Study on Relationship between Real Earnings Management and IPO Performance —Data based on Listed Companies in GEM

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Abstract. This article adopts the method of empirical analysis to study the existence of real earnings management in the process of the growth enterprise market (GEM) IPO, and to investigate its impact on firm performance. The study found that Significant negative correlation relationship exists between real earnings management and the company's performance. Real earnings management activities damaged the company's long-term interests. Therefore, perfecting accounting standards and governance structure of listed companies, adjusting regulatory system and maintaining the rights and interests of investors and healthy development of capital market have been suggested.

Introduction

In recent years, due to the exposure of a series of fraud accounting cases, the issue of earnings management has been increasingly focused on , especially the earnings management of listed companies during the process of initial public offering (IPO). With the increasing perfection of the supervision system, it’s becoming easier to see through earnings management manipulated by accrued items in practice and the difficulty is becoming bigger. To achieve the expected earnings target, the enterprises consider to adopt real earnings management.

This article attempts to use empirical research methods to study the relationship between the real earnings management of GEM listed companies and the IPO performance, making every effort to provide implications for investors, guiding rational investments of investors, pointedly stipulating information disclosure regulation of the GEM in our country and ensuring the healthy development of capital market.

Theoretical analysis and the research hypothesis

The study of Roychowfhury in year 2006 has found that listed companies prefer to conduct earnings management by operating real activities. Li Fuzeng (2012) , Gu Mingrun (2012) , etc., found that for companies implemented real earnings management activities, the company performance of the subsequent years has declined. Wang Lihua and Xu Lina (2014) got the result that significant negative correlation relationship exists between real earnings management and company's future performance. An assumption is put forward based on the above analysis:

The GEM listed companies have real earnings management pre- and post-IPO, and a significant negative correlation relationship exists between real earnings management and the company long-term performance.

Model building

Real earnings management model. This article will use Roychowdhury (2006) model for reference,. Applying the three variables to independently measure real earnings management degree of IPO companies is also helpful to find the means of implementing earnings management by listed companies. Real earnings management model (RM) is as follows:

$$\frac{CFO_t}{A_{t-1}} = \alpha_1 + \alpha_2\frac{1}{A_{t-1}} + \alpha_3\frac{S_t}{A_{t-1}} + \alpha_4\frac{\Delta S_t}{A_{t-1}} + \varepsilon_1 \quad (1)$$

$$\frac{DISP_t}{A_{t-1}} = \beta_1 + \beta_2\frac{1}{A_{t-1}} + \beta_3\frac{S_{t-1}}{A_{t-1}} + \varepsilon_1 \quad (2)$$

$$\frac{PROD_t}{A_{t-1}} = \gamma_1 + \gamma_2\frac{1}{A_{t-1}} + \gamma_3\frac{S_t}{A_{t-1}} + \gamma_4\frac{\Delta S_t}{A_{t-1}} + \gamma_5\frac{\Delta S_{t-1}}{A_{t-1}} + \varepsilon_1 \quad (3)$$

$$RM_t = APROD_t - ACFO_t - ADISP_t \quad (4)$$

For the above, CFOt for the t year cash flows from operating activities, St for the t year operating income. DISPt for the discretionary expense of the t year ,the sum of the current management expense and sales expense. PRODt for the production cost of the t year , the sum of the sales cost and inventory changes. To eliminate the scale effect, except for the constant term, the above variables should all been standardized treated by At-1.

Model of relationship between company performance and real earnings management

$$ROA = \theta_0 + \theta_1 RM + \theta_2 Growth + \theta_3 Size + \theta_4 Lev + \delta_1 \quad (5)$$

$$ROE = \theta_0 + \theta_1 ACFO + \theta_2 Growth + \theta_3 Size + \theta_4 Lev + \delta_1 \quad (6)$$

$$ROE = \theta_0 + \theta_1 ADISP + \theta_2 Growth + \theta_3 Size + \theta_4 Lev + \delta_1 \quad (7)$$

$$ROE = \theta_0 + \theta_1 APROD + \theta_2 Growth + \theta_3 Size + \theta_4 Lev + \delta_1 \quad (8)$$

Sample selection and research design

Sample selection and data sources. To ensure the integrity and sufficiency of financial data index, this article selects the 128 IPO companies of the GEM in 2011 as samples, taking the listing year as the T year, taking the two years before listing respectively as year T-2 and year T-1, taking the two years after listing respectively as year T+1 and year T+2, Financial data mainly comes from CSMAR database. Data processing software mainly adopts Excel2007 and Stata12.

Variables design

Table 1 Variables Analysis

Variable type	Representations of variables	Variable name	Variable description
Dependent variable	ROE	Return on equity	Net profit / net assets
Independent variable	RM	Real earnings management	Indicate the real earnings management degree as a whole
	ACFO	Abnormal cash flows of operating	Indicate the sales operation degree
	APROD	Abnormal production cost	Indicate the production operation degree
	ADISP	Abnormal discretionary payment	Indicate the expense operation degree
Control variable	Growth	Operation revenue growth rate	Annual percentage change of core business income
	Re	Receivables proportion	Net receivables/total assets
	Size	Company scale	Natural logarithm of the year-end total amount of assets
	Lev	Financial leverage	Total liabilities / total assets

Empirical Analysis

Mean test . As shown in Table 2, real earnings management comprehensive index (RM) is significantly negative from two years before IPO until two years after the IPO, indicating that the companies continue to conduct real earnings management after listing, possibly related to the fact that investment stock transfer has certain lock-up period. The abnormal discretionary payment (ADISP) was not significant over the years. The abnormal production cost (APROD) has been consistent with real earnings management comprehensive index. Test results show that in the real transaction activities, IPO companies tend to implement earnings management by operating production costs, namely reducing the cost of unit product by overproduction to improve marginal profit of the product, consequently to improve the company's current profits.

Table 2 Mean test of earnings management

YEAR	T-2	T-1	T	T+1	T+2
ACFO	0.04987*** (3.9827)	-0.00029 (-0.0252)	-0.00011 (-0.0057)	-0.00047 (-0.0716)	-0.00028 (-0.0395)
APROD	−0.26787*** (-8.1423)	−0.27711** (-2.6106)	−0.24366*** (-12.9031)	−0.10934*** (-12.2743)	−0.13137*** (-13.8802)
ADISP	-0.0000586 (-0.0015)	-0.0002918 (-0.0315)	0.0002234 (0.0202)	0.00000356 (0.0075)	-4.28e-07 (-0.0001)
RM	−0.34535*** (-5.583)	−0.27653*** (-2.6342)	−0.24378*** (-6.4744)	−0.01089*** (-6.4909)	−0.13109*** (-8.1452)

Note: ***represents " significant " under 1% level, **represents " significant " under 5% level, *represents " significant " under 10% level.

Regression analysis . Table 3 respectively carries on regression analysis for model (5)(6)(7)(8). It can be seen from the regression result that as an explaining variable, real earnigs management comprehensive index (RM) is negatively correlated with ROE, and significant at the 1% level. Measure the real earnings management degree respectively by abnormal cash flows of operating, abnormal production cost and abnormal discretionary payment. The abnormal cash flow of operating (ACFO) is positively correlated with ROE at the 1% significant level. The abnormal production cost (APROD) is negatively correlated with ROE at the 10% significant level. While abnormal discretionary payment (ADISP) has no significant impact on ROE. This way of manipulation may have great influence to enterprise's growth since it may use research and development expenditure, advertising expenditure and other expense operating ways to manipulate earnings. The influence needs to be manifested in a long time. Except for the proportion of receivables, the rest control variables show significant correlations with operating performance index (ROE).

Table 3 Result of regression analysis

	(5)	(6)	(7)	(8)
	ROE	ROE	ROE	ROE
RM	-0.0169*** (-3.15)			
ACFO		0.1916*** (8.49)		
ADISP			0.0414 (1.21)	
APROD				-0.0082* (-2.44)
Growth	0.1177*** (8.26)	0.1230*** (9.08)	0.1195*** (8.05)	0.1211*** (8.47)

Re	0.0445 (1.26)	0.0915*** (2.92)	0.0375 (1.16)	0.0428 (1.20)
Size	-0.0657*** (-16.00)	-0.0669*** (-18.89)	-0.0711*** (-19.21))	-0.0668*** (-16.15)
Lev	0.2521*** (11.98)	0.2598*** (14.16)	0.2495*** (12.89)	0.2477*** (11.71)
N	551	640	640	551
Adj R-squared	0.5229	0.6098	0.5664	0.5156

Conclusion and recommendation

Conclusion. The GEM listed companies have real earnings management before and after the IPO. Real earnings management has a significant negative impact on the GEM listed company performance, and in the real transaction activities, abnormal cash flow of operating is positively correlated with ROE, abnormal production cost (APROD) is negatively correlated with ROE, while abnormal discretionary payment (ADISP) has no significant impact on ROE.

Policy suggestions

Perfect the accounting standard and step up its enforcement. In order to further prevent the occurrence of real earnings management behavior to damage the company's long-term interests, accounting standard restricting real earnings management behavior should be established, for example, reducing the selectivity of accounting policy. Increasing the violation cost of enterprises according to real earnings management ways of different motivations should be considered.

Gradually perfect the governance structures of listed companies and regulate earnings management behavior of listed companies. Improve the mechanism of enterprise internal cost management and reduce the accounting space of managers conducting real earnings management by operating production cost., interests of operators are tied to the long-term development of the listed companies.

Continue to improve the system adjustment in regulatory level and increase the penalties for violations.for example, extending the accounting year disclosure of listed companies before IPO, further putting forward requests for change trend of performance,t. Continue to apply standards similar to IPO audit system for evaluating the listing qualifications after the company IPO. Strengthen the compensation responsibility system of the sponsors, accounting firm and other intermediary agencies.

References

[1] Cai Chun, Li Ming, He Hui. Constraint Conditions, IPO Earnings Management Way and Company Performance [J] . Accounting Research Bulletins, 2013 (10): 35-38.

[2] Li Fuzeng, Huang Hualin, Lian Yujun. Stock Private Placement, Earnings Management and Landslip of Corporate Performance—Research based on Accrued Items Operation and Real Activity Operation Mode [J]. Application of Statistics and Management, 2012, 9 (5): 942-949.

[3] Pan Duanlian, Yang Youhong. Earnings Management and the Performance Change before and after the IPO of GEM Companies [J] Journal of Beijing Technology and Business University (Social Science Edition), 2013 (5): 65-71.

[4] Gu Mingrun, Tian Cunqu. Performance Change after IPO and Real Earnings Management Analysis [J] Journal of Investment and Decision, 2012 (1) : 164-166.

[5] Wang Dihua, Xu Lina. Performance Change and Earnings Management of GEM Listed Companies in the Process of IPO—Empirical Data from Chinese GEM Listed Companies [J]. Chinese Certified Public Accountant, 2014 (10): 43-48.

[6] Wang Fusheng, Ji Shanshan, Cheng Fu. Study of Impacts of Earnings Management on Future Operating Performance of Listed Companies—based on Perspective of Accrual Earnings Management Compared With Real Earnings Management [J]. Nankai Business Review, 2014 (2) :

96-105.
[7] Sun Wei, Hao Hong. Empirical Study on IPO Earnings Management Degree and Long-term Financial Performance [J] Friends of Accounting, 2012 (1): 69-72.