## **Basic Factors Influencing the Sustainable Development Capability of Chinese Property and Casualty Insurance Enterprises**

## YANG Zhen<sup>[a]</sup>; FENG Junwen<sup>[b],\*</sup>

<sup>[a]</sup> School of Economics and Management, Nanjing University of Science and Technology, China.

<sup>[b]</sup> Professor. School of Economics and Management, Nanjing University of Science and Technology, China.

**Supported by** The Ministry of education of Humanities and Social Science project (10YJA630031).

Received 1 January 2013; accepted 14 March 2013

## Abstract

Under the influence of financial crisis, the performance of Chinese property insurance enterprises keeps falling. The enterprises face the challenge of sustainable development. Based on capability theory, this paper analyzes the connotation of sustainable development ability; determines three main factors (capability resources, capability level and capability environment) and their sub-factors, lays out the structural model of the sustainable development capability of property insurance enterprises. In this model, capability environment is the basis and capability resources and capability level are the pillars. Through learning, enterprises can effectively combine capability resources and capability level, thus forms core competency. **Key words:** Sustainable development; Capability; Factor

YANG Zhen, FENG Junwen (2013). Basic Factors Influencing the Sustainable Development Capability of Chinese Property and Casualty Insurance Enterprises. *Management Science and Engineering*, 7(2), 109-116. Available from: URL: http://www.cscanada. net/index.php/mse/article/view/j.mse.1913035X20130702.3152 DOI: http://dx.doi.org/10.3968/j.mse.1913035X20130702.3152

## 1. ANALYSIS OF THE CURRENT MARKET

With the deepening reform of China's insurance system and the further opening up of the insurance market, the number of property and casualty insurance companies keeps rising. The market is becoming more competitive. By the end of 2008, the number of insurance companies in the property and casualty insurance market in China reached 47. Among them, 31 were Chinese property and casualty insurance companies and 16 were foreign. Revenue from premiums was rapidly expanding, as shown in Table 1 and Figure 1.

Table 1

2003-2008 Premium Revenue from Selected Property and Casualty Insurance Companies

					Unit: In millions of RMB	
Companies	2003	2004	2005	2006	2007	2008
PICC P&C	58074	65578	65981.69	71393.88	88428.82	101763
Continent			3814.6	6327.98	10028.4	9424.49
Taiping	523.9	926.95	1391.31	2051.71	3413.55	4269.34
Pacific	10634	13849	14866	18122.69	23433.04	27817
Pingan	8417.91	10643.9	12675.81	16862.47	21449.53	26870.22
Huatai	818	987.64	1176.79	1477.77	2563.63	2488.29
Tianan	2097.28	5127.97	6335.43	6386.64	7371.4	6695.03
Dazhong	984.45	953.56	1060.71	1286.6	1280.15	1204.79
Sinosafe	848.38	1818.47	2121.29	2831.32	11301.9	753.49
Yongan	781.99	2101.73	3162	3987.78	5533.49	5626.39
Minan	191.21	215.73	228.89	236.87	463.82	940.43
BOC	37.43	56.24	61.72	121.04	524.08	1633.41
Meiya	328.02	453.67	567.9	698.14	833.21	901.7
TOKIO MARINE & NICHIDO	117	207	236.64	300.19	—	405.23

Source: Insurance Statistics Yearbook (2004-2009)



#### Figure 1 2003-2008 Premium Revenue from Selected Property and Casualty Insurance Companies

Further analysis of the data, the premium growth rate of the companies in Table 1, see Table 2. **Table 2** 

#### 2004-2008 Premium Growth Rates of Selected Companies

Company	2004	2005	2006	2007	2008
PICC P&C	12.92%	0.62%	8.20%	23.86%	15.08%
Continent	—	—	65.89%	58.48%	-6.02%
Taiping	76.93%	50.10%	47.47%	66.38%	25.07%
Pacific	30.23%	7.34%	21.91%	29.30%	18.71%
Pingan	26.44%	19.09%	33.03%	27.20%	25.27%
Huatai Property	20.74%	19.15%	25.58%	73.48%	-2.94%
Huatai	144.51%	23.55%	0.81%	15.42%	-9.18%
Tianan	-3.14%	11.24%	21.30%	-0.50%	-5.89%
Dazhong	114.35%	16.65%	33.47%	299.17%	-93.33%
Sinosafe	168.77%	50.45%	26.12%	38.76%	1.68%
Minan	12.82%	6.10%	3.49%	95.81%	102.76%
BOC	50.25%	9.74%	96.11%	332.98%	211.67%
Meiya	38.31%	25.18%	22.93%	19.35%	8.22%
TOKIO MARINE & NICHIDO	76.92%	14.32%	26.86%	21.75%	10.87%

As can be seen from Table 2, from 2003 to 2007, the annual premium growth rates of the vast majority of property and casualty companies (except for Dazhong) were positive. But in 2008, a number of companies experienced negative growth. Comparing t he actual values of the growth rates of the companies (Table 3), in

2008, the increase of the growth rates were negative for all companies except Minan. In absolute terms, the largest negative change of the growth rate reached -392.51%. Nationally, in 2008, premium revenue was 233.67 billion RMB, an increase of 33.90 billion RMB or an increase rate of 16.97%, but the growth rate was down 15.63%.

#### Table 3 2005-2008, the Increase of the Growth Rates

Company	2005	2006	2007	2008
PICC P&C	-12.31%	7.59%	15.66%	-8.78%
Continent	_	_	-7.41%	-64.50%
Taiping	-26.84%	-2.63%	18.91%	-41.31%
Pacific	-22.89%	14.56%	7.40%	-10.59%
Pingan	-7.35%	13.94%	-5.83%	-1.93%
Huatai Property	-1.59%	6.42%	47.90%	-76.42%
Huatai	-120.96%	-22.74%	14.61%	-24.59%
Tianan	14.37%	10.06%	-21.80%	-5.39%
Dazhong	-97.69%	16.82%	265.70%	-392.51%
Sinosafe	-118.32%	-24.33%	12.65%	-37.08%
Minan	-6.72%	-2.61%	92.33%	6.95%
BOC	-40.51%	86.37%	236.87%	-121.31%
Meiya	-13.13%	-2.25%	-3.59%	-11.13%
TOKIO MARINE & NICHIDO	-62.60%	12.54%	-5.10%	-10.88%

Through the analysis of these data, it is easy to find, in 2008, the performance of most of the companies were not as brilliant as in previous years. The reason for this is worth pondering. In February 2007, the debt crisis of the United States sub-prime mortgage loans triggered a global financial crisis. And it intensified, dealing a heavy blow to

the world's economic development. The Chinese economy has maintained a steady growth. But in 2008, affected by the global financial crisis, the growth slowed down sharply. Within the insurance industry, in the formation of the financial crisis, the insurance industry was one of the major investors in secondary bonds. It held 19% of the secondary bonds and was deeply embedded in the interest chain of the subprime mortgages. The industry provided insurance for the subprime mortgages, which greatly enhanced the confidence of the lenders. In addition, the industry provided single risk insurance for the secondary bonds, credit default swaps (CDS), and other credit guarantee products, greatly improving the credit rating of the subordinated bonds, and enhancing the confidence of investors.

In the face of harsh truth, how to ride out the storm or how to throw off opponents and gain an advantage, became a matter that domestic insurance companies needed to be thinking about. This article is based on the theory of core competence, targeting the sustainable development capability of property and casualty companies, exploring the factors influencing this capability. It builds a structural model of the sustainable development capability and establishes appropriate indicators.

## 2. LITERATURE REVIEW

To construct a scientific evaluation index system of sustainable development capabilities of property and casualty enterprises, first of all, we need to understand the connotation of sustainable development. Liu Ligang (Liu, 2001), the pioneer of the research on sustainable development of domestic enterprises, defines sustainable development as: In the pursuit of self-survival and sustainable development, the enterprises need to not only consider realizing business goals and improve market competitive positions, but also maintain continuous profit growth and capability improvement in competitive areas where they are already leading and business environment of future expansion, thereby, ensuring the prosperity in a long period of time (Liu, 2001). This definition emphasizes enterprises' self-development, stressing the company's sustained profitability and steady improvement of economic returns. But it ignores the concerns of external environment.

Zhong Luwen (Zhong, 2002) defines sustainable development as a survival state which is beyond corporate insufficient growth or excessive growth, beyond the restriction of resources and the constraints of environment protection, and beyond the product life cycles. This survival state can be achieved through continuous innovation, constant improvement of the ability to meet market demands, and constantly pursuing sustainable growth. This definition points out the way to achieve sustainable development, but it defines sustainable development as a survival state that is beyond various restrictions. It is rather abstract and general, not easy for real-world applications. For sustainable financial development, there are many definitions, but not yet an authoritative definition.

Bai Qinxian (Bai & Ding, 1998) et al believe that sustainable financial development is to build and improve the financial systems, develop and improve financial mechanisms, enhance and improve financial efficiency, and reasonably and effectively mobilize and configure financial resources, subject to complying with the inherent objective laws. This way economy and finance can effectively function and develop in a long period of time. Wang Yuansheng (Wang, 2004) believes that sustainable financial development is the effective functioning of finance in the long term and the long-term effective functioning of the environmental resources which support the financial development.

Zheng Yiping (Zheng, 2006) believes that, under the premise of following the inherent objective laws of financial development of and balancing long-term development, we establish and improve financial systems, develop and improve financial mechanisms, enhance and improve financial efficiency, and reasonably and effectively configure financial resources, so as to achieve the coordinated development of qualitative finance and quantitative finance, and the effective functioning and stable and continued development of economy and finance in the long term.

In the area of sustainable financial development theory, in the late 1990s of the 20th century, Chinese scholars proposed a sustainable financial development theory. The theory was formed after the Asian financial crisis. Economists switched from purely technical research on inherent economic laws to study financial moderation and efficiency in economic development. Bai Qinxian (Bai, et al. 2002) took the lead in systematic sustainable financial development ideology. He proposed a theory that relates moderate financial development to economic growth. Zhou Shengye (Zhou, 2002), a professor at Renmin University, separated financial efficiency into three levels: financial functioning efficiency, financial allocation efficiency and financial management efficiency. Kong Xiangyi (Kong et al, 2002) presents financial coordination theory, providing a useful supplement for sustainable financial development theory.

In terms of factors influencing the sustainable development of enterprises, Liu Ligang (Liu, 2001) organized the factors into three aspects: first, the identification and formation of core competitiveness; second, development of new leading business; third, management and innovation. Liu Bangcheng (Liu & Jiang, 2000) et al mainly analyzed the factors that influence the sustainable development from the aspects of the enterprises. The aspects include corporate business concepts, business systems, corporate culture, and enterprise's own objective conditions.

Wu Yingyu (Wu, 2003) et al believed that financial resources, market resources, management resources, technical resources, information resources, human resources, corporate culture and external environment are the major factors affecting sustainable development. Yu Chen (Yu, 2001) et al believed that the factors include enterprise's financial condition, human resources condition, technological condition, and harmonious condition. Rui Mingjie (Rui, 1998) et al point out that viability is the prerequisite for sustainable development. The supporting elements for sustainable development are cost savings, market demand, sustainability of human capital. Vittorio.C. el al (Vittorio, Raffaella & Giuliano, 1999, Oct.) noted three types of key elements of enterprise sustainable competitive systems: first, external elements, including government, environmental protection organizations, labor unions, mass media, local communities, markets, competitors, and other businesses; second, internal elements, which are operational factors that exist in the value chain; third, natural environment. Jon-Arild.J. (Jon-Arild & Bjorn, 2003) noted that the unique capabilities one enterprise has and its tacit knowledge will lead to sustainable competitive advantage, thereby promoting sustainable development. Although scholars have different opinions on the specific constraints of sustainable development, they generally agree that there are many factors constraining sustainable development, not the result of a single factor. They mainly include core competitiveness, innovation capacity, meeting market demand, human capital, business environment, enterprise systems and cultures.

# 3. FACTORS INFLUENCING THE SUSTAINABLE DEVELOPMENT CAPABILITY OF PROPERTY AND CASUALTY INSURANCE ENTERPRISES IN CHINA

#### 3.1 The Connotation of Sustainable Development Capability of Property and Casualty Insurance Enterprises in China

Drawing on the theory of sustainable development, the sustainable development of property and casualty insurance enterprises means that enterprises need to be able to continue to survive, using the foreseeable future as the time-span. The enterprises have competitive advantages and gaining wider recognition is their goal. They achieve a balanced development through continuous learning, continuous improvement and continuous innovation. At the same time, enterprise capability theory believes that the core capabilities are the sources of enterprises' long-term competitive advantage. This means that the property and casualty insurance enterprises must form and cultivate their own core competencies. The core capabilities include three implications: first, they contribute to meeting customers' demands; secondly, they are hard for competitors to imitate and replace; third, they are persistent, that is, on the one hand they maintain the sustainability of the competitive advantage, and on the other hand they make the core itself has a certain amount of rigidity. Therefore, this article proposes that the sustainable development capability of property and casualty insurance enterprises refers to the capabilities that the enterprises can continuously consolidate, maintain and enhance their own core competencies in the competitive environment, and the capabilities that the enterprises need to achieve comprehensive, balanced and steady development in the foreseeable future.

# 3.2 Analysis of the Factors Influencing the Sustainable Development Capability of Property and Casualty Insurance Enterprises in China

Sustainable development is the strategic goal of property and casualty insurance enterprises. They must adhere to the concept of sustainable development, effectively configure their resources, gradually cultivate and enhance capabilities. Through the effective integration of capacities and resources, they can effectively use financial resources, unify of current and future economic interests, and achieve sustainable, effective, stable and coordinated development. It can therefore be concluded that financial resources are the basis of property and casualty insurance enterprises' sustainable development; capability is the condition; the effective integration of resources and capabilities is the means.

1) Capability Resources

The capabilities that property and casualty insurance enterprises can configure mainly are:

(1) Financial resources. Financial resources are part of resources of the property and casualty insurance enterprises. They are the various resources owned or controlled by enterprises, including capital resources, cost resources and fixed asset resources.

(2) System Resources. System resources are the rules and practices of organization structure and internal functions. They are the platform and basis of internal management.

(3) Human Resources. As far as the individual is concerned, human capability is the capacity contained within the body. Human resources are reflected by the quantity and quality of workers.

(4) Technical Resources. Property and casualty insurance enterprises belong to the technology intensive industry. With the development of science and technology, modes of operations and types of services keep changing. Technical resources occupy an increasingly important position. The enterprises need to provide differentiated products, establish risk management systems and deliver electronic services. These all require strong research and development technologies from the property and casualty insurance enterprises. (5) Information and Knowledge Resources. With the rapid development and wide application of information technology, finance and science and technology integrate closer and closer. Property and casualty insurance has long ceased to be traditional insurance. It gradually changes from labor and capital intensive to information and knowledge intensive industry. The information resources play an extremely important role in business decisions, business processing, capital management, customer service, product innovation and risk management.

(6) Relationship Resources. Under the environment of economic global competition, any enterprise is unlikely to completely isolate itself, carry out operating activities and achieve long-term profits. Property and casualty insurance enterprises are no exception. They need to cooperate with different companies and organizations in order to maintain a sustained and stable development. Various kinds of social relationships can be formed to obtain the resources needed for business development. The companies can benefit from each other's advantages, knowledge, information and interests, while sharing risks. The relationship resources of property and casualty enterprises mainly include customer relations, relationship with government and regulators, and cooperation with banks and other financial institutions.

#### 2) Capability Level

Corporate capabilities are reflected in all aspects of the business processes. It is impossible to analyze everything when conducting an analysis of the corporate capability system. On one hand, certain capabilities are ambiguous and difficult to describe theoretically. On the other hand, describing and analyzing some capabilities on the surface has little value. Therefore, we can only focus on the main aspects that influence corporate survival and development. Theoretical abstraction can then be conducted. Based on this analysis, factors affecting the sustainable development status of property and casualty insurance enterprises are:

(1) Operation Capability. Operation capability reflects the efficiency in the management of existing resources. It is the main factor affecting development speed and operation efficiency.

(2) Profitability. This is the ability to make profits.

(3) Development Capability. This indicates the operation level in the future. We can use it to evaluate development potential and future development trend.

(4) Learning and Innovation Capabilities. Learning capability reflects the ability to constantly adapt to the changing environment. In the era of knowledge economy, property and casualty insurance companies face rapid changes in the external business environment. In order to survive and continue to grow, the enterprises need to have learning capability. Innovation capability is a measure of creativity and innovation of their products, services and management.

(5) Risk Control Capability. Property and casualty insurance business is a high risk industry. Effectively

controlling various risks is an important element in sustainable development. Property and casualty insurance enterprises must have the capability to use advanced technologies and scientific methods to identify, assess and manage risks. This will provide important protection for sustainable development. The risk control capability is needed for stable sustainable development.

(6) Coordination Capability. This is the ability to adapt to and coordinate with macro and micro environment while pursuing development. This includes the adaptation to macro environment and harmonious development, and coordination and joint development with micro level stakeholders.

#### 3) Capability Environment

The sustainable development capability of property and casualty insurance enterprise is also subject to internal and external environmental impact. The impacting factors can be separated into external and internal factors.

#### External Factors

Development and level of efficiency are affected by the environment. From the outside, these include national macroeconomic policies, social credit environment, domestic macroeconomic environment, business environment, financial cultural environment, financial regulation and international environment. a) National Macroeconomic Policies. Development and level of efficiency are directly affected by national monetary policy and other macroeconomic policies, including fiscal policy, investment policy, industrial policy, income policy, consumer policy and price policy. b) Social Credit Environment. Market economy is based on social division of labor and commodities exchange is its basic element. All acts of fraud, spoofing, and dishonesty will negatively affect the market exchange. Equal exchange cannot be carried out smoothly, triggering a chain reaction. Therefore, market economy requires a stable market order which is the credit order. Sound social credit environment is the fundamental guarantee for healthy functioning of the economy.c) Domestic Macroeconomic Environment. Domestic economic environment includes socio-economic structures, social and economic development level, and economic system situation. Macro-economic environment have a significant impact on the property and casualty insurance industry. In order to be efficient, property and casualty insurance enterprises need to maintain interoperability with the economic development. This means that the property and casualty insurance industry development must obey and serve economic development. If the industry development lags behind economic development, it might have an inhibitory effect on the economy. The industry's efficiency can only be realized under a certain economic structures, economic development level and economic systems. d) Corporate Environment. Property and casualty insurance enterprises have financial resource allocation functions. The final configuration of capital

resources is completed by the enterprises. Without the process, capital cannot continue to increase in value. Good corporate environment is the prerequisite for the sustainable development. This condition is naturally met in developed market economies, but developing countries, in particular countries in transition, do not have this condition. Enterprise system reform must be made. e) Financial Cultural Environment. National financial cultural environment is formed in financial practice. It is the cultural collection that has lasting influence on national monetary policy, management activities of financial institutions and financial development. This includes elements like financial concept, financial awareness, financial thinking, financial habits, and financial knowledge. Good financial cultural environment has far-reaching effect on the sustainable development of property and casualty insurance enterprises. It can make up for the defects and insufficiencies of official legal regulations. Conversely, adverse financial cultural environment will have negative effects on the sustainable development. As a result, failures of financial resource allocation and financial crises will regularly occur. f) Financial Regulation. Financial regulation is the supervision and management of all financial activities by state financial management bodies. It is a form of industry supervision to strength financial management. Due to the incompleteness of market mechanisms and the risks and damage it might cause, consensus has been reached by nations around the world on financial regulation. Now no country or theory denies the regulation of the financial industry. In a market economy, financial industry operates on financial asset and financial products. It also emphasizes on competition. Introducing market mechanisms into the financial industry, on the one hand, could help the financial industry to continuously improve the way it operates and improve the efficiency and operational effectiveness of development and allocation of financial resources, yet on the one hand, due to the incompleteness of market mechanisms, it can also lead to financial risk and financial crisis and disrupt normal financial order. It can also cause inefficient or ineffective development and configuration of financial resources. The incompleteness of market mechanisms makes it necessary to regulate the financial industry. It can help maintain financial safety and enhance financial resource allocation efficiency. g) International Environment. In an era of economic and financial globalization, the property and casualty insurance enterprises cannot be isolated from the world economy and international finance. International economic and political environment has a significant impact on sustainable development.

When the economic integration reaches a certain level, all nations are required to comply with international practice and relevant legislation. For example, the World Trade Organization's provisions on national treatment of the financial industry will have an impact on the structure of the financial system. In term, it will affect monetary capital resource configuration. National monetary and financial policies' impact is no longer just isolated within the country. The policies will also interact with each other.

(2) Internal Factors

Besides being influenced by external factors, the efficiency of property and casualty insurance enterprises is more directly affected by property rights, size of the enterprise, asset quality and other internal management factors. a) Property Rights. Property rights are made up of authority of property rights, interests and responsibilities. Authority of property rights is the power the property owners have over the financial assets. It is a group of rights that can be separated or integrated. It consists of right of possession, right of use, usufruct, right of disposition and trading rights. The interests and responsibilities of financial assets are the obligations and responsibilities that the property owners have over the effectiveness and benefits of the property. b) Size. Economy of scale of the property and casualty insurance industry means that unit operating cost goes down as asset size, business size, number of employees and branches go up, while unit revenue increases. This reflects the interactive relationship between size of business and cost and benefit. c) Asset Quality. Asset quality is an important indicator of the enterprise's risk levels and quality of costs. It determines whether credits and funds can cycle properly, which further determines whether the enterprise can survive in market competition. Asset quality directly affects the output of the enterprises. The better asset quality is, the more interest income and profits will be. The enterprise will also become more efficient. The worse asset quality is, the fewer interest income and profits will be. Also the efficiency will also be reduced accordingly.

# 4. THE BASIC STRUCTURE OF SUSTAINABLE DEVELOPMENT CAPABILITY OF CHINESE PROPERTY AND CASUALTY INSURANCE ENTERPRISES

According to enterprise capability theory, a company's long-term sustainable competitive advantage in the marketplace is determined by the company's core competencies. Core competency is the cumulative knowledge that the company uses to coordinate various productions skills and integrate multiple skills. It is formed during the company's long-term development. However, it only exists within a certain period of the company's development. Core competency itself has a life cycle. In different stages of the company's development, whether core competency can be maintained and effective transformed is the key to achieve sustainable development. Maintaining, consolidating and effectively transforming core competency depend on the enterprise's ability to change and innovate. Sustainable development can only be achieved and promoted through constant change and innovation, consolidating and maintaining the core competencies. Core competencies consist mainly of technical skills, management skills, environmental capability, and the ability to respond to change (Fan, 2008)

There is more than one way to obtain core competencies, but the most fundamental and effective

way is for the enterprise to keep learning. The only way for a company to gain competitive advantage is to enhance core competencies. Corporate learning is the foundation of core competencies. The learning capabilities and the ability to turn knowledge into action is the ultimate competitive advantage.

Combining the capability resource, capacity level, capability environment and core competency, we get the basic structure of sustainable development capability, as shown in Figure 2.



Figure 2 Structural Model of Sustainable Development Capability

The Figure describes that the core competence is based on the capability environment. Capability resources and capacity levels are the pillars. Through learning, core competency can be formed by effectively integrating capability resource and capacity levels. Core competency develops dynamically as the changing capability environment. Finally sustainable development capability is formed.

## CONCLUSIONS

This article starts with the current situation of the Chinese property and casualty industry. Though data analysis, it leads to the problem of how enterprises in this industry can achieve sustainable development. To address this problem, this article is based on corporate capability theory. It first elaborates the connotation of sustainable development capability of property and casualty enterprises. Then it analyzed the main factors influencing the sustainable development capability (capability resource, capability level and capability environment) and their sub-elements. Finally, it draws the structural model of sustainable development capability. Capability environment is the basis, and capability resources and capability levels are the pillars. Learning then integrates capability resources and capability levels. But this article did not use these factors to build an index system to measure the effectiveness of Chinese property and casualty insurance enterprises. This is the direction for future research.

## REFERENCES

- Liu Ligang (2001). Theory of enterprises' sustainable development. *Economic Management Publishing House*, 2001.
- Zhong Luwen (2002). Enterprises' strategy and sustainable development. *Journal of Guizhou College of Finance and Economics*, 2002 (3): 10-14.
- Bai Qinxian, Ding Zhijie (1998). On sustainable financial development. *International Financial Research*, (5), 28-32.
- Wang Yuansheng (2004). Study on the relationship between financial development and economic sustainable development.

- Zheng Yiping (2006). Research on sustainable development of policy banks under the financial resource constraints.
- Bai Qinxian et al (2002). An Introduction to the study of sustainable financial development theory. Beijing: Financial Publishing House of China.
- Zhou Shengye (2002). Analysis on financial capital operation: mechanism, efficiency and information. *Beijing: Financial Publishing House of China*.
- Kong Xiangyi et al. (2002). Change of century-old financial systems and financial coordination. *Beijing: Social Sciences Publishing House of China*.
- Liu Bangcheng, Jiang Taiping (2000). Analysis of factors influencing enterprises sustainable development. *Soft Science*, (3), 52-54.
- Wu Yingyu (2003). Study on the evaluation index system of enterprises sustainable competitive capability systems. *Accounting Research*, (7), 55-56.

- Yu Chen (2001). Discussion on enterprises' sustainable development. *Business Research*, (12), 49-52.
- Rui Mingjie (1998). Theoretical analysis of enterprises sustainable development. *Economic Research of Shanghai*, 7-59.
- Vittorio, C., Raffaella, M., Giuliano, N. (1999, Oct.). Towards a sustainable view of the competitive system. *Long Range Planning*, 32.
- Jon-Arild, J., Bjorn, O. (2003). Knowledge management and sustainable competitive advantages: The impacts of dynamic contextual training. *International Journal of Information Management*, 23.
- Fan Xinhua (2008). Study on the evaluation of core competency of high-tech enterprises. *University of Jiangsu*.