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Full Length Research Paper

Examining auditing fees change from free cash flow viewpoint

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This research mainly aimed at examining the relationship between free cash flow and auditing fees. It is required to mention that the mangers of free cash flow do not invest the commercial units in projects with positive NPV based on the theory of contradictory interests of managers and owners. In this research, the companies were divided into two lower and upper classes and model of auditing fees and artificial variable of free cash flow (FCF) and debt ratio of divided interest was used. In order to collect the required data and test the hypotheses, information stipulated in financial statements and notes of 50 companies and market information, Rahavard Novin software, Tadbir Pardaz softer, Sahra softer, stock organization library and stock sites such as www.rdis.ir and www.irbourse.com were used. Accessible extra cash amounts for investment is effective and agency problems of free cash flow damage the value as a result of probable increase in investment. Also, the contradiction of the interests between shareholders and managers may be intensified in companies with high free cash flow and low growth view. Obligations may result in increasing auditors' attempts, auditing risk and effort, auditing fees, and applying them may raise some questions about management credit. This research provided a good chance for examining the effect of some charges of free cash flow agency regarding auditing wage. Meanwhile, it took into consideration whether other control mechanisms such as debt divided interest have any effect on auditing fees and auditors or not.

Key words: Auditing fees, free cash flow, agency problems.

INTRODUCTION

Free cash flow (FCF) is one of the effective factors on auditor fees changes for compensating extra risk and auditor attempt based on the representative problems. There are various documents about auditing fees change in relation with the agency problems of FCF (Griffin et al., 2010). Auditing is considered as the main motive of the companies with agency charge decrease (Leventis et al., 2010). This paper aims at understanding these factors better. The main question is whether there is meaningful relationship between free cash flow and auditing fees or not.

Auditing fees should be increased for the companies with high FCF. These companies with high growth view can internally invest their growth potential and capital market would have lower tendency to examine and survey these kinds of companies. Moreover, companies with high FCF and growth view lead to more activities done by the auditor (Griffin et al., 2009). High administrative tax with absolute value resulted in increasing auditing fees. This consistency aroused at the time of high and negative taxes (Hanlon and Krishnan, 2009). Auditor economic profits will be provided by drawing up contract with owners. Auditors use different factors for pricing auditing services and many researches are done in the field of recognizing and evaluating these factors. Descriptive factors such as risk, volume, and complexity of examined unit operations are taken into consideration in most of the studies (Leventis et al., 2010). Managers in companies with high FCF prefer to invest on projects with negative net present value in order to pay the divided

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interest (Rubin, 1990). Free cash flow theory is supposed to present fixed obligations debt (debt interest and paying debt) which will be paid in the future by the company. These obligations are considered as a supposition for achieving free cash flow (if there is a free cash flow), thus it prevents managers from consuming financial resources (Tarek, 2007). In companies with low growth opportunity, there is positive relationship between FCF agency problems and auditing fees. They also indicated that higher debt resulted in weak relationship (Gul and Tsui, 2003). Companies mostly use debt for balancing FCF agency problems in order to decrease the amounts available to the managers. Then, reduced capital or increased divided interest are good mechanisms for managing extra cash amount, although the divided interest may have low efficiency in debt (Jensen, 1986). In debt supervision hypothesis, Jensen found that higher debt mitigates FCF agency charge as determined in auditing fees. Auditors should be more active in companies with high growth and low debt rates for preventing investment shortage and other shortages related to debt supervisions (Jensen, 1986).

Agency cases are more important in larger companies and auditors duties and debt supervision will be developed beyond auditing financial statements. Auditing fees are high for companies with high free cash flow and low growth chances in case that the managers manipulate financial statements for unreasonable FCF investment and covering some behaviors (Myers and Majluf, 1984). This research examined auditing fees changes in companies with free cash flow with the purpose of better understanding of compound evidences in different researches. Auditing fees are raised to compensate extra risk of agency problems of free cash flow. For instance, auditing fees should be high for companies with high FCF and low growth prospects since they encourage management to invest FCF unreasonably and cover this behavior by manipulating financial statements (Myers and Majluf, 1984). Auditing fees model was presented in this paper and high and low FCF artificial variable was used for evaluating whether companies with high FCF have higher auditing fees or not. In that model other factors affected on auditing fees were controlled. Also, observations were divided into two groups based on FCF average and growth (companies with high and low FCF, high and low growth). This division led to compare two groups simultaneously (Ferguson and Taylor, 2007). Moreover, interaction and counter effects between FCF and auditing attempts and risk variables were defined to distinguish the auditing risk and attempt in relationship between positive FCF and auditing fees. In order to balance the hypotheses, the relationship between FCF and debts and divided interests were taken into account. Agency charges are decreased by distributing free cash flows, otherwise, they would be spent on non profitable projects (Jensen, 1986). Companies were divided into high and low classes based on the free cash flow and model of auditing fees, artificial variable of free cash flow (FCF) and debt, divided was used (Griffin et al., 2009).

LITERATURE REVIEW AND HYPOTHESIZED MODEL

Free cash flow

Companies with high FCF or growth have high auditing fees and higher debt balances FCF agency charges (Griffin et al., 2010). Managers of commercial units with high FCF and low growth, manage the interest in order to provide some of their personal profits. Therefore, it is expected that FCF can be considered as a stimulus for interest management (Griffin et al., 2009). Free cash flow is a measure for measuring companies' performances and it is considered as a cash amount belonging to a company for keeping or raising its assets. To this end, it is very important and allows the company to seek chances for increasing shareholder value (Ferguson and Taylor, 2007). Free cash flow creates the agency problems as a result of probable increase of value harmful investments. He proposed that the contradictory profits of shareholders and managers in companies with high free cash flow and growth low chances may be intensified (Jensen, 1986). Some researches confirmed and supported Jensen hypotheses of agency problems occurred in companies with high free cash flow and weak investment chances (Laggi and Gul, 2005). Increased auditing efforts and risk as a manipulation result would lead to a raise in the auditing fees (Gul and Tsui, 2003). Auditing fees for companies with high free cash flow and low growth chance will be high in case that the managers manipulate the financial statements for unreasonable FCF investment and covering some behaviors as well as the companies with high free cash flow and high growth chance (Myers and Majluf, 1984). Opportunistic behaviors increase the auditing fees in companies with high growth where it is difficult to see the management activities (Gul and Tsui, 2001). Also, companies with high free cash flow and growth intend to have lower debt (Myres, 1977); an extra auditing will be potentially done by no supervision and debt control (Barclay and Smith, 1995). The first hypothesis is introduced as a result of the prior discussion and totally, auditing fees of free cash flow agency charges are tested:

H_1: There is a significant relationship between high free cash flow and auditing fees.

Debt

Suitable debt level can balance the free cash flow agency problems by decreeing available cash amount for optional payments (Griffin et al., 2009). The ratio of debt to time regarding the inconsistent information is related

to financial provision capacity and variation restrictions which a company would face in achieving different sources of financial provision. Hence, in hierarchy, previous profitable financial level and companies investments chances are seen (Viviani, 2008). Free cash flow theory supposes to present the fixed obligations debt (debt interest and origin debt payment) which will be provided by the company in future. These obligations are considered as a supposition for achieving free cash flow (if there is any free cash flow) and prevent the managers from using company's financial profits (Tarek, 2007). On the other hand, suitable debt level as well as extra debt can lead to an improper management for refraining from debt convention based on the accounting. Thus, this is not the total effect of higher debt on one-dimensional auditing fees (Gul and Tsui, 2003). This is to say that some debt conventions have lower cohesion and create the second hypothesis:

H_2: There is a significant relationship between debt and auditing fees in high level of high free cash flow.

Divided interest

Share interest is like the debt since it is considered as an obligation in case of announcement (Adam, 2008). Anyway, share interest has more flexibility than the debt, as it can be decreased in the future and the shareholders consider this decrease as a malfunction signal (Griffin et al., 2009). Provided that managers are obliged to distribute the cash amounts instead of expanding the number of projects with negative NPV due to a regular share interest, the auditors should respond to the agency low charge or fees reduction. For companies with high free cash flow, a share interest increase can reduce the present cash amounts which are supposed to be invested in projects with negative NPV (Jensen, 1986):

H_3: There is a significant relationship between divided share and auditing fees in the high level of high free cash flow.

RESEARCH DESIGN

The correlation research method was used to determine the relationship between free cash flow, debt ratio, divided interest independent variable and auditing fees dependent variable and the regression was applied for testing the relationship between these variables.

Regression models

The following model was used to test H_1:

$$LAF=\beta_0+\beta_1SIZE+\beta_2DA+\beta_3QUICK+\beta_4LOSS+\beta_5BIG+\beta_6FISICAL+\beta_7MANU+\beta_8LNAF+\beta_9DIVIDEND+\beta_{10}HLGROWTH+\beta_{11}HLFCF+\beta_{12}HLFCF*SIZE+\beta_{13}HLFCF*LOSS+\varepsilon_i$$

H_1 posits that mean audit fees should be higher for high FCF companies after controlling for other determinants of audit fees, implying that the overall impact of HLFCF on LAF should be positive. LAF differs on the size (SIZE), leverage (DA), liquidity (QUICK), and non-audit fees (LANF). We also partition based on client profitability (LOSS) and audit firm type (AUDITOR), and busy season (FISICAL). B = regression coefficient, Size= company size (Asset logarithm), DA = debt ratio (debt/asset), Quick= quick rate (current assets / current debts), Loss = loss artificial variable, Auditor-= auditor type, Fiscal = (end of fiscal year, March 29), MANU = artificial variable for factories (manufacturing companies), LANF= no- auditing fees, DIVIDEND.

To test H_2 and H_3, we add a control variable to model 1(β_{14}) to examine whether the effect of FCF on audit fees is moderated by debt dividends. The control variable (CNTRL) takes on debt (DA) and dividends (DIV) to examine the possible moderating roles. If CNTR mitigates the agency problems of FCF, we should observe negative β_{14} coefficients for the interactions HLFCF*DA, HLFCF*DIV. To test these two hypotheses, we use the flowing regression model:

$$LAF=\beta_0+\beta_1SIZE+\beta_2DA+\beta_3QUICK+\beta_4LOSS+\beta_5BIG+\beta_6FISICAL+\beta_7MANU+\beta_8LNAF+\beta_9DIVIDEND+\beta_{10}HLGROWTH+\beta_{11}HLFCF+\beta_{12}HLFCF*SIZE+\beta_{13}HLFCF*LOSS+\beta_{14}HLFCF*CNTRL+\varepsilon_i$$

Statistical population

In this research, companies which were the member of Tehran stock market are considered as participants. Accessibility of information and clarity of companies' accounting data were mostly taken into account by most shareholders. Stock requirements for dued distribution of financial statements provided a more suitable data for researchers. Research period was from the years 2004 to 2008.

In order to collect required data and test the hypotheses, information stipulated in financial statements and notes of 50 company and market information, Rahavard Novin software, Tadbir Pardaz softer, Sahra softer, stock organization library and stock sites such as www.rdis.ir and www.irbourse.com were used.

Data analysis

Pearson correlation coefficient and multivariate regression were used to analyze data. Initial data was inserted in Excel and SPSS software was applied to analyze the data statistically.

Smirnov – Kolmogrov test (data normalization test)

H_0 = Data is normal
H_1 = Data is abnormal

Hypotheses testing results

A total optimum model was used for predicting the auditing fees. We entered some variables into the model respectively. 11 models were defined and finally the last one (11) including all variables was defined as an optimum model for predicting the auditing fees.

Table 1. One-sample Kolmogorov - Smirnov test.

		Audit
N		300
Normal parameters a, b	Mean	2.3085
	Std. deviation	0.35155
Most extreme differences	Absolute	0.083
	Positive	0.083
	Negative	-0.064
Kolmogorov-Smirnov Z		0.838
Asymp. Sig. (2-tailed)		0.333

Table 2. Excluded variables.

Model	Variable	Sig	t	Beta In	Partial correlation	VIf
1	LOSS	0.892	0.136	0.007	0.008	1.484
2	HLFCF*SIZE	0.242	-1.172	-0.369	-0.069	57.999

Consequently, the regression model was as in Table 1.

RESULTS OF THE FIRST HYPOTHESIS

Extracting variables

As seen in Table 2, loss significance level is equal to 0892 > 0.05, therefore, this variable was not entered the model. Free cash flow significance level of company's size was equal to 0.242 > 0.05, so this variable was not entered the model. As a result, the regression model came as the followings:

$LAF_{it} = \alpha+\beta_1 iDA_{it}+\beta_{2i}Size_{it}+ \beta_3 iHLFCFit+ \beta_{4i}AUDITOR_{it}+ \beta_{5i}HLFCF*LOSS_{it}+ \beta_6 MANU_{it} + \beta_7 FISICAL+ \beta_8 LANF+ \beta_9 HLGROWT+ \beta_{10} DIV+ \beta_{11} QUICk+e_i$

Presenting total optimum model based on model 11 (T-test)

Optimum model was model 11 which had a more determination coefficient than the previous ones. In fact, when all variables were beside each other, they could present a more precise prediction of the auditing fees and in this paper the optimum model was 11 one. Regression model was written as the followings:

LAF=1.231+0.170DA+0.141SIZE+0.138HLFCF+0.148AUDITOR+1.849E-07HLFCF*LOSS
0.078MANU+0.102FISICAL+0.042LANF
0.097HLGROWTH+5.352E-05DIV+0.026QUICK

As it is seen in optimum model, free cash flow was entered with coefficient equal to 0.138. Thus, there was a positive relationship between free cash flow and auditing fees. Meanwhile, based on the results of Table 3, VIF coefficient related to the variables entered the final model indicated that no major change was occurred in that coefficient in relation with Figure 1 and there was no collinear between independent variables in the final model.

RESULTS OF THE SECOND HYPOTHESIS

Extracting variables

Loss significance level was equal to 0.781 > 0.05 and it was not entered the model significance level of growth chances was equal to 0.523 > 0.05, thus it was not entered the model.

Also, free cash flow significance level of company's size was equal to 0.439 > 0.05, so this variable was not entered in the model (Table 4). As a result, the regression model came as the followings:

$LAF_{it}=\alpha+\beta_{1i}DA_{it}+ \beta_{2i}Size_{it}+ \beta_{3i}AUDITOR_{it}+ \beta_4 HLFCF_{it}+ \beta_{5i}QUICK_{it} + FISICAL_{it} + \beta_7 LANF_{it}+ \beta_8 HLFCF*DA+ \beta_9 MANU+ \beta_{10} HLFCF*LOSS+ \beta_{11} DIV$

Presenting total optimum model based on model 11 (T-test)

LAF=-1.313+0.256DA+0.104SIZE+0.140AUDITOR-0.152HLFCF-0.044QUICK+0.142FISICAL+0.042LANF-0.080HLFCF*DA-0.065MANU+1.523E-07HLFCF*LOSS+4.688E-05DIV

Table 3. Coefficients.

Model 1	Standardized coefficient	Standardized un-coefficient		T	VIF	Sig
	Beta	B	Stl. Error			
Constant		1.231	0.119	10.381		0
DA	0.338	0.17	0.025	6.739	1.471	0
SIZE	0.291	0.141	0.021	6.597	1.138	0
HLFCF	0.195	0.138	0.033	4.231	1.236	0
AUDITOR	0.197	0.148	0.033	4.513	1.117	0
HLFCF*LOSS	0.14	1.85E-07	0.001	2.884	1.377	0.004
MANU	-0.111	-0.078	0.031	-2.509	1.145	0.013
Fisical	0.128	0.102	0.034	2.967	1.08	0.003
LANF	0.128	0.042	0.015	2.899	1.143	0.004
HLGROWTH	-0.137	-0.097	0.031	-3.077	1.164	0.002
DIV	0.124	5.35E-05	0.001	2.453	1.495	0.015
QUICK	0.097	0.026	0.012	2.216	1.125	0.027

Table 4. Excluded variables.

Model	Partial correlation	Sig	t	Beta In	Variable	VIF
1	0.016	0.781	0.278	0.012	LOSS	1.442
2	0.038	0.523	0.639	0.026	HLGROWTH	1.247
3	-0.046	0.439	-0.776	-0.215	HLFCF*SIZE	59.34

Table 5. Coefficients.

Model 11	Standardized coefficient	Standardized un-coefficient		t	VIF	Sig
	Beta	B	Stl. Error			
Constant		1.313	0.099	13.268		0
DA	0.507	0.256	0.025	10.191	1.915	0
SIZE	0.214	0.104	0.019	5.565	1.142	0
AUDITOR	0.187	0.14	0.028	4.965	1.099	0
HLFCF	0.214	0.152	0.028	5.327	1.247	0.001
QUICK	0.164	0.044	0.01	4.168	1.197	0.001
FISICAL	0.177	0.142	0.03	4.725	1.083	0.001
LANF	0.127	0.042	0.013	3.16	1.256	0.002
HLFCF*DA	-0.229	-0.080	0.017	-4.776	1.773	0
MANU	-0.092	-0.065	0.027	-2.384	1.147	0.018
HLFCF*LOSS	0.115	1.52E+07	0	2.683	1.428	0.008
DIV	0.114	4.69E-05	0	2.596	1.494	0.01

As seen in Table 5, debt ratio variable was entered the model with coefficient of 0.252, thus there was a positive relationship between debt ratio and auditing fees and debt ratio of free cash flow with negative coefficient of 0.80 was entered the model. It indicated the decreasing – controlling role of debt.

Meanwhile, VIF coefficient related to the variables entered the final model revealed that no major change was occurred in that coefficient in relation with Figure 1 and there was no collinear between independent variables in the final model.

RESULTS OF THE THIRD HYPOTHESIS

Extracting variables

Loss significance level was equal to 0.663 > 0.05 and it was not entered the model significance level of manufacturing and non-manufacturing combines variable

Table 6. Excluded variables.

Model	Partial correlation	Sig	t	Beta In	Variable	VIF
1	0.0626	0.663	0.437	0.019	LOSS	1.349
2	-0.109	0.065	-1.85	0.074	MANU	1.161
3	0.072	0.224	1.22	0.05	HLGROWTH	1.23
4	0.048	0.42	-0.808	0.231	HLFCF*SIZE	59.346

Table 7. Coefficients.

Model 11	Standardized coefficients	Standardized un-coefficient		T	VIF	Sig
	Beta	B	Stl. Error			
Constant		1.238	0.102	12.182		0
DA	0.416	0.207	0.024	8.719	1.065	0
SIZE	0.223	0.108	0.019	5.669	1.012	0
AUDITOR	0.174	0.13	0.029	4.51	1.08	0
DIV	0.237	9.73E-05	0	3.285	1.078	0.001
HLFCF	0.217	0.153	0.033	4.687	1.055	0
FISICAL	0.149	0.119	0.031	3.786	1.012	0
LANF	0.124	0.04	0.014	2.888	1.033	0.004
QUICK	0.166	0.044	0.011	4.071	1.021	0
HLFCF*LOSS	0.125	1.65E-07	0	2.881	1.091	0.004
HLFCF*DIV	0.192-	8.28E-05	0	-2.326	1.036	0.021

was equal to 0.065 > 0.05, thus it was not entered the model. Also, growth chances significance level was equal to 0.224 > 0.05, so this variable was not entered the model. Moreover, free cash flow significance level of company's size was equal to 0.420 > 0.05, so this variable was not entered the model (Table 6). As a result, the regression model came as the followings:

$LAF_{it}=\alpha+ \beta_{1i}DA_{it}+ \beta_{2i}Size_{it}+ \beta_{3i}AUDITOR_{it}+ \beta_4 DIV_{it}+ \beta_5 HLFCF_{it} + \beta_6 FISICAL_{it} + \beta_7 LANF_{it}+ \beta_8 QUICK_{it} + \beta_9 HLFCF*LOSS+ \beta_{10} HLFCF*DIV$

Presenting total optimum model based on model 10 (T-test)

LAF=1.238+0.207DA+0.108SIZE+0.130AUDITOR+9.730E-05DIV-0.153HLFCF+0.119FISICAL+0.040LANF+ 0.044QUICK+1.653E-07HLFCF*LOSS-8.283E-05HLFCF*DIV

As seen in Table 7, divided interest variable was entered the model with coefficient of 0.9730E-05, thus there was a positive relationship between free cash flow and divided interest and divided interest free cash flow with negative coefficient of 8.283E-05 was entered the model. It indicated the decreasing – controlling role of divided interest. Meanwhile, VIF coefficient related to the variables entered the final model revealed that no major change was occurred in that coefficient in relation with Figure 1 and there was no collinear between independent variables in the final model.

DISCUSSION AND CONCLUSION

First hypothesis indicated that the auditing fees are high for companies with high FCF after controlling other parts. In fact, HLFCF had positive effect on positive LAF and there was a direct relationship and the auditing fees might be increased by increasing auditing risk and efforts. All variables entered the model had positive coefficient. Therefore, there was a positive relationship between all variables and LAF (Log Audit Fees). For example, BIG4, FISICAL was presented in the model by a positive coefficient. This is to say that companies would face a high auditing fees while their auditing are carried out by great companies and with high quality or in overworking period. Companies with high FCF and high risk may use FCF unreasonably and more cash assets rather than the companies with high FCF and low risk. (Griffin et al., 2009) and (Ferguson and Taylor, 2007) found that there was positive relationship between free cash flow and the auditing fees and came into conclusion that companies with high FCF/ growth had a higher auditing fees when that relationship could be the result of financial

manipulation. The results revealed that in companies with high free cash flow the managers might invest those amounts on non-profitable projects. Furthermore, they might use auditing resources for showing the appropriateness of financial reports based on the contradictory profits of managers and capital owners and then the fees would be increased (in case of financial statements manipulation, extra auditing resources would be used).

Companies with high free cash flow and growth chances intended to have less debt. They mostly used debt for balancing free cash flow agency problems in order to decrease the amounts accessible to the managers (Griffin et al., 2009). There was a direct relationship between auditing fees decrease and companies with high FCF and low growth (Gul and Tsui, 2003). The results indicated that there was a negative and significant coefficient for HLFCF*DA control variable. Obtained negative coefficient revealed that LAF average is lower in companies with high FCF when FCF was evaluated along with high debt. Thus, referring to the obtained results, there was a positive and direct relationship between high free cash flow and auditing fees. Debt ratio control was very important for companies with high FCF (Jensen, 1986). Debt resulted in decreasing the extra cash fees available to the managers and extra auditing resources were needed as the managers used free cash flow improperly and these resources would increase the auditing fees. Extra fees are not benefited to the shareholders since the interest will be decreased. As the high free cash flow leads to agency charges, debt will decrease the agency charges and then auditing fees based on this hypothesis and results of debt balancing role test.

The results of this research showed that there was a negative and significant coefficient for HLFCF*DA control variable. Obtained negative coefficient revealed that LAF average is lower in companies with high FCF when FCF was evaluated along with high divided interest. Thus, referring to the obtained results, there was a positive and direct relationship between auditing fees and divided interest. Divided interest was considered as an extracting factor of cash amount and in that case the cash amounts accessible to the managers were decreased. Also, it prevented uncommon investments and then agency charges would not be increased. Based on the results of the research and balancing role of the divided interest control variable, free cash flow agency charges would be decreased by increasing the divided interest and necessarily auditing fees were decreased. As it is seen, there was a positive and direct relationship between debt ratio and divided interest and the auditing fees. Due to the obtained results the auditing fees were decreased. Divided interest was like the debt since it is considered as an obligation at the time of announcing the interest (Gul, Tsui, 2003). But the divided interest had more flexibility rather than the debt. In addition, in hierarchy of financial provision, firstly, debt and free cash flow interest are paid then the share interest. As a result, debt may have a better controlling mechanism in forcing the managers to pay cash amounts in the future (Griffin et al., 2009).

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APPENDIX

Table 1. Variables entered (1).

Model	Variables entered	Method
1	DA	Step wise
2	SIZE	Step wise
3	HLFCF	Step wise
4	BIG4	Step wise
5	HLFCF*LOSS	Step wise
6	MANU	Step wise
7	FISICAL	Step wise
8	LANF	Step wise
9	HLGROWTH	Step wise
10	DIV	Step wise
11	QUICK	Step wise

Table 2. Model summary (1).

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Durbin-Watson
1	0.413[a]	0.170	0.168	0.32122	
2	0.550[b]	0.303	0.298	0.29499	
3	0.606[c]	0.367	0.361	0.28152	
4	0.639[d]	0.408	0.400	0.27279	
5	0.662[e]	0.438	0.428	0.26628	
6	0.675[f]	0.456	0.444	0.26243	
7	0.683[g]	0.467	0.454	0.26018	
8	0.690[h]	0.476	0.462	0.25824	
9	0.698[i]	0.487	0.471	0.25602	
10	0.707[j]	0.500	0.483	0.25327	
11	0.713[k]	0.508	0.489	0.25157	2.139

Table 3. Variables entered (2).

Model	Variable	Method
1	DA	Step wise
2	SIZE	Step wise
3	BIG4	Step wise
4	HLFCF	Step wise
5	QUICK	Step wise
6	FISICAL	Step wise
7	LANF	Step wise
8	HLFCF*DA	Step wise
9	MANU	Step wise
10	HLFCF*LOSS	Step wise
11	DIV	Step wise

Table 4. Model summary (2)

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Durbin-Watson
1	0.571[a]	0.326	0.324	0.28948	
2	0.651[b]	0.424	0.420	0.26811	
3	0.690[c]	0.476	0.471	0.25610	
4	0.712[d]	0.507	0.500	0.24886	
5	0.730[e]	0.534	0.526	0.24250	
6	0.746[f]	0.556	0.547	0.23702	
7	0.758[g]	0.575	0.565	0.23225	
8	0.771[h]	0.594	0.583	0.22747	
9	0.782[i]	0.611	0.599	0.22303	
10	0.787[j]	0.620	0.607	0.22085	
11	0.793[k]	0.628	0.614	0.21869	2.212

Table 5. ANOVA 1.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	12.052	1	12.052	143.813	0.000[a]
	Residual	24.889	297	0.084		
	Total	36.940	298			
2	Regression	15.663	2	7.831	108.947	00.000[b]
	Residual	21.277	296	0.072		
	Total	36.940	298			
3	Regression	17.593	3	5.864	89.414	0.000[c]
	Residual	19.348	295	0.066		
	Total	36.940	298			
4	Regression	18.733	4	4.683	75.621	0.000[d]
	Residual	18.208	294	0.062		
	Total	36.940	298			
5	Regression	19.711	5	3.942	67.037	0.000[e]
	Residual	17.230	293	0.059		
	Total	36.940	298			
6	Regression	20.536	6	3.423	60.927	0.000[f]
	Residual	16.404	292	0.056		
	Total	36.940	298			
7	Regression	21.244	7	3.035	56.263	0.000[g]
	Residual	15.697	291	0.054		
	Total	36.940	298			
8	Regression	21.935	8	2.742	52.990	0.000[h]
	Residual	15.005	290	0.052		
	Total	36.940	298			
9	Regression	22.028	9	2.448	47.431	0.000i
	Residual	14.375	289	0.050		
	Total	36.940	298			

Table 5. Contd.

10	Regression	22.893	10	2.289	46.933	0.000[j]
	Residual	14.048	288	0.049		
	Total	36.940	298			
11	Regression	23.215	11	2.110	44.129	0.000[k]
	Residual	13.726	287	0.048		
	Total	36.940	298			

Table 6. Variables entered (3).

Model	Variable	Method
1	DA	Step wise
2	SIZE	Step wise
3	BIG4	Step wise
4	DIV	Step wise
5	HLFCF	Step wise
6	FISICAL	Step wise
7	LANF	Step wise
8	QUICK	Step wise
9	HLFCF*LOSS	Step wise
10	HLFCF*DIV	Step wise

Table 7. Model summary (3).

Model	R	R Square	Adjusted R square	Std. Error of the estimate	Durbin-Watson
1	0.571[a]	0.326	0.324	0.28948	1.929
2	0.651[b]	0.424	0.420	0.26811	
3	0.690[c]	0.476	0.471	0.25610	
4	0.713[d]	0.508	0.502	0.24858	
5	0.727[e]	0.529	0.521	0.24363	
6	0.742[f]	0.550	0.541	0.23864	
7	0.754[g]	0.569	0.559	0.23392	
8	0.766[h]	0.586	0.575	0.22956	
9	0.772[i]	0.596	0.584	0.22716	
10	0.777[j]	0.604	0.590	0.22545	

Table 8. ANOVA (2).

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	12.052	1	12.052	143.813	0.000[a]
	Residual	24.889	297	0.084		
	Total	36.940	298			
2	Regression	15.663	2	7.831	108.947	0.000[b]
	Residual	21.277	296	0.072		
	Total	36.940	298			

Table 8. Contd.

3	Regression	17.593	3	5.864	89.414	0.000[c]
	Residual	19.348	295	0.066		
	Total	36.940	298			
4	Regression	18.774	4	4.693	75.956	0.000[d]
	Residual	18.167	294	0.062		
	Total	36.940	298			
5	Regression	19.549	5	3.910	65.870	0.000[e]
	Residual	17.391	293	0.059		
	Total	36.940	298			
6	Regression	20.312	6	3.385	59.447	0.000[f]
	Residual	16.629	292	0.057		
	Total	36.940	298			
7	Regression	21.017	7	3.002	54.868	0.000[g]
	Residual	15.924	291	0.055		
	Total	36.940	298			
8	Regression	21.659	8	2.707	51.376	0.000[h]
	Residual	15.282	290	0.053		
	Total	36.940	298			
9	Regression	22.028	9	2.448	47.431	0.000[i]
	Residual	14.913	289	0.052		
	Total	36.940	298			
10	Regression	22.303	10	2.230	43.880	0.000[j]
	Residual	14.638	288	0.051		
	Total	36.940	298			

Table 9. Variable defintions.

Variable	Definition data
Dependent	
LAF	Natural log of total audit fees for fiscal year AA
Experimental	
FCF/TE t-1	(INC-TAX-INTEXP-PREDIV-ORDIV-CAPEXP)/TEt-1
INC	Operating income before depreciation
TAX	Total taxes – change in deferred tax from previous year to the current year
INTEXP	Gross interest expenses on short- and long-term debt
PREDIV	Total dividend on preferred shares
ORDIV	Total dividend on ordinary shares
CAPEXP	Capital expenditure for fiscal year
TE t-1	Book value of equity at end of prior year
GROWTH	(MVEQUITY + DEBT)/TA
DEBT	Book value of total debt at end of year

Table 9. Contd.

TA	Book value of total assets at end of year
DIVIDEND	Dividends on common and preferred shares divided by
HLGROWTH	GROWTH greater than the median =1, otherwise 0
HLFCF FCF/TE t-1	greater than the median =1, otherwise 0
Control	
SIZE	Natural log of total assets at end of fiscal year
DA	Ratio of total debt to total assets at end of year
QUICK	Ratio of current assets less inventories to current liabilities
LOSS	Negative income before extraordinary items =1, otherwise 0
BIG4	Deloitte, Ernst and Young, KPMG, and PricewaterhouseCoopers =1, otherwise 0
FISCAL	Fiscal year end = December 31, otherwise 0
MANU	Manufacturing industry = 1, otherwise 0
LNAF	Natural log of non-audit fees