

## Rating Methodology by Sector

### **Non-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 non-life insurance companies in Japan. JCR applies this rating methodology with the necessary changes in the indicators for analysis to overseas non-life insurance companies and insurance groups, based on laws, accounting system, financial administration in which these entities are located. JCR also applies this rating methodology with the necessary changes in the indicators for analysis to Japan Earthquake Reinsurance Co., Ltd. that is a part of the earthquake insurance system on dwelling risks, in which both public and private get involved, focusing on this institution.

When determining the credit rating of a non-life insurance company, the characteristics of that company's non-life insurance business, business base, management team, management policies, financial performance, investment, liquidity, capital adequacy, financial flexibility, and risk management are all analyzed.

#### **1. Business base**

##### (1) Characteristics of the industry

Major non-life insurance products include auto insurance, fire insurance, and marine insurance among other types. Trends in the non-life insurance market may be affected significantly by the state of economic activities, growth of the domestic economy, and the level of insurance payments resulting from, in particular, natural disasters, such as typhoons and earthquakes.

The limited scale of the Japanese economy and restrictions on economic activities constrain growth in demand for traditional non-life insurance and intensify price competition, requiring companies to adjust their prices and improve business efficiency to increase profitability.

In the retail segment, the profitability of core products, such as auto insurance, is squeezed without flexible rate price adjustments in reference to advisory rate. As for non-life insurance in the corporate segment, profitability suffers without competition based on appropriate pricing through the establishment of risk-based management.

For many non-life insurance companies that sell auto insurance as a core product, insurance discounts resulting from improved driver rankings have become problematic, as they squeeze profitability. After a number of non-life insurance companies were found to have made inappropriate insurance payments in 2006, the expenses for improving internal control systems increased, resulting in

a higher business expense ratio. Almost coincidentally, at the time the inappropriate payment issue came to light, major non-life insurance companies had been reforming their operations using IT, aiming to develop straightforward policies, improve administrative efficiency, and make appropriate payments. Some companies have been gradually improving their business efficiency compared to 2006. Integration aimed at generating synergy, including improved business efficiency, has created three mega non-life insurance groups, suggesting the importance of such efficiency as a source of competitiveness.

The methods for consumers to take out non-life insurance have become more diverse. A gradually increasing number of consumers are opting for mail-order or other low-price non-life insurance policies rather than through traditional person-to-person sales through agencies, which may affect the conditions of price competition.

Non-life insurance companies are supervised by the Financial Services Agency and required to calculate their solvency margin ratio, which indicates the adequacy of their risk buffer. Although the solvency margin regulation contributes to the promotion of risk management of non-life insurance companies to a degree, there have been some non-life insurance companies that have gone bankrupt with a solvency margin ratio exceeding 200%—the threshold rate below which prompt corrective measures are taken. To increase the effectiveness of the 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.

## (2) Key factors in market position and competitiveness

When assessing the future financial strength of non-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, sales channel systems, 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 sales channels 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. Insurance products are not patented, and the development of best-selling products that ensure risk-adjusted returns is often imitated by competitors. Differentiation based on salability is, thus, not easy.

For non-life insurance companies, economies of scale may allow a business base strengthening that involves large IT investments. If competing non-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.

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 non-life insurance companies in each channel, conditions of diversification, cost efficiency, and other perspectives. Whether the non-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 which could be 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) 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.

Earning power is assessed using return on asset as well as return on equity and other indicators as reference, taking into account the effect of return on assets and financial structure of the insurance company. Capital gains or losses cannot be expected on a regular basis in most cases, and this is also considered in the analysis. Analysis of investment-related profit 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 renewed policies, price policy, and other factors.

Evaluation of gains or losses on underwriting focuses on such factors as the loss ratio, expense ratio, income balance ratio, and growth in premium income for each major product and the entire company. To

determine each company's earning power, the current and expected loss ratio, expense ratio, and other indicators are analyzed and evaluated while also considering its pricing and underwriting capabilities and business efficiency. In view of the competitive environment, such indicators are analyzed not only in terms of their absolute values, but also in comparison to those of competitors.

Massive natural disasters, such as typhoons and earthquakes, may result in a large amount of gross insurance payments and high cash flow volatility. In response, non-life insurance companies have established a reinsurance system to keep the net payment below a certain amount by recovering a loss through reinsurance. As for earnings, companies control the volatility of their income for the period through the reversal of contingency reserves.

JCR considers the risk level of each item when assessing the companies' earning power. Product diversification has caused differences in the risk coverage depending on the product, and simple comparison of indicators may be misleading. In its analysis, therefore, JCR also considers the differences in the levels of risk to be covered. Savings-type insurance is analyzed taking into account that the operating environment may distort the income structure due to a product's characteristics. The statuses of income stability and income source diversification are examined as the basis of determining the quality of income.

A non-life insurance company's earning capacity helps strengthen the capital through internal reserves, one of the major indicators to assess 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 high profits and have higher risk profiles than their competitors, JCR focuses on risk-adjusted returns and considers the effect of high-risk products on financial affairs.

Key financial indicators:

- Return on assets
- Premium income
- Loss ratio
- Expense ratio
- Income balance ratio (or Combined ratio)

## (2) Risk profile, such as asset quality

JCR analyzes whether insurance 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 of not only asset quality but also the effect of diversification and other aspects. Non-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 fluctuation is incorporated into the analysis of capital adequacy based on the default rate in each rating category. The risk of price fluctuation which 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.

Key financial indicators:

- Component ratio of major assets

### (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. JCR analyzes the liquidity adequacy in the event that a massive natural disaster, which is identified as stress, does occur. Further, assuming that the financial market would decline if a past risk of massive disaster were to become realized, the stress on the financial market is simultaneously considered and the liquidity adequacy is assessed.

Key financial indicators:

- Level of liquidity of current deposits, government bonds, etc.

### (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 increase internal reserves based on stable and strong earning power has a positive effect on the evaluation of equity capital adequacy. Insurance groups in need of large capital are evaluated for their equity capital adequacy with the recognition of such effect.

Some non-life insurance groups perform risk-based capital management as a group, however, JCR focuses on the state of group based capital management as well. JCR is also monitoring the future introduction of consolidated solvency regulation, trends in the economic value based solvency margin

ratio, and changes in the conditions of regulatory assets. To what extent a tail risk has been incorporated to improve the risk buffer is also observed.

JCR evaluates capital adequacy by its own equity capital model. The entries into this model for a modified equity capital are equity capital (after deduction of distributed income), reserve for price fluctuations, contingency reserve, gain on valuation of available-for-sale securities, etc. JCR also focuses on the level of core capital excluding gain on valuation of available-for-sale securities, etc. 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 ascertained that takes into account changes in stock prices over a long period of time. 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 non-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

#### (5) Financial flexibility

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

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

#### (6) Risk management system

The extent to which a management strategy primarily for profit and risk management has been

instilling into the company is assessed based on views that include a unified risk management system, management system for emerging risks, and a strategy to optimize risk-adjusted returns. More specifically, the level of penetration and sharing of risk preferences consistent with 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 the 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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