

**c) Solvency Margin Ratio**

1) Existing Solvency Margin Ratio

Reserve of insurers will be able to respond to normal expected risks. However, unexpected events resulted from catastrophic disaster or significant fall of stock prices might happen. In order to determine whether the insurer has “margins of solvency” to be able to respond to such unexpected risks, solvency margin ratio was introduced as an index of administrative supervision.

Since the fiscal year ending in March 1998, life insurers in Japan have been disclosing their solvency margin ratio. It is calculated as follows:

$$\text{Solvency Margin Ratio ( \% )} = \frac{\text{Total Amount of Solvency Margin}^a}{1/2 \times \text{Sum Total of Risks}^b} \times 100$$

<sup>a</sup> The “Total Amount of Solvency Margin” (numerator) is the total of the following:

= Total Capital + Price Fluctuation Reserve + Contingency Reserve + General Bad Debt Reserve + 90% of Variance of the Estimate of Other Securities\* + 85% of Unrealized Gain or Loss on Real Estate\* + Debt Capital Instruments + Deductible Items, and others.

\* If these values are negative, 100% of the value is applied instead of 90% or 85%.

<sup>b</sup> The “Sum Total of Risks” (denominator) is calculated as follows:

$$= \sqrt{(R_1 + R_8)^2 + (R_2 + R_3 + R_7)^2} + R_4$$

R<sub>1</sub>: *Underwriting Risk* – Risk of massive insurance payouts following a disaster or catastrophe

R<sub>8</sub>: *Underwriting Risk of third-sector insurance* – Risk of massive third-sector insurance payouts such as health insurance and cancer insurance

R<sub>2</sub>: *Assumed Interest Rate Risk* – Risk that investment return falls below the assumed interest rate

R<sub>3</sub>: *Asset Management Risk* – Risk of a drastic devaluation of assets because of a crash in stock prices or sharp fluctuation in the currency market, and risk of a sharp increase in irrecoverable loans due to failures of borrowing companies

R<sub>4</sub>: *Business Management Risk* – Business risk in excess of normal expectations

R<sub>7</sub>: *Minimum Guarantee Risk* – Risk related to the minimum guarantee for benefits of variable insurance and variable annuity products

2) Early Warning Measures

Early warning measures were introduced by the FSA for the purpose of ensuring appropriate business operation of life insurers and protecting policyholders.

➤ Summary of early warning measures for life insurers

Category	Solvency Margin Ratio	Measures
None	200% and over	None
Category 1	100% to less than 200%	Submission and implementation of a business improvement plan
Category 2	0% to less than 100%	a. Submission and implementation of a plan for adequate solvency of insurers b. Prohibition or limitation of dividends c. Prohibition or limitation of policy dividends or distribution of surplus to policyholders d. Change in calculation method of premium for policies to be newly underwritten e. Prohibition or limitation of directors' bonuses, limitation of other operating costs, etc.
Category 3	Less than 0%	Partial or total suspension of operation for a limited period

- Even if the solvency margin ratio is less than 0%, a company may be classified as category 2 if real net assets (= assets - liabilities - price fluctuation reserve - contingency reserve, etc.) are positive.

- Even if the solvency margin ratio exceeds 0%, a company may be classified as category 3 if real net assets are negative.

## 3) Revision of Solvency Margin Ratio

The method for calculating the solvency margin ratio has been revised as the need arises. In December 2004, the FSA announced the “Program for Further Financial Reform” that includes a review of the solvency margin. Then, in November 2006, the FSA set up a team to deliberate on the calculation standard of the solvency margin ratio. The team held a total of 11 meetings and published a report entitled “Regarding Solvency Margin Ratio Calculation Standards.” This report made the following comments on the solvency margin ratio:

- ✓ Insurance companies are required to raise their solvency margin ratio to improve their financial position. On the other hand, other financial indicators, such as profit margins, must be used together with the solvency margin ratio in order to assess the financial soundness of insurance companies.
- ✓ If the insurers’ solvency ratio falls below the 200% line, “early warning measures” have to be taken depending on the level of the ratio. When revising the calculation method, it is necessary to improve the credibility of the solvency margin ratio by making it adequately reflect the actual situation of the financial market as well as enhancing the confidence level. Insurers also have to strengthen their financial control systems and improve their financial positions.
- ✓ Currently policy reserves are calculated based on the assumed rates by using a lock-in method, while risk amounts for the solvency margin are calculated based on a risk-factor approach. As a mid-term revision, the solvency valuation based on economic value should be realized to recognize the volatility of the net assets (the difference between the value of assets and the value of liabilities on an economic value basis) as the risk amount, and to manage the volatility appropriately. This is particularly important from the viewpoint of stakeholders who look at the corporate value index.

## ➤ Major Revisions since FY 2001

Date	Major Revisions
30 March 2001	Reflection of valuation gains and losses on securities holdings (including unlisted securities) Risk amount calculation based on market value Introduction of price fluctuation risk of domestic bonds Restriction of “future profits” (from 100% to 50%) Negation of double-gearing with banks, etc. falling under the category of subsidies
22 October 2004	Creation of risk equivalent amounts corresponding to minimum guarantee risk
28 April 2006	Introduction of a stress test for risk assessment of third sector insurance products

Based on the aforementioned report, the FSA published an “Outline of Revisions to the Solvency Margin Ratio (Draft)” in February 2008 in order to obtain public comments on the following issues:

- ✓ Revising risk coefficients based on the most recent data available
- ✓ Considering the method to calculate diversified investment effects based on asset composition (ratio) for each insurance company
- ✓ Raising the confidence level of risk coefficients from 90% to 95%
- ✓ Deliberating the way to adequately include deferred tax asset

The FSA also conducted further reviews in the light of Yamato Life’s failure in October 2008, lessons learnt from the financial crisis and opinions on the proposed outline, and published the proposed revised outline in October 2009. Public comments are sought on the following items:

- ✓ Tightening of inclusion in margin (capital)
- ✓ Tightening of risk measurement
- ✓ Ensuring adequacy of solvency margin ratio