A Comparative Study on Risk Management of Private Equity Firms

– Based on China versus UK

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ABSTRACT: This study reviews literature with revolving around three issues: content of risks, incentives of risks and risk management mechanisms, which provide theoretical support and research ideas for empirical research. Secondly, this study take the questionnaire method which draws on before study to investigate risk management system of China and UK PE in practice, and compare the results and analyze the reasons for the differences. Finally, based on the analysis results, this study puts forward several suggestions for improving the Chinese PE company's risk management.

Private Equity in China and UK

The early 1980s, along with the deepening of reform and opening up, Chinese people began to understand America's "Silicon Valley myth", the rise of "Zhong guan cun Electronics Street" marks Chinese high-tech generation entered the stage of exploration and development, and China began explore the road of private equity (Zhou, B., 2005)[1]. In 1985 State Council officially approved the establishment of China's first venture capital firms - China New Technology Venture Investment Corporation was set up, marking the birth of China's venture capital industry (Zhang, X., 2009)[2]. In the late 1990s, the rapid development of China's macro economy and the rapid growth of the national economy led to the development of China's private equity investments. The establishment of high-tech industrial development zone and various PE companies, and the influx of foreign venture capital funds all mark the rise of PE in China. However, China's capital market have formed for a short period, PE company are failed to establish a comprehensive project selection and risk management mechanisms; China lacks a sound credit system, there is lack of real and effective information from the quality level of investment projects to entrepreneurs working ability and integrity (Xin, Y., 2012)[3]. Further, according to Chi (2011)[4], China's PE industry related laws and regulations are not perfect, China lacks unified government administration; PE company's development is primarily driven by the government, the degree of market needs to be improved.

In 1868, some British investors jointly funded "Overseas and Colonial Government Trust", they entrust experts who is familiar with overseas economic manage investment and invest funds in Europe and the American continent, which is the world's first private equity fund (BVCA, 2004). However, compared with the United States, the development of the European private equity market lags a lot. The rise of private equity investments in Europe from the beginning of

the 1980s, in the following thirty years European private equity market has made great progress, and now has become only next to North America and the world's second largest development area of private equity investment (EVCA, 2007). In European private equity, UK's private equity industry has grown rapidly and performance is good. British private equity industry is Europe's largest and oldest, its annual investment accounted for nearly 57 percent of the whole of Europe, second only to the U.S. influence in the world (Smolarski, J., Kut, C., Verick, H. and Foxen, S., 2006)[5]. PE firms' risk management had developed into a discipline in the UK in the 1950s, now UK has formed a relatively complete system of risk management theory. British government regulatory system for PE industry is very mature, mainly reflected in four aspects: First, the regulation of the number and qualifications of PE investor; Second, the regulation of PE company managers; third is force PE periodically report key data and information of portfolio companies; Fourth is the regulation of proportion of investors' investment(Xin, Y., 2012)[3].

Research Methodology

The main risks that PE companies face can be divided into systematic risk and non-systematic risk based on property. The systematic risk refers to the risk caused by economic environment, policy and system, laws and regulations, etc.; it has universality and causes influence on most of industries, and it is almost inevitable. The risk other than systematic risk is non-systematic risk, which is generally caused by one specific factor. A summary is made for risks according to investment stage of PE companies; at each stage, PE companies will face different risks. In project selection stage, PE companies may face the risk from investment partner, such as partner's ability risk, organization risk, moral risk, and risk of terminating cooperation. In investment decision-making stage, PE companies mainly face the risk from financing parties, and the financing parties may whitewash themselves; PE companies shall select good project as much as possible based on limited information. In investment management stage, that is, after the investment is made in financing enterprise, PE companies mainly face agency risk. In final exit stage, PE companies may fail to exit due to improper exit time or way. The most main reason which causes above risk is information asymmetry which also causes adverse selection problem and moral hazard problem; these three factors are the most main theory used to explain risk reason. Therefore, the main risk management mechanism of PE companies is to eliminate or mitigate information asymmetry, such as investment contract, joint investment, and staged investment.

However, through literature review, it is unable to comprehensively and accurately generalize the risk management of PE companies. The risks of PE companies vary as national conditions. The policy orientation, system, market environment, and economic development of each country or region are different, thus there exists difference in organizational form, survival environment, and risk source of PE companies. Therefore, this paper make use of questionnaire survey to research actual risk control of PE companies in Britain and China, makes comparison between PE companies in Britain and China, and between theory and reality, finds the difference and briefly analyzes the reason which causes difference.

The specific research technique used in this paper is granting questionnaire on risk management in China and the UK PE firm by e-mail, the questionnaire is based on one used in a similar study undertaken by Smolarski, J. et al (2006)[5] and adapted to fit this research project.

Questionnaire includes four major areas: assessment of new investment projects, risks in existing portfolio, portfolio risks and macro-risks, the entire questionnaire includes a total of 55 sub-problems. A total of 396 questionnaires were granted, including 243 British PE companies and 153 PE firms in China. Eventually 18 questionnaires from UK and 20 questionnaires China were recovered, the total recovery rate is 9.6%. Data from recovery questionnaire is divided into two samples: UK and China PE companies. After the test, it is found that two samples are non-normal distribution, so if testing whether there is a significant difference between the two samples, T-test which is parametric tests should not be used, and it requires to be tested by using rank-sum test. Therefore the results of the first and second modules are analyzed by Mann-Whitney U test to test significantly of differences between the two sets of data. Following two modules' results are answered by yes or no. In order to improve the accuracy of the test, chi-square test is used in these two modules to do test of Independence for the two classified indexes in contingency table, and test the degree of association of two categorical variables. Besides delivering questionnaires, further more detail is obtained by communicating with managers of individual PE companies via email. Although the information obtained in this process is very limited, but it provides some very critical answers for the reasons of differences in results.

Results and Analysis

Evaluation of New Investment Compared to PE companies in Britain, PE companies in China prefer joint investment and pay more attention to the quality of investment partners. This is similar to the research result of Smolarski et al. (2006)[[5] who think that the information asymmetry problem is more serious in developing countries compared to that in developed countries, which urges PE companies in India to pay more attention to selecting reliable investment partners to carry out joint investment. In whole Europe, Britain is a country in which PE industry has most mature development, and both information asymmetry problem and limited resource problem are more obvious in China. Besides, compared to research result of Smolarski et al. in 2006, PE companies in Britain pay more attention to joint investment in recent years, which shows that Britain PE companies pay more attention to risk decentralization after global financial crisis.

In terms of selection of DCF, there is great difference in Chinese and Britain PE companies: the mean value of Britain group and Chinese group is 2.35 and 1.49 respectively. The discounted cash flow method is the most perfect method in western enterprise valuation method theory, and it is widely applied in Britain PE companies' valuation on investment project. Especially in global financial crisis in 2008, the economic environment which suffered a serious defeat obstructed capital source of PE companies, and even blocked their exit channels. If the enterprises can't guarantee their survival in future several years, PE companies will not only face the difficulty of being unable to exit, but also have a second capital injection. Therefore, PE companies start to pay more attention to future cash flow of invested enterprises after financial crisis. However, the discounted cash flow method requires to predict future cash flow, but it is very hard to realize this point in Chinese current enterprise accounting system. Therefore, only few Chinese PE companies apply this method to evaluate the enterprises, and they often tend to apply comparable company method in enterprise valuation, such as price earnings ratio method, and this is also the reason why the survey result shows that more Chinese PE companies select price earnings ratio method compared to Britain PE companies.

When Chinese PE companies select non-listed or listed enterprises, they can take the share price and financial data of same kind of companies as basis to calculate price earnings ratio and valuate enterprises; currently, this method is most common method in Chinese PE market.

Risks in Existing Portfolio Companies Chinese PE Company may be greatly worried about technology risks in the invested enterprises. It can be observed from this point that its statistical average is 2.53, which is higher than Britain's 1.82. The reason for producing this difference contributes to different degree of development between China and Britain, as well as differences between corresponding production industry and technological level. Due to limitations at different production and development stage, in the process of investing capital and using creative products, there is a selection of using old technology and new technology, such as R & D of products, prototype design, production process or required equipment in production process, etc. Comparing with Britain, Chinese industrial technology is relatively lagging, and production management process may have some improvement space, while the new technology and theory are developing and immature. All of them have imperfect place. How to perfect it as soon as possible is often hard to master for the enterprises. Moreover, final effects of products are hard to estimate. Therefore, in the production process, there is a higher possibility for Chinese manufacturing enterprises to select the old technology, which can produce smoothly, but doesn't have higher production and additional values. However, relatively speaking, British manufacturing enterprises, especially for PE Company, take delight in investing high-tech industries. The new technology and theory are the core of products. Only to update design philosophy can products take the lead in the market easily, so as to improve it. Consequently, new technology runs through the overall process of products from original imagination to market-oriented scale production. Furthermore, after selecting new technology with higher technical additional values, British manufacturing enterprises have more abundant technical backgrounds to solve technological problems that may be encountered in implementation.

As for operational risk not related to management, statistical average of Chinese PE Company is almost similar to British PE Company's, but causes of producing the risks are total different. Comparing with China, the main reason for British PE Company is due to look at newly-developing industries with high investment risks and rapid growth, so as to obtain high retribution. Because the enterprises invested by them belong to the new generation, there is an objective growth process. Therefore, investment managers who are short of related experience may be easily to produce operational risks, while Chinese PE industry that still is in immature stage needs a process, which should combine with China's actual conditions to explore and practice objectively. Because relatively higher costs of knowing well industry practices and rules may result in lack of effective administration in initial stage for Chinese PE Company. If administrators in PE Company are lack of power to perfect internal control system in the short run, construction of risk management internal system may not keep up with business development requirements. In addition, qualification and power of investors now have unified standards and system safeguards, which will become the important factor of producing operational risks. Furthermore, Chinese PE market is still immature. Particularly, it is short of excellent PE investment managers. Meanwhile, the constraining force of industrial public trust is relatively limited, and penalty costs of generating operational risks by PE investment managers are comparatively lower, and external competitive pressure of investment managers is smaller, which also will be easily to cause operational risks. Secondly, at present, PE

investment in China has no effective withdrawal channels. On the other hand, it has smaller probability to exist through IPO. On the other hand, growth enterprise market doesn't establish, and property rights exchange market is far away from immature. Nowadays, only China Beijing Equity Exchange establishes a platform by aiming at PE stock rights. Therefore, external factors of establishing government financial system are hard to be predicted, so the PE Company is likely to produce operational risks.

Portfolio Risk The mean of the two samples shows that both Chinese and British companies consider the impact of new investment projects on risk of PE company's overall investment is universal. Data shows that the risk is primarily reflected in the cash flow volatility (overall average of 0.71), followed by the return volatility (overall average of 0.62).

On the issue of diversification of investments, the difference between British and Chinese PE firm is mainly reflected in Investing in other sectors of the economy、 Investing in other geographic regions and the use of staged financing.

In terms of the achievement to diversification strategy in different sectors and regions, China is far less than Britain, the sample mean of Investing in other sectors of the economy is only 0.23,which has a large gap contrast with the Britain's 0.64, and P values also showed significant. The sample mean of Investing in other geographic regions also has a gap of 0.34 compared with Britain. From China's situation, it would be relatively limited for the PE firms achieving a diversified investment through stocks, funds, structured products and investment trusts. First, the Chinese stock market is underdevelopment, the number of listed companies is small, contact between stock price and company does not close, fluctuation of price and risk is high. Second, China's securities investment funds specifically issued for different industries, fund of funds, structured products and other new financial instruments and derivative products is very limited. For example, considering the issuance of the real estate enterprise's bonds, the large-scale trans-regional advantage, strong profitability, high security, as well as the low default rate of housing mortgage securities always accompanied by commercial bank guarantees, the relative controllability of risk, the real estate industry, real estate, real estate bonds, real estate mortgage-securities become a diversify investment choice to control risk for Chinese PE firms. And other industries do not even have such few choices. Comparatively speaking, the British PE firm generally believed that the credit risk usually concentrated in companies' shares or convertible securities, efficient diversification of credit risk is primarily not through diverse species but by diverse ways such as business category, stage of development, industry structure and investment areas, etc. to prevent sharp fluctuations in the overall earnings.

Data shows that British PE Company may adopt more Staged financing in diversified strategies. The inspection result $P=0.04<0.05$, because Chinese PE Company has complicated conditions in this industry and has little experience on investing high-risk projects, such as investment on real estate enterprises have larger credit risks and probability of business failure, so it needs PE Company to carry out investment activities in line with contracts and ensure that invested financing volumes can be enough to be developed into a certain stage by invested real estate enterprises, and incremental funds depend on expectant stage profit targets of the invested real estate enterprises. Generally speaking, this mechanism requires for strict budget management to regard as the foundation, which is a challenge for the manager of Chinese PE Company.

However, British PE Company has longer development time and has comparatively mature experience in this aspect. Moreover, its manager has professional advantages in related fields. For example, through repeated evaluation on past and future target insight of operating conditions in the invested real estate enterprises, it can definitely maintain rights of abandoning additional investment and dissolved enterprises and preemption of additional issued stocks, so as to control potential risks effectively and reduce possible losses to restrict capital waste of the invested real estate enterprises.

Measurement of financial risks mainly is embodied by Beta (Population mean is 0.74), because Beta's comprehensiveness and reliability have already verified by the market.

In the aspect of using tools to control financial risks, insurance is a kind of tool with higher rate of adoption (Population mean is 0.58), From the perspective of inspection results, the probability of controlling financial risks by using insurance in British PE Company will be higher than China's(They mean values are 0.70 and 0.49, respectively). As for the utilization of financial derivatives, such as futures, standardized derivatives and forward contracts(Its P =0.03, 0.03 and 0.01, respectively. All of them perform significant variations at 0.05 confidence level.), China havs significant differences with Britain. Because Chinese financial derivative market is almost starting, categories of derivatives are deficient, scarce transaction models are also completely limited. On the contrary, British financial derivative market is developed. PE Company can take advantage of realistic manner of hedging to transfer market risks from several aspects of stock capital, bond capital, interest rate of exchange rate and interest rate of international finance. Hedgers can realize effective risk management with smaller costs. Financial risks caused by speculation of derivatives should also be prevented, while making use of derivative instruments to manage PE market risks.

Hedging of Macro-Risks The data in appendix shows China's PE firms paied less attention to the issue of the interest rate risk and foreign exchange risk, their statistical mean respectively have 0.30 and 0.52 difference with UK PE firms. It is because China's capital market is still in its infancy compared with Britain and other Western countries, market mechanisms are inadequate as well. Another reason is long-term regulation of interest rates make Chinese PE industry not sensitive to interest rate changes, interest rate risk management awareness is also more backward; while the inadequate consideration of foreign exchange risk is caused by late start of China PE industry, although in the context of economic globalization and cross-border investment, it is still not commonly seen that foreign capital real invest in Chinese projects. Therefore the impact of irregular fluctuations in exchange rate is weaker to Chinese PE companies than to British PE firms. However, because of the trend of economic globalization and cross-border investment, it is foreseeable that with the development of China's PE industry, China 's PE firms will pay more and more attention to foreign exchange risk.

On the other hand, the data shows the two countries' attitude to business-cycle is similar, the mean of China group is 0.33 and the mean of UK group is 0.30. This result is a slight increase than the results in 2006 undertaken by Smolarski et al, it indicates that no matter which country, the economy progress or decline determines the supply of funds, and the funds must be concerned by PE firms in operating process.

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