

## Japan Financial Report No.3

---

Released October 2000

Research Director:

Mitsuhiro FUKAO (Senior Economist, Professor at Keio University)

Assistant Director:

Yoichi TAKITA(Economist), Ikuko FUEDA(Economist)

---

### Indicators of health of life insurance companies need tightening

*Adjusted Solvency Margin Ratios, Less than 200% for Four Life Insurers Cross Share-Holdings with Banks Weakens Financial System*

---

#### (Summary)

1) With the examples of failures of in the life insurance industry, we can conclude that the calculation method used to find the solvency margin ratios of life insurers -- the indicator of the health of life insurance companies -- is riddled with problems. If we correct the method to conform to US standards by using current market valuations, then we find a few more companies - not just the recently failed Chiyoda Life -- whose indicators would call for administrative measures. This indicator should be improved upon so that it can be used as a more accurate early warning of trouble.

2) Life insurers have an excess of 14 trillion yen of combined stocks and subordinated debt of banks, while banks contributed an excess of 2 trillion yen. This structure of cross share-holding is debilitating the financial system.

The financial foundation of the life insurance companies is undergoing some changes. The industry has seen several recent failures. On 9 of October, a medium-sized insurer, Chiyoda Life Insurance Company became the fifth life insurer to have failed after the War. In 1997, Nissan Life failed, then in 1999 Toho Life, and then this year, Daihyaku and Taisho Life Insurance Companies failed and with these failures, it was clear that these life insurers were suffering from massive excess liabilities. A major factor to this was the fact that the life insurance companies had been guaranteeing its customers a minimum yield (an expected rate of interest). This minimum yield, however, became higher than the actual yield that the life insurers had been earning on its investment assets over an extended period of time, and this put immense pressure on their bottom lines. In this discussion, we attempt to ascertain the health of the 14 major domestic life insurance companies based on their disclosed information.

With the Insurance Business Law that came into effect in 1996, a solvency margin ratio method was adopted to monitor the health of the life insurance companies, and it became mandatory for the companies to disclose this information in their financial statements for fiscal year ending March 1998. Moreover, from fiscal year ending March 1999, the Early Warning Measure was introduced and even more attention was focused on this indicator.

The solvency margin ratio, an indicator of the life insurer's ability to honour its debts when it is met with an unexpected loss, is a ratio of the following two factors. The denominator is an estimate of risks borne by the life insurance company such as general insurance risk and asset management risk, while the numerator is the company's equity and its various reserves.

The management of companies with the ratio over 200% are assumed to be healthy. When this ratio falls below 200%, the company is deemed not tive measures to correct this.

However, when we look at the Life Insurers mentioned earlier that have failed, we see that in the case of Chiyoda Life, its solvency margin ratio at the end of March 2000 was 263.1% and for Daihyaku Life, the ratio was 304.6% at the end of March 1999. Those were far exceeded than the 200% mark where an insurer is considered sound. Furthermore, Toho Life's solvency margin ratio at the end of March 1998 was 154.3%, although lower than the 200% threshold, but still quite a high figure. This measure appears to have a few issues remaining.

### ***Cross Share-holdings with Banks***

Most of the assets of life insurance companies are investments in securities (such as public and corporate bonds and in stocks) and loans and real estate (Table). The asset item that held the highest share of the 14 life insurers in our study was Loans at 32.2% (as at end-March 2000). Broken down by borrower, most of these loans are extended to such financial institutions as banks and credit companies, and leasing companies. This accounts for 26.2% of total loans.

Since, when calculating the solvency margin ratio, subordinated debts can be included in the numerator of the solvency margin ratio, life insurers have accepted about 1.4 trillion yen of subordinated debts from financial institutions as at the end of March 2000. Moreover, "Fund" which is a part of the equity of life insurance companies, is in many cases contributed by banks. "Fund" is reimbursed to the investor from the profits of the life insurer, based on a contractual agreement between the two parties.

However, if there are not sufficient profits to cover this amount, interest payments on or reimbursement of the fund can be deferred. So although this subordinated fund, it is close in nature to equity. Banks have provided life insurers with a total of about 2.3 trillion yen in equity as a combination of subordinated debts and fund.

At the same time, life insurance companies have also co-operated in increasing the capital of banks. Of the stocks held by the 14 life insurers in this study, those of financial institutions account for 23.5%. The market value of these stocks at the end of March 2000 totalled approximately 7.7 trillion yen.

Banks, in the second half of the 1980s, issued massive amounts of shares to meet the regulatory capital directives of the BIS, and the life insurance companies obliged and were stable shareholders. Moreover, the outstanding subordinated debts that the life insurance companies had at the end of March, 2000 totalled 6.7 trillion yen.

In this way, life insurers and banks are in a cross share-holding relationship; they hold one another's subordinated debts or stocks (or fund). This has the consequence of heightening the risk that collapse or confusion in one industry will spread to the entire financial system.

### ***Alleviating the Asset and Liability Mismatch***

Life insurers, in order to secure funds for future insurance payments have reserved part of their insurance premiums or their investment returns as legal reserves.

The average expected rate of interest of the 14 companies -- which is equivalent to their funding costs -- was, at end-March 2000 between 3 and 5%. On the other hand, the interest surplus yields they were earning such as from the interest and dividends on their assets were between 2 and 3%. Their funding costs were higher than their investment yields, resulting in a negative spread. The value of this negative spread of the 14 companies in this study was 1.6 trillion yen on a disclosed basis.

In order for life insurers to maintain their financial health, it is important that the tenors of their assets and liabilities be about equal as interest rates fluctuate. However, it is very difficult to find assets that match the tenors of the liabilities of life insurance companies because their liabilities are usually of very long-terms of fifteen to twenty years.

The average tenor of assets held by Japan's life insurance companies is about five years. Therefore, when market interest rates decline as they have been for the past several years, the structure makes it easy for the negative spread to occur.

### ***Adjusted Solvency Margin Ratios, Less than 200% for Four Life Insurers***

As for the solvency margin ratios, all of the 14 life insurers have ratios of over 200%. (See figure). In this section, we estimate three different adjusted solvency margin ratios to circumvent the various problems inherent in the way the solvency margin ratios are currently estimated.

First, we used a stricter valuation method for assets and liabilities - the market value method. For assets we used current market values as much as possible, and so the equity component in the numerator of the ratio is adjusted for latent profits and losses. In addition, for the rate of reserves for bad debts, we impose the average rate of the largest life insurance companies over the entire sample.

As for the denominator, we utilize a risk coefficient comparable to the US (Risk Based Capital) standard to reflect price fluctuations in risk assets (Adjustment 1).

Current solvency margin ratios do not reflect the latent profits and losses of assets that exclude stocks and real estate (i.e., bonds and foreign securities). For this reason, since life insurers hold bonds and foreign securities that have large latent losses, adjusting for this factor results in a lower numerator for Adjustment 1 and the ratio falls as a result (See figure). Moreover, those life insurers that had smaller reserves for bad debts also saw their ratios fall.

The risk coefficient of stocks increased threefold, and that of real estate increased twofold. Those life insurers with large holdings of stocks saw their ratios decline greatly.

Second, in estimating the numerator of the solvency margin ratio, we use the liquidation standard rather than the current ongoing standard (Adjustment 2). In order to better reflect the ability of the life insurer to pay its creditors in the event of its failure, we remove from the numerator such items as future profits and deferred tax assets -- they are currently included in the measure but do not have strong qualities as assets. When the ratio becomes a negative figure (excess liabilities), this means that the life insurer's assets do not fully cover the reimbursement to the policyholder in case of cancellation. The standard used in the United States is close to this liquidation standard.

In Adjustment 2, the companies whose solvency margin ratios plummeted were those who reported latent losses when securities and real estate were valued at current market value, and who had larger deferred tax assets. The deferred tax assets had to be removed for this adjustment, and thus resulted in a lower solvency margin ratio.

Third, in Adjustment 3, we remove the subordinated debts from the numerator. This is because subordinated debts do not have the character of capital of a life insurance company.

The figure shows the distribution of the solvency margin ratios as they are put through three adjustments in the three steps as described above. On a disclosed basis, all 14 of the life insurers in this study had solvency margin ratios of over 200%. However, after Adjustment 1 was made, four companies fell below the 200% threshold, and two marked negative ratios (excess liability). After Adjustment 2, the ratios of four companies fell to below 70%. This would be the point where measures to suspend business would be taken by the US standard. After Adjustment 3, four companies mark negative ratios. At the same time, some companies that were dependent on subordinated debts for their relatively high ratios also experience declines in ratio.

According to the reforms on the Life Insurance Policyholder Protection scheme, a maximum 400 billion yen of public funds can be injected as financial assistance to protect policyholders from a failing life insurance company. Yet, this is a last resort measure, and fundamentally, the organisation is one of mutual aid. However, the value of owner's equity of many life insurance companies, although they appear sound for

the time being, are more and more being viewed with some question.

For savings-type insurance policies, all deposits have been protected thanks to the injection of public funds. However, for life insurance policies, about 10% of the accumulated savings were cut. So when you consider the interest that was also guaranteed on these policies, a maximum 70% of future insurance payments were cut. Despite this, the Life Insurance Policyholder Protection system and its predecessor, the Protection Fund, have injected almost 700 billion yen into the system, and this was funded by relatively healthy insurance companies.

What has proven to be the major reason that failures have been so costly is the fact that the supervisory agency has failed to act quickly on failing life insurers.

Postponing the swift action on unhealthy insurance companies, while at the same time making the relatively healthy insurers bear the burden, will gradually undermine the entire life insurance industry. The most effective way to protect policyholders is to tighten the restrictions on the solvency margin ratio regulations, to lower the cost of failures, and to order life insurers in trouble to stop paying dividends and to drastically lower their operating costs.