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Empirical Research on the Relation Between Shares Reduction of Senior Executives and Earnings Management

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Abstract

Using listed companies with a presence of shares reduction of senior executives after the split share structure reform as research objects, we systematically study whether there are changes in earnings management behavior of senior executives' shares reduction, as well as the relationship between the shares reduction degree and earnings management degree. Our analysis reveals that companies with a presence of shares reduction of senior executives have significantly positive controls over accounting earnings in the years of 2008 and 2009. However, there is no significant correlation between the level of earnings management of listed companies in China and the scale of shares reduction of senior executives.

Key words: Shares reduction of senior executives; Earnings management; Shares incentive

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INTRODUCTION

In the context of split share structure reform, senior executives set off a wave of shares reduction. Some industry insiders believe that, reducing profits of the previous year of the ban lifting, increasing the sales cost, and manipulating earnings are preparations for senior executives' shares reduction, and also necessary work for many actual controllers of the listed company to smoothly reduce shares. Simultaneously, senior executives can control earnings management for maximum profits via advantaged information. However, there is no empirical research that addresses the relationship between senior executives' shares reduction and the manipulative behavior of earnings management. Our research is an attempt to fill this research gap.

1. LITERATURE REVIEW

Currently, research on earnings management mainly focuses on the influence of accounting policies on the capital market. A significant part of literatures show three categories of research motivation on earnings management: capital market motivation, contract motivation, and political cost motivation.

Investigating the relationship between shares reduction and earnings management, Beneish (1999) found that when earnings are overvalued, some managing personnel are more likely to sell their shares of the company to monetize. Park and Park (2004) discovered that if senior executives plan to sell the stocks at a later stage, the discretionary accruals may be adjusted to report the higher current accounting earnings. Cheng and Warfield (2005) found with the higher portion of shares, the managing personnel may have bigger possibility of selling their stocks; meanwhile, for the published earnings there is

a bigger possibility of complying or slightly exceeding the profits predicted by analysts. McVay, Nagar, and Tang (2006) found that compared to enterprises failing to realize expected earnings, in enterprises with earnings over the estimated level, the managing personnel are more likely to reduce their shares. Senior executives would sell their stocks when earnings were adjusted to a higher value (Beneish, 1999). In contrast, after a number of paired studies, senior executives of the defaulting companies would sell their stocks before earnings were adjusted to a higher value (Beneish & Vargus, 2002). Moreover, Bar-Gill and Bebchuk (2002) and Bolton et al. (2002) concluded that senior executives had motives increase earnings before selling their stocks.

Studies in China mainly emphasize on earnings management in non-reduction shares. Cai and Wei (2008) show that discretionary accruals are significantly positive and the level of earnings management is positively correlated to the market performance of the company shares in the corresponding period. This study shows that every company may have share-reduction-aimed earnings management. Li and Liu (2009) discover that after the split share structure reform, listed companies dramatically enhanced forward earnings management. Also, compared to companies without share reduction, listed companies showed significant forward earnings management in four fiscal years before big or small non-reduction shares.

Jiang (2010) reveals that compared to the industrial average level, sample companies with the implementing of non-tradable share reduction had earnings management in the share reduction year. Meanwhile, both flow ability and speculative motives possibly lead to earnings management. The greater the motives are, the more significant the earnings management would be. Besides, the quantity and market value of reduced shares are positively correlated to the level of earnings management, which shows the larger quantity and the higher market value of reduced shares lead to easier earnings management.

2. HYPOTHESIS

Inside analysts believe that listed companies have three motives to reduce the senior executives' shares. First and foremost, to cash out—it would be secure to have investment returned. Second, to buy or sell the company stocks before good or bad news are publicized in order to gain higher profits. Third, some listed companies intentionally reduce or increase the senior executives' shares to affect the stock price for special purposes. As a result, without considering debt defaults, senior executives with company shares will plan to sell their shares at a premeditated time and to manage earnings as well as raise the share price for their own benefits. Simultaneously, the larger is the scale of the planned reduction, the greater is the motive for earnings management. Accordingly,

relative earnings management shall be an upward manipulation and aim at raising the share price (Rangan, 1998; Erickson & Wang, 1999). Meanwhile, the higher cash withdrawal amount implies the greater profits can be gained from reducing shares, which shows the existence of deliberate manipulation of the surplus to raise the share price. So, it can be considered that company earnings are controlled with greater degree before share reduction. To coordinate with share reduction, some listed companies may guide the value judgments of investors via diverse manners, including the upward manipulation of earnings management before share reduction.

Therefore, hypotheses are put forward as below:

H1: Companies with share reduction plan by senior executives tend to carry out upward manipulation of earnings management for smooth share reduction next year.

H2: In companies with share reduction implement by senior executives, the level of earnings management is positively correlated to that of the share reduction of senior executives.

3. STUDY DESIGN

3.1 Date Sources

Pairing of companies of A-share listed companies with and without share reduction in Shanghai and Shenzhen from 2008 to 2010 are applied as objectives for the study. Listed finance and insurance companies, new listed companies, ST and ST* companies, and listed companies without financial statement or transaction information are picked out. This requires selecting paired companies based on industry, year and scale. After matching according to the year and the events of company share reduction, we sort out 168, 203 and 147 sample companies from the years 2008, 2009, and 2010, respectively. The related data of share reduction are from the "Record of Credit-standing of Listed Companies—Price Fluctuation of Shares Held by Directors, Supervisors and Senior Executives" of the Shanghai Share Exchange and Shenzhen Share Exchange. Financial statement and transaction information are obtained from the database of China Share Market & Accounting Research (CSMAR).

3.2 Evaluating Model

A model below is established to evaluate the hypothesis:

$$DA_i = \alpha_1 + \alpha_2 * TRANSACTION_i + \alpha_3 * LEV_i + \alpha_4 * SIZE_i + \alpha_5 * CFO_i + \alpha_6 * ROE_i + \varepsilon_i$$

a. Dependent Variable

DA_i is discretionary accruals during share reduction of Company i . Referred from Cai and Wei (2008), the revised Jones Model is applied to separate non-discretionary accruals and discretionary accruals. Discretionary accruals can measure the degree of earnings management.

b. Explanatory Variable

To evaluate if there exists an upward manipulation of earnings management with the purpose of share reduction in Hypothesis 1, a binary variable is taken to describe whether the senior executives reduce their shares, if yes, TRANSACTION is 1, and if not, TRANSACTION is 0.

To evaluate whether higher market value of reduced shares leads to greater degree of earnings management in Hypothesis 2, we refer to the measurement of the reduction scale by Cai and Wei (2009). We established an index $TRANSACTION = (\text{transaction quantity} * \text{price}) / \text{the initial total asset}$. If share reduction occurs repeatedly during the years from T0 and T1, then TRANSACTION will be the sum of transaction scales of all reductions, and such transactions can be considered as being influenced by the same annual financial report. In the light of studies of Park and Park (2004), the transaction quantity is the total number of actually reduced shares and transaction price is the reduction price.

c. Control Variables

LEV is the financial lever in T0 of the company, as measured by the result of gross debts divided by total

assets, to restrain the influence of debts on earnings management (DeFond & Jiambalvo, 1994). SIZE refers to the scale of T0, measured by the natural logarithm of total assets, to control the influence of external supervision caused by firm size on earnings management (Dechow & Dichev, 2002). CFO indicates the net cash flow resulted from the operating activities of the company in T0, standardized by beginning total assets. ROE is the net asset ratio in T0, measured by the result of year-end net profits divided by year-end net assets.

4. RESULTS AND ANALYSIS

4.1 Descriptive Statistics

From 2008 to 2010, a descriptive statistical study was made on the DA and Transaction of sample companies with the implementation of senior executives' share reduction as well as the DA of the pairing companies without the implementation of senior executives' share reduction. The resulting descriptive statistics is shown in Table 1:

**Table 1
A Descriptive Statistical Study on DA and Transaction From 2008 to 2010**

Variable	Group	Number of samples	Max.	Min.	Average
DA08	Sample companies	168	1.0120	-0.3672	0.0973
	Pairing companies	168	1.119	-0.320	0.038
DA09	Sample companies	203	0.7914	-0.6004	0.0292
	Pairing companies	203	0.326	-0.239	0.012
DA10	Sample companies	147	0.9052	-0.7444	-0.0081
	Pairing companies	147	1.4107	-0.949	-0.0168
Transaction08	Sample companies	168	0.0790	0.0000	0.0015
Transaction09	Sample companies	203	0.1777	0.0000	0.0035
Transaction2010	Sample companies	147	0.1320	0.0000	0.0056

Note: Market Value of Reduced Shares = (Reduced Quantity*Price)/Beginning Assets

Table 1 shows the maximum DA of the sample companies in the three years with a decrease first and then an increase. The sample includes the highest point in 2008 and the lowest one in 2009. Meanwhile, comparing to the pairing companies without share reduction, the indicator also demonstrates a trend from decrease to increase. Based on the average DA, the companies with share reduction also decrease year by year to a negative value till 2010; and the pairing companies decrease in the same way, thereby reaching a negative value in 2010. However, as for the average, the companies with share reduction is greater than that of the pairing companies without share

reduction in the three years. For the market value of the reduced shares, the minimum of the three years was 0.0000, because the reduction quantity is much smaller compared to the beginning assets.

4.2. An Empirical Test of Hypothesis I

Table 2 indicates the regression results of the model of Hypothesis I. In 2008, the reduction variable TRANSACTION and cash flow in operating activities (CFO) are significant at 1%; asset size (SIZE) and asset-liability ratio (LEV) are significant at 5%; but the return on equity (ROE) is not significant. While in 2009, ROE is significant at 1%; SIZE and LEV are significant at 5%;

TRANSACTION significance test at 10%; but CFO did not pass the test. However in 2010, ROE and CFO passed the significance test at 1%, TRANSACTION, SIZE and LEV did not, without an obvious relation to each other.

Table 2
Regression Results of Hypothesis I

Variable	2008	2009	2010
Constant	-0.317* (-1.786)	-0.179 (-1.542)	-0.404 (-0.666)
Transaction	0.062*** (3.642)	0.013* (1.613)	-0.056 (-0.954)
SIZE	0.019** (2.311)	0.01* (1.828)	0.017 (0.572)
LEV	-0.099** (-2.225)	-0.072* (-2.237)	-0.034 (0.647)
ROE	0.009 (0.594)	0.114*** (2.785)	0.245*** (4.683)
CFO	-0.179*** (-4.711)	-0.006 (-1.105)	-0.132*** (-3.849)
Adjustable R ²	0.101	0.041	0.027
F Value	8.319	8.319	6.989

Note: ***, ** and * indicate the statistical significance by 0.01, 0.05 and 0.1 (two-tailed test) and the value in brackets is the value of t.

Statistics presented above reveal that the TRANSACTION and DA are obviously positively correlated in 2008 and 2009, which represents a significant upward manipulation of earnings management in the companies with share reduction (when TRANSACTION =1). Meanwhile, in the two years, the SIZE and LEV were also correlated. However in 2010, none of the TRANSACTION, SIZE or LEV passed the test and showed an unobvious correlation, which indicates that share reduction did not have any influence on earnings management in the year.

4.3. An Empirical Test of Hypothesis II

Table 3 shows the regression results of Hypothesis II. In 2008, LEV passed the significance test at 1%; SIZE passed the significance test at 5%; CFO passed the significance test at 10%, but neither TRANSACTION nor ROE passed. In 2009, SIZE passed the significance test at 5%; LEV passed the significance test at 10%; but none of TRANSACTION, CFO or ROE passed the test. In 2010, CFO and ROE passed the significance test at 10%, but none of the TRANSACTION, LEV or SIZE passed the test.

The results suggest that in 2008, 2009 and 2010, the TRANSACTION and DA are not correlated obviously. In 2008 and 2009, the SIZE and LEV are correlated to

earnings management in different levels; and no results were found about the correlation between CFO and ROE.

Table 3
Regression Results of Hypothesis II

Variables	2008	2009	2010
Constant	-0.298 -1.365	-0.314* -1.733	0.154 0.446
Transaction	0.092 1.475	-0.369 -0.719	-0.127 1.277
SIZE	0.022** 2.222	0.0167** 2.014	0.093 1.046
LEV	-0.189*** -3.585	-0.053* -1.898	-0.089 0.788
ROE	-0.002 -1.072	0.093 1.375	0.106* 1.653
CFO	-0.298* -1.765	-0.039 -0.555	-0.083* 1.745
Adjustable R ²	0.074	0.021	0.023
F Value	5.319	3.763	3.329

Note: ***, ** and * indicate the statistical significance by 0.01, 0.05 and 0.1 (two-tailed test) and the value in brackets is the value of t.

CONCLUSION AND SUGGESTION

A multiple linear regression model was built based on the listed companies with the implementation of share reduction of senior executives at Shanghai Stock Exchange and Shenzhen Stock Exchange before December 2010. The purpose of model was to study the relation between earnings management and whether there is share reduction as well as the reduction level. We find that, from 2008 to 2009, companies with senior executives' share reduction have made a significant upward manipulation of earnings management on the earnings report, but the reduction size and the earnings management level are not obviously correlated. As for earnings management problems resulted from the salary, share encouragement and share reduction in Chinese listed companies, we suggest enhanced supervision and control over the share reduction of managing personnel in listed companies, so as to make the share reduction clear to the public, and prevent stockholders from acquiring extra profits and impairing the medium and small stockholders' interests via insider trading. At the same time, capital gains tax shall be collected from the senior executives with arbitrage acts to ensure the fairness of secondary distribution and stabilize the market. Also, accounting policies should be improved to restrain earnings management acts in listed companies.

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