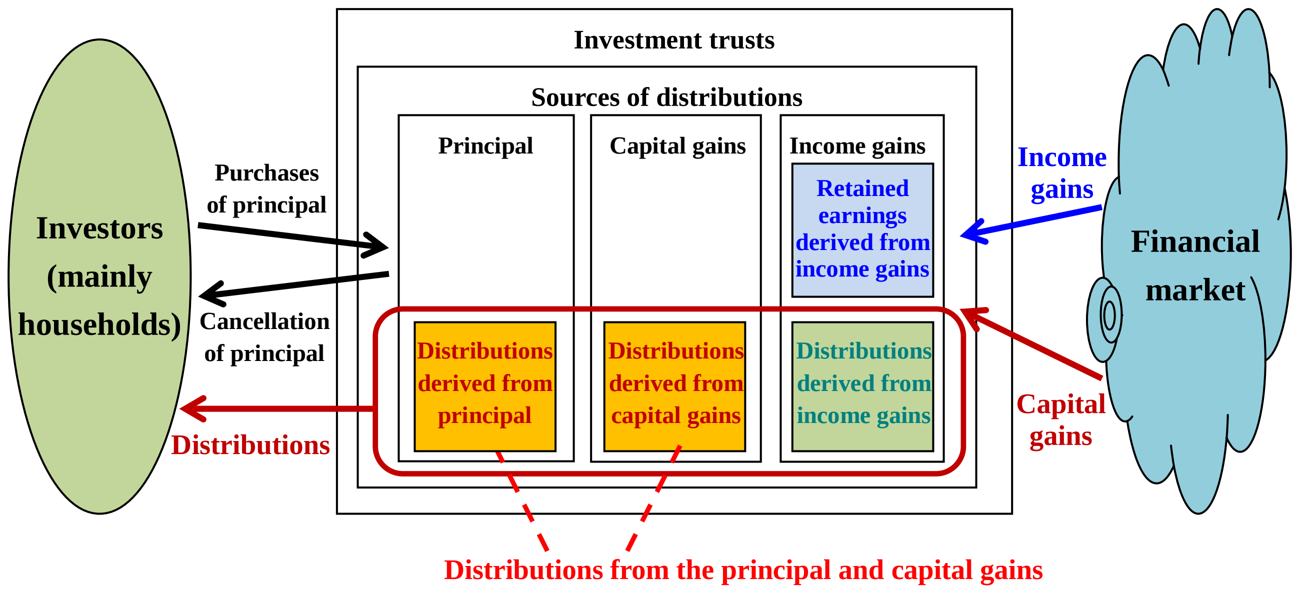
Calculated using the data of The Investment Trusts Association in Japan, etc.

(Transaction flows of investment trusts) = (Amounts of purchased by investors) - (Amounts of cancellation) - (Amounts of redemption)

Amounts of purchased by investors: Capital inflow from investors

Amounts of cancellation - Amounts of redemption: Capital outflow to investors

## (3) Income gains, capital gains, retained earnings, and distributions of investment trusts



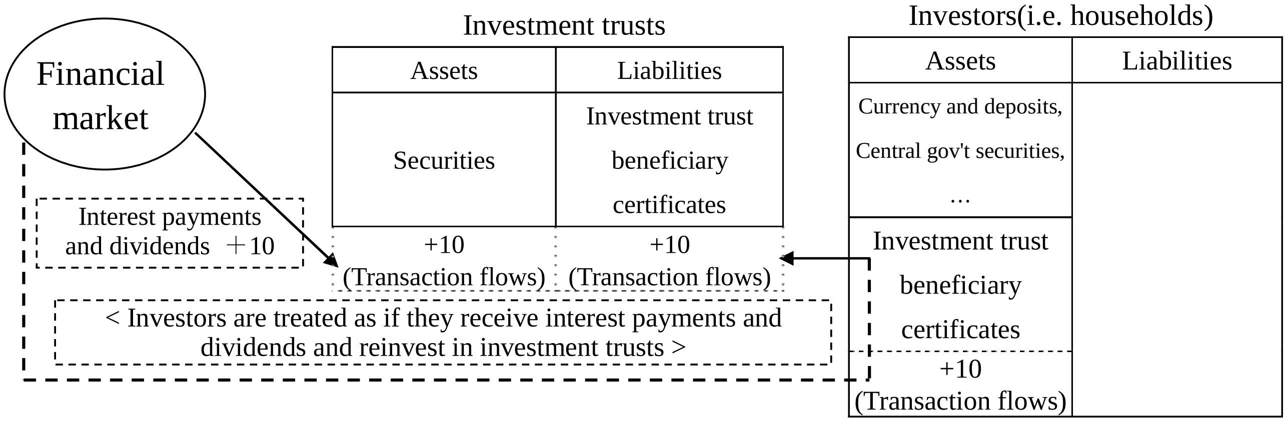

Note: "Income gains" are income from interest payments and dividends

Figure 13

## Recording Methods of Retained Earnings of Investment Trusts in the New FFA

Case 1: Investment trusts retain interest payment and dividends (10 units) and reinvest in securities

- Interest payments and dividends are treated as if investors receive them and then reinvest.




Case 2: Investment trusts earn and retain capital gains (10 units)

- Assets value in the market increasing, investment trusts earn capital gains.
- Retained earnings from capital gains are recorded as increases in the market of investment trust beneficiary certificates.
- Securities and investment trust beneficiary certificates record the same amount of market value increases on reconciliation.

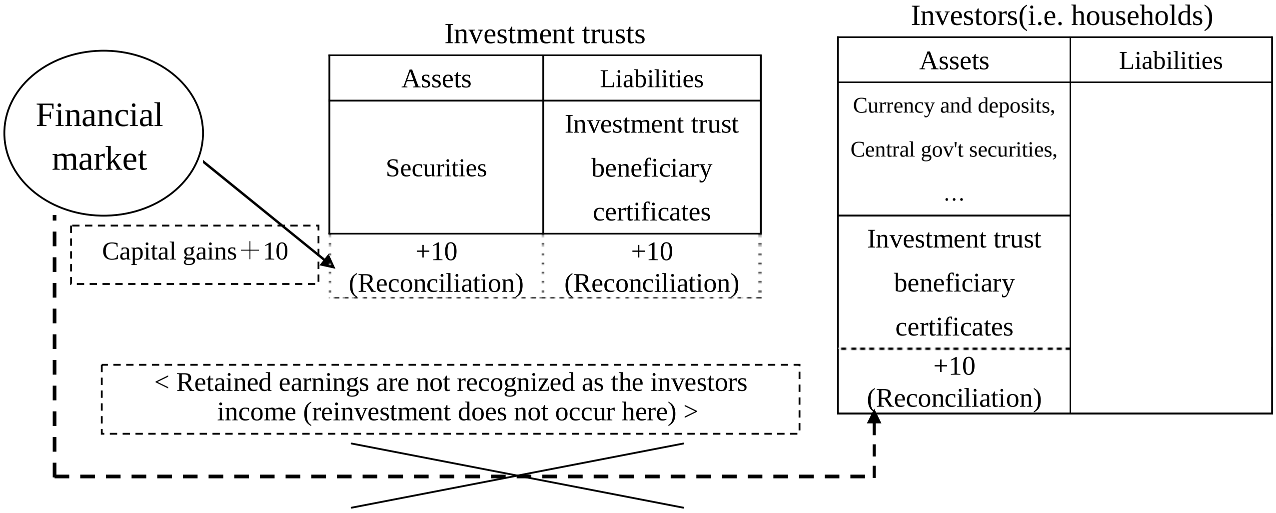
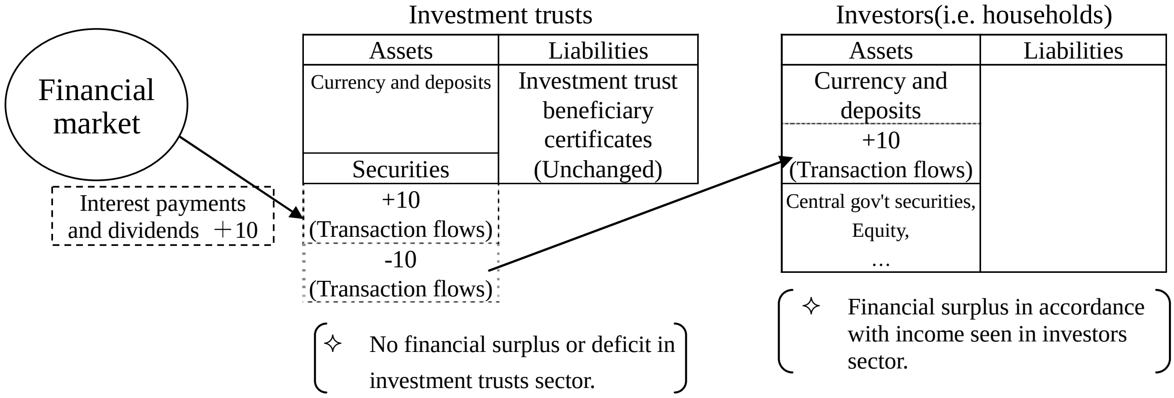


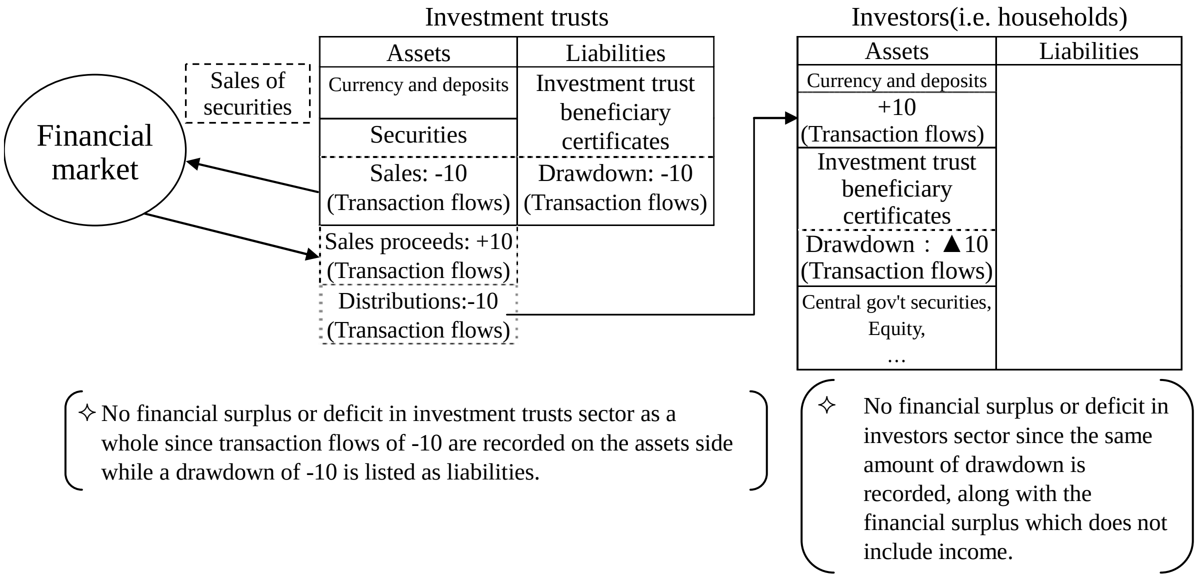
Figure 14

# Recording Methods of Distributions of Investment Trusts in the New FFA

## Case 1: Distributions derived from the interest payments and dividends (10 units)




## Case 2: Distribution derived from the principal (10 units)




## Case 3: Distribution derived from capital gains (10 units)

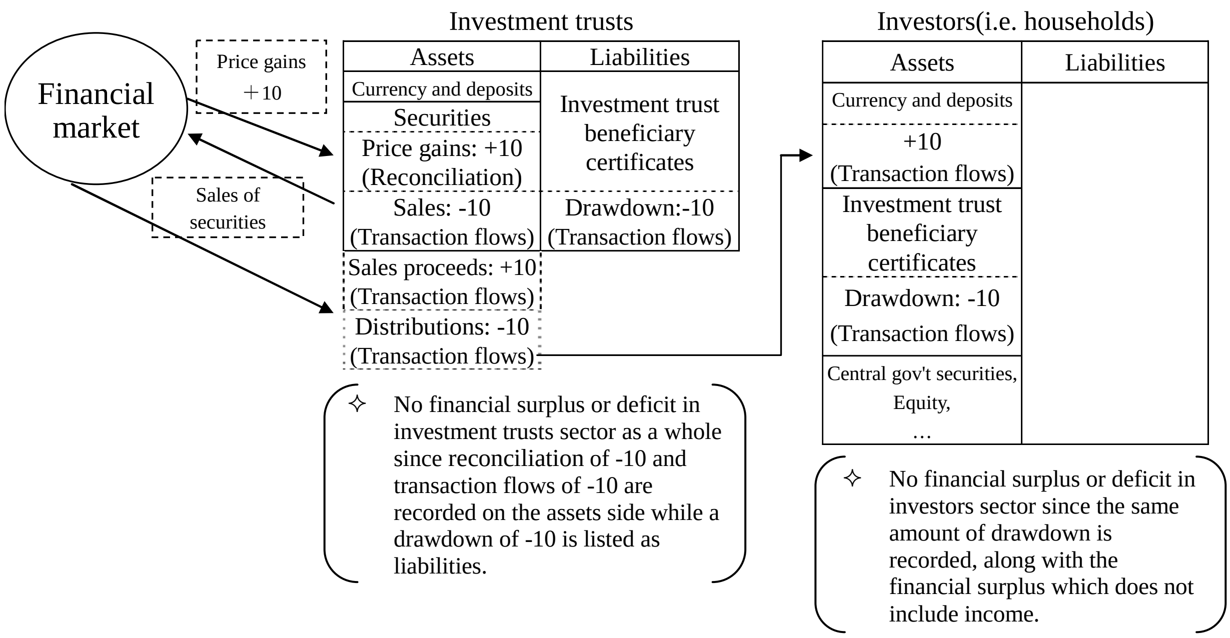


Figure 15

# Retained Earnings and Distributions in the Investment Trusts: Source Data and Estimation

## (1) Coverage

(i) Estimation coverage is limited to stock investment trusts only (bond investment trusts and real estate investment trusts are regarded as zero).

(ii) Due to limitation of source data, data of publicly offered stock investment trusts only are used to estimate total stock investment trusts.

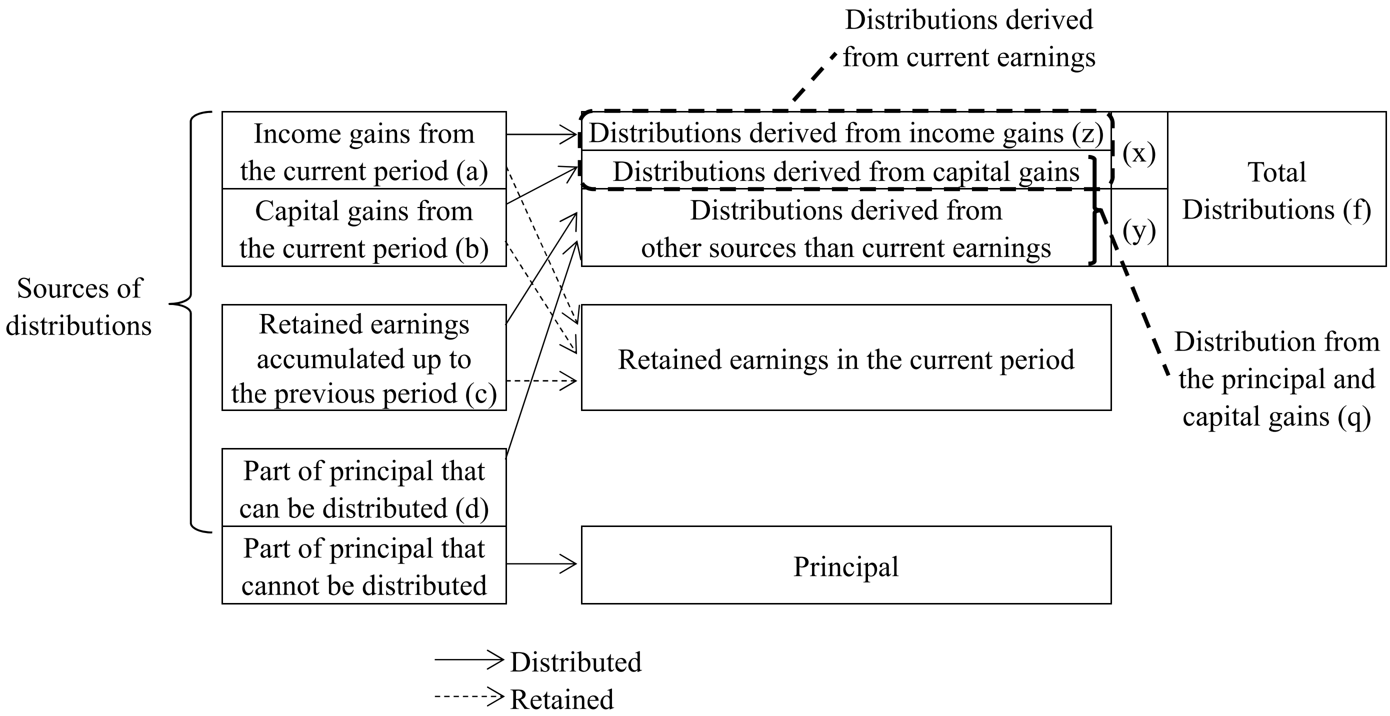
## (2) Source data and estimation method

(i) A sample of over 150 investment trusts is selected to make use of individual management reports.
- Interest payments and dividends, capital gains, amount of distributions, and sources of distributions
- The total of over 150 data accounts for over 70% of total net asset value of publicly offered stock investment trusts excluding certain funds such as ETFs

(ii) Figures for total of publicly offered stock investment trusts are estimated by grossing-up with the ratio against the total amount of distributions.

(iii) Privately placed stock investment trusts are estimated as follows and combined with publicly stock investment trusts.
- Retained earnings of privately placed stock investment trusts = retained earnings of publicly offered stock investment trusts × (net asset value of privately placed stock investment trusts/net asset value of publicly offered stock investment trusts)
- Distributions from the principal and capital gains of privately placed stock investment trusts are regarded as zero.

## (3) Estimation methods of retained earnings and distributions derived from the principal and capital gains




Distributions derived from current income gains: (z) = (x) × {(a) / (a + b)}

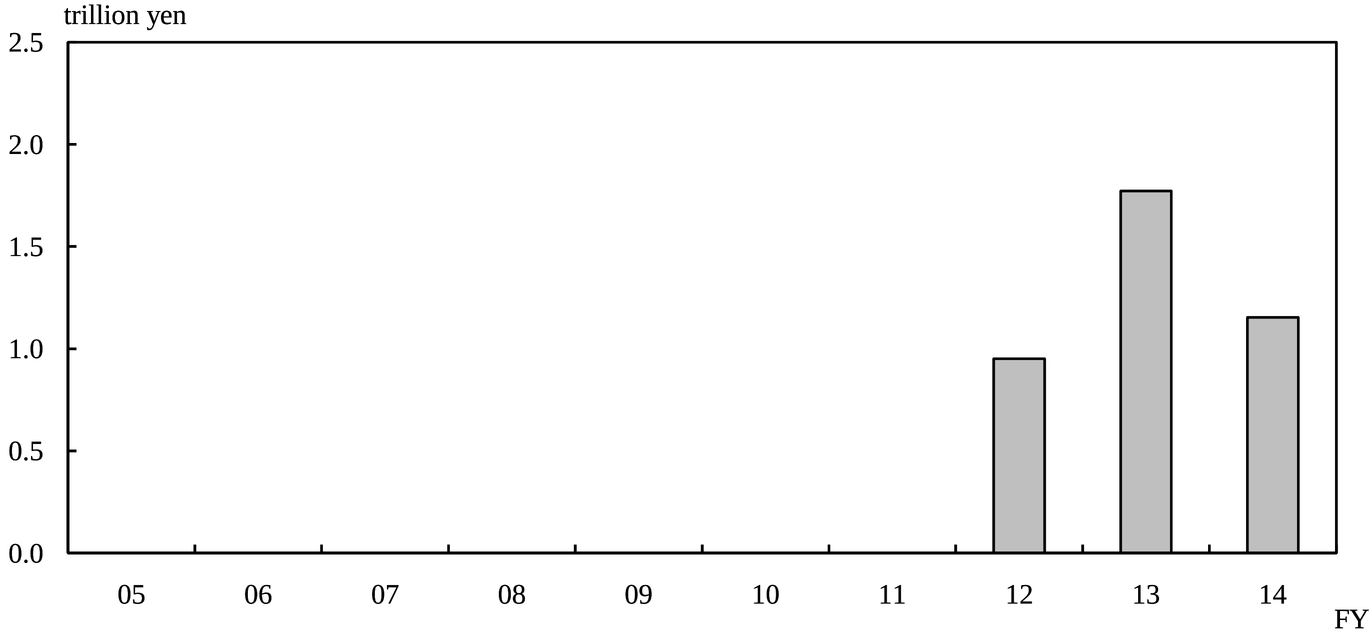
Retained earnings derived from income gains: (p) = (a) - (z)

Distributions from the principal and capital gains: (q) = (f) - (z)

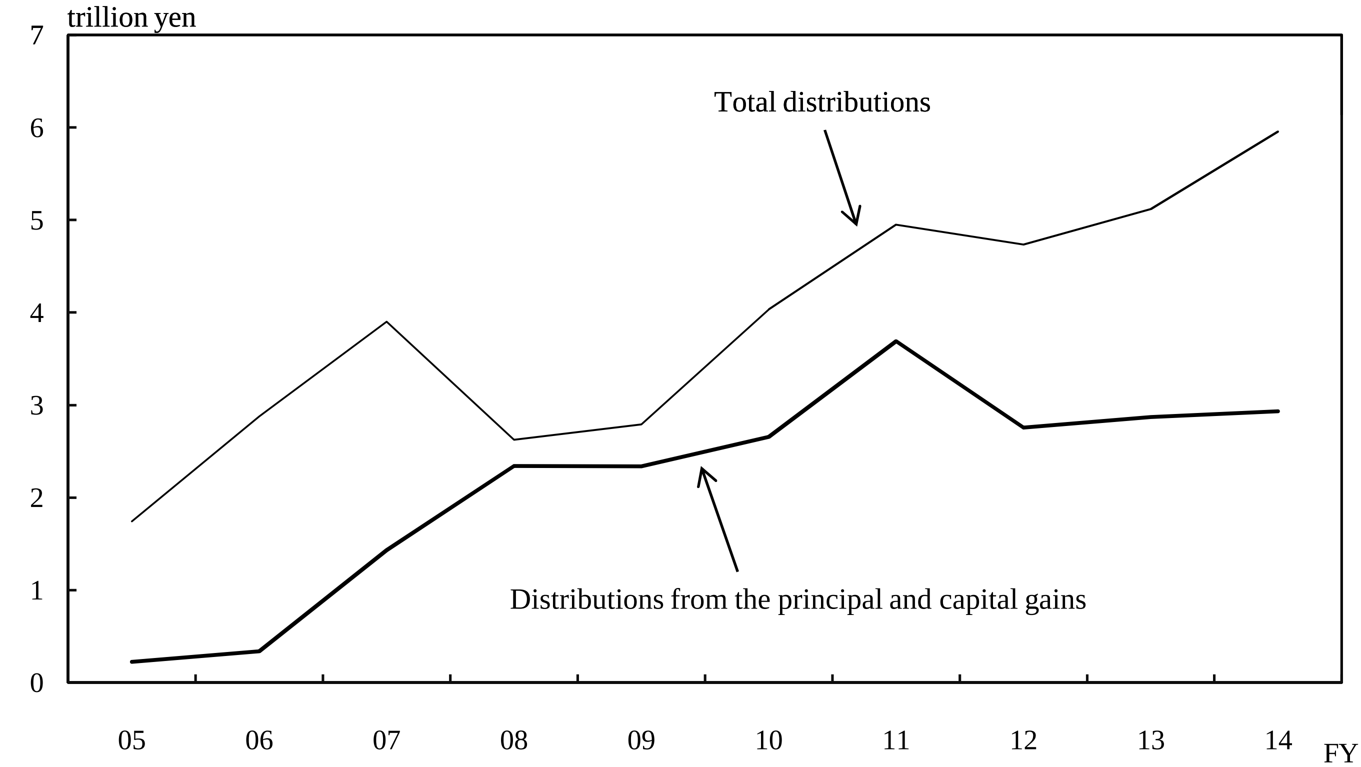
Figure 16

# Investment Trusts: Retained Earnings and Distributions from the principal and capital gains

(1) Trend in retained earnings




(2) Trend in distributions from the principal and capital gains




Notes: 1. Retained earnings are recorded from 2012/Q3.

2. Regarding total distributions, figures from FY2010 onward are distributions of securities investment trusts published by Investment Trusts Association in Japan, and figures up until FY2009 are distributions of publicly offered "open-type" stock investment trusts aggregated by the Bank of Japan.

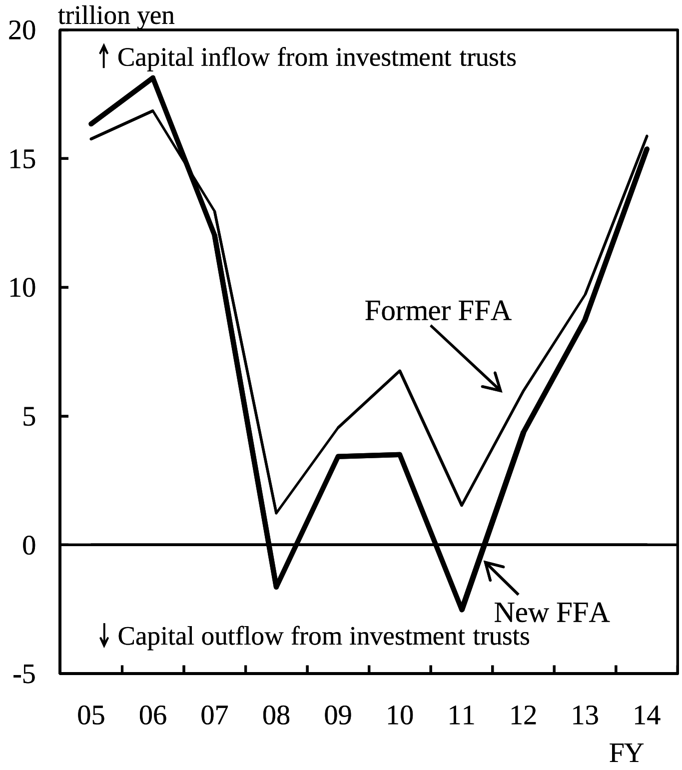
3. Up until 2012/Q2, distributions from the principal and capital gains are approximates using distributions paid out from investment trusts when the net asset value is below the purchase cost.

Figure 17

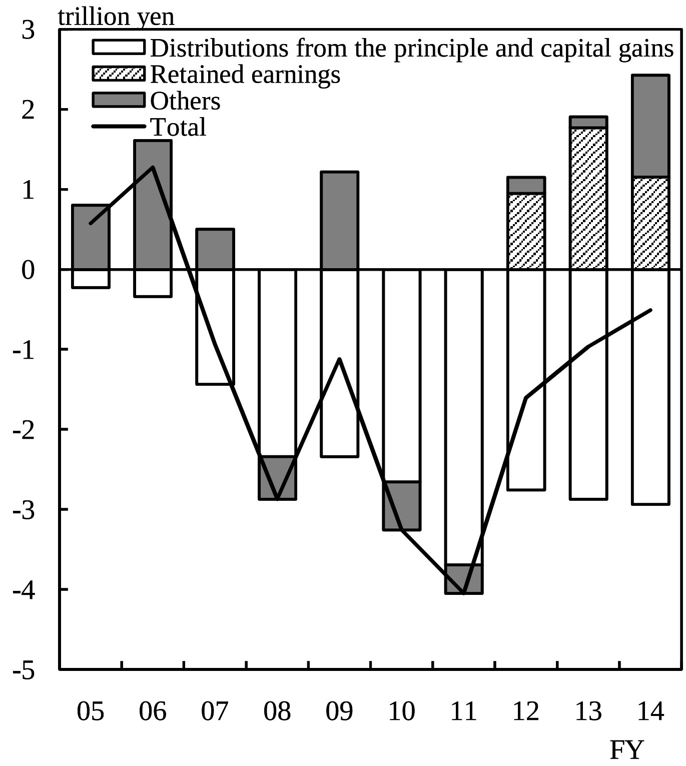
# Effects of Investment Trusts and Households on Transaction Flows

## (1) Effects of investment trusts on transaction flows

(a) Comparison: Former and New FFA

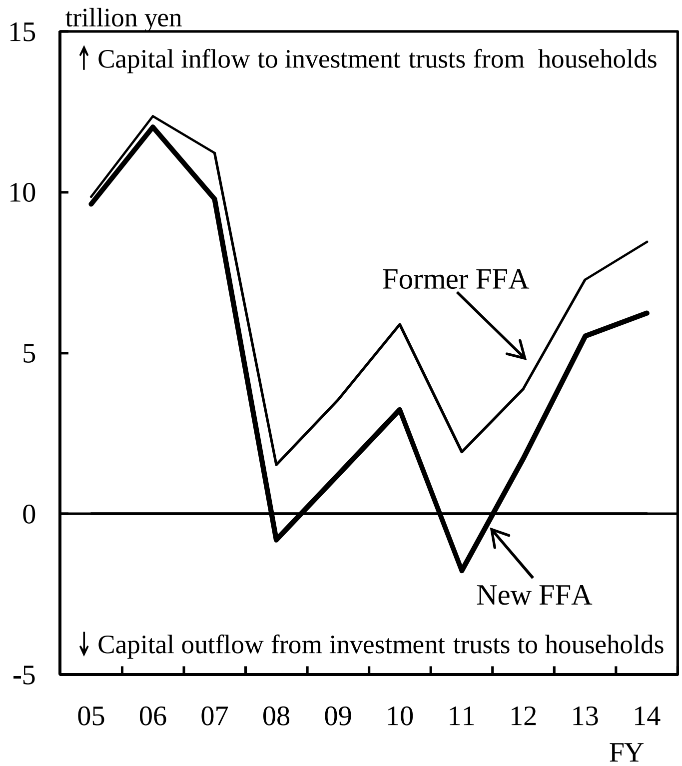



(b) Factor decomposition of divergence between Former and New FFA

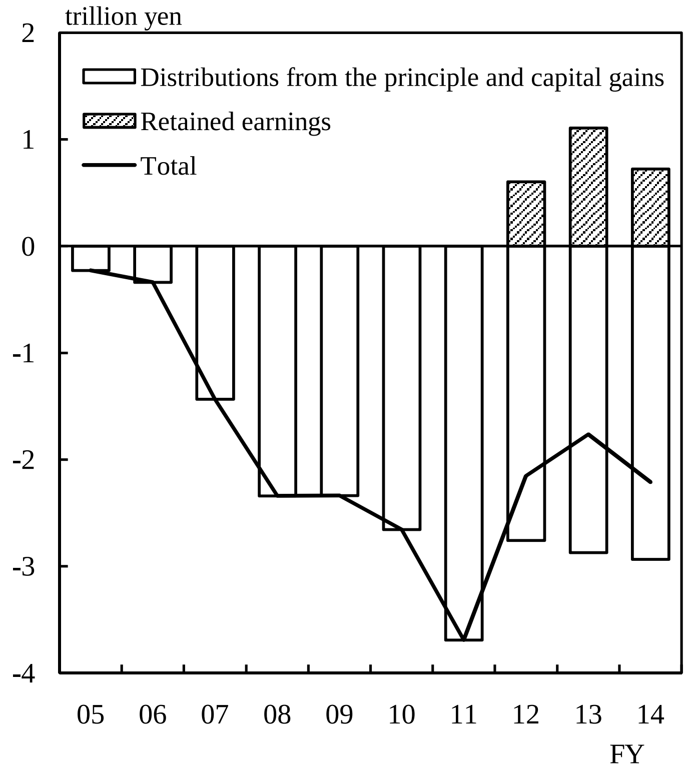



## (2) Transaction flows from households to investment trusts

(a) Comparison: Former and New FFA




(b) Factor decomposition of divergence between Former and New FFA




Notes: 1. Retained earnings are recorded from 2012/Q3.

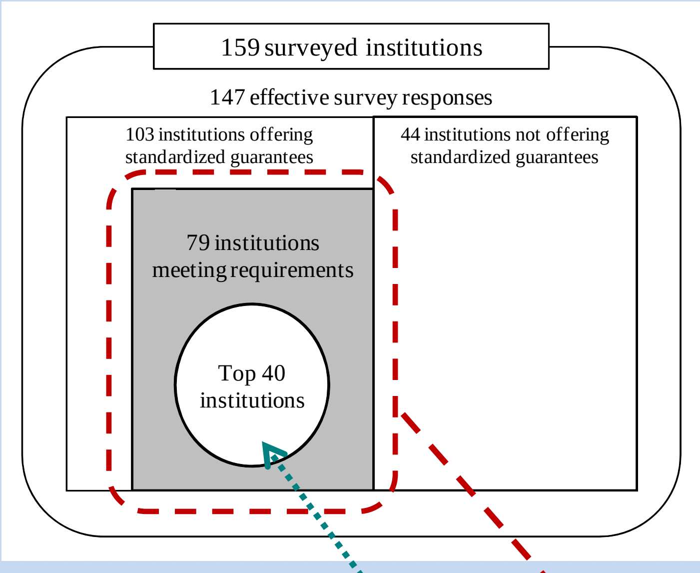
2. Since households do no hold privately placed securities investment trusts, only retained earnings of publicly offered investment trusts are recorded.

Figure 18

# Source Data and Estimation Method for Provisions for Calls under Standardized Guarantees

**Surveys conducted on 159 institutions:**

City banks, regional banks, second-tier regional banks, and cooperative financial institutions (Nourinchukin Bank, etc.)



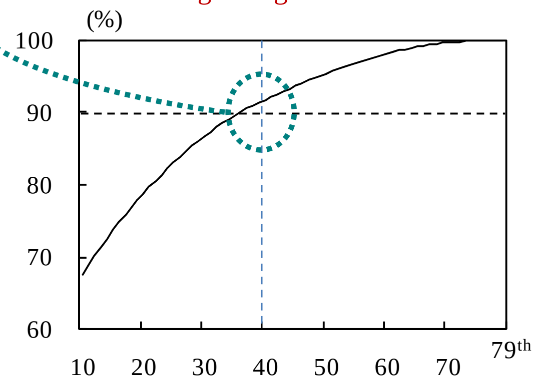

Continuous survey on top 40 institutions

Rate of provision required for estimation ≈ 1.5%

Housing loan guarantees among provisions for calls under standardized guarantees

= The outstanding housing loan guarantees × Rate of provision ≈ 1.5%

Cumulative share of outstanding housing loan guarantees




Note: 1. Cumulative share of outstanding housing loan guarantees = "Cumulative amount of housing loans among outstanding debt guarantees of top n institutions" divided by "cumulative amount of housing loans among outstanding of debt guarantees of total 79 institutions"

2. From the perspective of confidentiality of individual corporate information, cumulative amounts below the 10th institution are shown

**Provisions for calls under standardized guarantees**

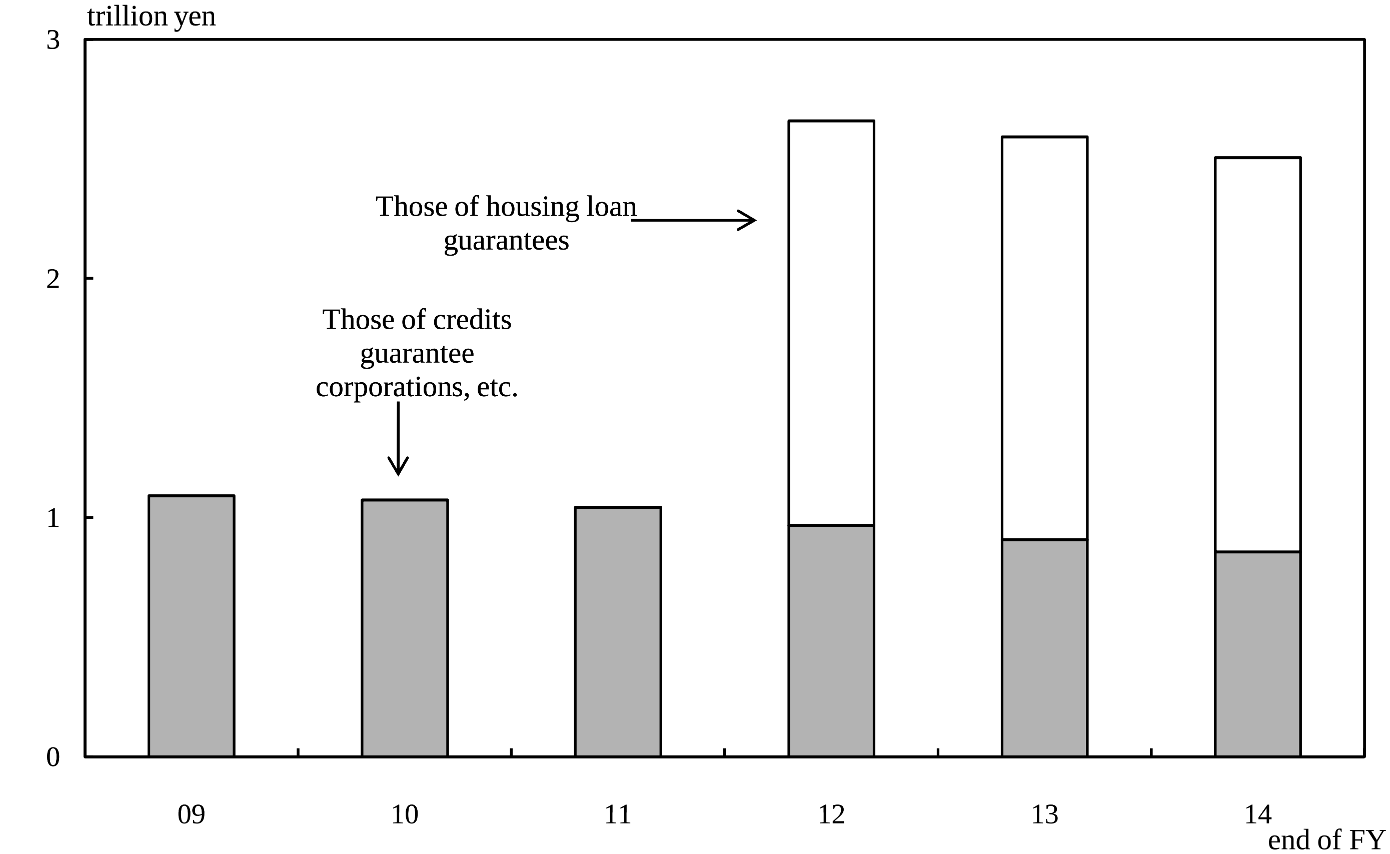
= **Those of credits guarantee corporations, etc.** + **Those of housing loan guarantees**

Note: The rate of provision shown in this figure is derived from a survey conducted in 2013.

Figure 19

# Trend in Provision for Calls under Standardized Guarantees

(1) Trend in provision for calls under standardized guarantees




(2) Rate of provisions for calls concerning housing loans guarantees

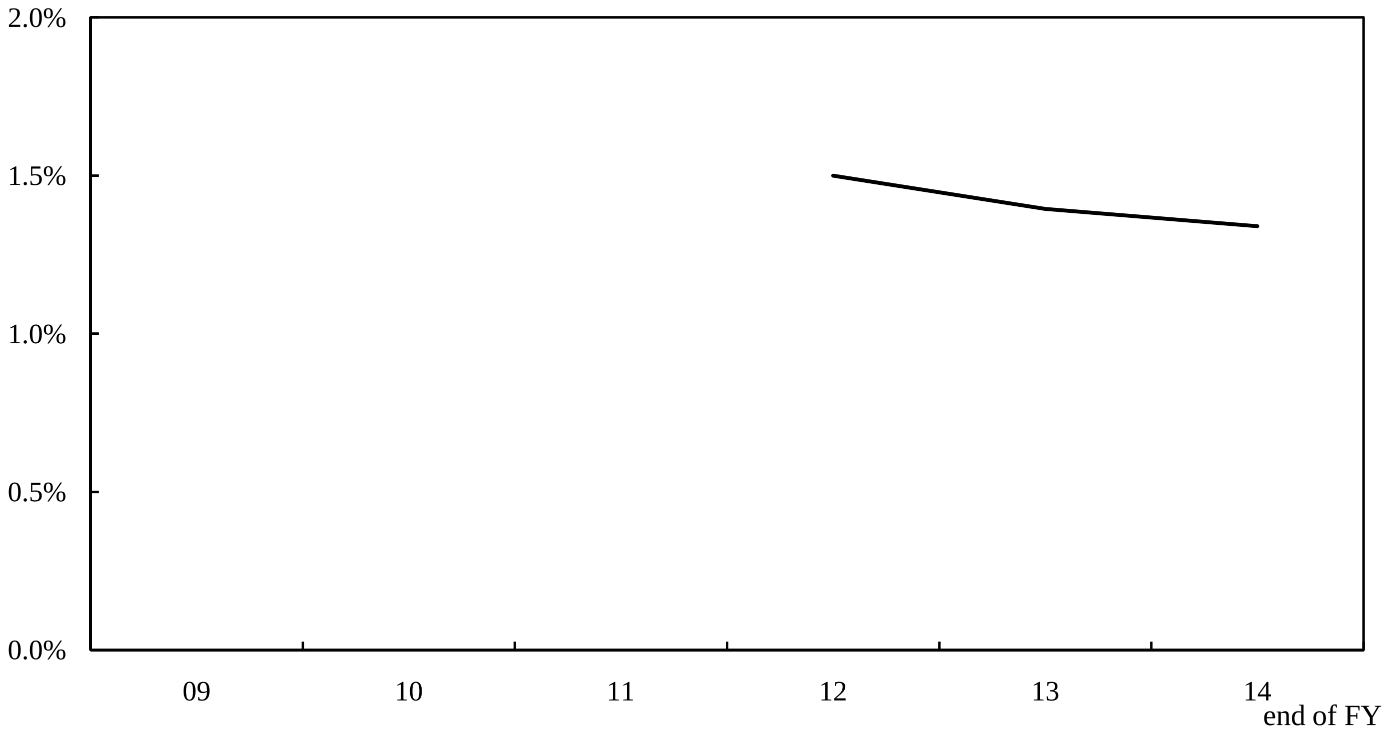
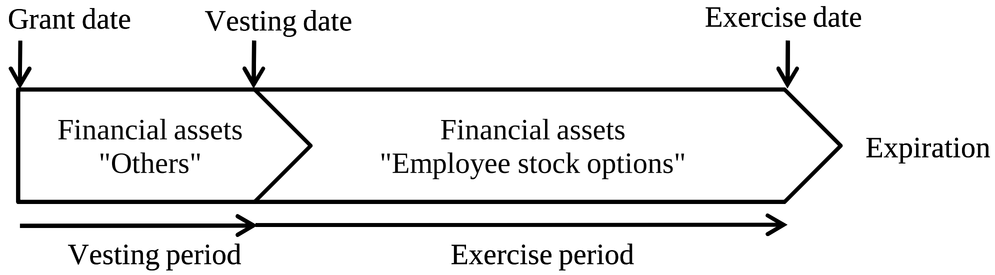


Figure 20

# Share Options: Composition and Trend

## (1) Recording method of employee stock options

Amounts outstanding of broadly-defined employee stock options is approximated using share options in the Financial Statements Statistics of Corporations by Industry. The way of spliting it into transaction items "Employee stock options" and "Others" is as below.




First, the following (i) ~ (iii) data are obtained from financial statements of individual companies.
Next, amounts outstanding of unvested stock options and amounts outstanding of vested but unexercised stock options of individual companies are estimated on monetary amount.
Finally, figures for total companies are aggregated and used to calculate the composition ratio.

(i) Amounts outstanding of share options (monetary amount; sub-item of net assets in financial statements)
(ii) Amounts outstanding of unvested stock options (the number of shares)
(iii) Amounts outstanding of vested but unexercised stock options (the number of shares)

| Amounts outstanding of unvested stock options = | | Amounts outstanding of vested but unexercised stock options = |
|---|---|---|
| Σ(i) × (ii)/((ii)+(iii)) | | Σ(i) × (iii)/((ii)+(iii)) |
| A (Others) | : | B (Employee stock options) |

"Others" and "employee stock options" are calculated by multiplying share options in the Financial Statements Statistics of Corporations by Industry with the ratio A:B.

## (2) Trend in amounts outstanding of employee stock options

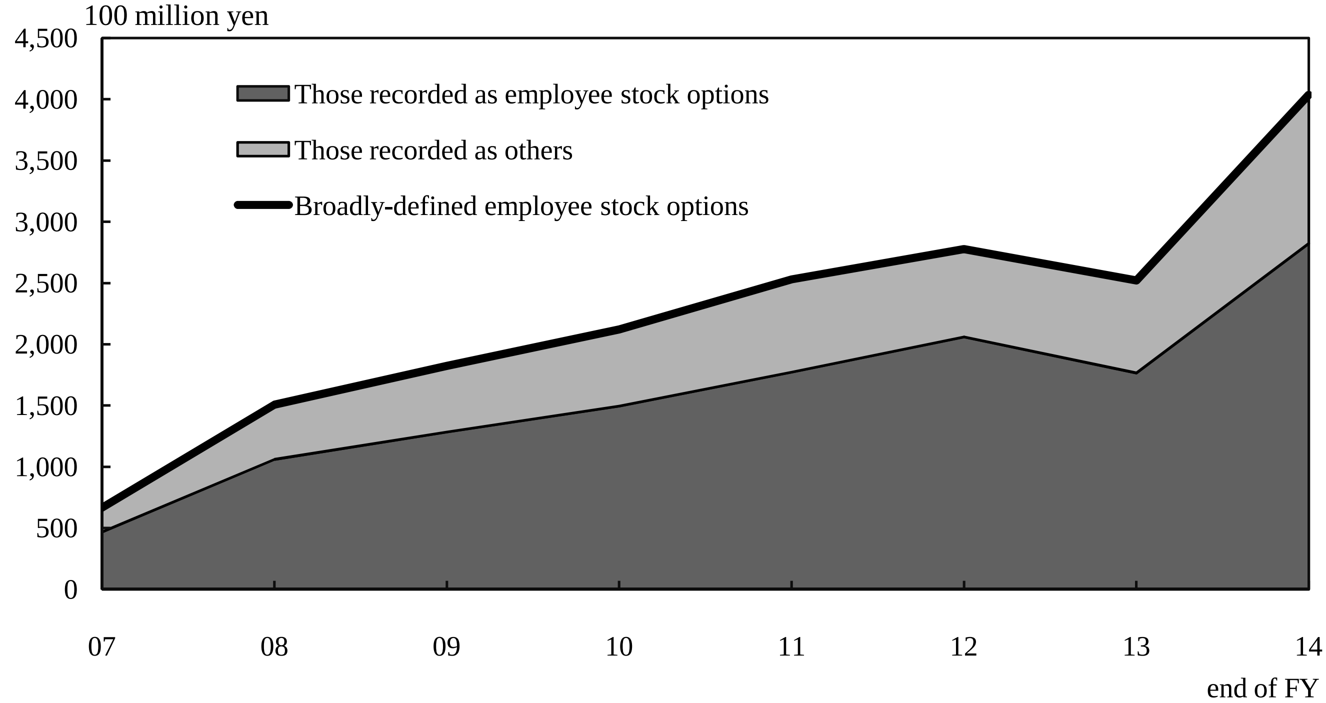
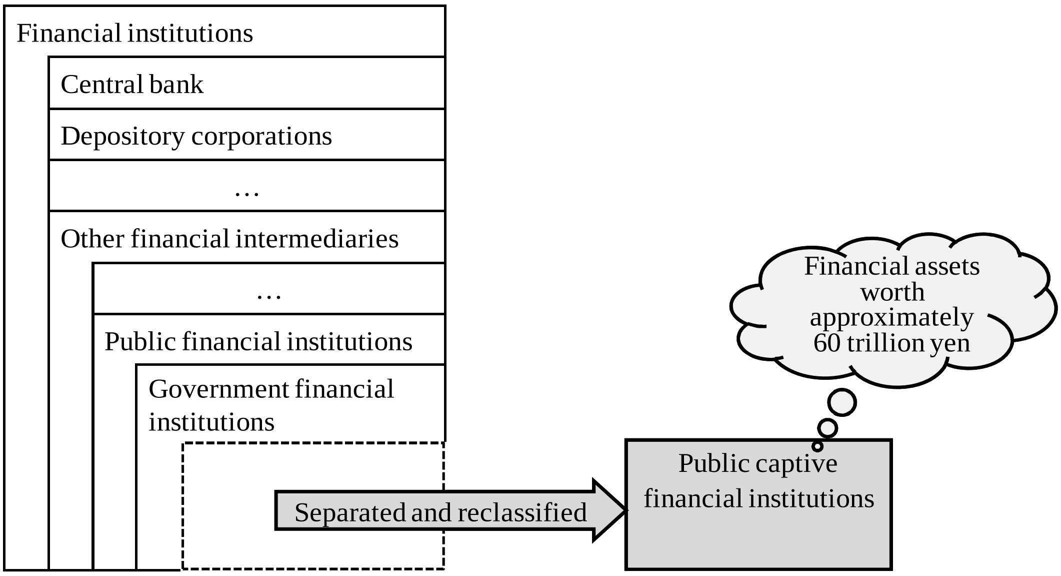


Figure 21

# Captive Financial Institutions

## (1) Reclassification of public captive financial institutions




## (2) Outstanding assets of public captive financial institutions

trillion yen

| | |
|---|---|
| ・Japan Expressway Holding and Debt Repayment Agency | 31.83 |
| ・Japan Finance Organization for Municipalities | 24.52 |
| ・Account for Subsidy; Japan Railway Construction, Transport and Technology Agency | 1.81 |
| ・Small and Medium Enterprises Bankruptcy Account; Organization for Small & Medium Enterprises and Regional Innovation, JAPAN | 1.15 |
| ・Industrial Structure Improvement Account; Organization for Small & Medium Enterprises and Regional Innovation, JAPAN | 0.05 |
| ・Succession of Contribution Account; Organization for Small & Medium Enterprises and Regional Innovation, JAPAN | 0.01 |
| ・Fund for the Promotion and Development of the Amami Islands | 0.01 |
| ・Agricultural Disaster Compensation Account; Agriculture, Forestry and Fisheries Credit Foundations | 0.00 |
| ・Fishery Disaster Compensation Account; Agriculture, Forestry and Fisheries Credit Foundations | 0.01 |

Note: Figures are those of March-end 2015.

## (3) Amounts outstanding assets of government financial institutions and public captive financial institutions

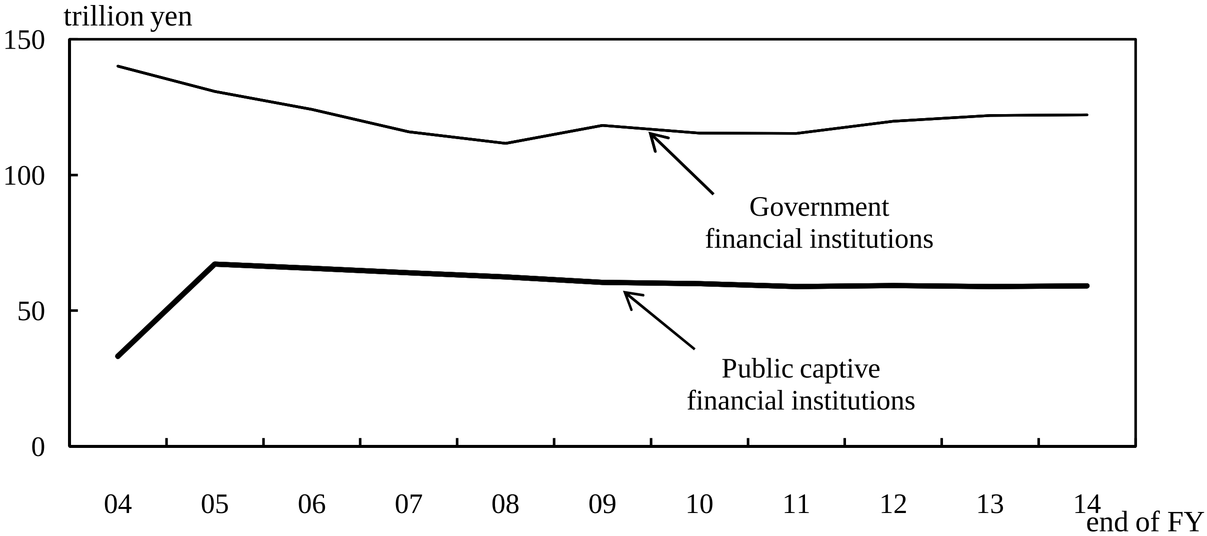
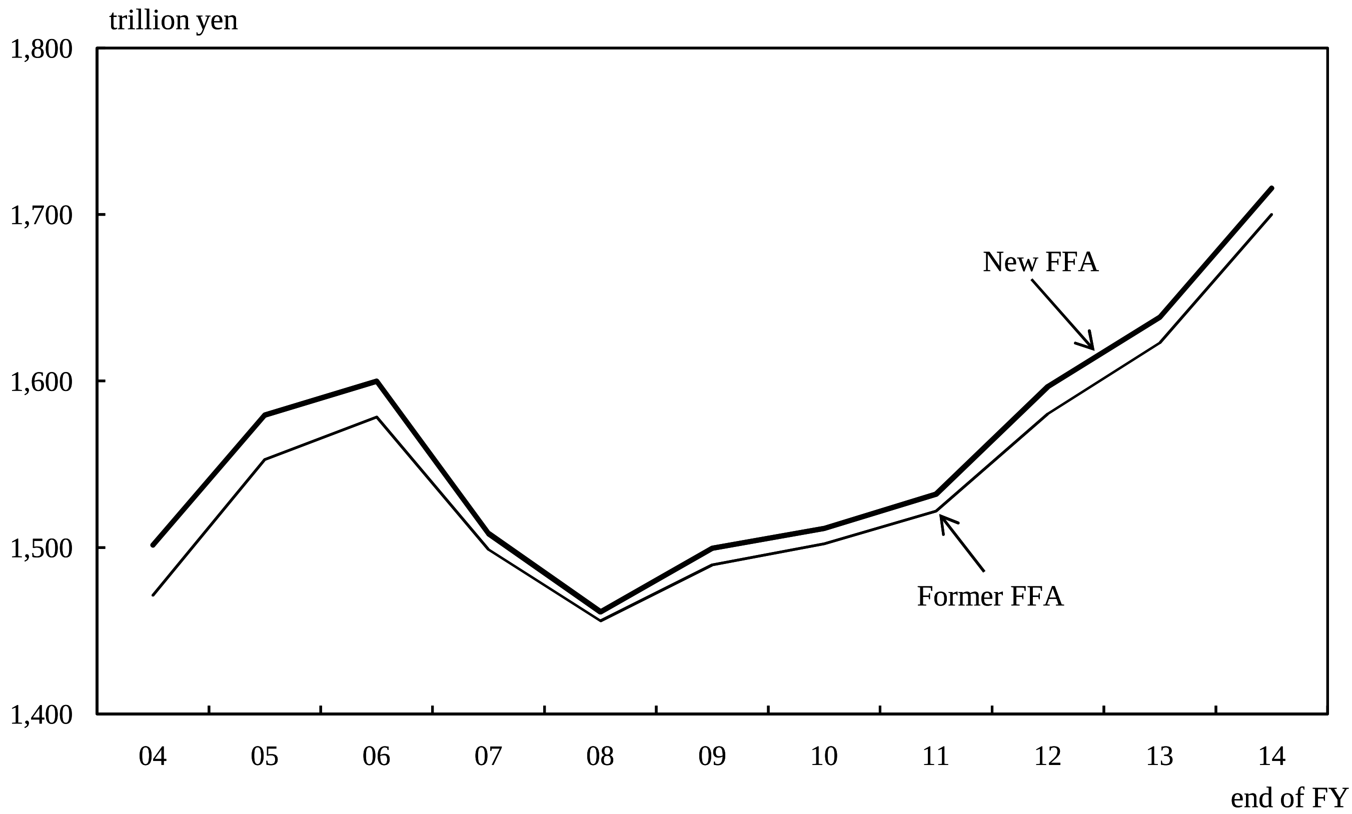


Figure 22

# Effects of Revision on Amounts Outstanding Assets/Liabilities

(1) Amounts outstanding assets of households




(2) Amounts outstanding liabilities of private nonfinancial corporations

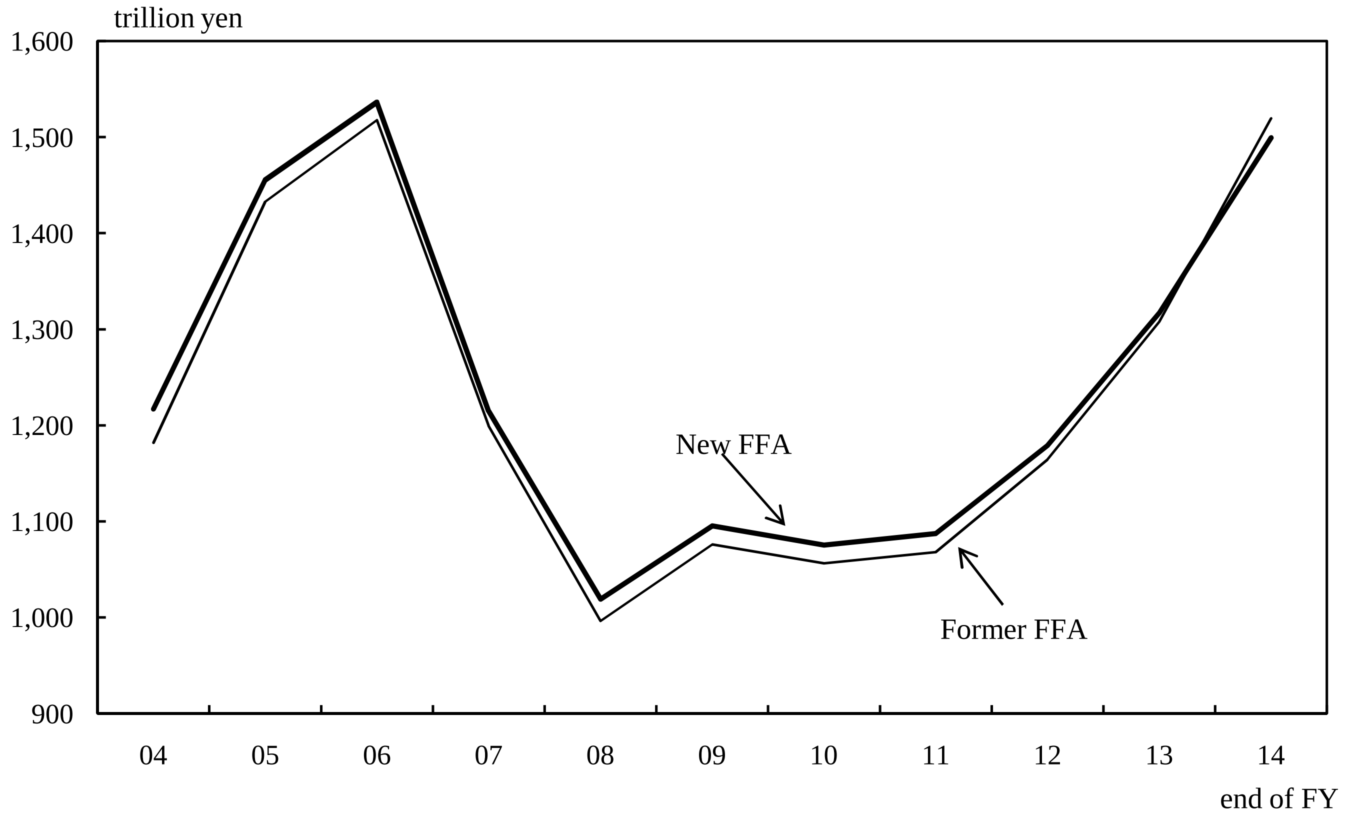
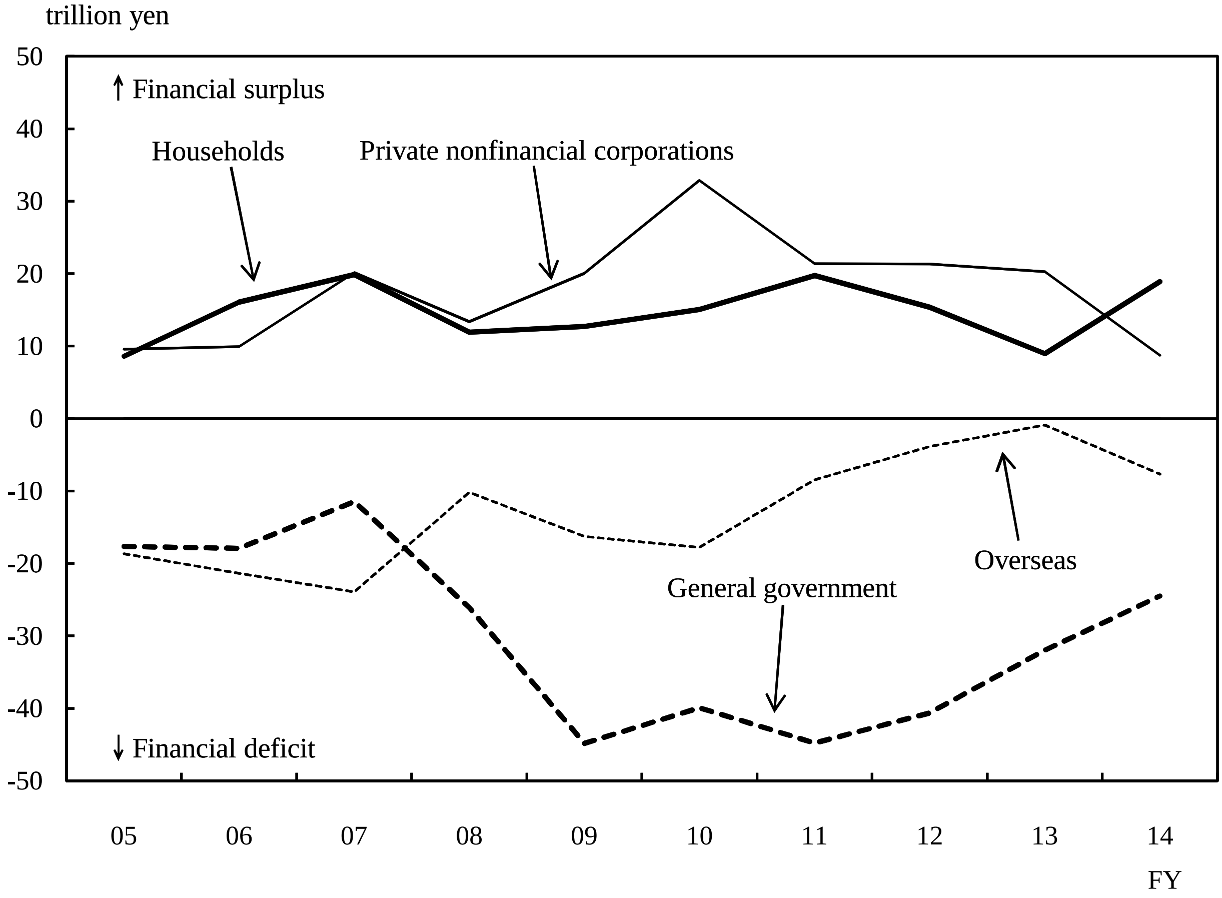


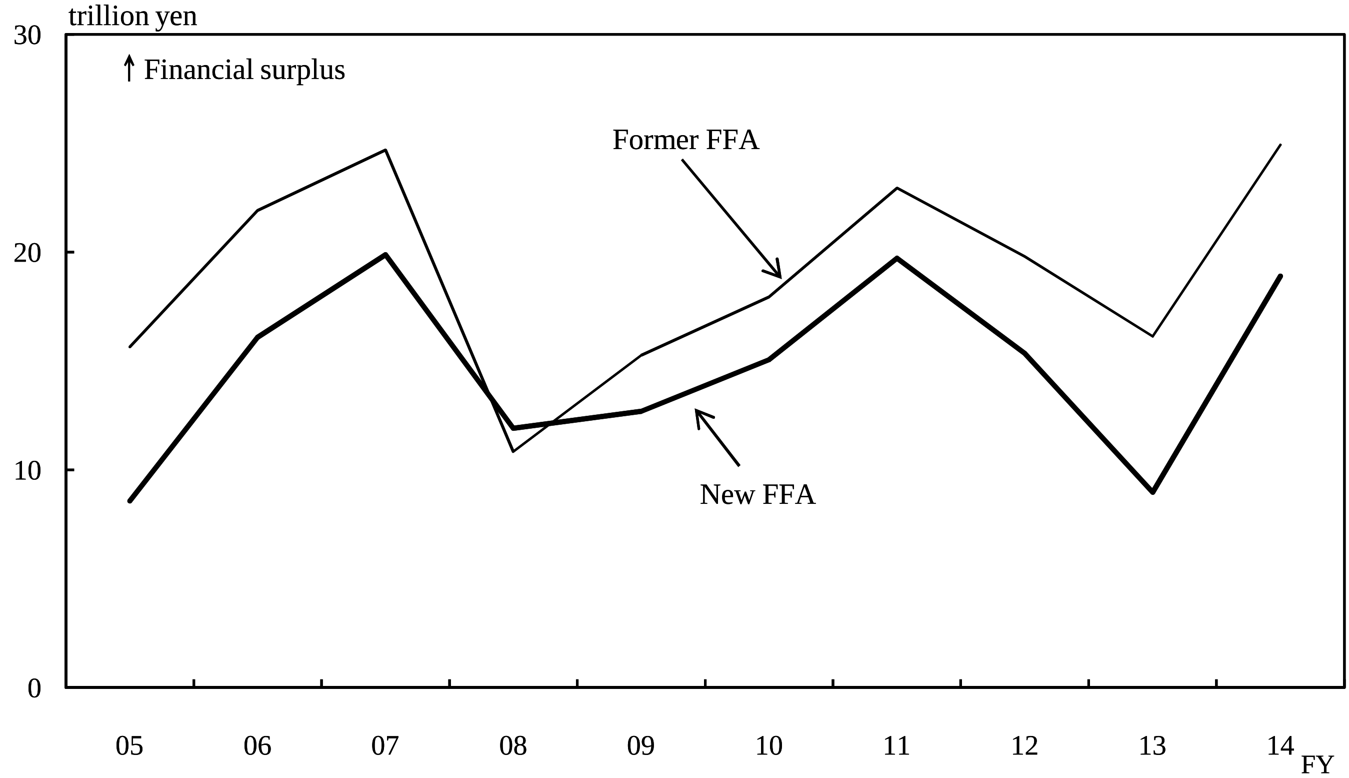
Figure 23

Financial Surplus or Deficit of Four Major Sectors in the New FFA

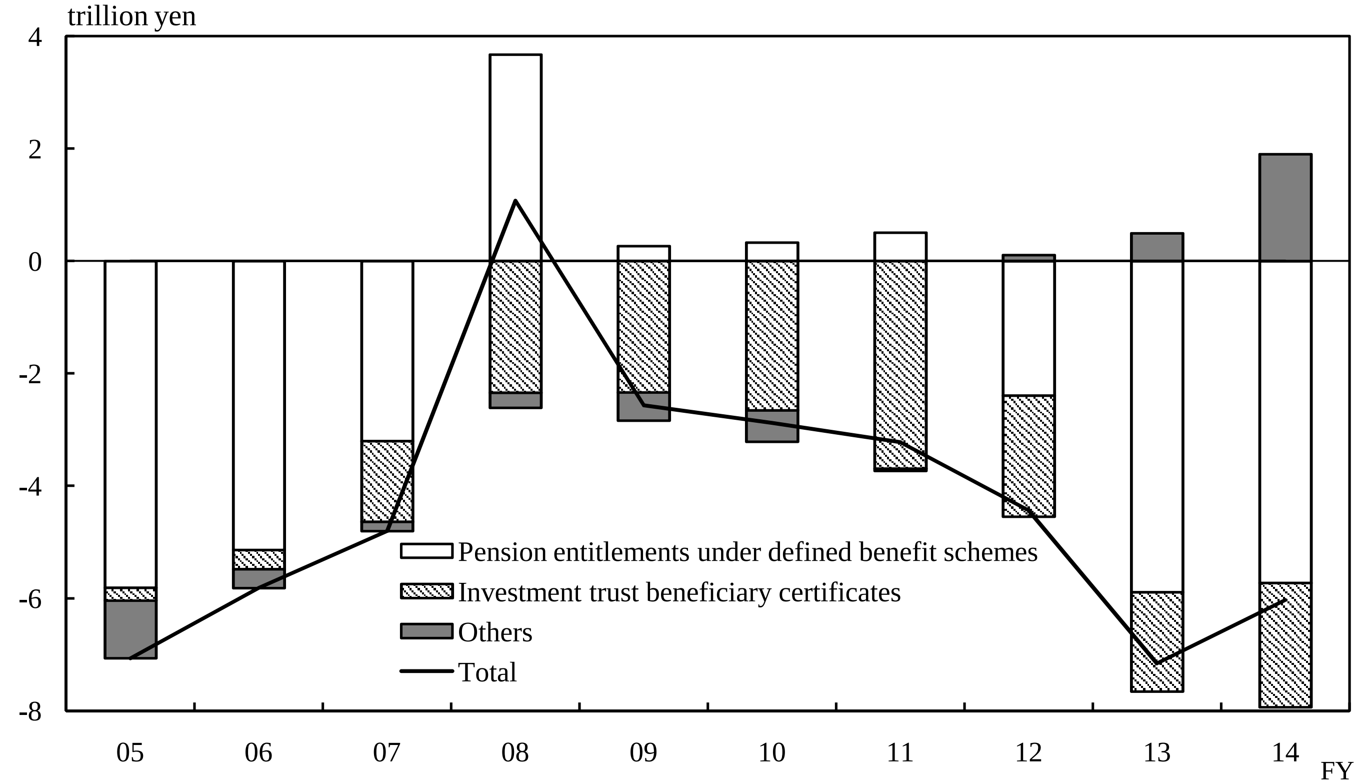


# Comparison of Financial Surplus or Deficit of Households

(1) Households: Comparison between Former and New FFA

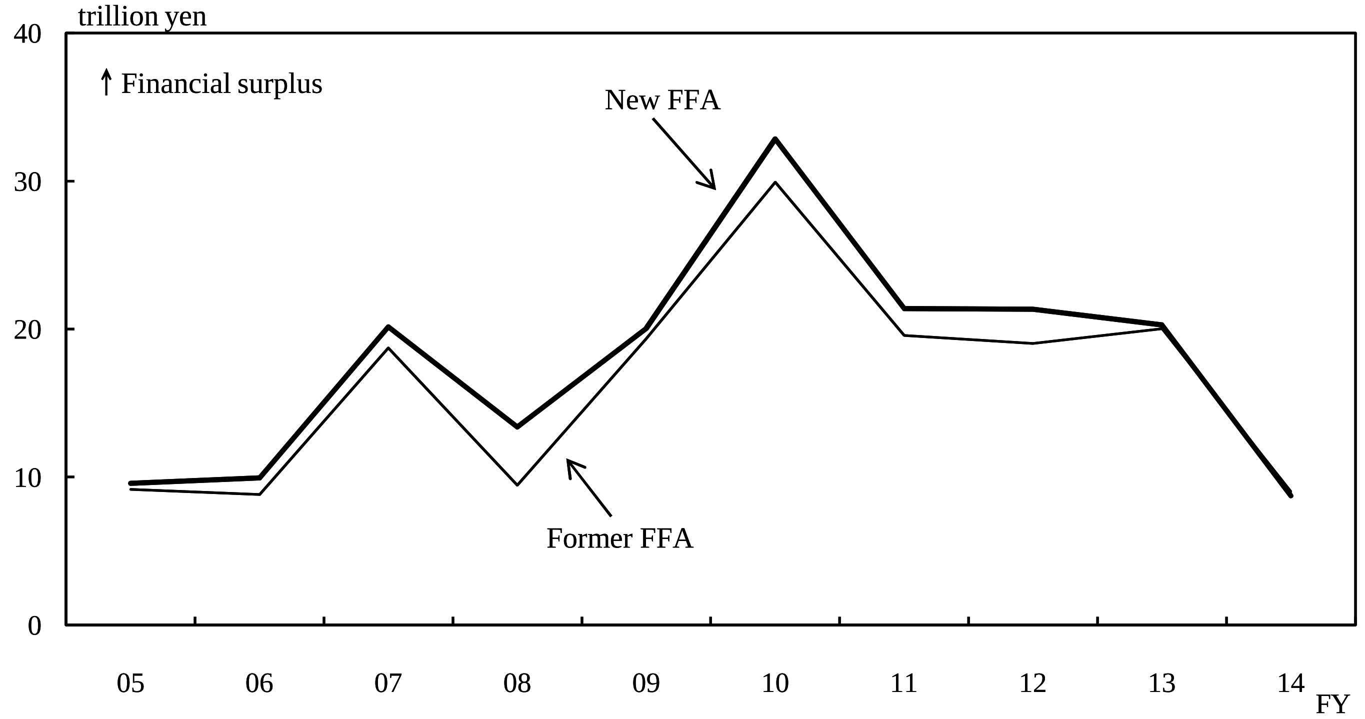



(2) Households: Decomposition of divergence between Former and New FFA



Comparison of Financial Surplus or Deficit: Private Nonfinancial Corporations and General Government

(1) Private nonfinancial corporations: Comparison between Former and New FFA




(2) General government: Comparison between Former and New FFA

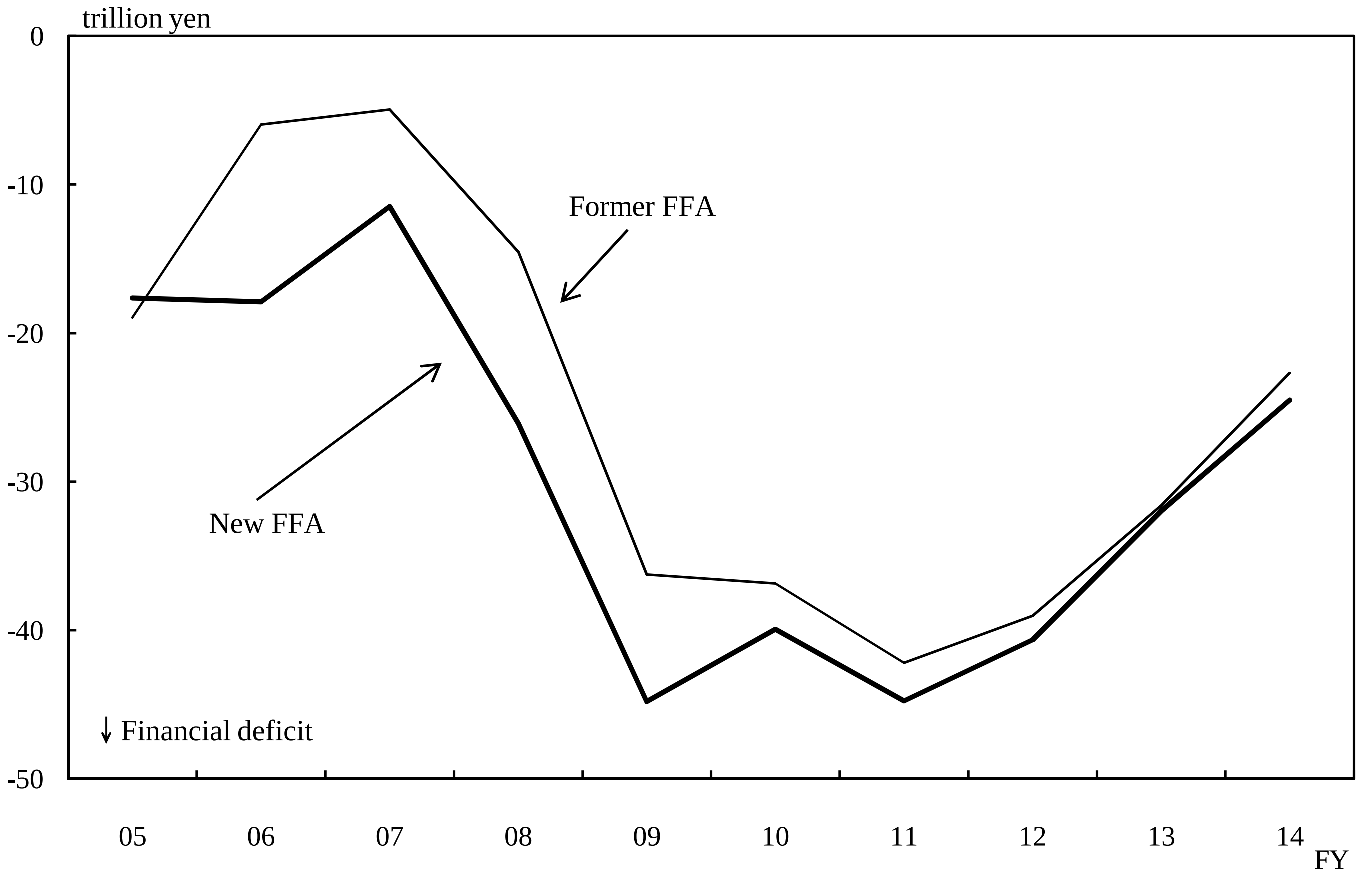


Figure 26

# Series of Retroactive Data Unavailable Through 2005

## (1) Stock investment trusts

Figures for retained earnings derived from the interest and dividends income are reflected in flows of investment trust beneficiary certificates from 2012/Q3 and onward. This is because data of individual func -- necessary for estimation -- are available only from this quarter. Figures for distributions from the principal and capital gains are reflected from the beginning of data, but those prior to 2012/Q2 and after 2012/Q3 are estimated using a different method. See annex for details.

Stock investment trusts

| | | |
|---|---|---|
| 2012/Q3 and onward | Liabilities | Reinvestment from retained earnings reflected in investment trust beneficiary certificates (flow) and changes in the estimation method for distributions from the principal and capital gains. |

## (2) Standardized guarantee institutions

Source data for the public credit guarantee program are available from 2010/Q1 and onward.
Source data for housing loan guarantees are available from 2013/Q1 and onward.

Standardized guarantee institutions (public credit guarantee program)

| | | |
|---|---|---|
| 2010/Q1 and onward | Assets | Currency, Transferable deposits, Time and savings deposits, Certificate of deposits, Central government securities and FILP bonds, Local government securities, Public corporation securities, Bank debentures, Industrial securities, Listed shares, Investment trust beneficiary certificates, Non-life insurance technical reserves, Accounts receivable/payable, and Others |
| | Liabilities | Other equity, Provision for calls under standardized guarantees, Accounts receivable/payable, and Others |

Standardized guarantee institutions (housing loan guarantees)

| | | |
|---|---|---|
| 2013/Q1 and onward | Assets | Currency, Transferable deposits, Time and savings deposits, Certificate of deposits, Housing loans, Central government securities and FILP bonds, Local government securities, Public corporation securities, Bank debentures, Industrial securities, Listed shares, Investment trust beneficiary certificates, and Others |
| | Liabilities | Unlisted shares, Provision for calls under standardized guarantees, and Others |

## (3) Employee stock options

Figures of share options in the Financial Statements Statistics of Corporations by Industry -- source data for employee stock options -- are available from 2007/Q2 and onward.

Households

| | | |
|---|---|---|
| 2007/Q2 and onward | Assets | Employee stock options |

Private nonfinancial corporations

| | | |
|---|---|---|
| 2007/Q2 and onward | Liabilities | Employee stock options |

## (4) Deposits money of overseas sector

Source data are available from 2014/Q1 and onward.

Overseas

| | | |
|---|---|---|
| 2014/Q1 and onward | Assets | Deposits money |
| | Liabilities | Deposits money |

Figure 27

# Outline of Seasonally Adjusted Figures

In the New FFA, the Bank newly provides seasonally adjusted quarterly figures of financial surplus or deficit in the four major sectors (households, private nonfinancial corporations, general government, and overseas). An overview of the method is shown below. Going forward, the Bank will conduct an annual retroactive revision to the model when the final data for one year become available, and for the upcoming year, calculate seasonally adjusted figures by using the forecast of seasonal factors.

(1) The X-12-ARIMA seasonally adjustment program (version 0.3) by the U.S. Census Bureau is used.

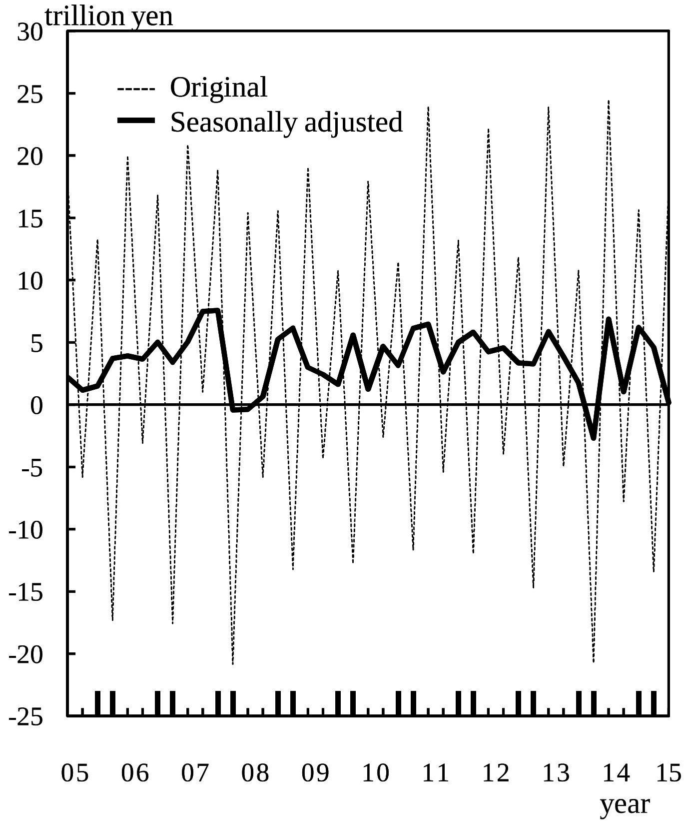
(2) Each series is seasonally adjusted using additive models. Criteria for detecting outliers and temporary changes at the prior adjustments are based on the default value of version 0.3.

(3) Quarterly financial surplus or deficit of each sector for the period: 2005/Q2-2015/Q2 are used.

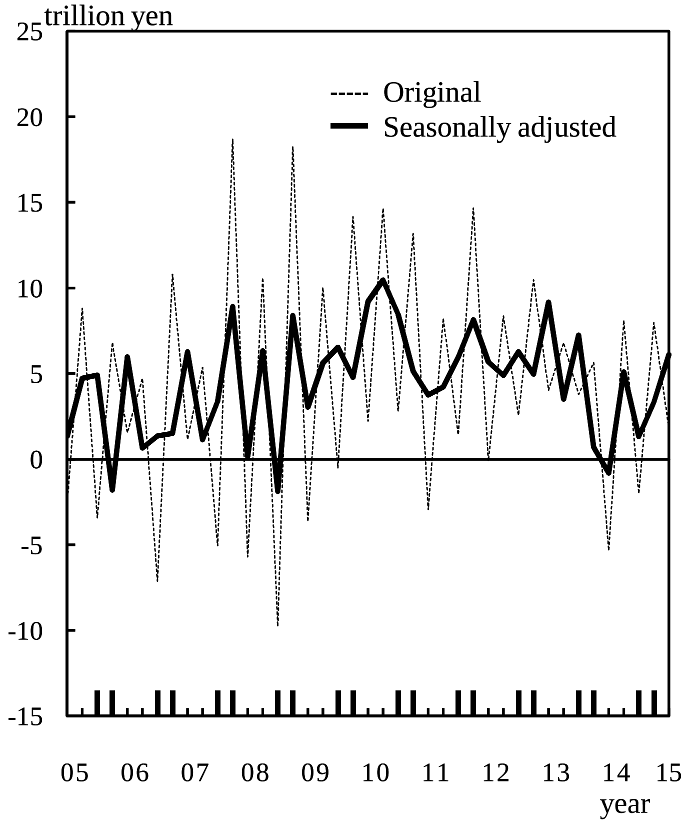
| Sector | ARIMA model | Note |
|---|---|---|
| Households | (110)(011) | No level shifts and lumps |
| Private nonfinancial corporations | (111)(011) | No level shifts and lumps |
| General government | (110)(011) | No level shifts and lumps |
| Overseas | (010)(011) | No level shifts and lumps |

# Seasonally Adjusted Figures of Financial Surplus or Deficit

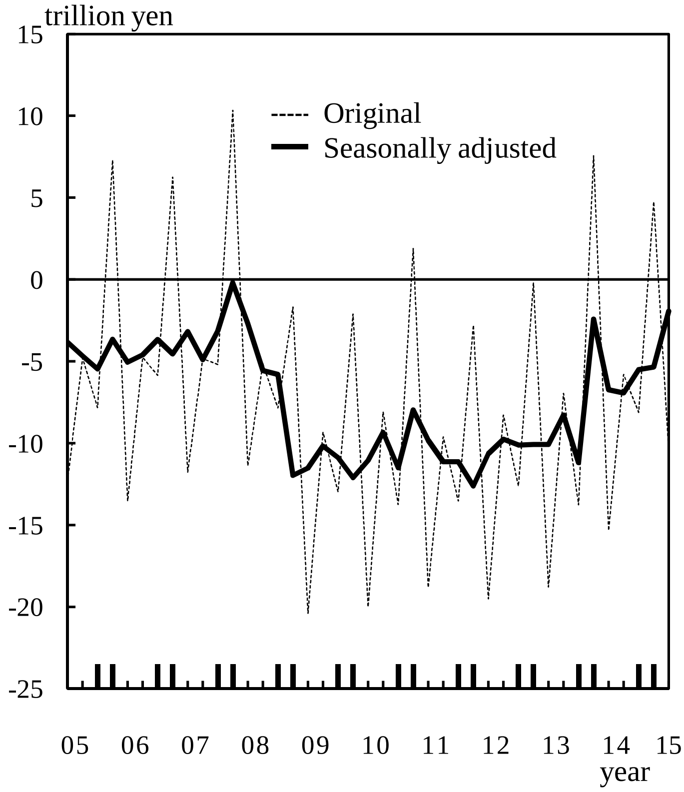
(1) Households




(2) Private nonfinancial corporations




(3) General government




(4) Overseas

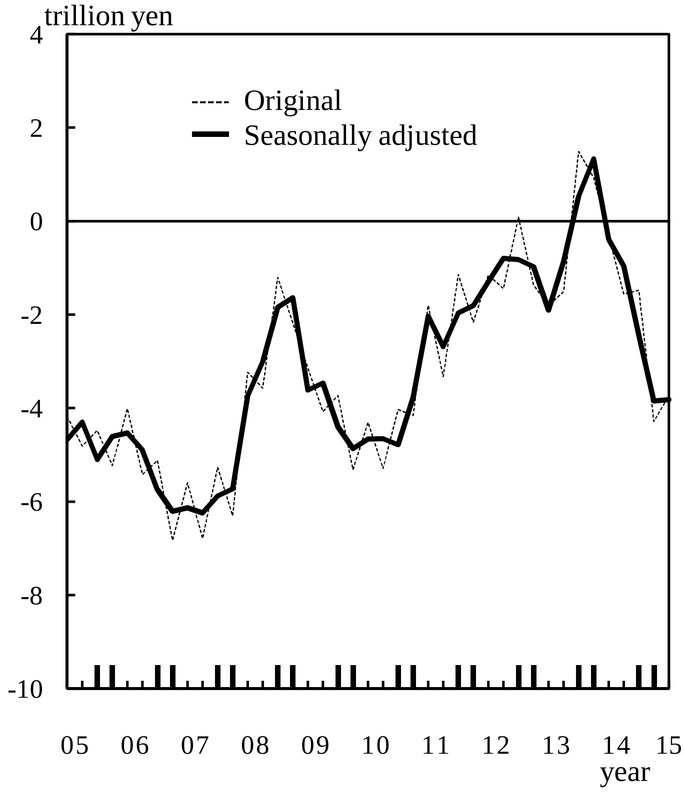


Figure 29

# Changes in Figures Following the Revision of the FFA based on 2008SNA

(S: Stock, F: Flow, A: Asset, L: Liability, Unit in trillion yen)

| | Topic | Description | Major amount changes | | Sector | Transaction item | Increase /decrease |
|---|---|---|---|---|---|---|---|
| 1 | Public captive financial institutions | A new sector of "public captive financial institutions" is added to the table. The relevant institutions included in "government financial institutions" prior to revision are now separated and reclassified to the new sector.<br>(increase/decrease in table are those at end of March 2015) | S | A | Government financial institutions | Time and savings deposits | -0.5 |
| | | | | | | Certificates of deposit | -0.9 |
| | | | | | | Foreign currency deposits | -0.1 |
| | | | | | | Loans by private financial institutions | -23.9 |
| | | | | | | Installment credit (not included in consumer credit) | -32.3 |
| | | | | | | Central government securities and FILP bonds | -0.1 |
| | | | | | | Public corporation securities | -0.1 |
| | | | | | | Bank debentures | -0.6 |
| | | | | | | Accounts receivable/payable | -0.4 |
| | | | | | Public captive financial institutions | Time and savings deposits | 0.5 |
| | | | | | | Certificates of deposit | 0.9 |
| | | | | | | Foreign currency deposits | 0.1 |
| | | | | | | Loans by private financial institutions | 23.9 |
| | | | | | | Installment credit (not included in consumer credit) | 32.3 |
| | | | | | | Central government securities and FILP bonds | 0.1 |
| | | | | | | Public corporation securities | 0.1 |
| | | | | | | Bank debentures | 0.6 |
| | | | | | | Accounts receivable/payable | 0.4 |
| | | | | L | Government financial institutions | Loans to companies and governments | -0.6 |
| | | | | | | Loans by private financial institutions | -0.5 |
| | | | | | | Loans by nonfinancial sectors | -1.8 |
| | | | | | | Public corporation securities | -47.0 |
| | | | | | | Industrial securities | -0.9 |
| | | | | | | External securities issued by residents | -1.9 |
| | | | | | | Equity | -6.5 |
| | | | | | | Deposits money | -1.0 |
| | | | | | | Accounts receivable/payable | -0.7 |
| | | | | | Public captive financial institutions | Loans to companies and governments | 0.6 |
| | | | | | | Loans by private financial institutions | 0.5 |
| | | | | | | Loans by nonfinancial sectors | 1.8 |
| | | | | | | Public corporation securities | 47.0 |
| | | | | | | Industrial securities | 0.9 |
| | | | | | | External securities issued by residents | 1.9 |
| | | | | | | Equity | 6.5 |
| | | | | | | Deposits money | 1.0 |
| | | | | | | Accounts receivable/payable | 0.7 |

# Changes in Figures Following the Revision of the FFA based on 2008SNA

(S: Stock, F: Flow, A: Asset, L: Liability, Unit in trillion yen)

| | Topic | Description | Major amount changes | | Sector | Transaction item | Increase /decrease |
|---|---|---|---|---|---|---|---|
| 2 | Financial holdings companies | A new sector of "financial holdings companies" is added to the table. The relevant institutions included in the sectors of "domestically licensed banks" and "securities companies," etc. prior to revision are now reclassified to the sector and more institutions are now included as coverage in the table.<br>(increase/decrease in table are those at the end of March 2015) | S | A | Domestically licensed banks | Time and savings deposits | -0.4 |
| | | | | | | Equity | -27.4 |
| | | | | | | Accounts receivable/payable | -0.2 |
| | | | | | | Others | -0.2 |
| | | | | | Life insurance | Equity | -1.1 |
| | | | | | Of which: private nonlife insurance | Equity | -5.6 |
| | | | | | Of which: securities companies | Transferable deposits | -0.2 |
| | | | | | | Central government securities and FILP bonds | 0.2 |
| | | | | | | Equity | -4.9 |
| | | | | | | Accounts receivable/payable | -0.2 |
| | | | | | | Others | -0.1 |
| | | | | | Of which: financial holding companies | Transferable deposits | 0.3 |
| | | | | | | Time and savings deposits | 0.7 |
| | | | | | | Loans to companies and governments | 6.0 |
| | | | | | | Central government securities and FILP bonds | 0.1 |
| | | | | | | Equity | 41.5 |
| | | | | | | Accounts receivable/payable | 0.6 |
| | | | | | | Others | 0.2 |
| | | | | L | Domestically licensed banks | Loans to companies and governments | -4.3 |
| | | | | | | Industrial securities | -1.5 |
| | | | | | | External securities issued by residents | -0.2 |
| | | | | | | Commercial paper | -0.5 |
| | | | | | | Equity | -29.5 |
| | | | | | | Accounts receivable/payable | -0.1 |
| | | | | | Life insurance | Equity | -1.1 |
| | | | | | Of which: private nonlife insurance | Equity | -5.6 |
| | | | | | Of which: securities companies | Loans to companies and governments | -3.5 |
| | | | | | | Industrial securities | -2.4 |
| | | | | | | External securities issued by residents | -0.9 |
| | | | | | | Equity | -4.3 |
| | | | | | | Others | -1.2 |
| | | | | | Of which: financial holding companies | Loans to companies and governments | 7.8 |
| | | | | | | Industrial securities | 3.5 |
| | | | | | | External securities issued by residents | 1.1 |
| | | | | | | Commercial paper | 0.5 |
| | | | | | | Equity | 42.5 |
| | | | | | | Accounts receivable/payable | 0.1 |
| | | | | | | Others | 0.3 |
| | | | | | Private nonfinancial corporations | Loans to companies and governments | 6.0 |

# Changes in Figures Following the Revision of the FFA based on 2008SNA

(S: Stock, F: Flow, A: Asset, L: Liability, Unit in trillion yen)

| | Topic | Description | Major amount changes | | Sector | Transaction item | Increase /decrease |
|---|---|---|---|---|---|---|---|
| 3 | Standardized guarantee institutions | A new sector of "standardized guarantee institutions" is added to the table. The relevant institutions included in the sector of "financial auxiliaries" prior to revision are reclassified and housing loan guarantee companies, etc. are newly added to the sector.<br>(increase/decrease in table are those at the end of March 2015)<br><br>Note: Figures are kept undisclosed due to insufficient data of companies for release. | S | A | Of which: standardized guarantee institutions | Currency | 0.3 |
| | | | | | | Transferable deposits | 0.8 |
| | | | | | | Time and savings deposits | 1.0 |
| | | | | | | Certificates of deposit | 1.4 |
| | | | | | | Of which: housing loans | 0.3 |
| | | | | | | Central government securities and FILP bonds | 0.4 |
| | | | | | | Local government securities | 1.5 |
| | | | | | | Public corporation securities | 0.1 |
| | | | | | | Industrial securities | 1.0 |
| | | | | | | Unlisted shares | 0.1 |
| | | | | | | Non-life insurance technical reserves | 1.4 |
| | | | | | | Accounts receivable/payable | 0.1 |
| | | | | | | Others | 0.3 |
| | | | | | Financial auxiliaries | Transferable deposits | * |
| | | | | | | Time and savings deposits | * |
| | | | | | | Central government securities and FILP bonds | * |
| | | | | | | Local government securities | * |
| | | | | | | Industrial securities | * |
| | | | | | | Accounts receivable/payable | * |
| | | | | | | Others | * |
| | | | | | Private nonfinancial corporations | Provisions for calls under standardized guarantees | 0.7 |
| | | | | | Households | Provisions for calls under standardized guarantees | 1.8 |
| | | | | L | Of which: standardized guarantee institutions | Unlisted shares | 0.9 |
| | | | | | | Other equity | 0.6 |
| | | | | | | Provisions for calls under standardized guarantees | 2.5 |
| | | | | | | Others | 0.5 |
| | | | | | Financial auxiliaries | Loans to companies and governments | * |
| | | | | | | Other equity | * |
| | | | | | | Accounts receivable/payable | * |
| | | | | | Households | Of which: housing loans | 0.3 |
| 4 | Pension entitlements | A new sector of defined benefit schemes is added to the table as a breakdown of corporate pensions. Pension reserves in the 93SNA are converted to and listed as "pension entitlements" on an accrual basis.<br>(increase/decrease in table are those at the end of March 2015 for S and in fiscal 2014 for F) | S | A | Households | Pension entitlements | 33.4 |
| | | | | L | Corporate pensions | Pension entitlements | 33.4 |
| | | | F | A | Households | Pension entitlements | -5.7 |
| | | | | L | Corporate pensions | Pension entitlements | -5.7 |
| 5 | Claims of pension funds on pension managers | The underfunded portion of corporate pensions (assets of corporate pensions and liabilities of domestically licensed banks and private nonfinancial corporations) included in "accounts receivable/payable" prior to revision is now recorded as a separate transaction item of "claims of pension funds on pension managers."<br>(increase/decrease in table are those at the end of March 2015) | S | A | Corporate pensions | Claims of pension funds on pension managers | 25.0 |
| | | | | | | Accounts receivable/payable | -21.0 |
| | | | | L | Domestically licensed banks | Claims of pension funds on pension managers | -1.9 |
| | | | | | | Accounts receivable/payable | -0.7 |
| | | | | | Private nonfinancial corporations | Claims of pension funds on pension managers | 26.9 |
| | | | | | | Accounts receivable/payable | -20.3 |

# Changes in Figures Following the Revision of the FFA based on 2008SNA

(S: Stock, F: Flow, A: Asset, L: Liability, Unit in trillion yen)

| | Topic | Description | Major amount changes | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | Sector | Transaction item | Increase /decrease |
| 6 | Retirement benefit trusts | Retirement benefit trusts -- recorded as assets of "others" in "households" and liabilities of "others" in "private nonfinancial corporations" and "domestically licensed banks"-- are migrated to the "defined benefit schemes" sector. It is converted to and listed as assets of "pension entitlements" in "households" and liabilities of "pension entitlements" in "defined benefit schemes" as well as assets of "others" in "defined benefit schemes" and liabilities of "others" in "private nonfinancial corporations" and "domestically licensed banks." (increase/decrease in table are those at the end of March 2015) | S | A | Defined benefit schemes | Others | 11.4 |
| | | | | | Households | Pension entitlements | 11.4 |
| | | | | | | Others | -11.4 |
| | | | | L | Defined benefit schemes | Pension entitlements | 11.4 |
| 7 | Unearned premium reserves and reserves for outstanding claims | Unearned premium reserves and reserves for outstanding claims --recorded in "accounts receivable/payable"-- are reclassified into "non-life insurance technical reserves" and "life insurance reserves." (increase/decrease in table are those at the end of March 2015) | S | A | Of which: standardized guarantee | Non-life insurance technical reserves | 1.4 |
| | | | | | Private nonfinancial corporations | Non-life insurance technical reserves | 1.6 |
| | | | | | | Accounts receivable/payable | -1.8 |
| | | | | | Households | Life insurance reserves | 19.7 |
| | | | | | | Non-life insurance technical reserves | 8.1 |
| | | | | | | Accounts receivable/payable | -29.0 |
| | | | | L | Life insurance | Life insurance reserves | 19.7 |
| | | | | | | Accounts receivable/payable | -19.7 |
| | | | | | Nonlife insurance | Non-life insurance technical reserves | 11.0 |
| | | | | | | Accounts receivable/payable | -11.0 |
| | | | | | Mutual aid insurance | Non-life insurance technical reserves | 0.1 |
| | | | | | | Accounts receivable/payable | -0.1 |
| 8 | Retained earnings and dividends of investment trusts | Retained earnings of investment trusts funded by income gains are recorded as if they were received by investors in the form of income and then reinvested to investment trusts. Dividends funded by principal, etc. are recorded as withdrawals of investment trust beneficiary certificates. (increase/decrease in table are those in fiscal 2014) | F | A | Domestically licensed banks | Investment trust beneficiary certificates | 0.1 |
| | | | | | Life insurance | Investment trust beneficiary certificates | 0.2 |
| | | | | | Defined benefit schemes | Investment trust beneficiary certificates | 0.1 |
| | | | | | Households | Investment trust beneficiary certificates | -2.2 |
| | | | | L | Securities investment trusts | Investment trust beneficiary certificates | -1.8 |
| 9 | Fund of funds | The methodology of recording fund of funds (investments from domestic investment trusts to domestic investment trusts) is changed from offsetting assets and corresponding liabilities to showing increases in both assets and liabilities. (increase/decrease in table are those at the end of March 2015) | S | A | Securities investment trusts | Investment trust beneficiary certificates | 4.6 |
| | | | | L | Securities investment trusts | Investment trust beneficiary certificates | 4.6 |
| 10 | Employee stock options | A new transaction item of "employee stock options" is added to the table where excercisable employee stock options are shown. Employee stock options, which have yet to become excercisable (prior to the vesting date), are recorded as "others." (increase/decrease in table are those at the end of March 2015 for S and in fiscal 2014 for F) | S | A | Households | Employee stock options | 0.3 |
| | | | | | | Others | 0.1 |
| | | | | L | Private nonfinancial corporations | Employee stock options | 0.3 |
| | | | | | | Others | 0.1 |
| | | | F | A | Households | Employee stock options | 0.2 |
| | | | | | | Others | 0.1 |
| | | | | L | Private nonfinancial corporations | Employee stock options | 0.2 |
| | | | | | | Others | 0.1 |
| 11 | Unallocated gold accounts etc. | Unallocated gold accounts and deposits/margins associated with derivative transactions are recorded as deposits money. (increase/decrease in table are those at the end of March 2015) | S | A | Private nonfinancial corporations | Deposits money | 3.4 |
| | | | | | Households | Deposits money | 0.4 |
| | | | | | Overseas | Deposits money | 2.8 |
| | | | | L | Private nonfinancial corporations | Deposits money | 0.4 |
| | | | | | Overseas | Deposits money | 6.2 |

# Changes in Figures Following the Revision of the FFA based on 2008SNA

(S: Stock, F: Flow, A: Asset, L: Liability, Unit in trillion yen)

| | Topic | Description | Major amount changes | | Sector | Transaction item | Increase /decrease |
|---|---|---|---|---|---|---|---|
| 12 | Overseas SPCs | Overseas SPCs -- which were treated exclusively as residents prior to revision, despite their nonresidency status -- are now treated as nonresidents. In response, *samurai* bonds as ABS issued by overseas SPCs are reclassified from structured-financing instruments to outward investment in securities. (increase/decrease in table are those at the end of March 2015) | S | A | Life insurance | Structured-financing instruments | -0.2 |
| | | | | | | Outward investment in securities | 0.2 |
| | | | | L | Structured-financing special purpose companies and trusts | Structured-financing instruments | -0.1 |
| | | | | | Overseas | Outward investment in securities | 0.1 |
| 13 | Withdrawal of equity by government | Retained earnings in the Fiscal Loan Fund, the postal savings service of Japan Post, and the special operation accounts of Japan Railway Construction, Transport and Technology Agency are recorded as equity held by government. Exceptional payments from these entities are recorded as withdrawal of equity by government. (increase/decrease in table are those at the end of September 2007) | S | A | Central government | Other equity | 24.5 |
| | | | | L | Postal savings | Other equity | 5.8 |
| | | | | | Fiscal Loan Fund | Other equity | 17.9 |
| | | | | | Public nonfinancial corporations | Other equity | 0.8 |
| 14 | Housing loan insurance account of Japan Housing Finance Agency | The housing loan insurance account of Japan Housing Finance Agency is moved from the "government financial institutions" sector to "nonlife insurance" sector. (increase/decrease in table are those at the end of March 2015) | S | A | Nonlife insurance | Central government securities and FILP bonds | 0.1 |
| | | | | | Government financial institutions | Central government securities and FILP bonds | -0.1 |
| | | | | L | Nonlife insurance | Equity | 0.1 |
| | | | | | Government financial institutions | Equity | -0.1 |
| 15 | Reinvested earnings of direct investment | Outward direct investment, which prior to revision represented only "equity capital" in the Balance of Payments statistics, adds "reinvested earnings" to its coverage. Investment in domestic equities from abroad also adds "reinvested earnings" to its coverage. (increase/decrease in table are those at the end of March 2015) | S | A | Domestically licensed banks | Outward direct investment | 2.5 |
| | | | | | | Outward investment in securities | -2.5 |
| | | | | | | Other external claims and debts | -10.6 |
| | | | | | Financial institutions for agriculture, forestry, and fisheries | Outward direct investment | 2.0 |
| | | | | | | Outward investment in securities | -2.0 |
| | | | | | Financial institutions for small businesses | Outward direct investment | 0.2 |
| | | | | | | Outward investment in securities | -0.2 |
| | | | | | Private nonfinancial corporations | Outward direct investment | 29.2 |
| | | | | | | Outward investment in securities | 4.8 |
| | | | | | | Other external claims and debts | -17.6 |
| | | | | | Overseas | Equity | 5.7 |
| | | | | L | Overseas | Outward direct investment | 33.8 |
| | | | | | | Other external claims and debts | -28.2 |

(Annex)

# Estimation Methods for Retained Earnings and Distributions in the Investment Trusts

This annex describes in more detail estimation methods for retained earnings derived from the interest payments and dividends, and for distributions derived from the principal and capital gains: by specifying types of investment trusts to be estimated in section 1, and source data in section 2; by explaining methods to estimate at the level of individual investment trusts in section 3, and then grossing up to the aggregate level of publicly offered stock investment trusts in section 4; by presenting estimation methods for privately placed stock investment trusts in section 5; and finally, by deriving the aggregate level of stock investment trusts, by summing publicly offered and privately placed stock investment trusts in section 6.

## 1. Type of Investment Trusts

In Japan, investment trusts can be divided into stock investment trusts[1], bond investment trusts and real estate investment trusts. Among those types of investment trusts, only stock investment trusts are considered in estimating retained earnings as bond investment trusts pay out any net asset value exceeding their principal and real estate investment trusts in principle pay out over 90% of distributable earnings, leaving only insignificant amounts of retained earnings.

Similarly, in estimating distributions from the principal and capital gains, only stock investment trusts – but not the others – which can pay out distributions derived from the principal are considered.

## 2. Source Data

Except for data on distributions from publicly offered stock investment trusts which are made available by the Investment Trust Association in Japan as source data for Flow of Funds

[1] According to the provisions, stock investment trusts can invest in stocks. Compared with bond investment trusts which cannot invest in any stocks but in short-term financial products such as bonds, stock investment trusts have more flexibility both on their choices of assets to invest in and on their distribution policies. Some stock investment trusts invest in foreign currency denominated bonds.

Accounts Statistics, no aggregate data on retained earnings and sources of distributions by investment trusts are publicly available. Yet, investment reports of individual investment trusts provide micro data on income gains, capital gains, distributions and the sources of distributions as source data for estimating retained earnings and distributions from the principal and capital gains.

A sample of over 150 investment trusts, which account for over 70% of total net asset value of publicly offered stock investment trusts excluding certain funds such as ETFs, is selected to make use of individual micro data[2] disclosed in investment reports.

## 3. Estimation at Individual Investment Trusts Level

This section describes estimation methods for retained earnings and distributions from the principal and capital gains at the level of individual publicly offered stock investment trusts.

Note that as data for this estimation method is only available from June 2012[3], New Flow of Funds Accounts Statistics records the figures of retained earnings and distributions from the principal and capital gains based on this estimation method only after the third quarter of 2012. Yet, given their importance, distributions from the principal and capital gains are recorded as approximation by an alternative estimation method prior to the second quarter of 2012[4].

### (1) Rules for Distribution and Disclosed Information on Sources of Distributions

Investment trusts can pay out distributions from the following four sources of funds: (a) income gains generated during the current period, (b) capital gains generated from the current period, (c) retained earnings accumulated up to the previous period, and (d) part of principal. The investment report discloses information on (f) the total amount of distributions, (x) part

[2] More precisely, a sample is selected from a smaller pool of investment trusts: publicly offered "open-type" investment trusts excluding certain funds such as ETFs. A sample is updated annually as the net asset value of investment trusts changes over time.

[3] As the Investment Trust Association in Japan revised its self-guideline on investment report in March 2012, asset management companies started to disclose more detailed information such as sources of distributions.

[4] An alternative estimation method compares the share price with the average purchase cost for all individual publicly offered stock investment trusts: distributions paid out from investment trusts when the share price is below the average purchase cost are considered as those from the principal and capital gains, which are aggregated to derive those for publicly offered stock investment trusts as a whole.

of (f) which is generated from the current period, (y) part of (f) which is generated from sources other than (x), and information on (a) through (d).

### (2) Estimation of Retained Earnings from Income Gains

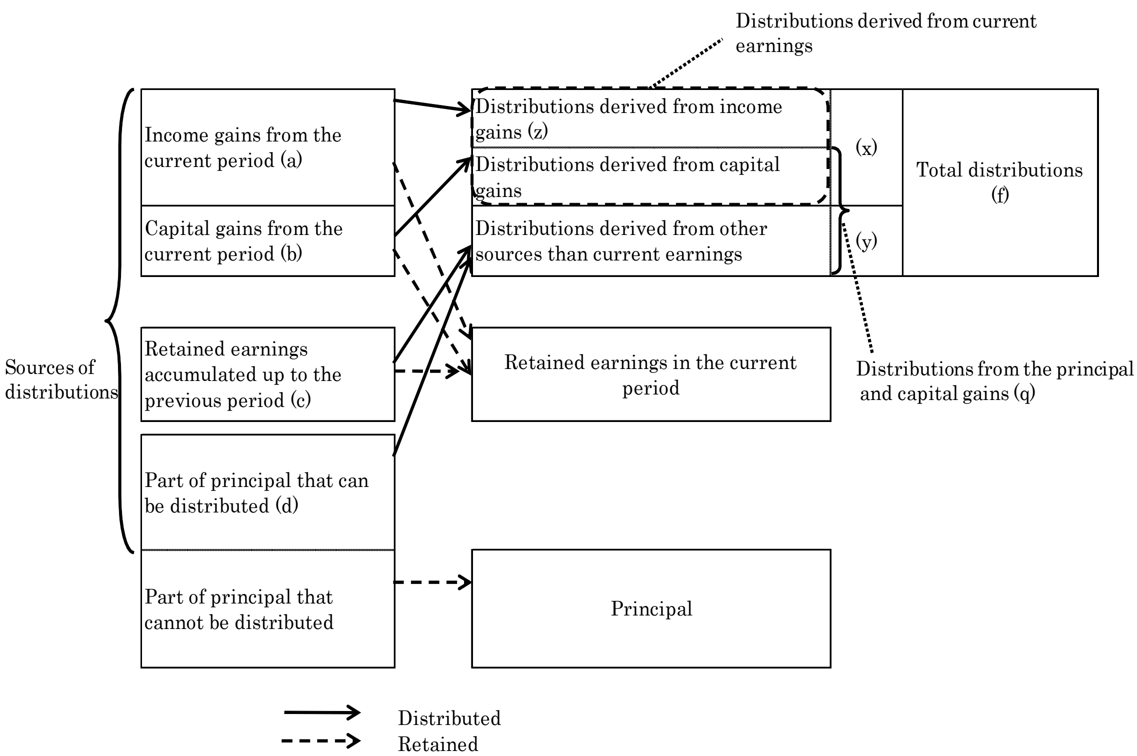
Multiplying (x), funds which are generated from the current period, with a/(a+b), the share of income gains to total funds generated during the current period, yields (z), part of distributions which are actually paid out from income gains generated during the current period[5].

**Distributions derived from income gains: (z) = (x)*(a/(a+b))**

Subtracting (z), part of distributions derived from income gains, from (a), income gains generated during the current period, yields (p), retained earnings derived from income gains.

**Retained earnings derived from income gains: (p) = (a) - (z)**

**(Sources of Distributions and Flows of Retained Earnings and Distributions)**




5 An implicit assumption here is that the share of income gains distributed and the share of income gains generated is equal.

### (3) Estimation of Distributions from the Principal and Capital Gains

Subtracting (z), distributions derived from income gains, from (f), the total amount of distributions, yields (q), distributions from the principal and capital gain – sum of distributions from capital gains during the current period and funds generated from sources other than (x).

| |
|---|
| **Distributions from the principal and capital gains: (q) = (f) - (z)** |

## 4. Grossing-up from Individual-Level to Aggregate Level

This section describes a method to gross up retained earnings from income gains and distributions from the principal and capital gains from the individual investment trust level (obtained in section 3) to the aggregate level of publicly offered stock investment trusts as a whole.

### (1) Grossing-up of Retained Earnings from Income Gains

Given estimated retained earnings at the individual investment trust level (p), taking a weighted-average across a sample of individual investment trusts with net asset value (n) as a weight, and grossing-up with a ratio of the total amount of distributions at the individual investment trust level (f) to that at the aggregate level (F), which is compiled and made publicly available by the Investment Trusts Association in Japan, yield retained earnings at the aggregate level (P).

**Estimation Equations for aggregate-level retained earnings (P)**

$$P_{sample}/f_{sample} = (p1/f1*n1+p2/f2*n2+\ldots+pi/fi*ni)/(n1+n2+\ldots+ni), \; i = sample$$

$$P = F*(p_{sample}/f_{sample})$$

### (2) Grossing-up of Distributions from the Principal and Capital Gains

Similarly to (1) above, after grossing up (a) to (A), income gains generated during the current period at the aggregate level, subtracting (Z = A - P), distributions derived from income gains at the aggregate level, from (F), the total amount of distributions at the aggregate level, yields (Q), distributions from the principal and capital gains at the aggregate level.

**Estimation Equations for aggregate-level distributions from the principal and capital gains (Q)**

$$\mathbf{a_{sample}/f_{sample} = (a1/f1*n1+a2/f2*n2+\ldots+ai/fi*ni)/(n1+n2+\ldots+ni)\ ,\ i = sample}$$

$$\mathbf{A = F*(a_{sample}/f_{sample}),\ \ then\ Q = F - Z = F - (A - P)}$$

## 5. Estimation of Privately Placed Stock Investment Trusts

As no investment report is publicly available for privately placed stock investment trusts, grossing up retained earnings of publicly offered stock investment trusts with the ratio of net asset value between publicly offered and privately placed investment trusts yields those for privately placed stock investment trusts. On the contrary, privately placed investment trusts, which are mainly purchased by institutional investors with their long-term investment strategies to retain rather than distribute their earnings, are assumed to pay out no distributions from the principal and capital gains.

**Aggregate-level privately placed investment trusts:**

**Retained earnings from income gains**

$$\mathbf{=P*(Netasset_{private\text{-}investment\ trusts}/\ Netasset_{public\text{-}investment\ trusts})}$$

**Distributions from the principal and capital gains = assumed as zero**

## 6. Estimation of Aggregate-Level Stock Investment Trusts

Combining retained earnings of publicly offered stock investment trusts (obtained in section 4(1)) with those of privately placed stock investment trusts (obtained in section 5) yields overall aggregate level of retained earnings.

Similarly, combining distributions from the principal and capital gains of publicly offered stock investment trusts (obtained in section 4 (2)) with those of privately placed stock investment trusts (obtained in section 5, which is zero) yields overall aggregate level of distributions from the principal and capital gains.