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# THE MODERATING ROLE OF CORPORATE GOVERNANCE IN THE EFFECT OF FINANCIAL LEVERAGE, FIRM SIZE, AND LIQUIDITY ON SUSTAINABLE FINANCIAL PERFORMANCE IN SELECTED LISTED FOOD INDUSTRY COMPANIES IN MUSCAT STOCK EXCHANGE, OMAN

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**Abstract**
This paper analyzed the moderation role of corporate governance in the association among the sustainable financial performance of selected food industry companies listed on the Muscat Stock Exchange (MSX), Oman, as governed by data from October 2023. Although prior research has investigated these financial determinants in isolation, their joint influence on sustainability in the food sector is yet underexplored. This study analyzes the financial data of 11 listed food industry companies during the period 2018–2023 using a quantitative panel data approach. In view of this, the study utilizes a causal-comparative (ex-post facto) method of analysis and is inevitably dependent on regulatory disclosures and financial reports as secondary data sources. The ratio of debt to equity measures financial leverage, total assets measure firm size, and the current ratio measures liquidity. Board autonomy and board size are used as operational proxies for corporate governance. The research employed panel data regression models and moderation analysis employing hierarchical regression to analyse the interplay between these variables. However, these findings are expected to give insight into the extent to which effective corporate governance mechanisms can lead to financial sustainability through optimising capital structure and liquidity management. This study endeavors to extend the furtherance of corporate governance literature whilst providing some practical perspectives for stockholders and financial executives working in Oman's food industry. By doing so, these outcomes will emphasize the significance of board structures in minimizing financial risk and achieving sound long-term financial performance. In doing so, this study fills a research gap that has the potential to offer a rich understanding of financial strategies that can contribute to enabling sustainable performance among firms of food industry operating within the MSC, thereby promoting economic resilience in the subsector.
**Keywords:** *Leverage, Sustainable Financial Performance, Muscat Stock Exchange (MSX), Panel Data Analysis*

## INTRODUCTION:

Sustainability and long-term success are primarily determined by a financial performance of the companies, so it is among the basic principles of success story of food sector which is influence by the market volatility, supply chain disruption and economic fluctuations (Le et al., 2022). The growing acknowledgement of sustainable financial performance as a pillar of corporate success highlights the importance of striking a balance in financial management that can guarantee long-term earnings, secure liquidity, and mitigate risks (Pham et al., 2021), (Cerciello et al., 2022). Different financial criteria like financial leverage, firm size, and liquidity play a prominent role in an organization's sustainable performance (Iqbal & Usman, 2018). Corporate governance functions as an

essential tool in regulating these financial variables, as firms comply with appropriate financial practices and then are required to augment transparency and accountability (Abdullah et al., 2021).

It was also found that financial leverage defined under the utilization of debt in the financial decision, has a twofold impact on corporate financial performance. Whereas leverage can increase returns by allowing firms to fund growth potential, it can also result in increased financial risk and instability in an industry with volatile demand (Ahmed et al., 2022). Additionally, firm size has been shown to be related to financial performance, as huge firms can take benefits of economies of scale, greater access to capital market, and improved investor confidence (Ahmed et al., 2023). (a) From the perspective of operational capital maintenance, liquidity, a measurement of a firm's competence to meet short-temporary obligations, is equally sacrosanct (Nam & Tuyen, 2024). Although existing studies have comprehensively examined these individual elements, their interaction impact on sustainable financial performance, specifically in Oman's food sector, has been neglected.

Distinct corporate leadership structures such as autonomy and the number of board of directors have been studied recently as moderators in the areas of financial decision making. Governance structures is a tool to assist firms in their financial complexities that enable for responsible management, reduce conflict of interest and increase investor confidence (Shabbir et al., 2024). In the corporate field, Oman has been on a regulatory phase attempting to refine the skills of the boards, and the need for sustainability governance was reflected in these attempts (Elhabib, 2024). Several research outcomes have focused on importance of the board composition to the financial performance, where it has been found that independent boards are more likely to effectuate better decision making and risk management (Beasley, 1996), Hillman and Dalziel, 2003), Dechow et al., 1996), Klein, 2002). Despite this, there is little research available on the moderation impacts of corporate governance on the relationships among size of the firm, financial leverage and liquidity in the companies of Oman's Food industry.

The relationship among financial leverage, firm size, and liquidity and the long-term financial success of companies selected to be listed Stock Exchange of Muscat (MSX) is examined, along with the controlling effect of corporate governance, this research aims to bridge the gap (Sugiono et al., 2016). Building on a quantitative approach, this study analyzes over panel data spanning from 2018 until 2023 to determine financial drivers and governance mechanisms affecting corporate sustainability. By comprehensively analyzing the influence of ESG disclosures on functioning and valuation of food companies, this research could inform policymakers, investors, and corporate executives seeking to improve sustainability practices in the food industry. Thus, this study adds to the wider conversation regarding corporate finance in developing economies like Oman by establishing a relationship between financial metrics and governance.

## LITERATURE REVIEW:

The sustainable financial performance and linkage between financial leverage has been extensively investigated in the corporate finance literature. Financial leverage can be measured using the debt-to-equity ratio i.e., the amount of debt a business employs to finance its properties. The firm's leverage is thus a key determinant of financial sustainability, as capital structure decisions shape a company's cost of capital (Modigliani and Miller 1958) and general efficiency. On the other hand, some studies show that moderate leverage boosts profitability by enabling the investment of growth opportunities (Paeleman et al., 2023) but it can also raise debt overextension, resulting in financial risk and instability, especially in the more volatile industries such as the food sector (Ahmed et al., 2023). The optimal use of financial leverage is vitally important to long-term sustainability in the Omani context as well despite the limited understanding amongst firms in the food industry operating in Oman, due to market fluctuations, supply chain disruptions and regulatory constraints. However, prior research has not thoroughly examined how corporate governance systems moderate the impact financial statbility and financial leverage, necessitating further empirical investigation.

A key factor influencing the financial performance of corporations and sustainability has also been identified as firm size. Large firms generally have advantages of economies of scale, better access to funds inflow and positive investor perceptions, providing better financial performance (Karim et al., 2025). Yet, firm size is, by itself, not sufficient to ensure financial viability, as larger firms necessarily impose bureaucratic costs and incur higher unit costs, both of which can undermine profitability (Ilaboya & Ohiokha, 2016). Firms with more financial and operational resources may be better able to deal through economic ups and downs and continue to perform well over an extended period of time, according to the resource-based theory (Handoyo et al., 2023). Although it is often known that business size affects financial success, there is little data on the Omani food industry. At the same time, the association among corporate governance, on the one hand, and the financial benefits of scaled policies, on the other, is also not fully explored, which indicates the importance of the issue for this research.

Liquidity, or the organization's ability of meeting short-term obligations, is another important factor which influences financial sustainability. The liquidity position of a firm determines its capacity to reinvest profits, manage unanticipated expenditures, and sustain financial stability, which ultimately impacts long-term profitability (Nam & Tuyen, 2024). Previous research indicates that companies that hold more liquid assets generate superior financial results than their less liquid counterparts, as firms with substantial liquidity are able to surmount financial constraints (Bashir et al., 2020). Excessive liquidity, on the other hand, can result in inefficient allocation of capital and reduced overall profitability (Xin et al., 2024). This is particularly relevant in

emerging markets such as Oman that are also coping with shifting economic fundamentals and legal regimes liquidity management is a central tenet of corporate longevity. Because they enforce financial discipline and match strategic operations with long-term objectives, corporate governance procedures i.e., independence of size of the board, can have an influence on liquidity decisions (Tut, 2024). Yet, the regulating result of corporate management on the association among liquidity and sustainable efficiency of financial aspects in Oman's food industry is a significantly underexplored area of research, justifying the empirical examination in this study.

While financial leverage, firm size, and liquidity have been well documented as determinants of financial performance, their collective influence on sustainable financial performance, especially within Oman's food industry, has received limited attention in the literature. Theoretical – Previous studies have largely explored these factors individually and neglected to explore their interdependent influence or whether corporate governance acts as a moderator. Although determinants of corporate governance structures (e.g., board size and independence) capture phenomena explaining financial decision making and risk management, their role in determining financial leverage, firm size, and liquidity remains under-researched, notably in emerging markets. The research bridges this gap by incorporating a governance dimension into the mix, thereby offering empirical insights into how financial management mechanisms drive the sustainability of MSE listed companies from food industry.

**Background:**

The present research inspects the controlling influence of corporate management on the sustainable financial efficiency in the selected companies listed from food industry in the stock markets of Muscat, Oman, in relation to financial leverage, company size, and liquidity. Corporate governance is essential to responsible corporate behavior since it provides the structure that directs and controls firms. Good governance encourages accountability and transparency as well as better strategic decision-making, all of which should have an effect on financial performance (Affes & Jarboui, 2023). Through examining the correlation among financial variables and corporate management mechanisms, this study aims to provide empirical information about crowdfunding models' effects on financial sustainability within the food industry sector.

Financial leverage has an essential influence on corporate financial sustainability, as it impacts a firm's ability to maximize debt in financing operations while remaining profitable (Arhinful & Radmehr, 2023). $H_1$: Financial leverage has a significant impact on the sustainable financial performance of food industry companies listed on the Muscat Stock Exchange. A balancing act as while avoiding it, too much dependence on debt can raise financial distress, while at optimal levels can boost returns by taking advantage of tax breaks (Paeleman et al., 2023) Because firms need to balance maximizing capital structure with sustainable financial health, it helps them to understand this relationship.

Since larger companies usually have better economies of scale, resources access and market position, their size also affects financial sustainability (Karim et al., 2025). Proposition $H_2$ states firm size significantly affects sustainable financial performance, since larger firms have better risk diversification, operational efficiency, and strategic investments (Handoyo et. al., 2023) Other side, large size of the firm represents bureaucratic inefficiencies and high cost of operations, which calls for governance mechanisms to sustain efficiency and profitability (Ilaboya & Ohiokha, 2016).

Liquidity is a firm's capacity to satisfy temporary obligations and is an important financial indicator associated with sustainable performance (Nam & Tuyen, 2024). $H_3$ Liquidity has a important impact on sustainable financial performance; that requires proper management of cash flow and how assets and liabilities are matched. For example, companies with high liquidity can reinvest profits, cope with unexpected spending, minimize financial risks, and thereby increase long-term financial sustainability (Xin et al., 2024).

Specifically, $H_4$ corporate governance moderates the association between financial leverage and sustainable financial performance. A properly constituted board can reduce agency problems, enhance monitoring mechanisms, and make certain that financial leverage, if used, is utilized appropriately (Bonazzi & Islam, 2007). BDC is also associated with independent directors, which serve to moderate oversight and help minimize excessive debt accumulation and improve financial decisions (Bradley & Chen, 2014).

Likewise, corporate governance moderates the impact of long-term financial performance ($H_5$). Experience of larger firms is plagued with managerial inefficiencies, thus requiring effective governance structures to ensure that strategic interests align with sustainability (Can & Latiff, 2024). The size of the board independence improve transparency and decrease information asymmetry and enhance stakeholder confidence, resulting in improved financial performance (Briano Turrent et al., 2023).

In addition, the moderating effect of corporate governance on the relationship between liquidity and sustainable financial performance ($H_6$) indicates the crucial importance of corporate governance for efficient liquidity management and its positive impact on sustainable financial performance. Sound governance frameworks can help firms maximize optimal liquidity utilization, stable short-term financial obligations with long-term investments and avoid excess cash hoarding or liquidity crises (Tut, 2024)

Also, the firm size and firm liquidity jointly impact the sustainable financial performance of food industry companies in Oman ($H_7$). Such trade-offs among liquidity, leverage and profitability indicate that resource-rich firms with efficient liquidity arrangement experience better financial sustainability at a given level of governance (i.e. the ability of governance to align corporate objectives with stakeholder objectives persists) (Handoyo & Anas, 2024).

In conclusion, this study recommends that good management board practices (such as board members and anotomy) create value for the financial performance of the firm by improving the management of financial leverage, firm size and liquidity (Iqbal & Usman, 2018) ($H_8$). Governance frameworks strengthen financial decisions, guarantee regulation adherence, and mitigate corporate risks, all of which contribute to consistent financial growth and stability (Moridu,2023).

The statistical findings thus corroborate the importance of these relationships. Sustainable financial performance has a statistically significant impact caused by financial leverage, firm size, and liquidity using regression analysis and, structural equation modeling. Additionally, board size and board independence as financial factors act as a moderator to amplify or reduce the impact of financial variables on performance outcomes. The study results are a testament of the need for strong governance mechanism contribute to the sustainability of financing in Oman's food industry sector gaining insights for the stakeholders of policymakers, corporate executives and investors to build on improving the governance frameworks and financial strategies.

## METHODOLOGY:

This study observes the corporate governance moderating role in the connotation between financial leverage, liquidity and firm size on the sustainable financial efficiency of listed companies from food industry of Stock Exchange of Muscat (MAX), Oman, using a quantitative research method within the panel data analysis framework and causal-comparative (ex-post facto) study. This research utilizes data from financial reports and regulatory disclosures of 11 listed companies in the food industry over six years (2018–2023). Corporate financial variables include financial leverage (debt-to-equity ratio), firm size (total assets) and liquidity (current ratio), and corporate governance is captured through board size and independence of board. ROA measures sustainable financial performance, the dependent variable. In order to manage firm-specific heterogeneity and time-series fluctuations, this study uses panel data regression models, taking into account the panel format of the data. A Variance Inflation Factor (VIF) test is used to verify the reliability of the regression estimates and check for multicollinearity.

For selecting the best analytical model for analysis, pooled OLS regression, fixed and RE (Random Effect) models are used where the Hausman test recommends whether to select fixed or RE model. These findings confirm that a fixed-effect analysis improves model fit, as it controls for firm-level heterogeneity which could bias our intercept estimates over time. Furthermore, hierarchical regression analysis is adopted to assess the moderation of corporate governance, determining how it factors in the relationships between financial leverage, firm size, liquidity and sustainable financial performance. The major financial variables are summarized using descriptive statistics and their relationships are checked with correlation analysis. The use of panel data methods serves to strengthen the results' robustness by accounting not only for cross-sectional variation but also time series variation. The foundation for practical implications for national policymakers, investors, and corporate decision-makers about the status of corporate management in boosting the financial sustainability of Oman's food sector is laid by this diverse empirical method.

## RESULTS:

The descriptive statistics for the variables Debt to Equity, Firm Size, Liquidity, Return on Assets, Board Size, Board Independence are presented in Table 1 (Sandeep Pande et al., 2019).

**Table 1. Descriptives**

| | Debt to Equity | Firm Size | Liquidity | Return on Assets | Board Size | Board Independence |
|---|---|---|---|---|---|---|
| Mean | 0.140152 | 16.91939 | 1.939849 | -0.00545 | 7.469697 | 67.70212 |
| Median | 0.77 | 16.63 | 1.36 | 0.02 | 7 | 66.67 |
| Min | -21.75 | 14.93 | 0.29 | -0.32 | 5 | 25 |
| Max | 2.55 | 18.67 | 15.12 | 0.2 | 11 | 100 |
| Std. Dev | 3.17873 | 1.244235 | 2.364458 | 0.09249 | 1.656871 | 26.24169 |
| Skew. | -5.40622 | -0.06985 | 4.124109 | -1.07943 | 0.4523598 | 0.047912 |
| Kurt. | 35.94526 | 1.48416 | 20.73572 | 5.190016 | 2.819517 | 1.54526 |
| Jarque_Bera | 3306.322 | 6.37253 | 1052.119 | 26.0063 | 2.340503 | 5.844991 |
| Sum.Sq.Dev | 656.78 | 100.63 | 363.39 | 0.56 | 178.44 | 44760.72 |

Table 1 summarizes key financial and governance variables, highlighting their central tendencies, variability, and distribution patterns. The mean values indicate that firms, on average, have moderate liquidity (1.94), substantial board independence (67.70%), and a firm size of 16.92. The median values, which are less affected by outliers,

suggest that most firms have a Debt-to-Equity ratio of 0.77 and a ROA close to 0.02. The range shows significant variation, particularly in Debt to Equity (-21.75 to 2.55) and Board Independence (25% to 100%), reflecting diverse capital structures and governance practices. The standard deviation indicates high dispersion in Debt to Equity (3.18) and Board Independence (26.24), while Firm Size (1.24) and Return on Assets (0.09) exhibit lower variability. Skewness and kurtosis reveal that Debt to Equity (-5.41) and Liquidity (4.12) are highly skewed with extreme outliers, confirmed by Jarque-Bera test statistics, which suggest non-normality, especially for Debt to Equity (3306.32) and Liquidity (1052.12). The Sum of Squared Deviations (SSD) further indicates substantial dispersion in Board Independence (44,760.72). Overall, the dataset exhibits significant variability, with notable deviations from normality in leverage and liquidity measures.

**Table 2: Correlation Matrix**

| | Debt to Equity | Firm Size | Liquidity | Return on Assets | Board Size | Board Independence |
|---|---|---|---|---|---|---|
| **Debt to Equity** | 1.000 | 0.341 | 0.066 | 0.122 | 0.257 | 0.176 |
| **Firm Size** | 0.341 | 1.000 | 0.312 | 0.460 | 0.332 | -0.299 |
| **Liquidity** | 0.066 | 0.312 | 1.000 | 0.403 | 0.052 | 0.220 |
| **Return on Assets** | 0.122 | 0.460 | 0.403 | 1.000 | 0.012 | -0.215 |
| **Board Size** | 0.257 | 0.332 | 0.052 | 0.012 | 1.000 | 0.006 |
| **Board Independence** | 0.176 | -0.299 | 0.220 | -0.215 | 0.006 | 1.000 |

Table 2 presents correlation coefficients (Pearson) among the key financial and governance variables, indicating the intensity and direction of their linear relationships. Debt to Equity shows a moderate positive correlation with Firm Size (0.341) and Board Size (0.257), suggesting that larger firms and those with bigger boards tend to have higher debt levels. Firm Size reveals a strong positive correlation with Return on Assets (0.460) and a moderate correlation with Liquidity (0.312), implying that larger firms are generally more profitable and liquid. Liquidity is absolutely correlated with Return on Assets (0.403), representing that firms with better liquidity tend to have greater returns. Interestingly, Independence of board has a weak negative correlation with Firm Size (-0.299) and Return on Assets (-0.215), suggesting that firms with more independent boards tend to be smaller and less profitable. Size of the Board, on the other side, shows almost no significant correlation with Return on Assets (0.012) and Board Independence (0.006), implying that governance structures do not strongly influence firm profitability or independence in this dataset. Overall, the correlation matrix suggests that while Firm Size and Return on Assets are closely related, other governance variables (Independence and size of the Board) show weaker relationships with financial performance indicators.

**Table 3: Variance Inflation Factor (VIF) to check for multicollinearity**

| Feature | VIF |
|---|---|
| Debt to Equity | 1.039198 |
| Firm Size | 29.41100 |
| Liquidity | 1.814943 |
| Board Size | 25.29337 |
| Board Independence | 7.144570 |

The results indicate that Firm Size (VIF = 29.41) and Board Size (VIF = 25.29) exhibit severe multicollinearity, suggesting that they are highly correlated with other predictors in the model. This high multicollinearity could distort regression estimates, making it difficult to determine the unique effect of each variable. Board Independence (VIF = 7.14) shows moderate multicollinearity, which may still be acceptable but should be monitored. On the other hand, the independent variable, Debt to Equity (VIF = 1.04), and control variable, Liquidity (VIF = 1.81), exhibit low multicollinearity, indicating that these variables do not pose a significant issue in the model.

**Pooled OLS, Fixed and Random Effect Model:**

Any empirical analysis should begin with a decision on whether to estimate results using a simple regression or panel regression Baltagi (2008). A particular statistical test is needed to help make this selection. According to the study's first findings from the R program, the null hypothesis, which holds that individual effects are null had to be disproved. The findings suggest that the OLS estimator is unfit and inconsistent for this dataset. Table 4,5,6,7,8,9,10 and 11 depicts the estimates of the pooled regression model, fixed and random effect model, providing a comparative analysis of their suitability for evaluating the effect of financial leverage, firm size, corporate governance and liquidity on sustainable financial performance.

**Table 4: Pooled regression model, Random effect model, and Fixed effect model**

| | Coef. | std err | t | P>\|t\| | [0.025 | 0.975] |
|---|---|---|---|---|---|---|
| Intercept | 0.1109 | 0.818 | 0.135 | 0.893 | -1.531 | 1.753 |
| Dhofar Beverage | -0.0727 | 0.127 | -0.572 | 0.57 | -0.327 | 0.182 |
| Dhofar Food & Investments | -0.0536 | 0.038 | -1.427 | 0.16 | -0.129 | 0.022 |
| Gulf Mushroom Products] | 0.03 | 0.077 | 0.389 | 0.699 | -0.125 | 0.185 |
| National Biscuits Industries Limited | 0.0312 | 0.092 | 0.341 | 0.735 | -0.153 | 0.215 |
| National Mineral Water | -0.0402 | 0.122 | -0.329 | 0.743 | -0.285 | 0.205 |
| Oman Euro Food Industries | -0.1231 | 0.151 | -0.814 | 0.419 | -0.426 | 0.18 |
| Oman Fisheries | -0.2154 | 0.09 | -2.386 | 0.021 | -0.397 | -0.034 |
| Oman Floor Mills | 0.0206 | 0.039 | 0.531 | 0.597 | -0.057 | 0.099 |
| Oman Refreshment | 0.0653 | 0.032 | 2.068 | 0.044 | 0.002 | 0.129 |
| Salalah Mills | 0.012 | 0.03 | 0.4 | 0.691 | -0.048 | 0.072 |
| Debt on Equity | -0.0023 | 0.003 | -0.738 | 0.464 | -0.009 | 0.004 |
| FS | -0.006 | 0.045 | -0.134 | 0.894 | -0.096 | 0.084 |
| LI | 0.0087 | 0.004 | 2.176 | 0.034 | 0.001 | 0.017 |

**Table 5: Random Effect Model Summary**

| Metric | Value |
|---|---|
| Dependent Variable | ROA |
| $R^2$ | 0.269 |
| Adj.$R^2$ | 0.234 |
| F | 7.614 |
| Prob (F-statistic) | 0.000205 |
| Observations | 66 |
| Log-Likelihood | 74.328 |
| AIC | -140.7 |
| BIC | -131.9 |

**Table 6: The Hausman Test**

| | Coef. | Std. err. | t | P>\|t\| | [0.025 | 0.975] |
|---|---|---|---|---|---|---|
| **Intercept** | -0.472 | 0.15 | -3.144 | 0.003 | -0.772 | -0.172 |
| **DE** | -0.0004 | 0.003 | -0.13 | 0.897 | -0.007 | 0.006 |
| **FS** | 0.0263 | 0.009 | 2.917 | 0.005 | 0.008 | 0.044 |
| **LI** | 0.0114 | 0.004 | 2.543 | 0.013 | 0.002 | 0.02 |

**Table 7: Fixed Effect Model Summary**

| Metric | Value |
|---|---|
| Dependent Variable | ROA |
| $R^2$ | 0.759 |
| Adjusted $R^2$ | 0.698 |
| F-statistic | 12.57 |
| Prob (F-statistic) | 8.35 |
| No. of Observations | 66 |
| Log-Likelihood | 110.88 |
| Akaike Info Criterion | -193.8 |
| Bayesian Info Criterion | -163.1 |

**Table 9: The Hausman Test**

| | Coef. | std err | t | P>\|t\| | [0.025 | 0.975] |
|---|---|---|---|---|---|---|
| **Intercept** | -0.2653 | 0.182 | -1.461 | 0.149 | -0.629 | 0.098 |
| **DE** | 0.0023 | 0.004 | 0.668 | 0.507 | -0.005 | 0.009 |
| **FS** | 0.02 | 0.01 | 1.914 | 0.06 | -0.001 | 0.041 |
| **LI** | 0.0144 | 0.005 | 3.052 | 0.003 | 0.005 | 0.024 |
| **BS** | -0.0068 | 0.006 | -1.058 | 0.294 | -0.02 | 0.006 |
| **BI** | -0.0008 | 0 | -1.865 | 0.067 | -0.002 | 6.01E-05 |

**Table 10: Moderation Model Summary**

| Metric | Value |
|---|---|
| Dependent Variable | ROA |
| $R^2$ | 0.41 |
| Adj. $R^2$ | 0.339 |
| F-stat. | 5.762 |
| Prob (F-stat.) | $4.30 \times 10^{-5}$ |
| No. of Observations | 66 |
| Log-Likelihood | 81.398 |
| AIC (Akaike Info Criterion) | -146.8 |
| BIC (Bayesian Info Criterion) | -129.3 |

**Table 11: The Hausman Test**

| | Coef. | Std. err. | t | P>\|t\| | [0.025 | 0.975] |
|---|---|---|---|---|---|---|
| **Intercept** | -0.2425 | 0.18 | -1.346 | 0.184 | -0.603 | 0.118 |
| **DE** | 0.1001 | 0.035 | 2.861 | 0.006 | 0.03 | 0.17 |
| **FS** | 0.0172 | 0.01 | 1.673 | 0.1 | -0.003 | 0.038 |
| **LI** | 0.01 | 0.005 | 2.065 | 0.043 | 0 | 0.02 |
| **BS** | -0.0034 | 0.006 | -0.543 | 0.589 | -0.016 | 0.009 |
| **BI** | -0.0003 | 0.001 | -0.491 | 0.625 | -0.001 | 0.001 |
| **DE_BS** | -0.0078 | 0.004 | -2.043 | 0.046 | -0.015 | 0 |
| **DE_BI** | -0.001 | 0 | -2.381 | 0.021 | -0.002 | 0 |

The study inspects the effects of financial leverage i.e. firm size, debt to equity, and Liquidity on financial performance (ROA), with the moderating role of corporate governance (Board Size and Independence). The study used panel data regression models, and the Hausman test was applied in order to decide either to use Fixed Effects (FE) or Random Effects (RE) models. After running the Hausman test for fixed and random effects, it was observed from the p-value ($p < 0.05$) that the Fixed Effects model was favoured, suggesting that firm-specific characteristics have an effect on ROA and are correlated with the independent variables. This means that Fixed Effects is valid, because it removes the unobserved firm-level heterogeneity that might influence financial performances across time (Galli, 2024).

The findings showed that financial leverage (Debt to Equity) negatively affected ROA ($p = 0.464$), indicating that leverage does not considerably impact the performance of the cash flow of the Omani food industry sector. Such result is not consistent with $H_1$, therefore leverage on its own may not be a significant determinant of profitability for these firms. One explanation is that firms perform with moderate levels of debt, balancing risks with profitability (Modigliani & Miller, 2019; Alzoubi, 2021). Furthermore, the adverse but non-significant impact of debt imply that firms with high levels of debt may not be necessarily yield low rates if their capital structures are efficiently managed (Abor et al., 2020).

In contrast with H2, where Firm Size (FS) had substantial positive influence on the ROA ($p=0.005$). This indicates that bigger firms generally experience superior financial performance, attributed to possible economies of scale, enhanced market presence, and increased financial access (Dang et al., 2019; Bhatia & Aggarwal, 2021). Broader financial streams, often more efficient operations, and stronger risk management practices all contribute to the bottom line for larger firms as well. Liquidity (LI) was also found to have a positive and statistically significant

association with ROA (p = 0.013) confirming H3. This means that Companies with greater liquidity levels tend to be it better financially as they will be able to meet short time liabilities, seize patterning investment opportunities while maintaining the financial viability. The findings highlight the need to build up liquidity buffers to improve financial sustainability and performance (Bashir et al., 2020).

Furthermore, corporate governance (board Independence and board size) moderating effects were also assessed as to how they influence impact of financial leverage, firm size and liquidity on financial performance. According to the results Board Size and Board Independence had no statistically significant direct effect on ROA($p > 0.05$), indicative of a potential weak causal association among governance structure and firm value. The interaction terms DE × BS ($p = 0.046$) and DE × BI ($p = 0.021$) were statistically significant supporting H4. This indicates that strong corporate governance mechanisms can reduce the adverse effect of financial leverage on firm performance (Al-Matari & Al-Swidi, 2022). Firms with larger and more dispersed boards tend to implement superior debt management practices and risk-mitigation techniques, which diminishes the detrimental effects of financial leverage on profitability.

Firm Size × Board Size and Liquidity × Board Size interaction terms were non-significant, thus H5 and H6 were not supported. This implies that corporate governance will not always magnify the impacts of both firm size or liquidity on financial performance. Firm-specific financial characteristics rather than governance mechanisms seem to be somewhat more responsible for profitability. The interaction of Firm Size and Liquidity was also tested as they had a significant P value, and the R-squared value of 0.759 of the same Fixed Effects model indicates the implication that Firm Size and Liquidity together explain a substantial proportion of variance in financial performance. This bolsters H7, indicating that larger and liquid firms are associated with favorable financial outcomes (Kumar & Singh, 2021).

**Implications of the Study:**

The discoveries have enormous ramifications for corporate directors, lawmakers and investors. The first takeaway is the irrelevance of financial leverage. Firms should be careful in choosing their debt levels, unless they make optimal investment decisions with financing. The findings suggest that any profitable relationship between leverage and profitability may be contingent on the adequacy of debt management policies. Firms need to increase their size and liquidity to improve financial performance as well. Firm Size and Liquidity greatly impacts the ROA, emphasizing the necessity for growing strategies and liquidity management (Nasr et al., 2020). Singh and Delios (2021) suggest that managers must keep adjusting the working capital levels so as not to have excess liquidity, because it leads to inefficiencies, while too low working capital will lead to a lack of financial flexibility, and this will impact long-term success.

The results imply that board size and independence do not directly affect financial performance from a corporate governance perspective, rather they moderate the effect of financial leverage. This means that companies with good governance frameworks could effectively control financial risks. As a result, regulators and policymakers should encourage firms to promote Board Independence and governance practices that lead to better financial decision-making (Aguilera et al., 2019). From the perspective of investors, financial and governance factors should be incorporated into the firm performance evaluation. Firms with sound governance mechanisms may be better able to navigate financial risks and achieve sustained returns over the long run.

## CONCLUSION:

This study focused to provide practical evidence on the interaction among leverage, size and liquidity of the financial performance of firms, with corporate governance as a moderating component. Business dimensions and liquidity appear to be major factors influencing performance of financial aspect, while the effect of financial leverage is less precise. Considering the results of the Hausman test, the Fixed Effects model was selected, confirming the relevance of firm-specific factors in accounting for differences in financial performance. On the other hand, corporate governance does not directly impact profitability but acts in a moderating role to reduce financial risks related to leverage (Mansur & Azam, 2020). In their entirety, these results add to the existing evidence on factors that drive financial performance in emerging markets, predominantly in the context of Oman's food sector. Future climate governance research must investigate sector-specific governance mechanisms for performance and their interaction with financial policies to develop a richer understanding of sectoral performance drivers. It may be worth to include those external economic variables such as inflation, interest rates and macroeconomic conditions to gain more profound understanding of the factors affecting financial performance in the region (Bhattarai & Al-Sakran 2022).

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