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## Does Trust Beneficiary Protection Affect the Performance of Trust Companies? An Analysis Based on the Theory of Law and Finance

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### ABSTRACT

Trust beneficiary protection constitutes an important legal system in the trust industry. This paper, based upon the study approach of the “Theory of Law and Finance”, establishes the trust beneficiary protection index of China. We also test the influence of trust beneficiary protection on the performance of trust companies. As indicated by our study’s results, an “inverted U-shaped” relationship exists between the degree of trust beneficiary protection and the performance of trust companies. In a period when the trust law system has not yet been well established, strengthening trust beneficiary protection could help facilitate the growth of trust company performance. However, this facilitation effect gradually diminishes as the trust law system becomes more perfect. This in turn means that, after reaching a certain peak, conferring the beneficiary with more rights of supervision and participation would cause the performance of trust companies to decline. Improving regional legal environments could also help facilitate the growth of trust company performance. In addition, this facilitation effect is subject to the influence of the nature of trust company controllers. In trust companies controlled by local state-owned capitals, we find that the facilitation effect of the improvement of regional legal environments on trust company performance is inhibited. In trust companies controlled by non-state-owned capitals, however, the facilitation effect of the improvement of regional legal environments on trust company performance is enhanced.

### KEYWORDS

Trust beneficiary protection; theory of law and finance; trust company performance

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## 1. Introduction

In the past decade, the trust industry in China has undergone a rapid transformation, evolving from an underdeveloped and peripheral financial sector to the second largest financial sector in the country, second only to the banking industry. As of December 30, 2015, the total assets of the trust industry had reached 16.30 trillion RMB, representing an increase of nearly 80 times from the 2,046 billion RMB value a decade prior. Despite the economic slowdown in China, the trust industry has continued to experience rapid growth, which may result in significant financial pressure. Furthermore, due to insufficient protective measures for beneficiaries and investors, an increasing number of institutions are transferring this pressure to disadvantaged beneficiaries.

Trusteeship is a legal relationship involving rights and obligations between three parties: the trustor, the trustee, and the beneficiary. The beneficiary is the true owner of the trust assets and is often the most disadvantaged party in the trust relationship. In modern property management systems, which are centered on assets and credit, protecting interests of the trust beneficiary constitutes not only a weak point in the trust relationship, but also a key objective of trust legislation. Due to the late introduction of legislation to the trust industry in China, its legal system has not been well established. Trust, as a concept imported from British equity law, has experienced years of incompatibility and uneven development within China's continental legal system. However, with the issuance of the Trust Law of the People's Republic of China in 2001, trust beneficiary protection was established as a legal system for the first time, and the development of the trust industry has gradually returned to a stable trajectory.

Thus, a meaningful yet seldom explored proposition is whether the rapid development of the trust industry over the past decade can be attributed to the evolution and refinement of the trust legal system. Additionally, what role has the trust beneficiary protection played in this process? While trust beneficiary protection focuses on safeguarding the interests of the beneficiaries, the rights of trust companies, as trustees, may be constrained. Consequently, this may affect the development of trust companies.

Company performance is a crucial metric for assessing a company's development status. This paper aims to answer two questions through a comprehensive analysis of the impact of legal factors on trust company performance: (1) Does the trust beneficiary protection affect trust company performance, and if so, how? (2) Does the regional legal environment influence trust company performance, and does the degree of influence vary with the nature of trust company controllers?

This paper makes three contributions. Firstly, it extends the research scope of the theory of Law and Finance to include the trust industry, considering legal factors as a primary determinant of trust company development. Secondly, it adds to the literature on the economic effects of developing legal systems by providing new evidence on trust beneficiary protection. Thirdly, it identifies a nonlinear relationship between trust beneficiary protection and trust company performance.

## 2. Literature Review and Theoretical Analysis

Explorations of the influence of law on company performance can be traced back to the theory of law and finance, which emerged in the late 1990s. Unlike traditional finance theory, which excludes legal factors, the theory of law and finance posits that the legal system, law enforcement, and other relevant factors have a significant impact on financial development at both the macro and micro levels. La Porta et al. (1998, 2002) conducted an empirical analysis of listed companies in several developed countries found that greater investor protection in law is associated with lower encroachment upon minority shareholders by controlling shareholders and higher company values. Subsequent studies by Pistor & Xu (2005), Beck et al., (2002), Armour et al., (2009) and others, focusing on the legal and financial development of developing countries and transitional economies, found that the law has a significant impact on financial development and the performance of listed companies in these countries. However,

due to the imperfect legalization and incomplete marketization of most developing countries and transitional economies, their conclusions differ somewhat.

While La Porta et al. (1998) argue that both the sources of law and current legal provisions have a significant impact on company values, Pistor et al. (2000) contend that law enforcement has an even greater impact on company values than the articles of law themselves. This difference may be due to the fact that La Porta et al. (1998) focused on developed countries with more established legal systems, while Pistor et al. (2000) studied transitional economies with less developed legal systems where law enforcement has a greater impact on company performance. Allen et al. (2008) and Estrin & Prevezer (2011) further demonstrated that in emerging countries where formal system is still imperfect, “informal systems” often take over the role of law in protecting investors and facilitating financial development.

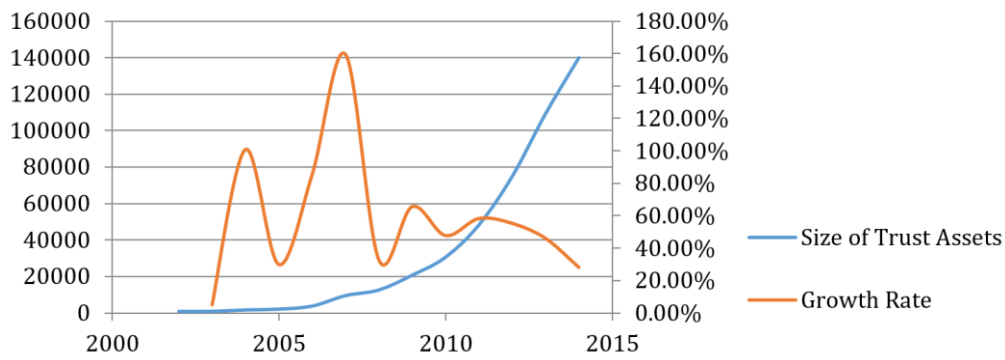
Existing literature on the factors influencing trust company performance can be broadly categorized into three areas: external environment, corporate governance, and business strategy. Zhang et al. (2013) analyzed the influence of ownership structure on trust company performance in China and found that state shareholding reduces performance, while a higher shareholding ratio of controlling shareholders is associated higher performance. Deng & Gao (2014) found that regional differences significantly affect the input-output efficiency of trust companies, with trust companies in East China having higher input-output and technical efficiency than those in Central and West China. However, their study did not identify the specific factors responsible for these regional differences. Cai & Cao (2012) argued that the external environment, particularly the legal environment, is the most critical factor influencing trust company performance. Li & Zhang (2016) found that the development of trust laws and regulations promotes the normalized development of the trust industry and improves trust company performance. However, their index design for trust law adequacy only considers the frequency of trust law and regulation promulgation and does not distinguish between the changes to rights and obligations brought about by specific laws and regulations.

While there has been an increase in studies on the trust industry and trust companies in recent years, there remains a divide between law and finance in this field. On one hand, legal scholars focus on exploring the definition, nature, elements, and system construction of the trust legal relationship. On the other hand, the financial community concentrates on investigating the development, risks, regulations, and other aspects of the trust industry, with little consideration given to legal system factors. This phenomenon can be explained in two ways. Firstly, domestic law and finance theory-based studies started relatively late in China and only saw substantial development approximately 10 years ago, making data availability and the quantification of the legal system challenging. Secondly, due to its particularity, the trust industry did not disclose much information until recently, resulting in a limited supply of data and dominance of theoretical discussions over empirical studies. The development and changes of trust companies cannot be separated from the influence of the legal system, making interdisciplinary studies essential.

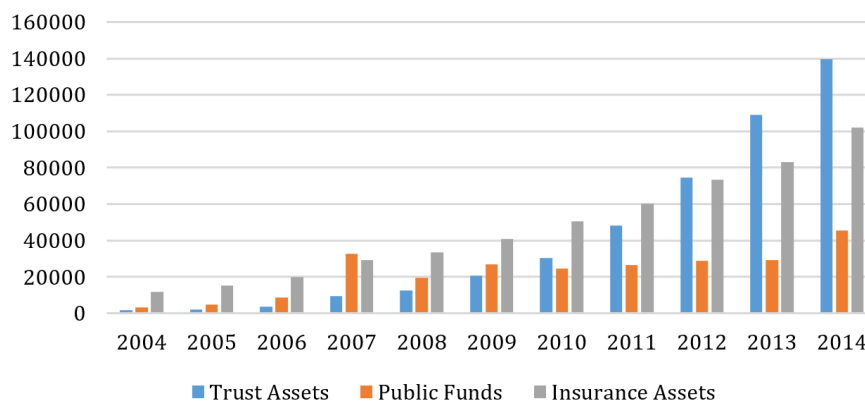
### **3. Study Design and Hypotheses**

Prior to the promulgation of the Trust Law, the Chinese trust industry lacked clear direction and experienced disorderly development. Trust companies at this stage did not provide traditional trust services, but instead undertook some banking functions. Before the implementation of the Interim Measures for the Administration of Information Disclosure by Trust and Investment Companies in 2004, there were no mandatory information disclosure requirements for trust companies, resulting in a lack of transparency. In 2007, three rules of vital significance for trust beneficiary protection were implemented: the Guidelines for the Governance of Trust Companies, the Measures for the Administration of Trust Companies, and the Measures for the Administration of the Gathering of the Capital Trust Plans of Trust Companies. Since then, the trust industry has under gone a period

of rapid development, as shown in Fig.1 and Fig.2.



**Figure 1.** Scale (in RMB) and growth rate of the trust industry (unit: 100 million RMB).



**Figure 2.** Scale comparison between the trust industry and other financial industries.

The figures above clearly indicate a correlation between the development of the trust industry and the perfection of the legal system, particularly regarding the implementation of laws and regulations related to trust beneficiary protection. According to the findings of our study, the influence of the legal system operates at two levels: the legislative level and the judicial level. The legislative level refers to the definition of the rights and obligations of the parties involved in the legal relationship through the articles of law by legislative departments. The judicial level refers to the degree, fairness, and efficiency of law enforcement by judicial institutions and law enforcement departments.

### 3.1. Legislative level

The level of legislation directly impacts the balance between parties involved in trust legal relationship. Seen from the legal validity of the continuance of trust, the core of the trust relationship<sup>1</sup> is the relationship of rights and obligations between the trust beneficiary and the trustee, which in this paper is trust company. According to the stipulations of the trust law, in addition to the beneficial right of trust, the trust beneficiary<sup>2</sup> shall also enjoy other

<sup>1</sup>The trust relationship is a relationship of rights and obligations established among the trustor, the trustee and the trust beneficiary, according to the stipulations of the trust law, with regard to the management of the trust property and the allocation of interests under the trust. Generally speaking, the relationship between the trust beneficiary and the trustor is a causal relationship existing outside the legal relationship of trust, and, as far as financial trusts are concerned, self-benefit trust (the trust under which the trustor and the beneficiary are the same person) is the more universal form.

<sup>2</sup>For instance, the trust beneficiary has the right to know about the handling of trust affairs, the right to consult and duplicate documents relating to the handling of trust affairs by the trustee, and the right to ask the trustee to make explanations. If the trustee violates the management duties or improperly handles the trust affairs, the trust beneficiary has the right to apply to the people's

rights, including the right to know and supervise the handling of trust affairs<sup>1</sup>; the right to revoke improper disposal of the trust property by the trustee, the right to give opinions and make suggestions about trust affairs, and the right to take proper measures to prevent the trustee from violating its obligations beforehand and to hold the trustee responsible for civil liabilities.

Under ideal conditions, a certain balanced relationship exists between the trustee and the trust beneficiary in the trust relationship. However, due to information asymmetry, the positions of the trustee and the trust beneficiary are imbalanced, with the trustee enjoying broad management and discretion over trust property while the beneficiary occupies a passive position. Thus, one aim of the trust law, through system design, is to place the trustee under rigorous supervision, provide adequate protection for the interests of the trust beneficiary, and achieve a balance of rights and obligations between them. Inadequate trust beneficiary protection can damage this delicate balance, resulting in dominance by trust companies and their shareholders and managers who may tend to exploit their advantageous positions in order to conduct investment operations according to the strategy of maximizing their own interests and transfer risks to disadvantaged trust beneficiaries.

The long-term prospect of trust companies could be damaged if the interests of trust beneficiaries are not prioritized. In China, the trust industry is relatively new, and the definition of the rights and obligations of the trustee through laws and regulations has been gradually refined through various exploration, trial, and error. During this process, there have been frequent instances of trust companies, shareholders or senior executives actively impairing the interests of the beneficiaries, reflecting the disorderly development of the Chinese trust industry in its early stages. In the long term, such impairment of beneficiary interests can damage the ecology of the entire trust industry and eventually jeopardize the interests of trust companies. On the contrary, adequate beneficiary protection can help facilitate the healthy development of the trust industry.

Based on this, Hypothesis 1 is proposed: In the stage of perfection of trust law, strengthening trust beneficiary protection can help facilitate the growth of trust company performance.

### 3.2. Judicial level

In many developing countries, inherent imperfections in the legal system during economic transition can result in relatively low efficiency of resource allocation. For these countries, the implementation of law is usually more important than the articles of law themselves, as the same laws and regulations can experience different strengths of implementation and achieve different judicial effects in different regions. China's 31 provinces vary significantly in their system environment, degrees of legalization, and administrative environments. Building on the basic idea of law and finance, it's reasonable to assume that regional differences in legal and administrative environments may influence the development of the companies in those regions. Studies by Tang (2011) and Zheng et al., (2010) on the impact of local legal environments on the performance of listed companies in a region support this assumption.

Trust companies, which are mostly non-listed companies with a high shareholding ratio of local governments and local state-owned enterprises, are closely connected with local legal environments. In regions with good legal environments, where judicial justice and law enforcement systems are efficient, the legal system of trust beneficiary protection can be more satisfactorily implemented to supervise trustees' investment of the trust property. In contrast, in regions with poor legal environments, the implementation of trust beneficiary protection is often inadequate, placing beneficiaries in a more disadvantaged position. It is therefore likely that regions with higher law enforcement efficiency and better legal environments will witness better development of the trust industry and

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court to remove the trustee. If the trustee wrongfully disposes of the trust property in violation of the management duties, the trust beneficiary has the right to apply to the people's court to withdraw the disposition, and the right to ask the third-party transferee who has accepted the trust property (though fully aware that it is against the purposes of the trust) to return the trust property or provide compensation.

higher trust company performance. In addition, the nature of trust company controllers may also influence the facilitation effect of regional legal environments on trust company performance.

Based on this, we propose Hypothesis 2: The improvement of regional legal environments will facilitate the development of trust companies and improve their performance, and the nature of trust company controllers will also influence the facilitation effect of regional legal environments on company performance.

## 4. Sample Data and Study Variables

### 4.1. Sample data

Before the implementation of the Interim Measures for the Administration of Information Disclosure by Trust and Investment Companies, there was limited public data on trust companies. In the first year of the above measure's implementation, less than half of the existing trust companies announced their annual reports. For that reason, this study uses the data which came after 2006. To date, the China Banking Regulatory Commission has approved the establishment of 68 trust companies. After excluding 13 trust companies that were established or re-established after 2006 and excluding 10 trust companies with incomplete or non-standardized data, we selected a total of 45 trust companies as our study samples. Due to the availability of data on the index of regional legal environments, the study period was eventually set as 2006-2012.

**Table 1.** Sample trust companies.

Code	Sample name	Region	Code	Sample name	Region	Code	Sample name	Region
1	Beijing Trust	Beijing	16	Guolian Trust	Jiangsu	31	Zhongyuan Trust	He'nan
2	National Trust	Beijing	17	Jiangsu Trust	Jiangsu	32	Hu'nan Trust	Hu'nan
3	SDIC Trust	Beijing	18	Suzhou Trust	Jiangsu	33	Huachen Trust	Inner Mongolia
4	China Credit Trust	Beijing	19	Kunlun Trust	Zhejiang	34	New Times Trust	Inner Mongolia
5	FOTIC	Beijing	20	Hangzhou Industrial & Commercial Trust	Zhejiang	35	New China Trust	Chongqing
6	CITIC Trust	Beijing	21	China Industrial International Trust	Fujian	36	Chongqing Trust	Chongqing
7	Northern Trust	Beijing	22	Dongguan Trust	Guangdong	37	Yunnan Trust	Yunnan
8	Tianjin Trust	Tianjin	23	Guangdong Finance Trust	Guangdong	38	Shaanxi Trust	Shaanxi
9	Shandong Trust	Shandong	24	CRC Trust	Guangdong	39	Xi'an Trust	Shaanxi
10	Yingda International Trust	Shandong	25	Ping An Trust	Guangdong	40	Western Trust	Shaanxi
11	Shanghai Trust	Shanghai	26	Shanxi Trust	Shanxi	41	Gansu Trust	Gansu
12	Anxin Trust	Shanghai	27	Guoyuan Trust	Anhui	42	Huarong Trust	Xinjiang
13	Fortune Trust	Shanghai	28	CCB Trust	Anhui	43	Huaxin Trust	Liaoning
14	Zhonghai Trust	Shanghai	29	Zhongjiang Trust	Jiangxi	44	Jilin Trust	Jilin
15	Zhongtai Trust	Shanghai	30	Bridge Trust	He'nan	45	Zhongrong Trust	Heilongjiang

The trust company data used in this paper were extracted from the Almanac of China's Trustee (China Trustee Association, 2013), published by the China Trustee Association. With regard to missing or incorrect data, we referred to the Wind database and the annual reports announced by various trust companies for the purposes of completion and correctness.

### 4.2. Study variables

#### 4.2.1. Dependent variables

When it comes to the measurement of company performance, existing studies mainly adopt two measurement modes, i.e., company financial indexes and company market values. Both of these methods have seen widespread use in both Chinese and foreign literature. On the whole, foreign studies tend to adopt market values, and mostly

the market value of shares or the value of Tobin's Q. In domestic studies, due to their doubts surrounding the efficiency of the stock market, scholars have tended to adopt company financial indexes. Only two of China's 68 trust companies are listed companies, i.e., Shaanxi International Trust Co. Ltd., and Anxin Trust Co. Ltd. Therefore, the market value of shares is not available here. For that reason, this paper has introduced trust company returns on equity (ROE) as a means to measure the performance of trust companies.

#### 4.2.2. Trust beneficiary protection

We believe that the degree of trust beneficiary protection under law is the degree of the supply of laws and regulations by legislative bodies and regulatory departments in the field of trust beneficiary protection. As such, assignment can be performed according to the quantity, level, importance and correlation of laws and regulations introduced and implemented. The assignment of trust beneficiary protection is the superposition of the scores in eight aspects, namely 1) information disclosure, 2) trust property independence, 3) trust supervision and voting, 4) accounting and auditing systems, 5) shareholder duty of loyalty, 6) senior executive power of trustee, 7) independent director systems and 8) law enforcement and legal remedy. Of these eight aspects, "trust supervision and voting", as an external supervision (different from supervision by regulatory institutions or judicial institutions) refers to the internal supervision of and voting over trust affairs by the legal stakeholders (or persons of common interests), other than the manager and representative of the trust property. These legal stakeholders act through mechanisms such as trust committee systems, trust beneficiary assembly systems and trust supervisor systems, and include the beneficiary, the trustor, the trustee itself, the trust supervisor, etc. The term "law enforcement and legal remedy" refers to the legal treatment of the beneficiary in cases of the violation of fiduciary obligations and the infringement upon beneficiary interests by the trustee, shareholders, senior executives and so forth. The term also refers to the safeguarding of the beneficiary's right to legal remedy.

The index design of independent variables refers to the legal protection index of La Porta et al. (1998, 2002) and the principle introduced by Xiao (2010), Shen et al. (2004), in designing the legal index of minority investor protection. Assignment computations have been conducted on an annual basis. The data are now extracted from the statistics and computations of information announced by the People's Bank of China, China Banking Regulatory Commission and other regulatory institutions on their websites.

Method of assignment: In the absence of legislation or implementing rules, we assign a score of zero. When there is new legislation or the implementation of rules, we assign a score of 0.5-1.5. To be specific, we assign a score of 1.5 to laws passed by the National People's Congress. We assign a score of 1 to department rules, interpretations of rules and operating guidelines introduced by the China Banking Regulatory Commission and lateral institutions, and we assign a score of 0.5 to notices, interpretations and guidelines put forward by the General Office of the China Banking Regulatory Commission and lateral institutions. The legislative assignment has adopted relevant laws, administrative laws and regulations and department rules introduced and implemented from 2001 to 2012. Before 2001, the trust industry experienced multiple rectifications and disorderly development. At that time, the activities undertaken by trust institutions were not technically trust businesses. There was also a notable lack of legal basis. Furthermore, the old laws, regulations and rules had become invalid by the onset of the study period of this paper. For the convenience of processing, the old laws and regulations have been uniformly excluded from assignment computation. See the assignment and score computation results in Tab. 2; see a detailed list of laws and regulations included in Appendix I below.

#### 4.2.3. Other variables

Regional legal environment index (Rlegal): The regional legal environment index adopts the "Judicial Justice and Efficiency" index proposed by Wang et al., (2013). The index's evaluation contents include "law enforcement

**Table 2.** Index system and assignment of trust beneficiary protection.

Index	Trust beneficiary protection								Score of newly increased laws	Cumulative score
	1.	2	3	4	5	6	7	8		
Implementation of laws and regulations	Information disclosure	Trust property independence	Trust supervision & voting	Accounting and auditing system	Shareholders' duty of loyalty	Senior executives' power of trustee	Law enforcement & legal remedy	Independent director system		
2001	10.1	◆	◆			◆			4.5	4.5
2002	7.18	▲	▲				▲		3	7.5
2003	10.28						▲		1	8.5
2004	2.5								0	11.5
	10.1		▲						1	
	12.16								0	
	12.28		▲	▲					2	
2005	1.1	▲							1	14.5
	1.5			▲					1	
	2.4							△	0.5	
	4.20				△				0.5	
2006	1.1						◆	◆	3	18.5
	8.1		▲						1	
	8.15			▲		▲		▲	0	
2007	3.1	▲		▲		▲		▲	5	31
	3.1		▲		▲		▲		3	
	3.1	▲	▲	▲					3	
	3.12								0	
	6.1						◆		1.5	
2008	2.1	△							0.5	33
	6.2			△					0.5	
	6.27								0	
	10.28								0	
	12.4								0	
	12.10		▲						1	
2009	1.23	▲	▲						2	36
	2.4								0	
	3.25								0	
	4.14								0	
	8.18								0	
	12.14	△							0.5	
	12.14								0	
	12.14				△				0.5	
2010	2.10								0	39
	2.11								0	
	4.1			▲					1	
	8.5								0	
	8.24	▲			▲				2	
	11.12								0	
2011	1.13								0	40.5
	1.27				▲				1	
	5.13					△			0.5	
	6.16								0	
	6.27								0	
2012	2.21								0	40.5
	12.11								0	

Note: Guidelines and Explanations issued by the Office of China Banking Regulatory Commission and its equivalents represents 0.5 Mark (△), administrative regulations issued by the aforementioned institutes represents 1.0 mark (▲), Law passed by the National People's Congress of China represents 1.5 marks (◆).

efficiency of public security organs, procuratorial organs and people's courts" and "law enforcement justice of public security organs, procuratorial organs and people's courts", which are denoted as Rlegal. This paper has included the regional legal environment data of a total of 28 provinces and municipalities directly under the control of the central



government (excluding Hainan and Ningxia for absence of trust institutions, and Tibet for lack of data). Given that Wang et al., (2013) only provides the index values of even-numbered years, this paper has adopted the median of the values of the year before and the year after as the value of an odd-numbered year.

Trust company characteristic indexes: As indicated by an analysis of previous studies, we find that company scales, asset structures, debt-paying abilities, ownership structures, board structures and so forth may all exert an influence on company performance. This paper, referring to previous studies of the performance of listed companies, attempts (as far as possible) to adopt comprehensive control variables. Trust company characteristic indexes are mainly extracted from company financial statements. The characteristics include a trust company's total assets ratio, assets-liabilities ratio, liquidity ratio, cash ratio, non-performing assets ratio, ownership concentration, proportion of independent directors, etc.

Local economic environment indexes: Considering that relatively significant regional differences exist between different provinces and municipalities in terms of economic environments, this paper (for the purpose of controlling the influence of macro-economic factors on results) has introduced regional CPI growth rates and GDP growth rates as local economic environment indexes.

Local administrative environment index (Local government): As claimed by Hodgson (2013), the fields of law and finance are complicated and controversial social phenomena and are often the combined results of private arrangements and administrative interventions. In an incompletely market-oriented legalized economy, administrative interventions can sometimes play a supplementary role under conditions of imperfect laws and low degrees of law enforcement efficiency. The studies conducted by Song (2008), Pi et al., (2010) have confirmed that local administration exerts a significant influence on local investment levels and regional financial development. Thus, our paper has considered the possible influence of local administrative environments.

Index of investment in real estate: The study period of this paper was also a period of rapid development in the domestic real estate industry. During this period, the large-scale financing demands of the real estate industry might have provided an opportunity for the development of the trust industry. On that account, our paper has also taken the index of investment in real estate as a control factor.

The definitions, symbols, and data sources of the various main variables in this paper are provided in Table 3.

### 4.3. Model design

For testing Hypothesis 1, this paper sets the to-be-tested Model 1 as:

$$Performance_{i,t} = \beta_0 + \beta_1 Benef_t + \beta_2 Corp_{i,t} + \beta_3 X_{i,t} + \varepsilon_i + \mu_{it} \quad (1)$$

Wherein,  $Benef_t$  represents the level of trust beneficiary protection;  $Corp_{i,t}$  represents the trust company characteristic value, and  $X_{i,t}$  represents other external environmental factors. Based on the beneficiary's right to know and the right of supervision conferred by law, and starting with the consideration of personal interests, the beneficiary will proactively supervise the investment behaviors at management level, reduce the agency cost and thus increase company values. However, as far as the trust beneficiary's right of supervision and right of participation conferred by law are concerned, stronger does not necessarily mean better. An excessive intervention in the decision-making of trust affairs (by the trust beneficiary) may influence the normal investment operation of the trust property by trust companies. Ultimately, such interventions may exert a negative influence on a trust company's performance. Thus, it is possible that the influence of trust beneficiary protection on trust company performance is nonlinear. To test this hypothesis and optimize the regression model, this paper has introduced the quadratic component of the level of trust beneficiary protection,  $Benef_t^2$ , to establish Model 2. We also investigate this model's advantages and disadvantages compared to Model 1.

$$Performance_{i,t} = \beta_0 + \beta_1 Benef_t + \beta_2 Benef^2_t + \beta_3 Corp_{i,t} + \beta_4 X_{i,t} + \varepsilon_i + \mu_{it} \quad (2)$$

**Table 3.** Definitions and descriptions of variables.

Variable name	Variable symbol	Variable definition and data source
Trust companies' return on equity	<i>ROE</i>	Approximately replaced by the trust companies' return on fixed assets (data from Almanac of China's Trustee)
Trust beneficiary protection	<i>Benef</i>	Degree of trust beneficiary protection by laws and regulations (data from the assignment computation of current laws and regulations, as well as rules)
Regional legal environment	<i>Rlegal</i>	Local judicial justice and efficiency (data from Business Environment Index for China's Provinces- 2013 Report (Wang Xiaolu et al.))
Company scale	<i>Size</i>	Natural logarithm of trust companies' total assets (data from Almanac of China's Trustee)
Company assets-liabilities ratio	<i>Lev</i>	End-of-term total liabilities/total assets of the trust company (data from Almanac of China's Trustee)
Liquidity ratio	<i>Lr</i>	Current assets/Current liabilities (data from Almanac of China's Trustee)- reflects the degree of
Cash ratio	<i>Cr</i>	Net cash flow from operating activities/current liabilities at the end of the period (data from Almanac of China's Trustee)- reflects the degree of
Non-performing assets ratio	<i>Npr</i>	Non-performing loans/total loans (data from Almanac of China's Trustee)
Trust assets scale	<i>Trust</i>	Natural logarithm of the scale of trust assets managed by trust companies (data from Almanac of China's Trustee)
Ownership concentration	<i>Topshare</i>	Represented by the shareholding ratio of the largest shareholder (data from Almanac of China's Trustee)
Proportion of independent directors	<i>Indep</i>	Proportion of independent directors on the board of directors, local government efficiency index (data from Almanac of China's Trustee)
CPI growth rate	<i>CPI</i>	CPI growth rates of various provinces, cities and regions (data from WIND database)
GDP growth rate	<i>GDP</i>	GDP growth rates of various provinces, cities and regions (data from WIND database)
Local administrative environment	<i>Lgov</i>	Degrees of "fairness, openness and justice" of local governments (data from Business Environment Index for China's Provinces- 2013 Report (Wang Xiaolu et al.))
Total local investment in real estate	<i>IRE</i>	Total investment in the real estate industry of the place where it is located (data from the National Bureau of Statistics, sorted by EPS)

## 5. Empirical Tests and Discussions

### 5.1. Descriptive statistical analysis

As indicated by the descriptive statistics of the main variables of this paper (listed in Tab. 4), trust company returns on equity fluctuate relatively significantly between -19.65 and 47.93. Assets-liabilities ratios, liquidity ratios and cash ratios fluctuate extremely significantly. Liquidity ratios, cash ratios and non-performing asset ratios all present extreme values. The shareholding ratio of the largest shareholder has a mean of 63.25%, suggesting a relatively high overall ownership concentration in trust companies. It is thus clear that, notwithstanding the high speed of trust company development, that development is in fact very unsteady. The various index values all fluctuate relatively significantly. Therefore, in the long term, the current development status is not sustainable.

**Table 4.** Descriptive statistics of variables.

Variable name	Variable symbol	Mean	Median	Standard deviation	Minimum value	Maximum value
Return on equity	<i>ROE</i>	14.38	13.04	9.06	-19.65	47.93
Trust beneficiary protection	<i>Benef</i>	34.07	36.00	7.22	18.50	40.50
Regional legal environment	<i>Rlegal</i>	2.94	2.95	0.19	2.40	3.47
Total assets ratio	<i>Size</i>	12.18	12.11	0.91	10.43	15.82
Company assets-liabilities ratio	<i>Lev</i>	16.34	10.78	16.23	0.23	78.45
Liquidity ratio	<i>Lr</i>	12.68	4.05	62.21	0.15	982.28
Cash ratio	<i>Cr</i>	15.50	2.43	115.48	0.01	1982.90
Non-performing assets ratio	<i>Npr</i>	5.45	0.58	13.46	0.00	87.00
Trust assets scale	<i>Trust</i>	14.65	14.76	1.42	10.52	17.90
Shareholding ratio of the largest shareholder	<i>Topshare</i>	63.25	59.89	25.77	9.99	100.00
Proportion of independent directors	<i>Indep</i>	27.52	30.00	10.58	0.00	75.00
CPI growth rate	<i>CPI</i>	3.14	3.14	2.24	-2.35	8.21
GDP growth rate	<i>GDP</i>	12.20	12.30	2.57	5.40	19.20
Local administrative environment	<i>Lgov</i>	3.18	3.21	0.15	2.74	3.65
Total local investment in real estate	<i>IRE</i>	17.58	17.87	0.99	14.47	19.16

*Note: All the empirical data of this paper received standardization processing using the following method: The values of percentage indexes, i.e., ROE, ROA, Lev, LR, CR, Npr, Topshare, CPI, GDP, and Indep are the original values multiplied by 100. The values of the scale indexes (i.e., Size, Trust, and IRE) are the natural logarithms of original values (unit: 10,000).*

Given that this paper adopts the panel data model, the first step is to make a judgment about the statistical analysis methods applicable to that model. The BP-LM test was employed to judge the respective advantages and disadvantages of the random effect model and the mixed effect model. According to our test results, the P value is 0.02. This result suggests that the random effect model is superior to the mixed effect model. After that, the Hausman test was introduced, in order to judge the respective advantages and disadvantages of the fixed effect model and the random effect model. The test result again yielded a P value of 0.02. This result suggests that the fixed effect model is superior to the random effect model. Thus, the fixed effect model should be used for empirical testing in this paper. A fixed effect model allows for consideration of the heterogeneity of different entities involved in the analysis by allowing each of them to have an individual intercept value that is independent of time. Therefore, using a fixed effect model, we can effectively reduce the endogeneity problem introduced by missing variables that are relatively stable and independent of time. This paper adopts Stata14.0 as its statistical analysis software.

The empirical testing will be divided into two parts, as follows: Empirical Test 1 was conducted to test the influence of trust beneficiary protection, local administrative environments, local investment in real estate, and other relevant factors on trust company performance. Thus, we tested the inference of Hypothesis 1. Empirical Test 2 was conducted to test the influence of trust beneficiary protection, regional legal environments, and the nature of trust company controllers on the performance of trust companies. We thus tested the inference of Hypothesis 2.

## 5.2. Pearson correlation matrix

Tab. 5 lists the Pearson correlation matrix of this paper's main variables. As indicated by the data, a significant positive correlation exists between the trust beneficiary protection index (*Benef*) and the trust company performance index (*ROE*) at the level of 1%. This result probably means that the higher the level of trust beneficiary protection, the higher the performance of trust companies. Thus, Hypothesis 1 is preliminarily established.

A significant positive correlation exists between regional legal environments (*Rlegal*) and trust company

performance. The significance level is greater than 1%. This result provides some support for Hypothesis 2, at least to some extent. A correlation coefficient of as high as 0.98 exists between the liquidity ratio (LR) and cash ratio (CR). As such, there is an extremely strong degree of endogenesis. Given that both the LR and CR are debt-paying ability indexes, either one can be adopted. This paper selects CR as the debt-paying ability index of trust companies. In addition, the correlation coefficients of local administrative environment index (Lgov) and total local investment in real estate (IRE) within the regional legal environment (Rlegal) are respectively 0.68 and 0.66. meaning a co-linearity probably exists here. In the regression test, Rlegal should be separated from Lgov and IRE, so as to avoid any influence on the credibility of regression results. This paper will separately test the influence of Rlegal in Empirical Test 2.

**Table 5.** Pearson correlation matrix of main variables.

	ROE	BENEF	RLEGA L	SIZE	LEV	LR	CR	NPR	TRUST	TOPSH ARE	INDEP	CPI	GDP	LGOV	IRE	
ROE	1.00															
BENEF	0.29***	1.00														
RLEGAL	0.26***	0.38***	1.00													
SIZE	0.15***	0.35***	0.32***	1.00												
LEV	0.12**	-0.13**	-0.07	0.15***	1.00											
LR	-0.13**	0.01	-0.05	-0.07	-0.14**	1.00										
CR	-0.10**	-0.01	-0.04	-0.06	-0.10*	0.98***	1.00									
NPR	0.003	-0.12**	-0.02	-0.12**	0.088	0.012	0.012	1.00								
TRUST	0.31***	0.62***	0.33***	0.61***	0.02	-0.07	-0.06	-	1.00							
TOPSHA RE	-0.01	0.027	0.03	0.27***	-0.01	0.06	0.07	0.20***	-	0.15***	1.00					
INDEP	0.23***	0.225*	0.23***	0.09	-0.10*	-0.10	-0.11*	-0.07	0.25***	0.17***	1.00					
CPI	0.17***	0.24***	0.044	-0.03	-0.04	0.13**	0.14***	0.007	0.006	0.02	-0.03	1.00				
GDP	-0.10*	-	-	-	0.05	-0.08	-0.07	-0.035	-	-0.04	-0.09	0.08	1.00			
LGOV	0.10*	0.30***	0.34***	0.32***	0.09	-0.03	-0.02	0.03	0.38***	0.02	0.10*	-0.05	-0.114**	1.00		
IRE	0.22***	0.44***	0.66***	0.45***	-0.13**	-0.09	-0.11**	-0.088	0.53***	-0.015	0.28***	-0.059	-0.45***	0.46*	1.00	
														**		

Note: “\*\*\*” denotes significance at the level of 1%, “\*\*” denotes significance at the level of 5%, and “\*” denotes significance at the level of 10%. ROE refers to return on equity; Benef refers to trust beneficiary; Rlegal refers to regional legal environment; Size refers to company assets size; Lev refers to assets-liabilities ratio; Lr refers to liquidity ratio; Cr refers to cash ratio; Trust refers to trust assets size; Lgov refers to local administrative environment; IRE refers to investment in real estate. Please see Tab. 3 for the detail descriptions of the rest of the variables.

### 5.3. Empirical Test 1 and results analysis

See the test results after the fixed effect regression analysis in Tab. 6.

Provided in Columns (1) and (2) of Tab. 6 are the estimated results of the influence of trust beneficiary protection levels and trust company characteristic variables on a trust company's performance. Columns (3) and (4) control the variable of local economic environments. Columns (5) and (6) further control the variables of local administrative environments and local investment in real estate. To be specific, Columns (2), (4) and (6) have introduced Benef2, the quadratic component of the level of trust beneficiary protection, in order to test whether or not Benef exerts a non-linear influence on trust company performance. Column (7) shows the regression results after eliminating the variables that are not significant.

In Columns (1), (3) and (5) of Tab. 6, a significant positive correlation exists between the trust beneficiary protection index (Benef) and the trust company performance index (ROE) at the level of 1%. After the gradual control of more external influencing factors, neither the coefficient direction nor the significance level has changed. As indicated by the regression results in Columns (2), (4) and (6), the coefficient of Benef2 (the quadratic component of Benef), is significantly negative. Meanwhile, the coefficient of Benef is still significantly positive at the level of 1%. From the results of the R-square, the fitness of the non-linear Model 2 is significantly better than that of the linear Model 1. The sign and significance of the regression coefficients for Benef and Benef2 are indicated that an “inverted U-shaped” relationship exists between the level of trust beneficiary protection and the

performance of trust companies.

**Table 6.** Fixed effect regression results of Empirical Test 1.

Dependent variable		ROE						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Independent variables	<i>Benef</i>	0.497*** (3.95)	2.638*** (3.83)	0.508*** (4.12)	2.421*** (3.45)	0.637*** (3.41)	4.206*** (4.68)	3.494*** (5.19)
	<i>Benef<sup>2</sup></i>		-0.036*** (-3.13)		-0.033** (-2.77)		-0.066*** (-4.05)	-0.053*** (-4.68)
Control variables	<i>Size</i>	-1.840 (-1.31)	0.140 (0.09)	-1.109 (-0.77)	0.554 (0.36)	-1.050 (-0.66)	-0.339 (-0.22)	
	<i>Lev</i>	0.140*** (3.39)	0.134*** (3.19)	0.139*** (3.30)	0.129*** (3.08)	0.139*** (3.28)	0.131*** (3.19)	0.099*** (2.92)
	<i>CR</i>	-0.002 (-0.61)	-0.004 (-0.96)	-0.003 (-0.62)	-0.004 (-1.07)	-0.003 (-0.64)	-0.004 (-1.04)	
	<i>Npr</i>	0.021 (0.35)	0.030 (0.49)	0.020 (0.32)	0.027 (0.44)	0.021 (0.34)	0.016 (0.27)	
	<i>Topshare</i>	0.211*** (3.36)	0.156*** (2.91)	0.163*** (3.01)	0.159*** (2.99)	0.161*** (2.98)	0.162*** (3.09)	0.134*** (2.83)
	<i>Indep</i>	-0.017 (-0.24)	-0.011 (-0.98)	-0.014 (-1.20)	-0.011 (-0.97)	-0.014 (-1.20)	-0.010 (-0.87)	
	<i>GDP</i>			0.515* (1.68)	0.302 (0.97)	0.499* (1.58)	0.335 (1.09)	
	<i>CPI</i>			0.386* (1.86)	0.395* (1.93)	0.390* (1.87)	0.396** (1.97)	0.427** (2.19)
	<i>Lgov</i>					-5.435 (-1.01)	-16.92*** (-2.86)	-13.95*** (-2.54)
	<i>IRE</i>					-2.331 (-0.90)	3.596 (1.24)	
Constant term	<i>_cons</i>	4.397 (0.28)	-45.525** (-1.99)	-9.293 (-0.53)	-52.198** (-2.26)	43.34 (0.87)	-74.02 (-1.32)	-9.39 (-0.71)
	<i>Sigma_μ</i>	7.53	6.80	7.23	7.08	8.36	7.14	6.98
	<i>Sigma_ε</i>	7.47	7.34	7.40	7.28	7.41	7.15	7.25
	<i>N</i>	266	266	266	266	266	266	313
	<i>R<sup>2</sup></i>	0.17	0.20	0.19	0.22	0.20	0.26	0.26
	<i>F-stat</i>	6.28***	6.74***	5.64***	6.01***	4.73***	6.02***	15.18***

Note: The figures in the table represent the regression coefficients of independent variables. The corresponding figures in brackets represent the *t* values of the two-tailed test; "\*\*\*\*" denotes significance at the level of 1%, "\*\*\*" denotes significance at the level of 5%, and "\*" denotes significance at the level of 10%. Please see Tab. 3 for the detailed descriptions for the variables.

Unlike the constant positive effect of investor protection on corporate value found in La Porta et al. (2002)'s study, a complex and non-linear relationship exists between trust beneficiary protection and trust company performance. This suggests that two mechanisms are at play in the impact of trust beneficiary protection on trust company operations: a stimulating effect caused by reduced agency costs when trust beneficiary protection is increased, and an antagonistic effect due to reduced incentives and increased compliance costs associated with strict supervision and regulation.

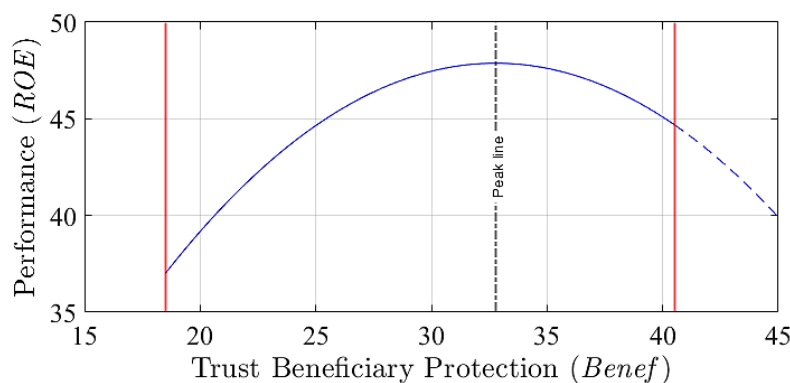
During periods of incomplete trust industry legislation, when the level of beneficiary protection offered by legislation is relatively low and compliance costs for trustees are also low, increasing trust beneficiary protection can benefit trustee performance through reduced agency costs, improved reputation, and increased reliability. However, when trust beneficiary protection is already relatively strong, further increasing it through legislation can result in overwhelming supervision and regulation, increasing compliance costs and reducing incentives for trustees. At a certain point, the negative effects outweigh the stimulating effects, and trust company performance begins to decline. This point is the peak of the inverted U-shaped curve shown in Fig. 3.

This finding suggests that during periods when the trust law system is not well established, increasing the level of trust beneficiary protection can significantly facilitate the growth and quality of trust company performance. However, this facilitation effect has diminishing marginal utility as the trust law system becomes more established. After reaching a certain peak, continuously strengthening trust beneficiary protection can actually cause trust company performance to decline.

Provided in Column (7) of Tab. 6 are the regression results after eliminating the redundant variable. in Model 2. We can clearly see that, under the premise of keeping all other variables constant, the partial effect of Benef for ROE is:

$$\frac{\Delta ROE}{\Delta Benef} = 3.494 - 0.0533Benef$$

Fig. 3 shows a fitting curve based on Model 2 and the regression results shown in Column (7). A peak value of trustee performance is obtained at  $Benef = \frac{\beta_1}{2\beta_2} \approx 32.8$ .



**Figure 3.** Influence of trust beneficiary protection on trust companies' performance.

It is evident that during periods of system construction, strengthening trust beneficiary protection and conferring beneficiaries with the right to supervise trust projects and participate in voting on trust affairs can compel trust companies to improve their corporate governance. This can prevent current shareholders and senior executives from infringing upon the interests of beneficiaries, reduce agency costs, and improve trust company performance. However, when the trust law system is relatively well established and a check and balance mechanism exists between the rights of beneficiaries and trust companies, conferring additional rights of supervision and participation to beneficiaries can lead to excessive intervention in decision-making on trust affairs. This can negatively impact a trust company's professional judgments regarding investment operations of trust property, stifling investment activity and ultimately causing the company's performance to decline.

Both the assets-liabilities ratio (Lev) and ownership concentration (Topshare) exhibit a positive correlation with company performance, with a significance level of 1%. After controlling for local economic environments (CPI, GDP), administrative environments (Lgov), and investment in real estate (IRE), the significance level and direction of Lev and Topshare remained unchanged. The positive correlation between Lev and trust company performance suggests that, during periods of rapid growth, trust companies can accelerate the development by increasing financial leverage. However, blindly increasing the liabilities ratio in pursuit of profit and performance can increase debt risks and jeopardize the long-term development of trust companies and the protection of beneficiary interests. This should be a concern for both legislative and regulatory authorities. The significant positive influence of ownership concentration on company performance suggests that ownership concentration has a strong incentive effect at the management level. Trust companies with high levels of ownership concentration typically have higher

performance levels, consistent with the findings of Zhang et al. (2013).

GDP growth rate and CPI growth rate both have a positive correlation with company performance. Local administrative environment (Lgov) presents a significant negative correlation with performance. Our results suggest that, under a higher regional economic level and a higher inflation rate, the demands of trust investment become stronger. In addition, funds tend to flow more frequently from banks to the investment market and are used to drive the rise of trust company performance. Surprisingly, as seen from the empirical results, the improvement of local administrative environments has, on the contrary, lowered the level of trust company performance. In combination with the high proportion of trust companies with local government backgrounds and the monopoly position of only one or two trust companies in most provinces and municipalities, we can infer the possible reason for this finding. That is, the improvement of local administrative environment has narrowed the range of interests formerly enjoyed by these trust companies with government backgrounds by virtue of their political connections. Thus, the performance of these types of trust companies has been influenced. In China, nearly 80% of trust companies are controlled by state-owned capitals. In addition, the controllers of more than half of these companies are local governments. Under circumstances where administrative interventions are relatively strong, local governments can usually provide more preferential policies and other convenient conditions for those trust companies under their control. Conversely, the higher the transparency of "the three public expenses" of local governments, the weaker the administrative interventions of local governments and the higher the probability of local trust companies losing the excess profits hereby gained.

#### 5.4. Empirical Test 2 and results analysis

To test Hypothesis 2, Model 3 was designed as:

$$Performance_{i,t} = \beta_0 + \beta_1 Benef_t + \beta_2 Rlegal_{i,t} + \beta_3 S_k + \beta_4 S_k R + \beta_5 Corp_{i,t} + \beta_6 X_{i,t} + \varepsilon_i + \mu_{it} \quad (3)$$

Here,  $Rlegal_{i,t}$  represents the legal environment index of year  $t$  in the place where trust company  $i$  is located;  $S_k$  represents the nature of the trust company's ultimate controller, and  $K=1, 2, 3$ . For the purpose of analyzing whether or not the nature of different controllers interacts with regional legal environments in influencing the performance of trust companies, this paper classifies the ultimate controllers of trust companies into three types, namely centrally-administered SOEs, local governments (local state-owned capitals) and non-state-owned capitals. These three types of controllers are respectively represented by  $S_1, S_2$  and  $S_3$ . Also,  $S_1R, S_2R$  and  $S_3R$ , respectively, represent the interaction items established through the interaction between different controller natures and the index of regional legal environments (for instance,  $S_1R=S_1 \cdot Rlegal$ ).

Columns (8) and (9) of Tab. 7, respectively, consider the influence of trust beneficiary protection and regional legal environments on trust company performance. Both factors present a significant positive correlation, with a significance level of above 1%. Column (10) provides the test results when both the legal index ( $Benef$ ) and the regional legal environment ( $Rlegal$ ) are controlled at the same time. Our results show that the coefficients of the two are still both positive, but the significance level of  $Rlegal$  has declined to some extent. The results also suggest that the improvement of a regional legal environment will have a facilitation effect on local trust company performance. However, this effect is weaker than that of the strengthening of trust beneficiary protection rules for trust companies.

We provide in Columns (11)-(13) the test results of the influence of both controller nature and that nature's interaction effect with regional legal environments on trust company performance, specifically when the controllers of trust companies are, respectively, centrally-administered SOEs, local governments and non-state-owned capitals. As indicated by the results, the influence of  $Rlegal$  on trust company performance varies with the nature of trust company controllers. When the controllers of trust companies are local state-owned capitals, they tend to have a

**Table 7.** Regression results of Empirical Test 2.

Dependent variable		ROE						
		(8)	(9)	(10)	(11)	(12)	(13)	
Independent variables	<i>Benef</i>	0.508*** (4.12)		0.450*** (3.47)	0.464*** (3.56)	0.513*** (3.92)	0.490*** (3.75)	
	<i>Rlegal</i>		14.295*** (2.57)	8.012* (1.40)	4.662 (0.74)	26.060*** (3.13)	3.574 (0.59)	
	<i>S1</i>				-43.27 (-1.32)			
	<i>S1R</i>				15.130 (1.36)			
	<i>S2</i>					80.301*** (2.82)		
	<i>S2R</i>					-28.422*** (-2.91)		
	<i>S3</i>						-85.887** (-2.14)	
	<i>S3R</i>						30.579** (2.23)	
	<i>Size</i>	-1.109 (-0.77)	1.770 (1.49)	-1.145 (-0.80)	-1.456 (-0.94)	-2.528 (-1.54)	-1.907 (-1.27)	
	<i>Lev</i>	0.139*** (3.30)	0.124*** (2.87)	0.141*** (3.33)	0.136*** (3.17)	0.134*** (3.14)	-0.141*** (3.35)	
	<i>Cr</i>	-0.003 (-0.62)	-0.004 (-0.92)	-0.003 (-0.67)	-0.003 (-0.67)	-0.003 (-0.68)	-0.003 (-0.66)	
	<i>Npr</i>	0.020 (0.32)	-0.026 (-0.43)	0.015 (0.24)	0.022 (0.35)	0.025 (0.41)	0.009 (0.15)	
	<i>Topshare</i>	0.163*** (3.01)	0.177*** (3.21)	0.160*** (2.97)	0.154*** (2.84)	1.127** (2.33)	0.137** (2.50)	
	<i>Indep</i>	-0.014 (-1.20)	-0.008 (-0.64)	-0.014 (-1.16)	-0.013 (-1.14)	-0.014 (-1.61)	-0.014 (-1.20)	
	<i>CPI</i>	0.386* (1.86)	0.478** (2.27)	0.359* (1.72)	0.360* (1.73)	0.345* (1.68)	0.332 (1.60)	
	<i>GDP</i>	0.515* (1.68)	0.371 (1.20)	0.545* (1.78)	0.557* (1.82)	0.594** (1.96)	0.582* (1.91)	
	Constant term	<i>_cons</i>	-9.29 (-0.53)	-67.91*** (-3.24)	-30.66 (-1.33)	-17.77 (-0.71)	-65.84** (-2.31)	-9.05 (-0.36)
		<i>Sigma_μ</i>	7.23	7.77	7.00	6.85	7.17	7.48
		<i>Sigma_ε</i>	7.40	7.57	7.38	7.38	7.26	7.32
		<i>N</i>	266	266	266	266	266	266
	<i>R<sup>2</sup></i>	0.19	0.16	0.20	0.21	0.23	0.22	
	<i>F-stat</i>	5.64***	4.32***	5.30***	4.58***	5.29***	4.92***	

Note: The figures in the table represent the regression coefficients of independent variables. The corresponding figures in brackets represent the t values of the two-tailed test; "\*\*\*\*" denotes significance at the level of 1%, "\*\*\*" denotes significance at the level of 5%, and "\*\*" denotes significance at the level of 10%. Symbol *S1* refers to company controlled by central state-owned capitals; *S2* refers to company controlled by local state-owned capitals; *S3* refers to company controlled by non-state-owned capitals; *S1R* refers to the interaction between *S1* and *Rlegal*; *S2R* refers to the interaction between *S2* and *Rlegal*; *S3R* refers to the interaction between *S3* and *Rlegal*. Please see Tab. 3 for the detailed descriptions for the rest of the variables.

better performance. Acting as the substitute for a regional legal environment will also facilitate the growth of trust performance. However, at the same time, holding by local governments and legal environments will also inhibit each of the other's facilitation effect on trust company performance. The possible reason here lies in the fact that companies controlled by local state-owned capitals can exploit their political connections to gain more interests. The gaining of such interests becomes less frequent in places with a better legal environment and more complete forms of competition. In trust companies controlled by centrally-administered SOEs, the influence of a regional legal environment is insignificant. In trust companies controlled by non-state-owned capitals, the facilitation effect of



improvements in a regional legal environment on trust company performance is enhanced.

The regression coefficients and significance levels of trust company characteristic variables and economic environment variables are consistent with the results of Empirical Test 1.

## 6. Conclusions and Implications

This paper's indicates that an "inverted U-shaped" relationship exists between the degree of trust beneficiary protection and trust company performance. During periods when the trust law system is still under construction, strengthening trust beneficiary protection can facilitate the growth of trust company performance. However, this facilitation effect gradually diminishes as the trust law system becomes more established. When the rights shared between the beneficiary and trust companies are balanced, the marginal effect of trust beneficiary protection is zero, and the curve reaches its peak. Lawmakers should consider more about the balance of rights and obligations between the trust beneficiary and trustee.

Improving the regional legal environment can also help facilitate the growth of trust company performance to some extent. This facilitation effect is subject to the interactive influence of the nature of trust company controllers. In trust companies controlled by local state-owned capitals, the facilitation effect of improvements in regional legal environments on trust company performance is inhibited. However, in trust companies controlled by non-state-owned capitals, the facilitation effect of improvements in regional legal environments on trust company performance is enhanced.

Furthermore, the improvement of local administrative environments can lower trust company performance. One possible reason for this finding is that the optimization of a local administrative environment has the effect of narrowing the range of interests formerly enjoyed by these trust companies (those with government backgrounds) by virtue of their political connections, thus exerting a negative influence on the performance of such companies. An increase in a trust company's assets-liabilities ratio and ownership concentration can also have a facilitation effect on the growth of trust company performance. During the development period of the trust industry, properly increasing the financial leverage accelerated the development of trust companies. However, it is important to be aware of the systemic risks posed by the excessively rapid expansion of the trust industry and excessively high leverage ratios.

This paper represents a preliminary empirical study of the influence of trust beneficiary protection on the development of trust companies based on the theory of law and finance. There is still room for improvement in terms of study methods and theoretical models. It is our hope that this paper will attract more scholars to this field to fill the gap in research.

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## Declaration of Competing Interest

The author claim that the manuscript is completely original. The author also declares no conflict of interest.

## Appendix

### A1. Legislative assignment and source laws and regulations of trust law adequacy (2001-2012).

Time	Legislative assignment and source laws and regulations	symbol
2001.10.1	Trust Law of the People's Republic of China	◆
2002.7.18	Measures for the Administration of Trust and Investment Companies	▲
2003.10.28	Notice of the China Banking Regulatory Commission on Further Doing a Good Job in the Examination of Qualifications of Shareholders of Trust and Investment Companies	▲
2004.2.5	Notice of the China Banking Regulatory Commission on Promoting the Five-grade Assets Quality Classification Management in all Non-banking Financial Institutions	▲
2004.10.1	Notice on Issues Concerning the Establishment of Special Trust Securities Accounts and Special Trust Fund Accounts by Trust and Investment Companies	▲
2004.12.16	Notice of the China Banking Regulatory Commission on Strengthening the Risk Supervision of Trust and Investment Companies and Preventing Counterparty Risks	▲
2004.12.28	Notice of the China Banking Regulatory Commission on Further Strengthening the Internal Control Management of Trust and Investment Companies	▲
2005.1.1	Interim Measures for the Administration of Information Disclosure by Trust and Investment Companies	▲
2005.1.5	Measures for the Financial Accounting of Trust Businesses	▲
2005.2.4	Reply of the General Office of China Banking Regulatory Commission on Issues concerning the Qualifications and Concurrent Posts of Independent Directors of Trust and Investment Companies	△
2005.4.20	Notice of the General Office of the China Banking Regulatory Commission on Strengthening the Supervision and Administration of the Cleanup of Original Debts and the Liquidation of the Mature Trust Plans of Trust and Investment Companies	△
2006.1.1	Company Law of the People's Republic of China	◆
2006.8.1	Notice of the China Banking Regulatory Commission on Issues Concerning Strengthening Property Trusteeship, Information Disclosure and so forth, under the Trust Businesses of Assembled Funds Launched by Trust and Investment Companies	▲
2006.8.15	Notice of the China Banking Regulatory Commission on Issues Concerning the Innovation Trials on the Trust Businesses of Assembled Funds Launched by Trust and Investment Companies	▲
2007.3.1	Guidelines for the Governance of Trust Companies	▲
2007.3.1	Measures for the Administration of Trust Companies	▲
2007.3.1	Measures for the Administration of the Gathering Capital Trust Plan of Trust Companies	▲
2007.3.12	Notice of the China Banking Regulatory Commission and the State Administration of Foreign Exchange on Printing and Distributing the Interim Measures for the Administration of Trust Companies' Overseas Financial Management Business	▲
2007.6.1	Bankruptcy Law of the People's Republic of China	◆
2008.2.1	Notice of the China Banking Regulatory Commission on Issues Concerning Doing a Good Job Regarding the Information Disclosure Work of Trust Companies	△
2008.6.2	Notice of the General Office of the China Banking Regulatory Commission on Encouraging Trust Companies to Conduct Charitable Trust Business in Support of Post-disaster Reconstruction.	△
2008.6.27	Operating Guidelines for the Private Equity Investment Trust Business of Trust Companies	▲
2008.10.28	Notice of the China Banking Regulatory Commission on Issues Concerning Strengthening Supervision Over the Real Estate and Securities Businesses of Trust Companies	△
2008.12.4	Guidelines for Business Cooperation Between Banks and Trust Companies	▲
2008.12.10	Announcement of Issues Concerning the Opening of Special Securities Accounts in Trust-by-Trust Companies on the National Inter-bank Bond Market	▲
2009.1.23	Operating Guidelines for the Securities Investment Trust Business of Trust Companies	▲
2009.2.4	Decision of the China Banking Regulatory Commission on Amending the Measures for the Administration of Trust Companies' Trust Plans of Assembled Funds	▲

2009.3.25	Notice of the China Banking Regulatory Commission on Issues Concerning Supporting the Innovative Development of Trust Companies	▲
2009.4.14	Notice of the General Office of the China Banking Regulatory Commission on Risk Warning for Cooperation Between Trust Companies and the Government	△
2009.8.18	Notice of the China Banking Regulatory Commission on Risk Warning for Issues Concerning the Special Securities Accounts for the Trust Products of Trust Companies	△
2009.12.14	Notice of the General Office of China Banking Regulatory Commission on Amending the Annual Report Disclosure Format of Trust Companies and Regulating Issues Concerning Information Disclosure	△
2009.12.14	Notice of the China Banking Regulatory Commission on Further Regulating Issues Concerning Wealth Management Cooperation Between Banks and Trust Companies	▲
2009.12.14	Notice of the General Office of the China Banking Regulatory Commission on Issues Concerning the Implementation of the Accounting Standards for Business Enterprises in the Financial Accounting of Trust Businesses	△
2010.2.10	Notice of the China Banking Regulatory Commission on Strengthening Supervision Over the Structured Trust Business of Trust Companies	△
2010.2.11	Notice of the China Banking Regulatory Commission on Strengthening Supervision Over the Real Estate Trust Business of Trust Companies	△
2010.4.1	Notice of the China Banking Regulatory Commission on Amending the Guidelines on the Supervision Rating and Classified Supervision of Trust Companies	▲
2010.8.5	Notice of the China Banking Regulatory Commission on Regulating Issues Concerning Wealth Management Cooperation Between Banks and Trust Companies	▲
2010.8.24	Measures for the Administration of the Net Capital of Trust Companies	▲
2010.11.12	Notice of the China Banking Regulatory Commission on Risk Warning for the Real Estate Trust Business of Trust Companies	△
2011.1.13	Notice of the China Banking Regulatory Commission on Further Regulating the Wealth Management Cooperation Between Banks and Trust Companies	▲
2011.1.27	Notice of the China Banking Regulatory Commission on Issues Concerning the Net Capital Calculation Standard of Trust Companies	▲
2011.5.13	Notice of the General Office of the China Banking Regulatory Commission on Regulating the Statement Conversion Scope and Methods of Wealth Management Cooperation Between Banks and Trust Companies	△
2011.6.16	Notice of the Non-banking Supervision Department of the China Banking Regulatory Commission on Properly Conducting the Net Capital Supervision of Trust Companies, the Statement Conversion of Wealth Management Cooperation Between Banks and Trust Companies, the Marketing of Trust Products and Other Relevant Issues	▲
2011.6.27	Notice of the China Banking Regulatory Commission on Issuing Guidelines for the Participation in Stock Index Futures Trading by Trust Companies	▲
2012.2.21	Notice of the General Office of the China Banking Regulatory Commission on Issues Concerning the Trust Business of Trust Companies for Bills	△
2012.12.11	Notice of the Supervisory Cooperation Department for Banking Innovation of the China Banking Regulatory Commission on Risk Warnings for Bills, Wealth Management and Trust Product Businesses	△

Note: Guidelines and Explanations issued by the Office of China Banking Regulatory Commission and its equivalents represents 0.5 Mark (△), administrative regulations issued by the aforementioned institutes represents 1.0 mark (▲), Law passed by the National People's Congress of China represents 1.5 marks (◆).

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