



# The Impact of Directors' and Officers' Liability Insurance on Corporate Performance: An Empirical Evidence from the Data of Chinese Listed Financial Enterprises

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## ABSTRACT

**Based on data of the listed banks and insurance companies from 2011-2016, this paper studies the factors affecting directors' and officers' liability insurance, the relationship between directors' and officers' liability insurance and corporate performance. Empirical research shows that there is a significant positive correlation between the company's asset-liability ratio, corporate performance and directors' and officers' liability insurance. Directors' and officers' liability insurance has a significant positive effect on corporate performance of listed banks and insurance companies. The empirical findings of this paper will help to strengthen the understanding of directors' and officers' liability insurance in bank and insurance companies and promote the widespread use of directors' and officers' liability insurance in the future.**

**Key words:** Bank and Insurance Companies; Directors' and Officers' Liability Insurance; Influencing Factors; Corporate performance

## INTRODUCTION

In recent years, there have been a number of events in the market that caused significant losses to the company due to the negligence of directors and senior executives, leading to the increasing number of such civil lawsuits. At the same time, with the improvement of the domestic legal system, the awareness of protecting rights of investors and other stakeholders is increasing. Therefore, directors' and officers' liability insurance has attracted unprecedented attention. The directors' and senior managers' liability insurance is an important type of professional liability insurance in developed countries, which provides protection for the third party's economic losses caused by the directors' and senior managers' negligence or negligence in the exercise of their duties.

Directors' liability insurance originated in the United States and developed rapidly. At present, the world's largest directors' liability insurance insurers are mainly in the United States, such as AIG. In addition to the United States, many insurance institutions in western developed countries have also launched directors' liability insurance, such as the UK's Lloyd's, moreover it has a place in the world market of directors' liability insurance. At present, the coverage of directors' liability insurance has reached nearly 100% in USA, Britain and other developed countries, while listed companies in Germany, Japan and other countries also attach great importance to the introduction of this kind of insurance. After years of development, the liability insurance for directors and executives has become a complete system of insurance, and its protection content is also expanding. Nowadays, not only large companies will buy directors' and executives' liability insurance for their directors and executives, but more and more small and medium-sized companies and non-profit organizations also buy such insurance for directors and executives. The liability insurance for directors and senior

executives not only provides a guarantee for directors and senior executives, but also provides an incentive mechanism for the development of the company, which has far-reaching significance for the economic development of the society.

It was not until the issue of the "Corporate Governance Standards of Listed Companies" in 2002 that the domestic property insurance companies successively introduced the directors' and senior managers' liability insurance. In January 2002, Ping An Insurance Company of China and Chubb Insurance Group of the United States jointly launched the first directors' liability insurance policy in China. In less than two months since the insurance was launched, more than 600 listed companies have consulted on this issue. Compared with foreign countries, although China's directors' liability insurance is still in its infancy, there is a huge potential market demand for this kind of insurance in China. In recent years, more and more listed companies in China begin to purchase directors' liability insurance. However, compared with the nearly 100% purchase rate of foreign listed companies, directors' liability insurance has a huge development space in China. Therefore, the analysis of the demand factors and the influence of the directors' liability insurance on the company's performance are not only of theoretical significance, but also of practical value.

Many foreign scholars began to study the value and effect of directors' liability insurance on listed companies earlier, and have made some achievements at the same time. Domestic scholars mostly focus on theoretical research, while empirical research is less. Most of the domestic scholars have excluded the financial insurance industry from the research samples when they carry out the relevant research, and no scholars have specifically analyzed the demand influencing factors of directors' and senior managers' liability insurance of listed banks and insurance companies, and the impact of directors' and senior managers' liability insurance on the company's operating performance. This paper has the following two innovations: on the one hand, it studies the demand influencing factors of directors' and senior managers' liability insurance; on the other hand, it studies the impact of directors' and senior managers' liability insurance on the company's business performance, which fills the gap of this research in China.

## LITERATURE REVIEW AND THEORETICAL HYPOTHESIS

### **Factors affecting the demand for directors' and senior managers' liability insurance**

Holderness (1990) is the first scholar to study the demand of directors' liability insurance. The scholar found that the rise of the company's stock price would increase the demand of directors' liability insurance through empirical research. Core (1997) took 222 Canadian companies as research objects, and made an empirical study on the purchase motivation of directors' liability insurance. The empirical results show that the demand of directors' liability insurance is mainly caused by three factors: ①the personal demand of risk averse directors and executives; ②the insurance decision of the company; ③management defense. O'Sullivan (1997) studied the demand factors of directors' liability insurance based on cross-sectional data of 366 companies in the UK. The empirical results show that companies with higher proportion of independent directors and lower proportion of management shares are more willing to buy directors' liability insurance. Lu and Horng (2007) <sup>[4]</sup> studied 292 listed companies in Taiwan's high-tech industry. The empirical results show that there is a positive correlation between the directors' liability insurance and the compensation of the board of directors and the ownership of the managers. Zou et al. (2008) based on the samples of 53 listed companies in China and 53 listed companies without directors' liability insurance in Shanghai and Shenzhen stock markets, this paper studied the demand influencing factors of directors' liability insurance. The empirical results show that the higher the ownership

concentration of the company, the more likely the company is to purchase directors' liability insurance.

Domestic scholars started to study the demand factors of directors' executive liability insurance later, and the choice of research methods is less. Xu Rong and Wang Jie (2012) studied the demand factors of directors' liability insurance with 190 listed companies of a shares in China from 2002 to 2010 as samples. The empirical results show that the demand for directors' liability insurance is mainly affected by the internal governance mechanism of the company. A good internal governance mechanism will make the company more willing to buy directors' liability insurance, but the demand for directors' liability insurance is not affected by the interest conflict of shareholders. Hu Guoliu and Hu Jun (2014) conducted relevant research on A-share listed companies in China from 2007 to 2012. The results show that the previous performance of the company has a significant impact on the demand for directors' and senior managers' liability insurance. Although the size of the board of directors, the size of the board of supervisors, the size of the company, financial leverage and the nature of the company also have an impact on the demand for directors' and senior managers' liability insurance, but the impact is not significant. In conclusion, the following assumptions are proposed:

**Hypothesis 1:** *Companies with better governance mechanism of the board of directors tend to purchase directors' liability insurance.*

### **The impact of directors' liability insurance on the company's business performance**

Holderness (1990) proposed that directors' liability insurance as an incentive tool can bring benefits to shareholders. Chen and Li (2010) took the listed companies of the Taiwan Stock Exchange as samples to conduct relevant research. The empirical study finds that the introduction of directors' liability insurance can help listed companies to improve their internal governance structure and optimize their internal governance performance. Lee and Liu (2014) took 2008-2012 listed companies on the Taiwan Stock Exchange as a sample to study the relationship between directors' liability insurance and company value. The empirical results show that the directors' liability insurance is conducive to the improvement of corporate value. Jia Ning and Liang Chuchu (2013) started from earnings management behavior, and took China A-share listed companies from 2002 to 2011 as samples to empirically study the relationship between directors' liability insurance and corporate governance. The empirical results show that the companies that buy the directors' liability insurance have a higher level of earnings management. Zhao Yang and John Hu (2014) took the listed companies in Shanghai and Shenzhen stock markets from 2002 to 2013 as a sample to study the relationship between the purchase demand of directors' executive liability insurance and the value of listed companies. The empirical results show that the listed companies' purchase of directors' liability insurance helps to improve the value of the company, and it is very significant. This research conclusion is established for both financial companies and non-financial companies. Hu Guoliu and Hu Jun (2014) took A-share listed companies in China from 2007 to 2012 as a sample to study the impact of the introduction of directors' liability insurance on the performance of listed companies. The empirical research shows that the introduction of the directors' liability insurance can improve the market value and profit level of the company, but with the increase of the subscription year of the insurance, the directors' liability insurance can reduce the effect of improving the company's performance. Ling Shixian and Bai Ruifeng (2017) studied the relationship between directors' liability insurance and the operating performance of listed companies based on the samples of Listed Companies in China from 2009 to 2015. The empirical study shows that there is a significant positive correlation between the directors' liability insurance and the company's market performance, but a significant negative correlation between the directors' liability insurance and the company's

financial performance, indicating that the directors' liability insurance has both incentive effect and opportunistic behavior.

Different from the above conclusions, some scholars believe that the directors' liability insurance has no or negative impact on the operating performance of listed companies. Bhagat (1987) [13] took the listed companies of the New York Stock Exchange as a sample, and empirically tested whether the directors' liability insurance would have an impact on shareholders' welfare. The empirical results show that the directors' liability insurance has no significant impact on shareholders' wealth. Chung and Wynn (2008) [14] believed that although directors' executive liability insurance could protect the decisions made by directors and managers on behalf of the company, it would increase the agency cost of the company at the same time. In general, the directors' liability insurance will have a positive impact on the company's business performance. Therefore, this paper proposes the following assumptions:

**Hypothesis 2:** *The company's purchase of directors' and senior management's liability insurance is conducive to the improvement of the company's business performance.*

## EMPIRICAL ANALYSIS OF THE FACTORS INFLUENCING THE DEMAND FOR DIRECTORS' LIABILITY INSURANCE

### Sample selection and data source

This paper selects 15 listed banks (Bank of Ningbo, Shanghai Pudong Development Bank, Huaxia Bank, Minsheng Bank, China Merchants Bank, Bank of Nanjing, Industrial Bank, Bank of Beijing, Agricultural Bank of China, Bank of Communications, Industrial and Commercial Bank of China, China Everbright Bank, China Construction bank, Bank of China, China CITIC Bank) and 4 listed insurance companies (Ping An Insurance Company, Xinhua Insurance Company, China Taibao Insurance Company, China Life Insurance Company) as samples, the sample period of the study is 2007-2016. The data used in this paper are collected and collated through the annual reports of each company and the relevant announcements of Listed Companies in China information bank through keyword search. Other data are from the financial database of Ruisi Reser. All the data in this paper are processed by Stata 13.0.

### Descriptive statistics

Table 1 shows the descriptive statistics of each variable. Through this table, we can find that the average value of the Directors' and Officers' Liability Insurance (*DOI*) of listed banks and insurance companies from 2011 to 2016 is 0.63, indicating that nearly two-thirds of the sample companies purchased directors' executive liability insurance. The average return on capital (*ROE*) is 18.28, which shows that listed banks and insurance companies have strong profitability and good business performance.

**Table 1 Descriptive Statistics**

	<i>DOI</i>	<i>DSIZE</i>	<i>DPER</i>	<i>ROE</i>	<i>CR1</i>	<i>LNSIZE</i>	<i>STATE</i>	<i>DA</i>
mean value	0.63	20.59	0.27	18.28	0.32	28.77	0.36	0.93
variance	0.48	4.39	0.11	3.69	0.19	1.17	0.48	0.02
median	1	21	0.28	17.77	0.27	28.8	0	0.93
maximum value	1	30	0.5	25.01	0.68	30.81	1	0.95
minimum value	0	11	0	10.68	0.05	26.29	0	0.85

**Note:** The data in the table is compiled according to the announcement of China consulting bank, annual report of each company and reset financial database.

### Multivariate analysis of directors' liability insurance demand

This paper will use logistic model to study the influencing factors of directors' liability insurance demand, that is, the dual decision-making problem of "with" and "without" directors'

liability insurance demand. According to the logistic regression model, whether the company purchases the directors' and senior executives' liability insurance is represented by *DOI*. When the company purchases the directors' and senior executives' liability insurance, it is 1, otherwise it is equal to 0. If there are several explanatory variables in the model, the model (1) can be defined in matrix form as follows:

$$Y = \beta X + \varepsilon \quad (1)$$

Among them,  $Y$  is the column vector whose observation value is 0 or 1,  $X$  is the observation value matrix of the explanatory variable,  $\beta$  is the coefficient to be estimated, and  $\varepsilon$  is the random error term. In this case, the logistic model can be expressed as model (2):

$$\text{Logistic}(y_i = 1 | x_i) = \Phi(\alpha + \beta_1 \times x_1 + \beta_2 \times x_2 + \beta_3 \times x_3 + \dots + \beta_n \times x_n) \quad (2)$$

Among them,  $Y$  is the explained variable, indicating whether the listed banks and insurance companies have purchased the directors' liability insurance (yes = 1, no = 0);  $\Phi(\bullet)$  is the standard cumulative normal distribution function;  $\alpha$  is the constant term;  $\beta_1, \beta_2, \beta_3, \dots, \beta_n$  is the coefficient of each explanatory variable;  $X_1, X_2, X_3, \dots, X_n$  is the explanatory variable.

**Table 2 Definition of Main Variables**

Variable Type		Variable Name	Symbol	Variable Definition
Explained variable		Directors' and Officers' Liability Insurance	DOI	This variable is a binary selection dependent variable. If the company purchases liability insurance for directors and senior executives, it is 1, but not 0.
Explanatory variable	Board governance mechanism	Board size	DSIZE	Number of directors
		Proportion of independent directors	DPER	Number of independent directors / board of directors
	Company characteristics	Return on capital	ROE	Net profit / net assets
		Equity concentration	CR1	Number of shares held by the largest shareholder / total number of shares
		Assets scale of company	LNSIZE	Natural logarithm of annual total assets
		Company nature	STATE	State owned companies take 1, otherwise 0.
Control variable		Asset liability ratio	DA	Total liabilities at the end of the period / total assets at the end of the period
		Company growth	GROWTH	(total assets at the end of the period - total assets at the end of the previous period) / total assets at the end of the previous period

On the basis of summarizing previous scholars' relevant research, this paper divides the factors influencing the directors' liability insurance demand into two categories: one is the variables reflecting the governance mechanism of the board of directors, including the board size (*DSIZE*), the proportion of independent directors (*DPER*); the other is the variables reflecting the characteristics of the company, including the return on capital (*ROE*), the equity concentration (*CR1*), the assets scale of company (*LNSIZE*) and company nature (*STATE*). The

control variables are defined as the main variables in the company's asset liability ratio (*DA*) and growth (*GROWTH*). The main variables in the model are defined in Table 2.

Table 3 shows the regression results of model (2). Empirical research shows that there is a positive correlation between the size of the board size (*DSIZE*) and the directors' liability insurance, but it is not significant. It shows that the larger the board of directors is, the more willing the company is to buy liability insurance for directors and personnel. The proportion of independent directors (*DPER*) has a negative correlation with directors' liability insurance, which is also not significant. There is a significant positive correlation between ROE and executive liability insurance, indicating that the higher the company's operating performance is, the more likely the company is to purchase executive liability insurance; there is a positive correlation between *CR1* and executive liability insurance; there is a negative correlation between *LNSIZE* and executive liability insurance, but not significant; there is a positive correlation between the nature of the company (*STATE*) and the liability insurance of directors and executives, which indicates that the state-owned listed banks and insurance companies are more willing to purchase liability insurance for directors and executives. There is a significant negative correlation between the company's debt to assets ratio (*DA*) and the directors' liability insurance, indicating that the higher the debt to assets ratio is, the less willing the company is to buy the directors' liability insurance. This may be because when the debt to assets ratio is too high, the company is not willing to pay more money to buy the directors' liability insurance; there is a positive correlation between *GROWTH* and directors' liability insurance.

**Table 3 multivariate analysis of directors' liability insurance**

	Coef.	p-value
DSIZE	0.018	0.791
DPER	-1.9523	0.541
ROE	0.2989***	0.001
CR1	1.5485	0.404
LNSIZE	0.1008	0.768
STATE	0.8258	0.304
DA	-68.4525*	0.078
GROWTH	1.1718	0.691

**Note:** \*\*\*, \*\*, \* indicate that the test results are significant at the level of 1%, 5% and 10%, respectively.

## IMPACT OF DIRECTORS' AND OFFICERS' LIABILITY INSURANCE ON THE CORPORATE PERFORMANCE

### Model setting and definition of main variables

In order to investigate the relationship between directors' liability insurance and the performance of listed banks and insurance companies, the following models are established (3):

$$PERFORMANCE_{i,t} = \alpha + \beta_1 \times DOI_{i,t} + \beta_2 \times DSIZE_{i,t} + \beta_3 \times DPER_{i,t} + \beta_4 \times CR1_{i,t} + \beta_5 \times LNSIZE_{i,t} + \beta_6 \times STATE_{i,t} + \beta_7 \times DA_{i,t} + \beta_8 \times GROWTH_{i,t} + \varepsilon_{i,t} \quad (3)$$

Among them, *PERFORMANCE<sub>i,t</sub>* refers to the operating performance of the *i*th listed insurance company in year *t*; *DOI<sub>i,t</sub>* refers to the directors' liability insurance of the *i*th listed insurance company in year *t*.

The relevant variables involved in model (3) are as follows. Among them, the relevant definitions and specific calculation methods of each variable are shown in Table 2.

1. The explained variables are the operating performance of listed banks and insurance companies. Referring to the practices of scholars Lee and Liu (2014), Hu Guoliu and Hu Jun (2014), Ling Shixian and Bai Ruifeng (2017), respectively, we select the performance indicators of return on capital (*ROE*) and the price-book ratio (*PB*) to measure the performance of banks and insurance companies.
2. The explanatory variable is Directors' and Officers' Liability Insurance (*DOI*) of listed banks and insurance companies. Although China's relevant regulatory authorities have not yet required listed companies to disclose whether they have purchased the directors' and senior management's liability insurance, the listed companies need the board of directors to propose to purchase the directors' and senior management's liability insurance first, and then it can only be implemented after the shareholders' meeting passes the vote. Therefore, we can know whether each company has purchased the directors' and senior management's liability insurance through the information disclosed by listed banks and insurance companies on their official websites. This paper will use the relevant research of scholars for reference, and take whether the listed banks and insurance companies have bought the directors' and senior managers' liability insurance as a virtual variable. If the company has bought the directors' and senior managers' liability insurance, we will set this variable as 1, otherwise it will be 0. At the same time, drawing on the existing research of Hu guoliu and Li Shaohua (2014), Ling Shixian and Bai Ruifeng (2017), when the company purchases the directors' liability insurance, if the company does not issue a notice indicating that it will stop buying the insurance, this article will continue to buy.
3. According to relevant research of scholars (O'Sullivan, 1997, Lu and Horng, 2007, Zou et al., 2008, Hu Guoliu and Hu Jun, 2014, Ling Shixian and Bai Ruifeng, 2017), board size (*DSIZE*), proportion of independent directors (*DPER*), equity concentration (*CR1*), assets scale of company (*LNSIZE*), company nature (*STATE*), asset liability ratio (*DA*) and company growth (*GROWTH*) and other factors will affect the company's business performance. Therefore, this paper will select these variables as control variables.

### Correlation analysis

Table 4 is the Pearson correlation coefficient table of each main variable. Through this table, we can find that the Directors' and Officers' Liability Insurance (*DOI*) has a significant positive correlation with both the return on equity (*EPS*) and the price-book ratio (*PB*). The size of the board size (*DSIZE*) has a negative correlation with the business performance indicators, indicating that when the size of the directors is too large, it is not necessarily conducive to the improvement of the company's business performance; the proportion of independent directors (*DPER*) has a positive correlation with the business performance indicators, indicating that the increase of the proportion of independent directors is conducive to the improvement of the company's business performance; the equity concentration (*CR1*) and the business performance indicators are positive. There is a significant negative correlation between *LNSIZE* and business performance indicators, indicating that too large a company does not contribute to the improvement of business performance; there is a positive correlation between state and business performance indicators, but not significant; there is a significant negative correlation between *DA* and business performance indicators, indicating that the debt to asset ratio is too high. High is not conducive to the improvement of business performance; the company growth (*GROWTH*) is positively correlated with business performance indicators. However, Pearson correlation test can only show the possible correlation between the main variables, and further empirical test is needed through the model.

**Table 4 Pearson correlation coefficient of main variables**

	<i>ROE</i>	<i>PB</i>	<i>DOI</i>	<i>DSIZE</i>	<i>DPER</i>	<i>CR1</i>	<i>LNSIZE</i>	<i>STATE</i>	<i>DA</i>
<i>PB</i>	0.6742***								
<i>DOI</i>	0.4032***	0.3447***							
<i>DSIZE</i>	-0.0963	-0.2519***	0.0028						
<i>DPER</i>	0.1312	0.2950***	-0.1902**	-0.2935***					
<i>CR1</i>	0.0258	0.0537	0.2846***	-0.2879***	-0.3133***				
<i>LNSIZE</i>	-0.2354**	-0.4256***	0.1577*	0.3166***	-0.6330***	0.4258***			
<i>STATE</i>	0.0074	0.0672	0.3450***	0.0121	-0.3843***	0.3589***	0.4133***		
<i>DA</i>	-0.4420***	-0.5980***	-0.3508***	0.1913**	-0.114	-0.3023***	0.1863	-0.2533*	
<i>GROWTH</i>	0.0688	0.0948	-0.1269	-0.017	0.1929**	-0.3515***	-0.2984***	-0.3554*	0.2205**

**Note:** \*\*\*, \*\*, \* indicate that the test results are significant at the level of 1%, 5% and 10%, respectively.

## Inspection of the relationship between directors' liability insurance and business performance

### 1. OLS regression analysis

Table 5 shows the OLS regression results of directors' liability insurance and business performance. As shown in Table 5, the Directors' and Officers' Liability Insurance (*DOI*) has a significant positive correlation with both *ROE* and *PB*. This shows that the purchase of directors' liability insurance can promote the company's business performance. Combined with the relevant research conclusions of scholars such as O'Sullivan (1997), Lee and Liu (2014), Ling Shixian and Bai Ruifeng (2017), the reason for this regression result may be that there is a certain significance for listed banks and insurance companies to purchase directors' and senior executives' liability insurance. After purchasing such insurance for directors and senior executives, the company can to a certain extent encourage directors and senior executives to work hard to improve the company's operating performance.

**Table 5 OLS regression results of directors' executive liability insurance and business performance**

	<i>ROE</i>	<i>PB</i>
<i>DOI</i>	2.7588***	0.3191***
<i>DSIZE</i>	-0.0021	-0.0046
<i>DPER</i>	0.0713	0.5721
<i>CR1</i>	-1.1803	0.0983
<i>LNSIZE</i>	-0.4099	-0.1728***
<i>STATE</i>	-0.7384	0.1085
<i>DA</i>	-58.9540***	-12.9086***
<i>GROWTH</i>	3.2327	0.8628**
<i>cons</i>	83.1037***	17.8377***
<i>N</i>	114	114
<i>F test</i>	6.71***	15.23***
<i>R-squared</i>	0.3384	0.5372

**Note:** \*\*\*, \*\*, \* indicate that the test results are significant at the level of 1%, 5% and 10%, respectively.

### 2. Regression analysis of random effects

According to Hausman test results, panel data accept the original hypothesis, so we choose the random effect model to estimate the impact of directors' liability insurance on the company's business performance. Table 6 shows the regression results of the random effects of directors' liability insurance and business performance. As shown in Table 6, the Directors' and Officers'



Liability Insurance (*DOI*) has a significant positive correlation with the return on capital (*ROE*) of the business performance indicator, and a positive correlation with the price-book ratio (*PB*), but it is not significant. In general, the directors' liability insurance has a positive effect on the company's business performance. The results of random effect regression and OLS regression are almost the same, which shows that the impact of directors' executive liability insurance on the company's business performance is not greatly different due to different regression model settings. Therefore, the conclusion of this study has certain robustness.

**Table 6 Random effect regression results of directors' executive liability insurance and business performance**

	<i>ROE</i>	<i>PB</i>
<i>DOI</i>	4.3978***	0.3457
<i>DSIZE</i>	0.0568	-0.013
<i>DPER</i>	-1.8115	0.1192
<i>CR1</i>	10.9341***	-0.0629
<i>LNSIZE</i>	-3.6227***	-0.2104***
<i>STATE</i>	0.8544	0.1182
<i>DA</i>	99.0047***	-11.4204***
<i>GROWTH</i>	-1.8277	0.6179**
<i>cons</i>	23.7039	17.9057***
<i>N</i>	114	114
<i>W-chi2</i>	82.82***	31.28***
<i>R-squared</i>	0.0618	0.5282

**Note:** \*\*\*, \*\*, \* indicate that the test results are significant at the level of 1%, 5% and 10%, respectively.

### Robustness test

Table 7 shows the sensitivity analysis results of business performance indicators. In this paper, the return on total assets (*ROA*) will replace the return on capital (*ROE*), and the PE will replace the PB. As shown in Table 7, there is no substantial difference between the regression results in Table 5 and table 6, indicating that the regression results in this paper are robust.

**Table 7 robustness test results**

	OLS Regression		Random Effect Regression	
	<i>ROA</i>	<i>PE</i>	<i>ROA</i>	<i>PE</i>
<i>DOI</i>	0.2750***	1.721	0.3034*	1.8289
<i>DSIZE</i>	0.0321***	-0.0969	0.0128	-0.0551
<i>DPER</i>	-0.5265	6.9875	-0.513	4.3355
<i>CR1</i>	-0.4933	6.4886	-0.1353	6.9471
<i>LNSIZE</i>	-0.01349	-1.5242**	-0.0728	-1.7734*
<i>STATE</i>	-0.0085	-0.101	-0.0931	0.0693
<i>DA</i>	-2.2629	-221.9295***	0.6473	-209.8532***
<i>GROWTH</i>	0.5442	10.3760*	-0.5236*	11.7661**
<i>cons</i>	3.1159	254.2416***	2.6017	249.5327***
<i>N</i>	114	114	114	114
<i>F test</i>	4.06***	17.41***	—	—
<i>W-chi2</i>	—	—	10.56	68.84***
<i>R-squared</i>	0.2362	0.5701	0.118	0.5682

**Note:** \*\*\*, \*\*, \* indicate that the test results are significant at the level of 1%, 5% and 10%, respectively.

## RESEARCH CONCLUSION AND ENLIGHTENMENT

This paper takes A-share listed banks and insurance companies from 2011 to 2016 as samples to study the demand influencing factors of directors' executive liability insurance and the relationship between directors' executive liability insurance and the company's operating performance. Different from the previous scholars' relevant research: Firstly, this paper takes the financial insurance industry as the research object and empirically tests the influencing factors of the demand for directors' and senior managers' liability insurance; Secondly, this paper empirically studies the impact of directors' and senior managers' liability insurance of listed banks and insurance companies on the company's business performance through OLS regression analysis and panel data random effect regression analysis, respectively. The empirical study shows that: first, the asset liability ratio and corporate performance of listed banks and insurance companies are positively correlated with the directors' liability insurance; second, the directors' liability insurance has a significant positive effect on the operating performance of listed banks and insurance companies. Through the sensitivity analysis of the business performance indicators, it is found that the relevance and significance of the directors' liability insurance and the company's business performance have not changed substantially. Therefore, the empirical results of this paper are robust.

The empirical research in this paper enriches the research methods of the directors' and senior managers' liability insurance, not only proves that the directors' and senior managers' liability insurance has a significant role in improving the operating performance of listed banks and insurance companies in China, but also provides a theoretical basis for relevant regulatory departments and financial insurance industry to pay attention to the directors' and senior managers' liability insurance in the future.

It has been more than 15 years since the introduction of the directors' liability insurance into China, but the directors' liability insurance has not fully played its supervisory function of external governance. The proportion of Listed Companies in China who purchase directors' liability insurance is still very small, which is far from the coverage of directors' liability insurance of nearly 100% in European and American countries. This is not only related to the specific legal environment in China, but also because the internal governance mechanism of Listed Companies in China is not perfect. Therefore, in order to improve the external governance function of the directors' liability insurance, we must first ensure the effective operation of the internal governance mechanism of the company. In addition, we should constantly improve the external governance mechanism of listed companies, and promote insurance companies to give full play to the functions of external governance institutions. Therefore, in order to promote the directors' liability insurance to play an active role in China's financial and insurance industry, this paper will make the following suggestions: (1) The relevant regulatory authorities should continue to strengthen the construction of internal governance mechanism of listed companies, help listed companies to improve their internal governance, and create a good institutional environment for the introduction of directors' and senior managers' liability insurance and its role in listed banks and insurance companies. (2) Listed banks and insurance companies should actively purchase directors' and senior managers' liability insurance, give full play to the incentive effect and external supervision function of directors' and senior managers' liability insurance, so as to help the company improve its business performance.

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