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THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE MECHANISMS AND PROFIT SMOOTHING

Mohammad Reza Pourali, Nasrin Dadashi

Original scientific paper

The present study aims to investigate some mechanisms of corporate governance on profit smoothing. In fact, it studies the relationship between institutional investors, outside board members, internal audit and profit smoothing. A hypothesis was formulated for each of these options and their effect on profit smoothing was tested. A regression model was used to test the hypotheses. Participants include companies listed on Tehran Stock Exchange during 2000 ÷ 2008. Studied sample includes 138 companies. Relations were tested using an econometric model and ordinary least squares (OLS). The study used stepwise regression and Spearman correlation coefficient to prioritize. The results indicate a significantly positive relationship between non-executive board percentage and significantly inverse relationship between internal audit and common shareholders' equity and profit smoothing. Spearman correlation test revealed that outside directors have the highest effect on profit smoothing.

Keywords: *corporate ownership structure, profit management, profit smoothing*

Odnos između mehanizama korporativnog upravljanja i zadržane dobiti

Izvorni znanstveni članak

Cilj je ovoga rada ispitati neke mehanizme korporativnog upravljanja zadržanom dobiti. U stvari, proučava se odnos između institucijskih investitora, vanjskih članova uprave, internog audita i zadržane dobiti. Formulirana je hipoteza za svaku od ovih opcija te je testiran njihov učinak na zadržanu dobit. Hipoteze su testirane modelom regresije. Među sudionicima su kompanije članovi Tehran Stock Exchange (teheranske Burze) u razdoblju 2000. ÷ 2008. Ispitivani uzorak uključuje 138 kompanija. Odnosi su ispitivani primjenom ekonometrijskog modela i uobičajenih metoda najmanjih kvadrata (OLS). Primijenjena je postupna regresija i Spearmanov koeficijent korelacije kod određivanja prioriteta. Rezultati pokazuju značajno pozitivan odnos u postotku onih koji su vanjski članovi uprave i signifikantno suprotan odnos između internog audita i običnih dionica dioničara te zadržane dobiti. Spearmanov korelacijski test je pokazao da vanjski direktori uprave imaju najveći utjecaj na zadržanu dobit.

Ključne riječi: *struktura korporativnog vlasništva, upravljanje dobiti, zadržana dobit*

1 Introduction

The most important aspect of corporations is to separate ownership and its management. In the past 30 years, economics have reported many inter-group interest conflicts and how companies deal with these contradictions. These cases are generally considered as agency theory in management accounting. According to agency theory, owners attempt to maximize wealth; therefore, they monitor agency's work and evaluate its performance in order to achieve this goal [1].

Net profit is also one of the items included in the financial statements; it considerably influences the decisions of financial statement users such as shareholders and is highly interested. Hence, it is generally thought that the structure of corporate ownership may lead to a change in corporate behavior; this is due to business activity monitoring in which many investors are interested [2]. Theoretically, institutions may tend to actively monitor management [3]. Ownership structure considerably affects management decisions in favor of profit including profit management [1]. The subject of Corporate Governance raised in 1990s in response to problems and effectiveness of director board in great corporations. Evaluation of Corporate Governance shows that it is a multidisciplinary concept whose ultimate goal is to achieve responsiveness, justice (fairness), transparency and respect for stakeholders' equity [4].

Considering different properties of corporate governance can lead to controlled authorities in reporting. The system can be associated with firm performances, profit sharing policy, stock price, stock returns, corporate capital cost, effective agency cost and concepts like profit manipulation, profit management and profit smoothing. Profit smoothing indicates management efforts to reduce profit fluctuations in reasonable and acceptable range of accounting and management policies. Present study examines the relationship between corporate governance and profit smoothing mechanisms.

2 Literature review

Some managers tend to manage and abuse profit and as a result provide shareholders with incorrect information; this causes serious damages to shareholders' trust followed by acute economic consequences. Corporate governance may lead to good management practices, decrease in information asymmetry, increase in shareholders' trust and ultimately decrease in profit management by inter-organizational mechanisms which are more optional [5].

Good governance, operational and financial transparency increases the liquidity of the stock market and as a result decreases information asymmetry between domestic and foreign investors [6]. Assessing institutional control and management of benefits arising from missed opportunities concluded that institutional investors avoid involvement to manage accruals in order to smooth profit to achieve the desired level of profit [7].

Using data from 175 Greek companies, evaluation of corporate ownership structure and firm performance showed that more centralized ownership structure is positively related to higher profitability and also that less dispersion leads to higher profit [8].

Evaluation of accrual management, investor's skills and equity concluded that institutional investors are more able to analyze accrual components compared to individual investors; this fact results in accurate evaluation of profit [9].

Assessment of profit management to increase profit threshold showed that profit management is a kind of artificial manipulation for some specific decisions, definition and main motivation for profit management and management of investors' vision about business unit [10].

Analyzing financial statements and evaluating securities, Penman concluded that there is a direct relationship between profit quality and stock returns [11]. Moradzadeh et al. [12] examined the relationship between the number of institutional investors as well as their focus and profit management. He concluded that there is a significantly negative relationship between institutional ownership and profit management.

Noravesh and Ebrahimi Kordlar [13] found that there is more information asymmetry in firms with high institutional investors; while, there is more information asymmetry in firms with low corporate investors. Assessing institutional ownership and conservative accounting, Mehrani et al. [14] showed that as institutional ownership increases, the companies tend to use more conservative procedures. Corporate governance literature emphasizes establishing internal audit, using outside members in the Board and performing independent audit. Correct implementation of corporate governance leads to on-time information disclosure and avoidance of severe fluctuations, profit estimates and manipulation in prices [15].

Chekili [18] examined the impact of some governance mechanisms on earnings management published by 20 anonymous listed Tunisian firms during the 2000 ÷ 2009 period, totaling a number of 200 observations. Usman and Shehu [19] investigated the relationship between earnings management and characteristics of corporate governance mechanism for a sample of Jordanian non-financial firms during the period 2006 ÷ 2009. Earnings management was measured by discretionary accruals using the Jones models. The results of their study indicated that the size of board of directors was the only variable that had a significant relation with earnings management. Investigating the relationship between corporate governance and earnings management is hard to study because firm level variation in governance (above regulatory minima) and accruals are both endogenous firm choices and there is limited time variation in governance [20].

3 Objectives and hypotheses

In order to answer the research questions, these hypotheses were formulated:

H1. There is a significant relationship between institutional investment ownership and profit smoothing.

H2. There is a significant relationship between outside board members and profit smoothing.

H3. There is a significant relationship between internal audit and profit smoothing.

4 Research methodology

The methodology used for this descriptive functional study is inductive. Data was rationally collected and was analyzed based on correlation using regression analysis.

4.1 Population, sampling and sample size

Participants included the companies listed in Tehran Stock Exchange. The sample size was 138 companies. Sampling method was conditional sampling to homogenize samples. Companies were included that meet the following requirements:

- Companies accepted in stock before 2000 and their trademark not removed from stock trading panel up to the end of 2008.
- Financial mediator and investment companies are excluded, because their nature and works are different.
- Companies with no losses during considered period.

4.2 Data analysis

Required data were extracted using the software packages RahAvardNovin, TadberPardaz and information available in Tehran Stock Exchange (See Tab. 1).

4.3 Smoothing index (SMTH)

The present study evaluated profit smoothing based on fluctuability (variability) of profits compared to cash flow fluctuations. For this, standard deviation of net profit before extraordinary items is divided by standard deviation of operational cash flows. To standardize profit and operational cash flows, they are divided by average total assets [16].

Computations are as follows:

$$SMTH = \partial NI / \partial CFO$$

where, $SMTH$ is profit smoothing index; ∂NI is standard deviation of net profit before extraordinary items; ∂CFO is standard deviation of cash flows from operations.

Table 1 Observations and data collection

Variables	Variables	Data collection method	Firms	Years	Observations
The dependent variable (profit smoothing)	Net profit	RahAvardNovin Software	138	9	1242
	Cash flow from operations	TadbirPardaz Software	138	9	1242
	Total Assets	RahAvardNovin Software	138	9	1242
Independent variables	institutional investors' ownership	Documents available in Stock Exchange	138	9	1242
	Outside board directors	RahAvardNovin Software	138	9	1242
	Internal Audit	Documents available in Stock Exchange	138	9	1242

Net profit was extracted from income statement and cash flows of operations were extracted from cash flow statements. Assets were extracted from balance sheet and the total average was calculated as follow:

$$ATA = TA_t / TA_{t-1},$$

where, ATA is average total assets; TA_t is total assets in year t (assets at the end of the period); TA_{t-1} is total assets in year $t-1$ (assets at the end of the period).

Finally, smoothing index is multiplied by (−1) to interpret and separate smoothing companies from nonsmoothing companies. Companies with a larger index (close to zero) are profit smoothing companies and others are non-profit smoothing companies.

Other variables include institutional investors' ownership, outside board directors and internal audit which can be extracted from board reports and issued statements. The present study used information available in the library of Stock Exchange, financial reports and documents of corporations, information and data from accounting software called RAHAVARD NOVIN and Stock Exchange website.

4.4 Hypotheses and results

As profit smoothing was calculated for studied companies, the following equation was used to determine the relationship between dependent and independent variables, and coefficients of corporate governance mechanisms on profit smoothing:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon,$$

where, Y is profit smoothing for firm i at the end of the year t; X_1 is institutional investors' ownership in firm i at the end of the year t; X_2 is outside directors of the company i at the end of the year t; X_3 is internal audit of the company i at the end of the year t; B_i is the estimated regression coefficients; ε is model error.

Estimation of above equation determined the effect of corporate governance mechanisms on profit smoothing. The relationship, type of relationship (direct or inverse) and relationship size were extracted by estimation of coefficients β_i.

Statistical tests were also conducted by the software to determine reliability of the model. Model significance, significance of the relationship between dependent and independent variables, co-linearity of variables and homoscedasticity were determined by estimating F, statistical t, R^2 and Durbin-Watson (DW).

In addition to least squares, the study used Spearman correlation coefficient and stepwise regression to test hypotheses. Calculations were performed by spreadsheet EVIEWS and SPSS software. In summary, the results suggested a significant relationship between three independent variables and dependent variable (income smoothing) and confirmed three hypotheses using three methods of ordinary least square regression, Spearman correlation coefficient and stepwise regression.

5 Results and discussion

Tab. 2 shows that coefficient of determination is approximately 73 %. This means that 73 % of dependent variable can be explained by independent variables.

Statistical T should be >1,96 in 95 % confidence level. T statistics related to all independent variables is significance in 95 % confidence level. F statistics should also be >3,8 in 95 % confidence level. In the estimated model, statistical F is 22 which indicate significance of the whole fitted model.

Equation errors are also normally distributed with mean zero. To examine normalized equation errors, error component curve is plotted in regression model. As indicated in the diagram below, since mean error distribution is zero and its standard deviation is close to 1, then distribution of regression errors is normal (Fig. 1).

Durbin-Watson statistics is 2,03 according to estimated results. If Durbin-Watson statistics is 1,5 ÷ 2,5, lack of self-correlation can be accepted between the model errors. Thus, independence of errors is confirmed in the estimated regression model.

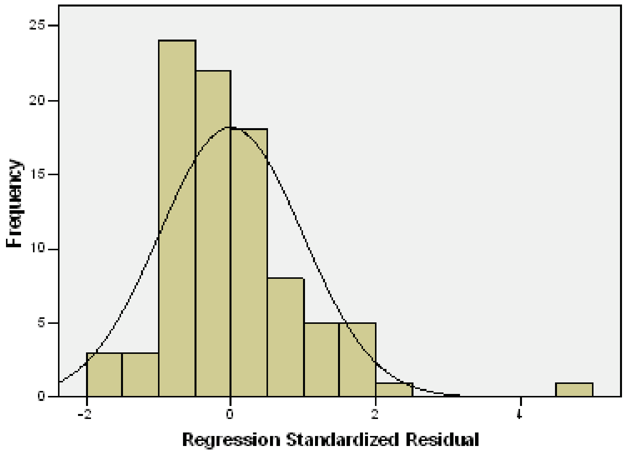

Figure 1 Histogram of error components

Estimation of parameters was confirmed in last step of regression (Tabs. 3 and 4). Its R^2 is estimated as 0,679 suggesting that 67,9 % profit smoothing changes can be explained through three variables including outside board directors, institutional investors' ownership and internal audit.

Therefore, stepwise regression analysis indicated that explanatory variables including outside board directors, institutional investors' ownership and internal auditor are significant for profit smoothing.

Interestingly, results of ordinary least squares and stepwise regression are consistent to confirm or reject hypotheses, score and determine significance of the three variables for profit smoothing and they are significantly related. This indicates validity and accuracy of the results and interpretation.

The findings of this study are in contrast with those of foreign studies; for example Xie et al. [17] studied corporate governance and profit management; evaluating 280 companies they found that profit management is less done in companies in which outside directors are more than total members.

That is why the opposite observed in Iranian companies can be explained as follows:

1) Significant dominance of government on economics, including studied corporations. According to the dominance of the State on appointment of directors and board members of some governmental and semi-governmental companies, independence of outside directors and board members is practically damaged . Many of shareholders and representatives are dependent on governmental system. This results in underscored independence for decisions making and reporting by subsidiary companies. This is even true for other non-public companies; so that directors are appointed as a team of the same interests and the same benefits.

2) Considering physical presence of outside board directors in operational processes of subsidiaries for financial reporting, they may have less control on activities and validity of financial reports at the end of the year. As a result, they cannot prevent fraudulent practices of managers such as profit smoothing.
3) Short-time outside directors, which is not often more than one year, cause them to have less detailed knowledge of company processes. This can make them not properly able to prevent possible manipulations of profit and smoothing it.

Table 2 Output of model

Independent variable	Model output observations						
	Coefficients β of regression equation	Relationship with dependent variable	T statistics	P-value	Durbin-Watson statistics	F statistics	Coefficient of determination R^2
Institutional investors' ownership X_1	1,42	-	−6,684	0,0037	2,03	22,88181	73 %
Outside board directors X_2	2,34	+	4,635	0.0000			
Internal Audit X_3	0,45	-	−2,034	0,0099			

Table 3 Statistics of last step regression

Model	Correlation coefficient	Coefficient of determination	Justified coefficient of determination	Durbin-Watson statistics	F statistics	P value
1	0,824	0,679	0,634	1,777	19,49	0,000

Table 4 Estimation of parameters for the last step

	Estimate	Standard deviation	T statistics	P-value
Intercept	8,79	5,68	1,548	0,220
Independent Variable (X_2)	14,30	4,45	3,214	0,002
Independent Variable (X_1)	−6,60	2,41	−2,733	0,034
Independent Variable (X_3)	−7,01	3,81	1,836	0,011

6 Conclusion

Generally, results suggest that there is a significant relationship between three mechanisms related to corporate governance including outside board directors, internal audit and institutional shareholders' ownership and profit smoothing. Consequently, institutional shareholders' ownership can be confirmed by profit smoothing. Thus, institutional shareholders' ownership has the greatest influence on profit smoothing followed by outside board directors and finally internal audit.

Inverse significance relationship between institutional investors' ownership and profit smoothing in studied companies indicates their outstanding role in the company. This finding is consistent with Moradzadeh et al. [12] finding that has a significant negative relationship between institutional ownership level and profit management.

Institutional investors have more information about the results of operations, profitability and future cash flows of a company compared to others. Hence, they are aware of profit smoothing or management of investing companies. This could lead to restrictions on profit smoothing or management by the managers of subsidiaries. Findings of the present study are consistent with this; while minor investors are not allowed to.

Regulations of a company should be consistent with its regulatory atmosphere. Since some findings of this study done in Iran were different from similar foreign studies as well as differences in the economic, political and cultural settings of western countries and Iran, it is necessary to localize regulations related to corporate governance. Hence, it is appropriate to avoid copying and hasty adoption in writing regulations of exchange governance. Otherwise, the regulations will fail. Thus, it is helpful to consider findings of studies done in Iran and in Iranian economic atmosphere; it is expected to contribute to localizing regulations.

7 References

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Authors' addresses:

Mohammad Reza Pourali
Assistant Professor of Accounting, Department of Accounting, Faculty of Management and Accounting, Chaloos Branch, Islamic Azad University, Chaloos, Iran
E-mail: Pourali@iauc.ac.ir

NasrinDadashi (Corresponding author)
Department of Accounting, Faculty of Management and Accounting, Gilan Science and Research Branch, Islamic Azad University, Guilan, Iran
E-mail: nasrin.dadashi2012@yahoo.com