

CEO REMUNERATION AND EARNINGS MANAGEMENT: THE MODERATING EFFECT OF AUDIT FEES

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ABSTRACT:

This study examines the effects of CEO remuneration on earnings management and how the audit fees moderate the relationship between CEO remuneration and earnings management. The study sample covers the period of 2015 to 2019, taken from the industry and service companies listed on the Amman Stock Exchange. This study employed the fixed-effect model, robustness tests and alternative measurements for earnings management. The study revealed a positive relationship between the CEO remuneration and earnings management. However, document a positive effect of the combined influence of CEO remuneration and audit fees on earnings management when the study used the modified Jones model to measure the discretionary accruals and a negative association when the study used the Kothari model to measure the discretionary accruals. This study is beneficial to investors, political, shareholders and stakeholders in Jordanian firms as well as to auditing firms, as this study sheds light on the problems that the high value of CEO remuneration and the audit fees, which may affect on earnings management by increase the opportunistic behavior and conflict of interest.

Index Terms: CEO remuneration, Audit fees, Earnings management

1 INTRODUCTION

One of the biggest reasons for the high costs of firms is employee turnover, so firms tend to increase remuneration for employees, especially the CEO, and make the link between the remuneration and the performance of his work in order to ensure that he remains in his job and ensure that he improves the performance firm[1]. The human nature of employees makes them always need additional income, as this can make the employee do unethical acts to earn a higher income.

This remuneration can promote the growth of firms by connecting them to the firm's main objective. However, an increase in remuneration was observed, but the firms'

performance was weak, especially in developing markets. The remuneration policy fails to reduce conflicts of interest due to the opportunistic behavior of managers [2]. However, the agency theory indicates that remuneration for the CEO represents a key mechanism to reduce the problems of conflict of interest.

Managers' use of firm resources to achieve their end causes a conflict of interest, according to the agency theory. There are huge losses due to the manipulation of firms' data that professional manager manages. Where the manager can practice opportunistic behavior and achieve his personal goal at the expense of the firm's goal [3], the firm's CEO will go to the practice of EM if he notices the inability of the firm to achieve its goals from the side of profits. Alternatively, the manager exercises it to obtain a high remuneration if the remuneration is related to the firm's profit and he can keep his job [4].

Assenso-okofo, Ali, and Ahmed[5] indicated that the policies followed in the firm related of the CEO remuneration are often linked to the firm's profit and not to how well the company really performs. Because of this, the CEO has a great desire to increase the firm's profit by manipulating the accounting procedures that's mean the practice of EM.

The performance of the institution, which is reported in the financial reports, does not refer only to the firm and its performance, but also refers to the performance of the CEO and his real ability, which can only be reached through the disclosed performance [6]. Despite this, shareholders are interested in maximizing their investment by giving the CEO an appropriate remuneration that motivates him to maximize the firm's performance. However, this can happen through an increase in the company's stock price, but in an opportunistic manner by the CEO to increase his personal benefits [7]. The CEO remuneration may be in the interest of the firm, as the CEO has an incentive to raise the firm's performance because if the firms's performance will be better, the CEO receive a better remuneration.

It is not easy to detect earnings manipulation through the firm's owners, solsiaka [8] suggested in his study that the use of an external audit quality is important to detect fraud. Furthermore, when there is a high quality of auditing it reduces opportunism among executives and prevents the agency theory conflict of interest problems. As shown in Alrshah study that reassuring the users of the financial statements that there is no manipulation in the published financial reports the core of the external auditing procedure.

The auditing process must be of high quality for the external audit to fulfil its purpose. The auditor must perform broader tests to provide high-quality service. This process is reflected in the auditing fees. The audit firm provides services for firm and these firms pay fees, corresponding to the degree of the service provided by the audit company. Many studies used the audit fees (AF hereafter) as a proxy of the external audit because they are considered a very important variable for an external audit, and it is directly linked with the audit firm size and industry specialization [10].

It is known in the Jordanian market that families own a majority of the stock in the firms

and they are in administrative positions in the firm[11],[12]. From this point of view, it is necessary to investigate the relationship between CEO remuneration and earnings management (EM hereafter), and whether this relationship was moderated by audit fees.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This study is based on agency theory, which indicates to management (agent) that opportunistic conduct would be mitigated by the external auditor appointed by shareholders (principals). Management would require better quality monitoring as agency problems become less severe, although additional costs are to bear [13]. Accordingly, by lowering agency problems, the quality of financial reports that are free from errors and bias can be ensured, and it reflects the firm's reality without misleading information [14]. The CEO remuneration and audit fees received great attention in the previous literature [5],[15], [16],[17] to know their impact on EM. Therefore, this study reviews a group of previous literature related to this topic.

2.1 CEO Remuneration and Earnings Management

Healy [18] section of the CEO remuneration into two parts, the first is bonus plans and the second part is performance plans, both of which depend on profits, but the first section is linked to the firm achieving its short-term goals and the second is linked to long-term goals. Healy [18] also pointed the difference in remuneration makes it difficult to know their impact on accounting decisions by shareholders.

The different nature of the CEO remuneration leads to a conflict of interest that the agency theory talked about, where it is possible that the desires of the managers do not match the desires of the shareholders, because the managers desire short-term investments to obtain their quick-collecting advantages, regardless of the risks that the firm will face[19], because they will tend to exercise opportunistic behavior and engagement in EM. Contrary to what investors want to invest in long-term investments that are in the interest of the firm[6]. Several studies dealt with CEO remuneration and its impact on EM, and they presented mixed evidence about that[5],[21],[22],[23].

Qawasmeh & Azzam [23] indicated that CEO is involved in EM to increase the size and performance of the firm in order to obtain higher remuneration. Buyl, Boone, and Wade [24] showed in their result that the first years of the CEO in the firm seek to improve his reputation through the practice of EM. Also, Kim[25] added in his study that the CEO addresses the weakness of the firm's performance through the practice of EM. [6],[22],[26] discovered a significant positive correlation between CEO remuneration and EM. [5],[27],[28],[29] showed a positive correlation between CEO remuneration and EM. However, Hassen [21] showed different results in his study, where he found that there is a negative relationship with EM. Which is contradictory to the previous results, the opportunistic slob exercised by the CEO can be deterred by monitoring remuneration and discouraging the disposition of accounting procedures [12]. as the following hypothesis below:

H1: There is a significant association between CEO remuneration and EM practices.

2.2 Audit Fees and Earnings Management

Laux and Laux[31]indicated in their studies that corporate governance must be used in studies dealing with earnings management, so this study uses audit fees (AF) as a moderating variable. It is difficult to monitor the audit process, which makes it difficult to evaluate audit services. Therefore, the problem of agency theory arises, as it is possible that the auditing firm does not perform its work to the fullest without the ability of the firms owners to know that[32]. Audit firms' pursuit of profit creates pressure on auditors to prioritize profit over professional goals, as they do not have a focus on their work, which affects their ability to report misstatements [33].

If the audit fees are high, the auditing firm will be exposed to pressure from other auditing firms. It is considered competitive pressure among audit firms. These pressures provide an incentive for auditors to allow the practice of EM and not report them [16]. Relying on auditors to detect misstatements can be affected by high audit fees by generating an economic relationship with clients, which provides an incentive for the firm to practice EM and provides a motive for the auditor not to detect opportunistic behaviors [34].

On the other side. The reputation of the auditing firm and the great effort of the auditing and auditing firm is the strongest they are linked to the high auditor fees, as it is an incentive for the auditor to disclose the EM and leads to high-quality profits [35].In previous investigations, the association between audit fees and EM yielded a variety of results.[16],[36],[37] found a positive association between AF and EM. [33],[38]They revealed that the association between AF and EM is an significant positive association. Ye, Gao and Zheng[39]documented in his study that the association between AF and EM is negative.[8],[40] documented a negative and significant relationship between AF and EM. as the following hypothesis below:

H2: The audit fees moderate the association between CEO remuneration and EM practices.

3 RESEARCH METHODOLOGY

The study examines the association between CEO remuneration and EM and test whether AF moderates the relationship between CEO remuneration and EM. This study focused on data published from 2015 to 2019particularly from service and industrial firms listed on the Amman Stock Exchange. The financial firms were excluded due to their own circumstances in preparing their financial statements [41], as they prepare their financial statements according to different norms and accounting standards[42].

The 81 service and industrial firms were used to conduct this research during the study period. A total of 405 balanced panel data observations were gathered. The research variables were calculated directly from corporate financial records in the ASE website (<http://www.ase.com.jo>).

3.1 Measurement of Variables

This study employed discretionary accruals (DA) as a proxy of EM to measure the EM. Many previous studies[43],[44] which this study followed it to measure the discretionary accruals by using a Modified Jones model (*JDA*)[45]. In addition this study uses an alternative measure for discretionary accruals by using the Kothari model(*KDA*)[46].

$$DA_{i,t} = TAC_{i,t} - NDA_{i,t} \quad (1)$$

Where the *TAC* is the total accruals; the *NDA* is the non-discretionary accruals. in the first must find the total accruals *TAC* by using this equation:

$$TAC_{i,t} = NI_{i,t} - OCF_{i,t} \quad (2)$$

Where the *NI_{i,t}* is the net income before exceptional elements; the *OCF_{i,t}* is the operating cash flows. after that we can found discretionary accruals *JDA* as follow:

$$JDA_{i,t} = TAC_{i,t} - (\beta_0 + \beta_1 (1/TA_{i,t-1}) + \beta_2 (\Delta REV_{i,t} - \Delta REC_{i,t})/TA_{i,t-1} + \beta_3 (PPE_{i,t}/TA_{i,t-1})) \quad (3)$$

This study uses the Kothari[21]model to measure discretionary accruals *KDV* as an alternative measurement for DA by uses the following equation:

$$KDA_{i,t} = TAC_{i,t} - (\beta_0 + \beta_1 (1/TA_{i,t-1}) + \beta_2 (\Delta REV_{i,t} - \Delta REC_{i,t})/TA_{i,t-1} + \beta_3 (PPE_{i,t}/TA_{i,t-1}) + \beta_4 (ROA_{i,t}/TA_{i,t-1})) \quad (4)$$

Where the subscript *i* denotes the firm; the subscript *t* denotes the year; the *TA* is the total assets; ΔREV is the change in operating revenues; ΔREC is the change in net receivables ; *PPE* is the gross property, plant and equipment; and *ROA* is the return on assets.

Our main CEO remuneration measure is the natural logarithm of total CEO remuneration on the year (*CEO*)[7]. This study also used an audit fees (*AF*) is measured by the natural logarithm of total audit fees on the year [36]. Regarding control variables used in this study, we measure the financial leverage (*LEV*) by dividing the total debt on total assets [23]. Firm profitability (*ROA*) by dividing net income on total assets, firm size (*FSIZE*) by the natural logarithm of total assets. This study also used the Market to Book Ratio (*MTB*) [24], (*CURRENT*) by divide the Current assets on total assets to figure the performance of the firm [22], cash flow from operation (*CFO*) by dividing cash flow from operation on total assets[49], inventory (*INV*) by dividing inventory on total assets [25], (*SALES*) by Log of total annual sales and (*GROWTH*) the change of annual net sales over last year sales [49].

3.2 Regression Model

This research investigated the relationship between CEO remuneration and EM, and whether *AF* moderate the relationship between CEO remuneration and EM, we estimate following regression to assess the hypotheses:

$$JDA = \beta_0 + \beta_1 CEO + \beta_2 AF + \beta_3 CEO * AF + \beta_4 LEV + \beta_5 ROA + \beta_6 FSIZE + \beta_7 MTB$$

$$+\beta_8CURRENT + \beta_9CFO + \beta_{10}INV + \beta_{11}SALES + \beta_{12}GROWTH + e_{i,t}(5)$$

$$KDA = \beta_0 + \beta_1CEO + \beta_2AF + \beta_3CEO * AF + \beta_4LEV + \beta_5ROA + \beta_6FSIZE + \beta_7MTB + \beta_8CURRENT + \beta_9CFO + \beta_{10}INV + \beta_{11}SALES + \beta_{12}GROWTH + e_{i,t}(6)$$

4 RESULT AND DISCUSSION

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics for the variables, including their minimum, maximum, mean, and standard deviation. The mean value of KDA is 0.111, which is considerably similar with international evidence by [51]. The mean value of JDA is 0.03, similar to Jordanian evidence [26].

TABLE 1: DESCRIPTIVE STATISTICS

Variables	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
JDA	-0.365	2.106	0.03	0.231
KDA	-0.356	1.748	0.111	0.204
CEO	400	533335	77446	3
AF	1000	148594	14000	2
LEV	0.001	0.959	0.353	0.228
ROA	-0.613	0.387	0.016	0.097
FSIZE	5.658	9.158	7.536	.637
MTB	0.117	12.41	1.239	1.252
CURRENT	0.02	902.165	7.695	59.856
CFO	-0.689	0.835	0.015	0.123
INV	0	0.536	0.048	0.085
SALES	2.104	6.665	4.277	0.788
GROWTH	0.195	0.782	0.508	0.114

TABLE 2: CORRELATION ANALYSIS

Probability	JDA	KDA	CEO	AF	LEV	ROA	FSIZE
JDA	1						
KDA	0.708***	1.000					
CEO	0.096*	0.049	1.000				
AF	0.179***	0.118**	0.252***	1.000			
LEV	0.041	0.042	0.157***	0.335***	1.000		
ROA	0.182***	0.065	0.095*	0.196***	-0.242***	1.000	
FSIZE	0.144***	0.134***	0.325***	0.686***	0.377***	0.279***	1.000
MTB	0.047	-0.067	0.009	0.132***	0.070	0.337***	0.130***
CURRENT	0.035	-0.011	0.003	-0.231***	-0.164***	-0.021	-0.229***
CFO	0.013	0.046	-0.076	-0.094*	-0.083	-0.125**	-0.123**
INV	-0.061	-0.068	0.002	-0.246***	0.010	-0.046	-0.258***
SALES	0.027	0.024	0.075	0.016	-0.034	0.126**	0.038
GROWTH	-0.013	-0.004	-0.063	-0.012	0.037	0.002	-0.030
	MTB	CURRENT	CFO	INV	SALES	GROWTH	
MTB	1.000						
CURRENT	0.062	1.000					
CFO	-0.029	0.053	1.000				
INV	-0.069	0.058	-0.004	1.000			
SALES	-0.048	0.002	0.049	0.094*	1.000		
GROWTH	0.007	0.000	-0.161***	0.019	0.035	1.000	

*, ** and *** represent significance at $p < 0.10$, < 0.05 and < 0.01 , respectively

The mean for CEO is 77446JD which is considerably similar to Jordanian evidence by [27], Who considered that this value is high in the Jordanian environment. This indicates to the power of the CEO and can affect on the decision, the mean value for AF is 14000JD which is considered similar to Jordanian evidence by [54] Where he indicated that the mean value in his study is 14044JD. The table also show that the mean value for LEV is 0.353, This ratio indicates that 35% of firms' assets are through debt. ROA has a mean value is 0.016. the variable FSIZE has a mean value of 7.536. The MTB mean of 1.239, and CURRENT have a mean of 7.695 this indicates that the performance of firms is very low, knowing that there are firms with high performance the maximum value for CURRENT 902.165, also this result indicates that current assets represent 7.69% of the total assets, which is a very low percentage, the mean value of CFO is 0.015 This indicates that firms receive little amounts of operating cash, This finding is identical to the outcome of [26] in his study on Jordanian firms, the INV mean is 0.048 This result indicates the lack of risks resulting from inventory management, as inventory is one of the elements that increase the firm's risks [25], the SALES and GROWTH have mean value 4.277 and 0.508, respectively.

Table 2 present the Pearson correlation analysis of dependent and independent variables. The results show that most of the independent variables are positively related

to one another. The findings suggest that CEO has a positive correlation with DA ($r = 0.048$; $p=0.334$), the AF has a positive correlation with DA ($r = 0.11$; $p=0.027$). since the highest correlation value between the variables in table 3 is ($r = 0.590$; $p=0.000$) between FSIZE and AF, indicating that large firms tend to pay higher for the audit service.

4.2 Main Empirical Results

This study uses the fixed effect regression model to test our hypothesis. Table 3 provides the regression estimates for the effect of CEO remuneration and AF as a moderator on JDA and KDA as the alternative measurement for DA. The results in table 3 indicate a positive and significant association between CEO and DA (JDA and KDA), meaning the CEO remuneration cannot reduce the EM practices when be higher. This result disagrees with the agency theory which said that the CEO's remuneration limits the opportunistic behavior of management. Moreover, this result consists with [6], [22], [26]. Based on this result, we accept the first hypothesis, which proves a significant association between CEO remuneration and EM practices.

TABLE 3: FIXED EFFECT MODEL

Variables	JDA	KDA
CEO	0.001***(19.480)	0.001*** (13.498)
AF	0.132***(4.609)	0.128*** (4.208)
CEO*AF	0.034 (0.806)	-0.018 (-0.483)
LEV	-0.158 (-1.041)	-0.104 (-0.649)
ROA	0.544*** (12.051)	0.296*** (6.842)
FSIZE	0.171 (0.878)	0.222 (0.948)
MTB	0.005* (1.699)	-0.003** (-2.116)
CURRENT	-0.177 (-1.011)	0.019 (0.129)
CFO	-0.142*** (-2.891)	-0.148** (-2.544)
INV	0.928*** (10.440)	0.874*** (6.723)
SALES	-0.198 (-0.782)	0.030 (0.130)
GROWTH	-0.199*** (-4.616)	-0.191*** (-5.554)
C	-0.724 (-0.616)	-1.863 (-1.245)
R- squared	0.305	0.322
F- Statistic	912.3***	1022.45***
No. of obs	405	405

*, ** and *** represent significance at $p < 0.10$, < 0.05 and < 0.01 , respectively.

The result of AF in table 3 indicates to positive and significant association with DA (JDA and KDA). This indicates that when the firm pays high audit fees, it is not necessary to obtain a high-quality audit capable of limiting EM and reducing conflict of interest. This result disagrees with the agency theory. However, this result consists with previous study [33],[38].

As for the combined effect of CEO with the AF on DA the result in Table 3 indicates to a

difference in the results, where a positive and insignificant association was found with JDA, can't curb the opportunistic behavior of the management this explains that when the firm pays heightened remuneration to the CEO and heightened fees for the audit process, it does not help to reduce EM. This result disagrees with the agency theory Which suggested that high audit fees and CEO remuneration can limit EM. Furthermore, a negative and insignificant association with KDA, indicates its ability, but not sufficiently, to limit EM and curb opportunistic behavior of management, this result agrees with the agency theory. According on the previous, the second hypothesis is rejected which states that the AF moderates the association between CEO remuneration and EM practices.

Table 3 also indicates to the results of control variables, most of these variables indicated a significant association with EM. ROA, MTB, CFO, INV and GROWTH have a significant association with DA. Moreover, LEV, FSIZE, CURRENT and SALES have an insignificant association with DA.

4.3 Robustness Analysis

This study contains a battery of tests to provide evidence that the findings are robust to alternative measurements. The tests include the Heteroscedasticity test, the Unit root test and the test for Serial Correlation. In order to rule out biases and confirm that the regression model is significant, this study also tests the data for heteroscedasticity. In order to identify a heteroscedasticity problem in the dataset, this research applied the Modified Wald test for GroupWise heteroscedasticity in a FEM. In table 4 was announced that the p-value is more than 0.1, this meaning the panel data for this analysis has not a heteroscedasticity problem for DA.

TABLE 4: MODIFIED WALD TEST

H0: $\sigma(i)^2 = \sigma^2$ for all i	
Chi2 (81) = 1.1e+05	Prob>chi2 = 0.245

*, ** and *** represent significance at $p < 0.10$, < 0.05 and < 0.01 , respectively.

TABLE 5: UNIT ROOT TEST

Variables	ADF		LLC	
	I(0)	I(1)	I(0)	I(1)
JDA	28.696***	88.957***	65.912	-84.542
KDA	35.664***	78.658***	55.68***	74.657***
AFS	64.788***	48.647***	-35.877**	-87.65**
CEO	301.554**	77.214***	-77.145**	74.211**
LEV	56.32**	41.565***	-74.658***	-78.455***
ROA	124.256***	271.32***	-45.325***	-175.32***
FSIZE	245.32***	45.654***	-49.322***	-49.698***
MTB	78.556***	55.354***	-98.251*	-88.324**
CURRENT	144.56***	211.56***	-69.787	-78.331
CFO	39.655***	104.565**	47.322**	51.325
INV	124.325**	58.554**	45.858*	78.655**
SALES	154.355***	56.325***	204.32***	56.325*
GROWTH	254.322***	78.356***	145.658***	78.524***

*, ** and *** represent significance at $p < 0.10$, < 0.05 and < 0.01 , respectively.

This research conducted the augmented Dickey-Fuller (ADF) and Levin–Lin–Chu (LLC) tests. The primary purpose for performing a unit-root test was conducted to ensure the change in time does not induce a change in the distribution's shape. According to the ADF test, the dependent variable DA has p values less than 0.01, showing the variable is stationary. Table 5 indicates that all the variables in the panel data are stationary.

serial correlation is tested in this study. However, the bias in the model makes it inappropriate for advanced data analysis if the serial correlation is discovered in a dataset [55]. As a result, the Wooldridge test analysis was utilized in this study to discover the serial correlation problem. Table 6 presented the Wooldridge test results. the result revealed that this study hasn't serial correlation.

Table 6: WOOLDRIDGE TEST FOR AUTOCORRELATION

H0: no first order autocorrelation	
F(6,658) = 0.001	Prob>f = 0.688

*, ** and *** represent significance at $p < 0.10$, < 0.05 and < 0.01 , respectively.

5 CONCLUSION

This study examined the relationship between CEO remuneration and earnings management. An alternative method was used to measure earnings management to verify the results of the study. The findings of this research indicated that there is a significant positive association between CEO remuneration and earnings management measured by the modified Jones model and Kothari model. The reason for this is due to the significant increase in the value of these remunerations, as the CEO have a desire to obtain more of these remunerations through the practice of earnings management. Some of the results in this study also indicate that the value of cash flow from operations is low, and the rate of return on assets is also low, meaning that the firm's performance is not good in general until they obtain this remuneration.

On the other hand, the study's findings revealed a positive association between the combine effect of CEO remuneration and AF on DA when using the modified Jones model. This result indicates the inability of the joint effect to reduce EM, as the reason for this is due to the high value of the CEO remuneration, and the high audit costs lead to an economic relationship between the audit firm and the CEO. in addition to that, audit firms which get a high AF for the service they provide become Its goal is profit and not a disclosure of EM. Despite this, the study showed an insignificant negative association between the combined effect of CEO remuneration and AF on DA. We conclude from this the Kothari model is more accurate in revealing the EM than the modified Jones model, so audit costs can reduce the opportunistic behavior of management after the ability of the Kothari model to detect this behavior, but not to a sufficient degree.

This study recommends the necessity of constantly replacing audit firms according to the laws referred to by corporate governance so as not to form an economic relationship with the CEO. This study also recommends the establishment of independent committees to evaluate the firm and collect sufficient evidence to decide the value of the CEO's remuneration is entitled and that this is disclosed in the annual report. This study proposes to study the CEO remuneration based on the shares received by the CEO instead of the monetary remuneration.

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