The Relationship between Management bonuses with Earnings stability in Information technology and Computer listed companies on the Tehran Stock Exchange

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Abstract

The purpose of the present study is to investigate the relationship between Management bonuses and earnings stability of the listed companies on the Tehran Stock Exchange (TSE). The population includes 94 firms selected through systematic sampling. The data is collected from the audited financial statements of the firms provided by TSE's website from 2009 to 2016. The results of multiple linear regression analysis show that there is a significant relationship between Management bonuses and earnings stability. The aim of this study primarily investigating the relationship between earnings stability and management bonus. In the case of this target, the next goal of this research is to develop a proposal for legislation in the domain of capital market, students and faculty as well as accounting information users provide research interests. Observations show many companies despite the decline in profitability, bonus managers to continually pay. Increase in listed companies Stock Exchange as well as the importance of communication between earnings quality and bonus managers in Financial Accounting the authors created an incentive to research about this relationship do. The results of this research could be the development of literature done in the past. Thus, more knowledge about the issue of sustainability and its relation to bonus managers the users of accounting information, accounting courses provide students and faculty.

Keywords: Management bonuses, Earnings stability, Accruals quality, Debt ratio, Firm size.

1. Introduction

The role of accruals in arriving at a summarized measure of firm performance is an important question in accounting research. Accrual earnings is regarded as a superior measure of firm performance than cash flows because it mitigates timing and mismatching problems inherent in measuring cash flows over short intervals (Dechow, 1994). However, because of the flexibility accorded under the Generally Accepted Accounting Principles (GAAP), accrual accounting is subject to managerial discretion. Managerial discretion could enhance earnings' in formativeness by allowing communication of private information (Watts and Zimmerman, 1986). Earning one of the most important factors affecting economic decisions. To identify the reliability of Earning they can make better business decisions about profitability and analysis on financial statements to help. The aim of this study primarily investigating the relationship between earnings stability and management bonus. In the case of this target, the next goal of this research is to develop a proposal for legislation in the domain of capital market, students and faculty as well as accounting information users provide research interests. Observations show many companies despite the decline in profitability, bonus managers to continually pay. Increase in listed companies Stock Exchange as well as the importance of communication between earnings quality and bonus managers in Financial Accounting the authors

created an incentive to research about this relationship do. The results of this research could be the development of literature done in the past. Thus, more knowledge about the issue of sustainability and its relation to bonus managers the users of accounting information, accounting courses provide students and faculty.

2. Review of literature

Alali(2011) examined the relationship between discretionary accruals (DAs) and audit fees and whether this relationship is affected by the chief financial officer's (CFO) compensation structure. He finds that there is a positive and significant association between Das and audit fees. Evidence shows that this relationship is significantly higher as CFO's bonuses increase and that this relationship is moderated as CFO's salaries increase. It is also found that income increasing DAs are positively and significantly related with audit fees and that increase in CFO's bonuses signifies this positive relationship. Relation between bonuses and discretionary accruals (Degeorge, Patel, and Zeckhauser, 1999) provide a model predicting how executives strategically influence reported earnings and, examining discontinuities in the distribution of observed earnings, provide evidence of earnings management around particular targets. As shown in (Balsam, 1998), compensation contracts appear to reward earnings management, although income-increasing discretionary accruals have a lower coefficient than nondiscretionary earnings. In our more contemporaneous sample period, if firms continue to reward earnings management, then we also expect a positive coefficient on income-increasing discretionary accruals. In addition, if firms "reward" income-decreasing discretionary accruals (i.e. do not penalize for income-decreasing discretionary accruals) then we expect no correlation between bonus payments and these accruals. These predictions assume that the compensation committee can disentangle managed earnings from unmanaged earnings and award bonuses accordingly. However, it may be that reported accounting earnings is the measure that drives bonuses and that the compensation committee cannot or does not segregate managed and unmanaged earnings. If so, we would expect a positive correlation with discretionary accruals. That is, we should detect a positive correlation with income-increasing discretionary accruals and a negative correlation with the absolute value of income-decreasing discretionary accruals, of equal magnitude. With the increased scrutiny of financial reporting that has accompanied Sarbanes-Oxley; firms may want to reduce discretionary accruals reported in the financial statements. Thus, firms may change compensation plans for executives to reduce financial incentives to manage earnings by altering the relation between bonus payments and discretionary accruals. Accordingly, we test whether the relation between bonus payments and discretionary accruals changes after the introduction of Sarbanes-Oxley. If increased scrutiny in the post- Sarbanes-Oxley era leads to firms changing compensation contracts for executives to reduce incentives to manage earnings, we expect no relation after Sarbanes-Oxley (or a smaller relation after than before Sarbanes-Oxley) between bonuses and income-increasing discretionary accruals. Furthermore, if after Sarbanes-Oxley, firms penalize executives for managing earnings downward, we expect a negative relation after Sarbanes-Oxley (or more negative relation after than before Sarbanes- Oxley) between bonuses and the absolute value of income-decreasing discretionary accruals. (Osma et al., 2009) tested whether corporate governance mechanisms promoted by best practice codes are effective in constraining earnings manipulation for a Spanish sample of quoted companies during the period 1999-2001.they analyzed the association between earnings management and two key aspects of corporate governance: board composition and the existence of board monitoring committees. their results showed that board composition significantly determines earnings manipulation practices. However, the main role in constraining such practices is not played by independent directors, as UK and US based research suggests, but by institutional directors. No correlation is found between the existence of an independent audit committee and earnings management measures. Finally, the existence and composition of a nomination committee affects the role of independent directors in constraining earnings manipulation. (Ali Shah et al., 2009) investigated the impact of institutional ownership on discretionary accruals; we took a sample size of 68 listed non -financial companies from a population of 652 companies listed on Karachi Stock Exchange (KSE). This data was gathered for the period of 5 years, starting from 2006 up to 2010. Modified Jones Model was employed for this study to quantify discretionary accruals while institutional ownership measured by dividing number of shares kept by institutions from total number of shares outstanding. The fix effect model showed that the magnitude of discretionary accruals in Pakistani listed firms tends to significantly decrease for the firms where institutions hold a decent amount of share of that particular firm. Thus the findings of study were in consensus with their hypothesis, which proposes that institutional ownership is quite an effective tool in aligning insider management and administration to take the right decision for value maximizing of the companies, and thus shareholders. (Franci et al., 2005) investigated whether investor's price accruals quality, their proxy for the information risk associated with earnings. Measuring accruals quality (AQ) as the standard deviation of residuals from regressions relating current accruals to cash flows, they finded that poorer AQ is

associated with larger costs of debt and equity. This result is consistent across several alternative specifications of the AQ metric. They also distinguish between accruals quality driven by economic fundamentals (innate AQ) versus management choices (discretionary AQ). (Guillet et al., 2012) examined executive compensation in the restaurant industry. The effects of a set of accounting-based performance measures, market-based performance measures, and executive-related factors on the compensations of firm CEOs, other senior executive managers, and board members were examined. Drawn from 16 consecutive years of data and a sample of over 2200 observations from restaurant companies, the findings revealed that determinants of equity based compensation vary by different types of executives. In addition, this study supports the notion that executive compensation in the restaurant industry is determined not only by firm performance measures but also by executive-related characteristics such as tenure. (Tomy, 2012) examined the relationship between earnings persistence and the macroeconomic cycle. He hypothesized those earnings persistence varies with the business cycle. Using data from two cyclical industries (manufacturing and consumer durables) he fined that earnings are most persistent during an expansion, least persistent during a recession, and have intermediate levels of persistence during the moderate growth periods. He further divided earnings into its accrual and cash flow components and fined that while persistence of the components of earnings follows the trend of persistence in earnings, the difference between cash flow and accrual persistence seems to vary with the phases of the business cycle. Specifically, he fined that the well documented phenomena of cash flows being more persistent than accruals are primarily true during expansionary times. Varying firm fundamentals as well as changing managerial incentives can result in the observed outcome. Further research can help delineate the dominant cause. (Nen-Chen et al., 2013) examined the effect of disclosure regulation on earnings management using Taiwanese companies conducting transactions with China as the institutional setting. Measuring earnings management by the amount of discretionary accruals (DACCs), the study showed that disclosure regulation mitigates DACCs of Taiwanese firms engaging in related-party transactions with Chinese entities. Following enactment of the disclosure regulation in November 2000, DACCs among Taiwanese enterprises conducting transactions via offshore affiliates dropped. While the disclosure regulation helps to reduce earnings management, this study reported that such effect is asymmetric between high-tech firms and non–high-tech firms. Specifically, the disclosure regulation is effective in reducing earnings management among firms in non–high-tech sectors. However, such effect is not significant among firms in high-tech sectors. Their study discussed the implications of empirical findings for corporate management, regulatory agencies, and firm stakeholders. (Subramanyam, 1996), Showed that there is also evidence that discretionary accruals predict future profitability and dividend changes. Despite several sensitivity checks, measurement error in the discretionary accruals proxy is an alternative explanation for the results. (Balboa et al., 2013) argued that the characteristic link between accruals and earnings may be nonlinear, since both the incentives to manipulate income and the practical way to do so depend partially on the relative size of earnings. Given a sample of 15,268 US banks over the period 1996–2011, the main results in this paper suggest that, depending on the size of earnings, bank managers tend to engage in earnings decreasing strategies when earnings are negative (''big-bath''), use earnings-increasing strategies when earnings are positive, and use provisions as a smoothing device when earnings are positive and substantial (''cookie-jar'' accounting). This evidence, which cannot be explained by the earnings-smoothing hypothesis, is consistent with the compensation theory. Neglecting nonlinear patterns in the econometric modeling of these accruals may lead to misleading conclusions regarding the characteristic strategies used in earnings management.(Cohen, Dey, and Lys, 2004) find that the ratio of incentive compensation (bonus and options) to fixed compensation (salary), which is increasing in the pre-Sarbanes-Oxley period, reverses and declines in the post-Sarbanes-Oxley period. The authors interpret this finding as evidence that executives are receiving additional insurance in the form of more fixed compensation to offset the increase in executive liability induced by Sarbanes-Oxley. However, an alternative explanation is that stock option use has declined in this same time period in anticipation of the likely expensing of stock option grants in the financial statements (Carter, Lynch, and Tuna, 2005). In the current global business environment, Chinese employees are often exposed to supervisors from different national backgrounds. For example, upon completion of overseas acquisitions, Western firms typically hire Chinese locals or expatriates to run their Chinese operations (Fernandez-Araoz, 2007). Given that the results of foreign operations are often required to be reported in Western firms' consolidated financial statements; it is beneficial to understand how the influence of an executive's culturally based management style impacts the financial reporting decisions made by his/her employees. Management style varies across countries and impacts employee decisions (e.g., Euwema, Wendt & Van Emmerik, 2007; Hofstede, 2001; House, Hanges, Javidan, Dorfman, & Gupta, 2004), including financial reporting outcomes such as the number of forecasts issued and discretionary accrual levels (e.g., Bamber, Jiang, & Wang 2010; Ge, Matsumoto, & Zhang, 2010). (Beaudoina et al., 2012) Find that Chinese managers tend to override corporate concerns and recommend higher discretionary expense accruals in an effort to maximize their two-year bonus potential when the agency problem is present. Conversely, they tend to recommend lower discretionary expense

accrual figures to help achieve corporate goals when the agency problem is not present. Interestingly, we also find that an executive's culturally based management style moderates the impact of the agency problem in that Chinese managers' willingness to manage earnings across agency problem conditions is significantly more pronounced in the presence of a Western (U.S.) executive than in the presence of an Eastern (Chinese) executive.

3. Hypotheses and methodology

<Hypothesis 1> There is a significant relationship between management bonuses and earnings stability.
<Hypothesis 2> There is a significant relationship between firm size and management bonuses.
<Hypothesis 3> There is a significant relationship between debt ratio and management bonuses.
<Hypothesis 4> There is a significant relationship between accruals quality and management bonuses.

3.1. Population and sample

The present research studies two types of industries; the Information technology and Computer listed companies on the TSE. The sample comprises firms that meet the following conditions:
1- Firms that have been listed in the stock exchange before 2016;
2- Firms whose financial year ends at the end of the Iranian calendar;
3- Firms that have no financial year changes;
4- Firms that have been operating in TSE during the period of interest;
5- Firms that have data available for the period of interest;
6- Investment companies are excluded.

Given these conditions, 94 firms were selected as sample.

3.2. Variables

3.2.1. Independent variables

The present research uses the model proposed by Dechow et al.(2010) for measuring Management bonuses (β_1 is a management bonus).

1) $\text{ROA}_{i,t} = \beta_0 + \beta_1 \text{ROA}_{t-1} + \delta$

We believe that uncertainty in accruals is best captured by the measure of accruals quality developed by (Dechow and Dichev, 2002) (hereafter DD). In the DD model, accruals quality is measured by the extent to which working capital accruals map into operating cash flow realizations. This model is predicated on the idea that, regardless of management intent, accruals quality is affected by the measurement error in accruals. Intentional estimation error arises from incentives to manage earnings, and unintentional error arises from management lapses and environmental uncertainty; however, the source of the error is irrelevant in this approach. DD's approach regresses working capital accruals on cash from operations in the current period, prior period and future period. The unexplained portion of the variation in working capital accruals is an inverse measure of accruals quality (a greater unexplained portion implies poorer quality). As a practical matter, the DD approach is limited to current accruals. While applying the DD model to total accruals would, in principle, produce an accruals quality metric that comprehensively measures accruals uncertainty, the long lags between non-current accruals and cash flow realizations effectively preclude this extension. To address this limitation, we also consider proxies for accruals quality that are based on the absolute value of abnormal accruals, where abnormal accruals are estimated using the Jones (1991) model, as modified by (Dechow et al., 1995). Applying the modified Jones approach to our setting, accruals quality is related to the extent to which accruals are well captured by fitted values obtained by regressing total accruals on changes in revenues and PPE. Because abnormal accruals consider both current and non-current accruals they do not suffer from the limitation of the DD model. However, the modified Jones' model's identification of 'abnormal' accruals has been subject to much criticism (see, e.g., Guay et al., 1996; Bernard and Skinner, 1996). Furthermore, the modified Jones model identifies accruals as abnormal if they are not explained by a limited set of fundamentals (PPE and changes in revenues), and while we believe that such abnormal accruals contain a substantial amount of uncertainty, the link to information risk is less direct than in the DD approach. For

these reasons, we use the DD approach to estimate a proxy for accruals quality. (All variables are scaled by average assets).

2) $TCA_{i,t} = \beta_0 + \beta_1 COF_{i,t-1} + \beta_2 COF_{i,t} + \beta_3 COF_{i,t+1} + \beta_4 \Delta REV_{i,t} + \beta_5 PPE_{i,t} + \varepsilon$

The debt ratio is calculated from the following equation:

3) $DeR = \frac{Total\ debt}{Total\ assetes}$

In the equations above, TCA is Total working capital accruals, CFO is Operating cash flow, ΔREV is Change in sales revenue, PPE is Property, machines and equipment, ε is residual of regression.

3.2.2. Dependent variable

In this study, the dependent variable is management bonuses.

3.2.3. Data analysis

Multivariate regression analysis was applied at the 5% significance level for testing the hypotheses.

4. Findings and Descriptive Statistics

Descriptive and inferential (multivariate regression analyses) analyses are used for testing the hypotheses of the research. The data is collected from 94 samples firms listed in Tehran Stock Exchange for the period from 2009 to 2016. <Table 1> provides mean, median, standard deviation, maximum, and minimum values for the research variables.

Table 1: Descriptive statistics of the variables

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
MAB	470	1030	44212	5588.352364	3108.330266	9661717.04
EAS	470	-1.2621	1.5336	0.138486	0.2422215	0.059
AQ	470	-9978	9932	162.104505	4871.737848	23733829.66
DR	470	0	7.4032	1.733947	0.7895082	0.623
Size	470	9.8346	17.0522	12.977318	1.2782437	1.634
Valid	470					

4.1. Inferential statistics

In the regression model, the effect of the independent variables (EAS, AQ, DR, and Size) on the management bonuses of the sample firms is examined. A multivariate linear regression model is used at the 5% significance level for testing the hypotheses. If there is no relationship between the independent variables and the dependent variable, all the coefficients in the regression model must be equal to zero. Thus, we can test the significance of the regression model, which is often done using F test. If the obtained F-statistic is less than the Table value of F at the 95% confidence level, the regression model will be significant. The results of F-test are provided in <Table 2> (P<0.05).

Table 2: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.

Regression	32948661.94	4	8237165.486	0.851	.493[b]
Residual	4498396630	465	9673971.247		
Total	4531345292	469			

The results of estimating the regression model at the 5% significance level are provided in Table 3.

Table 3: The Results of Estimating the Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1	B	Std. Error	Beta		
(Constant)	5931.769	1516.098		3.913	0
EAS	-849.403	595.469	-0.066	-1.426	0.154
AQ	0.023	0.03	0.036	0.769	0.442
DR	-124.504	182.657	-0.032	-0.682	0.496
Size	-1.047	112.702	0	-0.009	0.993

According to <Hypothesis 1>, EAS is significantly associated with MAB. Based on the results of multivariate regression model (Table 4), EAS has a beta coefficient of -849 and p-value of 0.154. Therefore, there is no significant relationship between EAS and Management bonuses (MAB) at 5% significance level.

Table 4: Results of Testing the First Hypothesis with Multivariate Regression Analysis

Variable	Beta	Sig	Result
EAS	-849	0.154	Rejected

According to <Hypothesis 2>, AQ is significantly associated with MAB. Based on the results of multivariate regression model (Table5), AQ has a beta coefficient of 0.023and p-value of 0.442. Therefore, there is a significant relationship between AQ and Management bonuses (MAB) at 5% significance level.

Table 5: Testing the Second Hypothesis with Multivariate Regression Analysis

Variable	Beta	Sig	Result
AQ	0.023	0.442	Accepted

According to <Hypothesis 3>, DR is significantly associated with MAB. Based on the results of multivariate regression model (Table6), DR has a beta coefficient of -124 and p-value of 0.496. Therefore, there is a significant relationship between DR and Management bonuses (MAB) at 5% significance level.

Table 6: Testing the Third Hypothesis with Multivariate Regression Analysis

Variable	Beta	Sig	Result
DR	-124	0.496	Accepted

According to <Hypothesis 4>, Size is significantly associated with MAB. Based on the results of multivariate regression model (Table7), DR has a beta coefficient of -1.047and p-value of 0.993.Therefore; there is no significant relationship between DR and Management bonuses (MAB) at 5% significance level.

Table 7: Testing the fourth Hypothesis with Multivariate Regression Analysis

Variable	Beta	Sig	Result
DR	-1.047	0.993	Rejected

Table 8: Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.085a	0.007	-0.001	3110.300829	1.618

a. (Constant), Size, EAS, AQ, DR
b. Dependent Variable: MAB

Table 9: One-Sample Kolmogorov-Smirnov Test

		MAB
N		470
Normal Parameters,	Mean	5588.352364
	Std. Deviation	3108.330266
Most Extreme Differences	Absolute	0.096
	Positive	0.096
	Negative	-0.073
Test Statistic		0.096
Asymp. Sig. (2-tailed)		.000c

a. Test distribution is normal.

5. Discussions

The present research examined the relationship between five variables (debt ratio, firm size, Earnings stability and accruals quality) and management bonuses of the chemical and pharmaceutical firms listed in Tehran Stock Exchange. The results of multivariate regression rejected two the hypotheses of the research.
 Limitation
The first limitation is related to the lack of classified data in the database of TSE. Therefore, the researchers were forced to use the audited reports of the firms and data collection became a very time consuming process.

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