

Inherent Defects Insurance: Advantages and Disadvantages Coexist

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Abstract: This paper analyzes the concept, advantages and disadvantages of inherent defects insurance, and puts forward corresponding countermeasures to provide reference for the further development of inherent defects insurance.

1. Introduction

In order to understand Inherent Defects Insurance, we must first make clear what are the potential defects in engineering quality.

Potential defects of engineering quality can be divided into three categories according to the situation. First, the quality of construction projects does not conform to the relevant national technical standards and industry standards. Second, the quality of construction projects does not meet the quality requirements of design documents. Third, the construction project does not meet the quality requirements stipulated in the contract.

Potential defects of engineering quality are hidden and difficult to find during acceptance, but when exposed, they will cause cracking, water leakage and even collapse of buildings, with serious consequences. However, due to the delay of the defect, the construction has generally passed the quality guarantee period when the problem is exposed. To protect their own rights and interests, consumers can only sue the development organization. Then, the development organization sue the construction enterprises. The three parties are entangled. The problem cannot be solved and the rights and interests of consumers are ultimately damaged.

In order to eliminate the problems caused by potential defects in engineering quality, Inherent Defects Insurance came into being.

Inherent Defects Insurance, or IDI for short, is also called "Liability for Ten Years" in the world. IDI is insured by the development organization in favor of the owner. If the insured project is damaged within the insurance scope and insurance period stipulated in the insurance contract, and the damage is caused by potential defects of project quality, the insurance company shall be liable for compensation of insurance money.

In 1978, France's "French Insurance Code" required the development organization or owner of a house to purchase an insurance against damages for 10 years, which is usually considered as the origin of IDI.

2. Advantages of Inherent Defects Insurance

2.1 Improve Building Quality

To explain this problem, we first need to make clear how insurance companies make profits.

For IDI, insurance companies mainly rely on "interest spread" and "accident difference" to make profits. The so-called interest spread means that insurance companies use the premiums they receive for investment to earn profits. Because IDI has a long cycle and high risks, the premium is relatively high. An insurance company will not lose money as long as it can ensure that the profit from its investment is greater than the payout. However, investment is also a high-risk act. Sometimes the profits earned are simply not enough to support the payment of insurance policies, not to mention the possibility of losses in the investment itself. Therefore, it is impossible to maintain the operation of the company only by the investment income.

The so-called accident difference refers to the fact that insurance companies use the probability

of accidents to make profits. Insurance companies will generally accept a large number of engineering quality insurance contracts, some of which will have serious construction quality problems, then insurance companies will have to pay much more than the premium for compensation. Some of them have no problems during the whole insurance period, so the insurance company does not need to pay compensation. Some of them have some minor problems, and insurance companies only need to pay a small fee to complete the maintenance. In a certain period of time, the total premium minus the total compensation is the accident differential profit for this period of time.

Through the above analysis, we can see that under the premise of not considering inflation and other external factors, the insurance company's profit = interest margin profit+accident margin profit-daily operating cost = investment profit+premium income-compensation expenditure-daily operating cost. Among them, the largest proportion is the compensation expenses, so the best way for insurance companies to ensure their earnings are positive is to reduce the probability of accidents. Therefore, it is necessary for insurance companies to intervene in the construction of the project, strengthen quality management, and ensure that no quality defects will occur during the insurance period after the construction is completed.

Insurance companies have natural advantages in engineering construction quality management. Insurance companies generally do not have the quality supervision qualification, so they should obtain the user's information in a timely manner, and generally invite the third-party engineering quality supervision organization to supervise. In engineering construction, the supervision company is responsible for the quality management field, but the supervision cost is paid by the development organization, which indirectly leads to the supervision party being controlled by the development organization. However, the engineering quality supervision organization is only responsible to the insurance company and will not be restricted by the development organization. It is impartial and professional. After the engineering quality supervision organization discovers the problem, it shall report it to the insurance company in time, and the insurance company shall notify the development organization to make rectification, which can effectively enhance the construction quality and reduce the potential risks. After the completion of the project, the project quality supervision organization shall submit a risk appraisal document to facilitate the premium rate determination of the insurance company and the signing of the final insurance contract with the development organization.

2.2 Protect the Rights and Interests of Consumers

When there is a quality problem in the building, consumers will definitely suffer the most. During the quality guarantee period, the consumer can contact the construction company for maintenance. Because the quality guarantee deposit is still in the hands of the development organization, the maintenance at this time will generally not cause disputes. However, after the warranty period ends, if there is a quality problem, it will be troublesome for consumers to request compensation.

First of all, we have to face the problem of defining responsibility, which is time-consuming and laborious. If there is a quality problem in the building, we must determine whether it is caused by external force, internal defect or the combination of the two. If it is caused by internal defects, which units are responsible for this defect and what is the proportion of their respective responsibilities. Such problems make the definition of responsibility more and more difficult. Secondly, we have to face the legal disappearance of the responsible party. Construction quality problems caused by potential defects usually have a long incubation period. When the problems are exposed, many responsible subjects (development organizations, construction companies, design units, etc.) have disappeared legally, leaving consumers with no way to claim compensation and only to bear the losses alone. Finally, there is the situation that the responsible party is unable to pay. After the completion of the project, all parties have very limited benefits, and the construction industry has insufficient accumulation and does not have sufficient compensation capacity after problems occur. Even if the court makes a decision, consumers will not get compensation.

Therefore, insurance IDI is required to solve the problem. When consumers find quality defects in buildings within the scope of insurance during the insurance period, they can file a claim with the insurance company, which will check it within the specified time after receiving the application. As long as it is determined to be within the scope of insurance liability, the insurance company will carry out maintenance or pay maintenance fees within the specified period of time. After the claim is settled, the insurance company will subrogate the claim and no longer need too much participation of consumers, thus protecting the rights and interests of consumers to the greatest extent.

According to the law, insurance companies are not allowed to disintegrate during the insurance period under normal circumstances, so consumers will not face the situation of no claim. IDI is a risky business, which is generally covered by several insurance companies in a “co-insurance” or “re-insurance” mode to ensure adequate compensation capability.

3. Disadvantages of Inherent Defects Insurance

3.1 The Premium Rate is Higher

In areas where IDI is a non-compulsory insurance, IDI insurance is a kind of commercial behavior. To attract more development organization to take out insurance, a game balance between cost and benefit is needed.

IDI's insured has the characteristics of long insurance period and high uncertainty, which also leads to a higher premium rate for the insurance. At the same time, the market situation is different from place to place, the policies are different, it is difficult to get a scientific rate without a certain period of time to test the water, so the rate of engineering quality insurance changes rapidly, increasing the difficulty of signing insurance contracts. Therefore, compared with other types of insurance in the market, IDI with high and variable rates lacks competitive advantages and is not very popular. Therefore, if there is no mandatory requirement, few development organizations take the initiative to take out insurance.

3.2 Local Units Lack Sufficient Understanding of Insurance for Potential Defects in Engineering Quality

Due to the lack of publicity, many development organizations only have a rough understanding of IDI and think IDI is unnecessary. But in fact, if the project is insured with IDI, the development organization does not need to reserve a 3% quality deposit, which significantly reduces the capital burden and speeds up the capital circulation. At the same time, IDI can also assist the development organization to eliminate design defects and quality defects as early as possible, helping the development organization to reduce the project change cost and complete the project on schedule. Therefore, IDI has many benefits for the development organization, but the propaganda is not enough and the development organization does not realize it.

3.3 There Are Moral Risks in Engineering Quality Supervision Institutions

The so-called moral hazard refers to the behavior of one party that damages the benefits of the other while maximizing its own benefits.

Insurance companies are generally investment-oriented companies and basically do not have the ability to supervise engineering quality. In order to underwrite IDI, it is necessary to invite engineering quality supervision agencies to carry out auxiliary supervision. However, according to the international general contract, the engineering quality supervision organization occupies very little responsibility in the whole project, and the main responsibility is borne by the development organization and the construction company. moreover, the insurance company lacks talents who understand insurance and engineering, and cannot supervise the performance of the engineering quality supervision organization, then the engineering quality supervision organization can use its professional advantages to reduce manpower and time investment. Although it can finally pass the acceptance, the services it provides are far from the services that the entrusted fees should receive,

which is a disguised form of damage to the interests of the insurance company.

3.4 Insurance Companies Lack the Enthusiasm to Accept Insurance

In the whole construction process, the insurance company is in an extremely weak position. First of all, its understanding of the engineering situation is certainly not as good as development organizations, and there is information inequality. In areas where non-compulsory insurance is implemented, most of the IDI projects that are willing to be insured are high-risk projects, and low-risk projects are rarely insured, which also leads to a high policy occurrence rate and serious losses for insurance companies. Secondly, the insurance company's understanding of the project depends too much on the project quality supervision organization. Because of its lack of professional knowledge, it is difficult to judge whether the data reported by the supervision organization is true or false, and it is easy to be tricked and suffer losses. In addition, some areas lack corresponding legal support, and the contract terms are not scientifically set, and there is no explanation for the deductible. As a result, consumers will find insurance companies whenever they have problems, and insurance companies will have to pay for even the smallest problems. As a result, the claim rate is in high location, and insurance companies are miserable. Finally, after the insurance company completes the compensation to the consumer, it obtains the right of subrogation. But in fact, there are few successful recoveries.

All these have led insurance companies to prefer to invest in relatively stable insurance businesses such as life insurance rather than IDI, which has high returns and risks. Without insurance companies to underwrite IDI, IDI also faces difficulties in implementation.

4. Countermeasures for Inherent Defects Insurance

4.1 Implement Differentiated Insurance Rates

IDI underwrites the quality of the project. It is inevitable that the premium rate will be high. However, according to the performance of the insured units, the insured units can make appropriate adjustments to the premium rate. If the development organization has good historical performance, and performs well during the construction period, and the evaluation risk of the engineering quality supervision organization is low, the insurance rate can be reduced when signing the insurance contract. If the insured unit has quality defects in the construction of the project and meets the requirements of the contract after repair, the rate shall be appropriately increased. If the insured unit has serious quality defects in the construction and fails to repair them in time, the insurer shall terminate the contract and blacklist the insured unit. In short, according to the actual situation of the project, the lower the risk, the lower the rate. The higher the risk, the higher the rate or even the termination of the contract.

4.2 Increase the Propaganda of Inherent Defects Insurance

In areas where compulsory insurance is not suitable, the government should do a good job of publicity, clarify the advantages of IDI to the development organization, improve their enthusiasm for insurance, and introduce corresponding incentives to promote insurance.

4.3 Conditions Permitting, the Implementation of Compulsory Insurance

In areas where the insurance industry and the construction industry are well developed, the government can consider issuing relevant policies to make IDI a necessary condition for engineering construction. According to the response after the implementation of the policies, compulsory insurance can be gradually extended to other areas.

4.4 Strengthen the Supervision and Encouragement of Engineering Quality Supervision Institutions

On a regular basis, the performance of engineering quality supervision institutions shall be evaluated, and an "enterprise bank" shall be established depending on the insurance association or the government. when selecting engineering quality supervision institutions, insurance companies

shall give priority to selecting from the bank, so as to encourage supervision institutions to perform their duties conscientiously, improve their performance and enter the “enterprise bank” as soon as possible. It can also encourage engineering quality supervision institutions to purchase shares of insurance companies, and convey the profits and losses of insurance companies to the supervision institutions, so that they can spontaneously increase investment to ensure the construction is qualified.

4.5 Strengthen the Talent Construction of Insurance Companies

By encouraging the internal personnel of the insurance company to learn engineering knowledge and employing talents who are proficient in insurance knowledge and engineering knowledge, we can strengthen the talent team of the insurance company and ensure that the insurance company is in an advantageous position in engineering construction.

5. Conclusion

IDI is a kind of insurance that is vigorously promoted in the world and can effectively improve the construction quality and reduce the accident rate. It plays an immeasurable role in improving the current situation of the construction industry and protecting the rights and interests of all parties. Although it has some disadvantages, its advantages are extremely obvious. As long as it can be rectified through corresponding measures, it will certainly shine brilliantly in the field of engineering construction.

References

- [1] Shen Qiyu, Su yi, Wang Ruyi, Jong Li, Chen Zhen. (2019). Comparative Study on Insurance of Potential Defects in Engineering Quality at Home and Abroad [J]. *Architectural Economy*, vol. 40, no. 10, pp. 13-17.
- [2] Ge Guosheng. (2019). Discussion on Engineering Quality Insurance Model of Maanshan City [J]. *Anhui Architecture*, vol. 26, no. 09, pp. 292-294.
- [3] Zhuang Yunjiao, Liang Ting. (2019). Research on problems and countermeasures of construction engineering quality insurance [J]. *Engineering Economy*, vol. 29, no. 05, pp. 67-69.
- [4] Ji Yingbo. (2009). Research on Compulsory Inherent Defect Insurance of Building in China[P]. *Computer Sciences and Convergence Information Technology, 2009. ICCIT '09. Fourth International Conference on*.
- [5] Yanxiang Chen, Xiaojun Liu. (2010). The Study of Construction Inherent Defect Insurance Based on Market Supply[P]. *Management and Service Science no. MASS*, 2010 International Conference on.