

## **Reputation of Financial Intermediaries, Venture Capital and Earnings Management**

**Zhizhang Lin**

Department of Commerce and Trade, Xiamen City University, Xiamen, 361008, P.R China

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**Abstract:** By analysing China's venture capital-backed listed companies between 2002 and 2013, this paper investigated the impact of the reputation of financial intermediaries such as lead underwriters and audit institutions on the role of venture capital firms in the earnings management during the four IPO stages. The empirical result shows that venture capital has significant grandstanding incentive. The reputation of audit institutions can significantly restrict the impact of venture capital on earnings management only in the lock-up period, unlock and presale period of stock. The reputation of lead underwriting does not restrain the opportunistic behaviour of venture capital firms, and even enhances the impact of venture capital firms on the real earnings management in the year of IPO.

### **1. Introduction**

In order to establish its reputation and improve ROI, venture capital will affect earnings management of the company (Gompers, 1996; Mills, 2001; Cai, 2015). IPO is an essential way for venture capital to exit, so venture capital will affect the earnings management of invested enterprises aim to achieve a successful IPO. The impact of venture capital on earnings management will be affected by various factors, including the reputation of financial intermediaries such as audit institutions and lead underwriters, which may restrict the infringement of venture capital or strengthen the role of VC in the earning management. According to the theory of auditor signal, when an enterprise is IPO, investors do not know the real situation of the enterprise, the enterprise sends relevant signals about the real value to the market through the quality of the auditor selected. The higher the real value of the enterprise is, the better the quality of accounting information is, so the enterprise is inclined to choose a better audit institution (Titman and Trueman, 1986). Booth and Smith (1986) proposed the intermediary theory of underwriter certification in 1986, which pointed out that underwriters in the securities market generally have the function of certification. Most scholars generally regarded underwriters as an external supervision mechanism of earnings management. During the four IPO phases, including preparation period for IPO, the year of IPO, lock-up period, unlock and presale period of stock, preparation period for IPO refers to the two years before IPO, lock-up period refers to the period venture capital shares after IPO, unlock and presale period of stock refers to the period venture capital shares unlock until all shares sold out. The incentive which venture capital affects earnings management is different during the four IPO stages. In the year of IPO, the motivation of earnings management is for IPO. On the unlock and presale period, venture capital stimulates the earnings management aim to improve the listed company's share price (Wang and Liu, 2003). In these stages, can the reputation of financial intermediaries affect the impact of venture capital on earnings management consistently? What's the role of the reputation of financial intermediaries? Based on these research questions, the paper investigated the impact of the reputation of financial intermediaries on the role of venture capital in the earnings management during the four IPO stages. Empirical results show that venture capital has apparent opportunistic behavior. The reputation of audit institutions can significantly restrict the impact of venture capital on earnings management only in the lock-up period, unlock and presale period of stock. The reputation of lead underwriting does not restrain the opportunistic behavior of venture capital, and even

enhances the impact of venture capital on the real earnings management of the company in the year of IPO.

## 2. Hypotheses development

The essence of venture capital operation is to realize the portfolio income. The success rate for IPO affects the reputation and financing level of venture capital firms. Compared with large-scale venture capital with high reputation, "young" venture capital firms may conceal the real situation of enterprises and stimulate the earnings management, thus promoting the success rate for IPO (Gompers, 1996). The grandstanding of venture capital infringes on the company, thus enlarging the degree of earnings management of the company. Kou and Pan et al. (2009) found that venture capital did not play a supervisory role in China', and most venture capital firms stimulated the earnings management for the reputation and financing scale. In China, the regulatory mechanism to venture capital firms is not perfect. Driven by economic advantage, venture capital firms will stimulate the earnings management of companies in the IPO process. We thus illustrate our first hypothesis as follows:

**H1: The degree of earnings management of venture capital-backed companies is higher than that of not venture capital-backed companies.**

The reputation of the audit institutions as a signal to investors implies information about the real value of the company. The better the reputation of audit institutions, the stronger the ability to restrain the earnings management of enterprises (Titman and Trueman, 1986). Dye (1993) modeled the auditor responsibility, audit quality and audit cost, and believed that when the reputation of an audit institution is high, it may suffer greater litigation risk. Therefore, in order to avoid reputation damage, the audit institution will make efforts to improve audit quality. Morsfield and Tan (2006), Gioielli and Carvalho et al. (2013) pointed out that if external audit institutions cannot identify or prevent accounting information distortion, it will severely damage their reputation. Therefore, audit institutions with high reputation have strong incentives to supervise their audit companies and restrain their earnings management behaviors. Therefore, the higher the reputation of audit institutions, the more strict external supervision the company faces. If the venture capital intends to stimulate the company's earnings management, out of fear of strict supervision by audit institutions, the willingness of the company's management to cooperate with the venture capital will reduce. That is to say, the high reputation auditing institutions will restrain the incentive effect of venture capital on the company's earnings management. We thus illustrate our first hypothesis as follows:

**H2: The higher the reputation of the audit institution, the lower the degree to which the venture capital stimulates the earnings management.**

Underwriters, as an essential financial intermediary in the securities market, have been considered to have the function of information production and quality certification, which can significantly reduce the information asymmetry between issuing companies and potential investors. However, underwriters have information advantages comparing with the potential investors, and there is also information asymmetry between potential investors and underwriters. The reputation of underwriters reflects the signal of their professionalism and professional ethics, which not only reduces the information asymmetry between potential investors and underwriters (increases the credibility of underwriters), but also brings "reputation rent" to underwriters (Chemmanur and Fulghieri, 1994). Chang and Chung et al. (2010) pointed out that there was a significant negative correlation between the reputation of underwriters and the earnings management degree of the companies in the year of IPO, and the reputation of underwriters negatively affected the earnings management of companies. High reputation underwriters have higher reputation capital, so they have higher certification standards for IPO companies and a stronger inhibiting ability for IPO companies' earnings management behaviors. High reputation underwriters can protect their reputation and avoid potential litigation risks by strengthening the supervision.

On the other hand, if the incentives for earnings management in listed companies is strongly active, the companies will tend to choose underwriters with a low reputation in order to avoid stricter

supervision. Lee and Masulis (2011) found that highly reputable underwriters were negatively correlated with the earnings management degree of IPO companies one year before listing, and that cooperation between highly reputable underwriters and highly reputable venture capital could significantly reduce the degree of earnings management. The correlation between the reputation of underwriters and venture capital institutions was complementary.

Compared with foreign researches, there is still a big controversy on the effectiveness of the role of underwriter certification in China. Although CSRC clearly stipulates the supervision function and the role of underwriters in issuing securities, there are different conclusions on the empirical results of national underwriters' reputation governance mechanism. Liu et al. (2005) found that the "certification intermediary" function of underwriters in China was seriously absent. Xu(2008) used three different standards to measure the reputation of underwriters in China, and found that there was no positive correlation between the reputation of underwriters and the quality of listed companies. Chen and Shi et al. (2013) found that the reputation of the underwriter was significantly negative with the degree of earnings management in the preparation period for IPO if the listed companies is not a state-owned enterprise, but for the state-owned enterprise, this negative correlation does not hold. Generally speaking, the lead underwriters have the same starting point with the audit institutions in ensuring the truth of the financial report. Reputable lead underwriters with strong incentives to supervise the companies they underwrite. they will also have a greater inhibiting effect on the ethical behavior of venture capital to stimulate the earnings management. From the perspective of corporate managers, the higher the reputation of the lead underwriters, the more stringent supervision the corporate managers face. If the venture capital firms have the moral behavior of stimulating the company's earnings management, they also out of fear of strict supervision. the company's managers are less willing to cooperate with the venture capital. We thus illustrate our first hypothesis as follows:

**H3: the reputation of the lead underwriter can restrict the role of venture capital firms stimulate the earnings management.**

### 3. Data and Methodology

#### 3.1 Data

In this paper, listed companies in China from 2002 to 2013 were selected as the research samples. After removing the companies with missing data, the final sample companies were 630, including 184 venture capital-backed companies and 446 no venture capital-backed companies. The financial data, corporate governance data and the information of audit institutions and underwriting institutions are from the WIND database, and the relevant data of venture capital are from the CV-source database.

#### 3.2 Research methodology

To test H1, we use equation (1) to investigate if the venture capital firms have significant grandstanding in China during the four IPO phases.

$$EM_i = \beta_0 + \beta_1 TYPE_i + \beta_2 CONTROL_i + \varepsilon_i \quad (1)$$

TYPE represents the venture capital-backed dummy variables. Venture capital-backed companies are 1, the others are 0. EM represents the accrued earnings management(AEM) and three types of real earnings management measure (REM1, REM2, REM3). The control variable is the same as equation (2) and equation (3) below.

To test H2 and H3, we use equation (2) and equation (3) to investigate if the reputation of audit institutions and lead underwriters influence can significantly restrict the role of venture capital firms in the earnings management of listed companies during the four IPO phases.

$$EM_{i,t} = \beta_0 + \beta_1 VCS_{i,t} + \beta_2 VCS \times AUDITOR_{i,t} + \beta_3 CONTROLE_{i,t} + \varepsilon_{i,t}. \quad (2)$$

$$EM_{i,t} = \beta_0 + \beta_1 VCS_{i,t} + \beta_2 VCS \times UNDERWRITER_{i,t} + \beta_3 CONTROLE_{i,t} + \varepsilon_{i,t}. \quad (3)$$

EM represents the accrued earnings management(AEM) and three types of real earnings management measure (REM1, REM2, REM3). We use the Jones model to measure the accrued earnings management , and the model taken by Roychowdhury (2006), Cohen and Zarowin (2010) to calculate the real earnings management. VCS represents the shareholding ratio of venture capital. AUDITOR and UNDERWRITER is the agency variable of the reputation of the audit institution and the lead underwriter respectively. The reputation of audit institutions is based on the annual "top 100 information on comprehensive evaluation of Chinese accounting firms" released by the Chinese Institute of Certified Public Accountants (CPA). The reputation of lead underwriters was calculated by using the C-M comprehensive index algorithm of Carter and Manaster (1990), and the overall ranking was calculated based on the data of securities companies published by China securities association from 2002 to 2010. The top ten are 1, and the others are 0.

Concerning the control variables, We control the agency problems and corporate governance that might impact the earnings management, including the board size(DB), the proportion of independent directors (WIB), the shareholding ratio of major shareholders (S1), the size of supervisors (SB). In addition, we control firm characteristics, including the growth rate of main business income (GROWTH), sales cash ratio (PERFORMER),return on assets (ROA), the ratio of asset-liability (LEVERAGE), asset size (SIZE). The four IPO phases, including preparation period for IPO (PREIPO), the year of IPO (IPO), lock-up period (LOCKUP), unlock and presale period of stock (PRESALE).

#### 4. Results and Discussion

Table1, Table2 and Table3 report the empirical of an unbalanced panel regression results.

Table 1 Regression result -equation 1.

Explained variable	Explanatory variables	IPO
AEM	TYPE	0.0057 [0.6953] (0.4871)
REM1	TYPE	0.0377* [1.9506] (0.0516)
REM2	TYPE	0.0081 [0.5119] (0.6089)
REM3	TYPE	0.0402 [1.4279] (0.1538)

\*,\*\*,and \*\*\* denote significance level of 10%,5% and 1% respectively

Table 2 Regression result -equation 2.

Explained variable	Explanatory variables	PREIPO	IPO	LOCKUP	PRESALE
AEM	VCS*AUDITOR	-0.0002 [-0.1841] (0.8540)	-0.0009 [-0.5708] (0.5683)	-0.0022* [-1.9197] (0.0554)	-0.0000 [-0.0143] (0.9886)
REM1	VCS*AUDITOR	-0.0014 [-0.6374] (0.5241)	-0.0007 [-0.2623] (0.7932)	-0.0029 [-1.0522] (0.2932)	-0.0018 [-1.2955] (0.1953)
REM2	VCS*AUDITOR	-0.0022 [-1.2176] (0.2239)	-0.0001 [-0.0380] (0.9697)	-0.0003 [-0.1857] (0.8527)	-0.0014 [-1.6425] (0.1006)
REM3	VCS*AUDITOR	-0.0033 [-0.9192] (0.3584)	-0.0005 [-0.1298] (0.8968)	-0.0041 [-1.2158] (0.2246)	-0.0031* [-1.8680] (0.0619)

\*,\*\*,and \*\*\* denote significance level of 10%,5% and 1% respectively

Table 3 Regression result -equation 3.

Explained variable	Explanatory variables	PREIPO	IPO	LOCKUP
AEM	VCS*UNDERWRITER	-0.0006 [-0.8857] (0.3762)	-0.0002 [-0.1851] (0.8532)	-0.0041** [-2.5659] (0.0106)
REM1	VCS*UNDERWRITER	0.0007 [0.3498] (0.7266)	0.0033 [1.4330] (0.1524)	0.0011 [0.3005] (0.7639)
REM2	VCS*UNDERWRITER	0.0006 [0.4145] (0.6787)	0.0027 [1.3254] (0.1855)	0.0003 [0.1453] (0.8845)
REM3	VCS*UNDERWRITER	0.0009 [0.2892] (0.7725)	0.0057* [1.6605] (0.0973)	0.0037 [0.8504] (0.3955)

\*, \*\*, and \*\*\* denote significance level of 10%, 5% and 1% respectively

In the year of IPO, The regression coefficient of the real earnings management (REM1) and dummy variable (TYPE) is significantly positive (0.0377) at the significant level of 10%, indicating that venture capital-backed companies have a higher degree of earnings management than non venture capital-backed companies. It means that venture capital firms have significant grandstanding in China.

The regression coefficient of the interactions variable (VCS\*AUDITOR) and accrual earnings management (AEM) is only significantly negative (-0.0022) at the significant level of 10% in Lock-up period. The real earnings management (REM3) is only significantly negative (-0.0031) at the significant level of PRESALE (10%) before unlocking exit (PRESALE). Therefore, the empirical evidence that audit institutions restrain the moral behavior of venture capital firms is weak. Nevertheless, empirical results show that the regression coefficients of the accrual earnings management (AEM) and real earnings management (REM1, REM2, REM3) on the cross term are negative. Therefore, audit institutions have a restraining effect on the "moral behavior" of venture capital firms trying to stimulate earnings manipulation.

Since the role of underwriters is mainly reflected in the adjacent stages before and after IPO, table 3 only shows the mixed regression results of the first three stages. As the empirical results show, it is difficult for underwriters to restrain the infringement of venture capital. The regression coefficients of the accrual earnings management (AEM) on cross terms (VCS\*UNDERWRITER) were all negative, in which the regression coefficient was significant at a significant level of 5% (-0.0041) in the lock-up period. This shows that in the lock-up period, the lead underwriter has an inhibitory effect on the "moral behavior" of venture capital to stimulate the accrual earnings management, which is also the conclusion of most studies. As mentioned above, the accrual earnings management is to manipulate the book accounts, which is easier to be recognized by the audit institution afterwards. Therefore, underwriters should control the accrual earnings management. However, the lead underwriters did not restrain the "moral behavior" of venture capital to stimulate real earnings management. However, the regression coefficients of real earnings management (REM1, REM2, REM3) on cross terms (VCS\*UNDERWRITER) were all positive. Especially, the regression coefficients of REM3 were significant at the significant level of 10% in the IPO period, and the lead underwriters enhanced the impact of venture capital on the listed company's earnings management in the IPO period. It should be noted that in both the preparation period for IPO and the year of IPO, the absolute regression coefficient of real earnings management on cross terms is higher than (not lower than) the corresponding coefficient of the accrual earnings management. The negative effect on the accrual earnings management is offset by the positive effect on real earnings management. In China's venture capital market, venture capital not only provides funds but also provides corporate governance and other services for the invested enterprises with the advantage of its professional knowledge, including the financial intermediaries recommendation. Therefore, venture capital firms



have discourse power on the choice of underwriters, which provides a possible explanation for underwriters' failure to completely restrain the "moral behavior" of venture capital. From the empirical results, hypothesis H2 is not valid. Although it cannot be concluded that underwriters even encourage the "moral behavior" of venture capital institutions, at least it can be concluded that underwriters have no inhibitory effect on such moral behavior.

## 5. Conclusion

This paper takes the Chinese venture capital-backed listed companies as the research object, and investigates the impact of the reputation of audit institutions and lead underwriters on the role of venture capital firms in the earnings management. The results show that: In the four stages before and after IPO, the reputation of audit institutions can effectively restrict the stimulation of venture capital to earnings management only in the lock-up period, unlock and presale period of stock. The reputation of lead underwriting does not restrain the opportunistic behavior of venture capital, and even enhances the impact of venture capital on the real earnings management of the company in the year of IPO. Compared with previous studies, this paper focuses on the impact of the reputation of financial intermediaries on venture capital firms, rather than the impact on the earnings management. The research conclusions are helpful to enrich the research on financial intermediaries and corporate earnings management.

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