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Rating Methodology by Sector

Life Insurance

*This rating methodology is a modification of the rating methodology made public on July 13, 2011, and modifications are made to the descriptions and key financial indicators in narrowing down these descriptions and indicators by significance as part of clarification of rating methodology.

The following applies to life insurance companies in Japan. JCR applies this rating methodology with the necessary changes in the indicators for analysis to overseas life insurance companies and insurance groups, based on laws, accounting system, financial administration in which these entities are located.

The credit ratings of a life insurance company is assessed by focusing on the characteristics of its life insurance business, business base, management team, management policies, financial performance, investment, liquidity, capital adequacy, financial flexibly, and risk management.

1. Business base

(1) Characteristics of the industry

Despite a trend of decline in the total amount of insurance in force of many domestic life insurance companies, death benefit products—conventional key products—support the profits of the primary business of traditional life insurance companies in Japan. Policies in force of death benefit products can generate relatively stable cash flow by avoiding high investment risk that does not match the characteristics of insurance liabilities while maintaining the amount of policies required to benefit from the law of large numbers, based on adequate underwriting standards. In general, the pricing of death benefit products includes safety loading to adequately cover the uncertainties involved in a long-term contract. In view of risk gains, a reasonable profitability can be expected if the law of large numbers holds.

On the other hand, many life insurance products include a guaranteed yield (assumed interest rate). If operations are inconsistent with the appropriate management of insurance liabilities, such as inadequate management of interest rate risks, a loss margin on ultra-long-term life insurance products may put pressure on profitability. The quality of asset liability management affects a company's levels of earnings, cash flow, and stability.

While earnings and cash flow of conventional death benefit products have been relatively stable, changes in the business environment, such as a declining birthrate and an aging population as well as increasingly selective consumers, are altering the product composition, which, in turn, has increased the volatility of the earnings of some life insurance companies. The demand for key death benefit products is now declining, and unless the business model is reformed and improved, future earnings are under

threat. Despite certain barriers to entry, such as licensing requirements, the life insurance market boasts a large number of companies. The competition is intense, as products are difficult to differentiate, and profitability has gradually been strained.

The aging of the population is making room for growth in the third sector and pension product market. Generally, the profitability of investment insurance products is low, and the insurance-related profit or loss on such products is limited. Variable annuities with guaranteed minimum benefits have a complex risk profile, and ensuring future earnings from such products may not be easy, given the rapid increase in market risk volatility without adequate preparations for risk management. Third-sector products have been growing to an extent based on increased social needs. Advancement of medical technologies, however, may increase the rate of occurrence of insured events, and the risks associated with ultra-long-term life insurance, such as whole life medical insurance, may become more apparent and threaten profitability. Product design based on appropriate risk management is essential.

Life insurance companies are supervised by the Financial Services Agency and required to calculate their solvency margin which indicates the adequacy of their risk buffer. Although the solvency margin ratio contributes to the promotion of risk management of life insurance companies to a degree, there have been some life insurance companies that have gone bankrupt with a solvency margin ratio exceeding 200%—the threshold rate where prompt corrective measures are taken. To increase the effectiveness of solvency margin ratio, the calculation standards will be tightened, which is expected to facilitate an understanding of the true levels of risk based on actual economic values.

When another insurance company takes over following a bankruptcy, the insurance policies of the failed insurance company may be continued through policy transfers, mergers, stock acquisition, and other means. Policy reserves, however, are reduced in some cases. Excluding policies with high assumed interest rates, up to 90% of policy reserves at the time of bankruptcy are compensated for by the Life Insurance Policyholders Protection Corporation of Japan, and the remaining 10% are determined based on reorganization strategies. When transferring insurance policies, the policy conditions may be revised, such as in assumed interest rate and policy reserve reductions. Part of the funding of the Life Insurance Policyholders Protection Corporation of Japan comes from sound life insurance companies' contributions, and any bankruptcy imposes a certain financial burden on those sound life insurance companies.

(2) Important factors in market position and competitiveness

When assessing the future financial strength of life insurance companies, the characteristics of each company's business base are considered, taking into account the characteristics of the industry in general as well as the basic characteristics and conditions of competitive advantages or disadvantages of individual companies. Whether a company's competitiveness is sustainable is determined, and such factors as customer base, product composition, market characteristics, sale channel system, conditions of business diversification, and conditions of niche markets are analyzed to forecast future performance.

Examples of sources of competitiveness include brand power that can promote customer trust, high business efficiency that can maximize price competitiveness without sacrificing profitability, and a sales channel that can provide access to superior customers.

An analysis of a product is performed from such perspectives as whether it is a high-value-added product, whether its risks are high, and whether the product portfolio is diversified. In general, those products that facilitate capital accumulation through long-term stable earnings are more positively assessed than those products whose earnings are highly volatile. Insurance products are not patented, and development of best-selling products that ensure risk-adjusted returns is often imitated by competitors. Differentiation based on salability is, thus, not easy.

For life insurance companies, economies of scale may allow a business base strengthening that involves large IT investments. If competing life insurance companies sell products of the same types, business efficiency higher than that of other companies based on economies of scale may become a source of competitiveness. The unit cost of each insurance company, therefore, is also analyzed.

Meanwhile, the scale does not guarantee success. Niche players in specific markets that are capable of defending themselves from competitors may increase their earnings strength in the future. There may be cases in which the high added value of products and services is increased by effectively and flexibly providing superior policy coverage and services that appeal to a specific customer base or sales channel to acquire policyholders with specific needs without sacrificing the risk-adjusted returns.

Sales channels are analyzed based on the strength of their connection with specific life insurance companies in each channel, conditions of diversification, cost efficiency, and other perspectives. Whether the life insurance companies to be analyzed are continuously acquiring high-quality insurance policies from each sales channel under adequate internal management is assessed.

(3) Management strategy and policy

An examination of the management team and strategy becomes the basis of financial analysis, and strategy development and performance by that team are carefully studied. An understanding of the management strategy allows more in-depth evaluation than simple quantitative analysis.

Establishment of competitive advantages and an allocation of management resources that ensures profitability are some of the internal factors controlled by the management, and each company's strategy affects the conditions of financial strength. The management is asked questions about the details of its strategy, the effectiveness of the business, the durability against financial risk, and other such matters, and the validity of management vision, ability to execute strategy, and other skills are analyzed.

2. Financial base

(1) Performance and earnings strength

In evaluating financial performance, JCR focuses on the ability of an insurance company's strategy to connect competitiveness with profitability as well as financial results, growth potential, and quality.

Growth for growth's sake may involve inadequate pricing, which may not result in improved profitability and equity capital. JCR's income analysis includes past earning trends, future earnings, and the stability and quality of earnings. For participating policies (with-profits policies), policyholder dividends are considered as a cost of acquiring customers, and profit after payment of policyholder dividends is taken as criteria for profitability. Additional information on the transfer and reversal of policy reserves associated with variable annuities with guaranteed minimum benefits is analyzed, including an analysis of adjusted and unadjusted base profit; analysis of mortality, interest, and operating gains; analysis of factors that increase or decrease embedded value*; and sensitivity analysis associated with the embedded value.

*Embedded value: One of the indicators of corporate value and performance used by life insurance companies. It is the total of the net asset value calculated from the balance sheet and the value of policies in force, which is the present value of potential future profits generated by policies in force.

An insurance company's earning capacity helps strengthen the capital through internal reserves, one of the major indicators of its financial base. Many management teams use income indicators for major strategic targets, and the appropriateness of such targets and the ability to execute strategy, i.e., the capabilities of the management, are likely to affect earnings.

In its credit ratings, JCR considers a company's future performance, in which the possibility of changes in the income structure brought about by changes in the industry environment and management strategy, in addition to past business performance trends, is considered. Because there may be some insurance companies that are currently making fast profits and have higher risk profiles than competitors, JCR focuses on risk-adjusted returns and considers the effect of high-risk products on earnings and financial affairs.

To assess earnings strength, profit from each insured subject is analyzed based on financial results and future profit analysis. Future profit analysis also considers the appropriateness of various assumptions, including the investment yield. Analysis of mortality gains focuses on changes in the mortality gains of each insured subject, such as those related to disasters and diseases and those related to death. Analysis of investment-related profit and loss concentrates on the core earnings deriving from interest-bearing bonds and other instruments. Business efficiency is assessed by observing changes in the cost structure, rate of continued policies, price policy, and other factors.

Profitability is analyzed based on multiple indicators, including the total amount of insurance in force, annualized premiums, and total assets, due to a recent increase in whole life medical insurance in addition to traditional death benefit products.

Key financial indicators:

■ Basic profit

- Mortality gains / losses
- Operating profits / losses
- Investment profits / losses
- Factors of increase / decrease in embedded value, sensitivity (referred when available)
- Investment-related profits / losses
- Total amount of insurance in force
- Annualized premiums
- Total assets

(2) Risk profile, such as asset quality

JCR analyzes whether companies carry out asset management with a controllable risk profile and ensure risk-adjusted returns while controlling interest rate risks based on economic value through investment appropriate for the debt characteristics. Considering that risk profiles and investment returns vary depending on the investment style or type of working assets, such factors as techniques of asset liability management and risk management, composition of working assets, and financial derivatives are also analyzed. Working assets are evaluated in view not only of asset quality but the effect of diversification and other aspects. Life insurance companies carry a certain level of investment risk based on the business characteristics that facilitate forecasts of payments of key product premiums, and each company has a different asset allocation as well as risk profile and returns on each asset.

The risk of price fluctuations is incorporated into the analysis of capital adequacy, based on the probability of default in each rating category. This risk derives from the ownership of stocks and real estate as well as foreign exchange risk from foreign currency-based assets, are also reflected in the capital adequacy analysis. Investment profit is assessed using such indicators as the percentage of total assets.

Interest rate risk is also examined. An analysis of interest rate sensitivity submitted by each company, including the duration between assets and liabilities and analysis of embedded value sensitivity, is also used as reference. The regulatory agency is requesting life insurance companies to estimate the interest rate risk based on economic value, and such data may also be used as reference if they become available.

(3) Liquidity

Liquidity is analyzed based on whether it allows prompt payment of insurance benefits in a stress scenario, taking into account the risk of price fluctuations. Liquidity is affected by such factors as the composition of working assets, deduction of cancelled products, presence of fair value adjustment function, sales channels, and customer base. Taking into account the asset liability management system of each insurance company, financial disintermediation that concerns an increase in the interest rate is also considered.

Key financial indicators:

- Liquidity levels (of cash and cash equivalents, government bonds, etc.) and component ratio of major assets

(4) Capital adequacy

Capital is assessed based on its adequacy as a buffer that absorbs various risks held by insurance companies, and it takes into account the real net worth in comparison to the total amount of risk, including asset risk and insurance risk, in addition to the indicators based on the current regulatory accounting requirements. The quality of asset liability management is incorporated into the assessment of capital adequacy, which is adjusted using both quantitative and qualitative analyses by referring to interest rate risk based on economic value, using the internal model of each insurance company. The ability to ensure internal reserves with stable and strong earning power positively affects the assessment of capital adequacy. The capital adequacy of insurance groups with high capital needs is evaluated in view of such needs. Embedded value is also used as a reference when examining the economic value of equity capital as it suggests future earnings not indicated by the balance sheet. While focusing on the capital adequacy of each insurance company, JCR is monitoring the future introduction of consolidated solvency requirements, trends in economic value-based solvency margin rate, and changes in the conditions of regulatory assets.

JCR evaluates capital adequacy by its own equity capital model. The entries into this model for a modified equity capital are excess of cash surrender value over policy reserve, part of valuation difference on securities, accumulated redeemed foundation funds, reserve for price fluctuations, contingency reserve, unappropriated reserve for policyholder dividends, other legal reserves, general allowances for bad debts, part of tax effect equivalent, etc. in addition to surplus (after deduction of distributed income) and accumulated redeemed foundation funds for a mutual company or capital stock and capital surplus for a joint-stock company. JCR also focuses on the level of core capital excluding unrealized gain on securities. A stress test of unrealized profits and losses on stocks is performed in addition to the financial results of a single year. Hybrid securities, which combine the elements of liabilities and capital, are also taken into the analysis of capital adequacy.

For price fluctuation risks related to stocks, a risk coefficient based on volatility is given that takes into account changes in stock prices over a long period of time. If funds of a permanent nature are mutually provided with other financial institutions, such as banks, the level of concentration concerning such financial institutions is also considered. For real estate, a risk coefficient is determined by considering the past price trends. For foreign currency assets, foreign exchange risk is taken into consideration. For bonds, a risk coefficient is set by considering the rate of recovery to the default rate of each credit rating category based on book value. For loans, a risk coefficient is determined for each category, including general loans but excluding risk management loans, loans to bankrupt borrowers, delinquent loans, loans overdue for more than three months, and restructured loans.

Insurance risk is examined by considering the amount of risk based on the internal model of each company in addition to the regulatory insurance risk. Considering the policy reserves for each assumed interest rate and their remaining periods, the future risk of assumed interest rates is assessed, which is added following an analysis of economic value based interest rate risk.

Each life insurance company is improving its risk management, including its risk-measuring method, based on an internal model. If the reliability of such numerical values as economic capital based on the internal model is considered to have improved, JCR plans to incorporate more of such numerical values based on each company's internal model in the analysis.

Key financial indicators:

- Equity ratio
- Embedded value

(5) Financial flexibly

The ability to flexibly raise funds in various markets when a large amount of capital is needed is positively assessed. Additionally, JCR looks for the ability to retain a large amount of unrealized profit and make profit on sales without impairing the business.

The ability to create future internal reserves is also a positive factor in financial flexibly. In some cases when a large amount of capital investment is not considered, a company is deemed to have the ability to adequately satisfy the fund needs using its internal reserves.

(6) Risk management system

How much the management strategy primarily for profit and risk management has penetrated into the entire company is assessed based on views that include a unified risk management system, management system for newly emerging risks, and strategy to optimize risk-adjusted returns. More specifically, the level of penetration and sharing of risk preferences consistent with the internal risk tolerance, support for risk management and control provided by the management team, the internal system incorporating the risk control process, and efforts to raise risk awareness at the business unit level are among the aspects to be evaluated. The status of risk governance is also analyzed from the perspective of governance and organizational structure of risk management functions. Further, the internal unity of the risk management system, appropriateness of risk measuring and monitoring, alert level for each type of risk, and maximum limit for risk are also evaluated. JCR analyzes each insurance company's responses to the appearance of unexpected risk in view of timely detection and control of newly emerging risk and how it applies the lessons learned from the emergence of new risk.

The allocation of required capital and economic capital to risk assets, strategic measures based on indicators of economic risk and returns, an understanding of the effect of strategic measures on the regulatory required equity capital, a strategic asset allocation within the range of risk tolerance specified in advance, risk-adjusted pricing based on the study of risk and returns of insurance products, the

suspension of sales or re-pricing of insurance policies in response to a deviation of the results of risk and return analysis from the initial assumptions, and a capital plan based on the process of optimizing decisions on risk and returns are some of the criteria for evaluating the strategy for optimization of risk-adjusted returns.

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