

# Board Characteristics and Intentions of Earnings Management

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This research aims to investigate the impact of board of directors' characteristics on monitoring earnings management (EM) intentions in Jordan. The characteristics of concern include director certificates in economic sciences, directors' turnover, CEO duality, board member remuneration and board meetings. For this purpose, an empirical analysis of a dataset of all publicly traded services firms listed on the Amman Stock Exchange (ASE) for the period 2014-2017 is conducted by applying logistic regression analysis. This research documents that directors' turnover motivates beneficial EM, whereas CEO duality motivates opportunistic EM in Jordanian services firms. However, the results do not show significant effect of director certificates in economic sciences, board member remuneration and board meetings on monitoring EM intentions. It is recommended that the election of directors be subject to rigorous requirements that ensure the appointment of efficient directors who can distinguish managerial intentions. This is expected to lead to the structuring of an effective internal control system based on proper ethical codes of conduct.

**Key words:** *Corporate Governance, Board of Directors' Characteristics, Earnings Management Intentions, Beneficial, Opportunistic.*

## Introduction

Profits are widely considered one of the most important elements that convey the health and continuity of companies. This in turn has led managers to devise methods that may help to present their companies' financial performance in a manner that differs from the truthful presentation. As a result, many cases of collapse have occurred in recent times due to the manipulation of financial reports. Consequently, the need for mechanisms to monitor companies' managements efficiently and effectively became an urgent need (Arnold and Lange, 2004). Previous literature has established two intentions for managers to engage in EM practices (e.g. Wang et al. 2010); opportunistic EM through which managers aim to

achieve personal interests rather than to maximising the economic value of their companies, and beneficial EM practices that aim to signal companies' future performance and to stabilise their companies' financial indicators.

A board of directors, a corporate governance mechanism, is supposed to work towards enhancing the performance of companies, as it is responsible for the process of monitoring managers' actions and decisions to reduce conflicts of interests that exist between the managers and shareholders of the company, and through which the alignment of the goals of managers and the rest of the stakeholders can be achieved (Idris et al., 2018b).

Consequently, an effective board of directors is based on good characteristics that substantiate the oversight role over management, which in turn contribute to improving corporate governance mechanisms and earnings quality. Therefore, this study aims mainly to test the role of boards of directors in controlling EM intentions, using the data of service companies listed on the ASE. The characteristics of the board of directors examined in this research include certificates in economic sciences, board rotation rate, duality of the chairman, remuneration of the board of directors and the number of board meetings. Although these characteristics have been extensively researched, what distinguishes the current research from previous literature is twofold: first, this research examines the impact of the aforementioned board characteristics on managements' intentions presented as a dichotomous variable. In particular, the dependent variable is developed to capture the opportunistic as well as the beneficial management intentions behind the practice of EM. Several stages have been improvised to arrive at the measurement of the dependent variable. No such approach has been implemented in previous research, according to the researchers' best knowledge. Second, the measurement of the independent variables of the rotation rate of directors and board meeting have been newly developed to better suit the laws and regulations that exist in emerging markets which are less rigorous than those of advanced markets.

## **Literature Review**

### ***Earnings Management - Opportunistic vs. Beneficial***

Managements often make adjustments to their companies' financial numbers for a various amount of goals. In theory, these goals could be categorised in two types of EM purposes, namely, opportunistic or beneficial. Yet Beneish and Nichols (2005) state that it is difficult to distinguish or judge the purpose of management. Previous research has attempted to discover opportunistic and beneficial motives of EM in different situations. As indicated in Yung and Root (2019), the presence of risks of uncertainty in the American economy have occasionally led managers to engage in EM practices to ensure corporate continuity; managers tend to decrease earnings to shift a portion of income to subsequent financial periods. Their research

also finds that on other occasions managers might increase earnings to obtain rewards in appreciation of their efforts.

Another stream of research focuses on the role of corporate governance mechanisms in deterring opportunistic EM. Those mechanisms include characteristics of the board of directors and the characteristics of the committees that emerge from the board of directors. Turegun (2018) confirms that Turkish companies with independent members on their boards tend to manage earnings beneficially, as opposed to companies with executive directors who engage in opportunistic EM. Lin et al. (2011) report that in Taiwanese tourism companies, managements tend to practice opportunistic EM when their ownership is less than 9.67 percent, whereas if the managerial ownership exceeds 9.67 percent, managers may be more likely to engage in beneficial EM.

Apparently, previous research infers conclusions of managements' motives either through the trend of managed earnings (income increasing or decreasing), or the interpretation of magnitude managed earnings as opposed to a certain threshold. The novelty introduced in this current research is the development of the dependent variable where management intentions are found out by transforming magnitudes of managed earnings into a dichotomous variable necessary for the logistic regression. As such, the characteristics of the board of directors could be directly related to the opportunistic or the beneficial intentions behind EM practices.

### ***Board of Directors Characteristics***

The board of directors should possess a balanced mix of competencies necessary to fulfill the role and responsibilities assigned to it. These competencies include experience in identifying risks, adequate knowledge of the nature of the company's business, and familiarity with the laws and legislations in force. A number of the characteristics of boards of directors that reflect the competencies are discussed below, due to their effect on the practice of EM, and hence, considered as the independent variables. They are: the presence of certificates in economic sciences held by members of the board of directors, the rotation rate of the board of directors, duality of the chairman, remunerations of a member of the board of directors and the number of board meetings.

### ***Certificates in Economic Sciences***

Previous studies substantiate the positive effect of certificates in the economic fields held by directors and CEOs on the financial performance of companies (Darmadi, 2013). This suggests that directors pursue the interest of companies, and relevant education facilitates such endeavours. According to Garcia et al. (2019), such directors are able to distinguish proper alternatives available to managements and to understand market and economic

challenges on a wide scale. In regards to the practice of EM, it is then plausible to assume that directors being educated in economics would prevent opportunistic EM, and allow beneficial EM. Yet the literature does not prove that conclusively. While some studies confirm that education in economics or financial expertise of the members of the boards of directors helps to reduce opportunistic EM practices (e.g. Bravo and Alcaide, 2019; Lee and Park, 2019), other studies show that the higher the number of members holding degrees in economic fields or financial expertise, the higher the practices of opportunistic EM (e.g. D'Amato and Gallo, 2019), not to mention those studies that present the inability to find a relation between the two variables whatsoever (e.g. Florencea and Susanto, 2019; Apergis, 2019).

It is clear that the aforementioned studies have hypnotised the relation between certification in economic fields and only the opportunistic intentions behind EM practices, although it is possible the increase in EM practices could have been motivated by beneficial purposes such as signalling or income smoothing. To contribute to previous literature, this research utilises the characteristics of the logistic regression in linking the presence of directors' education to either opportunistic or beneficial EM. Accordingly, the first research hypothesis states:

**H1:** There is an effect from certificates in economic sciences possessed by directors in controlling EM intentions.

### ***Board Rotation Rate***

Unlike other board characteristics, board rotation rate has not been researched as extensively. This particular characteristic indicates the experience of board members and the period this experience it is utilised in the board. Low rotation rate is a common proxy for firm-specific knowledge because firm-specific knowledge accumulates as tenure builds. For instance, experience in the business sector and the company's internal system are acquired and grown during the member's presence on the company's board. Vafeas and Vlittis (2019) state that a long amount of time is required for a director to become effective and involved in supervisory or directive roles. Consistent with firm-specific knowledge facilitating effectiveness, prior research finds that: the negative relationship between board independence and financial statement fraud is strengthened with longer tenure (Beasley 1996); the average or high rotation of independent audit committee members is negatively associated with abnormal accruals (Bédard et al., 2004); and audit committee tenure is associated with lower EM (Yang and Krishnan, 2005). The latter study further supports the benefits of firm-specific knowledge through the use of rotation and is consistent with rotated directors being a means of maintaining firm-specific knowledge when the audit committee experiences turnover.

This current research examines a different way of measuring directors' turnover and its impact on the oversight role over EM intentions. The rotation rate of individual directors replaced might provide a more accurate measure than the difference in board size. Accordingly, the second research hypothesis states:

**H2:** There is an effect from the directors' rotation rate on controlling EM intentions.

### ***Duality of the Chairman***

From an agency theory perspective, the separation of duties of the chairman and Chief Executive Officer (CEO) lies in interest of all stakeholders. The rationale is that the existence of an executive role for the chairman might compromise the primary role of monitoring the management (Da Costa and Martins, 2019). In regards to EM, evidence of the impact of the duality of chairman roles is somewhat inconclusive. Some results show a positive relationship between duality and abnormal accruals (e.g. Bassiouny et al., 2016). Other findings posit that in small or family owned companies, the duality of roles is in the interest of investors because the chairman would represent the largest percentage of ownership interest. Contradictory to the aforementioned, there are results that convey no effect of duality on EM (e.g. Azzoz and Khamees, 2016; DeBoskey and Zhou, 2019).

A possible interpretation of the lack of consensus concerning the effect of duality on EM is managerial intent. On one hand, it is plausible to engage in beneficial EM practices such as income smoothing, which is facilitated when the executive role is assumed by the chairman of the board of directors. On the other hand, the impact of the dual roles may assist the chairman in managing earnings opportunistically in order to gain personal interest at the expense of other stakeholders (i.e. channelling the wealth).

Since previous research and theory agree in one way or another on the importance of duality's effect on EM, the third research hypothesis states:

**H3:** There is an effect from duplicating the duties of the chairman of the board of directors in controlling EM intentions.

### ***Remuneration of Directors***

Board member's rewards may have an important role in the board's efficiency in performing its oversight role in companies. Rewards might positively affect members' affiliation and encourage them to try to preserve the rights of shareholders. Doucouliagos et al. (2007) provide evidence supportive of the importance of board member's rewards in motivating them to perform their duties and responsibilities. In some cases however, research has shown

that the stability of remunerations' amounts makes it difficult to measure their impact except in the long term (e.g. Aslam et al., 2019), and equal remunerations may not be encouraging enough for directors to spend extra effort to prevent opportunistic EM (e.g. Alqatan et al., 2019). Moreover, Ye (2014) reports that compensating independent directors with higher cash pay compromises their effectiveness in financial reporting oversight.

Evidently, the results of previous research are interpreted on the basis of the opportunistic hypothesis of EM; the investigation relates to the sufficiency of directors' rewards in mitigating opportunistic EM. This current research attempts to add to the literature through considering the beneficial aspect, along with the opportunistic one, in the formulation of its hypotheses concerning the effect of directors' rewards. Accordingly, the fourth research hypothesis states:

**H4:** There is an effect from the remuneration of a member of the Board of Directors on the control of EM intentions.

#### ***Number of Board Meetings***

The number of board meetings is an indication of effective participation by the board of directors in exercising the oversight role (Xie et al., 2003). A considerable amount of research has examined the effectiveness of the board of directors in monitoring and providing advice to managers through the number of meetings held. The majority of this research confirms there is a positive impact of holding board meetings on reducing opportunistic behaviour through monitoring management activities. This might be due to making the board of directors closer to the internal control system (e.g. Dalton and Dalton, 2005), or from the providing of advice more frequently to guide managements to work in the interest of shareholders (e.g. Buchdadi et al., 2019)

It seems that most of the previous studies emphasise the importance of the number of board meetings in reducing opportunistic EM and disregard beneficial intentions that motivate managers to engage in EM practices. Accordingly, the fifth research hypothesis states:

**H5:** There is an effect from the number of board meetings on controlling EM intentions.

#### **Research Methodology**

In order to achieve the objectives of this study and to test its hypotheses, the data is obtained from the annual reports of the service companies listed on the ASE during the period 2014-2017 ([www.ase.com](http://www.ase.com)). The service sector studied here is not a large amount of research applied to this sector as most studies focus on the banking and industrial sectors (Central

Bank of Jordan, 2018). The total number of service-listed companies as of the end of 2017 is 46 firms. Four firms are excluded from the analysis due to insufficient financial and non-financial data. Therefore, the research sample includes 42 firms for the four-year period.

### Measurement of the Management Intentions

The dependent variable, which is the intentions of EM, is developed via several stages. In the first stage, abnormal accruals are estimated using the Modified Jones Model (1995).

$$NDA_t = a_1 + a_2[(\Delta Rev_t - \Delta Rect_t / A_{t-1})] + a_3(PPE_t / A_{t-1}) + e$$

Where:

**NDA<sub>t</sub>**: Normal accruals for the period t

**ΔRev<sub>t</sub>**: Change in revenues for the period t

**ΔRect<sub>t</sub>**: Change in accounts receivable for the period t

**PPE<sub>t</sub>**: Property, plant and equipment for the period t

**A<sub>t-1</sub>**: Lagged total assets

**E**: Error

In the second stage, abnormal accruals are divided into income-increasing (positive residuals) and income decreasing (negative residuals). In the third stage, the following criteria are adopted to identify opportunistic and beneficial intentions. Bearing in mind that these criteria are based on abnormal accruals, managerial intentions rely on the realisation of estimated normal accruals in the following period. That is, in the income-increasing category, companies with positive abnormal accruals are expected to be realised in the following period if managerial intentions were beneficial, and vice versa. For instance, signalling future revenues is substantiated by having normal accruals in the following period exceeding those of the current period. Otherwise, such positive abnormal accruals would not indicate signalling but rather an opportunistic purpose such as increasing management's bonuses.

In the income-decreasing category, companies with negative abnormal accruals are expected to experience decreased normal accruals in the following period if managerial intentions were beneficial, and vice versa. For example, shifting income from the current period to the following period in which income is expected to decrease is considered income smoothing. Otherwise, such shifting of income would be serving the personal interest of managers at the expense of the company.

These criteria are summarised as:

- Income-increasing EM is considered,  
Beneficial:  $NDA_t < NDA_{t+1}$   
Opportunistic:  $NDA_t > NDA_{t+1}$
- Income-decreasing EM is considered,  
Beneficial:  $NDA_t > NDA_{t+1}$   
Opportunistic:  $NDA_t < NDA_{t+1}$

In the final stage, the value of (1) is assigned to observations of beneficial EM, and the value of (0) to observations of opportunistic EM.

### *The Empirical Model*

Logistic regression is employed to test the research hypotheses. The research empirical model can be mathematically presented as follows:

$$MI_t = a_1 + a_2(DC_t) + a_3(DT_t) + a_4(Dual_t) + a_5(DR_t) + a_6(BM_t) + a_7(Size)$$

Where:

**MI:** Dichotomous variable of managerial intentions, where beneficial EM is assigned the value of 1, and opportunistic EM is assigned the value of 0.

**DC:** Percentage of directors holding certificates in economic sciences to total number of directors.

**DT:** Directors' rotation (turnover), which is measured by calculating the ratio of replaced members to the total number of members of the board of directors. The names of members of the board of directors are compared between the current year and the previous year by dividing the number of members replaced in their personal capacity by the total number of board members for the current year.

**Dual:** Duality of the chairman, which is measured by giving the company that does not have duality in the duties of the value board chairman (0), and giving the company that has duality in the functions of the value board chairman (1).

**DR:** the amount of remunerations of a member of the board of directors,

**BM:** Number of board meetings attended by more than half of directors.

## **Analysis and Results**

### *Descriptive Statistics*

Table (1) below shows the mean, standard deviation and minimum and maximum values of the study variables.

**Table 1:** Descriptive statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
MI	0.00	1.00	0.50	0.502
DC	0.00	1.00	0.174	0.226
DT	0.00	1.00	0.505	0.201
Dual	0.00	1.00	0.292	0.456
DR	0.00	50,000	9,582	10,512
BM	0.00	19	6.96	3.597
Size	5.920	9.250	7.588	0.635

The mean and standard deviation of the Managerial Intentions (MI) variable are 0.5 and 0.5015, respectively, meaning that the sample is divided into two equal parts. While some boards consist of directors holding certificates in economic sciences (DC), the mean of 0.174 shows that just over one-sixth of the directors hold relevant certificates. The descriptive statistics show that the service companies rotate almost half of the board of directors (DT) with a mean value of 0.505. With regard to CEO duality (Dual), around one-third of service companies listed on ASE has chairmen who also serve as CEO. The mean value for the remuneration of directors reached JD9582. However, it seems that the remuneration amounts vary significantly among service companies as the standard deviation value of 10,512 shows. Most Jordanian service companies hold board meetings (BM) at a rate of 6.95 and this rate corresponds to the guide for the rules of corporate governance of public shareholding companies listed on ASE. The control variable (Size) has a mean of 7.588, which is similar to prior research in Jordan (e.g. Idris et al., 2018a).

### ***Logistic Regression Results***

Table (2) indicates that the model does represent the relationship between board characteristics and the intentions of EM as the value of model's Chi square of 18.551 is statistically significant. In addition, the characteristics of the board of directors in the model as a whole can explain 13.9 percent of the change in EM intentions, which is a fairly good percentage, as indicated by the value of the determination coefficient (Cox & Snell R Square = 0.139).

**Table 2:** Logistic regression analysis results of managerial intentions and board of directors' characteristics

Variable	Coefficient	t-statistic
Intercept	-3.139	0.160
DC	0.037	0.452
DT	1.707	0.043**
Dual	-0.993	0.011**

DR	0.000	0.485
BM	-0.649	0.386
Size	0.373	0.215
Cox & Snell R Square	13.9%	
Chi Square	18.551**	

The logistic regression results show that there is a relationship between the rotation of the board of directors (i.e. turnover) and the intentions of EM in service companies listed on ASE. The positive variable coefficient indicates that high director turnover motivates managers to practice beneficial EM. A viable interpretation is that companies might replace directors for several reasons, one of which is the board's attempt to include new competencies and improve the board's performance by replacing less affective members with others who are more experienced in the field of business. These new directors will probably perform more efficiently and effectively in a manner that stimulates managers to act at the best interest of stakeholders, and hence practice beneficial EM. As such, the theoretical implication is supportive of the stewardship theory that states that managers are good stewards of the company. This new finding might be considered an addition to the literature as directors' turnover has not been researched under the beneficial perspective of EM before. The result of the relationship between CEO duality and the intentions of EM in service companies listed on ASE is statistically significant. The negative variable coefficient indicates that CEO duality motivates managements to exercise opportunistic EM, supporting the contradiction between the oversight and the executive roles. Therefore, it might be important to separate the two positions in accordance with the agency theory predictions and its corporate governance deterrence mechanisms (e.g. Bassiouny et al., 2016; Da-Costa and Martins, 2019).

In regards to the remaining variables, the logistic regression results show no statistically significant effect from the presence of certificates in the economic sciences, director's remunerations and number of board meetings on the managerial intentions of EM. The insignificant coefficient of (DC) proves that practical experience, rather than relevant certificates, is more important to the financial practices of managements (e.g. Florencea and Susanto, 2019; Apergis, 2019). Moreover, (DR) does not motivate directors to control the intentions of managers towards the practice of EM. This is consistent with the results of Mun et al. (2019) and Aslam et al. (2019). Finally, (BM) are ineffective in controlling EM intentions in service companies even if they have a quorum (e.g. Habbash, 2010; Ngamchom, 2015).

## **Conclusion**

This research examines how boards of directors can influence the intentions of managements behind the practice of EM, in particular, whether managements engage in beneficial or opportunistic EM. Using logistic regression to properly measure managerial intentions, the results prove that management practise beneficial EM when new directors are introduced to boards more frequently. A contradictory result is achieved concerning CEO duality. The remaining characteristics of the board of directors do not seem to influence the EM practices of managements in service companies listed on the ASE.

Naturally, this research comes with a few limitations. First, the research sample consists of service companies listed on the ASE. Other non-listed service companies are ignored. Therefore, the findings and conclusions might not be able to be generalised for the entire sector. Second, neither the directors' independence nor the control variables in the model of this research are exhaustive. The availability of director's independence is limited in the annual reports of the sample which in turn prevents the inclusion of such an important characteristic. Following the aforementioned limitations, future research could include board independence along with other characteristics. Furthermore, the findings could also be validated using different sectors and contexts of emerging countries.

While the majority of prior research base their recommendations on the hypothesised opportunistic EM (Alexander, 2010), the findings of the current research might be useful to policymakers concerning imposing regulations to control EM practices rather than prevent them. This is to substantiate the sought effectiveness of boards of directors.

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