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The Effects of the Relationship between Board Diversity and Earnings Quality: Evidence from Firms on the Amman Stock Exchange

Dr.Tareq Mohammad Almomani
Assistant Professor, Accounting Department, Jadara University-Jordan

Abstract: Purpose – The study examines the relationship between board diversity and earnings quality on a sample of listed companies on the Amman Stock Exchange (ASE).
Design/methodology/approach – The sample was 68 firms from 2010 to 2019 for a total of 680firm-year observations.Secondarydata were collected from the annual reports of firms listed on the ASE.Earnings quality was measured using Kothari's (2005) discretionary accruals (DA) model. Board diversity was measured using board gender, board experience, board age, and board religion.
Findings – Board gender, board experience, and board age significantly affect earnings quality, but board religiondoes not.This suggests that corporate governanceprovides significant explanation for earnings quality.
Practical implications – This study evinces the effectiveness of a diverse board in enhancing the earnings quality of firms listed on the ASE. In addition, this study suggests the significant role of board of directors in enhancing corporate governance.Jordanian policy makers, in this case the ASE,should promote a more diverse board of director and ensure the effectiveness of corporate governance of the listed firms.
Originality/value – This is one of the earliest Jordanian study to examine the effects of board diversity characteristics on earnings quality. This study also covereda long period,from 2010 to 2019.

Keywords: Earnings quality, board diversity,board of directors,Amman Stock Exchange (ASE).

I. Introduction:

Investment decisions mainly rely on the financial reports of companies that are prepared according to accounting standards.Despite the multiplicity of corporate performance measures, net profit remains the most important measure of company performance.Accrual-based accounting is one of the most prominent determinants of net profit, as it permits subjective judgments and estimates that could influence the quality of earnings.Managers can exploit the flexibility permitted by accounting standards and policies and use their own accounting estimates to distort profits and achieve their personal interests at the expense of stakeholders.This practice is called earnings management (Almomani, et al, 2020).

In the business world of today, top managers and employees have become increasingly diverse in their demographic and socioeconomic profile:gender, ethnicity, age, education, tenure, experience, and expertise, among others.Within such a diverse group, it appears common that individuals belonging to a minority or lower status group, such as women and minority ethnic individuals, become marginalized.In response, there have been increasing efforts to promote equal opportunity for different groups in the workplace (Jackson & Alvarez, 1992 and Ilaboya & Ashafoke, 2017).

Board diversity is one of the factors that may affect information quality, and accordingly financial report quality.But as a variable, board diversity has not gained enough attention in the domain of accounting and auditing, and it is not considered as importantas other board characteristics.There is also little interest in the corporate governance literature on the subject of gender diversity within the board of directors (Gul, et al, 2013).

Nonetheless, in practice, diversity in top corporate positions has received increased attention in the last decade of the twentieth century as a result of legislative reforms, scandals, and financial crises. Since then, researchers have focused on the effects of appointing females as board members, but the representation of female board membersstill varies across countries due to their dissimilar legislations and beliefs (Thiruvadi and Huang, 2011).

Following the corporate scandals of WorldCom, Enron, and Tyco International, among others,industry practitioners have called for more diverseboard of directors. Board diversity is established on the resource dependence theory,which views board members as not only agents of the shareholders but also as a strategic resource for the firm (Pfeffer and Salancik, 1978). That is, board members are an important human capital resource that can enhance company performance.

The resource dependence theory founds the explanation for the important roles of the board of directors.This theory posits thatthe board of director carries not only the important function of providing timely information to executives but also extract resources that can enhance the efficiency and performance of the company through the professions and communities that they are associated with. By providing timely information, board directors can absorb environmental uncertainty, thus improving company performance (Razali et al., 2008).

Proponents of the resource dependencetheory argue that the role of the board is not only to resolve agency disputes, but it is also an important strategic resource for the company. Therefore, the theorists advocate for corporate board diversity, as they assume that board members of diversegender, cultural backgrounds, and skills could become a strategic resource for the company,thus improving its performance. This assumption forms the theoretical basis for corporate governance research on board diversity (Johnson et al, 1996).

Based on the above discussion, this research tested the association between board diversity and earnings quality on a sample of firms listed on the Amman Stock Exchange (ASE). This study is significant since such research is still rare in the Arab world. Additionally, similar research has mostly been conducted in developed countries, whose cultural and social factors may significantly differ from those of developing countries like Jordan. The research problem is encapsulated in the following research question:What are the effects of board diversity characteristics on the earnings quality of ASE-listed firms?

The remainder of the paper is organized as follows. Section two reviews relevant empirical studies and formulates the research hypotheses. Section three explains the methodology, while section four presents and discusses the main findings. The final section concludes the study, explaining the implications of the findings, limitations of the study, and recommendations for future research.

II. Literature Review and Hypotheses Development:

There is growing interest in the literature on the role of board diversity as a determinant of differentials in corporate governance mechanisms. Board diversity provides several advantages,such as promoting better marketplace understanding, enhancing problem solving effectiveness, andimproving creativity and innovation (Carter et al., 2003). Board diversity is defined as the heterogenous qualities of its members in terms ofmanagerial background, expertise, education, values, learning style, age, personality,and so forth (Coffey and Wang, 1998).

Sarhan et al. (2018) examined the effect of board diversity on executive pay and corporate performance in Middle East and North Africa. The sample was 100 firms from Oman, Jordan, Egypt, United Arab Emirates, and Saudi Arabia in 2009-2014, forming a balanced panel of 600 firm-year observations. The results indicated that nationality and gender, as indicators of board diversity, are positive predictors of financial performance.Better-governed firms exhibit stronger relationship between board diversity and corporate performance. Additionally, the gender, ethnicity, and nationality of board members enhance the sensitivity of pay-for-performance but not the actual executive pay.

Ilaboya and Ashafoke (2017) tested the association between board diversity and firm performance in Nigeria. They analyzed secondary data collected from banks listed on the Nigerian Stock Exchange from 2010 to 2015. The study found a negative non-significant relationship between ethnic diversity and firm performance and between nationality diversity and firm performance. Gender diversity has a significant negative relationship with firm performance. The authors recommended regulatory bodies to make policy statements to encourage the inclusion of more women in the board, thus improving firm performance. This is consistent with the theory of critical mass, which posits that there must be an optimum number of female board members to create actual improvement on firm performance.

Lee-Kuen et al. (2017) investigated the relationship between board gender diversity and financial performance of Bursa Malaysia firms in 2009-2013. Firm performance was measured as Tobin's Q, whilegender diversity was measured using four different proxies. The authors analyzed unbalanced panel data to test their hypotheses. The study suggests that the number of female board members is positively correlated to financial performance. Therefore, the Malaysian corporate governance landscape will likely continue to witness the increased appointment of female board members.

Enofe et al. (2017) investigated the relationships between board ethnicity, gender diversity, and earnings management in non-financial firms. More specifically, it examined how foreign directorship, female board members, board size, board independence, and firm size relate to earnings management. The sample was non-financial firms listed on the Nigerian Stock Exchange in 2014. The data were analyzed descriptively and using correlation and multiple least squares (MLS) regression. Foreign directorship, female board members, and board independence significantly reduced earnings management. These results suggest that firmswith foreign shareholders should appoint some of them into the board to encourage or discourage earnings management practices. Women of different qualifications should constitute one-third of the board to reduce earnings smoothening.

McGuire (2011) examinedthe relationship between religion and financial reporting. This study hypothesized that it is less likely for firms sited in religious areas to engage in financial reporting irregularities,since the literature evinces that religiosity is inversely related to the acceptance of unethical business practices. The authors confirmed this hypothesis, as they found that firms whose headquartersare in areas with strong religious social norms generally exhibit fewer financial reporting irregularities. The study also examined whether religiosity influences the earnings management method of managers. It found that religiosity is positively associated with real earnings management but negatively related to abnormal accruals. This suggests that the managers of such firms prefer real earnings management over accruals manipulation.

Buniamin et al. (2012) investigated the association between board diversity and discretionary accruals practices. The authors based their hypotheses on the agency theory and resource-based view theory. The authors analyzed secondary data collected from the 2008 annual reports of top 100 companies in the Malaysia Corporate Governance Index (MCGI). The modified Jones model was used to measure discretionary accruals. Board diversity was measured using five variables: board independence, board size, competency, remuneration, and gender. The study detected discretionary accruals in the sample. Female board members positively affect discretionary accruals, suggesting that more female board members may lead to higher discretionary accruals. In addition, cash flow negatively affects discretionary accruals, which suggests that companies with lower cash flow tend toincrease their earnings using accruals.

These studies have shown that board diversity characteristics and earnings quality are significantly related.In general, board diversity characteristics improve earnings quality. Nonetheless, certain characteristics do not provide clear improvement in earnings quality. These studies form the basis for the measurementof board diversity characteristics. They also contribute to the development of the general framework and hypotheses of this study. Results of past studies, especially those in Jordan, can also be compared to the present research. Directors of diverse attributes and background are able to offer different perspectives in discussions and decision making. The resource dependence theory suggests that board diversity increases questioning, criticizing, advising, and counselling, which can enhance the degree of moral or ethical development of a firm (Labelle et al. 2010). Since quality can be thought as a qualitative response by the board, it is likely that board diversitycan improve the quality of earnings. Based on discussions of the extant literature and the resource dependence theory,some studies in the US have examined the effects of individual attributes related to board diversity, mainly gender, on earnings quality. These studies have found the significant positive effect of gender diversity on earnings quality (Krishnan and Parsons2008; Srinidhi et al. 2011). Therefore, the study formulated the following hypothesis:

H1: *Boards of directors' gender has no effect on the earnings quality of the listed firms at Amman Stock Exchange.*

H2:*Theboards of directors' experience has no effect on the quality of earnings of the listed firms atAmman Stock Exchange.*

H3*: Theboards of directors' age has no effect on the quality of earnings of the listed firmsat Amman Stock Exchange.*

H4*: The religion of boards of director's members has no effect on the quality of earnings of the listed firms at Amman Stock Exchange.*

III. Methodology:

The population of the study was manufacturing and services firms listed on the ASE. There was a total of 96 firmsby the end of 2019. The final sample was 68 firms, or 70 percent of the population, and the study period was 2010-2019. The total firm-year observations were 680. To be included as a sample, the firm should satisfy two criteria.

Past studies have offered different measures of earnings quality. There are several indicators of earnings quality, one of which is earnings persistence. Richardson et al. (2005) developed a model to measure future earnings persistence. Other researchers have measured earnings quality using absolute discretionary accruals. This value can be computed using the Jones model (1991), which was later modified by Dechow et al. (1995). This is the most common model of earnings quality. Absolute discretionary accruals are inversely related to earnings quality.Meanwhile, corporate governance is typically peroxide by board of director characteristics.
The study employed the Jones model (1991) modified by Dechow et al. (1995) to measure earnings qualitybecause it is the most established model. The model uses discretionary accruals as an indicator of earnings quality. Absolute discretionary accruals are inversely related to earnings quality, so a high absolute value suggests low earnings quality.The absolute value is computed using the following equation.

Table (1): Measurement of variables:

Variable	Type of variables	Measurement
Board gender	Dummy	Dummy variable, the value of 1 If all members are male and 0 otherwise.
Board experience	Dummy	Dummy variable, the value of 1 if the one or more of member was a government official and 0 otherwise.
Board age	Dummy	Dummy variable, the value of 1 If the member's age more has 10 year different with the range and 0 otherwise.
Board religion	Dummy	Dummy variable, the value of 1 If all members are Muslim and 0 otherwise.
Earnings Quality	Continues	The value of the equation of Kothari, et al. (2005) model.
firm size	Continues	Log. of total asset
leverage	Continues	Debit ratio

IV. Results and Analysis:

Descriptive statistics

Based on the descriptive analysis as summarized in Table (2), the mean value of board gender (BGEN) is (0.819). This indicates that most board members in Jordanian companies listed on the ASE are male. Moreover, show that the mean value of board experience (BEXP) is (0.484). This indicates that most board members in Jordanian companies listed on the ASE do not have government experience. With regard to the board age (BAGE), it appears from the average of board age is (0.887). This indicates that most board members ages in Jordanian companies listed on the ASE are close. The mean of board religion (BREL) is (0.444). This indicates that some board members in Jordanian companies listed on the ASE are Muslims.

Table (2): Descriptive Statistics

Variable	Minimum	Maximum	Mean	Standard deviation
BGEN	0	1	0.819	0.386
BEXP	0	1	0.484	0.501
BAGE	0	1	0.887	0.316
BRILG	0	1	0.444	0.498
EQ	-0.98	-0.42	0.74	0.280

To determine whether the data were fit for analysis and whether the results could accomplish the research objectives, several diagnostics tests, such as normality, multicollinearity, and correlation, were carried out. Table (3) shows the results of these tests.

Table (3): Test of Multicollinearity and Autocorrelation

Variables	Multicollinearity		Autocorrelation
	Tolerance	VIF	Durbin-Watson
BGEN	0.582	1.718	
BEXP	0.879	1.137	
BAGE	0.653	1.531	1.816

BRILG	0.918	1.089	
FSIZE	0.794	1.259	
FLEV	0.828	1.207	
BGEN	0.582	1.718	

Normality was tested for all variables. Because the sample constituted 70 percent of the population, the model can be considered as valid and useful. Tolerance and variance inflation factor (VIF)were computed for each variable to detect any overlap between the independent variables. None of the VIF values were higher than 10, indicating that the independent variables did not overlap.The model could thus be used to explain the dependent variable. The Durbin-Watson test was used to detect autocorrelation. The computed statistic was 1.816, indicating the absence of autocorrelation among the variables. As Gujarati suggested (2003, p. 496), a D-W statistic of between 1.5 and 2.5 is acceptable (Gujarati, 2003, P, 496).

Hypotheses Testing

Table (4) shows that board diversity characteristics have a significant linear relationship with earnings quality. The *f*-value was 18.096, $p < 0.001$. Therefore, the null hypothesis was rejected,while the alternative was supported.The coefficient of determination (R^2) was 0.7143, which means that the independent variables explained 71.43 percent of the variance in earnings quality. These results indicate the existence of a linear relationship between corporate governance and earnings quality.Lower adjusted $R^2$is expected, as therewould be many other variables that could explain earnings quality.

Table (4): Model Estimation Results

Model	$EQ_{t,i}=\alpha_{t,i}+\beta_1 BIG4*GEN_{t,i}+\beta_2 BBIG4*EXPt,i+\beta 3BBIG4*AGEt,i+\beta 4BBIG4*RELt,i+\beta 5FSizet,i+\beta 6FLevt,i+\varepsilon t,i$			
Variable	**Coefficient (Beta)**	**Std.Error**	**(T-statistic)**	**Prop.**
BGEN	0.0465	0.0234	-1.9905	0.047*
BEXP	0.0432	0.0191	2.2570	0.024*
BAGE	-0.0489	0.0218	-2.2461	0.025*
BRILG	0.0074	0.0213	0.3494	0.727
FSIZE	-0.1161	0.0479	-2.4216	0.016*
FLEV	-0.0017	0.0008	-2.1445	0.032*
R-squared	0.7143			
Adj. R-squared	0.6748			
F-statistic	18.096			
Prob(F-statistic)	0.0000			
Durbin-Watson stat	1.2231			
EQ: Earnings quality, □□□□: Board of director Gender, BEXP: Board of director experience, BAGE: Age of Board of director, BREL: Board of director Religion. **A* Significant at the level ≤ 5%.**				

Hypothesis Testing: board gender

Table (4) shows that board gender had a significant negative relationship with earnings quality,$\beta = 0.0465$, $t = -1.9905$, $p = 0.047$. The null hypothesis was rejected, and the alternative was supported. This result means that the gender of board members negatively affects the earnings quality of firms listed on the ASE. Board gender thus does not enhance the quality of earnings,likely because most board members are male.This result was unexpected, but it nonetheless supports Enofe et al. (2017), who reported the significant effect of board genderon earnings quality, and Lee-Kuen et al. (2017), who reported the significant effect of female board members on earnings quality.

Hypothesis Testing: board experience

Table (4) shows that board experience had a significant positive relationship with earnings quality, $\beta = 0.0432$, $t = 2.2570$, $p = 0.024$. Therefore, the null hypothesis was rejected, and the alternative was supported.This result suggests that the experience of board members positively affects the earnings quality of the listed firms. Listed firms whose board members previously held senior government positions exhibited higher earnings quality.

Hypothesis Testing: board age

Table (4) shows that board age had a significant negative relationship with earnings quality, β = -0.0489, t = -2.2461, p = 0.025. Therefore, the null hypothesis was rejected and the alternative was supported. This result suggests that the age of board members negativelyaffectsthe earnings quality of firms listed on the ASE. This result supports Enofe et al. (2017), who found a significant association between board age and earnings quality.

Hypothesis Testing: board religion

Table (4) shows that the board religion had no significant relationship with earnings management, β = 0.0074, t = 0.3494, p = 0.727. Therefore, the null hypothesis was accepted, and the alternative was rejected. This result means that the religion of board members does not significantly affect earnings quality. In other words, board religion does not improve the quality of earnings, likelybecause most board members are Muslims. This result contradicts McGuire et al.(2012), who reported the significant effect of board religionon earnings quality.

V. Conclusions and future research:

The objective of the study is to examine the effects of board diversity characteristics (board size, board independence, board gender, board experience, board age, and board religion) on earnings quality on a sample of firms listed on the Jordanian ASE. The results showed that all board diversity characteristics, except board religion,have a significant role in enhancing earnings quality. These findings may be useful for Jordanian regulatory bodies to promote corporate governance effectiveness. Furthermore, they may also create more awareness for practitioners (investors, bankers, etc.) on the role of board of directors in enhancing the quality of financial reports. Another implication of these findings is therole of audit firms to enhance the effectiveness of the board of directors, thus assisting investors and bankers in their investment and lending decisions. The findings may also be considered by regulators for the improvement of the Jordanian code of corporate governance.

This research focused only on four board diversity characteristics.Future research may extend this work by including more factors or other corporate governance characteristics. In addition, the current study included only one control variable.Future research could include more control variables like performance, risk, and audit quality.

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