

# Study on the Correspondence between Premium and Discount of Audit Fee and the Difference in Reputation in Initial Discount

Data from A Stock Market in China

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**Abstract**—Using the data of audit fee in four consecutive years in Chinese A stock market, the paper conducted an empirical test on the correspondence between the premium and discount of the fee in the audit industry and the difference in reputation in granting discount. The results were analyzed by multiple regression analyses. It finds that in the early stage of development, there is a significant fee discount in China's audit industry. Particularly, the international "Big Four" accounting firms granted less obvious discounts, the domestic big accounting firms granted the biggest margin of discount, followed by local accounting firms. Correspondingly, the international "Big Four", claimed the biggest margin of premium, while some domestic big accounting firms also claimed certain margin of premium.

**Keywords**- audit fee; premium; discount; reputation.

## I .INTRODUCTION

Premium and discount of fee are commonly seen in the audit industry. The regulatory and law enforcement authorities in various countries often hold a positive attitude toward premium, and would not interfere too much; yet they often hold negative attitude toward discount, believing that granting discount to attract clients will damage the quality of auditing. However, most of the literature in audit theory studies and industrial organization studies holds a view that premium and discount are common scene in market competition, and there is a natural inherent link between them. Discount is a special investment made by an enterprise at the early stage of access to the market to build reputation. Once reputation is built, the enterprise will recover the discount investment through premium. The higher expectation an enterprise has for its own products, the higher its discount investment at the early stage of development and the premium at the later stage. The paper uses the data of auditor change in four consecutive years in Chinese A stock market and employs multiple regression approach to verify the

correspondence between premium and discount of fee and difference in discounts in accounting firms of different reputation.

## II .ASSUMPTIONS, DESIGN OF STUDY AND SAMPLE DATA

### A.Assumptions

Klein and Leffler (1980) studied the relations between reputation and premium in the general product market. The static model they established divides the price into two categories according to product quality. High quality products can win the recognition of the market, thus can be sold at a higher price, namely, reputation premium. Yet they need to prevent other competitors from accessing the market. Since the high price containing premium is a minimum price that the consumer would like to pay for guaranteeing high quality, the premium is unlikely to drop along with the increase of the number of suppliers. Once the price drops, the consumers would think the quality is also declining, so they would not buy the products. Hence the means to prevent market access should be in the non-price field, such as huge advertising expenditure, luxury storefront decoration, comfortable shopping environment, huge investment in logo design and dissemination and other special investments for reputation building [1]. Shapiro (1983) used a dynamic model to describe the process where the market entrants make discount investment at the early stage of development and recover the investment through premium at the later stage. He believed that, the higher expectation an enterprise has on the later-stage premium, the bigger discount investment it would make at the early stage for reputation building [2]. His view is consistent with the analysis made by DeAngelo (1981) on the "low-balling" phenomenon in the audit industry [3].

Ghosh and Lustgarten (2006) analyzed the way of investment in reputation of accounting firms with different reputation. They held that the accounting firms other than the international “Big Four”, being lack of established market fame, are faced with more fierce competition between their peers and would grant larger margin of discount; while the international “Big Four”, having established market fame, no longer grant large margin of discount, but invest more in non-price aspects to build reputation, such as more comprehensive service, higher audit quality and more extensive image promotion, etc. Though the international “Big Four” granted smaller margin of discount, considering their non-price investment, their overall investment in reputation building is still higher than local accounting firms, thus they have stronger competitiveness than their local counterparts, which is manifested in their bigger market share compared with their local counterparts [4].

In China’s audit industry, the international “Big Four” has high market recognition upon entering the market, and at the same time, as actively pushed by the policies released by the government regulatory authority and the CPA association, a number of domestic big accounting firms with their client size comparable with that of the international “Big Four”. Hence, in our study, we divide the accounting firms into three reputation grades, international “Big Four”, domestic big accounting firms and local accounting firms. In China’s capital market, neither the international “Big Four” nor the domestic big accounting firms have secured absolute advantageous position in the market, and they would grant discounts to attract more clients, just like the local accounting firms do. Therefore, we may observe the discount of early-stage fee in the audit industry from an overall perspective. Here we propose hypothesis 1a.

H1a: Discount in audit fee does exist in the early stage development of an accounting firm.

Meanwhile, as analyzed by Ghosh and Lustgarten (2006), the international “Big Four”, having established fame when entering the Chinese market, would not take discount granting as the main means for competition, but would make special investment in non-price aspects, such as providing more comprehensive service, investing more in employee training, and launching, holding and sponsoring various activities for brand promotion, thus they grant smaller margin of discount as compared with their local counterparts. The domestic accounting firms can be divided into domestic big accounting firms and local accounting firms for separate analysis. Domestic big accounting firms, though in the reputation building stage, has been expanding firstly as supported by the consolidation policies and earned certain fame in the market, having higher expectation than local accounting firms, thus they would grant larger margin of discount than domestic big accounting firms, and the already established reputation can bring them certain premium. For the local accounting firms, though granting discount would be their main means for competition, yet restrained by location and scale, it is hard for them to expect to build well-known fame and obtain premium return in the future, thus they would not like to grant too much discount. Over the long term, their fee would be stabilized at the market average level, and premium would hardly generate. Therefore, the local accounting firm would grant smaller

margin of discount than domestic big ones, and would not claim premium. Hence we propose hypothesis 1b.

H1b: The sequence of early-stage discount margin in the audit industry, in a high-to-low order, is domestic big accounting firms, local accounting firms and international “Big Four”.

It can be judged from the above analysis that the international “Big Four” claim the highest premium, the domestic big accounting firms claim certain premium, while the local accounting firms claim no premium. Hence we propose hypothesis 2.

H2: The international “Big Four” and the domestic big accounting firms claim premiums in their audit fee, and the former claims higher premium than the later.

### B. Model and Sample Data

To test hypothesis 1a and hypothesis 2, we refer to the basic audit fee model of Simunic (1980) and main domestic and foreign literature to establish the following model:

$$LNFEI = \beta_0 + \beta_1 LNASSET + \beta_2 SUBSQ + \beta_3 INRERATIO + \beta_4 LEVERAGE + \beta_5 MAININC + \beta_6 ROE + \beta_7 CURRATIO + \beta_8 STATE + \beta_9 CURRENT + \beta_{10} OPINION + \beta_{11} INITIAL + \beta_{12} AUDI1 + \beta_{13} AUDI2 + \varepsilon \quad (1)$$

In the model, the explained variable is LNFEI, natural logarithm of the audit fee. The controlled variables include: LNASSET, natural logarithm of total corporate assets; SUBSQ, square root of the number of subsidiaries under consolidation; INRERATIO, proportion of the company’s inventories and accounts receivable to total assets; LEVERAGE, proportion of the company’s debt to total assets; MAININC, proportion of the company’s main business profits to total profits; ROE, return on equity; CURRATIO, current ratio; STATE, proportion of state-owned shares; CURRENT, proportion of outstanding shares; OPINION, the audit opinion is non-standard clean opinion type, valued as 1, otherwise valued as 0.

Experimental variable: INITIAL, being audited for the first time, valued as 1, otherwise valued as 0; AUDI1, the auditor being the international “Big Four”, valued as 1, otherwise valued as 0; AUDI2, the auditor being domestic big accounting firms, valued as 1, otherwise valued as 0.

Data source: The paper takes the companies that have changed auditors during 2003-2006 as sample of first-time auditor change, including 79 companies in 2003, 85 in 2004, 110 in 2005 and 92 in 2006 (14 companies changed auditors twice in four years), and takes the 719 companies that have not changed auditors during 2003-2006 as the controlled sample, to study the discount and premium issues in audit fee. The data of auditor change come from the “Annual Report Audit Bulletin” on the website of the China CPA Association, the data about the tenure of auditors and the number of subsidiaries comes from the annual report released by the companies, and other financial data come from CSMAR database 2007 version, and the statistic software is SPSS11.5.

In choosing the samples, we screened out the following companies: companies that have not disclosed the audit fee, that

cannot determine which period the audit fee belongs to, that have combined disclosure of domestic annual report audit fee and other fees, that disclose fees in HK dollar, and that in the finance or insurance industry.

### III. EMPIRICAL RESULTS AND ANALYSIS

#### A. Descriptive Statistical Results

The descriptive statistical analysis on the model variables in Table 1 shows that the audit fee of the auditor change sample group is significantly lower than those of the auditor reemployment sample group at a significance level of 1%. From the perspective of continuous variables, the auditor change sample group has the three indexes of asset scale, proportion of main business profits to total profits and proportion of outstanding shares lower than those of the auditor

reemployment sample group at the significance level of 1%, and has the three indexes of the number of the consolidated subsidiaries, the asset-liability ratio and the proportion of state-owned shares higher than those of the auditor reemployment sample group. There is no difference between the two groups in such indexes as inventories, proportion of accounts receivables to assets, return on equity and current ratio. From the perspective of important categorical variables, the auditor change sample group receives more non-standard audit opinions, while the two groups have no significant difference in choosing auditors. The above analysis indicates that the companies featuring small scale, high risk, and complicated business, easy occurrence of surplus management and receipt of non-standard audit opinions are more likely to change auditors.

TABLE I. DESCRIPTIVE STATISTICAL ANALYSIS OF VARIABLES

Variable	All samples (N=1085)		Auditor change sample group (N=366)		Auditor reemployment sample group (N=799)		Difference	
	Average	St. D	Average	St. D	Average	St. D	T	P
Continuous variable								
LN FEE	13.00	0.56	12.92	0.53	13.04	0.57	-3.32***	0.00
LN ASSET	21.24	1.08	21.09	1.11	21.32	1.06	-3.24***	0.00
SUBSQ	3.42	4.57	4.98	7.32	2.62	1.55	6.09***	0.00
INRERATIO	0.29	0.25	0.31	0.33	0.28	0.19	1.12	0.26
LEVERAGE	0.58	0.58	0.64	0.74	0.56	0.47	2.01**	0.04
MAININC	0.36	5.38	-0.31	6.43	0.71	4.72	-2.66***	0.01
ROE	-16.87	447.70	-42.63	708.15	-3.76	217.19	-1.03	0.30
CURRATIO	1.47	1.52	1.41	1.23	1.50	1.65	-0.93	0.35
STATE	0.28	0.24	0.30	0.26	0.27	0.24	1.80*	0.07
CURRENT	0.46	0.14	0.42	0.14	0.48	0.14	-6.68***	0.00
Categorical variable								
OPINION	0.10	0.29	0.17	0.38	0.06	0.23	5.18***	0.00
INITIAL	0.34	0.47						
AUDI1	0.06	0.23	0.04	0.20	0.06	0.24	-1.24	0.22
AUDI2	0.20	0.40	0.21	0.41	0.19	0.39	0.70	0.49

\*, \*\* and \*\*\* respectively indicates that the T test value is significant at the significance level of 10%, 5% and 1% (two-tailed test)

#### B. Multiple Regression Result of the Correspondence between Audit Premium and Early-Stage Discount

To test hypothesis 1b, we have made adjustment on the model by establishing three dummy variables according to the reputation of the succeeding auditor to replace the initial discount variables (INITIAL). The three dummy variables are respectively the international “Big Four” (TOINTER), domestic big accounting firms (TONATION) and local accounting firms (TOPROVINCE). The model is as follows:

$$LN FEE = \beta_0 + \beta_1 LN ASSET + \beta_2 SUBSQ + \beta_3 INRERATIO + \beta_4 LEVERAGE + \beta_5 MAININC + \beta_6 ROE + \beta_7 CURRATIO + \beta_8 STATE + \beta_9 CURRENT + \beta_{10} OPINION + \beta_{11} INITIAL + \beta_{12} AUDI1 + \beta_{13} AUDI2 + \varepsilon \quad (1)$$

In the model, the meaning of other variables is the same as above. TOINTER: the succeeding auditor is one of the international “Big Four”, valued as 1, otherwise valued as 0; TONATION: the succeeding auditor is a domestic accounting firm, valued as 1, otherwise valued as 0; TOPROVINCE: the succeeding auditor a local accounting firm, valued as 1, otherwise valued as 0.

The samples are the companies that change their auditors to be an international “Big Four” accounting firm, a domestic big accounting firm and a local accounting firm during 2003-2006, with sample size respectively being 18, 71 and 277. The companies that have not changed their auditors during the four years are taken as the controlled sample, with the sample size being 719.

Table 2 classifies the change of auditors according to the reputation of the succeeding auditors. The data show that local accounting firms have the highest client change frequency, followed by domestic big accounting firms and the international “Big Four”, indicating that local accounting firms face the fiercest competition, while the international “Big Four” are more competitive than domestic accounting firms.

TABLE II. TYPE OF THE SUCCEEDING AUDITOR DURING 2003-2006

Year	Succeeding auditor being an international “Big Four” accounting firm	Succeeding auditor being a domestic big accounting firm	Succeeding auditor being a local accounting firm	Total
2003	3	14	62	79
2004	3	27	55	85
2005	10	16	84	110
2006	2	14	76	92
total	18	71	277	366

The regression result in Table 3 shows that, the model adjustment R2 is 53.3%, highly explanative; D-W statistic 1.977, approximating to 2; no self-correlation issue; the

maximum VIF value of variable is 1.76, no multi-co linearity issue. F=73.20, significant at the significance level of 1%, indicating that the model roughly passes the test.

TABLE III. MULTIPLE REGRESSION RESULT OF MODEL 2

Variable	Coefficient	T	P	VIF
(Constant)	6.66	24.01***	0.00	
LNASSET	0.28	21.75***	0.00	1.44
SUBSQ	0.01	3.98***	0.00	1.18
INRERATIO	-0.03	-0.58	0.56	1.38
LEVERAGE	0.04	1.65*	0.10	1.76
MAININC	-0.01	-2.66***	0.01	1.04
ROE	0.00	-0.25	0.80	1.02
CURRATIO	-0.01	-1.79*	0.07	1.20
STATE	-0.08	-1.61	0.11	1.20
CURRENT	0.06	0.64	0.52	1.19
OPINION	0.20	4.33***	0.00	1.35
TOINTER	-0.08	-1.47	0.14	1.23
TONATION	-0.16	-2.99***	0.00	1.38
TOPROVINCE	-0.15	-2.56***	0.01	1.26
AUDII	0.68	11.11***	0.00	1.42
AUDI2	0.19	5.27***	0.00	1.52

\*, \*\* and \*\*\* respectively indicates that the T test value is significant at the significance level of 10%, 5% and 1% (two-tailed test)

Table 3 shows that, as expected, the discount granted by the international “Big Four” in initial-stage audit is insignificant, being 7.69% as calculated according to the coefficient, while the discounts granted by domestic big accounting firms and local accounting firms are significant at the significance level of 1%, with the former being 14.79% and the later being 13.93%. That is to say, the domestic big accounting firms have made more significant initial-stage discount investment than local accounting firms. In model 2, however, the premium margin of the international “Big Four” is 49.33%, and that of domestic big accounting firms is 17.30%, with a significance level of 1%, consistent with the conclusion of model 1. Hence we can see that the audit fee discount varies along with reputation in the audit industry, and is closely linked with the premium, which is a natural phenomenon in market competition.

To examine the soundness of the conclusion, we make regression on the domestic top five accounting firms in terms of client base and the domestic top three accounting firms in terms of assets and client base, and draw the same conclusion.

#### IV. CONCLUSIONS

By using the data of auditor change in Chinese A stock market in four consecutive years, the paper conducts empirical test on the correspondence between the premium and discount of audit fee and the difference between accounting firms of different reputation in discounts, to find that there are significant discounts in initial-stage fee in China’s audit industry. In particular, the international “Big Four” grant insignificant discounts, the domestic big accounting firms grant

the highest discounts, closely followed by local accounting firms. Correspondingly, the international “Big Four” claim the highest premium, and the domestic big accounting firms claim certain margin of premium. The above conclusions indicate that premium and discount in audit fee is indeed a natural phenomenon in market competition.

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