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Earnings Management in Developing Countries: Iranian Listed Companies

Jamal Roudaki*

Abstract

This paper investigates earnings management exercises and motivations of Iranian listed companies and the level of corporate governance disclosure in these companies during 2008 and 2010 in the environment of no formal compulsory corporate governance regulations. Firm characteristics such as leverage, profitability, and company size are considered as dependent variables in relation to earnings management as dependent variable in an empirical analysis. Results indicate that listed companies manage their earnings both upward and downward, while upward earnings management is rocketed, downward managing decreases comparing and 2010. Statistical relation between earnings management and firm characteristics are scattered over the period of the study. Earnings management exhibited a statistical significant relationship with leverage in 2010, ROA in 2009 and size in 2008. While voluntary corporate governance disclosure is so limited summing up the results reveals that five directors on the Board is common, in the most companies CEO is member of the Board but in very few firms CEO is chairman of directors' board. High concentrated Institutional ownership in the hands of state or semi government entities is dominated in the Iranian listed companies.

Keywords: earnings management; corporate governance; Iran listed companies.

I. INTRODUCTION

Agency theory addresses the conflict of interest between various players in an organization. Separation of owners and managers provide appropriate background for development of such theories. There are many papers advocating that describing managers' opportunistic behaviour acting in their own personal interest (Meckling, 1976; Healy & Kaplan, 1985; Parfet, 2000). Considering such action literature documented alternatives of minimizing the agency problem (Fama & Jensen, 1983; Weisbach, 1988; Jenson, 1993; Klein, 2002; Jiang, Lee, & Anandarajan, 2008). In this regard, positive agency theory suggests mechanism and monitoring systems. Despite shortcoming, historical accounting information systems are implemented to monitor results of managerial decision making presuming that reveals opportunistic (discretionary) decisions in the condition that risk bearing mechanism advocate that maximum return on investment is obtainable through transferring the optimum level

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of decision making rights to managers. Despite reputable literature about agency problem the case of agency cost measurement while not resolved vet, the ineffective and insufficient managerial decisions put companies at risk of financial deserters. In such condition legal authorities of financial markets consider implementing corporate governance (CG) regulations to mitigate earnings management (EM) exercises, consequently resolving agency problems. The recent accounting literature clearly documented that the outcome of such ambition are yet to be addressed. CG which has been in place from a long time, come to the table in the wake of bankruptcy of big companies such as Enrom, World.com, HIH, and others. Consequently EM research studies promised to investigate the effect of managerial discretionary in managerial decision making about accruals in the presence of appropriate CG. In most financial markets a common occurrence of EM is reported. Nevertheless, in some jurisdictions such as Iran corporate governance not existed and the culture is not in favour of such legal restrictions. Consequently stakeholder including investors and shareholders are left alone to face the EM consequences and unsolved agency problem.

There is a relationship between earnings management (accounting choice accruals), corporate governance variable and firm characteristics that drives motivation of studies in this area. The Iranian business environment is somewhat different, so far, there is no code or regulation governing CG in the country. This study intended to investigate the relationship of EM and firm characteristics using evolution of EM models developmental as background of the study. Basically there are four EM models that are well known. Fundamental different between these models are the nature and extend of financial information that they use while they are all agreed to use accounting accruals as proxy for EM. Nonetheless, the main objective of these models is to investigate level or extend of EM exercised by the companies while paying less attention to motivation of such exercise.

Stock markets in some developing countries including Iran are not well developed to embrace appropriate corporate governance principles that consequently mitigating EM exercises. Stock market regulations include implementation of good practice in CG as main component of listing requirement encourage transparency and good practice in financial reporting. The related literature is overwhelmed by discussion of the effect of good practice in CG in diminishing harmful EM, considering that earning management exercise resulted good, bad or even neutral outcomes for stakeholders in general and stockholder in specific. Less developed stock markets in developing countries such as, Iran in those that corporate governance guidelines are not included in the listing requirement, measuring and elaborating about EM is a challenge due to lack of formal published financial and nonfinancial information. This paper is an attempt to cover this grey area in developing countries to speed up developing suitable CG principles in providing fundamentals for transparency in financial reporting. Since voluntary CG disclosures are collected in this study, the results are useful to stock market to gain an understanding of which information are easy to obtain and companies are reluctant to publish which CG disclosure.

After introduction section, the second section presents theoretical background of the study. Section three reviews the literature of earnings management research

studies in the Iranian environment. Section four presents research problem, questions and hypotheses while methodology is included in the following section of the paper, section five. Results of EM and CG are presented in section six before conclusions, recommendations and remarks in the last section.

II. BACKGROUND

This research considers the driving motivation in earnings management and corporate governance related disclosures. EM models and best practice in CG are reviewed to formulate research objectives, questions, and hypotheses of the study. EM has been investigated from various angles (i.e. in relation to CG and firm characteristics) in developed and developing economies in the last few decades. Most of these studies have not elaborated about motivation of EM. In extreme positive EM definition, managers may manage company's earnings for window dressing, covering inefficiency and ineffective in decision making in order to increase firm's value, and maintaining positive reaction of agency relations.

From the stand point of stakeholders, EM is differently described in the literature. Some authors such as Parfet (2000) and Lipe (2001) consider it as beneficial (good) and some others such as Healy and Kaplan (1985) and Dechow et al. (1995) believe that this exercise is harmful (bad). Those consider it as good develop their argument around lowering contracting costs and believe that ultimately EM reveal inside information to stakeholders in general and specifically to investors. In the contrary the opposite view concentrate of management opportunistic behavior in preparing financial reports based on accrual accounting postulate. In fact EM practice is often occurring within the accounting standards boundaries. Managers with the help of well-trained accountants use their discretionary to implement an accounting approach that upwardly or downwardly affect the estimates in accrual based accounting system.

One the other hand, there are two assumptions about EM; good or bad (In the next section I will elaborate on EM definitions). If Management discretionary in accounting choices compromising their duty of stewardship as explained in the agency theory, then financial report is a vehicle to pass wrong signal to the stakeholders. Under such assumption managers are considered to be opportunistic and EM is considered to be "bad". However this assumption is not universal, the opposite assumption considers EM as "good".

This paper would like to follow neutral position about EM and using the latest model of accrual (Performance Matched Model) for investigating the motivation that drives EM exercises using Tehran (Iran) Stock Exchange (TSE) listed companies financial information.

After brief explanation of EM, we turn our attention to CG practices that is included in the second objective of the study. Mandatory corporate governance rules implemented to enhance the quality of disclosure in financial reporting. A typical CG principle or regulations includes best practice for Board of directors' size, executive and non-executive directors (number of independent directors), frequency of board's meeting, and remunerations committee. Corporate governance is designed to protect shareholders and increases management efficiency and accountability through promotion of audit committee. Therefore audit committee structure, members'

financial specialities and frequency of meeting are in the centre of interest of CG principles and research studies dealing with such corporate aspect. It is anticipated that companies' listing tenure, directors' duality (one director sit in more than one board), directors tenure, CEO duality and experience, and financial expertise of audit committee and board of directors affect monitoring of activities in the related company that ultimately mitigate harmful EM exercises. For example OECD corporate governance principles (OECD, 2004) focus on disclosure and transparency, board responsibilities, and role of stakeholders including right of shareholders (equitable treatment of shareholders) and key ownership function as effective CG framework. The OECD principles then push each area of enquiry further into workable best practices for each area.

Nevertheless, corporate governance has causes and consequences. CG regulations causes compliance of such regulation (level of compliance yet to be measured) and have short term and long term consequences. In the short term it is anticipated to decrease EM (lower accruals) and boost shareholders wealth (increase firm value) in the long term. To be optimistic and considering that EM is "good" then causes and consequences may form a motivation for "good" EM.

III. LITERATURE REVIEW

Earning management has a strong research background in the developed nations. In these countries corporate governance regulations with the help of stock market is well established as a set of guidelines provides accountability and verifiability to financial reports. In developing countries the story is different. A minority of developing countries imitate corporate governance guidelines of developed countries consequently promoting EM research in relation to corporate governance characteristics while majority yet not realyse need for such regulations. Although some organizations active in the financial market of Iran demonstrate needs of establishing appropriate CG, but such regulations yet to be addressed. Consequently research in the area of CG and earning management in Iran is rare until recent years, those that are published recently suffering from lack of reliable financial and non-financial information.

The first published paper concentrate on EM and CG in Iran in the English periodicals is Mashayekhi (2008) research results. She examines the CG and EM in companies at listed Tehran Stock Exchange from 2003-2005.her research concentrate on the effect of CG characteristics (Board characteristics such as size, independence, number of meeting, financial expertise, and Ownership and other two characteristics of CEO duality, independent audit committee) and EM. This research does not explain how none-mandatory CG information has been obtained from the companies' published financial reports or other sources; the availability of such information is a challenge not only for this research but for all research projects in the same area.

During 2011-12 six papers appears in the English literature that consider investigating the relationship of CG characteristics and EM variables in the Iranian listed companies whereas the results are controversial. Table 1 summarises these studies.

Table 1
Summary Research Studies About EM in Iran

Author	Objective	Period	Result
Hashemi and	Relationship of	2000-01	EM are sequentially used by managers of
Rabiee (2011a)	"real" and		companies to report a smooth income
	"accounting" EM in earnings smoothing		
Hashemi and	Role of CG on real	2004-10	Independent directors and board size
Rabiee, (2011b)	EM		contributed in limiting the real EM
Badavar et al.	CG disclosure	2001-08	Positive relationship between CEO
(2011)			duality and EM Relationship of Board
			size and independence are not significant
Vakili Fard et al.	EM impact	2003 -09	EM has been fluctuated
(2011)			
Safari Gerayli, et	Audit quality and	2004-09	firms audited by high quality auditor
al. (2011)	EM		firms tend to less manipulating
			discretionary accruals
Roodposhti and	CG mechanisms	2004-08	positive relationship between CEO
Chashmi (2010)	and EM		duality in one hand and firm size and
			leverage on the other hand affect EM
Etemadi et al.	EM in distressed	2006-09	EM manipulation is in the highest one
(2012)	companies		year before bankruptcy declaration

IV. RESEARCH PROBLEM, QUESTIONS AND HYPOTHESIS

This study intended to reveal the motivation of EM and effect of corporate governance in providing transparency in the financial reports of Iranian listed companies. Therefore the research questions of the study are shaped around this broad objective. This research intended collect and analyze information to answer the fundamental question of: are Iranian listed companies managing their earnings, in the first instant. Then advance to investigate the relationship of EM with firm characteristics of firm's size (total assets as proxy), leverage (total debt over equity), and profitability (return on assets, ROA as proxy). The last question of the study is related to CG in relation to EM. In the absence of corporate government regulations extend and amount of disclosure in this area is under discretionary of companies' management. A pilot study reveals that disclosures about CG characteristics are minimal in the Iranian financial reporting environment, limited to number and dependency of directors and instructional ownership. Other CG characteristics if observed but abundant in the published financial information. Therefore this research uses common audited published financial statement by Tehran Stock Exchange. Based on above research questions following hypothesis are developed.

4.1. Null Hypothesis

This research uses Performance Matched Model to investigate and provides evidences on EM by the Iranian listed companies. Literature of EM are full of evidence that many companies from almost all developed and developing countries manage their earnings (for example Watts & Zimmerman, 1978; DeAngelo, DeAngelo, & Skinner, 1994; Stammerjohan & Hall, 2003; Mohd Saleh & Ahmed, 2005). Therefore the first null hypothesis of this study is as follows:

H₁: Iranian listed companies do not manage their earnings.

As explained earlier this paper is up to investigate managers' motivation for managing their earnings, therefore it assumed that earnings management motivations may have a statistical relationship with leverage, profitability (ROA or ROE) and size is an important explanatory factor. Obviously managers in big companies have more avenues for possible opportunistic behaviors in compare to small companies' managers. Therefore the next hypothesis investigates size of sample companies in relation to EM.

There is a debate about what proxy is best for the size of the company, most research studies agreed on total assets as best indicator. However in statistical calculation log of total assets is used to avoid encountering large numbers. Size of the company is considered as an important variable in earnings management investigation. From very early time Watts and Zimmerman (1986) state that large companies are more likely manage their earnings than small firms. Because these firms have incentive to select accounting procedures purse management ambitious for income smoothing or such. In the contrary some other scholars debate that large companies are mature and have secure steady operation and less uncertainty in profit, under public and investors pressures and scrutiny (Warfiled, Wild & Wild, 1995; Park & Shin, 2004; Gu, Lee, & Rosett, 2005; Davidson, Stewart & Kent, 2005; Ebrahim, 2007; Jaggi & Leung, 2007). Lee and Choi (2002) and Jordon, Clark and Pate (2008) hold another view that small companies are involve in EM more frequently to avoid losses. Finally Dechow and Dechev (2002) claims that quality of total accruals are directly related to firm size therefore the second hypothesis of this study is:

H₂: earnings management is not related to size of listed companies.

Debate on relationship between earnings management existence if any or level of such manipulation and leverage is well established in the literature. Some scholars advocate that heavily leveraged firms are more subject to EM than others (Ahorany, Lin & Loeb, 1993; Defond & Jimbalvo, 1994; Sweeney, 1994; Klein, 2002; Glaum, Lichtblau & Linderman, 2004; Davidson, Stewart, & Kent, 2005; Jaggi & Leung, 2007). In the other hand some other authors arrived to a contrary conclusion that low leverage companies have more motivation to manage earnings (Park & Shin, 2004; Chen, Lin, & Zhou, 2005; Jordon, Clark, & Pate, 2008). Interestingly, in more recent years, there are other researchers (Jones & Sharma, 2001; Bédard, Chtourou, & Courteau, 2004; Abdul Rahman, Dowds, & Cahan, 2005; Abdul Rahman & Mohamed Ali, 2008; Sun & Rath, 2009) that find no significant relationship between these two. Nevertheless it is appropriate to consider that company's leverage manipulation can act as a driver of motivation to EM. Therefore this research develops third hypothesis as:

H₃: earnings management is not related to leverage of listed companies.

Like leverage, statistical relationship of profitability (ROA) earnings management is controversial. Some studies results such as Burgstahler and Dichev (1997), Klien (2002), Davidson, Stewart, and Kent (2005), and Jordon, Clark, and Pate (2008), suggest upward earnings management occurrence in the condition of profit downward. Nevertheless, opposite results are reported by others such as Ashari et al. (1994), Bédard, Chtourou, and Courteau (2004), and Sun and Rath (2009). In the line of previous hypothesis profit window dressing can be considered as another driver of

EM motivation. Therefore null hypothesis for the last firm criterion that investigates in relationship with earnings management:

H₄: earnings management is not related to profitability of listed companies.

Turning attention to CG and earning manipulation formed the last null hypothesis. The adverse relation of EM and agency cost and problem is a proved phenomenon. Companies that are directed by managers who are controlling shareholders have different agency cost problem than those are under supervision of directors with limited shares. Therefore, the notion of agency problem is directly linked with information asymmetry between directors, stakeholders, and managers who own large portion of shares. Consequently CG guidelines are there to set appropriate control system to maintain suitable accountability and limit the side effect of agency problems and information asymmetry. Nevertheless corporate laws and regulatory are considered as preventing managers pursued sel-interest (Drobietz, 2002). Having a legal CG enforcement, ensures stakeholders confidence of reliable financial information environment. Leuz, Nanda and Wysocki (2003) study reported a negative relation between such regulation and earning management manipulation. Nevertheless, in non-mandatory CG conditions may not provide sufficient information for outsider in compare to insiders of the firm.

Corporate governance characteristics such as board size, meeting frequency, independent, financial competency and chairperson duality busyness (chairperson act as chairperson of other firm/s) are variables that considered relevance in studies about relationship of EM and CG. The effectiveness of board of directors is largely depending upon above characteristics (Fama & Jensen, 1983) which are investigated by many scholars. Less number of directors on board (board size) is considered as a sign of effective control due to less difficulty of coordinating within the board (Jensen & Meckling, 1976; Pierce & Zahra, 1992; Yermack, 1996). On the other hand large board have potential to access to higher expertise and experience (Xie, Davidson, & DaDalt, 2003; Peasnell, Pope, & Young, 2005; Ebrahim, 2007). In addition independent board members bring about more control since such members are concern about their reputations (Fama & Jensen, 1983). There are studies that claim that proportion of independent directors on the board is adversely related to likelihood of financial statement inappropriate presentation (Beasley, 1996; Dechow, Sloan, & Sweeney, 1996) suggests that independent members of board enhance ability of board Bédard, Chtourou, and Courteau, 2004; Davidson, Steward, and Kent, 2005; Mulgrew and Forker, 2006; Cornett, Markus, and Tehranian, 2008. Contradict results are reported by some researchers such as Park and Shin (2004) in Canada and Siregar and Utama (2008) in Indonesia. Another aspect of CG is controlling shareholders effect on EM, which considered in an imperical research Jiang and Habib (2009), they illustrate that a majority of New Zeraland listed comapies are highly financial institutecontrolled that suggest potential threat of agency relationship such as earnings managements.

The magnitude of institutional ownership is believed to boost management in decreasing EM through board of directors (Monks & Minow, 1995; Chung, Firth, & Kim, 2002; Koh, 2003; Cornett, Markus, & Tehranian, 2008). Therefore this study assume null hypothesis to be:

H₅: corporate governance characteristics are not related to level of earnings management.

V. METHODOLOGY

The objective of this study is to determine the extent of earnings management of Tehran Stock Exchange listed companies from 2008 to 2010. Firm characteristics of leverage (debt to equity), ROA (return on assets as proxy for profitability), and total assets (proxy for size) of companies are considered as independent variable. Among earnings management models, Performance Matched Model developed by Kothari, Leone, and Wasley (2005) adopted to extract results. Performance Matched Model is a contemporary and comprehensive model that emphasis on firm performance (ROA). Kothari, Leone, and Wasley (2005) found that discretionary accruals estimated in their model are more powerful and inferior to Jones Model (Jones, 1991) and Modified Jones Models (Dechow, Sloan, & Sweeney, 1996) of investigating EM. They believe that discretionary accruals are adjusted for performance matched discretionary accruals (ROA) and possibly avoid large estimated discretionary accruals whenever a firm experiences extreme growth.

$$TACC_{it}/TA_{it-1} = \alpha_i [1/TA_{it-1}] + \beta_1 [(\Delta REV_{it}-\Delta REC_{it})/TA_{it-1}] + \beta_2 PPE_{it}/TA_{it-1} + \beta_3 ROA_{it-1}$$
(1)

In the above model, year t is the year of investigation (2008-10 where applicable). NDAC it is stand for non-discretionary accruals at year t (2008-2010 presumably) while TAit-1 is total assets of the year before investigating. In the same way Δ REV and Δ REC are respectively changes in revenue and account receivables of two consecutive years from 2008 to 2010. PPE and ROA are property, plant and equipment and return on assets of the firm. Four stages are followed to extract the results. In stage one Total Accruals (TACC) calculated by subtracting cash flow from operating activities from net Income before tax. The second stage involves in estimating intercept and coefficient (i.e. α and β) using the OLS regression model. In stage three intercept and coefficients are plugged into the following model to estimate unexpected accruals of each listed firm.

NDAC_{it}=
$$\alpha_i [1/TA_{it-1}] + \beta_1 [(\Delta REV_{it} - \Delta REC_{it})/TA_{it-1}] + \beta_2 PPE_{it}/TA_{it-1} + \beta_3 ROA_{it-1}$$
 (2)

Therefore in stage four discretionary accrual (DACC) is calculated as differences between total accruals (TACC) divided by total assets (TA) and non-discretionary accruals (NADC) in the following formula for consecutive of years from 2008 to 2010.

$$DACC_{it} = (TACC_{it}/TA_{it-1}) - NDAC_{it}$$
 (3)

To gain understanding about level and extend of earnings management (DACC as proxy) and effects of CG in relation to independent variables of firm characteristics descriptive statistics, linear regression and bivariate correlation are employed.

5.1. Population and Data Collection of the Study

All listed companies during 2007 to 2010 (1386 to 1389 Iranian calendar) are population of this study. Out of 346 companies that continuously listed from 2007 to 2010;94 companies financial reports are incomplete while 23 companies that provide

full financial statements during period of the study excluded in the data screen stage since their leverage ROA or provided scatter figures was showing abnormal figure these data considered as unusable financial information therefore 39 companies.

VI. RESULT

The objective of this research is to gain understanding of motivation of EM and corporate governance in the Iranian listed companies. Results of the study presented in two sections of CG and EM. At each section first descriptive statistics presentation is followed by regression and correlation analysis.

6.1. Corporate Governance

There is no official corporate governance rules administered by the Iranian capital market therefore companies disclose CG information voluntary which are very limited and incomplete. The common basic CG information that disclosed are: number of directors, CEO as member and or chairman of board of directors and institutional ownership. Although name of directors are revealed in the financial reports but information about multiple directorship is not included. This environment is ideal for discretionary disclosure and posits management opportunistic behaviour.

Table 2 presents number of directors in the board of directors of listed companies in 2010 (1389) and 2008 (1387). The reason that two selected years data are presented is due to fact that all four years data are very similar, two selected years are presented in Table 2 to avoid presenting excessive similar information in one table. As it is appear from Table 2five directors on board is common (mode =5 and Mean=5.1) in both years. More than 90 and 94 per cent of companies have five members at their board of directors in 2010 and 2008 respectively. Positive Skewness indicates bias towards 6 and 7 directors.

Table 2
Size of Board of Directors 2010 and 2008 (number of companies)

Number of Directors on Board	2010	0/0	2008	%
4 Members	2	1.06	2	1.06
5 Members	170	90.43	177	94.15
6 Members	12	6.38	7	3.72
7 Members	4	2.13	2	1.06
Total	188	100	188	100
Mean	5.1		5.1	
Mode	5		5	
Skewness	2.860		3.679	

Table 3 presents descriptive data about CEO as member of board of directors in 2008 and 2010. As it is appear from this table in both selected years figure are almost similar, which is true for all three years of 2008 to 2010. In 2010, 165 companies' CEOs are member of board of directors which four of them are chairman of the board and 25CEOs are not included as member of the board. Similarly 160

ECOs are member of board of directors in 2008 while 28 CEOs are not board members.

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Table 3
CEO Member of Board of Directors, 2010 and 2008 (number of companies)

CEO Status	2010	%	2008	0/0
CEO is member of BOD	159	84.6	151	80.3
CEO is member and chair of BOD	4	02.1	9	04.8
CEO is NOT member of BOD	25	13.3	28	14.9
Total	188	100	188	100

Considering instructional ownership data reveals that a maximum and mode of 100 with a negative skewness that indicates a concentrated institutional ownership in these companies. CG literature clusters share ownership into four types of managerial, institutional, governmental, and individual. Information about management and government share ownership are not disclosed clearly in the companies' published financial reports. Therefore based on provided information, share ownership divided as institutional ownership that obviously includes government ownership and individual ownership that most likely includes managerial ownerships. Following this classification, the mean percentage of individual and managerial ownership of sample firms may be obtained from the differences between mean of institutional ownership and one hundred that are 26.15% and 25.28% in 2010 and 2008 respectively. Due to unsuccessful three waves of privatisation, it is estimated that more than 90% of economy is under state or semi-government commad¹ (Roudaki, 2010), consequently majority of institutional ownership are practically government shares.

There is no statistical significant relationship between DACC and CG characteristics (Institutional ownership, number of board members, and CEO as member of board of directors) in 2008 to 2010. However, in the voluntary environment for CG disclosures and considering such information are not audited for the same reason of voluntary nature, results are questionable.

About independent member of directors' board 137 in 2008 and 122 in 2010 firms from 188 companies' reports are silent and other 51in 2008 and 66 in 2010 companies reported 1 to 5 independent directors on their boards. Those reports are silent could not be considered as companies with no independent directors, either they

¹ As a consequent of three unsuccessful privatization waves in Iran, shares of state owned companies are transferred to semi government organizations that government remain ultimate owner and continued to assign or government employed managers for these companies or influence managers election.

choose not to disclose such voluntary information or having no independent director/s on board and or that the former assumption is most probable than recent assumption (have no independent director/s).

Investigating the relationship of CG characteristics with EM reveals that statistical correlation is not existed. Since more than 90 percent of listed companies have five directors, therefore is no point to calculate regression and correlation for such highly biased statistical population. Further more DACC of firm whit five directors on board shows no relationship with number of directors on board, CEO duality, and institutional owner ship. In terms of descriptive analysis the results are not consistence. Due to limited corporate governance disclosure provided by listed companies' managers have ample room for managing their earnings.

6.2. Earnings Management

TACC, NDAC and DACC are calculated as explained in the research methodology based on data from published financial reports of companies to investigate EM behavior of companies in relation to independent variables of firm characteristics. Firm characteristics of leverage, profitability, and size are used as variables that reveal managers motivations of managing companies' earnings. Table 6 presents descriptive statistics of DAC Cover years of the study. In this table number and percentage of companies with positive or negative DACCs in three consecutive years ended by 2010 are also presented.

Based on information presented in table 6, null hypothesis one cannot be accepted, clearly all companies do manage their earnings either by increasing or decreasing their DACC. This is only an early result that will be discussed with statistical evidence towards to the end of this section. Number of companies manage earnings upward (positive DACC) rocketed during 2008 (0.4%) to 2010 (74.6%). It seems that in the recent years Iranian listed companies' window-dressing earning occurred by means of increasing their profits probably to cover inefficiency. Mean of return on assets that were -0.51 and -0.59 in 2008 and 2009 increased dramatically to 0.15 in 2010.

Table 6
Descriptive Statistics of DACC 2008 to 2010

DACC	Mean*	Median	Min	Мах	STD	Skewness	Negative DACC	%	Positive DACC	%
2010	108,900	105,800	-520,000	1,240,000	.17824	1.023	48	25.4	140	74.6
2009	-320,100	-28,600	-49,110,000	2,490,000	3.6165	-13.287	145	77	43	23
2008	-911,400	-841,400	-14,160,000	170,000	.98938	-12.978	187	99.5	1	0.4

^{*} All amounts are in Rials (Iran currency).

Table 7 presents descriptive analysis of firm characteristics for the period of the study. Minimum and maximum of leverage as included in this table indicating firms are highly leverage positive and or negative. The negative leverage is a result of negative owners' equity in the listed companies which is not a normal situation. It is possible to relate high leverage rate to high reported losses or indirect consequent of overstatement in some accounts including revenue and account receivables.

In Table 7 log of total assets is used as proxy for size of listed firms. Mean and maximum of size of these companies are very close over three years of investigation, while minimum sizes are very different. Unexpected zero for mean of size in 2009 is far below of 2010 and 2.008, the skewness of size in 2009 exhibit a higher bias than other two years towards the minimum. The same as company sizes, means of profitability (ROA as proxy) of 2010 and 2008 are close and 2009 is different. However, minimum and maximum are not following the same pattern. In general reported profitability of companies are low that could be considered as amotivation for EM.

Table 7
Descriptive Statistics of Firm Characteristics 2008-2010

		Mean	Median	Min	Max	Skewness
Leverag	e 2010	1.52	1.63	-9.69	7.19	-1.686
	2009	1.77	1.67	-7.51	7.72	740
	2008	1.80	1.54	-7.37	8.74	414
Size	2010	5.81	5.77	4.36	8.23	.81
	2009	5.73	5.69	.00	8.20	-1.58
	2008	5.75	5.67	2.38	8.19	.18
ROA	2010	.11	.10	38	.68	08
	2009	.14	.10	36	2.46	5.22
	2008	.11	.12	-2.65	.70	-7.50

Table 8 presents regression analysis of relationship between DACC and TACC of 2008 to 2010 and predictors of reciprocal of TA one year before, differences between changes in revenue and receivables of two consecutive years, total plant equipment of the same year and ROA of the previous year as explained in the OLS model at the methodology section. Regression analysis shows that DACC in three years has low R square. In 2010 R square is too low, but in 2008 and 2009 are higher that demonstrate the statistical relationship around 20 per cent. Unlike DACC, R square of TACC is high for 2010 and very low in 2008 and 2009. In three years of the survey, Durbin-Watson (DACC and TACC) are between 1.9 and 1.2 indicates that autocorrelation is not presents in the statistical tests. As explained by Garson (2007) Durbin-Watson range from zero to four while values between 1.5 to 2.5 is an indication of independence observation and absent of autocorrelation in the statistical test. In the other hand correlation analysis (table is not presented) shows no strong correlation within independent variables therefore Multicollinearity is not a problem. Insert Table 8 here

Table 8
Regression Analysis of DACC 2008-10, Based on Performance Matched Model

			Adjusted	Std. Error of the		Durbin-				
DACC ^b	R	R Square	Adjusted R Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Watson
DACC 10	.180a	.033	.006	.17771	.033	1.223	5	182	.300	2.186
DACC 09	.451a	.204	.182	.53462	.204	9.313	5	182	.000	1.916
DACC 08	.508a	.258	.238	.86375	.258	12.670	5	182	.000	2.097
TACC 10	.475c	.226	.200	979329.26760	.226	8.812	6	181	.000	2.029
TACC 09	.232c	.054	.023	913829.20312	.054	1.720	6	181	.119	2.028
TACC 08	.100c	.010	023	1649486.89803	.010	.303	6	181	.935	1.952

- a. Predictors: (Constant), ISO Dummy 08-10, TACC 07-10/TA 07-10, PPE 08-10/TA 07-09, REV 08-10-REC 08-10/TA 07-09, ROA 07-09, 1/TA 07-09.
- b. Dependent Variable: DACC 08-10.
- c. Predictors: (Constant), ISO Dummy 08-10, TACC 07-10/TA 07-10, PPE 08-10/TA 07-09, REV 08-10-REC 08-10/TA 07-09, ROA 07-09, 1/TA 07-09.
- d. Dependent Variable: TACC 10, 09, and 08.

Table 9 summarizes statistical relationship between DACC and firm characteristics; leverage, log of total assets, percentage of institutional ownership and profitability in three panels for three years of 2008 to 2010. As it is appear from this table independent variables of firm characteristics are not significantly correlated with each other. Correlation results are scattered over three years of the study. Leverage in 2010, profitability in 2009, and log of total assets in 2008 are significantly correlated with DACC. One conclusion from this scattered correlation is that listed companies managers are followings different approaches every year to manage earnings for propose of window dressing to exaggerate their financial performance. For further investigation the motivation of EM, companies were clustered into small, medium and large size companies (total asset as proxy). Companies fall in to the range of two standard deviations from mean (positive and negative) considered as medium size companies. Companies above and below this range are considered as large and small respectively. The scatter correlation repeated indicating that firm size is not a good predictor for managers' motivation for managing their earnings.

As appear from Table 9 over three years percentage of institutional ownership has not correlated to discretionary accrual indicating that this kind of ownership is not affecting level of manipulation of earnings. Size and institutional ownership has significant relationship over three years indicating that the bigger the company the more its shares concentrated in the hands of government and or other companies. Size and profitability that exhibits weak correlation in 2010 and 2009 demonstrate strong relationship in 2008. TACC exhibits the same statistical relation with firm characteristics. Total accrual of year 2008 has significant relation with log of assets, while leverage and log of total assets in 2009 show the same relationship. Leverage repeats the same result in 2010.

Table 9
Correlation Between DACC and Firm Characteristics 2008-2010

·	•	DACC			Le	Leverage I			og T	A		ISO %	6	F	RO	4
		10	09	08	10	09	08	10	09	08	10	09	08	10	09	08
DACC	Pearson	1	1	1												
2010,	Correlation															
09, 08	Sig. (2-tailed)															
Leverage	Pearson	.150*	044	043	1	1	1									
2010,	Correlation															
09, 08	Sig. (2-tailed)	.039	.548	.562												
Log TA	Pearson	.035	.078	.161*	.163*	.020	.040	1	1	1						
2010,	Correlation															
09, 08	Sig. (2-tailed)	.635	.290	.028	.025	.782	.582									
ISO %	Pearson	.108	095	028	.066	.113	026	.339**	.160*	.337**	1	1	1			
2010,	Correlation															
09, 08	Sig. (2-tailed)	.138	.194	.701	.365	.124	.724	.000	.028	.000						
ROA	Pearson	.131	.267**	.030	020	.039	.072	105	.050	.380**	.122	.043	.035	1	1	1
2010,	Correlation															
09,08	Sig. (2-tailed)	.073	.000	.687	.785	.595	.328	.152	.498	.000	.095	.554	.633			

- *. Correlation is significant at the 0.05 level (2-tailed).
- **. Correlation is significant at the 0.01 level (2-tailed).

Table 10 presents statistical test results of DACC and firm characteristics. Based on Durbin-Watson between 1.8 and 2.2 autocorrelation is not presents between the variables in the model. However, statistical relationship is too week in table 10. From data included in this table an immediate conclusion is that; firm characteristics are not good predictors of DACC in the TSE listed companies over three years of the study.

Table 10 Regression Analysis of DACC 2008-10 and Firm Characteristics

		R	Adjusted	Std. Error		Change S	tatist	ics		-Durbin-
Mode	R	Square	e R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Watson
DACC 1	.218	.047	.027	.17585	.047	2.277	4	183	.063	2.224
DACC (9 .302	.091	.071	.56963	.091	4.584	4	183	.001	1.815
DACC (08 .195	.038	.017	.98100	.038	1.802	4	183	.130	2.064

- a. Predictors: (Constant), ROA 08-10, Leverage 08-10, ISO % 08-10, Log TA 08-10.
- b. Dependent Variable: DACC 08-10.

Further investigation of DACC show that EM downward EM that was widespread in 2008 (187 out of 188 companies reported negative DACC) dramatically have change din 2010 (36 of total reported negative DACC). Widespread of downward manage earnings could be related to tendency of companies to report less taxable income consequently pay less tax. Changing the trend of negative DACC to positive is a positive sign of transparency in taxable income, since mean of DACC which was -911,400 Rials in 2008 changed to 108,900Rials in 2010 (see Table 6 above). When considering downward EM, DACC exhibit a sharp decrease over investigation period. Mean of DACC that manipulate their earnings negatively is -917,200 Rials which decreased to -124,900 Rials in 2010. The same mean demonstrate an opposite change that increased from 143,000 in 2009 to 164,000 in 2010 for firms with upward earnings management (2008 mean excluded because only one company reported DACC positive). Maximum and Minimum verify the same results, Maximum amount of DACC for companies with negative DACC are zeroes or -410,000 and the same figure for firms with positive DACC are 1,240,000 and Zero (2008 figure is not considered due to single observation). It seems that listed companies are moving to close the gap of EM; firms are tending to be more transparent to stakeholder including tax office and investors. From another angle changes in EM over the year of study could be related to the third wave of privatization that state owned companies window dressing as part of getting ready to be listed then sell shares to public to fulfil privatization requirements. Therefore it is hard to assume that window dressing is a real transparency.

Table 12 summaries regression analysis of DACC for firms upward or downward manage their earnings. Because in 2008 only one company reported positive DACC therefore there is no point that regression appears in this table. Except 2010, R square is too low for other years either with positive or negative DACCs. Durbin-Watson below 1.5 indicates possibility of Multicollinearity among variables.

		R		Std. Error of the Estimate		Change S	tatist	ics		Durbin- Watson
DACC ^b	R				R Square Change	F Change	df1	df2	Sig. F Change	
D :: 2010	0//0	004	017	1.41.67			2	1.40		1.11
Positive 2010	.066a	.004	016	.14167	.004	.215	5	148	.886	.141
Positive 2009	.078a	.006	036	.29901	.006	.146	3	71	.932	.590
Negative 2010	.553a	.305	.240	.10648	.305	4.689	3	32	.008	.983
Negative 2009	.065a	.004	023	4.69475	.004	.153	3	109	.928	.798
Negative 2008 ^c	.164a	.027	.011	.98350	.027	1.678	3	183	.173	.930

Table 12
Regression Analysis of DACC for Firms with Positive and Negative DACC

- a. Predictors: (Constant), Log TA 10, 09 and 08, ROA 10, 09 and 08 Leverage 10, 09 and 08.
- b. Dependent Variable: DACC 10, 09 and 08.
- c. Regression analysis for 2008 is not calculated due single observation.

VII. CONCLUSIONS AND REMARKS

This study considers exercises and motivations of Earnings management and report on the state of CG in the Iranian listed companies over period of 2008 -10. The study reveals that in the absence of formal CG guidelines in Iran, earnings management motivated by managerial opportunistic behavior, wind dressing company's financial statements. From the voluntary provided disclosure about CG characteristics in the listed companies, the study concludes that five directors is common size for board of directors and although CEO in most companies is a board member but in very few companies is chairman. A majority of listed firms reported that their shares are in the hands of other private companies, state owned enterprises or institutions.

Earnings management is high in the Iranian companies while the number of companies positively manipulation of earnings is rocketed during 2008 to 2010. Obviously those companies manage their earning downward exhibit a sharp decrease in the same period. From three firm characteristics that examined in this study a significant statistical relationship observed between earnings management and leverage in 2010, profitability (ROA) in 2009, and total assets (size) in 2008.

Like other research projects in this area in developing countries, this study suffers from lack of published reliable financial and non-financial data. However, the researcher remains faithful to collect latest reliable data for analysis and extracting the results. Further research should concentrate on need and importance of corporate governance in Iran to facilitate flow of capital to local stock market supporting sustainable economic development of the country.

The results of this study are useful for authorities in developing corporate governance guidelines and encouraging management internal control as a tool to compile with corporate governance rules and ultimately mitigate earnings management.

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