

## Rating Methodology by Sector

### **Non-life Insurance**

The following mainly applies to non-life insurance companies in Japan. 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. 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.

#### **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 the reference loss cost rates by General Insurance Rating Organization of Japan. As for non-life insurance in the corporate segment which is more customized than the one in the retail segment, profitability suffers without competition based on appropriate pricing through the establishment of risk-based management. Business environment surrounding non-life insurance companies in Japan is severe, and frequency of accidents for the core automobile insurance has been increasing against the background of the aging society. While a base for curb on price competition is now being established as shown by the fact that three big non-life insurance groups account for 90% of market in terms of net premiums written, despite progress in reorganization of industry, there might be a possibility that non-life insurance companies with conventional business models centered on agencies will face fiercer competition with direct general insurance companies. It is important for a non-life insurance group or a non-life insurance company to improve operational quality with enhancement of systems being the core and to improve the earnings structure by strengthening competitive strength and operational efficiency through the improved

operational quality.

Although there are non-life insurance groups promoting diversification of the core earnings sources and risk diversification including acquisitions of overseas non-life insurance companies based in advanced countries in addition to the domestic business, multiple non-life insurance groups rely heavily on domestic non-life business for their business base and earnings base. Multiple non-life insurance groups and non-life insurance companies took measures to reduce various risks, they are still exposed to price fluctuation risk with respect to relatively large cross-shareholding and catastrophe risk.

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. The calculation standards for the solvency margin ratio will be revised in the future, which is expected to facilitate an understanding of true level of financial soundness.

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

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 its profitability, its risk profile, and diversification of the product portfolio. Insurance products are not patented, and the development of best-selling products 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

Allocation of management resources is an internal factor that can be controlled by management and has an impact on competitive strength, profitability and financial strength of each company. From the viewpoint of the details of its strategy, the effectiveness of the business, the durability against financial risk, and other such matters, the validity of management vision, ability to execute strategy, and other skills are analyzed. In addition to an appropriate understanding by management of risks, whether or not a culture placing emphasis on risk management takes root in the organization is an important point.

## 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. 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.

JCR analyzes a non-life insurance company from the viewpoint of financial results, growth potential, and quality. JCR's income analysis includes past earning trends, future earnings, and the stability 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. And JCR focuses on such factors as the loss ratio, expense ratio, combined 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.

While catastrophe risk such as risk from typhoon and earthquake can lead to a large gross payment of insurance claims, each non-life insurance company controls net payment in consideration of recovered reinsurance claim by arranging reinsurance scheme. As for earnings, companies control the volatility of their income for the period through the reversal of contingency reserves.

For investment-related profit, JCR makes analysis of interest income from interest-bearing bonds primarily. For business efficiency, JCR also pays attention to changes in the cost structure, rate of renewed policies, price policy, and other factors. Capital gains or losses cannot be expected on a regular

basis in most cases, and this is considered in the analysis.

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.

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

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. JCR analyzes whether insurance companies ensure risk-adjusted returns while controlling interest rate risks 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.

Key financial indicators:

- Component ratio of major assets

## (3) Liquidity

JCR analyzes liquidity adequacy in the event that a catastrophe risk occur does occur. JCR also analyzes whether a non-life insurance company ensures liquidity that allows prompt payment of

insurance claims in a stress scenario of financial market and other.

Key financial indicators:

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

#### (4) Capital adequacy

In addition to making an analysis of capital adequacy of real equity capital in light of an assessment of market value of assets and liabilities combined (based on economic value), JCR refers to indicators under the current regulations. JCR takes into consideration investment risk, underwriting risk and operational risk when evaluating capital adequacy of real equity capital. JCR also pays attention to an interest rate risk of assets and liabilities combined based on an internal model of each insurance company. As assessment methods of market value of assets and liabilities combined are not considered the same completely among individual companies, JCR makes analyses of various figures in terms of internal control while also paying attention to characteristics of calculation method of each 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, and JCR focuses on the state of group based capital management as well. To what extent a tail risk has been incorporated to improve the risk buffer is also observed.

As a modified equity capital when referring to the indicators under the current regulations, JCR takes into account equity capital (after deduction of distributed income) reserve for price fluctuations, catastrophe loss reserve, gains (losses) 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.

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 assessed. Additionally, when a company has a large amount of unrealized gains, JCR focuses on whether it can realize such gains without impairing its business. The ability to create future internal reserves is also a positive factor in financial flexibility.

(6) Risk management system

How much the management strategy primarily for profit and risk management has penetrated into the entire company is assessed. More specifically, the level of penetration and sharing of risk preferences consistent with the internal risk tolerance, support for risk management and control system by top management, 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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