

The Effect of Free Cash Flows, Growth Opportunities and Dividend-to-Market Value of Share Ratio on Auditing Fee: Evidence from Iranian Companies

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Abstract. Companies with higher free cash flows and lower growth opportunities invest less in operational assets, and are more prone to inflict of interests and agency problems. Therefore, the risk of auditing and auditing fees will probably be higher. This research examines whether auditing fees for companies with high free cash flows, low growth and low dividends-to-market value of stock ratio is greater than auditing fees for companies with high free cash flows, low growth and high dividends-to-market value of stock ratio or not. This study has been conducted for manufacturing companies listed on Tehran Securities Exchange from 2002 to 2008. Results show that mean auditing fees for companies with high free cash flows, high growth opportunity and low dividends-to-market value of stock ratio is higher than mean auditing fees for companies with high free cash flows, high growth opportunity and high dividends-to-market value of stock ratio.

Keywords: Free Cash Flow, Auditing Fee, Growth Opportunity, Dividends-to-Market Value of Share Ratio

1. Introduction

One of the factors influencing the auditing risk is the agency problems that can arise in companies with free cash flows. Companies with low cash flows and high growth opportunities are typically newly-established ones which attempt to invest the funds received from the investors in operating assets in order to expand their range of activities. In such cases, these companies could be faced with negative free cash flows [1]. However, companies with high free cash flows and low growth opportunities invest less in operating assets and are more prone to inflict-of-interests and agency problems [2]. Moreover, there would be higher auditing risks for such companies; and in order to compensate for the risk surplus and auditing processes being more complicated, auditing fees would probably be higher [3]. Therefore, to assist auditors, this study has made an effort to address:

Are auditing fees for companies with high free cash flows, low growth and low dividends-to-market value of stock ratio higher than for companies with high free cash flows, low growth and high dividends-to-market value of stock ratio or not?

2. Literature review and research hypothesis

When accepting new work, independent auditors have to calculate the auditing risk and their fee. Since determining the correct auditing fee is essential to this profession, a body of research has been carried out in this respect, some examples of which will herein be surveyed.

By means of variance analysis models, Griffin et al. (2007) studied the effect of free cash flows and growth opportunities on auditing fee logarithm of companies listed on the United States Securities Exchange.

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They used control variables like debt ratio and dividend ratio. Results reveal that companies with high free cash flows and low growth opportunities have higher auditing fees compared to other companies [3].

Harford (1999) questioned whether or not the existence of high free cash flows would lead managers to make unfavorable decisions not in tune with the interest of shareholders. His research conveys making unfavorable decisions by the management is more probable in companies with high free cash flows than in other companies [6].

Gul and Tsui (1998) examined the effects of agency problems of free cash flows on auditing fee. They used debt ratio in their model as control variable. Their research shows there is a significant relationship between agency problems raised from free cash flow and auditing fees [5].

Jensen (1986) introduced the hypothesis of free cash flows. He argued that managers of high free cash flow and low growth opportunity companies might do activities not in the interest of shareholders to maximize their wealth [7].

With regarding to literature review, the following hypothesis has been formulated to determine the effect of free cash flows and growth opportunities of companies on auditing fees.

Research hypothesis: Auditing fees for companies with low dividends-to-market value of stock ratio is higher than auditing fees for companies with high dividends-to-market value of stock ratio.

3. Research variables

The variables used in this research include the variables used by Griffin et al. (2007) and how they are measured is identical to the method taken by Griffin et al (2007).

3.1. Explanatory Variables of Research

Free Cash Flow to Book Value of Share at the Beginning of the Fiscal Period Ratio (**FCF/TE_{t-1}**): equals free cash flows divided by book value of share at the beginning of period.

Growth opportunity (**GROWTH**): equals assets' market value divided by their book value at the end of the fiscal period.

Growth and free cash flow dummy variable (**FG_k**): There are four kinds of companies in terms of free cash flows and growth (k=1, 2, 3, 4). The first group is companies with low free cash flows and low growth (FG₁), the second group is companies with low free cash flows and high growth (FG₂), third group is companies with high free cash flows and low growth (FG₃), and finally, fourth group is companies with high free cash flows and high growth (FG₄) and the amount of dummy_variable for this group is one and for the other groups equals zero [4].

Dividends-to-market value of share ratio (**DIVIDEND**): equals dividend divided by market value of common stock at the end of the fiscal period.

Firm Size (**SIZE**): equals natural logarithm of the firm's total assets at the end of the fiscal period.

Debt ratio (**DA**): equals total debts divided by total assets at the end of the fiscal period.

Quick ratio (**QUICK**): equals quick divided by current debt.

Loss dummy_variable (**LOSS**): equals one if the company incurs loss or otherwise equals zero.

End of fiscal year dummy variables (**FISCAL**): equals one if the fiscal year ends in March and otherwise equals zero.

Time dummy variables (**YRDUM**): are seven dummy variables for years 2002 to 2008 and equals one for the intended year and equals zero for other years.

Growth and free cash flow dummy variables multiplied by dividend-to-market value of share ratio (**FG_k.DIVIDEND**): equals growth and free cash flow dummy variables for Group K multiplied by market value of share.

3.2. Dependent Variable of Research

Dependent variable in this research is logarithm auditing fee (**LAF**) which equals independent auditors' fee logarithm (for auditing financial statements).

4. Statistical sample and method for testing research hypothesis

The statistical sample of this research comprises 30 companies listed on the Tehran Securities Exchange from 2002 to 2008 whose ending date of the fiscal year had not changed in the period under study. Also, this research uses the random sampling method to determine the size of the sample. In order to test the research hypothesis, companies under study have been categorized in terms of their dividend-to-market value of share ratio; Group A are companies with a low dividend-to-market value of share ratio and Group B are companies with high dividend-to-market value of share ratio. Afterwards, median logarithm of financial statements auditing fee for the two groups will be compared. Similarly, companies of the four groups GF1, GF2, FG3, and FG4 are categorized in terms of their dividend-to-market value of share ratio; Group A are companies with a low dividend-to-market value of share ratio and Group B are companies with high dividend-to-market value of share ratio. The mean logarithm of financial statements auditing fees for the two groups will then be compared. Moreover, regression model 1 can be utilized, along with research control variables, to determine the effect of dividend-to-market value of share ratio on auditing fees.

$$LAF = \beta_0 + \beta_1 SIZE + \beta_2 DA + \beta_3 QUICK + \beta_4 LOSS + \beta_5 FISCAL + \beta_6 DIVIDEND + \sum_{k=2002}^{2008} \beta_7 YRDUM_k + \sum_{k=1}^4 \beta_8 FG_k + \sum_{k=1}^4 \beta_9 FG_k . DIVIDEND + \varepsilon \quad (\text{Model 1})$$

5. Results analysis

5.1. Descriptive statistics

Methods by means of which to arrange, organize and summarize collected data and demonstrate them using charts are called descriptive statistics. Table 1 includes some descriptive statistics concepts like number of observations, mean, standard deviation, minimum and maximum amounts of each dependent and independent variables.

Table 1 (Descriptive Statistics)

Variables	Observations	Mean	S.D.	Min	Max
LAF	441	5.31	0.32	4.56	6.43
DA	441	0.94	1.92	0.04	26.18
QUICK	441	0.70	0.46	0.00	3.21
SIZE	441	5.32	0.51	3.92	6.73
LOSS	441	0.16	0.37	0.00	1.00
DIVIDEND	441	0.08	0.34	0.00	5.41
FCF/TE	441	-3.16	50.86	-709.46	103.95
GROWTH	441	2.39	3.92	0.07	45.20
FISCAL	441	0.79	0.41	0.00	1.00

By reference to table 1, it is observed that among the factors under study, free cash flows to book value of share ratio has the greatest degree of dispersion. The cause of such great a distinction in the range of fluctuations can be traced to kind of activity, performance, motivation and goals of management in various companies.

5.2. Results of testing the research hypothesis

The auditing fee logarithm is dependent variable in this research. Therefore, it is necessary to measure the correlation among research explanatory variables and the auditing fee logarithm. Hence Table 2 presents the Pearson correlation coefficient for research variables.

Table 2 (Pearson Correlation Coefficient)

	LAF	DA	QUICK	SIZE	LOSS	DIVIDEND	FCF/TE	GROWTH	FISCAL
LAF	1.00	-							
DA	-0.07	1.00	-						
QUICK	0.01	-	1.00	-					
SIZE	0.37*	0.18	-	1.00	-				
LOSS	-0.09	0.29	-0.21**	-0.22	1.00	-			
DIVIDEND	0.07	-	0.08	-0.01	0.08	1.00	-		
FCF/TE	-	0.01	0.07	-0.03	-0.01	0.02	1.00	-	
GROWTH	0.10*	0.51*	0.01	-	0.06	-0.04	0.03	1.00	-
FISCAL	0.04	0.02	-0.04	0.04	0.09**	0.07	0.00	0.04	1.00

With respect to table 2, it can be found out that firm size (SIZE) has the highest correlation with auditing fee logarithm. Moreover, among other research variables, growth opportunity (GROWTH) and debts to assets ratio (DA) have a significant correlation. Therefore, when using the linear regression methods, it is possible to there exist a co-linearity caused by these two variables, and this can be recovered by means of pooled data regression.

To test research hypothesis, mean auditing fee logarithm for companies of Group A (companies with low dividend-to-market value of share ratio) and Group B (companies with high dividend-to-market value of share ratio) has been compared. Likewise, each of the four groups FG1, FG2, FG3 and FG4 has been categorized to Group A (companies with low dividend-to-market value of share ratio) and Group B (companies with high dividend-to-market value of share ratio), and mean of auditing fee logarithm has been compared for them. Results are summarized on Table 3.

By reference to table 3 it is observed that, the null hypothesis (there is no difference between mean auditing fee logarithm of companies with a low dividend-to-market value of share ratio and companies with a high dividend-to-market value of share ratio) is not rejected at a 95% confidence level and it is argued that mean auditing fee logarithm of companies with a low dividend-to-market value of share ratio and mean auditing fee logarithm of companies with a high dividend-to-market value of share ratio do not have a significant difference. Nonetheless, comparison between companies with a low dividend-to-market value of share ratio and companies with a high dividend-to-market value of share ratio for each of the groups in Table 3 reveals that only in the fourth group (FG4) is the mean of the two groups with low dividend-to-market value of share higher than the mean for companies with a high dividend-to-market value of share ratio; and that for other groups no significant difference exists between the auditing fee logarithm mean of A and B groups.

Table 3 (Comparing Auditing Fees Mean Based on Dividend to Market Value of Share Ratio)

Companies	Group	Mean	t-Statistic (p-value)
All of Companies	A	5.3136	0.05
	B	5.3120	(.9587)
First Group of Companies (FG1)	A	5.4725	-1.37
	B	5.5495	(0.1735)
Second Group of Companies (FG2)	A	5.2371	-1.04
	B	5.2971	(0.3014)
Third Group of Companies (FG3)	A	5.2355	-1.32
	B	5.3101	(0.1912)
Fourth Group of Companies (FG4)	A	5.2581	3.15
	B	5.0998	(0.0020)

Moreover, in order to determine the effect of dividend-to-market value of share ratio on auditing fee logarithm, Model 1 was tested and the results are summarized in Table 4. Table 4 shows that the probability of chi-square test equals zero and is smaller than 0.05; hence the null hypothesis (coefficient of all variables being zero) is rejected and it can be concluded that at least one of the research explanatory variables affects auditing fees. By observation of p-value of the Z test for panel data regression with random effect we can find out that only firm size, intercept and time dummy variables for years 2004 to 2008 affect auditing fee logarithm.

Table 4 (The Effect of Dividend-to-Market Value of Share Ratio on Auditing Fee by Panel Data Regression with Random Effects)

Variables	Coefficients	Z-Statistic
DA	-0.0008	-0.12
QUICK	0.0159	0.57
SIZE	0.1374	4.11*
LOSS	-0.0023	-0.08
DIVIDEND	-0.2520	-0.78
FCF/TE	-0.0002	-1.05
GROWTH	0.0005	0.15
FISCAL	-0.0271	-0.41
FG1	0.1564	0.80
FG2	-0.0259	-0.13
FG3	-0.1017	-0.52
FG4	-0.0420	-0.21
FG1.DIVIDEND	0.2837	0.88
FG2.DIVIDEND	0.2605	0.71
FG3.DIVIDEND	0.2780	0.85
FG4.DIVIDEND	Dropped	-
DUM1381	Dropped	-
DUM1382	0.0362	1.08
DUM1383	0.0681	2.04**
DUM1384	0.1956	5.88**
DUM1385	0.1837	5.39**
DUM1386	0.2301	6.57**
DUM1387	0.3011	8.05**
Intercept	4.4407	16.81
Adjusted R Square		0.54
Chi-Square Statistic		421.55*

6. Discussion and Conclusion

Based on theoretical principles of research mean auditing fee logarithm for companies with a low dividend-to-market value of share ratio is expected to be higher than mean auditing fee logarithm for companies with a high dividend-to-market value of share ratio, because if a company has low growth opportunity and high free cash flow, it will probably invest its funds in projects with a negative net present value and management will endeavor to conceal its inefficiency, resulting more serious agency problems.

Therefore, auditors will have to spend more time and their fees will probably be higher (Griffin et al. 2007). Also, findings of this research indicate that mean auditing fees for companies with high free cash flow and low dividend-to-market value of share ratio is higher than mean auditing fees for companies with high free cash flows and high dividend-to-market value of share ratio. Henceforth we suggest that in order to determine auditing fees, factors such as free cash flows, growth opportunity and dividend be considered, since they can be used as some parameters of determining auditing risks.

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