Current Situation and Issues of Retirement Benefit (Corporate Pension) in Japan

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The defined contribution plan has been introduced with the Defined Contribution Pension Act and the Defined Benefit Corporate Pension Act, so called "two corporate pension acts" which were enacted in fiscal year 2001. Japanese traditional retirement benefit plans were all defined benefit plans and became "unbalanced" due to slowdown in corporate profit growth and aging of society. Since the account standard for retirement benefits has been introduced at the end of fiscal year 2000, such unbalanced plans have drawn attention as a problem of business finance and many of companies have made efforts to review the plans including transition to the defined contribution plan. However, there are still many companies with defined benefit plans. Both plans have structural problems; the defined benefit plan shifts burdens to future generations and the defined contribution plan forces individuals who have limited knowledge make investment decisions. In order to overcome those problems, measures to reduce the risk of the defined benefit plan and incorporate elements of the defined contribution (benefit) plan to the defined benefit (contribution) plan have attracted attention. In addition, legal measures for the defined contribution plan such as lowering of the maximum contribution and lifting of the ban on the matching contribution have been discussed.

I. Introduction

Before the Defined Contribution Pension Act and the Defined Benefit Corporate Pension Act, so called "two corporate pension acts" were enacted in fiscal year 2001, Japanese companies' retirement benefit (collective term of retirement lump sum grants and corporate pension) plans were all defined benefit plans in which companies guaranteed the benefit levels. With the enactment of two corporate pension acts, it became possible to design a defined contribution retirement benefit plan and the flexibility of designing a defined benefit plan has increased. Many companies have reviewed the retirement benefit plan using the two corporate pension acts based on the fact that the risk of companies' traditional retirement benefit plan was exposed by the retirement benefit accounting standards introduced in fiscal year 2000 and business management was in the throes of deep deflation. In particular, companies have conducted the following: (i) dissolution or abolition of traditional defined benefit plan and *Daiko henjo* (Sending back of the substitutional portion to the government) of Employees' Pension Fund (EPF), (ii) actual lowering benefit levels such as introduction of fixed-term life annuity and decrease in rate of return on benefit and (iii) shifting to a new retirement benefit plan, e.g., advanced retirement benefit, Defined Contribution Pension and cash balance pension plan.

Although this movement was triggered by changes in legal systems, accounting standards and severe business environment (deflation), it is not completely unrelated to changes in the balance between Japanese social and economic structure, especially companies' earning capacity and size, and risks associated with retirement benefits. The burden of retirement benefit generally increases as time advances and there is no big managerial issue when the pace of increase is within the pace of companies' revenue growth. In Japan, however, the increase in the burden of retirement benefit has accelerated due to rapidly aging of the population while companies' revenue growth has been forced to slow down, i.e., the balance between them has been largely disrupted. Since business management has been subject to the intense scrutiny such as dissolution of cross-shareholding relationship and increase in the number of foreign shareholders accompanying globalization, it has been further difficult for business management to continue "unbalanced" retirement benefits. Even from the viewpoint of employees' needs, the gap between the traditional retirement benefit plan and the employment reality has become prominent while the trend toward service economy and employment mobility have progressed. Above reviews of the retirement benefit plan are positioned as a semi-sequent movement caused by structural changes of society/economy.

As mentioned above, the trend is from the defined benefit plan to the defined contribution plan. Nevertheless, the former is still a leading player centered on major companies. Although companies have changed the system as emergency measures to reduce the burden related to the traditional defined benefit plan, there would be few cases which drastically changed the system like replacing the central player. With economic recovery, quite a few companies have groped for not only emergency measures but also a full-scale institutional reform. Then we will need to reconsider the problems of traditional defined benefit plan as well as carefully examining the problems of defined contribution plan.

II. Overview of the Retirement Benefit (Corporate Pension) Plan

1. Retirement Benefit Developed as the Retirement Lump Sum Grants

The origin of the retirement benefit plan was "goodwill" initiated by the Mitsui family during the Edo Period beginning with a lump-sum payment as aid money for independence. At that time, the retirement benefit was paid in the sense of reward or bounty for a longtime apprenticeship. With the development of trade and manufacture after the Meiji Restoration, it functioned as an incentive for long service to prevent career change or resignation of skilled workers. The contents of the benefits had a strong meaning as "merit rewards" based on seniority and "privilege benefits" from companies. The retirement benefit was institutionalized as labor practice after World War II. The retirement benefits were written in collective agreements or work rules and promoted from merit rewards or privilege to the "rights of workers." This positioned retirement benefits as a labor condition and the retirement benefits took on a character of "deferred wage."

From a historical point of view, one characteristic is that the benefits became popular

as a lump-sum payment for retirement. At first, the benefit fund was generally prepared within the company. Although preferential tax treatment was provided with the introduction of retirement allowance book-reserve plan in 1952, there was next to no advance funding plan outside the company. The advance funding plan outside the company was established as corporate pension after the period of high economic growth. In the background, there was an increased demand to introduce a corporate pension fund with a preferential tax treatment since sufficient funds for the retirement lump sum grants could not be secured by the reserves prepared within the company.

Specifically, Qualified Retirement Pension and Employees' Pension Fund were institutionalized in 1962 and 1967 respectively.[1] Those two systems have long been referred to as corporate pensions in Japan and many companies have transferred a part of the traditional retirement lump sum grants to those corporate pensions aimed at (i) tax saving, (ii) equalization of contributions, etc.[2] Notably, Employees' Pension Fund is a plan to add company-specific benefits to earning-related components of employees' pension run by the Japanese government. With this plan, companies are able to withhold a part of pension premiums which should be originally paid to the government. For this reason, due in part to the fact that companies gained a great advantage mainly in the period of high-interest rates, Employees' Pension Funds in which a part of retirement lump sum grants are uniquely added to showed a significant development mainly in the 70s and 80s.

As seen from the above, it is clear that the corporate pension is no more than a plan established by shifting or transforming a part of retirement lump sum grants for various purposes. Some are "separate plans" in which corporate pensions are introduced separately from retirement lump sum grants as seen somewhat in the early stage. Nevertheless, it should be noted that the overwhelmingly majority are "incorporated plans" in which a part of the retirement lump sum grants is used for pension as a pension resource. It can be pointed out that the most important characteristic is that traditional retirement benefit plans have been developed as a defined benefit plan in which the company secures the benefit levels.

2. Retirement Benefit Reaching a Threshold in the Past Two Decades

Traditional retirement benefit plans reached a major threshold during the period of a long stagnant economy in the 90s after the collapse of the economic bubble. Behind this threshold is the fact that companies have required a variety of options which were able to flexibly design retirement benefit plans in order to respond to changes in socioeconomic

[1] At the same period, other plans to reserve payments of retirement lump sum grants mainly for employees of small and medium companies such as the Special Retirement Allowance Mutual Aid System and the Small and Medium Enterprise's Retirement Allowance Mutual Aid System were successively introduced.

[2] Although the number of cases is small, some companies which do not meet the tax requirements uniquely establish and manage plans called company administered pension.

Table 1. Comparison of Corporate Pension Plans (as of FY2008)

	Asset balance (trillion yen)	Number of corporate pension holders (10 thousand holders)	Asset balance/ Corporate pension holders (10 thousand yen)
Defined Benefit Plans			
Employees' Pension Fund	25.6	466	549
Defined Benefit Corporate Pension	32.9	570	577
Qualified Retirement Pension	8.1	348	233
Total	66.6	1,386	481
Defined Contribution Pension (corporate plan)	4.0	311	129

Note: Created by Daiwa Institute of Research Ltd. based on data from the Ministry of Health, Labour and Welfare

circumstances including the end of soaring economy and the progress of employment mobility. After a series of considerations by the government and the ruling party at that time, the Defined Contribution Pension Act and the Defined Benefit Corporate Pension Act, so called "two corporate pension acts" were enacted in fiscal year 2001 and the framework of the retirement benefit plan drastically changed. Accordingly, corporate pension plans in Japan mainly consist of the following four plans: three plans of the defined benefit; (i) Employees' Pension Fund, (ii) Defined Benefit Corporate Pension and (iii) Qualified Retirement Pension, and one plan of the corporate pension; (iv) Defined Contribution Pension Plan.

In fiscal year 2000, the accounting standard for retirement benefits was introduced into the corporate accounting world. After that, risks of the traditional retirement benefit plan have easily become obvious in companies. Since business management faced difficulties under the deflationary economy, many companies reviewed their retirement benefit plans using new legal systems mainly around 2002 to 2004. Particularly, the traditional defined benefit plan was reviewed as follows: (i) dissolution/abolition of traditional defined benefit plan and *Daiko henjo* of EPF, (ii) actual lowering benefit levels such as introduction of fixed-term life annuity and decrease in rate of return on benefit and (iii) shifting to a new retirement benefit plan, e.g., advanced retirement benefit, Defined Contribution Pension and cash balance pension plan. Although the movement of reviewing retirement benefit plans was once relaxed due to improvement in business performance caused by the export-led business recovery around 2005 to 2007, it is currently becoming popular to reform the retirement benefit plan again facing a series of financial crisis, e.g., subprime loan issues and Lehman shock.

The number of corporate pension holders and the amount of assets are summarized by plan in Table 1 to indicate the current situation of corporate pensions. The number of holders of the Defined Contribution Pension (corporate plan) which was introduced in the 21st century has already reached over three million at the present moment. Even though this

number has not come up to 14.2 million, the simple total number[3] of the defined benefit plan holders, about one out of 10 private corporate employees (employees' pension holders) are Defined Contribution Pension holders. It can be said that this plan is enhancing its presence. Meanwhile, the reserve fund of the Defined Contribution Pension (corporate plan) is 4 trillion yen, far smaller than 66.6 trillion yen, the simple total amount of the defined benefit plan. There is still a large gap with reserve fund even per capita.

III. Occurrence of Projected Benefit Obligation Problems and Companies' Response

1. Accounting Problems of Projected Benefit Obligation

As mentioned above, the burden on companies to maintain the retirement benefit plan including corporate pension had rapidly increased since the 90s after the bubble burst. At first, the main issue was pension fund management problems based on the long-stagnant stock market.[4] That is, since it was difficult to continuously achieve the systematically-fixed assumed annual interest rate 5.5 % by asset management, contribution premiums to cover shortage had become a heavy burden on management. In the 90s, a spate of relaxation of regulations and sound corporate pension financing had been continuously sought, but remarkable results could not be obtained and companies were forced to introduce the retirement benefit accounting standard from fiscal year 2000.

This has led companies to confront the problems of projected benefit obligation as well as the problems of pension fund management. This obligation issue became one of the important concerns to company management since it is directly related to corporate financial issues. In the background, there were some factors to increase the corporate accounting projected benefit obligation (hereinafter referred to as PBO[5]) such as (i) aging employee makeup in companies, (ii) ever-increasing pension holders and (iii) decrease in interest-rate level (=discount rate) reflecting the deflationary trend. After the introduction of the retirement benefit accounting standard, especially fiscal years 2001 and 2002 (=worst time), companies' financial risks on the retirement benefit were the greatest concern. The PBO in major listed companies was approximately 70 trillion yen in total at that time while the pension fund was a little more than 30 trillion yen, and the obligation was remarkably

[3] Since there are some cases of joining more than one plan, the number of individual holders and the amount of assets should not be combined. In this paper, simple average values are used for reference.

[4] Those included are the entry of investment advisory company, elimination of restriction on asset allocation, etc.

[5] PBO is the obligation measured on the basis of accounting rule related to retirement benefit. To be exact, it should be "projected benefit obligation," but "retirement benefit obligation" is generally used in Japan. In case of the defined benefit plan, a company is subject of PBO calculation since it secures the amount of benefit. However, in case of the benefit contribution plan, a company is exempt from PBO calculation since it does not secure the amount of benefit.

Table 2. Changes in the Retirement Benefit Data of Major Listed Companies: FY 2001-2008

	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Comparison with previous FY
Projected benefit obligation (PBO)	70.81	69.45	61.21	57.45	56.77	57.85	56.04	54.63	-1.41
Pension funds	37.79	31.48	34.52	35.55	44.07	46.74	41.77	33.18	-8.59
Reserve fund (net PBO)	33.02	37.96	26.69	21.89	12.70	11.11	14.27	21.45	7.18
Net unrecognized amount	16.22	14.49	13.74	12.46	11.25	10.10	8.05	7.56	-0.49
Difference in unrecognized actuarial calculation	15.00	22.50	13.96	11.41	3.49	2.85	8.01	15.70	7.69
Unrecognized obligation of service in the past	-1.70	-1.64	-2.48	-3.15	-3.17	-2.81	-2.54	-2.35	0.20
Unrecognized difference in changing of accounting standards	3.51	2.61	1.80	1.30	1.19	0.97	0.75	0.54	-0.21
Total unrecognized obligation[1]	16.80	23.47	12.95	9.43	1.44	1.01	6.22	13.89	7.67
Prepaid pension cost[2]	1.72	2.32	2.96	3.25	3.52	4.06	4.43	3.84	-0.59
Pension obligation adjustment (pretax)[3]	3.52	7.38	3.57	2.69	1.27	1.44	2.71	5.34	2.63
Accrued retirement benefit cost	21.45	24.20	20.28	18.40	16.04	15.59	15.19	16.75	1.56
Shortage of a reverse on balance sheet (unlisted liability)	13.29	16.09	9.38	6.74	0.18	-0.43	3.51	8.55	5.04
Retirement benefit cost[4]	5.15	5.23	5.31	3.72	3.03	2.23	2.09	2.87	0.78
Of which, amortization of difference in changing of accounting standards	1.24	0.62	0.55	0.44	0.23	0.21	0.20	0.19	-0.01
Of which, amortization of difference in actuarial calculation	0.84	1.64	2.04	1.17	0.91	0.24	0.36	0.91	0.55
Discount rate[5]	2.79%	2.43%	2.25%	2.20%	2.16%	2.16%	2.16%	2.13%	-0.03%
Expected return on assets[5]	3.18%	2.72%	2.34%	2.29%	2.30%	2.45%	2.49%	2.43%	-0.06%
Stockholder' equity[6]	136.62	128.17	144.31	156.03	184.11	197.55	194.35	164.92	-29.43
Pension obligation adjustment (post-tax)[3]	-1.93	-4.06	-1.95	-1.48	-0.70	-0.94	-1.66	-3.27	-1.62
Ordinary profit[7]	4.08	10.36	19.54	24.58	30.13	31.93	32.65	9.76	-22.89
Reserve ratio (Pension funds/PBO)	53.4%	45.3%	56.4%	61.9%	77.6%	80.8%	74.5%	60.7%	-13.8%
Projected benefit obligation/Stockholder' equity	51.8%	54.2%	42.4%	36.8%	30.8%	29.3%	28.8%	33.1%	4.3%
Projected benefit cost/Ordinary profit	126.3%	50.5%	27.2%	15.1%	10.1%	7.0%	6.4%	29.4%	23.0%

Notes: Created by Daiwa Institute of Research Ltd. based on the settlement papers of companies (asset securities reports/settlement letters).

Object: Out of Nikkei 300 components as of the end of March 2009, 278 companies excluding companies closed a book after April and parent companies out of the parent-child listings included in this index. SUMCO is after fiscal 2003. Main mergers and acquisitions among Japanese companies are corrected retrospectively (total).

In some case, the names of accounts vary by company. Show below individually.

[1]Including unrecognized pension assets.

[2]Capitalized amounts. For example, the amounts recorded as "intangible assets" in US pension accounting.

[3]The amounts directly recorded on the capital without recording on cost/earnings (including amounts by controlled foreign companies, but limited to the amount recorded separately from surplus).

[4]Total of service cost, interest cost, expected return on assets (subtraction) and unrecognized obligation/ amortization cost of assets.

[5]Calculation by simple average.

[6]Past total shareholders' equity. The total amount of total shareholders' equity and total valuation and translation difference, etc after application of "Accounting standards for presentation of net assets in the balance sheet" (Business Accounting Standard No.5).

[7]Pretax profit in case for companies adopted U.S. accounting standard.

unreserved (see Table 2). The rate of PBO against capital stock reached a high 54% at the peak. Some companies were identified as failed institutions with excess liabilities and financial risks were extremely high.

2. Countermeasures Taken by Companies

Various plans were revised by many companies as countermeasures mainly around 2002 to 2005 for the purpose of holding down PBO. The typical revisions of plans are: (i) *Daiko henjo* of EPF, (ii) actual lowering benefit levels such as introduction of fixed-term life annuity and decrease in rate of return on benefit, (iii) partly or fully shifting from retirement lump sum grants and/or traditional corporate pension to Defined Contribution Pension. Those were also combined to make efforts to hold down entire obligation levels (as a matter of course, some companies drastically revised the plans, e.g., [iv] abolition of the plan or dissolution of the pension fund). Furthermore, since parent organizations improved corporate performance and restored financial soundness with economic recovery and pension assets favorably increased due to upturn of assets management environment, the entire issue showed a strong trend toward improvement between fiscal years 2002 and 2006. The fact that “baby boomers” moved into retirement is another factor to bolster the control of obligation levels by paying the retirement lump sum grants. Financial risks on retirement benefits seemed to be overcome. However, against the backdrop of market environment deterioration with financial crisis since fiscal year 2007 and worsening business performance since the latter half of fiscal year 2008, companies’ retirement benefit issues have been focused on again.

In fact, the amount of unreserved PBO (PBO - pension assets) of major listed companies was 21.5 trillion yen at the end of fiscal year 2008, almost double from 11.1 trillion yen in fiscal year 2006 when that unreserved amount was the smallest (see Table 2). Although the retirement benefit cost amount remained at 2.9 trillion yen (78 billion yen increase compared with the previous fiscal year) in fiscal year 2008, the total amount of unrecognized obligation which should be amortized will expand to 13.9 trillion yen in the future. This number is completely different from that of the end of fiscal year 2006 when the unrecognized obligation was approximately one trillion yen i.e., almost written off. Since the rapid expansion of unrecognized obligation shows the increasing burden on amortization from next fiscal year, there is a fear that the retirement benefit cost would increase in the future. The size of PBO would increase to 33% level of shareholders’ equity to total assets of parent organizations. Financial risks would be worsened again to almost the level of fiscal years 2004 and 2005.

IV. Problems of Retirement Benefit Plan by Type

1. Problems of Defined Benefit Plan

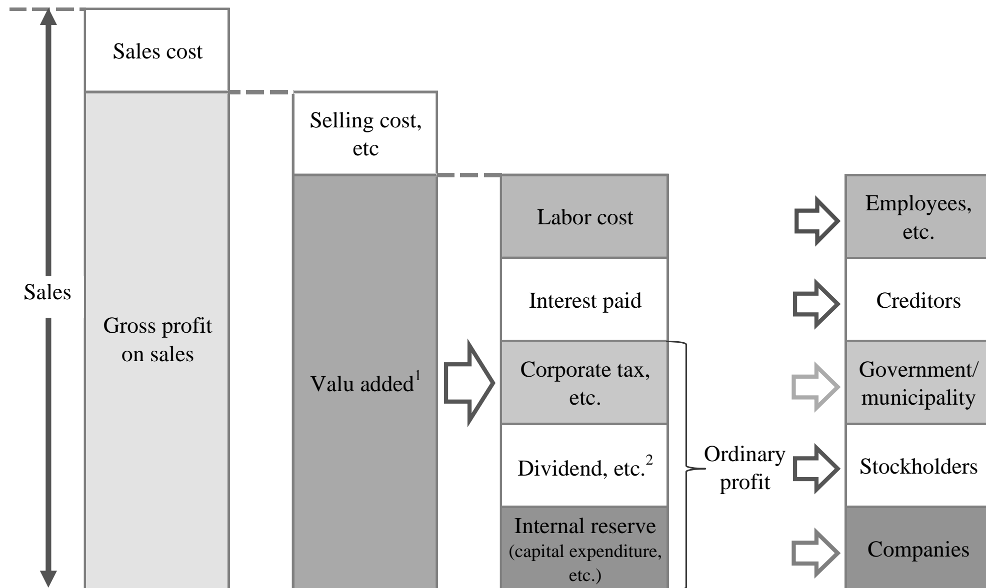
As mentioned above, the impact of defined benefit plan’s retirement benefit on the

corporate finance goes beyond financial burden to cover the immediate shortage of reserve or to pay retirement lump sum grants. PBO and pension funds are strongly affected by the trend of stock/bond market[6] and they would be major risk factors against financial soundness or earning capacity if they are bigger compared to the company size. Since performances of parent organizations are positively correlated with the stock market in many cases, the shortage of a reserve becomes greater when corporate performance declines due to economic downturn such as March 2003 while that shortage becomes smaller when corporate performance improves such as March 2006. Whether good or bad, the size of companies' burden depends on the leveraged circumstances.

How do such risks look like from the standpoint of employees? The retirement benefit amounts of the defined benefit plan are secured by companies and it is like employees receiving bonds issued by the company. Reserves of corporate pension outside the company can be positioned as collateral. The point is that the remaining life of corporate bonds differs depending on the period to the retirement. There is a very simple case where all employees retire at the age of 60 and receive lump-sum payment at retirement. Remaining life is one year for a 59-year-old employee while 30 years for a 30-year-old employee. A 59-year-old employee can receive the retirement benefit unless the company goes into bankruptcy within a year while a 30-year-old employee can receive it provided that the company still remains three decades later. It is obvious that the latter take more risk than the former. There is a possibility that one could receive the benefit from the corporate pension reserves outside the company, but there are many cases that companies are suffering from a shortage of reserves. Moreover, the stock market often declines when the performance of parent organizations declines and there is still a possibility of reserve shortage in the future if a parent organization goes into bankruptcy even though the reserves reach a satisfactory level in the midst of recent economic boom. Thus, in order to pay retirement benefits to the leading generations, the successive generations have to bear the risk of reserve shortage or expanded risk as well as funding to cover the reserve shortage for the time being. This is essentially similar to the risk borne by companies.

The passage of risk between generations is not limited to the time of company's bankruptcy. The source of all labor costs including the retirement benefit is added-value (company distributes the added-value to the parties such as employees, financial institutions and stockholders. See Figure 1) generated by the business, and companies which do not have sufficient added-value due to growth recession have to cut other expenses to pay the retirement benefit to older employees. Generally, measures are: (i) reduction in bonuses, (ii) control of salary raise/promotion, (iii) reduction in retirement benefit and/or welfare, (iv) reduction in investment/cost relating to the business and (v) reduction in dividend/passing

[6] It should be noted that PBO is strongly affected by the bond market because PBO is calculated by discounting the future amount of retirement benefit with the market interest rate (usually, yield of long-term government bond).



Notes: Created by Daiwa Institute of Research Ltd.
[1]Value added = business profit + labor cost + amortization
[2]Pay back included.

Figure 1. Conceptual Diagram of the Added-Value in Company and its Division

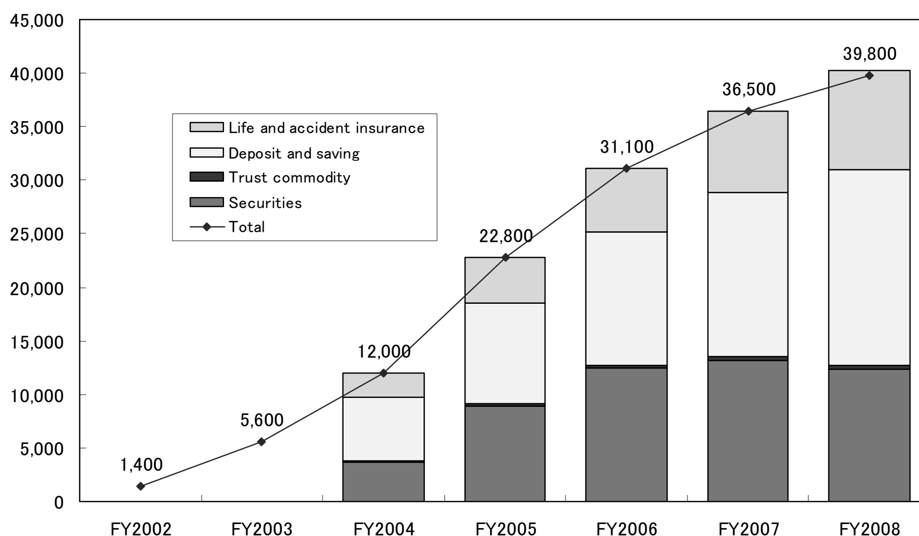
dividend.[7] It should be noted that not only (i), (ii) and (iii) but also (iv) and (v) would lead the passage risk to active employees (especially younger ones). Since (iv) leads to decrease in companies' potential growth ability, it may further increase the risk of implementing (i), (ii) and (iii) or the risk of bankruptcy. If (v) brings about a fall in share prices, the risk of being a target for takeover would increase.[8] Because the retirement benefit is usually linked with the final salary and average salary, the real amount of retirement benefits would decrease when (ii) is implemented even if the retirement benefit plan never changes. Such passage of risk between generations is a characteristic in the structure of the defined benefit plan.

2. Problems of the Defined Contribution Plan

In the Defined Benefit Pension Plan, since accumulated assets are managed by the

[7] In addition to this, curbing new hires is also conceivable. Is this case, the burden would be transferred (if retirement benefits are not paid) to the successive generations who should have been hired as employees.

[8] It is not clear how corruption would affect employees of the bought-out company. Although the employees would have advantages if the company is on a growth path by inviting a new business manager, in the case of acquisition by a green mailer or a vulture fund who focuses on the short-term perspective, it is possible to take massive restructuring measures. It is true that employees would take risks in terms of the fact, "who knows what will happen?"



Note: Created by Daiwa Institute of Research Ltd. based on data from the Ministry of Health, Labour and Welfare.

Figure 2. Asset Balances and Commodities of the Defined Contribution Pension (Corporate Plan) (Unit: billion yen)

whole plan[9] and the benefit is secured by the parent company, individual holders do not have to acquire asset management skills. On the other hand, in the defined contribution plan, the accumulated assets are managed in the individual account of each holder and asset management is implemented based on the principle of holders' self-responsibility. As mentioned in the preceding section, the successive generations take on the risks of the leading generations in the case of defined benefit plan while the risk taken by each employee is limited to the risk related to his/her retirement benefits in the defined contribution plan. This plan is highly fair on condition that each employee manages assets with a certain level of rationality. However, many employees are unfamiliar with portfolio investments and those holders have been involved in management problems on investments.

According to the survey conducted by the Pension Fund Association (2007), since the estimated yield which is the base of setting premium when the defined benefit plan is shifted to defined contribution plan is 2.34% in average, asset management with a certain level of risk is necessary to achieve this estimated yield in investment theory in light of today's low-interest environment and long investment period. In reality, however, bank deposits and principal protection products such as insurance products account for about half of

[9] In a defined benefit plan of retirement lump sum system, assets are not invested in securities, but allowance is sometimes treated financially. It is understood that this type of plan invests in the business of a parent company.

accumulated assets (see Figure 2). Not a few employees may invest all the money into the principal protection products and it is far from acquisition of the estimated yield and implementation of consistent asset management.[10] It is ideal to lead employees to rational investment activities by raising employee's awareness and increasing knowledge with thorough investment education, but, on the other hand, it was reported by this survey that there is no clear correlation between investment education and allocation to risk management. Kaneko (2009b) indicated that continued education has the effect of encouraging changes in asset allocation, but the effect seems far from drastic solution of the problems.[11] The Japanese government has also implemented a variety of measures e.g., providing guidelines on investment education and information service and the effective methodology has not been established yet. Looking at the cases where companies have introduced the Defined Contribution Pension Plan (corporate plan), successful results have not been achieved in most cases although a variety of efforts have been made.[12]

Even in the U.S. section 401(k) plan which has much longer history than that of Japan's Defined Contribution Pension Plan, employees' asset management is not rational. According to Munnell and Suden (2006), the following issues have been pointed out in management of section 401(k) accumulated assets: (i) inadequate diversification (making no investment or concentrated investment of most assets in stock),[13] (ii) excess investment in their company's own stock and (iii) failure to rebalance. The section 401(k) plan-specific circumstances, e.g., company's matching contributions were implemented by purchasing their company's own stock in many cases, have an effect on (ii), while it would appear that (i) and (iii) are caused by employees' lack interest in asset management. Nearly 30 years[14] have passed since the section 401(k) plan has begun in the United States. During this period, a variety of efforts have been implemented centered on the investment education, but these have not necessarily been successful to lead employees to the rational investment behavior. It has also been reported that employees' investment behavior to hold the Defined Contribution Pension Plan has neither active so much nor rational in Europe. For instance, Byrne (2004) said that 78.8% of the defined contribution plan holders have not changed the investment contents in the past five years. According to a survey of defined contribution pen-

[10] Other surveys also show much the same results, e.g., the Defined Contribution Plan Education Association/ Fedelity investment (2004) and Miyama (2007).

[11] According to Kaneko (2009b), it was 3.0% to 23.2% when continued education was carried out, and 2.7% to 10.0% when it was not though those rates were different depending on the year when it was introduced.

[12] For details, see Ministry of Health, Labour and Welfare (2005).

[13] According to Holden and Van Derhei (2006), 15% of holders do not invest in stocks while 39.6% invest more than 80% of their assets in equity fund.

[14] The section 401(k) plan was added to the Internal Revenue Code (IRC) in 1978, and the starting date to apply was expected to be the fiscal year starting after the December 31th, 1979. Then, 401(k) plan was recognized officially due to the publication of interpretation of section 401(k) by the Internal Revenue Service (IRS). This was the beginning of popularization of the section 401(k). Generally, this is considered to be the day the section 401(k) plan started.

sion specialists in U.K. by Byrne and Blake (2008), the reality is that the number of holders who understand the management risks is 15% at the most.

V. Movement toward Overcoming Problems

As mentioned above, both defined benefit plan and defined contribution plan have structural problems that are hard to avoid. As for the defined benefit plan, the financial risk in the parent company is an extremely serious problem. It also includes personnel risks by the occurrence of burden of income and risks to the employees of successive generations. Regarding the defined contribution plan, on the other hand, it is difficult to lead holders to the rational investment behavior. Especially in the Defined Contribution Plan in Japan, there are many issues on legal restrictions of institutional design to be solved. In the following sections, I will discuss countermeasures against structural problems, legal restrictions in Japan and countermeasures against those restrictions.

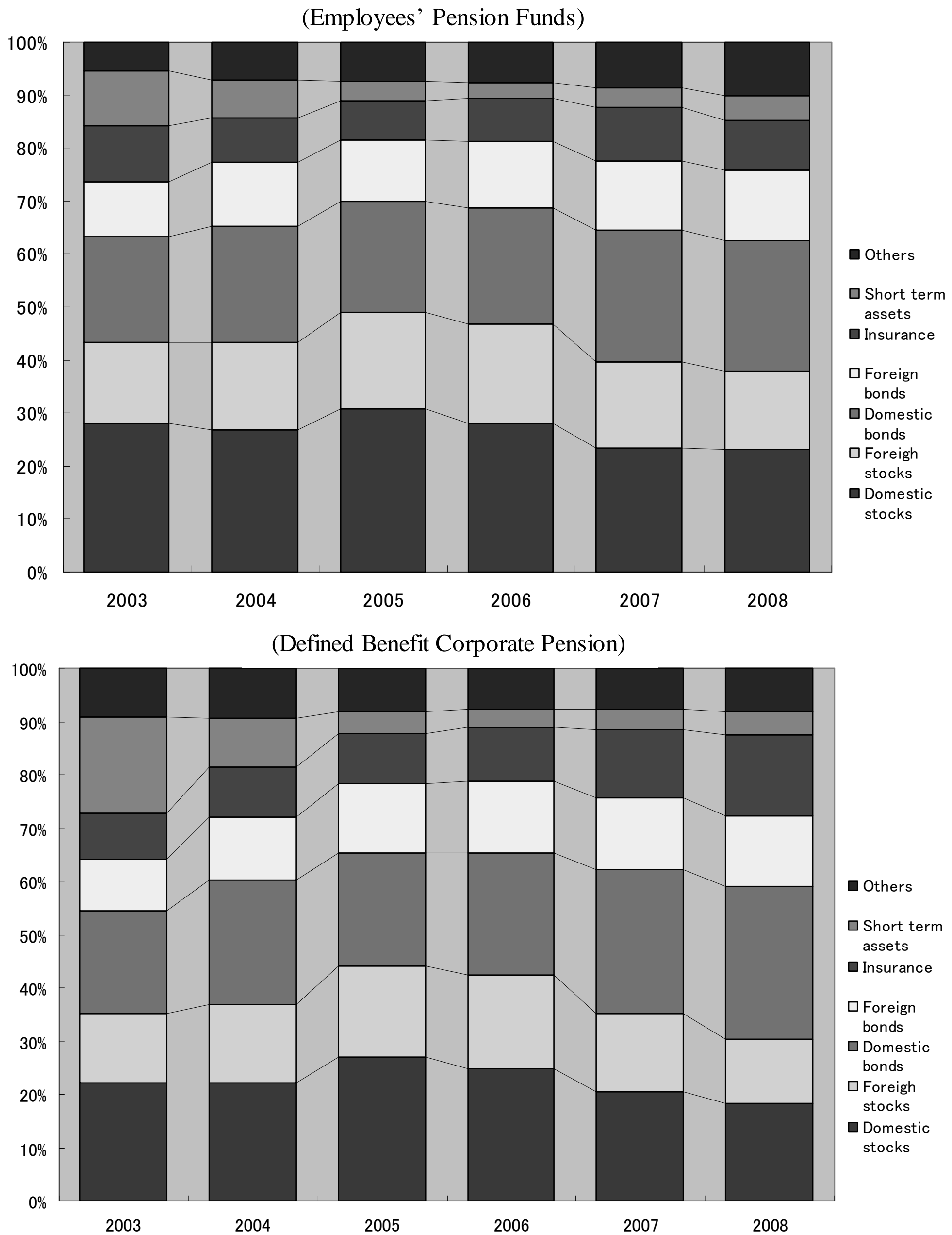
1. Response to Structural Problems

The following three points have attracted attention as countermeasures against the structural problems: (i) reduction in the risk of defined benefit plan, (ii) incorporating the elements of defined contribution plan into defined benefit plan and (iii) incorporating the elements of defined benefit plan into defined contribution plan.

Above (i) includes reduction in management risk. As shown in Figure 3, the equity stake has tended to decrease in recent years, and this tendency is more prominent in the De-Fined Benefit Corporate Pension than in Employees Pension Funds. At present when *Daiko henjo* increases, Employees' Pension Funds are often the comprehensive plan focusing on small/medium-sized companies while major companies are often treated as parent organizations in the Defined Benefit Corporate Pension. In other words, relatively well-financed major companies have reduced the management risk instead of allowing the increase in the burden of premiums moving toward decreasing in income and risks to the employees of successive generations. Recently, Liability Driven Investment (LDI) which offsets the interest risk of benefit obligation by increasing the interest sensitivity of assets has attracted attention.

As for (ii), hybrid-corporate pensions, namely institutional designs in which the parent company and holders (including leading and successive generations) are sharing risks of the defined benefit plan, are included. The cash balance plan which interlocks[15] the benefit level with the market interest rate is also one of them, but the risk shared here is limited to the interest risk and the management risk is still taken by the parent company and

[15] A virtual individual account is set for each holder, and the reassessment rate of balance interlocks with the market interest rate. What is recognized as the reassessment rate is (i): fixed rate, (ii): yield of government bonds and other objective indicators which can be projected rationally, (iii): combination of (i) and (ii), and (iv): (ii) or (iii) with determined upper or lower limit.



Note: Created by Daiwa Institute of Research Ltd. based on data from Pension Fund Association.

Figure 3. Changes in Asset Allocation of the Defined Benefit Pension (Employees' Pension Fund)

successive generations. In recent years, there is an increasing attention to the institutional design in which the parent company shares the management risk with holders. A typical example is Collective Defined Contribution Plan (hereinafter referred to as CDC) which has adopted in Netherland. It aims to let holders (including leading generations) bear the management risks by interlocking the reassessment rate of the pension benefit amount with the reserve ratio. The interlock with the reassessment rate is stopped when the reserve ratio exceeds a certain range and the reduction of benefit level is generally avoided even if the management loss is caused.[16] In this case, the risk transfer to the parent company or successive generations would be reduced but not eliminated because an additional premium burden could be placed on the parent company. It is thought that it is unlikely to create additional burdens by maintaining a high-level reserve ratio.

More recently, the Japanese Society of Certificated Pension Actuaries has advocated "Benchmark Related (hereinafter referred to as BR)" plan.[17] This regards the benefit level as total amount of basic benefit and additional benefit and interlocks the latter with the earning rate (compound index earning rate) obtained from the predetermined asset allocation and the up-down ratio of each asset's index. The management risk would be transferred to holders if assets equivalent to the benefit obligation are accumulated and completely the same management as the predetermined asset allocation is carried out. As same as CDC, however, since the lower limit of additional benefit is assumed as zero, the risk transfer to the parent company or successive generations is not eliminated.

One of the problems that CDC and BR have is the decision making process related to asset management.[18] If the management risk is transferred from the parent company to holders, it is reasonable that holders' will should be reflected in the decision making process of investment. However, it would be not practically easy to build consensus in which all holders are satisfied due to many holders who lack interest in the asset management. It should also be noted that desirable investments differ depending on the ages of employees, etc.

Regarding (iii) incorporating the elements of defined benefit plan into defined contribution plan" default investment should be included. The default investment originally means that the investment in assets of holders who automatically joined the section 401(k) plan in the U.S. because they did not perform any procedures for "not to join." In recent years, this has attracted attention as an investment in assets of holders who lack interest in the asset management and cannot make investment decisions voluntarily. As for default investment, the possibility of insufficient long-term asset accumulation has been pointed out. There is a possibility that companies face fiduciary responsibility if a management loss of the default investment occurs, and the targets of investment are, therefore, biased toward

[16] See Pond and Riel (2008).

[17] For details, see the Japanese Society of Certificated Pension Actuaries (2009).

[18] In the case of BR plan, it includes asset allocations and an index which is the base of calculating compound index earning rate.

low-risk ones such as Guaranteed Investment Contract (hereinafter referred to as GIC) and Money Market Fund (hereinafter referred to as MMF) in the U.S.

In response to this, the U.S. government largely alleviated companies' responsibility on the default investment with the Pension Protection Act enacted in 2006. This enables companies to conduct the asset management with a certain level of risks such as lifecycle funds without facing any fiduciary responsibility for the default investment. Although it is pointed out that this encourages easy reliance on the default investment and the original mission of the defined contribution plan, accumulation of funds being set aside for use in retirement based on the principle of self-responsibility, would be in name only, the U.S. government made a tough choice on the basis of nearly 30 years of experience.

It is striking that when increasing the co-movement of the earning rate of asset management and benefit levels, above hybrid-corporate pensions move closer to the default investment of the defined contribution plan. The advantages of default investment are: holders can quit on their own will[19] and individual holder's attribution can be reflected in the management in the lifecycle funds, etc. The advantage of hybrid plan is that the risk sharing between the parent company and holders is adjustable. It is also pointed out that since the latter is positioned as an extension of the traditional defined benefit plan, it is easy to gain understanding of holders when changing the plan.

2. Response to Legislative Problems

Concerning legal restrictions on Japan's Defined Contribution Pension (corporate plan), the following two points are important: (i) raising the maximum limit of contributions and (ii) lifting of the ban on matching contributions.

The current contribution premiums in the Defined Contribution Pension (corporate plan) are up to 552 thousand yen a year per capita (276 thousand yen a year per capita when used with other pensions). This contribution limit is fixed at any age, and there are often discrepancies. Since corporate contribution amount is generally considered as the constant rate of wage, it is insufficient for younger generations but it reaches the maximum limit for employees who are on the verge of retiring. After all, the rate of shifting from the traditional defined benefit plan to the defined contribution plan is kept at low level and this has become a big restriction on the design of retirement benefit plan of companies which want to make extensive use of the Defined Contribution Pension (corporate plan). Another problem is that the amount itself is remarkably lower than that of the section 401(k) plan in the U.S. It is hoped that the government raises the maximum limit of the contributions, introduces measures to manage the contribution limit based on holders' lifetime accumulative total amounts and revises plans so that flexible designs can be made in line with the current conditions of companies.

[19] Since the Japanese Society of Certificated Pension Actuaries (2009) proposes to manage the defined benefit plan and defined contribution plan as a unit in order for employees to change the rate on their own will, the advantage of default investment "possible to quit" may not be so large.

The lifting of the ban on matching contributions means that employees' contributions are allowed in corporate pension. In the section 401(k) plan which is modeled on Japan's defined contribution plan, the main contribution premiums are employees' contributions. This is called optional contribution; employees select either the contribution to the plan or receiving as income at that time. Employees accumulate the pension assets on their own will joining the section 401(k) plan. It is designed for easily fostering the sense to make self-help efforts (matching contribution means the company adds a certain rate of contribution as an incentive to the employee who selected to join the plan). On the other hand, it is often strongly critical of Japan's defined contribution plan that companies always contribute to it and it is not a self-help plan in which employees can think and act on their own will. It is also pointed out that holders have little meaning for thinking or selecting targets of investment for asset management and tend to be passive. As a result, the funds are mostly used for principal protection products such as bank deposits which are safe but with little return.

If the matching contribution is allowed in the Defined Contribution Pension (corporate plan), it would be expected that holders think seriously about using a part of wage for the investment to tax sheltered financial products. For instance, it is pointed out that although the premium levels of corporate contribution are generally low when employees are young, if they can add to the contribution on their own will, they would take rational asset management behavior in view of the effects.

VI. Conclusion

In this paper, I discussed problems of retirement benefits in both the defined benefit plan and the defined contribution plan and approaches to those problems. It is hard to say that the defined benefit plan is sustainable because companies and successive generations cannot bear the transferred burden. The defined contribution plan has little significance of existence if employees' wealth building is insufficient. Such structural problems have been solved in the United States and Europe while technical discussions attract attention but there are few discussions on structural and fundamental problems in Japan. There are many reasons for companies to review personnel policies such as retirement of baby boomers, criticism of decreased labor distribution rate regardless of business recovery, dwindling labor supply due to the low birthrate and distorted age composition of employees due to prolonged cutback on new hiring.

Under the circumstances, sustainable and significant retirement benefit plans would be an essential element. Based on the structural changes in Japanese society and economy and efforts of the United States and Europe, we need to immediately hold active discussions on efforts toward the solution of structural problems of the retirement benefits turning anew to the roots.

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