HOW VENTURE CAPITALISTS AFFECT EARNINGS MANAGEMENT

[1]RUEI-SHIAN WU, [2]HUAI-CHUN LO, [3]RUEI-YU WU

[1]Accounting Discipline, College of Management, Yuan Ze University,135, Yuan-Tung Rd, Taoyuan City 32003, Taiwan ROC
[2]Finance Discipline, College of Management, Yuan Ze University,135, Yuan-Tung Rd, Taoyuan City 32003, Taiwan ROC
[3]Department of Management Information Systems, Hwa Hsia University of Technology, No.111, Gongzhuan Rd., New Taipei City 235, Taiwan ROC
E-mail: [1]rswu@saturn.yzu.edu.tw, [2]hclo@saturn.yzu.edu.tw, [3]fish@cc.hwh.edu.tw

Abstract- This study investigates whether venture capital affects the probability of earnings management by initial public offering (IPO) firms. Prior studies suggest that managers of IPO firms motivated by self-interest may exploit information asymmetry and conduct accrual-based and/or real-activity earnings management to achieve their goals especially when firms go public. Moreover, going public usually requires capital, and venture capital is one of the main sources of funding. Building on the prior research, this study examines whether venture capitalist support affects the probability of earnings management of IPO firms through real activity and/or accrual-based manipulation. Our empirical findings suggest that venture capitalists mitigate the conflict of interest from agency problems and thus restrain accrual-based earnings management. However, venture capitalists do not restrain all types of real earnings management by IPO firms. The IPO firms backing by venture capital has a negative influence on long-term operating performance when the firms engage in real earnings management.

Keyword- Initial Public Offering, Earnings Management, Venture capital

I. INTRODUCTION AND HYPOTHESIS DEVELOPMENT

A powerful economic incentive exists for a company to go public, especially when great information asymmetry exists between the initial public offering (IPO) firms and outside investors. Managers motivated by self-interest may exploit information asymmetry and conduct earnings management to achieve their goals. By adjusting financial statements, they hope to attract the attention of investors and win the trust of regulators. Loughran and Ritter (1995) affirm that, for IPOs, the prior rapid growth of many young companies makes it easy to justify high valuations by investors who want to believe that they have identified the next Microsoft. Teoh, Welch, and Wong (1998b) argue that IPO firms tend to raise their earnings by adjusting discretionary accruals in order to make public investors over-optimistic. The managed reported earnings lead investors to erroneously estimate the true value of these companies.

Schipper (1989) describes earnings management as "a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process)."(Schipper, 1989, pp.92) Earnings management can be classified into two types: accrual-based earning management, which refers to exploiting the flexibility of accruals and choosing accounting policies to affect reported earnings, and real earnings management, which refers to conducting real transactions on operating activities to manipulate financial statements such as timing fixed asset sales and long-term investment, or adjusting advertising and research and design expenses.

Going public usually requires capital, and venture capital is one of the main sources of funding. Venture capitalists (VC) promote entrepreneurship by providing seed capital to young, growing firms that lack access to public equity markets. Venture capitalists also nurture these companies by giving advice on strategic issues, serving on their boards, helping to hire key employees, providing business contacts, and monitoring growth and development. Jain and Kini (1995) contend that the role of venture capitalists is to mitigate the conflict of interest from agency problems. They find that the performance of IPO firms backed by venture capital after IPO is better than that of non-venture-capitalists-backed firms and that proxies of the quality of participation of venture capitalists produce positive effects on performance after the listing.

Prior studies of the monitoring role of venture capitalists for IPO firms focus mainly on accrual-based earnings manipulation. Morsfield and Tan (2006) and Hochberg (2012) find that at-issue abnormal accruals are lower in VC_backed IPO firms than in non-VC-backed IPO firms. However, regulators have curtailed the use of discretionary accruals in light of recent accounting scandals, especially after the passage of Sarbanes-Oxley Act (SOX). Cohen (2008) finds that managers have shifted away from accrual-based to real activities earnings management in the post-SOX period. In a recent survey of top executives, Graham et al. (2005) provide evidence suggesting that managers prefer real earnings management activities compared to accrual-based earnings management. Since real activities management is less likely to be scrutinized by auditors and regulators, it has a greater probability

of going undetected, although the consequences of such activities can be economically significant to the firm's subsequent performance. Wongsunwai (2013) investigates financial restatement in periods of IPO lockup expiration and finds that high-quality VC-backed IPO firms exhibit lower real activities manipulation and a lower rate of subsequent financial restatements.

Therefore, building on the prior research, this study examines whether venture capitalist support affects the probability of earnings management of firms with initial public offerings (IPO firms) through real activities or accrual-based manipulation. Moreover, we examine the post-IPO operating performance for firms engaging in accrual-based and real-activities earnings management. Cohen and Zarowin (2010) show that post-SEO operating underperformance is driven not just by accrual reversals, but also reflects the real consequences of operational decisions made to manage earnings. We thus conjecture that whether Venture Capitalists perform their monitoring function to restrain the negative impact driven by real-activities earnings management on operating performance. Therefore, we develop the following hypotheses:

H1: Backing by venture capitalists restrains accrual-based earnings management by IPO firms.

H2: Backing by venture capitalists restrains real activates earnings management by IPO firms.

H3: Backing by venture capitalists mitigates the negative effect of accrual-based and real earnings management on future operating performance of IPO firms.

II. RESEARCH DESIGN

2.1 Data and sample description

This study retrieves IPO firms from the Securities Data Company (SDC) New Issue database from 1987 to 2010. We collect financial data from the COMPUSTAT annual industrial and research files for the period. The samples are required to be IPO firms listed in NYSE, NASDAQ, or AMEX, and samples with the following conditions are excluded: (1) Financial and utilities industries, which have different accounting procedures and unique characteristics. (2) IPO firms lacking COMPUSTAT annual financial data for the 3 years prior to IPO, the issuing year and the subsequent 3 years. (3) American depository receipt (ADR): ADR is a negotiable security. Foreign corporations issue them in US capital markets in order to raise funds. Thus, they are not IPOs.

2.2 Model explaining the decision to manage earnings

We investigate whether venture capitalists affect the tendency to engage in earnings management by IPO firms. Previous research does not show consistent results on this issue. Their study only demonstrates that prestigious venture capitalists and underwriters reduce earnings management significantly, and confer certification on the quality of financial statements. Based on the foregoing discussion, we estimate the following annual cross-sectional regression:

$$EM = \beta_0 + \beta_1 HAB_BEAT + \beta_2 SHARES + \beta_3 ANALYST + \beta_4 ROA + \beta_5 MKTCAPT + \beta_6 BM + \beta_7 LEVERAGE + \beta_8 VC + \varepsilon, \quad i = 1,2,3 \quad (1)$$

where EM is each proxy for earnings management. We formulate a cross-sectional model to estimate discretionary accruals to proxy for accrual-based earnings management. Total accrual is the difference between net income and cash flow from operations. Depending on the extent of the manager's discretionary action, total accruals can be separated into two parts, discretionary accruals and non-discretionary accruals. This study follows previous research to develop proxy variables for real earnings management. Following Roychowdhury (2006), we use three functions to study the extent of real earnings management: the abnormal levels of cash flow from operations (CFO), discretionary expenses, and production cost. We use the model developed by Dechow et al. (1998) and implemented by Roychowdhury (2006) to evaluate the normal levels of CFO, discretionary expenses, and production costs. We take normal CFO as a linear function of sales and change in sales. The abnormal CFO (R_CFO), abnormal production costs (R_PROD), and abnormal discretionary expenses (R_DISX) are computed as the difference between the actual values and the normal levels predicted by the linear function of sales. We use these three variables as proxies for real earnings management. In order to consider the total effect of real earnings management, we combine the three individual measures to establish a comprehensive function as follows: RM_2= (R_CFO)*(-1) + (R_DISX)*(-1) + (R_PROD). Compared with the three individual functions, RM_2 may have different implications for earnings management that may dilute the final results. HAB_BEAT is the frequency of meeting/beating analysts' earnings forecasts in the past four quarter; SHARES is the weighted average number of common shares outstanding at the beginning of the year, prior to the IPO; ANALYST is the number of analysts following the firm; ROA is return on assets and is defined as income before extraordinary items divided by beginning total assets; MKTCAPT is market value of equity and is calculated as the closing price at fiscal year-end times the number of shares outstanding at fiscal year-end; BM is book-to-market ratio, where the book value of common equity is divided by market value of equity; LEVERAGE is the sum of short term and long term debt divided by average total assets; VC is a dummy variable if the IPO is backed by venture capitalist, then VC=1; otherwise, VC=0.

2.3 Model of post-IPO operating performance

In order to evaluate the future performance affected by both accrual-based and real activities earnings management in the subsequent year, we formulate annual cross-sectional regression models, where the dependent variable is the adjusted change in ROA in the subsequent year after controlling for growth in sales and capital expenditures. We include these control variables because Loughran and Ritter (1997) show that issuers with rapid growth in terms of sales and capital expenditures in the issuing year tend to experience larger post-offerings declines in earnings than those with slow growth. We estimate the following annual cross-sectional regressions of Eqs. (2) and (3) for accrual-based and real earnings management, respectively:

$$\Delta ROAi = \beta_0 + \beta_1 DA + \beta_2 VC*DA + \beta_3 SALESG + \beta_4 CAPEXG + \beta_5 KZ + \varepsilon, i = 1,2,3 \quad (2)$$

$$\Delta ROAi = \beta_0 + \beta_1 REM + \beta_2 VC*REM + \beta_3 SALESG + \beta_4 CAPEXG + \beta_5 KZ + \varepsilon, i = 1,2,3 \quad (3)$$

where ΔROAi is computed as first difference in annual ROA, adjusted for the change in a size-matched and performance matched nonissuing firm ROA over i year(s), where i equals 1,2 or 3; DA is discretionary accruals proxy for accrual-based earnings management; VC*DA is the interaction between VC and DA; REM is each proxy for real earnings management; VC*REM is the interaction between VC and REM; SALESG is change in net sales divided by beginning net sales; CAPEXG is change in capital expenditures divided by beginning capital expenditures; KZ is financial constraint. The KZ index model was reported by Lamont, Polk, and Saa-Requejo (2001).

III. EMPIRICAL RESULTS

3.1 Descriptive Statistics

We first analyze summary statistics for each variable in order to understand the basic characteristics of the variables. Table 1 presents the descriptive statistics for each variable. It shows that there is a discrepancy between IPO firms when making decisions on earnings management. The median DA is -0.187, suggesting that firms tend to use income-increasing accrual-based earnings management during the IPO year. With respect to real earnings management, the biggest difference is in discretionary spending, with a standard deviation of 2.140. The standard deviations of change in annual ROA after issuance are 1.492, showing that the change in ROA one year after issuance in IPO firms has the notable difference from that of non-IPO firms.

Table 1 Descriptive statistics for each variable

Variable	N	Mean	Std Dev	Median
DA	2606	-0.187	0.862	0.005
RM_2	918	-1.107	2.019	-0.461
ΔROA1	2432	0.340	1.492	0.005
ΔROA2	2550	-0.036	0.282	-0.026
ΔROA3	2219	-0.021	0.202	-0.011
VCDA	2606	-0.102	0.426	0.000
VCRM_2	918	-0.747	1.574	0.000
ROA	2733	-0.439	1.663	0.051
MKTCAPT	2672	5.154	1.386	5.110
BM	2666	0.350	0.255	0.298
LEVERAGE	2735	1.089	1.673	0.710
SALESG	2592	1.247	3.096	0.396
CAPEXG	2645	2.472	6.115	0.727
KZ	3287	-53.584	174.633	-4.755

Notes: This table reports descriptive statistics for each variable. DA is estimated using the cross-sectional Jones (1991) model; RM_2 is an aggregate measure of real earnings management activities. ΔROA1, ΔROA2, and ΔROA3 are computed as first difference in annual ROA, adjusted for the change in a size-matched and performance matched nonissuing firm ROA over 1, 2, and 3 years, respectively (Barber and Lyon, 1996); VC is equal to 1 if the IPO is backed by venture capitalist, otherwise 0; VCDA is interaction variable between VC and DA; VCRM_2 is interaction variable between VC and RM_2; ROA is return on assets and is defined as income before extraordinary items divided by beginning of period total assets; MKTCAPT refers to market value of equity and is calculated as the closing price at fiscal year-end times the number of shares outstanding at fiscal year-end; BM, where the book value of common equity is divided by market value of equity (calculated as the closing price at fiscal year-end times the number of shares outstanding at fiscal year-end); LEVERAGE is the sum of short term and long term debt divided by average total assets; SALESG is change in net sales divided by beginning sales; CAPEXG is change in capital expenditures divided by beginning capital expenditures; KZ is financial constraint

3.2 Multivariable Regression Analysis

Table 2 Determinants of earnings management strategies in the year of IPO.

	DA			
	Coef.		Coef.	
VC			-0.020	
HAB_BEAT	-0.018	***	-0.017	***
SHARES	0.054	**	0.052	**
ANALYST	0.063	***	0.063	***
ROA	0.254	***	0.253	***
MKTCAPT	-0.101	***	-0.101	***
BM	-0.153	***	-0.158	***
LEVERAGE	0.273	***	-0.274	***

	RM_2			
	Coef.		Coef.	
VC			-0.797	***
HAB_BEAT	-0.185	***	-0.169	***
SHARES	0.276	**	0.1983	*
ANALYST	0.266	**	0.273	**
ROA	0.383	***	0.300	***
MKTCAPT	-0.009		-0.015	
BM	1.807	***	1.609	***
LEVERAGE	-0.576	***	-0.618	***

Notes: This table reports the determinants of earnings management strategies in the year of IPO. Variables are defined in Table 1.

Table 2 provides the determinants of earnings management strategies in the issuing year. The negative coefficient of VC suggests that IPO firms backed by venture capitalists have lower discretionary accruals than those without venture capitalists. However, the effect is not significant. The coefficient of VC on RM_2 is -0.797. The significantly negative coefficient suggests that venture capitalists restrain real earnings management by IPO firms. In sum, the table demonstrates that venture capitalists can indeed inhibit real earnings management at IPO firms. Our results are consistent with research finding that venture capitalists play a monitoring role. Based on the results, we argue that venture capitalists may provide assistance for investee companies to elevate competitiveness and sufficient funds to safeguard their investments.

Table 3 reports whether and how venture capitalists and earnings management affect long-run operating performance through restraining earnings management. Panel A shows that VC is significantly and positively associated with operating performance. However, DA is significantly and negatively associated with operating performance, suggesting that firms adopting accrual-based earnings management harm their long-run performance whether or not they are IPO firms are backed by venture capitalists. The coefficient of the interaction variable between VC and DA is -0.2326, which is smaller than the coefficient of DA, which is -0.9065. The result suggests that venture capitalists mitigate the negative effect generated by aggressive accrual-based earnings management. Panel B reports the results of comprehensive proxies for real earnings management, RM_2. The results show that IPO firms backed by VC experience better operating performance. However, when these firms engage in aggressive real earnings management, they also experience inferior operating performance.

Table 3 Effect of earnings management on the long-run performance of IPO firms.

Panel A: Return on assets performance: discretionary accruals.

Dependent Variable	ΔROA_1		ΔROA_1	
			Coef.	
DA		***	-0.907	***
SALESG	-0.001	***	-0.003	***
CAPEXG	-0.005	***	-0.005	***
VC	0.156	**		
VCDA			-0.233	***
KZ	0.000	**	0.000	

Panel B: Return on assets performance: RM_2 an aggregate real earnings management proxy.

Dependent Variable	ΔROA_1		ΔROA_1	
	Coef.		Coef.	
RM_2	0.116	***	0.143	***
DA	-1.085	***	-1.059	***
SALESG	0.028	***	0.032	***
CAPEXG	0.000		0.000	
VC	0.235	***		
VCRM_2			-0.072	***
KZ	0.000		0.000	

Notes: This table reports the effect of earnings management on the long-run performance of IPO firms. Variables are defined in Table 1.

CONCLUSION

This study investigates whether venture capital affects the tendency to engaging in earnings management by IPO firms. Moreover, we examine the post-IPO operating performance for firms engaging in accrual-based and real-activities-based earnings management. First, we show how venture capital affects earnings management policy in IPO firms. We find that capital market incentives impose strong effects on accrual-based earnings management activities, but not all capital market incentives can induce managers to apply real earnings management. Further analysis of the results shows that venture capitalist backing is negatively correlated with real earnings management. We thus demonstrate that venture capitalists can inhibit real earnings management at IPO firms, consistent with research suggesting that venture capitalists act as monitors (Barry et al., 1990; Morsfield & Tan, 2006). Second, this study shows that IPO firms adopting accrual-based earnings management impair the

long-run performance whether or not they are backed by venture capitalists. We find that real earnings management by IPO firms does not have significant negative effects on long-run performance.

REFERENCES

[1] Altman, E. I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. Journal of Finance, 23: 589–609.

[2] Barry, C.B., C.J. Muscarella, J.W. Peavy III, and M.R. Vetsuypens. 1990. The role of venture capital in the creation of public companies: Evidence from the going-public process. Journal of Financial Economics, 27: 447–471.

[3] Cohen, D., Dey, A., Lys, T. 2008. Real and accrual based earnings management in the Pre and Post Sarbanes Oxley periods. The Accounting Review, 83: 757–787.

[4] Cohen, D., R. Mashruwala, T. Zach. 2010. The use of advertising activities to meet earnings benchmarks: Evidence from monthly data. Review of Accounting Studies, 15: 808–832.

[5] Dechow P.M., Richardson S. and Tuna I.2003.Why are earnings kinky? An examination of the earnings management explanation. Review of Accounting Studies, 8: 355–384.

[6] Graham, J.R., Harvey, C.R., Rajgopal, S. 2005. The economic implications of corporate financial reporting. Journal of Accounting and Economics, 40: 3–73.

[7] Lee, G. and R. Masulis. 2008. Do underwriters or venture capitalists restrain earnings manipulation by IPO issuers?" Working paper, Owen Graduate School of Management, Vanderbilt University, Nashville, TN.

[8] Megginson, W.L. and K.A. Weiss. 1991. Venture Capital Certification in Initial PublicOfferings, Journal of Finance, 46: 879–903.

[9] Morsfield, S.G. and C.E.L. Tan. 2006. Do Venture Capitalists Influence the Decision to Manage Earnings in Initial Public Offerings? Accounting Review, 81: 1119–1150.

[10] Roychowdhury, S. 2006. Earnings management through real activities manipulation. Journal of Accounting and Economics, 42: 335–370.

[11] Ritter, J. 1991. The long-run performance of initial public offerings. Journal of Finance, 46: 3–28.

[12] Schipper, K. 1989. Commentary on Earnings Management. Accounting Horizons, 3: 91–102.

[13] Teoh, SH, Welch I, Wong TJ. 1998a. Earnings management and the post-issue performance of seasoned equity offerings. Journal of Financial Economics, 50: 63–99.

[14] Teoh, SH, Welch I, Wong TJ. 1998b. Earnings management and the long-run performance of initial public offerings. Journal of Finance, 53: 1935–1974.

[15] Teoh, SH, Wong TJ, Rao G. 1999. Are accruals during initial public offerings opportunistic? Review of Accounting Studies, 3: 127–139.

★★★