

# JAPANESE CASH BALANCE PLAN

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**Abstract.** In recent years, the socio-economic environment in Japan has been changing dramatically. In response, firms are now revising their corporate pension plans to adapt to these changes. The aim is to relieve some of the financial burden that companies face and to give us greater security in our retirement. This paper will discuss some of the environmental changes in Japan and introduce a popular pension plan system called the "Cash Balance Plan".

## 1 Environmental Changes Japanese Corporate Pension Plans

There are four points.

- 1) Slow economic growth
- 2) New accounting standards
- 3) Low fertility and aging population
- 4) Corporate pension law changes

These changes have resulted in a revision of corporate pension plans.

### 1.1 Slow economic growth

The socio-economic environment has resulted in the negative total return of assets under pension plans in past years. However recently it has been improving a little. In 2000, it was -9.8%, -4.2% in 2001, -12.5% in 2002, +16.2% in 2003, and close to +5% in 2004.

These long slumps in investment have caused the shortage of pension fund against actuarial liability, so many corporate pension plans have needed to increase their premium. On the other hand Japanese corporate performance has gone down, thus making it difficult to pay the higher premium. Since the burden of pension premiums became heavier for employers, the retirement benefit amount, and downsizing and abolition of pension plans has been reconsidered. For example, in 1997, there were 1,884 the Employees' Pension Funds ("EPF"), but since then, about 20% (415) have been abolished.

### 1.2 New accounting standards

In 2000 a new corporate accounting standard was introduced for the corporate pension and retirement fund. The standard sets forth duties that members must comply with, calculations of retirement benefit liabilities and pension fund assets, reports, etc. The standard aims to standardize practices when professionals perform valuation work.

Also, previously the pension fund valuations were based on book value and not fair value. However, the large difference between the two caused a shortage of pension fund against actuarial liability. The new accounting standard treats retirement benefits as deferred payment of wages. Companies must recognize the present value of retirement benefits, which are regarded to be accrued as Projected Benefit

Obligation (PBO). Since the introduction of the standard, pension liability has been reflected on the financial statements of the employer. So, companies need to reduce financial burden, PBO and liabilities that are associated with corporate pension plans.

### **1.3 Low fertility rate and aging population**

The low fertility and aging population is having a serious impact on Japan's society and economy in many ways. The public pensions are pay-as-you-go style systems. The decrease of the generation who pay a premium and the increase of the aged people who get a benefits package are worsening public pension finance.

The fertility rate has fallen dramatically in recent years. The total fertility rate was stable at around 2.1 from 1965 to 1974, but had dropped to 1.29 by 2004. The population aged over 65 was hovering at around 7% in the early 1970's, but was 19.5% in 2004. By 2050 that number will have increased to approximately 36%. Currently, in the Employees' Pension Insurance, 3.0 people support one aged person. In 2050 this number will be 1.8 people per aged person.

It is necessary to adapt to the changing environment. Thus, a new pension reform bill was passed in March 2000. Various reforms have been made in order to not put too much burden on future generations. These include 1) reducing of future benefit level by 5%, 2) gradual setting back of the eligible age from 60 to 65 years old, and 3) raising of the premium rate by 20%. So, the corporate pension role is expanding.

### **1.4 Corporate pension law changes.**

In June 2001, both the Defined Contribution Pension Act and The Defined Benefit Corporate Pension Act were enacted to mainly satisfy employer's request. The two acts increase corporate pension plan choices.

The purpose of the Defined Contribution Pension Act is to introduce defined contribution pension plans as a new option for retirement income security. The Defined Contribution Pension Plan in Japan is modeled on the 401k-pension plan used in the United States. However the two plans have some major differences. For example, Japanese plans do not allow employers to pay supplementary matching contributions for their employees.

Under the defined contribution pension system, the amount of benefit an employee receives depends on the amount of contribution he makes and the investment performance of funds they chooses, and the companies do not need to bear possible additional financial burden in the future.

The purpose of the Defined Benefit Corporate Pension Act is to introduce a common framework to protect employees' benefit rights covered by defined corporate pension plans. The act provides funding requirements, reporting and disclosure. There are also two other points to discuss. First, the abolition of TQPP and second, the introduction of the cash balance plans.

#### **Abolition of TQPP**

Before 2001, Japan's main corporate pension consisted of two pension systems, the Employees' Pension Fund ("EPF") and the Tax Qualified Pension Plan ("TQPP").

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After 2001, by the enactment of the Defined Contribution Act and Defined Benefit Corporate Pension Act, Japanese corporate pension entered an entirely new era, in which employers and employees could choose their own corporate pension plans from a wide variety. One is the Defined Contribution Plans. The other is the Defined Benefit plan.

The Defined Benefit plan consist of two types; fund type and agreement type. It is also possible now, to introduce a cash balance plan.

**Figure 1.1** Japanese corporate pension plan choices

« Before 2001 »	« After 2001 »
Employees' Pension Fund (EPF)	<ul style="list-style-type: none"> <li>• EPF</li> <li><u>Fund Type</u></li> <li style="padding-left: 20px;"><u>Corporate Pension Plan</u></li> <li><u>Agreement Type</u></li> <li style="padding-left: 20px;"><u>Corporate Pension Plan</u></li> </ul>
Tax Qualified Pension Plan (TQPP)	<ul style="list-style-type: none"> <li><del>TQPP</del></li> <li style="padding-left: 20px;">No tax privilege on and after April, 2012</li> <li><u>Defined Contribution Pension Plan (DC)</u></li> </ul>

**On the other hand, TQPP have preferential tax treatment for premiums and reserve funds for corporate pensions approved by the Director General of the National Tax Administration Agency as taxation system. However, TQPP must be discontinued or converted to another type of pension plans by 2012. They will have no tax privilege after April 2012.**

## 2 Japanese Cash Balance Plan

The Defined Benefit Corporate Pension Law enabled cash balance pension plans to be introduced in Japan. The cash balance plan system is popular in the current environment. In fact, over the past year, approximately half of our clients who change from TQPP choose to go with the cash balance plan system.

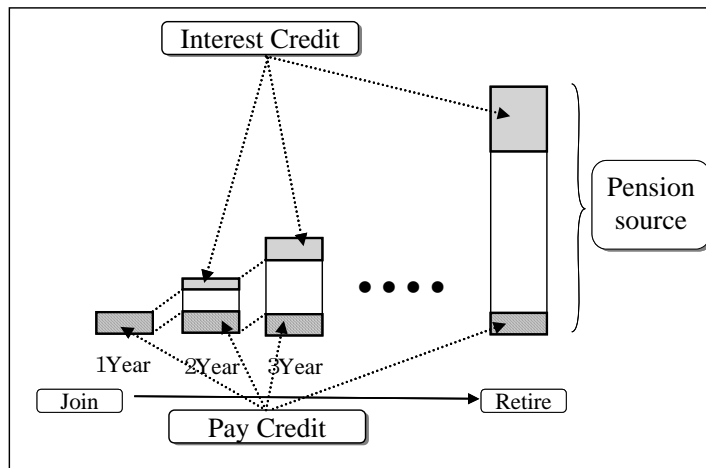
### 2.1 How it works

In cash balance pension plans, A sum of money is transferred into hypothetical individual accounts, by the employer, for pension benefits every year.

Upon joining, a sum of money, pay credit, is paid into hypothetical individual accounts by the employer. This amount generates interest over the first year. This is called interest credit. In the second year, another pay credit is paid into the account. So by the second year the total value of the account is the sum of the pay credit from first year, plus the pay credit from second year, plus the total interest generated in the first year. This continues until retirement.

The total amount accumulated over the years becomes the employee's pension source. Each employee can get hold of his share through his hypothetical individual account in the same way as in the defined contribution pension plan. However there are differences between the cash balance plan and the defined contribution pension plan.

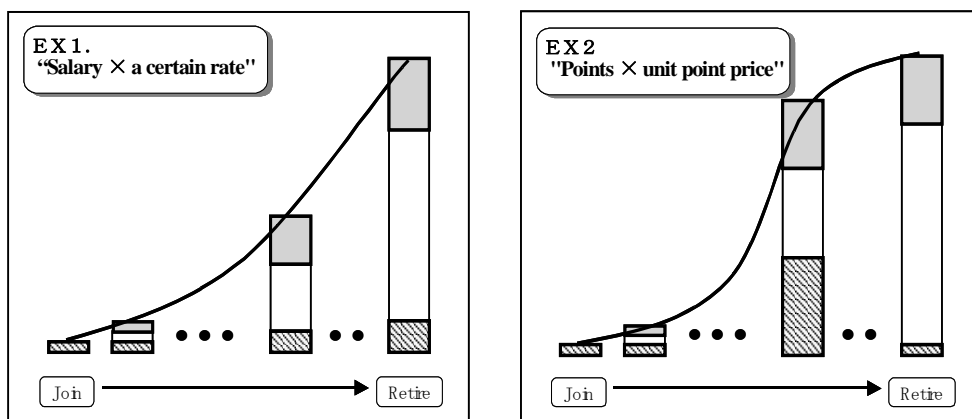
**Figure 2.1.** Cash balance plan: How it works



- Pay credit

With the cash balance plan, it is possible to define the benefit curve ourselves. However, this is not possible in the defined contribution pension plan.

**Figure 2.2.** The effect of pay credit



The employer can choose one of three "pay credit" methods.

- Fixed amount
- Salary  $\times$  a certain rate
- Points  $\times$  unit point price  $\times$  a certain rate

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Points are based on grade and qualification, job class, job position, bonus valuation, etc. It is different from salary.

When an employer chooses (b) and the pay scale increases with age, the benefits package curve looks like Figure 2.2, example 1.

On the other hand when an employer chooses (c) and gives more points during the employees' middle age than old age, the benefits package curve becomes like example 2.

So, in essence the employer is able to define the curve, as he likes.

- Interest credit

Another difference between the cash balance plan and defined contribution pension plan is that with the defined contribution pension plan, there is the possibility that the pension total will be less than the principal. This however, is not possible in the cash balance plan system.

The employer can choose one of four "interest credit" methods.

- Fixed interest
- Interest based on national bond yield  
e.g. the 1-year average rate of the 10-year national bond.
- a and b  
e.g. the 1-year average of the 10 year national bond plus 1%.
- b or c, plus minimum and maximum rate

The important thing to note is that none of these methods can result in a negative rate.

**Figure 2.3.** The effect of interest credit

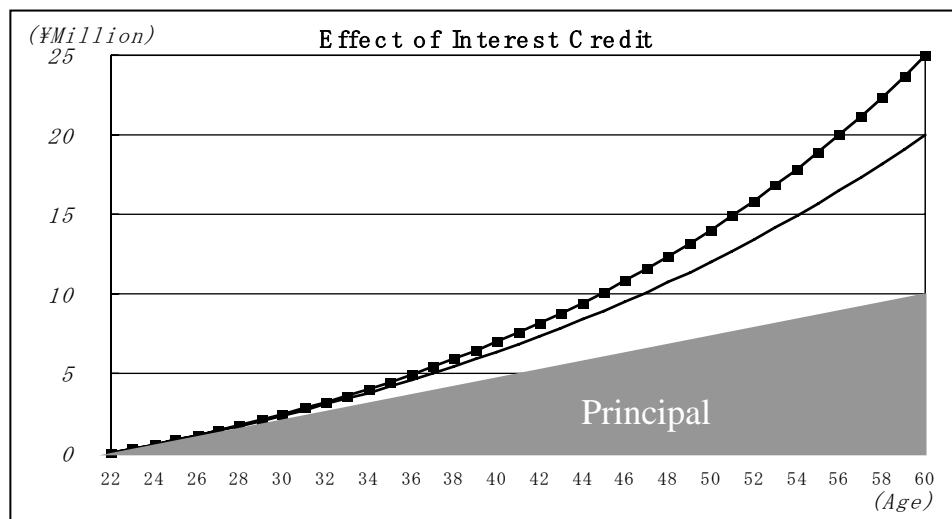


Figure 2.3 shows the effect of interest credit. The vertical axis shows the pension total in millions yen. The horizontal axis shows the age. The employer starts the plan when the employee joins the company. By the time they retire at age 60, based on a 3.5% interest credit, their pension total will be ¥20million.

The level of future benefits can be adjusted according to the level of future market interest rates. In the case of a high rate, a 4% interest credit will result in a total of ¥25million. On the other hand, a 0% interest credit will result in a total of ¥10million, the sum of the principal. As there can be no negative rate, the pension total will never be less than the principal.

## 2.2 Benefit for the employee

There are three main benefits for the employee.

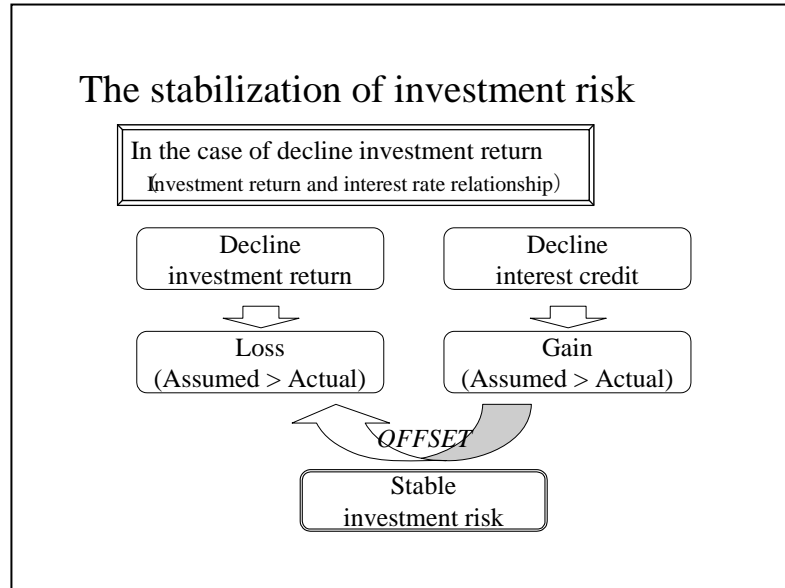
- Guarantee of principal  
Account value will never be less than principal even though the stock market falls
- Upside potential
- In case of high rate, the pension total will be larger than assumed.
- Understandable plan
- This system is easy to understand. This gives the employee a greater sense of participation.

## 2.3 Benefit for the company

There are three main benefits for the company.

- The stabilization of the projected benefit obligation and liabilities
- The streamline of the projected benefit obligation and liabilities
- The stabilization of investment risk

**Figure 2.4.** The stabilization of investment risk



For example, in the case of declining investment return, if actual investment returns rate is less than the assumed rate, then financial loss is generated. On the other hand, if actual interest credit is declining less than the assumed rate, then financial gain is generated. These differences offset each other to create investment

risk stability. For this merit to be achieved, there must be a relationships between investments return and interest credit.

### 3 Role of the pension actuary

In summary, due to the changing socio-economic circumstances, better pension plans have been developed for both companies and employees. From the point of plan design it is the role of the pension actuary to not only control financial burden, but to also take into consideration personnel policy. From the point of investing, it is necessary to apply to obligation features. This is where pension actuaries need to excel.

### Reference

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