


**THE IMPACT OF THE BOARD OF DIRECTORS' CHARACTERISTICS AND OWNERSHIP STRUCTURE ON THE SUSTAINABLE DEVELOPMENT DISCLOSURE IN THE BANKS LISTED ON THE AMMAN STOCK EXCHANGE**

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ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 27 January 2023</p> <p><b>Accepted</b> 23 March 2023</p> <p><b>Keywords:</b></p> <p>Corporate Governance; Corporate Sustainability; Sustainability Reporting; Bank; Jordan.</p> <div data-bbox="172 1077 480 1323" style="text-align: center;">  <p>PRE-REGISTERED OPEN DATA OPEN MATERIALS</p> </div>	<p><b>Purpose:</b> This study tries to comprehend how corporate governance (CG) affects disclosures on economic, social, and environmental sustainability.</p> <p><b>Theoretical framework:</b> Recent literature has reported that CG has significant impact on disclosures on economic, social, and environmental sustainability. However, there is still much to investigate and learn about CG in sustainability process.</p> <p><b>Design/methodology/approach:</b> For the time period spanning 2015 to 2021, information about study variables was gathered from thirteen (13) banks listed on the Amman Stock Exchange (ASE) through annual reports and quantitative approach.</p> <p><b>Findings:</b> Study findings showed that CG components improve sustainability disclosures in general. The study results indicated that, a large board with a female director and a Corporate Social Responsibility Committee (CSRC) is better able to audit and control management choices related to sustainability issues (whether they be economic, environmental, or social) and produces better sustainability disclosure.</p> <p><b>Research, Practical and Social implications:</b> This study is proposed to help bank managers understand the real impact of corporate governance practices on sustainability, especially economic, environmental and social indicators of sustainability and how to improve and develop them.</p> <p><b>Originality/value:</b> Through quantitative and qualitative analysis, this study contributes methodologically and empirically to the literature on corporate governance and sustainability reporting in emerging and developing economies.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i4.1032">https://doi.org/10.26668/businessreview/2023.v8i4.1032</a></p>

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## O IMPACTO DAS CARACTERÍSTICAS DO CONSELHO DE ADMINISTRAÇÃO E DA ESTRUTURA DE PROPRIEDADE NA DIVULGAÇÃO DO DESENVOLVIMENTO SUSTENTÁVEL NOS BANCOS LISTADOS NA BOLSA DE VALORES DE AMÃ

### RESUMO

**Objetivo:** Este estudo tenta compreender como a governança corporativa (CG) afeta a divulgação de informações sobre a sustentabilidade econômica, social e ambiental.

**Estrutura teórica:** A literatura recente relatou que a GC tem um impacto significativo nas divulgações sobre a sustentabilidade econômica, social e ambiental. Entretanto, ainda há muito a investigar e aprender sobre a GC no processo de sustentabilidade.

**Design/metodologia/abordagem:** Durante o período de 2015 a 2021, foram coletadas informações sobre variáveis de estudo de treze (13) bancos listados na Bolsa de Valores de Amã (ASE) através de relatórios anuais e abordagem quantitativa.

**Conclusões:** Os resultados do estudo mostraram que os componentes da CG melhoram a divulgação da sustentabilidade em geral. Os resultados do estudo indicaram que, uma grande diretoria com uma diretora e um Comitê de Responsabilidade Social Corporativa (CSRC) está mais apta a auditar e controlar escolhas de gerenciamento relacionadas a questões de sustentabilidade (sejam elas econômicas, ambientais ou sociais) e produz uma melhor divulgação de sustentabilidade.

**Pesquisa, implicações práticas e sociais:** Este estudo é proposto para ajudar os gerentes bancários a entender o impacto real das práticas de governança corporativa sobre a sustentabilidade, especialmente os indicadores econômicos, ambientais e sociais de sustentabilidade e como melhorá-los e desenvolvê-los.

**Originalidade/valor:** Através da análise quantitativa e qualitativa, este estudo contribui metodológica e empiricamente para a literatura sobre governança corporativa e relatórios de sustentabilidade em economias emergentes e em desenvolvimento.

**Palavras-chave:** Governança Corporativa, Sustentabilidade Corporativa, Relatórios de Sustentabilidade, Banco, Jordânia.

## EL IMPACTO DE LAS CARACTERÍSTICAS DEL CONSEJO DE ADMINISTRACIÓN Y LA ESTRUCTURA DE PROPIEDAD EN LA DIVULGACIÓN DE INFORMACIÓN SOBRE DESARROLLO SOSTENIBLE EN LOS BANCOS QUE COTIZAN EN LA BOLSA DE AMMÁN

### RESUMEN

**Propósito:** Este estudio trata de comprender cómo afecta el gobierno corporativo (GC) a la divulgación de información sobre sostenibilidad económica, social y medioambiental.

**Marco teórico:** La literatura reciente ha señalado que el GC influye significativamente en la divulgación de información sobre sostenibilidad económica, social y medioambiental. Sin embargo, aún queda mucho por investigar y aprender sobre la GC en el proceso de sostenibilidad.

**Diseño/metodología/enfoque:** Para el período comprendido entre 2015 y 2021, se recopiló información sobre las variables del estudio de trece (13) bancos que cotizan en la Bolsa de Ammán (ASE) a través de informes anuales y un enfoque cuantitativo.

**Resultados:** Los resultados del estudio mostraron que los componentes de GC mejoran la divulgación de la sostenibilidad en general. Los resultados del estudio indicaron que un consejo de administración amplio, con una consejera y un Comité de Responsabilidad Social Corporativa (CSRC), es más capaz de auditar y controlar las decisiones de gestión relacionadas con cuestiones de sostenibilidad (ya sean económicas, medioambientales o sociales) y produce una mejor divulgación de la sostenibilidad.

**Investigación, implicaciones prácticas y sociales:** Este estudio se propone ayudar a los gestores bancarios a comprender el impacto real de las prácticas de gobierno corporativo en la sostenibilidad, especialmente en los indicadores económicos, medioambientales y sociales de sostenibilidad, y cómo mejorarlos y desarrollarlos.

**Originalidad/valor:** A través del análisis cuantitativo y cualitativo, este estudio contribuye metodológica y empíricamente a la literatura sobre gobierno corporativo e informes de sostenibilidad en economías emergentes y en desarrollo.

**Palabras clave:** Gobierno Corporativo, Sostenibilidad Corporativa, Informes de Sostenibilidad, Banco, Jordania.

## INTRODUCTION

In light of the new financial and social issues and crises on a worldwide scale, organizations' interest in disclosing sustainable development methods has increased in recent years. The failures of numerous businesses cast doubt on the ability of conventional financial reports to continue to reflect the company's true success and provide a comprehensive picture of all its operations (Pizzi et al., 2022).

Countries around the world adopted theories and mechanisms of action, in order to accomplish social justice, environmental protection, and sustainable growth that will protect future generations' rights, although overall standards of living have increased, the environment is still in danger, and millions of people still live in poverty and hunger, besides serious impasse has also resulted from this disparity in the twenty-first century (Calabrese et al., 2022).

The crisis that affects society, the environment, and the global economy may thus be resolved thanks to breakthroughs in knowledge and technology. The disclosure of sustainable development and the availability of information on the effective practices of firms' activities and their effects on the environment and society as a whole is crucial for achieving goals of sustainable development (Di Vaio et al., 2021). The presentation of development lists of economic units in all of their component elements is a crucial element in enhancing understanding of business trends and operations. This reduces the risks involved in investment decisions and aids in their rationalization (Pizzi et al., 2022).

The role of corporate governance emerges here as a topic related to the signing of agreements and the implementation of improvements in three dimensions: environmental, social, and economic. As a result, it's crucial to broaden theoretical development to make it possible to best governance practices and ensure sustainability (López-Santamaríet al., 2021).

The foregoing makes it abundantly clear that the main driving factor is the financial reports' glaring omission from disclosing sustainable development practices, which prevents them from satisfying stakeholders. Since the company's response to stakeholders has a favourable impact on it and its ability to meet their requests, which are necessary for upholding the company's legitimacy, gaining a competitive edge, and achieving the sustainability development.

The extent to which sustainability reports are produced and released varies between businesses and economic units, the researchers found, even though filing these reports is optional. While some businesses present their information on sustainable development in separate reports, others include it with their financial statements (Dumay & Hossain, 2019)

According to the above this research is aimed to examine the impact of the board of directors' characteristics and ownership structure on the sustainable development disclosure in the banks listed on the Amman Stock Exchange.

## **LITERATURE REVIEW AND HYPOTHESIS TESTING:**

### **Board of Directors' Size and Sustainable Development Disclosure**

It can be argued that a board of directors' capacity for monitoring and approving sustainability-related issues increases with board size. Therefore, the ability to control, verify, and report management actions connected to the issue of sustainability is significantly affected by the board size of directors in the organization (Disli et al., 2022).

When a sizable board of directors, a director element, and a social responsibility committee are present, management decisions on sustainability issues—whether they are economic or environmental—are more skilful and successful (Li et al., 2022) Wardhani and Sekarlangit (2021). Nguyen, & Nguyen (2020) have demonstrated that listed businesses in Vietnam, those in other emerging economies in the area, and those in developed markets all disclose sustainable development information in very different ways.

Joseph et al. (2021) indicated a favourable correlation between the number of members on a board of directors and the volume and quality of sustainability information released. Also, the size of the board of directors has a beneficial impact on sustainability disclosure, according to (Masud et al., 2020). The board of directors' structure, which encourages improved board governance, is expected to raise owners' awareness of and interest in the companies and that improves the standard of sustainability reporting (Amidjaya, & Widagdo (2019).

Additionally, the study of (Jizi, 2017) shown that increased board independence enhances the communication of a firm's good citizenship image through increasing societal consciousness. The findings also revealed that female board participation had a positive impact on CSR engagement and reporting, as well as the adoption of ethical rules.

### **The number of Board Members and Sustainable Development Disclosure**

According to agency theory, increased managerial oversight brought on by big boards of directors might affect company disclosure, on the other side; efficiency and construction are linked to a lower council size (Abbas *et al.*, 2021). Studies that investigate at the relationship between board size and disclosure have also produced inconsistent results indicated that the amount of environmental disclosure made by Turkish corporations and the size of the board

only have a statistically meaningful association. While Kalash (2021) indicates that businesses with large boards release more environmental information than firms with small boards. According to Sekarlangit and Wardhani (2022) the presence of CSR committees and the percentage of board directors who attend meetings both have a favourable impact on SDG disclosures. It also mentioned the possibility of more thorough SDG disclosures being encouraged by the board's attendance at the meeting. Companies with strong commitments to sustainability, as seen by the creation of CSR committees, also tended to disclose more SDGs. Dobija et al. (2022) implied that the IO of the supervisory board as well as the collection of traits aid in the transition to sustainable development. Companies, regulators, and legislators should be interested in the findings to incorporate sustainable principles into their company plans.

### **Non-Executive Directors and CEO duality**

The agency theory states that when a firm has non-executive directors, there will be less of a conflict of interest between the manager and the owners. Non-executive board members are board members who do not receive compensation from the business. It is also regarded as a control mechanism because it serves as an independent monitor (Mollah et al., 2021). One of the rules governing corporate governance is the division of duties between the CEO and board chairman. The Agency hypothesis claims that the CEO's multiple roles give him the freedom to behave opportunistically because of his influence on the board of directors. Therefore, CEO duplication is common in businesses and typically results in an inability to adapt to changing circumstances (Ajanthan & Ramesh, 2021). According to Alawaqleh et al. (2021), businesses may choose to hire the Big 4 as auditors as institutional ownership and board independence rise. Therefore, top management at organizations as well as regulators should take these criteria seriously in order to improve the audits quality and subsequently financial reporting.

### **Family Ownership and Sustainable Development Disclosure**

A recent study Ananzeh, H. (2022) supports the contention that there is a connection between a family's management quality and the degree of sustainability disclosure. Furthermore, Al-Duais (2021) offered proof that property ownership has little effect on the standard of sustainability disclosure. Because the literature has produced different findings about the effect of family ownership on transparency, more research is required.

Baù et (2021) suggested that establishing relationships with other stakeholders and attaining a number of shared goals may depend heavily on family ownership. The idea that family ownership has no effect on the amount of disclosure of sustainable development, on the other hand, was born from the possibility that family ownership is opportunistic.

### **The Concentration of ownership and disclosure of sustainable development:**

Ownership clearly affects how much information is disclosed on sustainability, which appears to be a contentious issue in many researches. According to the study (Liu and Bai, 2022), businesses with concentrated ownership disclose sustainability information the least. This study (Qa'dan & Suwaidan, 2018) which revealed an inverse statistical association between the percentage of ownership and the consistency of information supports this conclusion. As a result, the following theory was developed: Consolidation of ownership has little impact on how much information is disclosed on sustainable development.

### **Population and Sample of the Study**

The ASE consisted of 195 listed companies as at 31 December 2021 distributed across three sectors (financial, industry, and services). This study focuses on the banks because of the nature of financial companies.. During the period of this study between 2016-2021.

### **Measurement of Study Variables**

#### Measurement of the Study Variables

<b>Variables</b>	<b>Definition of measurement</b>
<b>sustainability disclosure</b>	Actual disclosed items divided by possible disclosed items
<b>Foreign Ownership</b>	Percentage of foreign-owned shares divided by total shares.
<b>Board Size</b>	Determined by the number of board members.
<b>CEO</b>	Role duality is measured by the value of 1 if CEO is also the chairman of the board and 0 otherwise
Independence of the board of directors	The ratio of independent directors on the board to the total number of board directors is used to calculate board independence.
Experience of the board of directors	It is 1 if all audit committee members are competent (have an undergraduate degree in accounting or finance) and at least one of them has an accounting professional qualification (as stipulated in Jordan's CG code), and 0 otherwise.
number of non-executive members	the non-executive director is measured following the previous studies by giving 1 if the non-executive director are in the board and zero if they are not in the board.

## Study Model

$$\text{DISSTAB} = a_0 + a_1\text{BSIZE} + a_2\text{BIND} + a_3\text{BEXP} + a_4\text{DUAL} + a_5\text{NONEXE} + a_6\text{ONCEN} + a_7\text{FOREIGN} + e$$

## ANALYSIS AND DISCUSSION

This section of the study contains the findings of statistical analyses, such as descriptive measurements, model fit tests, and hypothesis testing. The statistical processing is based on Jordanian bank financial data from 2016 to 2021.

### Descriptive Statistics

#### Descriptive of dependent variables

The dependent variables represent the disclosure of sustainability in Jordanian commercial banks during the period (2016-2021), and they are represented in economic disclosure, environmental disclosure, and social disclosure.

Table 1: Descriptive statistic of disclosure of sustainability

Disclosure of Sustainability	Measure			
	Mean	Max	Min	Std
Economic Disclosure	0.812	0.100	0.556	0.137
Environmental Disclosure	0.241	0.100	0.088	0.277
Social Disclosure	0.549	0.100	0.292	0.155
All Disclosure	0.520	0.100	0.298	0.164

Table (1) above showed that the sustainability disclosure rate means in Jordanian commercial banks for the period (2016-2021) was (52.0%), with a standard deviation of (16.4%). Table (1) also showed that the economic discloser had the greatest mean, at 81.2%, followed by the social discloser in second place, at 54.9%, and the environmental discloser in third place, at 24%, with the highest mean.

The results showed that commercial banks differ in their interest in disclosing the sustainability dimensions; the economic dimension garnered the most attention, which is consistent with the nature and significance of the work done by Jordanian commercial banks, while the environmental dimension garnered the least attention, possibly as a result of a lack of interest. The operations and nature of the activity of Jordanian commercial banks have a considerable impact on the environment.

## Descriptive of the independent variable

The independent variables describe the ownership structure and bank characteristics of Jordanian commercial banks between 2016 and 2021.

### Bank's characteristics

The characteristics of the board of directors, which included their size, independence, expertise, and diversity, served as a representation of the qualities of the bank. the separation of the CEO and chairman roles, as well as the proportion of non-executive board members. While foreign ownership and ownership concentration were both part of the ownership structure.

Table 2: Descriptive statistic of bank characteristics

Bank's Characteristics	Measure			
	Mean	Max	Min	Stdev.
Size of the board of directors (BSIZE)	12.128	16.0	10.0	1.210
Independence of the board of directors (BIND)	0.901	0.100	0.308	0.224
Experience of the board of directors (BEXP)	8.782	13.0	5.0	2.099
Number of non-executive members (NONEXE)	11.641	13.0	9.0	0.967

According to Table 2, the mean size of the board of directors for Jordanian commercial banks over the 2016–2021 period was 12.128 members, the standard deviation was 1.210 members, the highest viewing value was 16.0 members during the period, and the lowest watching value was 10.0 members. With regard to the directors board size, where the rule of the board's composition indicates that the number of members should not be less than (11), the values show that there is a difference between the Jordanian commercial banks in terms of adherence to the rules of corporate governance during the period. Table 2 further reveals that the average level of board independence in Jordanian commercial banks from 2016 to 2021 was 90.1%, with a standard deviation of 22.4%, and that the highest observation during that time was 100.0%, while the lowest observation was 30.8%. According to the values, there are variations among Jordanian commercial banks in terms of the independence of the board of directors. Also, and according to Table 2, the average number of directors on Jordanian commercial banks' boards of directors over the 2016–2021 period was 8.782; the standard deviation was 2.099; and the maximum number of directors viewed throughout the period was 13.0; the lowest number of directors watched was 5.0. The numbers show that commercial banks differ from one another in terms of the proportion of board members having accounting and financial expertise. Finally, and According to Table 2, the mean number of non-executive



directors on the boards of directors of Jordanian commercial banks over the 2016–2021 period was (11.641), the standard deviation was (0.966), the maximum viewing value was (13.0) members, and the lowest watching value was (9.0) members. The values show that there are variations in the number of non-executive directors on the boards of directors among commercial banks.

### Separation of the positions of the Chairman and CEO (DUAL)

Table 3: Descriptive statistic of Separation of the positions of the Chairman and CEO

Measure	Separation of the positions of the Chairman and CEO	
	There is Separation	There is No Separation
Frequency	77	1
Percentage	98.7	1.3

Table 3 demonstrated that during the 2016–2021 period, 98.7% of Jordanian commercial banks documented incidents of separation between the Chairman and CEO posts, whereas 1.3% of commercial banks recorded cases of non-separation between the two positions. According to the ratios, the majority of commercial banks during the period showed a strong commitment to the standards of corporate governance, particularly those pertaining to the separation of the roles of the Chairman of the Board of Directors and the Executive Director.

### Ownership structure

The ownership structure included concentration of ownership and foreign ownership.

Table 4: Descriptive statistic of ownership structure

Ownership structure	Measure			
	Mean	Max	Min	Stdev.
Concentration of ownership	61.009	94.160	16.000	23.513
Foreign ownership	39.933	92.433	4.545	29.203

According to Table 4, the mean percentage of ownership concentration in Jordanian commercial banks during the 2016–2021 period was 61.009 percent, the standard deviation was 23.513 percent, and the maximum proportion of viewers over that time was 94.16%, while the lowest percentage was 16.0%. The values show that the commercial banks' percentages of ownership concentration differ from one another.

According to Table 4, the mean for the proportion of foreign ownership in Jordanian commercial banks from 2016 to 2021 was 39.933%, while the standard deviation was 29.203%, and the maximum percentage of foreign ownership during that time was 92.433%, while the

lowest percentage was 4.545%. The values show that commercial banks differ in terms of the proportion of foreign ownership.

### Descriptive Control Variable

The controlling variable includes the bank size, which is measured in the natural logarithm of the bank's total assets during the period (2016-2021).

Table 5: Descriptive statistic of LTA

Measure	Total Assets	Size
Mean	4,581,444,866	9.453
Max	27,615,479,000	10.441
Min	949,576,672	8.978
Stdev.	6,468,999,414	0.365

According to Table 5, the total assets of Jordanian commercial banks averaged 4,581.445 million dinars from 2016 to 2021, with a standard deviation of 6,468.999 million dinars. The highest value observed during this time was 27,615.479 million dinars, while the lowest value observed was (949.577 million dinars). The table (5) shows that over the period (2016–2021), the mean of the natural logarithm of total assets (LTA) for Jordanian commercial banks was (9.453), with a standard deviation of 0. (of 0.365). The greatest value was (10.441), and the least significant value was (8.978). The numbers show that there are differences in the sizes of the commercial banks.

### Estimate the model

The study used panel data econometric analysis, which mixes time series and cross-sectional data. The study relied on the panel data model to explore the influence of study models:

- Pooled Regression Model (PRM)
- Fixed Effect Model (FEM)
- Random Effect Model (REM)

The Lagrange Multiplier was used to choose the best model from (PRM) and (REM), while the Hausman test was used to choose the best model from (FEM) and (REM) (REM).

Table 6: Results of Lagrange Multiplier and Hausman tests

Hypothesis	Lagrange Multiplier		Hausman		Appropriate Model
	Chi2	Sig.	Chi2	Sig.	
H0	108.846	0.012	32.328	0.000	REM
H01	103.926	0.027	17.747	0.007	REM
H02	88.031	0.205	-	-	PRM

H0: The Lagrange Multiplier test was used to pick an acceptable model (PRM) and (REM).  
H0: REM is more consistent than FEM in the Hausman test for selecting an acceptable model (FEM).

The results of Table (6) indicate that the random effects model was the most accurate in estimating the model for the study hypotheses (H0, H01), while it was found that the pooled effects model was the most accurate in estimating the study hypotheses (H02).

### Multicollinearity Test

Pearson correlation coefficients were obtained between independent variables to evaluate the existence of multicollinearity between model variables. Correlation matrices and the VIF test explain the findings of assessing multicollinearity between independent variables as follows:

Table 7: Correlation Matrix

Variable	BFSIZE	BIND	BEXP	DUAL	NONEXE	CONCEN	FOREIGN	SIZE
BFSIZE	1.000							
BIND	-0.114	1.000						
BEXP	0.139	-0.072	1.000					
DUAL	0.107	0.055	0.152	1.000				
NONEXE	0.651**	-0.035	0.095	0.076	1.000			
CONCEN	-0.012	-0.020	0.196	0.043	-0.065	1.000		
FOREIGN	-0.138	-0.009	0.172	0.139	-0.089	0.783**	1.000	
SIZE	0.002	0.108	0.075	0.026	-0.034	-0.428**	-0.100	1.000

(\*\*) Significant at 0.01

The table above demonstrated that the maximum correlation coefficient (0.783) was found between the variables (FOREIGN) and (CONCEN). This number may suggest that multicollinearity is not present because the values were less than (0.80). The value (0.80) and greater are regarded as a sign of multicollinearity in statistical literature (Gujarati, 2004).

The variance factor inflation (VIF) was computed to assure the aforementioned outcome, the outcomes are presented in the following table:

Table 8: Results of VIF

Variable	VIF
BFSIZE	1.954
BIND	1.052
BEXP	1.130
DUAL	1.085
NONEXE	1.813
CONCEN	4.321
FOREIGN	3.549
SIZE	1.624

All VIF values were larger than (1) and less than (2), as shown in Table (8). (10). This demonstrates that none of the predictor variables are multicollinear (Gujarati, 2004).

### Stationary Test (unit root)

This test is used to see if there is a systematic change in the mean or variance of the data. The Levin-Lin-Chu (LLC) test is commonly used for panel data.

Table 9: Results of the stationary test (unit root)

Variables	LLC-statistic	Prob.	Results
DIS	-8.816	0.000	Level stationary
BFSIZE	-5.060	0.000	Level stationary
BIND	-25.954	0.000	Level stationary
BEXP	-3.410	0.014	Level stationary
DUAL	-8.775	0.000	Level stationary
NONEXE	-4.930	0.000	Level stationary
CONCEN	-9.772	0.000	Level stationary
FOREIGN	-3.170	0.026	Level stationary
SIZE	-8.914	0.000	Level stationary

The significant level (Prob.) for all variables is less than 0.0; therefore the results of the stationary test (unit root) reveal that all variables are stationary at the level. These results reveal that the unit root existence (non-stationary) null hypothesis is rejected at the 1% level, indicating that all research variables are stationary at the level across the study period.

### Hypothesis Testing

In this section multiple regression analysis was used to test the study hypothesis, as following: **Main Hypothesis:**

**H0: There is no statistically significant effect of the bank's characteristics and ownership structure on the disclosure of sustainability in Jordanian commercial banks.**

Table 10: Random Effect Model for H0

Variable	Co-eff	Std Error	T	P
BSIZE	.055	.010	5.362	.000
BIND	-.035	.002	-18.037	.000
BEXP	-.046	.005	-8.877	.000
DUAL	.076	.028	2.692	.009
NONEXE	.024	.017	1.469	.147
CONCEN	-.001	.002	-4.979	.000
FOREIGN	-.001	.001	-1.140	.259
SIZE	.066	.010	6.263	.000
R-squared	.701			
Adjusted R-squared	.640			
F-statistic	11.541			
Prob*(F-statistic)	.000			
D-W	1.558			

\*Significant at 0.05 level.

According to the data, R Square, the coefficient of determination, is equal to (.701), indicating that the model accounts for about 70.1% of the variance in disclosure. The effect of independent variables is significant since the F statistic's significance value ( $F=11.541$ ) is less than (.05) and its probability value ( $\text{Prob } F = .000$ ). Additionally, the regression's coefficients indicate that the state) has a considerable positive impact on disclosure, with a significant coefficient value of (.055) with a t-value of (5.362) and a P-value of (.000) less than (.05), (BIND) has a substantial detrimental effect, with a significant coefficient value of (-.035) at ( $t=-18.037$ ) and ( $P\text{-value}=.000$ ). With a coefficient value of (-.046) that is significant with ( $t=-8.877$ ) and ( $P\text{-value}=.000$ ), (BEXP) has a significant adverse effect. With a coefficient value of (.079) that is significant with ( $t=2.692$ ) and ( $P\text{-value}=.009$ ), (DUAL) has a substantial positive influence. Additionally, (NONEXE) has no significant influence, as evidenced by the coefficient value of (.024), which is not significant with respect to time ( $t=1.469$ ) and P-value (0.147). With a coefficient value of (-.001), (CONCEN) has a substantial adverse effect, which is significant with ( $t=-4.979$ ) and ( $P\text{-value}=.000$ ). With a coefficient value of (-.001) and a significance level of ( $t=-1.140$ ) and ( $P\text{-value}=.259$ ), the effect of (FOREIGN) is not significant. Last but not least, there is a very positive influence of (SIZE), with a coefficient value of (.066) and a sign with ( $t=6.263$ ) and ( $P\text{-value}=.000$ ). Additionally, the Durbin-Watson value close to (2) also suggested that there is no serial correlation between error terms, but (D-W= 1.558) shows that there is.

Based on the foregoing, the primary null hypothesis is rejected and the alternative hypothesis, which indicates: **There is a statistically significant effect of the bank's characteristics and ownership structure on the disclosure of sustainability in Jordanian commercial banks.**

### Sub-Hypotheses

**H01: There is no statistically significant effect of the bank's characteristics on the disclosure of sustainability in Jordanian commercial banks.**

Table 11: Random Effect Model for H01

Variable	Co-eff	Std Error	T	P
BSIZE	.036	.005	7.772	.000
BIND	.001	.003	.280	.780
BEXP	-.033	.004	-8.792	.000
DUAL	.024	.017	1.393	.168
NONEXE	.016	.005	3.446	.001
SIZE	.138	.030	4.531	.000
R-squared	.694			
Adjusted R-squared	.668			
F-statistic	26.868			
Prob*(F-statistic)	.000			
D-W	1.614			

\*Significant at 0.05 level.

The aforementioned data showed that R Square is equal to (.694), which indicates that the model accounts for roughly (69.4%) of the variation in disclosure. Since the F statistic's significance value (F=26.868) is less than (.05) and its probability value (Prob F =.000), the influence of independent variables taken together is significant. Additionally, the regression's coefficients show that the (BSIZE) has a substantial positive impact on disclosure, with a significant coefficient value of (0.036) with a t-value of 7.772 and a P-value of 0.000, less than (.05). With (t=.280) and (P-value= .780), the coefficient value of (BIND) is (.001), which is not significant. The coefficient value of (-.033) for (BEXP), which is significant with (t=-8.792) and (P-value= .000), indicates a substantial adverse effect. With (t=1.393) and (P-value= .168), the coefficient value of (DUAL) is (.024), which is not significant. A significant positive effect is also produced by (NONEXE), with a coefficient value of (.016) that is significant with respect to (t=3.446) and (P-value=0.001). Finally, there is a substantial positive influence of (SIZE), with a coefficient value of .138 that is significant with a t-value of 4.531 and a P-value of (.000). Additionally, the Durbin-Watson value close to (2) also implies that there is no serial correlation between error terms, but (D-W= 1.614) shows that there is.

Depend on theses results, the first sub-hypothesis is rejected and the alternative hypothesis is accepted, which pointed that: **There is a statistically significant effect of the bank's characteristics on the disclosure of sustainability in Jordanian commercial banks.**

**H02: There is no statistically significant effect of the ownership structure on the disclosure of sustainability in Jordanian commercial banks.**

Table 12: Pooled Effect Model for H02

Variable	Co-eff	Std Error	T	P
CONCEN	-.002	.003	-5.697	.000
FOREIGN	-.001	.002	-8.047	.000
SIZE	.026	.022	1.156	.252
R-squared	.217			
Adjusted R-squared	.185			
F-statistic	6.828			
Prob*(F-statistic)	.000			
D-W	1.704			

\*Significant at 0.05 level.

The aforementioned data shows that R Square is equal to (.217), which indicates that the model accounts for around (21.7%) of the variation in disclosure. Since the F statistic's significance value (F=6.828) is less than (.05) and its probability value (Prob F = .000), the influence of independent variables taken together is significant. Additionally, according to the regression's coefficients, (CNCEN) has a significant negative impact on disclosure, with a coefficient value of (-.002) being significant with a t value of (-5.697) and a P value of (.000) less than (.05), and (FOREIGN) having a significant negative impact with a coefficient value of (-.001) being significant with a t value of (-8.047) and a P value of (.000). With (t=1.156) and (P-value= .252), the coefficient value of (SIZE) is (.026), which is not significant. Additionally, the Durbin-Watson value close to (2) also implies that there is no serial correlation between error terms, but (D-W= 1.704) shows that there is.

The above results indicated that, rejected the second sub-hypothesis and accepts the alternative hypothesis, which indicated that: **There is a statistically significant effect of the ownership structure on the disclosure of sustainability in Jordanian commercial banks.**

## DISCUSSION AND CONCLUSION

Throughout the 2017–2021 period, there were differences among Jordanian commercial banks in their level of disclosure of the sustainability dimensions. The arithmetic average value of this level of disclosure, which came in at 52.0%, suggested that lesser commercial banks on general had a low level of disclosure of the sustainability dimensions. This could be as a result of certain of the sustainability dimensions outlined by the Global Initiative for the Preparation of Sustainability Reports (GRI) not being compatible with how Jordanian commercial banks operate their businesses, especially in the environmental sector.

The high level of disclosure of the economic dimension in Jordanian commercial banks during the period (2017-2021), demonstrates the interest of Jordanian commercial banks in their operations, economic fields, competitive capabilities and market position, and the economic

effects of their financial activities and operations on society at large. This is because it is thought to be a key component in achieving its economic growth, generating profits, and ensuring its existence and continuity. Additionally, there was a low level of environmental disclosure in Jordanian commercial banks over the course of the study period (2017–2021), which may be explained by the fact that the activities and operations of the bank had little to no environmental impact because the areas of disclosure were restricted to protecting the environmental resources used, such as water and energy. The existence of items connected to subjects outside the purview of the operations of Jordanian commercial banks, such as women and human rights, may be the reason why the level of disclosure of the social component in Jordanian commercial banks reached 54% during the period (2017-2021). Additionally, there is a difference between Jordanian commercial banks in the qualities of the board of directors (size, independence, experience, and executive members) over the period (2017-2021), and this might be connected to the circumstances and nature of the work performed by Jordanian commercial banks as well as their level of interest in fulfilling the requirements of governmental institutions related to the creation of the board of directors. Despite this, it was discovered that there was a strong commitment among the Jordanian commercial banks during the period to keep the roles of the chairman of the board of directors and the executive director separate. This shows the tendencies of the Jordanian commercial banks in providing the chairman of the board of directors with enough time to devote to carrying out his regulatory and supervisory duties. Additionally, there are differences in ownership concentration between Jordanian commercial banks during the period (2017-2021), which could be a result of changes in the price and quantity of shares held by these institutions over that time as well as their shareholders' characteristics. The percentage of foreign ownership varies amongst commercial banks over the period (2017-2021), which may be a result of the limits placed by private commercial banks on foreign investment in shares or be connected to the stability and political and economic circumstances of the nation. Additionally, there is a comparative variation in the size (total assets) of Jordanian commercial banks across the time period (2017-2021). This may be because Jordanian commercial banks conduct a varied number, variety, and volume of banking operations. The fact that the board of directors' and ownership structure's characteristics had a significant impact on the disclosure of the sustainability dimensions in Jordanian commercial banks demonstrates the beneficial role each of these characteristics played in encouraging the management of these banks to disclose the sustainability dimensions and pay attention to them, which is represented by improving both their and the bank's reputation before and after the



disclosure. The impact of the ownership structure could well be ended up causing by the various pressure's owners put on management to disclose information about sustainable development. It may also be caused by the owners' control over management and influence over decisions regarding disclosure practices in order to achieve their financial and investment objectives.

### ACKNOWLEDGEMENT

This study is part of the project under Support Decision no (233/2021). We would like to acknowledge Deanship of Scientific Research and Graduate Studies / Al-Hussein Bin Talal University for supporting and funding this study.

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