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Investigating the Effect of Capital Structure and Growth Opportunities on Earnings Management

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Abstract

The main goal of this study is to investigate the effect of capital structure and growth opportunities on earnings management in companies accepted in Tehran securities exchange during 2008 to 2013. Before data analysis, Chow test was applied to determine the appropriate model to estimate parameters and independent variables effect on dependent variable. Then, research hypotheses were tested through pooled data method. Research results showed that there is a significant relationship between capital structure index financial leverage and earnings management. Also, research showed that there is a nonlinear and significant relationship between growth opportunities and earnings management and growth opportunities have a significant effect on this relationship.

Keywords: Growth opportunities, capital structure, earnings management

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Introduction

Business units' managers' main goal is to maximize the profitability and create growth opportunities for company through short-term and long-term investments. Investment requires financial supporting. Financial supporting (capital structure) is achieved through equity and loaning. Financial support is usually highly preferable by companies' managers because of tax economizing and its lower price than shareholders expected return. To get loans companies need to have desirable financial statements and

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regarding the importance of these statements especially profit and loss statements in decision making to get loans and credits, companies' managers may display a desirable status of companies' profitability to make creditors satisfied. Managers' interference in and judgment on financial reporting cause profitability creation and through manipulating financial reporting affect shareholders and creditors deduction about main and economic performance and conclusions based on accounting reporting (Healy & Wahlen, 1999).

Earnings management occurs when managers create changings in order to astray some of beneficiaries including shareholders, creditors, employees, investors, etc., about the company's economic performance or affecting the contracts' results dependent on accounting figures reporting using their judgments in exchange and financial reporting.

Statement of the problem

Regarding the importance of earnings in financial reporting, managers are always trying to manipulate the reported profit amount according to specific objectives they follow. McNichelson (1988) replaced 'earnings smoothing' with 'earnings management' for the first time. Accordingly, earnings management was the focus of interests, because it can manipulate the company's performance and reflect the intended results (Bolkouei, 2000).

The first act which its relationship with earnings management is considered regarding its role in managers' opportunistic behaviors is financial leverage. The results of former research such as Dichev and Skinner (2002) show that high potential financial leverage causes increasing earnings management through using earnings accruals and other earnings increasing accounting options.

There are a lot of probable reasons for earnings management. For example, if a company reports stable earnings, shareholders are more certain, earnings management has a desirable effect on stock value and capital cost, or shareholders obtain more information of earnings declaration (Lee et al, 2007).

Once a company shareholders assign the decision making task on managers, management has some motivations about the activities to maximize the expected interest. Even if these activities are not according to shareholders' interests, earnings management occurs when managers create changings to astray some beneficiaries about the company's performance or affect the contracts results dependent on reported accounting figures or imposing their judgment in financial reporting and exchanges structure (Rao & Dandale, 2008).

In cases that business units need financial support, financial supporters use companies' financial reporting particularly profit and loss statements for decision making. Desirable capital structure creates growth opportunities for the company and improves company's status. To achieve this goal, managers manage earnings to get the attention of financial supporters showing company's desirable status.

In fact, earnings management is a type of conscious act with the goal of showing company's earnings as normal to achieve a favorable and intended level. Among motivations causing earnings management affecting stock price, management salary and profits increasing, and preventing from loan contracts' violation can be pointed. Most of these motivations are related to future profits such as gratuity, or future losses such as stock price dropping (Dupink, 2008).

Review of the literature

In a research, Sinaei and Rezaeian (2006) investigated the effect of four features of size, profitability, growth opportunities, and tangible assets of the company as the most important intra-company parameters that are effective on companies' capital structure. Results of data analysis showed that there was an inverse significant relationship between profitability, growth opportunities, and tangible assets with financial leverage, but this relationship was positive and significant between company size and financial leverage.

The results of Nourvash and Yazdani (2011) research showed that there was a significant negative relationship between financial leverage and investment. This relationship is stronger in companies having more growth opportunities.

Investigating the relationship between these features between company and capital structure, Yahyazadeh Far et al (2011) concluded that there is a negative significant relationship between growth opportunities (market value ratio to book value) and capital structure.

Sergio and Pauolo Macias (2010) investigated the relationship between growth opportunities and debt in Portuguese companies. The results of their study showed that this relationship is not linear. When companies have little growth opportunities, the relationship between growth opportunities and debt is positive. Also, the relationship between growth opportunity and debt is affected by complex aspects in capital structure decisions.

Darough et al (1998) investigated the earnings management in Japanese companies. In addition to debt hypotheses, they concluded that there is a relationship between political costs and gratuity plans of ownership structure hypotheses and internal financial support by earnings manipulating, but debt hypothesis in Japanese companies was not confirmed.

In the field of financial leverage main increasing effect on earnings management in New York Stock Exchange, Odabashian (2005) implemented a research. The obtained results of this study showed that main increasing of debts reduces opportunistic behaviors and also earnings management in companies with free cash flows.

Degeorge et al (1999) investigated "earnings management to increase earnings threshold" and defined earnings management as a type of earnings artificial manipulation for some specific decisions. According to their views, the main motivation of earnings management is to manage investors' imagination about the business unit.

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Chang and Cown (2002) investigated the ownership structure and unconsciously earnings in Korea, and found that Korean companies' ownership structure by interference of a major owner is distinctive in company's management.

Hypotheses

H_1: There is a significant relationship between growth opportunity and earnings management.

H_2: Companies with high financial leverage have higher earnings management.

Variables

Dependent variable

Discretionary accruals are considered as dependent variables. To calculate these accruals the total accruals should be calculated using Jones balanced model.

$AC_t = \beta_0 + \beta_1(1/TA_t-1) + \beta 2(\Delta Sales_t - \Delta AR_t) + \beta 3(PP_{Et}) + \square_t$

AC_t: accruals sum (earnings before unexpected accruals minus operational cash flows) in year t

TA_{t-1}: sum of assets in year t-1

$\Delta Sales_t$: sales changes in year t

ΔAR_t: accounts and receivables changes in year t

PPE_t: Gross amount of properties, machinery, and equipment in year t

$£_t$: total regression error, it is assumed that they are cross uncorrelated and have normal distribution with mean of zero.

Non-discretionary accruals are calculated through following equation:

$$NDA_t = \alpha_1\left(\frac{1}{A_{t-1}}\right) + \alpha_2\left(\frac{\Delta SALES_t - \Delta AR_t}{A_{t-1}}\right) + \alpha_3\left(\frac{PPE_t}{A_{t-1}}\right)$$

And then by subtracting non-discretionary accruals from total accruals, its discretionary part is calculable as following:

$DA_{It} = TA_{It} - NDA_{It}$

DA: discretionary accruals

TA: total accruals

NDA: non-discretionary accruals

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Independent variables

Growth: the first independent is growth opportunity which is obtained from the ratio of shareholders salary market value sum and debts book value to the assets book value.

Second independent variable incudes financial leverage (LEV) which is the ratio of book value of the whole debts to whole assets book value.

Control variables:

SFA: pure sales ratio to fixed assets

Prof: profitability variable that is profit before interests and taxes

Size: company size is obtained from assets normal logarithm.

In this research multi-variable regression has been applied as following too test the hypotheses:

$$DA_{it}=\beta_0+\beta_1 GROWTH_{it}+\beta_2 LEV_{it}+\beta_3 SFA_{it}+\beta_4 PROF_{it}+\beta_5 SIZE_{it}+\varepsilon_{it}$$

Data collection

Data collection has been done first using library method. Research theoretical foundations are collected through books, Persian and English journals in library method. Then, data collection was done using visual and statistical discs of Tehran securities exchange; Tehran securities exchange official website, and other relevant Internet-based sites, stock accounting information, and other information sources.

Statistical population and companies’ choosing

Statistical population of this research includes all accepted companies in Tehran securities exchange during 2008 to 2013. To choose the sample in this research all available data was used. Firstly, all companies could participate in sampling were chosen. Then, among all existed companies, companies did not have the following qualifications were eliminated and finally the remaining companies were chosen to be tested:

1. In order to have homogenous statistical population in investigated years, the companies should have been accepted in Tehran securities exchange before 2008.

2. Based on increasing comparability, companies’ fiscal year should be ended to the last month.

3. Statistical sample does not include intermediary financial, investing, leasing, banks, and insurance companies.

4. Companies should not have changed activities or financial period during this research.

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5. Intended companies' data should be available.

Finally, investigated companies in this research include 147 accepted companies in Tehran securities exchange.

Hypotheses testing method

Regression estimate model is applied to test the hypotheses and the obtained results are analyzed according to statistical significance or insignificance of coefficients. To do this, after determining a method which shows the most precise estimation, estimation coefficients of used regression model independent variables are tested using t-value. To do this test the general hypothesis is used as following:

H_0: $\beta=0$

H_1: $\beta\neq0$

H0 means that independent variable coefficient is equal to zero. In other words, there is no relationship between dependent and independent variable. Also, H1 indicates the relationship between dependent and independent variables. Here, hypotheses are tested at the error level of 0.05. If p-value < 5%, correlation is confirmed at certainty level of 95%; otherwise, it is rejected. After implementing t-test, regression general significance is specified using F-statistics (Fischer test). In order to detect the existence of autocorrelation or non-autocorrelation between disorders elements autocorrelation and Durbin-Watson test have been applied.

Results

Descriptive statistics

As it is seen, research variables descriptive results are shown in table 1.

Table 1: variables descriptive research

Variables	Mean	Mode	STD	Max	Min
Discretionary accruals	1.5583	1.7654	3.7795	3.2516	-3.6871
Growth opportunity	1.2827	0.8338	6.7172	17.1573	0.2152
Financial leverage	0.6257	0.6281	0.2512	3.0604	0.0964
Pure sales ratio to fixed assets	0.4031	0.5295	1.3988	2.3567	0.0007
Profitability	4.3905	3.8673	0.2939	2.6317	-3.9759
Company size	5.8209	5.7662	0.6331	8.0560	4.2911

Hypothesis testing results

The results obtained from Chow test indicate that the research is of pooled data type. Now, the research model estimation results with pooled data method are shown in table 2.

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Table 2: research model estimation results

Variable	Pooled data method		
	Prob	t-test	coefficient
Intercept	0.0000	-6.8576	-0.7443
Growth opportunity	0.0168	1.2360-	0.2050-
Financial leverage	0.0277	2.2056	0.9778
Pure sales ratio to fixed assets	0.0310	2.1604	1.7256
Profitability	0.0000	13.3756	0.7150
Company size	0.0000	8.5844	0.1513
Determining coefficient	0.3471		
adjusted coefficient	0.3428		
DW test	2.1885		
F	0.1389		
F probability	0.0000		

According to model estimation results, it can be concluded that research model is significant, because the error level of probability related to F is zero and less than 5 percent. As a result, even at certainty level of 99%, model significance is accepted. Also, regarding the model Durbin-Watson statistics shown in table 2, it can be concluded that research model does not have autocorrelation. Model adjusted model is 0.34. This statistics shows that about 34% of changes are described by independent variables. Regarding the model statistics confirmation, research hypotheses are investigated.

First hypothesis

H$_1$: There is a significance relationship between growth opportunity and earnings management.

With respect to presented results in table 2, probability of H0 stating the effect of growth opportunity on earnings management is equal to 0.0168 which is less than 0.05. Thus, H0 is not rejected at error level of 0.05. Accordingly, growth opportunity has a positive inverse effect on earnings management.

Second hypothesis

H$_2$: Companies with high financial leverage have higher earnings management.

Second hypothesis shows the probability of financial leverage variable which has a positive significant effect on earnings management at error level of 0.05. Results indicate that earnings management increases with financial leverage increasing. Results of second hypothesis testing are provided in table 2.

Conclusions

The effect of capital structure and growth opportunities on earnings management in accepted companies in Tehran securities exchange was investigated in this research.

Increasing financial leverage and using debts and getting loans instead of equity do not reduce earnings management, but increase managers' opportunistic behavior to manage earnings. Reducing managers'' opportunistic behavior does not overcome earnings management need in order to keep debt contract conditions and earnings management does not decrease. The result of this study is consistent with Jelnick (2007). Growth opportunities and low rate of investment guide managers towards dangerous investments which cause earnings fluctuation and using different methods to manage earnings. Thus, in companies having high financial leverage the risk of bankruptcy is high and to show this issue desirable managers manage earnings. Also, in companies with no or low growth opportunities managers manage earnings to grab investors' attention.

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