

Report of the Risk Finance Study Group

- Toward the Prevalence of Risk Finance -

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Risk Finance Study Group
Ministry of Economy, Trade and Industry

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I. Toward the Development of Risk Finance

Introduction

The management environment for companies is changing drastically, in response to changes in the economic situation in Japan and worldwide. As companies expand their business territories through penetration into overseas markets and other measures, they are facing new risks, such as terrorist threats, ethnic/religious conflicts, and lawsuits pertaining to asbestos issues, medical malpractice, and management liabilities, among other issues. Furthermore, as companies expand the scale of their business through the increase of their production base, the expansion of their supply chain, etc., they are exposed to a greater scale of damage from natural disasters and related events. All these factors mean that risks are being diversified, complicated, and magnified.

On the other hand, stakeholders' expectations for the company are also changing. Shareholders expect profit to be secured in a shorter term, while trading partners are increasingly demanding a stable supply of goods and services. Local communities are raising their expectations for companies' contribution to making safe and secure communities. In other words, companies are required to pay increasing attention to these trends among stakeholder expectations for the sake of their own sustainable growth and development.

As risks are becoming more diversified, complicated, and gigantic, and stakeholders are raising their expectations, a number of companies have been seen to begin work on company-wide risk management and integrated risk management as an important business challenge.¹

These tendencies are in line with trends in the U.S. for corporate governance and risk management. The moves in the U.S. are reflected in reports of the Committee of Sponsoring Organizations of the Treadway Commission (COSO): COSO-I² presents a basic integrated

¹ Company-wide and integrated risk management refers to risk management methods that quantify various risks facing each company in a unified manner and manage the total quantity in order to stay within the company's management capacity, such as its own capital. By creating such integrated management system within the company, top management can run and control the company more effectively.

² *Internal Control—Integrated Framework*, a 1992 report by the Committee of Sponsoring Organizations of the Treadway Commission (COSO): this report met with good evaluations in many countries, becoming a global standard for a model of internal control. In Japan, too, the Ministry of Economy, Trade and Industry released *Internal Control in the New Risk Era—Guidelines for Internal Control That Functions in Unison with Risk Management*, which refers to the COSO reports in its own deliberation on the necessity for companies to unify their risk management and internal control and in its preparation of relevant guidelines for improving corporate governance.

framework of internal control, while COSO-II³ describes the importance of enterprise risk management (ERM), which develops and succeeds the preceding COSO model as a framework for managing company-wide risks.

In Japan, too, regulations on corporate disclosure are being strengthened, through measures such as the requirement for listed companies to adopt quarterly settlements, the reinforcement of internal control over financial reports, and clarification of management responsibility for appropriate disclosure,⁴ a trend that further underpins the importance of company-wide risk management.

However, many companies focus on preventive measures, seeking ways to prevent the materialization of risks beforehand, while their preparation for post-accident/disaster stages are not necessarily sufficient. Although the importance of business continuity/contingency plans (BCPs) is being recognized, many opinions in our study group indicate that companies often lack sufficient awareness of the importance of risk finance: to prepare for possible economic losses caused by the materialization of risks, by reserving funds for operating funds, accident countermeasures,⁴ recovery measures, etc.

Taking the example of countermeasures for earthquakes, it has been believed to be important for companies to seek risk control that eradicates the risk, using quake resistance measures to prevent the collapse of facilities and ensure employees' safety. Employing this type of approach, companies tend to implicitly assume as if they will then suffer *no* damage from a possible earthquake, and plan further post-disaster measures based on this assumption.⁵ However, in reality, it is impossible to totally eradicate the possibility of the materialization of this risk. Risk management requires more sophisticated insights concerning preventive measures, as suggested here. It is also highly important to project countermeasures for the stages after risks materialize.

³ *Enterprise Risk Management—An Integrated Framework*, a COSO report of 2004: as risk management guidelines focusing on risks, this report emphasizes the importance of decision-making by management. COSO-II is regarded as the basic guidelines for enterprise risk management (ERM).

⁴ These perspectives were incorporated into the Law to Partially Amend the Securities and Exchange Law (Financial Products Transaction Law, or so-called “Investment Services Law”), which was decided by the Cabinet on March 10, 2006.

⁵ An example leading to conflicts between pre- and post-disaster measures: for engineering experts assigned to design “buildings that won’t collapse” or “production systems that won’t be suspended,” as part of pre-disaster measures, the establishment of post-disaster measures that assume the collapse of buildings or the suspension of systems could mean the denial of their own performance, which altogether leads to conflicting measures.

Risk finance measures, taken in appropriate ways, will allow a company to maintain its financial soundness and continue effective and vigorous corporate activities in the face of the unexpected or abrupt materialization of risks. Such measures will protect not only the company itself, but also the supply chain it is linked to and the community it belongs to, from the spread of negative impacts. The measures can also minimize the negative impact to each stakeholder.

Therefore, if many companies work independently to establish risk finance, not only can each promote corporate activities that contribute to its own sustainability, growth, and development, but these companies can collectively contribute to the strengthening of the country's entire social infrastructure for dealing with risks as a basis for realizing a safe and secure society and economy.⁶

Based on these perspectives, the Ministry of Economy, Trade and Industry established the Risk Finance Study Group in September 2005 (chaired by Professor Yasushi Morimiya of Meiji University); since then the group has been discussing the necessity of risk finance, while looking into the current situations and challenges faced by companies in their commitment to risk finance, and studying the direction of improvements in the environment for risk finance.

In this report, Part I summarizes the results of the group's discussions; Part II presents detailed information on specific risk finance measures; Part III introduces examples of risk finance commitments by eight of Japan's sophisticated companies; and Part IV shows the results of surveys on how companies address risk finance measures.⁷

⁶ The Ministry of Economy, Trade and Industry (METI) began with assisting the human resource development for risk management, as the basis for promoting companies' autonomous risk management efforts. For the two years of FY2003 and FY2004, the Ministry prepared basic and advanced textbooks through the Project to Develop Systems for Evaluations and Managerial Human Resources for Business Risks. These textbooks are available on METI's website:
http://www.meti.go.jp/policy/economic_industrial/report/data/g50331ij.html

⁷ The surveys were carried out by Tokio Marine & Nichido Risk Consulting Co., Ltd.

1. Risk Finance: Its Management/Financial Significance

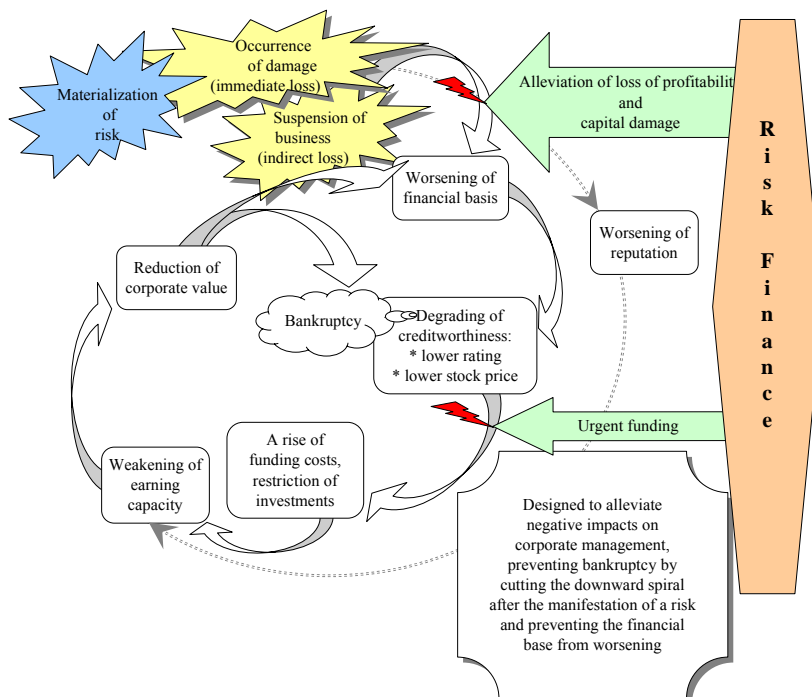
1-1 Corporate Management and Risk Finance

Risk finance refers to financial tactics to counter the risks that are inevitably associated with corporate business activities. These tactics aim to alleviate or curb the negative impacts on corporate management should such risks materialize. If a company lacks any financial countermeasures to protect its business activities, the materialization of such risks could damage its financial base and preclude any desirable, high-return investments. Therefore, when a company seeks to bolster its sustainability and competitiveness, a significant role can be played by strategic corporate financing, including risk financing.

1-2 Manifestation of Risks and the Spiral of Worsening Management

The materialization of risks, followed by large-than-expected losses, would hit a company with a rise in funding costs, thus precluding desirable investments, amplified by the deterioration of the company's financial base and reputation. Furthermore, the restriction of new investments and a rise in funding costs would reduce the company's earning capacity, further worsening its financial base and corporate value, and throwing the company into a negative spiral toward bankruptcy. When losses caused by any given risk event have proven larger than expected, an immediate bankruptcy can therefore also be anticipated.

Figure 1. Spiral of Worsening Management and Risk Finance



Financial and capital markets have become increasingly sensitive to financial impacts on companies caused by the materialization of risks. Therefore, companies are now exposed to a more significant reduction of their credit and consequently to a rise in funding costs, once their financial bases weaken and their reputations worsen. At the same time, failures of risk finance can amplify the range of swings in corporate profit/loss, thus triggering a rise in agency costs,⁸ hampering the creation of the corporate value that could have otherwise been attained.

For companies to invest toward their business growth, it is important that they enhance their financial resilience against the possible materialization of risks, while seeking maximum returns from available resources. In other words, in order to maximize corporate value (i.e., to allow for the creation of sustainable and stable value), it is essential that companies implement appropriate risk finance measures.

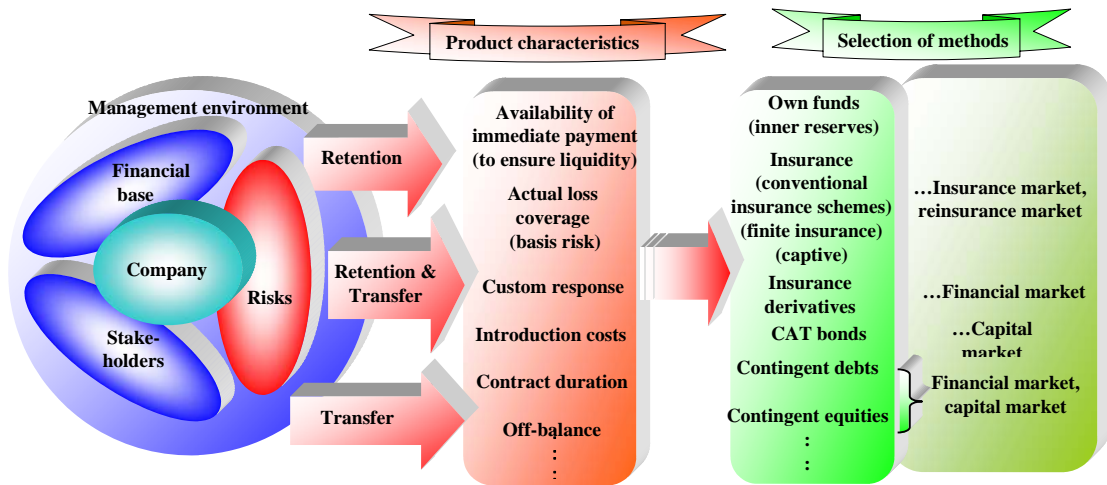
1-3 Perspectives in Considering Optimal Risk Finance

For a company to seek optimal risk finance, it must grasp: 1) the management environment in which the company exists; 2) the company's financial base; 3) requirements from its stakeholders; and 4) the results of company-wide risk evaluations.

Based on its grasp of these aspects of its own situation, the company should be able to attain an optimal risk finance through the following steps: classifying those risks that can be internally retained and those that need to be externally transferred; and estimating the benefits of implementing any risk finance programs and the costs required to implement them.

⁸ Agency costs refer to: those costs incurred by losses from the failure of coordination between the company and its stakeholders, as a result of their conflicts of interest; and those costs required to realize such coordination. These costs reduce the utmost corporate value that could have otherwise been attained.
Real corporate value = attainable (ideal) corporate value - agency costs

Figure 2. Screening Process of Risk Finance



It is important to note here that an optimal risk finance cannot be determined universally: conditions for each company change constantly, as seen above, based on internal conditions (financial conditions, effectiveness of risk management, etc.) and the external environment (customer behavior, economic trends, and changes in the legal, tax, and accounting systems). Therefore, companies need to grasp these changes and make their own judgments about how to achieve optimum risk finance.

(1) Management Environment

The management environment of a company is closely linked to its financial conditions, its stakeholders, and the particular risks faced by the company, each of which will be discussed below. In other words, changes in customer behavior and the company’s own situation (including sales trends and management plans) and in the external environment (including macroeconomic trends, industry trends, overseas conditions, and legal/tax/accounting and other corporate systems) are major factors that change the company’s financial conditions, the demands of stakeholders, and the risk conditions themselves.

(2) Financial Conditions

For a company to consider risk finance, it must also accurately grasp its financial conditions and financial resilience. This calls for an understanding of the funds in hand and the conditions of the company’s loans and financing, and to the extent possible, quantification of various other items, such as: the amount of funds required for recovery should risks

materialize; the possible duration of a consequent business suspension; impacts on cash flow; and the company’s financial resilience. Based on these projections, the company should estimate the budgets needed for risk preparedness and the timing of funding requirements, in the course of considering risk finance measures.

As an effective risk finance measure, a company can step up its cash on hand; however, this requires caution, as it runs the risk of reducing capital efficiency.

(3) Stakeholders

In considering risk management, the idea of maximizing stakeholders’ utility is important. This requires each company to identify the characteristics and demands of each type of stakeholder, and to reflect these in optimizing its risk finance.

[Typical Demands of Stakeholders]

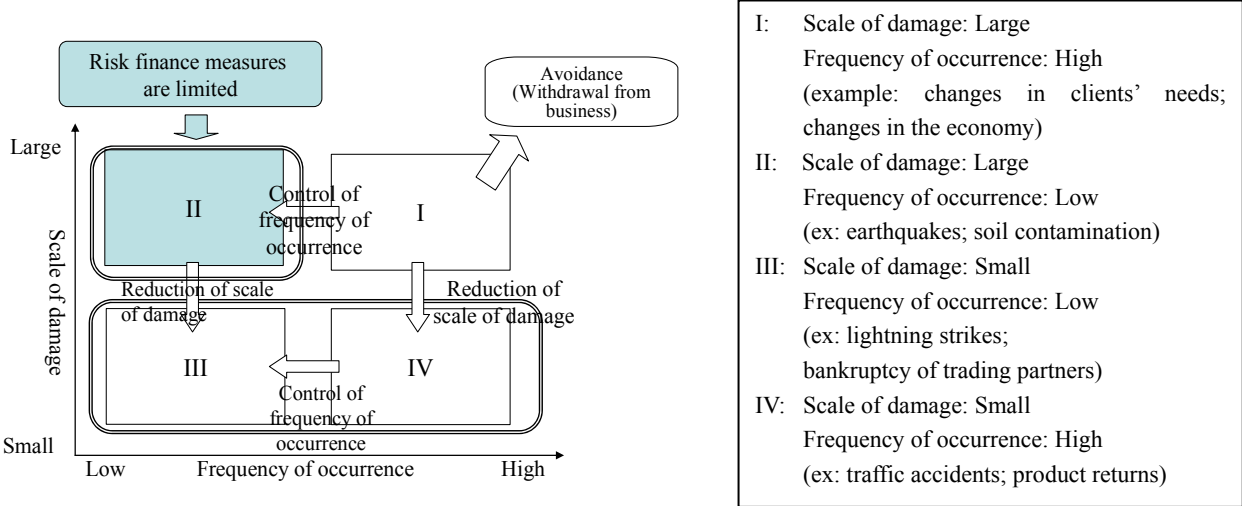
Shareholder	Afraid of financial damage to assets (damage to the balance sheet) and reduction of profits (deterioration of periodic profits)—i.e., a reduction in corporate value. This proves particularly true with foreign investors, who can be expected to strongly call for the rationalization of risk finance measures that do not directly bear profits. Shareholders are also apt to weigh the securing of current profits and results in line with management plans. These investors call for the utilization of risk finance measures that strike an appropriate balance between effects and costs.
Creditor	The creditor’s greatest concern is the maintenance/securing of the company’s capacity to repay its loans. Therefore, creditors may call for risk finance measures—such as external transfer of risks, etc.—that complement the securing of repayment funds, despite some associated increase in expenses. Creditors may even approve levels of expenditure on risk finance that appear excessive to shareholders.
Trading Partner	The trading partner emphasizes the business sustainability of the company. Trading partners value risk finance measures that address the stages after the materialization of risks; such as measures to shorten the period of recovery after risks materialize. Such partners expect a business continuity/contingency plan (BCP) that includes risk finance measures such as securing operating funds).
Local Community, Employee	A company’s ability to stay in business secures jobs, fiscal revenues (taxes, etc.) for the local municipality, and other social benefits. Parties in this category may not necessarily have a clear perspective on corporate risk finance, but they are strongly concerned with whether or not the company falls into a negative spiral into bankruptcy.

(4) Risks

While the risks faced by companies vary, they can be classified by: i) frequency of occurrence, and ii) scale of damage. Based on this classification, it is important that companies work on reducing risks through the risk control approach illustrated below. However, complete

elimination of risks is impossible, even with the utmost effort. Therefore, any residual risks should be addressed through risk finance measures as part of the company’s overall financial strategy.

Figure 3. Risk Map



Note: Examples above may differ by company scale and industry

In order to introduce risk finance measures, companies need to quantify their residual risks. Along with the quantification of financial resilience, mentioned above, companies should quantify their risks and, as much as feasible, recognize residual risks that need to be calculated, as part of an effective base for considering specific risk finance measures.

Among the risks classified above, companies have already worked a great deal on III and IV, categories that represent small-scale damage, service of which already has a sufficient track record and is catered to by a mature market.

Conversely, category II (risks of low frequency and large-scale damage) is served by limited risk finance measures, because the frequency of occurrence is low and therefore there is little track record for such measures, as well as because of the huge diversity among specific cases and potentially catastrophic damage that may result from some of these cases. Typical examples include earthquakes, other natural disaster risks, environmental pollution, and lawsuits related to product liability in North America. It is considered difficult to secure underwriting for insurance against these risks.⁹

⁹ Insurance products do exist to cope with these risks, but their prices are often deemed high by client companies, and price agreement may not be reached. To reduce insurance fees, which become direct and explicit costs, some companies choose

(5) Needed Product Characteristics and Specific Measures

Companies control risks by either “retaining residual risks within the company” or “transferring them out of the company.” The greater the risks companies retain internally, the greater the impact on the company’s management and financial base when the risks materialize; the greater the risks transferred externally, the smaller such impact.

At the same time, it is also possible to retain a certain amount of risk, thereby promoting incentives to boost awareness of risk management within the company, and consequently leading to a reduction of risks.

In addition to benefiting from these effects, companies should calculate capital expenses and expenditures on risk finance, thereby adequately allocating and combining those risks retained internally and those transferred externally, in order to realize strategic risk finance.

Product characteristics of each risk finance measure are shown in the figure below.

Figure 4. Characteristics of Major Risk Finance Measures

Risk finance measure		Retain / Transfer	Payment speed	Basis risk	Custom response	Procedure costs*	Contract duration	Accounting**	Example of effective usage
Own fund (reserves, etc.)		R e t a i n	—	—	—	—	—	On-balance	
Line of credit			S h o r t s p a n b e t w e e n r i s k m a t e r i a l i z a t i o n a n d p a y m e n t	—	No lengthy period required before contract, as terms of contract are comparatively standardized	S m a l l r e l a t i v e t o r i s k - t r a n s f e r p r o d u c t s (b u t f u n d s n e e d t o b e p a i d o f f)	Generally short up to one year	O f f - b a l a n c e	Used upon onset of funding needs, without limiting targeted risks
Contingent debt					Custom-made product: time required for designing scheme		Generally long (multiple years)		Used to secure liquidity right after disaster/accident outbreaks
Insurance	Conventional insurance	T r a n s f e r	C e r t a i n t i m e r e q u i r e d b e f o r e p a y m e n t, f o r s u r v e y s a n d d a m a g e a s s e s s m e n t (p a y m e n t s o n a c c o u n t a r e a v a i l a b l e)	A c t u a l a m o u n t o f d a m a g e i s p a i d	No lengthy period required before contract, as terms of contract are comparatively standardized	S m a l l r e l a t i v e t o o t h e r r i s k - t r a n s f e r p r o d u c t s, b e c a u s e o f l a r g e c l i e n t e a n d r e l a t i v e s t a n d a r d i z a t i o n o f p r o d u c t s	Generally one year	O f f - b a l a n c e	Used largely for risks
	Finite insurance	R e t a i n &			Custom-made product: time required for designing scheme	H i g h l y c u s t o m - d e s i g n e d; p o s s i b l y c o s t l i e r t h a n c o n v e n t i o n a l i n s u r a n c e p r o d u c t s	Long (multiple years)	O f f - b a l a n c e (r e q u i r e s c o n s i d e r a b l e t r a n s f e r o f i n s u r a n c e r i s k s)	Used for risks with scarce information/data, such as soil contamination
	Captive insurance	T r a n s f e r			Basically the same as conventional insurance products	R e q u i r e s c o s t s t o s e t u p a n d o p e r a t e i n s u r a n c e s u b s i d i a r y	Basically the same as conventional insurance products	O f f - b a l a n c e (i n c a s e o f c o n s o l i d a t e d s u b s i d i a r i e s)	Used as risk management center, etc.
Insurance derivative		T r a n s f e r	S h o r t s p a n b e t w e e n r i s k m a t e r i a l i z a t i o n a n d p a y m e n t	G e n e r a l l y t h e r e i s a p o s s i b l e g a p b e t w e e n t h e a c t u a l a m o u n t o f d a m a g e a n d t h e p a y m e n t	No lengthy period required before contract, as terms of contract are comparatively standardized	H i g h l y c u s t o m - d e s i g n e d; p o s s i b l y c o s t l i e r t h a n c o n v e n t i o n a l i n s u r a n c e p r o d u c t s	Generally short (up to one year)	O f f - b a l a n c e	Many are used to hedge risks related to weather (also used partly for disasters such as earthquakes)
Contingent equity								O f f - b a l a n c e	(No cases yet in Japan)
CAT bond			D e p e n d s o n t r i g g e r e v e n t s (e v e n t s t o c o n s t i t u t e p a y m e n t), b u t s p a n i s g e n e r a l l y s h o r t b e t w e e n r i s k m a t e r i a l i z a t i o n a n d t h e p a y m e n t o f f u n d s	D e p e n d s o n t r i g g e r e v e n t s (e v e n t s t o c o n s t i t u t e p a y m e n t), b u t g e n e r a l l y t h e r e i s a p o s s i b l e g a p b e t w e e n t h e a c t u a l a m o u n t o f d a m a g e a n d t h e p a y m e n t	Custom-made product: time required for designing scheme	H i g h l y c u s t o m - d e s i g n e d a n d i n c u r s c o n s i d e r a b l e d e s i g n c o s t s; s u i t a b l e f o r l a r g e - s c a l e p r o j e c t s	Generally long (multiple years)	O n - b a l a n c e (s o m e s c h e m e s a r e o f f - b a l a n c e)	Used for extraordinary disasters such as earthquakes

* Procedural costs: include risk analysis expenses and costs for scheme design, such as handling fees, attorney fees, and registration fees.

** Accounting (financial accounting): shows fiscal management of amounts covered by introduction of products (such as compensation, in case of insurance schemes); this term does not refer to costs of introducing risk finance products (such as premiums for insurance products).

1-4 Restriction of Scale for Insurance and Reinsurance Markets

Insurance companies commonly transfer part or all of the risks they undertake from client companies to reinsurance companies, depending on each insurance company's capacity to withstand risks. This practice allows for an effective diversification of risks, whereby risks acquired by insurance companies are further allotted to reinsurance companies. The presence of the reinsurance function also allows insurance companies to undertake a greater amount of risk. Inversely, the capacity of insurance companies to undertake risks depends considerably on the capacity of reinsurance market to accept risks.¹⁰

¹⁰ Some insurance companies have been seen approaching financial and capital markets, aiming to expand their undertaking capacity.

However, the global reinsurance market is estimated to be slightly below 40 trillion yen equivalent in scale¹¹ and generally highly exposed to risks. Once a major risk event breaks out, this market structure triggers a steep rise in reinsurance premiums for the years following. Such price hikes can result in a further rise in insurance premiums and a reduction of insurers' undertaking capacity.

Concerning earthquake risk, it is estimated that the damage caused by a major earthquake occurring directly under Japan's capital would exceed 112 trillion yen.¹² However, due to the balance with the undertaking capacity of reinsurance companies, corporate needs are not fully served¹³ by existing earthquake insurance policies designed for the capital and its surrounding and neighboring areas of Kanto and Tokai.¹⁴

1-5 Approaches by overseas and sophisticated Japanese companies

In the face of diversifying and increasingly complicated risks, some overseas companies, as well as sophisticated Japanese ones, are considering more strategic approaches to risk finance, instead of merely relying on general insurance products.

For example, some companies seek to organize custom-made insurance programs, instead of using general insurance products, to cope with those risks that it is difficult for insurance companies to undertake because they lack relevant risk information, or with those risks that require additional premiums to compensate for a lack of information. Specifically, some companies realize effective risk finance by sharing risks with insurance companies through finite and other insurance schemes. Others further advance the idea of risk sharing by setting up an insurance subsidiary (captive) within their business group, and thereby partly retain the insurance risks of business group member companies.

While insurance/reinsurance markets are limited in scale, financial and capital markets are said to have rather deeper pools of investors, and thereby a greater margin of capacity to accept risks. This encourages some companies to seek risk finance tactics such as insurance

¹¹ Estimation based on *S&P Top 150*, featured in *Reactions* (March 2006)

¹² *Report by Specialist Study Panel on Earthquakes that Occur Directly Beneath Tokyo* by Specialist Study Panel on Earthquakes that Occur Directly Beneath Tokyo, the Central Disaster Prevention Council (July 2005)

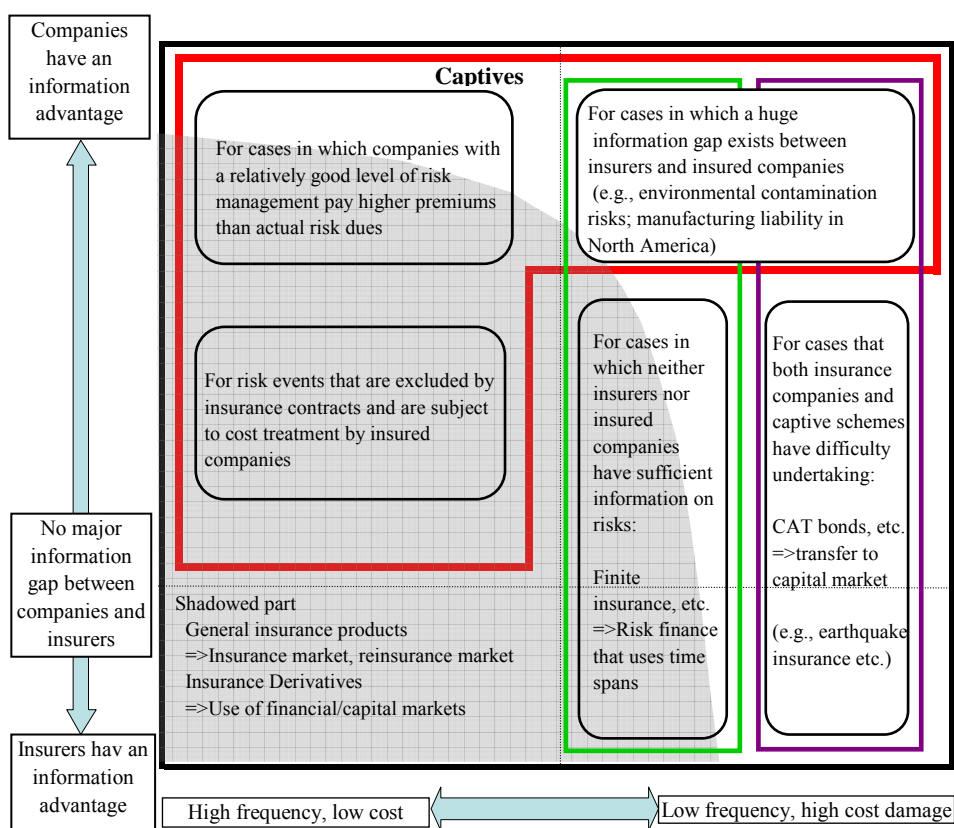
¹³ One to three percent of companies are estimated to be covered by insurance policies against earthquake risk.

¹⁴ In Japan, no "earthquake insurance" policies exist to solely undertake earthquakes, while as a common practice some insurance policies expand their coverage to include earthquake risk.

derivatives and securitization products (CAT bonds, etc.) that cash in upon the capacity of financial/capital markets to accept risks. These sophisticated companies realize countermeasures for those risks that had been difficult for traditional insurance schemes to undertake, by using captive, finite insurance, insurance derivatives, and securitization as risk finance tactics, which also include some company risks that could otherwise be served by ordinary insurance schemes (shadowed parts in the figure 5).

There are also companies that retain risks strategically, and use tactics that allow for flexible borrowing of funds on urgent occasions (contingent debt, etc.) to cope with such risks.

Figure 5. Possible Usage of Risk Finance Tactics to Cope with Each Risk Characteristic



Contingent debt (contingent commitment line)	A scheme with preset commitment line and interest rate conditions, allowing for agile borrowing of funds the company needs when designated risks materialize. Unlike ordinary commitment line contracts which may exempt the lending obligation when disasters/accidents break out, and invalid borrowing rights when borrowers' (companies) credit worsens, contingent debt guarantees the exercise of the funding.
Insurance derivative	A derivative transaction based on changes of indices linked to insurance-related risks (option, swap contracts, etc.): It transfers risks to financial/capital markets
Contingent equity	A scheme in which the company buys the option that allows it to issue shares, etc. at a preset price when designated risks materialize. Like contingent debt, this scheme guarantees the company designated funding rights.
CAT bond	A scheme to securitize risks with small occurrence possibilities and huge potential damage (catastrophes) and to transfer such risks to financial/capital markets: when preset risk trigger events occur, the company is paid sums designated for each event.
Finite insurance	Based on a principle that the company shoulders damage it incurs by installment payments. Through a multi-year contract, the company pays installments of insurance premiums over a designated period designated for each given risk. By diversifying risks over spans of time, this scheme can insure such risks that cannot be applied to the law of large numbers. Further, as the insurer and the insured company share risks, the scheme can insure such risks on which the insurer has little information.
Captive	Insurance company owned and managed by its parent company, and designed specifically to undertake risks of such parent company, and group companies: While ordinary insurers cannot undertake certain risks due to huge gaps of information, a captive can eliminate such gaps as a subsidiary of the insured and insure such risks. Further, by directly approaching reinsurance market, a company can realize more effective insurance performance. Also a captive can serve as the group's risk management center, controlling risks faced by the entire group companies and thereby achieve a more strategic risk finance system and enhance risk management functions.

2. Current Situations of Risk Finance and Challenges posed in Japan

While Japanese companies have increasingly been conscious about the importance of risk management in recent years, only a few advanced companies are strategically tackling to maximize their risk finance initiatives.¹⁵

Factors blocking smooth promotion of risk finance in Japan can include: 1) internal factors such as consciousness of management; the organizational structure; and the internal control system of companies; 2) external factors related to governance by stakeholders, restrictions of information disclosure, etc.; 3) issues related to solution providers; and 4) issues related to tax and accounting systems.

2-1 Internal Factors

(1) Consciousness of Management

A large number of opinions in our study group indicate that, save for limited advanced companies, optimization of risk finance is blocked by the low consciousness of management that make final decisions of a company. Reasons behind can include that risk finance itself does not constitute “investments to gain profit,” and that it is difficult to explain rationally the occurrence of events with low frequencies and yet huge potential damage. A third factor, related to the second, is that while management plans typically span up to five years, it is difficult to incorporate such risk events that could occur every 100 years. On the other hand, a remarkable number of comments from advanced companies indicate that their success in using advanced methods to optimize risk finance is attributed to the consciousness of management and their support, in addition to efforts by relevant divisions of the companies.

It is hoped that management of each company will identify risk finance as an integral part of the risk management of the entire company, enhance their recognition, and actively engage in risk finance in the future.

¹⁵ Companies have made fragmentary arrangements, such as commitment lines to compensate uncovered property damage and unexpected shortage of cash upon occurrence of accidents: such fragmentary efforts however are short of the true intent of risk finance: that is to seek optimization of efficient and effective financial/fiscal measures in each company’s financial strategies, given the company’s financial situations, demands from its stakeholders, and its risk conditions.

(2) Internal Risk Management System of Companies

In dealing with risk finance, many companies assign their general affairs or administrative division to handle relevant tasks, while the assigned division works only on aspects related to insurance contracts. But to seek optimization of risk finance in the scope of across-the-board financial strategies for a company, it is critical to integrate expertise of the division with corporate financial viewpoints. Some advanced companies in fact cooperate with or assimilate existing divisions in charge of insurance and finance to seek optimization of risk finance.

At general affairs or administrative divisions, to which many companies assign risk finance tasks, the division staff serves as a cost center to arrange the company's insurance contracts, reviewing premium records of the previous fiscal year. Where such cost center is located in the general affairs division or a relevant one and tasked with the management of hedging costs, the division works in accordance with its utmost objective—reducing costs: even if the staff recognizes the need to transfer certain risks, it might well set aside such risks internally for the sake of saving costs. Some members of our study group therefore warn that companies that handle risk finance in this way may be in danger of bearing more risks than they reasonably need to.

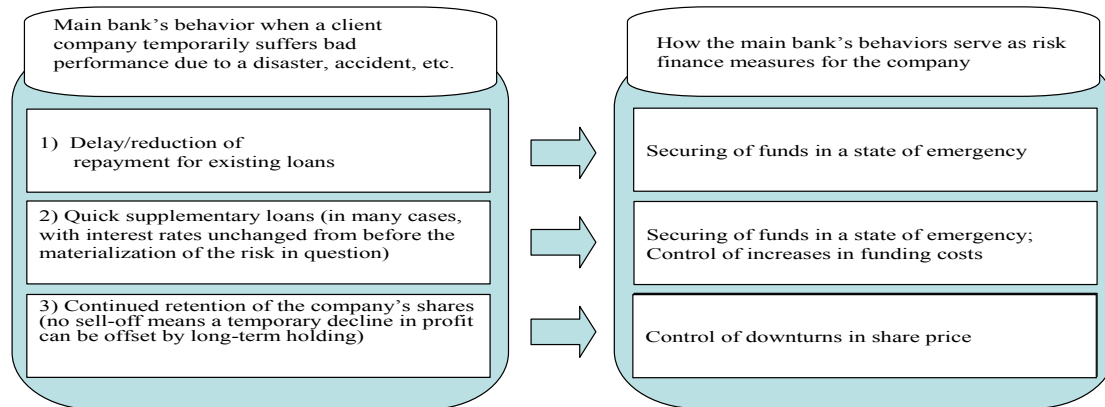
Many companies in Japan employ an independent accounting system for each internal division. From a viewpoint of risk finance, however, this system could oversee or insufficiently respond to inter-divisional risks, as some of our study members warn.

2-2 External Factors

(1) Governance of Companies

Some experts say that a reason behind weak needs of risk finance among Japanese companies is that stakeholders hardly demand adequate risk management or optimization of risk finance.

In Japan, each company traditionally traded with a bank as its major financier. This “main bank,” serving as the company's largest creditor and a long-term and stable major shareholder, found rationality in behaving in ways described below: in summary the main bank provided its customer companies with functions to support risk finance.



However, due to changes of companies' fiscal situations and the financial environment as a whole, the main bank system has gradually been declining, thus relatively reducing the loss incurred by main banks when their customer companies fall into default (bankruptcy). These moves have possibly cut down the incentives for main banks to rescue their customer companies and thereby weakened the risk finance functions provided by these banks. While many companies say they still believe that their main banks would help them at times of possible crisis, it should be noted that the risk finance functions, traditionally provided by main banks, have been declining, in terms of the frequency and feasibility of provision.

Although these changes of situations have been intensifying the need for companies to work on risk finance on their own, little progress has been made in such initiatives. A reason behind is the weak governance for risk finance promoted by current shareholders and creditors of companies. A remarkable number of opinions in our study group agree that corporate governance by sponsors such as shareholders and creditors should be more appropriately promoted in the future.

At the same time, however, companies have become increasingly concerned, when they choose providers, about the stable supply of products at possible times of disasters, etc. in addition to the qualities of goods and services. Until now, companies have paid little attention to risk finance efforts by their trading partners, specifically against business suspensions possibly caused by failure to secure funds at times of disasters or accidents: but these factors are expected to gain weight in evaluating trading partners from now on.

(2) Disclosure on Risk Information in Annual Securities Report

A revision of the Securities Exchange Law has made it mandatory for companies to disclose risks they have and their responses to such risks in their annual securities reports, effective for records of March 2004 and afterwards. However, the depth and range of relevant descriptions vary largely among companies.

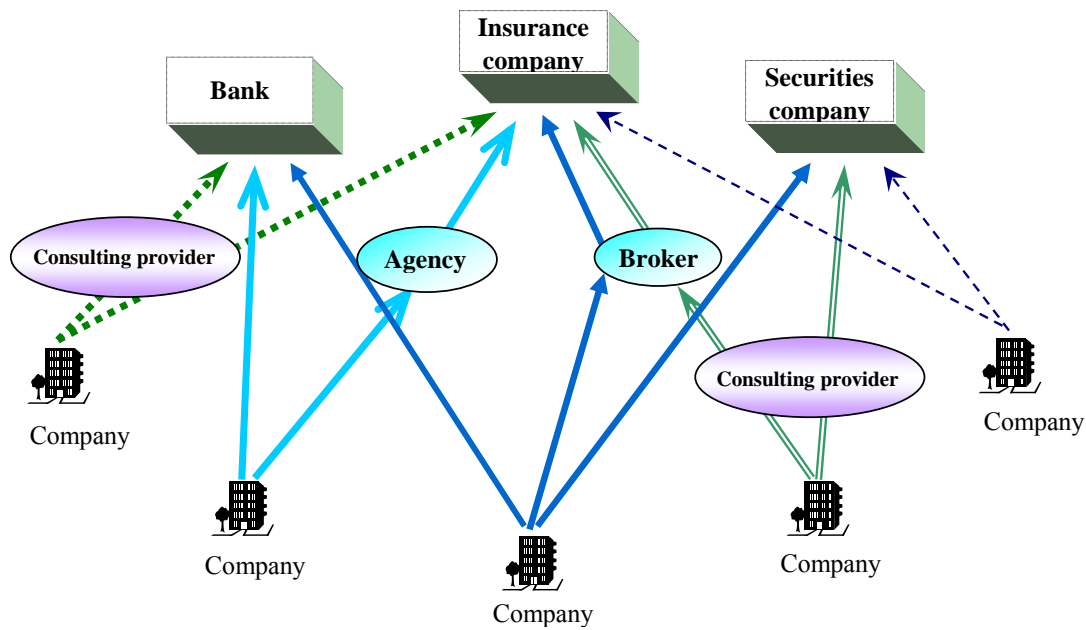
Alongside, a survey shows that among companies that said they have not yet established a decent system to manage risks, many cited as the reason the lack of know-how for creating a risk management system. Other reasons also included high costs and uncertainty of cost-benefit performance.

A number of opinions in our study group indicate that enhancement measures, such as the establishment of description guidelines for the risk information disclosure in annual securities reports, could help companies enhance their consciousness for risk management and risk finance.

2-3 Current Situations of Financial Providers of Risk Finance and Challenges Faced by Them

Financial providers catering to risk finance solutions for companies are broadly classified as: 1) those that provide products (production); 2) those that work on brokerage or agency contracts (sales); and 3) those that provide only consultation services on use of products (introduction). Each client company receives risk finance products through these solution providers to work on the optimization of its risk finance scheme.

Figure 6 Distribution Routes of Risk Finance Products



Until recently, strong legal restrictions were imposed on cross-border offering of products—to keep products of a business category to be provided by only companies that belonged to same or designated categories. But ongoing deregulation has been expanding such limited scope, heading toward a situation in which banks, securities companies, and insurers, each in a different financial category, will be able to provide risk finance products in other business categories freely, save for certain restrictions on banks when they solicit insurance products and offer securities to their loan customers.¹⁶

In reality, however, few cases are seen in which providers present a total solution consisting of cross-border products or different financial institutions collaborate with each other (e.g. a program that combines an insurance scheme with a commitment line to allow for strategic retention of risks, more effective cost performance, and securement of emergency funds).

These limited behaviors of solution providers are one of the factors attributed to the lack of decent moves among Japanese companies to optimize risk finance. Solution providers argue on the other hand that providing total solutions are being hampered by the presence of some regulations and regulatory vagueness about handling of such solutions.

¹⁶ However, these cross-border deregulation moves mainly focus on products for individuals: our study group heard a number of opinions calling for review of categorizations from viewpoints of corporate needs and risk finance.

(1) Need for Companies to Take Independent Approaches

Financial institutions, serving as solution providers, are so far inactive in catering to total solutions, although they promote existing products, particularly those mainstay line ups on which they have abundant know-how.

Some solution providers however have begun responding to gradually rising needs for risk finance measures among companies. Yet in reality, only a limited number of financial institutions and their staff have sufficient know-how on providing total solutions.

Against these backdrops, companies should not passively receive risk finance products from solution providers, when they try to optimize risk finance: they further need to seek active communication with solution providers, independently compare proposals from different financial institutions, and when further necessary, actively request collaboration of different financial institutions.

If a company lacks sufficient knowledge to review various methods of risk finance comprehensively, it can be a rational option to seek advice or consultation from professionals to attain optimum risk finance programs for the company.

[Reference] Behaviors of Financial Institutions as Providers of Risk Finance Products

Note: The following is a compiled summary of surveys, hearings and comments of members of our study group, concerning general behaviors of financial institutions as providers of risk finance providers. As such, it does not indicate that every financial institution behaves in accordance with these references here.

(Insurance Companies)

When asked for consultation on risk finance by companies, insurers have basically been selling products that can be handled within ordinary insurance schemes. Concerning risks for which they have limited undertaking capacities (or for which they need to charge high insurance rates), insurers in general do not suggest effective programs, such as CAT bonds or the combination with a commitment line, unless urged by client companies. Under circumstances in which client companies are not necessarily conscious of effective risk finance, insurers act on the belief that their mission is to develop and provide insurance products that can meet customers' satisfaction, and accordingly seek to expand their line ups: but they hardly seek to provide alternative products.

However, some insurers have finally been seen to actively suggest comprehensive solutions that, along with conventional insurance products, allow client companies to exercise efficient and effective risk finance.

(Banks)

Banks until now have provided risk finance products, centering on loan schemes such as commitment line agreements. Banks find it difficult on their own to propose total solutions to companies, because banks are restricted in terms of offering insurance products to their loan clients, although insurance represents a mainstay of risk finance products.

At the same time, when companies seek to realize more efficient and effective risk finance from the viewpoint of corporate finance, leaving behind conventional measures that only employ insurance products, significant roles can be played by the companies' financial divisions, to which banks have day-to-day contacts. Given this point, some banks are showing fresh initiatives, such as establishing a division specializing in providing risk finance solutions as a new service category.

(Securities Companies)

Risk finance products handled by securities companies consist largely of securitization products and insurance derivatives: main tasks pursued by securities companies for these line ups are organizing products, their issue, undertaking, sales or brokerage. On the other hand, securities companies currently do not offer insurance products, save when they act as agencies for insurance products for individuals, etc. Although securities companies handle risk finance products in the form of insurance derivatives, the number of these products is small, compared to the volume of relevant products handled by banks and insurers. Securities companies also offer other products such as commitment line agreements, but again in small numbers.

A possible reason behind the slow progress of securities firms to provide risk finance products is that these firms have had limited contacts with client companies' internal divisions in charge of risk finance (general affairs or administrative divisions).

(Broker)

Insurance brokers act as insurance intermediaries under the Insurance Business Law to provide consultation on risk management in general and negotiate with insurance companies on contract terms and rates, aiming to seek optimum risk finance for client companies.

In addition to negotiating on insurance rates, major insurance brokers cater to total solutions for risk finance, by mobilizing their overseas networks to propose insurance programs by the use of reinsurance market and introducing to clients securitization methods by the use of capital markets, as well as planning, organizing and operating captive schemes. However, these major brokers mainly serve a limited number of large companies; not every company has access to these consulting services at the time being.

Concerning non-major insurance brokers in Japan, agencies contracting with several insurance companies play roles similar to those played by ordinary insurance brokers abroad: therefore many insurance brokers in Japan are faced with bitter competition with existing agencies and few such brokers are able to fully exercise their differentiable potentials in the market.

(2) Institutional Challenges concerning the Providing of Total Solutions

Legal challenges concerning the providing of risk finance include: i) certain limitation on banks to offer insurance products to their loan customers; ii) inaccuracy of provisions concerning the act of offering insurance products under the Insurance Business Law, which hamper solution providers from offering total solutions (and client companies from the opportunities of one-stop shopping to optimize their risk finance), according to findings in our study group.

i) Eligibility of Banks to Offer Insurance Programs to Loan Customers

Even if banks are registered as agencies (or insurance brokers), they are still subject to a certain degree of restrictions in offering insurance programs to their loan customers, such as limits on types of programs that they are allowed to offer.

ii) Issues of Scopes of Insurance Offering and Consulting

Under the Insurance Business Law, the offering of insurance products is defined as the performance of agency or mediation in concluding insurance contracts. The Comprehensive Guideline for Supervision of Insurance Companies, compiled by the Financial Services Agency (FSA), sets forth services that require the registration of people in charge of offering insurance products (implying that such services can be understood as acts of offering insurance products): but this reference lacks clear definition.

Therefore, when banks, securities companies, and consulting firms act to provide consultation on risk finance programs, they face the lack of general interpretation of how their acts are positioned in relation to “offering of insurance products” under the Insurance Business Law. There are claims that such ambiguity hampers the creation of robust proposals on total solutions for risk finance.

2-4 Challenges Posed by Tax and Accounting Systems

When assessing costs appropriated for the use of risk finance measures, existing accounting standards and guidelines by the tax authority can cover contingent debt and insurance derivative, but no clear provisions are necessarily available concerning the handling of the insurance premiums of finite insurance, a method of sharing risks by the insured and the insurer, as pointed out by many comments in our study group.

Some companies prefer to internally save funds against risks under the accounting item of reserve; but this could deteriorate the companies' capital efficiency. Further when such savings are seen as excessive internal reserves, the companies may be targeted for merger by other companies or face shareholders' demands of increased dividends or amortization by repurchase of their own shares. To help companies enhance their autonomous risk management, it is considered necessary to contemplate institutional improvements in relation to risk finance.

3. Major Proposals aimed at Prevalance of Risk Finance

3-1 Toward the Diversification of Risk Finance Measures

When companies in Japan seek to optimize their risk finance, they will face limited measures accessible, compared to a range of measures available in Europe and US. To encourage companies to enhance their initiatives for risk finance, it is important to improve the environment so that companies are able to access measures to optimize their risk finance.

(1) Use of Captives

Captive is a highly effective vehicle to consolidate risk management and strategically arrange retention and transfer of risks. In Japan, limited numbers of sophisticated companies use it to achieve strategic risk finance and enhance functions of risk management, while it is more widely used in Europe and US.

In Japan the idea of captive still remains little recognized and companies need to set up their captives overseas, as founding them in Japan is virtually difficult, a condition that hampers the prevalence of this method.

Specifically, when companies seek to set up a captive in Japan under the current legal settings, the options are either: i) to set it up as an ordinary insurance company; or ii) to set it up as either an ordinary business entity or a special purpose vehicle (SPV). However, founding an ordinary insurance company would incur excessive costs: with the minimum capital requirement of one-billion yen and the obligation of the solvency margin standard and other supervision and regulatory requirements that bind insurance companies. In the case of founding either an ordinary business entity or a SPV, those costs that the company pays to the entity/vehicle for what are equivalent to insurance premiums in the case of founding an insurance company, would not be treated as expenses only because they are not paid to an insurer, even though the recipient provides what constitute insurance services in return for the payment.

Furthermore, the current legal framework bans domestic companies from directly concluding contracts with overseas insurers for coverage of domestic assets and damage, and therefore, domestic captives cannot redirect any of their obligations to overseas reinsurance companies.

These factors virtually block the foundation of captives in Japan. Setting them up overseas would be possible, but far from practical, as they would be exposed to gaps of geographical/time distances, languages, etc. as well as of commercial practices.

To help companies promote strategic risk finance measures, that involve captive technique, legal improvements are necessary (legislation for captive) in Japan to allow for the creation of a new category of insurance companies that can take risks of exclusively designated companies or groups of companies.

Further to enhance effective use of such new institutional framework, it would be important to improve the relevant infrastructure, through issuance of tax/accounting guidelines and other means that would reflect the domestic reality and international standards.

(2) Use of Finite Insurance

Finite insurance works on those risks, the profiles of which cannot be fully grasped by either the risk hedger (client company) or the risk taker (insurance company), such as liability against the environment and products liability in North America. While ordinary insurance schemes have difficulty in covering such risks, finite insurance allows the insurer and insured to share the risks by spreading them through given spans of time.

In terms of accounting, however, handling of finite insurance is currently left unclear. As a custom-made product, each finite program differs in its content. As such, finite programs are difficult to be governed homogeneously by a set of accounting standards or tax treatment methods. Establishing certain guidelines is nevertheless desirable, to allow for the promotion of finite programs in Japan. Of particular importance is clarification how finite insurance are handled in the accounting system, because companies use finite to level out their periodic profit/loss balances.

(3) Use of Commitment Line

As companies conclude commitment line agreements with financial institutions to prepare for emergency needs, companies can mobilize flexible funding when such needs materialize. The off-balance securing of funds, made possible by commitment lines, also allows for effective

financial activities. However, when small- and medium-sized enterprises conclude commitment line agreements with financial institutions, some cases indicate the commitment fees due may be interpreted as violation of interest rate restrictions imposed under the Interest Rate Restriction Law and other relevant regulations. Some critics argue that such restrictions are discouraging the use of commitment lines among small- and medium-sized enterprises. Commitment line agreements represent in fact an important tactic for these minor companies to optimize risk finance, as these companies often lack buffer funds at hand, thereby finding strong needs for commitment lines. All these factors call for the legislative improvements to facilitate the use of commitment lines by small- and medium-sized enterprises, while protective consideration must also be sought in the point that these minor-scale enterprises typically are disadvantaged in terms of negotiation power.

Separately, some of commitment line agreements, concluded between financial institutions and companies, fail to be clear about the actual handling of exemption clauses applied upon the outbreak of disaster events: these points need to be clarified by financial institutions.

(4) Use of Securitization Products (CAT Bonds, etc.) and Insurance Derivatives

Financial and capital markets provide opportunities of risk finance coverage for those types of risks that have traditionally been difficult to be undertaken by insurance schemes. These markets prove significant capacities especially against catastrophic disaster risks, which are said to be effectively covered by CAT bonds and insurance derivatives. It is important to seek the diversification of corporate risk finance measures by further promoting the use of financial and capital markets.

[Reference] Efforts to Diversify Methods to Cope with Earthquake Risks

While earthquake risk is said to be difficult for companies to deal with, a scheme, introduced below, represents a measure against such risk with potential diversity that would facilitate companies’ efforts for risk finance. For companies looking into the possible use of this scheme, the Ministry of Economy, Trade and Industry intends to extend support with risk compensation measures through the credit guarantee system and policy finance institutions.

(1) Scheme for Large and Medium-sized Companies—Group Captive Specializing in Earthquakes

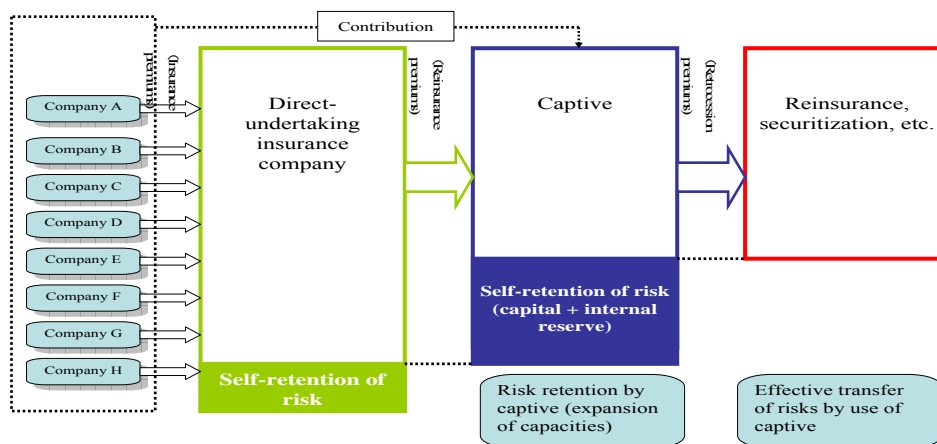
(Background Ideas)

Earthquake risks pose a major challenge for companies in Japan in their corporate risk management. However, reinsurance market is said to have a limited capacity of undertaking earthquake risks of Japan, as the country is the one of the world’s most quake-prone countries. This is reflected in existing earthquake insurance products, whose insurance capacities don’t necessarily cater to the actual corporate needs. Many companies feel that earthquake insurance programs, provided by casualty insurers, charge costly premiums despite their limited undertaking capacities. Companies are thus concerned about the lack of sufficient insurance measures against earthquakes. Some say it has become increasingly difficult for insurance market to undertake earthquake risks, in the face of massive natural disasters and terrorist attacks that have hit the world more frequently in recent times. In response, a group of business entities sharing the same concern, including Mitsui & Co., Mitsubishi Corp., and Marsh Japan Inc., are considering the establishment of a joint captive specializing in earthquakes to create and secure undertaking capacities by the use of methods that are different from those used in existing schemes.

(Characteristics of the Scheme)

- i) A number of companies, wishing to gain capacities to cover earthquake risks, contribute to a group captive and organize a portfolio designed for earthquake risks, that is well diversified in business categories and geography.
- ii) As the portfolio is well diversified, the group’s direct insurance company will be able to expand its undertaking capacity. The diversification will also enable the captive to retain some risks and thereby expand its capacities.
- iii) Furthermore, the group captive will gain capacities from reinsurance, financial, and capital markets, in an aim of effectively securing additional capacities against earthquake risk, which a single company could not gain on its own.

Diagram of Group Captive exclusive for Earthquakes



(2) Scheme for Small- and Medium-Sized Enterprises—Collateralized Loan Obligations (CLOs) and Collateralized Bond Obligations (CBOs) with Earthquake Clauses

(Background Ideas)

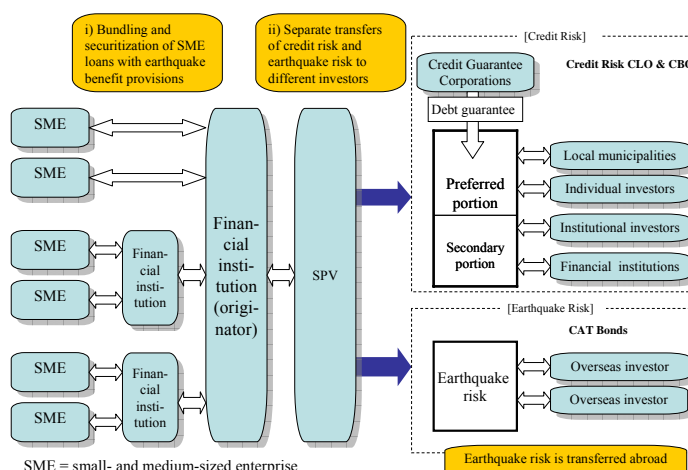
When small- and medium-sized enterprises are hit by a major earthquake, a grave challenge facing their management is the securing of liquidity immediately after the disastrous event, despite their possible shortage of funds at hand. Even if they have contracted earthquake insurance programs or have access to loans from policy finance institutions or local governments, etc., or from commercial financial institutions, they may have to wait for a certain period of time before actually receiving the funds after a gigantic earthquake, equivalent to the Kobe Earthquake of 1995, has thrown the entire community into confusion. Specifically, in the case of earthquake insurance, the payment may be subject to a waiting period of about one year, as insurance companies need a significant length of time to assess the damage and to go through other procedures. In the case of emergency funds by policy finance institutions or local governments, it may take about two months before needed funds can be loaned as it is realistically difficult for small- and medium-sized enterprises to apply for such funds immediately after being struck by an earthquake, and the screening of applicants thereafter also takes a certain amount of time. Applying for additional funding also requires the caveat that, as it is subject to screening, it may not result in disbursement of the full amount sought by the applicants.

All these conditions represent difficulties faced by small- and medium-sized enterprises in securing funds on their own during the first two to three months after the occurrence of a major earthquake. A scheme discussed below is considered to back up such funding needs and to help these companies enhance their capacity for resilience against earthquake risk.

(Characteristics of the Scheme)

- i) The scheme allows for the securing of funds on hand immediately after a major earthquake: In this scheme, the occurrence of a major earthquake constitutes a trigger event for the immediate payment of a benefit in a previously designated amount (no pay-off required). This provision allows a contracting company to secure funds beforehand that it would need for the first two to three months after the onset of an earthquake.
- ii) The scheme also allows for the transfer of earthquake risk (overseas, etc.): While small- and medium-sized enterprises currently have difficulties in accessing earthquake insurance products due to their high costs, etc., the scheme bundles risks from multiple companies to make collective use of overseas capacities for risks and capital markets, through such vehicles as CAT bonds and earthquake derivatives, thereby allowing participant companies to transfer risks with limited premium payments.

CLO and CBO with Earthquake Provisions



3-2 Toward the Effective Usage of Risk Finance

In addition to the diversification of risk finance, as seen above, it is necessary to improve systems and work on issues, as discussed below, in order to promote risk finance.

(1) Promotion of In-House Reserves

As part of risk finance measures, companies have the option to appropriate an allowance or a voluntary reserve. However, the following conditions have to be satisfied in order to appropriate such funds as a reserve under the corporate accounting system:

- i) The allowance is designed to meet a specific future expense or loss;
- ii) The occurrence of such an expense or loss is attributed to an event that occurred before the current term;
- iii) The possibility of the occurrence of such an expense or loss is high; and
- iv) The cost can be reasonably estimated.

When all four conditions are met, it is possible to incorporate the sum estimated for the loss during the current term into the reserve category. However, for risks involving events of low frequency/huge loss, it is largely difficult to satisfy all four conditions. Under corporate accounting principles, any loss/expense that satisfies all four conditions must be appropriated as a loss/expense for the current term: therefore, when a certain risk is identified as satisfying all four conditions, even companies that do not wish to appropriate a reserve fund for the risk in question must also follow this provision of corporate accounting principles.

On the other hand, companies can appropriate a part of their after-tax profits to a voluntary reserve, when approved by their shareholders. However, a possible backdrop to discourage companies from the use of such a voluntary reserve in practice can be the difficulty of explaining the necessity of such a reserve to shareholders, because there is no clear standard for an adequate scale for such a reserve.

From the policy-making perspective, to support companies in reserving funds against risks, it is important for the government to provide reference information related to standards for the desirable level of reserves by the use of “sharing of risk information” (to be described later)

and to deliberate on the need to introduce reserve funds under the tax system.¹⁷ With the help of these measures (assistance with policies and improvements of infrastructure), an increasing number of companies can be expected to opt to prepare for risks through their independent efforts. These measures are also expected to help promote the concept of strategic risk finance that seeks the best mix of retention and transfer.

(2) Reorganization of Restrictions on Business Categories

Currently, banks are subject to certain restrictions regarding the offering of insurance products to their loan customers, such as limits on the types of products that can be offered. From the perspective of promoting risk finance, however, banks, which have frequent access to companies' financial divisions, are well positioned to propose strategic risk finance measures. In that light, some are calling for the cancellation of such restrictions. There is apparently room for review of restricted categories, etc., while at the same time, it is necessary to give thorough consideration to the problems of pressured offerings and sales with tied products, in the course of appropriate promotion of corporate risk finance.

The definition of offering insurance products is not necessarily clearly defined; that, along with the restrictions imposed under the Insurance Business Law, prohibits those without a license to offer and insurance products to integrate any insurance schemes into their risk finance proposals to companies. To enhance the capacity for one-stop shopping, it is desirable to create an environment that facilitates the discussion and promotion of risk finance measures, and for the definition of offering insurance products to be clarified.

All of the aspects above call for discussion of the reorganization of restrictions on business categories, from the perspectives of the prevalence and promotion of risk finance.

(3) Strengthening of Governance

The strengthening of governance by stakeholders is also considered important in prompting companies to work on risk finance. It is hoped that shareholders, creditors, trading partners, etc., will strengthen their governance over the companies in which they have an interest and enhance their demands for risk finance.

¹⁷ A scheme under the taxation system to encourage the creation of a financial base prepared for specific future losses.

Concerning governance by securities analysts, banks, etc., corporate risk finance, including responses to risk events of low frequency and large-scale damage, is an important issue in Europe and the U.S., as part of the screening process for the security of the company's future cash flows that represent the resources that will be available to pay off its loans. In Japan, too, contributors to project finance schemes, etc., generally emphasize those aspects of risk finance that relate to the given projects. This type of approach is expected to be further integrated into the strengthening of governance (the demand for certain risk finance measures) as creditors improve their skills at managing credit risks.

(4) Sophistication of the Safety Net

Government safety net programs (policy finance programs designed to complement risk countermeasures) are necessary in order to prepare for massive earthquakes and other natural disasters, as well as nuclear accidents and other grave accidents, which are difficult to forecast in advance and which can disrupt entire business entities and financial institutions in the affected areas.

From this perspective, companies facing funding difficulties due to disasters and irregular social phenomena are addressed by financial assistance measures such as natural-disaster relief loan programs from government financial institutions and safety net guarantees by the credit guarantee corporations. Long-term fixed funds and other schemes have also been provided as policy finance assistance measures to help the early recovery of industrial infrastructure, such as electricity, water, and roads in the areas hit by disasters. In addition to these financial aid programs, budgetary measures, such as the granting of subsidies to companies in affected areas, may be taken as post-disaster compensation against damage.

These safety net programs have been provided to any company that satisfies a specific set of criteria, no matter how such a company had addressed risks and risk finance measures in advance. On the other hand, it is presumed that if companies' have promoted their own risk management and thus their damage is reduced, economic activities as a whole can be ensured and policy costs for post-disaster measures can be minimized. Therefore, concerning those types of disaster risks that can be evaluated and managed within the capacities of private companies, it is necessary to consider schemes to provide incentives for risk management,

such as priority treatment for companies based on the levels of their own preparedness measures.

Concerning emergency financing upon the onset of catastrophic disaster events, it is imperative that creditors offer loans promptly despite the sheer difficulties they face in determining companies' capacity to pay these loans off. Further deliberation is also needed on how to consolidate the conflicting demands of accurate credit judgment and quick loan arrangement.

In these ways, it is important to strive for sophisticated safety net functions in society and the economy as a whole by improving the environment, using such means as offering incentives to companies to manage risks on their own before the outbreak of a disaster, in addition to providing adequate post-disaster safety nets.

(5) Sharing of Risk Information

Currently, when companies try to assess the impact of low frequency/large-scale damage risk events on their operations, they face limited to virtually no access to the information they need, and are forced to estimate the impact based on simulations and scenario analysis. It is impossible to determine the accuracy of these models and thus the adequacy of risk premiums charged for various risk finance products.

These difficulties can be relieved, however, in the case of disaster risks, by creating a database consisting of not only data on disasters such as earthquakes, storms, and floods, but also of losses, etc. caused by such disasters, and by further ensuring the sufficient disclosure of such data. In the course of promoting risk finance, the sources of relevant data must be better organized, while at the same time, the government must consider providing relevant data within its jurisdiction as a public good when the need arises.

(6) Reinforcement of Human Resource Development for Risk Management

As a premise for working on risk finance, the quantitative analysis of risks is indispensable. However in Japan, personnel assigned to risk management do not necessarily have financial engineering and other types of expertise that are indispensable for quantitative analysis of

risks, thus preventing the country from fully establishing quantitative risk analysis.

Further, when companies try to work on sophisticated risk finance schemes, they face a lack of sufficient human resources with broad and high-level knowledge of financial engineering, making it difficult to realize the optimization of their risk finance schemes.

In the light of these situations, it is necessary to step up the improvement of graduate schools for financial engineering experts and their curricula, in order to develop human resources that can serve as a mainstay for sophisticated corporate risk management.

Conclusion

To promote vigorous business activities and enhance corporate value, it is important for companies to work on risk finance as part of their risk management. Despite a graduate rise of interest in risk management in Japan, risk finance has hardly been on the agenda, and thus has been approached consciously by only a limited number of companies.

Risk finance, if promoted by Japanese companies, would allow each to achieve sustainable development and enhance its competitiveness. Furthermore, effective and adequate sharing of risks in society would prompt the reinforcement of the industrial base as well as corporate growth. From the perspective of promoting companies' strategic risk finance, and based on the points discussed by the study group, the Ministry of Economy, Trade and Industry intends to contribute to improvement of the risk finance environment, by seeking to diversify the risk finance measures accessible to companies in Japan and reorganizing the roles to be played by the government (creating more sophisticated safety nets and enhancing the provision of needed information, etc.).

Principally, however, risk finance is an issue that should be deliberated and worked on autonomously by each company as part of its own financial strategy. We expect to see the rising awareness of risk finance and its broad application among companies in Japan.

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