

The Impact of Private Equity Fund Investment: Risk and Value-added Service on Enterprise Performance in Real Estate Industry

Xin Zhang

Asia Metropolitan University, No.6, Jalan Lembah Bandar Seri Alam, 81750 Johor Bahru, Malaysia

*Corresponding author: 13983390787@139.com

Abstract

For private equity financing enterprises, we should first understand the PE profit model and operation style, and do not blindly finance; Secondly, at present, Chinese enterprises can consider introducing state-owned PE and non-state-owned PE joint investment; Third, in view of the general adverse selection effect in China's PE market, high-quality enterprises should prove their quality through "signal effect" or information disclosure; In addition, although PE shares bring financing convenience, enterprises should not over finance, otherwise it will affect business performance. For equity fund investors, we should realize that the high return of IPO Exit of PE investment projects is obtained at the cost of bearing a great exit risk; It should be recognized that there are differences among PE Institutions. For example, PE invested in stages often has stronger value-added ability and greater influence in the state-owned PE market. Third, we should try to restrain PE from over financing investment enterprises. For private equity investment institutions, they should choose to cooperate with complementary PE Institutions.

Keywords

Private Equity Investment; Business Performance; Market Performance; Institutional Differences.

1. Introduction

In recent years, the central government's policy orientation on the real estate market has always adhered to "houses are used for living, not for speculation", and stressed that "real estate is not used as a means to stimulate the economy in the short term". Real estate and finance have always been inseparable. The real estate industry is a capital intensive industry. The rapid development of the real estate market is inseparable from financial support. The expansion of real estate financial scale will increase the probability of financial risk accumulation. The tipping point of the international financial crisis in 2008 is that the subprime mortgage risk in the U.S. real estate market is ignited. In recent years, the trend of high homogeneity between the real estate cycle and the financial cycle is becoming more and more obvious. The relationship between the real estate industry and the financial industry is becoming closer and closer (Medda, 2021). The real estate industry is changing from the traditional production and marketing model to the financial deepening model. From the perspective of China's situation, under the guidance of prudent housing credit policy, the non-performing rate of real estate loans is significantly lower than that of all loans, and the down payment ratio is high, so the real estate financial risk is generally controllable, but the problems of local high house prices and high leverage in the real estate industry can not be ignored, and the financial risks that may be caused by the real estate industry should be vigilant.

This paper makes a systematic analysis and empirical research on the differences in market performance and operating performance of shareholding enterprises caused by PE institutional

differences. In the existing literature, the research on PE differences is mostly limited to one or two aspects of PE and direct effect differences. This paper establishes 33 specific indicators from five aspects to comprehensively and systematically analyze the direct and indirect impact of PE institutional differences on the operating performance and market performance of listed companies. According to the empirical results, the paper puts forward the key points of PE differentiation policy and the matters that various PE market participants need to pay attention to. Secondly, combined with China's national conditions, this paper makes an empirical analysis on the impact and mechanism of PE Shareholding on the issue pricing, IPO Underpricing and long-term cumulative excess return in the future. For example, the paper establishes the online and offline relative power index in combination with the characteristics of China's main board IPO pricing system (offline inquiry and online pricing). By comparing the political relevance of Chinese enterprises, this paper analyzes the market role of private equity investment. According to China's basic national conditions in the market-oriented transition stage, the index of regional marketization degree of enterprises is introduced. In combination with PE's lock up period of more than 1 year, set long-term cumulative excess return indicators, etc. They are designed in combination with China's national conditions, and the research results also show that the impact of these factors is significant and important. According to the empirical results, the paper also gives targeted countermeasures and suggestions, such as restraining the behavior of some PE driving up the issue price when enterprises are issued and listed, encouraging PE to hold shares for a long time, etc.

2. Analysis

2.1. Grouped Univariate Test

After grouping description statistics, we use spss19 to test the t-test of the mean value of grouping data. There are two grouping criteria, one is grouped according to whether there is PE shareholding, and the other is grouped according to whether there is PC background. The purpose of grouping test is to observe whether there is significant difference in the mean value of samples in each group after grouping. The test results are shown in table 1 The results of grouping univariate mean test verify and supplement the basic judgment obtained through descriptive statistics.

Specifically, the two characteristics of political connection and private equity investment and shareholding have the same impact on listed companies. For example, companies with one of the two characteristics have higher issuance P / E ratio, higher underpricing rate, stronger underwriter ability, worse return on total assets, higher online or offline oversubscription multiple, especially offline oversubscription multiple, than companies without this feature. At the same time, there are obvious differences between the two. For example, the future performance of PE holding companies is weaker than that of non PE holding companies, while the performance of politically related companies is better than that of non related companies; For another example, the average innovation level (patent score, software / new drug score and technical identity of actual controller) of PE holding enterprises is significantly higher than that of non PE enterprises, while the average innovation level of political related enterprises is significantly lower than that of non political related enterprises; in addition, the asset liability ratio of PE holding companies is lower, while the asset liability ratio of political related companies is significantly higher.

Table 1. Grouping test of mean difference in market performance of A-share listed real estate companies

Variable	Grouping with or without PE background				Grouping with or without political relevance			
	mean (PE=0)	mean (PER)	Sample size	T-test	mean (PO0)	mean (PC=1)	Sample size	T-test
P E	54.92	56.36	355	-0.56	54.92	57.14	355	-0.87
R	32.73	35.51	355	0.68	32.03	38.12	355	-1.50
AR	32.96	35.44	355	-0.61	32.05	38.19	355	-1.52°
CAR120	0.27	-0.67	355	1.56°	-0.77	0.44	355	-2.01**
CAR240	0.32	-0.61	355	1.48°	-0.62	0.34	355	-1.71*
BHAR120	-0.55	-0.75	355	0.40	-0.81	-0.44	355	-0.76
BHAR 240	-0.42	-1.02	355	1.14	-1.11	-0.29	355	-1.56
PE	—	—	-	—	0.59	0.63	355	-0.85
PC	0.36	0.41	355	-0.85	—	—	—	—
Patent	2.24	2.57	355	-1.76*	2.45	2.42	355	0.7
Size	6.30	6.33	355	-0.63	6.26	6.40	355	-2.29**
A	4.72	4.76	355	-1.03	4.70	4.82	355	3.04***
Software	1.45	1.25	355	1.04	1.52	1.04	355	2.59***
LEV	44.13	43.40	355	0.44	41.15	47.64	355	3.9
TECH	0.68	0.76	355	-1.71*	0.75	0.71	355	0.83
ROA	17.46	16.30	355	1.20	18.23	14.47	355	4.05***
Underwriter	0.40	0.53	355	-2.41**	0.47	0.50	355	-0.53
Accountant	0.47	0.47	355	0.55	0.46	0.50	355	-0.70
SMEI	52.93	52.00	355	0.52	52.60	52.00	355	0.34
BTCR DN	133.58	138.86	355	-0.64	134.43	140.43	355	-0.71
BTCR OFF	37.68	41.56	355	-1.03	37.70	43.65	355	-1.52°
BTCR FN	32.39	35.27	355	-0.91	32.44	36.92	355	-1.36
ONSHIBOR	12.76	14.21	355	-1.09	14.34	12.55	355	1.35
CCI	103.88	103.57	355	0.94	103.54	103.92	355	-1.12
RMI	9.82	9.72	355	0.58	9.98	9.41	355	3.04***

Note: CAR120 represents the cumulative excess return for 120 consecutive trading days from the second trading day after listing; CAR240 represents the cumulative excess return for 240 consecutive trading days, and BHAR is similar. 120 trading days and 240 trading days are selected here, because they are roughly equivalent to half a year and one year respectively. ***, **, * respectively show that the two tailed t-test values are statistically significant at the levels of 1%, 5%, 10% and 15%.

2.2. Multiple Regression Analysis

In order to verify the impact of PE shareholding and political relevance on the market performance of A-share listed real estate companies. In this paper, multiple cross-sectional regression analysis is carried out with the issue price earnings ratio, the rise and fall on the first day of IPO and the cumulative excess return after IPO as the explanatory variables, and with or without PE shareholding, political connection, company characteristic variables, innovation level variables and market environment variables as the explanatory variables. The results are shown in the table. The model is divided into three groups a, B and C, which correspond to the empirical analysis of IPO P / E ratio, IPO first day rise and fall and post IPO aftermarket performance. In order to ensure the robustness of the results, group B model and group C model select two explanatory variables respectively. Group B selects the absolute level of the rise and fall on the first day of IPO and the relative level adjusted by Shanghai stock index, and group C selects the 120-day cumulative excess return and 240-day cumulative excess return.

Table 2. Multiple regression analysis of influencing factors of market performance of A-share listed real estate companies

	I	E	R		AR		CAR120		CAR240	
Model	A1	A2	B1	B2	B3	B4	C1	C2	C3	C4
PE	L94 (M7)		1.76 (0.60)		L53 (0.52)		-1.03* (.75)		-0.94* (-1.70)	
PC		-0.57 (-0.32)		3.11 (1.03)		2.83 (0.94)		1.07* (1.79)		1.6** (2.05)
Patent	-0.56	-0.51	097	-0.66	-1.04	-1.00			-0.20	-0.22 (-1.40)
Size	9.31*** (003)	953*** (5)2	40.95*** (-3.19)	-14.21*** (436)	-0.11 (-3.22)	-1138** (-3.29)	2.33 (3.07)	2.13*** (3.32)		
Age	-4.31* (-1.76)	-4.07* (4.64)							4.69** (214)	2.03** (256)
Software			-1.11 (-126)	-1.16 (-131)	-1.11 (-0.26)	-1.10 (-1-25.)	0.51" (3.05)	0.55*** (3.28)		
LEV	-0.12* (-1.82)	-0.12* (4.90)	-09* (-0.95)	-0.19** (197)	-0.19** (-1-97)	-0.21** (211)				
TECH			471(-1.42)	-4.79(-1.44)	-4.94(-0.49)	-4.82(-1.46)				
ROA	-0.27** (-245)	29... (-2.61)								
Underwriter			-3.5 (29)	+3.82 (-131)	-3.71 (0.28)	-3.60 (0.25)				
Accountant	2.45(1.46)	2.50 (38)	3.31 (1.15)	3.03 (1.09)	3.06 (1.06)	2.98 (1.04)	0.78 (1.36)	0.77 (133)	0.68 (125)	0.62 (1.14)
SMEI	0.47***)	oh						-0.03		

Note: *, **, * respectively show that the two tailed t-test values are statistically significant at the levels of 1%, 5%, 10% and 15%.

There are significant differences in the influencing factors of pre-IPO pricing, market performance on the first day of listing and post IPO performance, so we can observe the basic characteristics of China's main board market. Through the group comparison of the influencing factors of group A, E, C three models, it can be found that:

(1) In the issue pricing stage, the factors referred to in the underwriter's pricing model are relatively comprehensive and rational. It not only refers to the average market pricing level of the industry, but also considers the differences in the company's Fundamentals (scale, age, liabilities and profitability, etc.). However, there is also obvious room for active management of issuance pricing. The company's "timing" behavior based on market capital supply and demand (ONSHIEOR), macroeconomic expectations (CCI) and the ability to attract institutional investors to subscribe will significantly affect the issuance pricing, which also means that PE or political connections may exert influence; (2) On the first day of listing, the factors affecting the rise and fall of stocks are online subscription, enterprise scale, region, issuance P / E ratio, offline subscription, debt ratio, underwriter ability, enterprise innovation ability and accountant ability in order of significance. The influence of online and offline market power is

significantly higher than that of enterprise fundamentals, has a significant negative correlation with company size, and has no significant relationship with ROA. It shows that the rise and fall of the first fi listed is likely to be "speculation is greater than investment". This also confirms Liu Yuhui Shen keting (2011) and others put forward the view that China's TPO underpricing mainly comes from the "containment" of scarce listing resources in the secondary market. This is also the reason why the root of regional marketization is significantly negatively correlated with the first day of IPO, because the less marketization, the scarcer the resources of listed companies, the easier it will become the target of containment after listing, resulting in higher growth; (3) In addition to private equity investment, shareholding and political related factors, the factors affecting the future performance of the company have changed significantly compared with the factors affecting the price of issuance and the rise and fall of IPO on the first day. There are three main changes. First, the company's fundamental factors significantly surpass the short-term market speculation factors in the first significant position; second, the influence, significance and even influence direction of innovation level Changes occur; Third, in the issue pricing, the positive effect of the power of institutional investors and the P / E ratio of the industry turns negative in the long term. The phenomenon of "small-scale and large market" on the first day of listing also begins to reverse in the long term, indicating that the "behavior" or "manipulation" of the short-term capital market on the issue pricing and the first day of listing will be "punished" in the long term, However, the impact of the company's fundamentals will continue, and the long-term positive impact of innovation will also be reflected in the capital market.

Only in terms of the impact of private equity fund holdings on the company's market performance, in the direction of action, private equity fund investment has a positive impact on the P/E ratio and the first day earnings after IPO, but has a negative impact on the long-term cumulative excess return after listing; In terms of the significance of the impact, the order from strong to weak is that it has the most significant impact on the long-term cumulative excess return after listing, the second impact on the issuance P / E ratio, and the impact on the first day of listing is very weak, and only the significance level of the first impact exceeds 10%. Through the results of regression analysis, we can further verify the market value impact hypothesis of private equity fund holdings. Firstly, the regression results show that, compared with the issue pricing and first day performance, fundamental factors are the main reasons affecting the company's long-term cumulative excess return after IPO, and PE is significantly negative to the long-term cumulative excess return of the market after IPO, which is inconsistent with the screening hypothesis, because the screening hypothesis believes that the enterprise fundamentals screened by PE are better, so the corresponding market performance is better; Secondly, the empirical results do not support the "certification" theory, because the certification theory believes that in the issuance market with asymmetric information, private equity funds can significantly convey information and reduce underpricing (IPO first day increase). However, the result of empirical analysis is that PE not only has no significant impact on IPO underpricing, but also its direction is not to reduce IPO underpricing; In addition, the test results temporarily support the name for profit hypothesis and the market power hypothesis, but they cannot be distinguished or selected. The name for profit hypothesis believes that PE attaches importance to whether it can be listed and the excess returns brought by listing, which has the motivation to promote the listed companies as soon as possible and push up the market price. The market power hypothesis holds that PE will use market power to intervene in the stock price. In the two cases, the goal of PE intervention in the stock price is the same, but the influence mechanism is different. The results of empirical analysis show that PE does have an insignificant but beneficial impact on the issuance P/E ratio and the market price on the first day of listing, but it is difficult to determine whether this impact is realized by using market power. Therefore, further verification is needed.

3. Results

The empirical results of group D model show that if the interaction is considered, in the listing pricing stage, PE shareholding and political relevance do not directly affect the pricing of listed companies, but affect the issuance pricing through indirect effects. There are four indirect channels through which PE affects the issuance pricing: First, the innovation level of PE invested enterprises has a significant negative effect on issuance pricing, which may be because PE invested enterprises are significantly more innovative (t-test table) and have higher risk; Second, the asset liability ratio of PE invested enterprises is positively related to the issue pricing. Contrary to the overall situation of the asset liability ratio of the main board company, we speculate that the asset liability ratio of PE invested enterprises is mainly distributed before the inflection point of the optimal asset liability level, and is regressed through the square term of the asset liability ratio and the issue pricing. It is found that the impact of asset liability ratio on issuance pricing has a significant inverted U characteristic, and the average asset liability ratio of PE holding enterprises is indeed lower than the average level of the sector; Third, PE significantly increases the issue price by attracting more offline institutional investors to subscribe; Fourth, PE significantly reduces the contribution of the industry average valuation level to the issuance pricing. These four indirect effects have positive and negative effects. Therefore, in model A1, the overall contribution of PE is not significant, but the total impact of PE in A1 is positive, which shows that channel 2 and channel 3, that is, PE improves the asset liability ratio and attracts offline institutional investors, have a greater impact on the issuance pricing. Compared with PE, the indirect influence channel of political connection on issuance pricing is relatively single. Political connected enterprises generally have a high asset liability ratio, which is on the right side of the optimal asset liability ratio (inflection point) on average, and has a negative marginal effect on issuance pricing.

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