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EVALUATION OF RELATIONSHIP BETWEEN FINANCIAL LEVERS TO PROFIT MANAGEMENT IN COMPANIES ACCEPTED IN TEHRAN STOCK EXCHANGE

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ABSTRACT

In companies subjected to increased level of financial lever, managers take some actions to profit management in order to shed light on desirable state of company performance. Hence, the present research was aimed to conduct a comprehensive analysis on relationship between financial levers to profit management in companies accepted in Tehran stock exchange. The statistical population included number of 75 companies involved in Tehran stock exchange. Research interval was arranged in a 5 years period based on financial statements of years 2006 to 2011 for companies of interest. The hypothesis: relationship between financial lever and profit management was evaluated and tested. Results indicated that financial lever and profit management correlated significantly and positively.

Keywords: *Financial Lever, Operation Cash Flow Fluctuations, Profit Management*

INTRODUCTION

Profit is consisted of both cash and accrued items and profit accrued items are controlled by management to some extent. It means that, managers can manipulate accrued items to better manifestation of company performance and subsequently to enhance predictability of future profits. In other words, he/she may manage profit much efficiently. At the same time, managers attempt to create stable and predictable results by selecting some reasonable accounting approaches. The main reason for this, is that most investors and stockholders believes that those companies with suitable profitability trend and subjected to less change in long term are much valuable and predictable compared to others. On the other hand, given to agency theory, managers may be motivated to manipulate profit to maximize their assets. Profit management is shown to be outcome of flexibility and attitudes of managers forward to reporting financial statements. Managers may abuse this for their opportunistic profit management or transferring confident information on company's future performances. Most researchers found that profit management is done to mislead financial statement users and deviate from contracted outcomes depending on accounting profits. Jaggi and Gul (2000), found a positive relationship between profit management and higher cash flows in less developed companies. They believed that according to Jensen theory, in such companies, instead of distributing cash flows among stockholders, managers invested on projects with negative net current value, in turn, lowers companies marketing value. Therefore, such company's managers try to adjust this condition through optional accrued items which increases profit for their personal purposes. In addition, they pointed out that liability (financial lever) adjust aforementioned relation.

Literature Review

Nowadays, profit management serves as one of the most popular and interesting area in management and accounting research fields. For this, enormous researches have been undertaken on profit management. These researches have demonstrated wide variety of reasons for profit management. Some authors like Klag and Klag, stated that the main purpose for profit management is to encourage investors to buy actions (stocks) and subsequently to improve market value (Klag and Klag, 1991). Others demonstrated that smooth earning (profit), improves management relationship to investors and staffs (Hepord *et al.*, 1997). Meanwhile, some authors like Darough, Porjajli and Sodagaran, Fidson, Alvara, Yon and Miller believed that the main purpose for profit management is to alleviate liabilities contracts and political costs as well as to improve managers awards. Jensen (1986) indicated that when there are more available cash flow, managers take some opportunistic actions including investing in less net cash flow projects,

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attempts to make profits, incurring additional cost, wasting earnings and so on. For instance, to buy low profit assets, making some additional employment opportunities and asset wasting result in companies earning losses. He pointed out that to as lever improves, managers get more disciplinable and they exhibit less opportunistic behaviours because debt payment provide managers less additional cash flow (Moradi, 2007).

Swinny (1994) concluded that increased lever or liabilities improve companies potential to profit management since managers are much more persuaded to keep investors satisfy through profit management (Moradi, 2007).

Borgstaler and Dicho demonstrated that to prevent some extreme profit fluctuations, companies control their reported profits. Gideri *et al.*, (1999), in their research in title "profit-based awarding design and profit management by business unit managers" concluded that business unit managers interrupt company profit to maximize their short term awards using voluntary accrued items.

Barton and Simko (2002), reported that profit management in subsequent years depends on types and number of accrued items in previous years. Since accrued items retrogress to past.

AjinKia *et al.*, (2005) concluded that companies take profit management in to account to avoid profit statement of every stick less than predicted profits. Similarly, results from study conducted by Fisher and Stokent (2004) indicated that manager might interrupt reported profit by incurring some costs.

Markaret and Vidman (2004) found that companies exploit different accrued items to get control over their profit.

Adabsion (2005) conducted a research on effect of increased financial lever on earning smoothness in companies of New York stock exchange. Results clearly showed that the main increases in liabilities (lever), leads to less opportunistic behaviors and less profit management in companies with high cash flow. According to these results, liabilities provide managers less cash flow to pay original and interest rate and subsequently they cannot invest in non-optimized manner (Moradi, 2007).

Dmitro and Primjin (2008) examined information content on financial lever changes in respect to operation company functions and concluded that this variable is more important compared to profit, operation cash flow and accounting accrued items to explain stock profitability. Also, they concluded that financial lever variations are negatively related to profit and operation cash flow changes among others.

Reina and TakiaMuhedEskanar (2010) evaluated exceed free cash flow, profit management and accounting committee. They assumed that managers of those companies with exceed cash flow are motivated to profit management.

Michel (2011) while their investigation on optimized asset structure and costs of cash flow agencies concluded that similar to their taxes effects liabilities act as a shield for cash flow agencies costs.

Chiong *et al.*, (2012) in their research "profit management, cash flow fluctuations and external stewardships" reported that managers of companies with less cash flow, tend to use optional accrued items to compensate their low and negative profit as well as negative net value projects. They evaluated role of independent high quality accountants and stockholders in weakening exceed cash flow and voluntary accrued items association. They concluded that high quality accountant and stockholders, who have remarkable assets, adjust association between cash flow and accrued items. According to this, free cash flow along with less investing opportunities, is known as one of the main agency issues. Under these circumstances, managers incur some costs on stockholders to losses their asset. In case of efficient external stewardship, such opportunistic behaviour will be limited.

Research Methodology

Sample Size

Statistical population for the present research is companies adopted in Tehran stock exchange since years 2006 to 2011. All companies having following conditions were selected as sample and evaluated:

- 1-Companies accepted since early of 2006 to late of 2011 in Tehran stock exchange.
- 2- Fiscal year is ended in March 20 and company with no fiscal year change in study period. Also companies should be active in stock or at least be active in study period.

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3-They should not belonged to banks and financial institutions (investors companies, financial stakeholders, holding companies, banks, insurance and leasing).

4-Data should be available to calculate research variables in study years.

Calculation of Variables and Research Pattern

Variables are classified into two dependent and independent based in their role in a research. Independent variables is measured, manipulated and selected by researcher to determine its effects on another one. Dependent variable is measured to specify effect of independent variable on it.

In the present research, based on first hypothesis, financial lever and profit management variables are independent and dependent ones respectively. Variables of company size, Q-Tobin, profitability and sale growth were considered as control variables which are dealt with separately in following:

A-Financial lever (LEV) (independent variable): financial lever is calculated dividing sum of long term liabilities by total long term debts and book value for stock owners' salary as following:

$$LEV = \frac{LTD}{LTD + BVE}$$

Where LEV represents financial lever, LTD is long term debts and BVE stands for book value.

B- Earning management (dependent variable)

In the present research, Jones adjusted model is used to measure earning management as per following equation:

$$TAC_{it} = E_{it} - OCF_{it}$$

Where

TAC_{it} = sum of total accrued items in year t for sample company i

E_{it} =net profit before unpredicted items in year t for sample company i

OCF_{it} =operation cash flow in year t for sample company i

$$TAC_{it} / TA_{it-1} = a_0j(1/ TA_{it-1}) + a_1j(\Delta REV_{it} - \Delta REC_{it}) / TA_{it-1} + a_2j(PPE_{it} / TA_{it-1}) + e_{it}$$

Where:

TAC_{it} : total accrued items in year t for sample company i

TA_{it} : total assets in year t for sample company i

ΔREV_{it} : revenue variations in year t-1 for sample company i

ΔREC_{it} : accounts and documents variations in year t-1 for sample company i

PPE_{it} : gross price of assets, machinery and equipment in year t for Sample Company i

$\alpha_1, \alpha_2, \alpha_3$ = estimated parameters specific to company calculated by least square estimation method in years 2006 to 2011.

e_{it} : represents total regression error. It is assumed as uncorrelated with normal distribution and zero mean.

Aforementioned coefficients as a estimation of sample company regression to calculate managed accrued items are obtained by subtracting involuntary (unmanaged) accrued items from total accrued items in following manner:

$$TAEM_{j,t} = TAC_{jt} / TA_{jt-1} - a_0j(1/ TA_{jt-1}) - a_1j(\Delta REV_{jt} - \Delta REC_{jt}) / TA_{jt-1} - a_2j(PPE_{jt} / TA_{jt-1})$$

$TAEM_{j,t}$: represents components of managed accrued items for sample company I in year t equals to voluntary accrued items(Kavoosi *et al.*, 2010).

In the present research, there are number of four control variables and they are expected to correlate significantly to profit (earning) management. Variables and their measurement are as following:

Size

Results obtained on research by Molanazari and Karimizand showed that there is a strong inverse correlation between company size (sale) and earning smoothness. The bigger company size, the less smoothness. In other words, the smaller companies tend to smooth their profit. Company size means rate and amount of its function. The main point on measuring company size is that what factors should be

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taken in to account as measure by which company shape can be separated correctly in respect to size and volume. So company size measure is known to be a determinant factor to explain company size. Here, the terms “company size” means sale rate (natural sale logarithm). Presumably, company size and profit management correlated together significantly.

Company size variable is defined as natural logarithm of company sale

$$SIZE_{j,t} = \log (\text{Sale } j,t)$$

Where

SIZE and SALE represent company size and sale respectively.

(Q-Tobin): in the present research, Q-Tobin index is used to measure company size calculated by dividing market value to book value if company asset (Mckennel and Servas, 1990) as per following equation:

$$Q\text{-Tobin} = \frac{\text{total book value} + (\text{number of stocks available for stockholders} \times \text{stocks market value})}{\text{total company asset book value} \times \text{debts}}$$

Profitability: some studies, attributed company losses and financial critics to managers performance. So it is expected from managers to manage profit in order to justify their poor performance. Therefore, there is significant relationship between profitability and profit management. Profitability index is calculated as dividing net profit by total assets:

$$\text{Profitability} = \frac{\text{net profit}}{\text{total assets}}$$

Growth sale: company growth is a determinant factor affecting company function. According to findings by Bekr *et al.*, Chung and Kalapur, Reynolds, Francis and Mori, sale growth has been used an index on growth opportunity value. It is likely to be a relation between company sale and profit management. Company sale growth is calculated using following model:

$$\text{Growth}_{i,t} = \frac{S_{i,t} - S_{i,t-1}}{S_{i,t-1}}$$

Where

Growth i, t represents growth sale of company i in year t , $S_{i, t}$ is net sale of company I in year t , and $S_{i,t-1}$ is net sale of company I in year $t-1$

Hypothesis test and results analysis

(Hypothesis results analysis)

According to regression test, significance level of the first hypothesis (0.034) is less than 5%. In other words, 95% confidence level suggests a significant relationship between financial lever and profit management. Also, significance level of person, spearman and partial correlation is less than 5%, indicating significant correlation between financial lever and profit management. B value (0.108) indicates that there is direct relationship between financial lever and profit management. The more financial levers, the stronger profit management.

Regression model applied to test hypothesis is as follow:

$$EM_{i,t} = \beta_0 + \beta_1 \times Lev_{i,t} + \beta_2 \times Size_{i,t} + \beta_3 \times Q\text{-Tobin}_{i,t} + \beta_4 \times Profitability_{i,t} + \beta_5 \times Growth_{i,t} + \varepsilon_{i,t}$$

Multivariate linear regression model was used to analysis relation between financial lever and profit management in seventy five companies. Durbin-Watson value is 2.068 and indicating no correlation between errors. Since it varies 1.5 to 2.5. Adjusted determination coefficient 0.70 denoted that 7% of profit management variations(independent variable) can be explained by variations in financial levers(independent variable) and company size, value, profitability and growth sale(independent and control variables). Others variations in profit management is accounted for by another factors, suggesting weak relationship between dependent and independent variables. Model is significant by controlling variables of company size, value, profitability and sale growth. In other words, significance of column Anova is less than 5%, suggesting effect of independents variables on profit management. Significance of variable financial lever (0.034) is less than 5%, implying its influence on profit management. At the same time, variables of company size (0.001) and sale growth (0.011) were significant in probability level of less than 5%, suggesting these variables effect on profit management, however, company size (0.595) and

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profitability (0.769) were significant in probability level of >5%, implying to no effect of profit management. β represents relation between correlation type and regression line slope. It is positive for financial variable (0.108), suggests direct relationship between financial lever and profit management. It is negative for other significant variables. In other words, as company value (-0.697) and sale growth (-0.109) increases, profit management decreases accordingly.

Table 1: Hypothesis results

Regression method ENTER		Explanatory and independent variables	
statistic	Sig	β	
1.786	.075	5.127	B ₀ Constant
2.132	.034	.108	B ₁ Lev financial lever
-.532	.595	-.289	B ₂ Size Company size
-3.320	.001	-.697	B ₃ Q_Tobin company value
-.294	.769	-.022	B ₄ Profitability
-2.555	.011	-.109	B ₅ Growth sale growth
2.068			Durbin-Watson
.080			R square
			Coefficient of determination
.070			Adjusted R square
7.546			Statistic F
.000			Sig
			Total significance of model Anova

CONCLUSION

Results of present research indicated significant direct relationship between financial lever and profit management. In other words, as financial lever increases, profit manipulation increases accordingly. Similarly, operation cash flow fluctuations and profit management are correlated significantly. Increased long term debts (liabilities) (financial lever) and cash flow fluctuations in a company denote increased bankrupt and cash flow.

Future Researches Perspectives

Every research, paves way for new future studies. So, following researches are recommended for authors:

- 1) It is suggested to test relationship between financial lever and operation cash flow fluctuations using earning smoothness
- 2) It is suggested to test relationship between financial lever and operation cash flow fluctuations using conditional and non-conditional conservatism
- 3) To evaluate effect of industry type and others companies unique characteristics on relationship between financial lever and operation cash flow fluctuations through profit management.

REFERENCES

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