HOW OWNERSHIP STRUCTURE IN FAMILY VS NON-FAMILY FIRMS AFFECTS AGENCY COSTS: A STUDY OF CORPORATE GOVERNANCE IN A MENA MARKET

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Abstract

This study investigates the relationship between corporate ownership and agency costs in an emerging market characterized by prevalence of family-owned public corporations. The sample includes 69 non-financial firms listed on Amman Stock Exchange (ASE) over the period 2010–2021. The analysis is based upon comparing between family and non-family firms using alternative panel data estimation methods to address potential endogeneity concerns. The results show low levels of agency costs in both family and non-family firms. Furthermore, we find a negative association between the ownership percentage of the largest owner in both family and non-family-owned firms and agency costs. Managerial ownership is also negatively related to agency costs, but only for family-owned firms. This implies that large shareholders provide effective monitoring of management in family firms only, while managers and shareholders' interests tend to be aligned regardless of the identity of the largest shareholder. Lastly, this study provides policy implications on the role of corporate ownership structure in a less developed country with small economy.

Keywords: Agency Costs, Family Ownership, Non-Family Firms, Ownership Concentration, Managerial Ownership, GMM

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1. INTRODUCTION

The relationship between ownership structure and agency problem has been a central topic of debate in corporate governance research. Agency problem arises when the agent (firm's manager) fails to act in the best of interest of the principal (shareholders), as the manager has the incentive to deploy firm's resources for personal consumption and/or exert inefficient or insufficient effort to maximize firm value (Turshan & Karim, 2022; Bijoy & Mangla, 2023; Shiyyab et al., 2023; Dike & Tuffour, 2023). The extant literature views agency problems in two contexts: vertical and horizontal agency problems. Vertical or

the classical agency problem emerges as a result of the separation between ownership and management because managers may pursue their own interest at the expense of shareholders, especially in firms with more dispersed ownership structure, as no single shareholder has the incentive to bear the cost of providing effective monitoring of managers' actions. Horizontal agency problem, on the other hand, arises from the conflict of interest between large controlling shareholders and minority shareholders since large shareholders may use their power to expropriate the rights of minority shareholder to extract private benefits (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; La Porta et al., 1999; Kostyuk et al., 2018).

Previous studies have shown that the significance of the impact of ownership concentration on mitigating agency costs depends on the identity of the largest shareholder (Kostyuk et al., 2011; Rashid Khan et al., 2020). The most dominant ownership structure around the world is where the largest shareholder is an individual or a family (La Porta et al., 1999; Anderson & Reeb, 2003; Bøhren et al., 2019). However, whether family firms have higher or lower agency costs remains an unresolved issue. This study, therefore, examines the relationship between ownership structure and agency costs in family vs non-family firms in an emerging market.

Although both family and non-family firms have agency problems, the effect of family ownership on agency problem is expected to be significant because of the peculiarity of family roles, characteristics, philosophy, and interest (Cronqvist & Nilsson, 2003; Cronqvist & Fahlenbrach, 2009; Halili et al., 2015; Mullins & Schoar, 2016). In family firms, large shareholders (or the family) may mitigate agency costs as they have the incentive to maximize the value of their firms when they act for the general interests of all shareholders by monitoring managers' actions. Also, the involvement of family members in management could eliminate the classical agency problem between shareholders and managers. On the other hand, when family altruism is considered and family members participate in management as a result of a loose separation between management and ownership in family firms, family members will have large discretion over the firm's assets. Consequently, a potential conflict of interest between large shareholders (i.e., controlling family) and minority shareholders could arise, especially when the family behavior deviates from shareholder wealth maximization. In this case, controlling family owners/managers could seek to maximize their private benefits and thus expropriate minority shareholders' rights. Even when family firms are managed by outside managers, those managers may act for the interest of the controlling family, not for all shareholders. Also, minority shareholders are subject to expropriation when family owners have voting rights that exceed their cash flow rights when the firm is owned via pyramid structures (La Porta et al., 1999; Claessens et al., 2002; Morck & Yeung, 2003; Morck et al., 2005; Chahal & Sharma, 2020). In non-family firms, the largest shareholder (who is usually a financial institution, state, or another firm) appoints professional managers who do not own a significant amount of the firm's equity. In this case, the largest shareholders may either engage themselves in effectively monitoring the management and reduce the entrenchment effect or involve in expropriation activities at the expense of minority interests (Lins, 2003; Florackis, 2008; Mullins & Schoar, 2016). However, the separation between control and management in non-family firms may result in absence of effective monitoring, which may encourage managers to engage in activities such as, management shirking and exaggerated expenditures on perquisites, that maximize their utility at the expense of shareholders' wealth (Jensen & Meckling, 1976; Shleifer & Vishny, 1997).

This study aims to examine the association between family vs non-family ownership and agency costs in non-financial Jordanian firms. Jordan, as a less-developed and civil law country tends to have weaker investor protection laws, concentrated ownership structures, large presence of family firms and prevalence of pyramidal groups, making it easier and less costly for large shareholders to divert firm's resources towards serving their self-interests in a way that expropriates minority shareholders' rights. Previous studies find that most of the Jordanian public firms are family-controlled and that the family is involved in the firm's management (Bino et al., 2016). This context leads to horizontal agency costs that may overweigh vertical agency costs (Villalonga & Amit, 2006; Rossi et al., 2018). Therefore, understanding this association in less-developed countries is a more relevant empirical question.

This study finds that agency problems are alleviated in both family and non-family firms. More specifically, the results show that, while both the largest shareholders and managerial ownership could reduce agency problem in family firms, only the largest shareholders do so in non-family firms. The results confirm that both vertical and horizontal agency problems are lower in nonfinancial Jordanian firms.

This study contributes to existing literature along two lines. First, it provides evidence on the association between corporate ownership structure and agency costs from a frontier market in the Middle East and North Africa (MENA) region, where corporate ownership is concentrated in the hands of a few wealthy large shareholders. Second, according to La Porta et al. (1999), family firms are the most dominant worldwide. However, the impact of family ownership on agency costs remains unresolved. This study, therefore, provides valuable insights on the impact of family and non-family firms from a context where most of the public firms are controlled by families, where the family is involved in firm's management.

The rest of the study is organized as follows. Section 2 presents a review of the literature and hypotheses development. Section 3 describes the data and methodology. Section 4 provides the discussion of the empirical results, and Section 5 concludes the study.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Concentrated ownership and managerial ownership structures as corporate governance mechanisms play a significant role in affecting the agency problem. Fleming et al. (2005) argue that these two structures may reduce agency problems, especially when the largest shareholder is a family. The nature of the impact of such mechanisms on agency costs

remains a controversial issue. Recent work, however, suggests that the effect of ownership concentration and managerial ownership varies across different largest shareholder's identities, family vs. non-family, because each identity of the largest shareholder has its own goal, role, philosophy, and interest (Cronqvist & Nilsson, 2003; Cronqvist & Fahlenbrach, 2009; Mullins & Schoar, 2016). In the remaining parts of this section, the study develops the hypotheses based on the theoretical and empirical results of previous studies.

2.1. Largest shareholder's ownership

Numerous studies have shown that concentrated ownership structure, by which large shareholders control the firm, remains the predominant feature of corporations around the world. The literature views large shareholders' role from two opposing perspectives: the monitoring effect and the expropriation effect. As for monitoring effect, large shareholders have the incentive to monitor managers and discipline them to act in the best interest of shareholders. According to the expropriation effect, on the other hand, large shareholders have the incentive to pursue private benefit and expropriate the rights of minority shareholders. Shleifer and Vishny (1997) argue that when large shareholders' interests do not coincide with those of minority shareholders, large shareholders may maximize their own interests and distort the value of the firm's investments. In fact, the empirical results of Ang et al. (2000), Fleming et al. (2005), Florackis (2008), among others, confirm the effective monitoring role of the largest shareholders, while studies such as Singh and Davidson (2003) and Tayeh et al. (2023) show that the largest shareholder's ownership is irrelevant for agency costs. In family firms, the largest shareholders are expected to mitigate agency costs by aligning owners' and managers' incentives. Thus, enhancing managerial oversight, or even completely eliminating agency costs by combining ownership and management roles within a single individual. But when family owners pursue their own goals rather than those of minority shareholders, they might use their controlling power to maximize their own interests and expropriate the rights of minority shareholders. In sum, the impact of the largest shareholders on agency costs in family firms is an empirical issue that needs further investigation, and thus, we hypothesize:

H1a: In family firms, family ownership has an insignificant impact on agency costs.

In non-family firms, where the largest shareholder is an institution or a widely held firm, large shareholders' incentive to expropriate the rights of minority shareholders is mitigated as the private benefits of control are spread out among a diverse set of shareholders, which implies lower agency costs. However, the largest shareholders may be less motivated to effectively monitor the manager's actions, which results in higher agency costs (Burkart et al., 2003; Villalonga & Amit, 2006). Therefore, we hypothesize the following:

H1b: In non-family firms, the existence of large shareholders has an insignificant impact on agency costs.

2.2. Managerial ownership

According to Jensen and Meckling (1976) agency problem arises as a result of the conflict of interest between ownership and management at which time ownership and management are separated from each other. However, classical agency problem recognizes that the relationship between agency problem and the separation between ownership and management could become inverse. Although managerial shareholdings may lead to alignment of interests of managers with those of other shareholders, a substantial proportion of managerial ownership may motivate the entrenched behavior by managers. Greater managerial ownership could give the managers the power to extract private benefits and engage in value-detriment projects, thus entrench themselves at the expense of shareholders. In this regard, family firms may have lower agency costs as they are characterized by loose separation between management and ownership that could eliminate the classical agency problem between owners and managers. Even if family firms were managed by outside managers, those managers could act for the benefit of the controlling family, not for the benefit of minority shareholders. However, family altruism and absence of monitoring may encourage managers to extract private benefits and thus increase agency costs (Claessens et al., 2002; Morck & Yeung, 2003; Morck et al., 2005; Audretsch et al., 2013; Halili et al., 2015). Therefore, we hypothesize:

H2a: In family firms, managerial ownership has an insignificant impact on agency costs.

As for non-family ownership, the firm is usually managed by professional managers who may not own enough stake in the firm to become entrenched. Nevertheless, managers with low equity stake may have their interests aligned with those of minority shareholders and, thus, engage in value-maximizing activities. Jensen and Meckling (1976) argue that, at low levels of agency problem, as managerial ownership increases, firm performance increases. However, the empirical evidence shows that lower managerial ownership aligns manager and shareholder interests, reducing incentives for managers to consume perks, pursue personal goals, and extract private benefits (Morck et al., 1988; Florackis, 2008; Pergola & Joseph, 2011). Separation between ownership and management in non-family firms could increase information asymmetry and lead to the absence of effective monitoring that encourages managers to engage in activities that maximize their utility at the expense of shareholders (Lins, 2003; Florackis & Ozkan, 2009; Mullins & Schoar, 2016; Tayeh et al., 2023). Empirical evidence, such as Ang et al. (2000), documented that agency costs are inversely related to managerial ownership. This result is consistent with the results of Singh and Davidson (2003), who found that agency costs, measured by asset utilization, are restricted as managerial ownership increases. But on the other side, Tayeh et al. (2023) reported that a greater managerial ownership is associated with lower assets turnover because managers exert inefficient or insufficient effort. Thus, we hypothesize that:

H2b: In non-family, managerial ownership has a positive impact on agency costs.

3. RESEARCH METHODOLOGY

3.1. Data

Available corporate ownership data were manually collected from the annual reports published on the Amman Stock Exchange (ASE) website and contain the identities of shareholders of 5% or more of the firm's capital. Using these data, we classify the firm as either family-controlled or non-family-controlled. Following La Porta et al. (1999), a firm is categorized as family-controlled if the largest shareholder is a family or a person. Otherwise, it is classified as non-family-controlled provided that the firm has at least one shareholder who owns 5% or more of the firm's capital. The sample is restricted to non-financial firms listed on the ASE between 2010 and 2021. Financial firms were excluded due to their distinct operational characteristics and leverage ratios, as well as their governance practices and regulations which can significantly influence financial performance and governance practices. To be included in the sample, the firm must have complete data for all variables used in the study. After rigorous data cleaning and validation, the final sample comprises 800 firm-year observations, divided into 461 observations for family-controlled firms and 339 for non-family-controlled firms.

3.2. Dependent variables

Following previous studies, assets utilization (*AU*), measured by the sales-to-total-assets ratio, is used as a proxy for agency costs. This ratio measures the effectiveness of a firm's managers in deploying assets towards generating sales and cash flows. A higher such ratio indicates efficient assets utilization and lower agency costs, as it suggests that managers are focused on maximizing shareholder value and avoiding wasteful expenditures. Conversely, a lower ratio signals inefficient assets utilization, poor investment decisions, or excessive spending on non-productive activities. Therefore, the lower the rate of assets turnover, the higher the agency costs (Ang et al., 2000; Singh & Davidson, 2003; Florackis, 2008; Florackis & Ozkan, 2009).

In addition, the study used a direct proxy for agency costs, which is the selling, general, and administrative (*SGA*) expenses as a percentage of total sales, which reflects managerial efficiency in controlling operating costs. According to the agency theory framework outlined by Jensen and Meckling (1976) and Jensen (1986), higher SGA expenses indicate managerial empire-building behavior. Unmonitored managers may inflate these costs to increase their power, status, and personal benefits, leading to higher agency costs for the firm.

3.3. Independent variables

To examine the impact of ownership structure on agency costs in family firms relative to non-family firms, we distinguish between the two main dimensions of control: ownership and management. To measure these dimensions, we employ the following proxies. The first is ownership of the largest shareholder(s), which is measured by the percentage of capital held by the largest shareholder(s), whether directly or indirectly. In Jordan, legal protection and enforcement of minority shareholders' rights are weak (Abu-Ghunmi et al., 2015; Bino et al., 2016). This leads to concentration of ownership among few large shareholders, who exploit minority shareholders' rights and prioritize their own interests over the firm's overall value. However, large shareholders can positively influence a firm's corporate governance practices and monitor management activities effectively (Shleifer & Vishny, 1997; Abu-Ghunmi et al., 2015; Bino et al., 2016). The second proxy is managerial ownership, measured by the percentage of a firm's equity held by its managers. In ASE, corporate ownership is typically concentrated among few related individuals, often within a family group. These controlling families frequently hold significant managerial roles, granting them substantial discretion over firm assets and prioritize their own interests. This concentration of power can facilitate expropriation of minority shareholder rights, as documented by La Porta et al. (1999), Bino et al. (2016), and Tayeh et al. (2023). Consequently, analyzing managerial ownership is crucial for assessing the potential for both managerial entrenchment and interests alignment effects.

3.4. Control variables

Following previous empirical work, several control variables are included in the analysis. These variables include firm size, which is measured by the natural logarithm of total assets, financial leverage, which is measured by total debt (short-term and long-term debt) divided by total assets, firm's growth opportunities, measured by sales growth, which is the percentage change in firm's annual sales and finally firm's age measured by the natural logarithm of the firm's age.

3.5. Research model

This study examines the effect of ownership structure on agency costs for family and non-family firms using a panel regression model whose parameters are estimated by alternative methods that can correct for endogeneity problems. The effect of unobservable firm- and time-specific variables is captured by including firm and year effects. The empirical model is as follows:

$$AGC_{it} = \alpha + \gamma_i + \delta_t + \beta_1 OWNS_{it} + \sum_{\delta=1}^{k} \beta_k Z_{it} + \varepsilon_{it} \quad (1)$$

where, AGC_{it} is the agency costs for firm i at time t measured by *AU* and *SGA*. $OWNS_{it}$ is the ownership structure of the firm, which is measured by the share of the largest owner (*LARGE*) and managerial ownership (*MOSH*). Z_{it} is a vector of control variables that includes firm size ($SIZE_{it}$), firm growth opportunities ($GROWTH_{it}$), firm's age (AGE_{it}) and leverage (LEV_{it}). γ_i and δ_t are included to control for the effect of unobserved firm specific and time specific variables, where the latter controls for time-varying influences such as inflation and other macroeconomic factors, ε_{it} is the random error

term. To estimate the parameters of Eq. (1), fixed and random effects methods were used, instead of pooled ordinary least squares (OLS) regression, to account for the possibility of unobservable omitted variables. However, due to the possible time-varying nature of omitted variables, both fixed and random effect models cannot fully capture the endogeneity problem that may exist in the research of ownership structure. This study, therefore, employs a dynamic panel data method using the generalized method of moments (GMM) estimators to account for endogeneity concern.

4. EMPIRICAL RESULTS

4.1. Descriptive statistics and correlations

Table 1 presents the descriptive statistics for the whole sample, family and non-family firms that are reported in Panels A, B and C respectively, in addition to the t-test for difference in means in Panel D. The results show that mean value of *AU* and *SGA* were 55.8% and 24.8% for whole sample, respectively. However, the mean value of *AU* for family firms is 44.1%, which is lower than that of non-family firms, which is 71.7%, and the difference in means between the two groups is statistically significant. The results indicate lower agency costs in non-family firms as evidenced by higher *AU*. The results are consistent with those of McConaughy et al. (2001) and Ibrahim and Abdul Samad (2011). In addition, family firms have higher agency costs as the mean value of *SGA* is 34.2% that is significantly higher than the mean of *SGA* 12.0% for non-family firms. This is consistent with Ibrahim and Abdul Samad (2011). This implies that family firms are unable to alleviate agency costs compared to non-family firms, as family involvement may not be enough to improve the efficiency of asset utilization and effectively monitor firm's managers.

As for measures of ownership structure, the mean value of the largest shareholder's ownership and managerial ownership is 42.0% and 13.30%, respectively, for the full sample. The mean value of the largest shareholder and managerial ownership in family firms are 43.6% and 20.0%, respectively, which are significantly higher than those for non-family firms, 39.9% and 4.2%, respectively. These results indicate that the founding family holds a higher percentage of equity ownership and retains executive positions in the firm, which is consistent with Anderson et al. (2009) and Halili et al. (2015).

The results of descriptive statistics show that the average firm size in the full sample is JOD 110 million, and the largest firm being a non-family firm with total assets of JOD 1,799 million, compared to the largest family firm with total assets of JOD 126.3 million. Consequently, the mean size of family firms, at JOD 30.843 million, is significantly smaller than the mean size of non-family firms, which is JOD 217.7 million. The average age of firms in the full sample is 30.823 years, indicating that Jordanian firms are well-established firms, where the oldest firm is a non-family firm with a mean age of 35.265 years, compared to 27.555 years for a family firm. This means that family firms are younger than non-family firms. The results on the size and age are consistent with previous studies such as Villalonga and Amit (2006), Halili et al. (2015), and Chahal and Sharma (2020), among others, that show that family firms are smaller and younger than non-family firms. The results show that the mean value of firms leverage is 16.8% in the full sample. This is close to the mean value of family firms and non-family firms of 16.9% and 16.6%, respectively, with an insignificant difference between the two groups. Finally, the results show that there is no statistically significant difference in the means of sales growth between family and non-family firms, which is inconsistent with Villalonga and Amit (2006) and Chahal and Sharma (2020).

Table 1. Descriptive statistics

Statsistics	*AU*	*SGA*	*LARGE*	*MOSH*	*SIZE*	*GROWTH*	*AGE*	*LEV*
Panel A: All firms								
N	800	800	800	800	800	800	800	800
Mean	0.558	0.248	0.420	0.133	110.000	0.122	30.823	0.168
Median	0.516	0.088	0.384	0.002	28.829	-0.003	25.000	0.135
Min	0.001	0.002	0.057	0.000	0.470	-0.990	4.000	0.000
Max	2.994	34.630	0.987	0.965	1,799.000	87.228	83.000	0.990
Std. dev.	0.366	1.299	0.218	0.225	269.600	3.110	16.687	0.166
Panel B: Family firms								
N	461	461	461	461	461	461	461	461
Mean	0.441	0.342	0.436	0.200	30.843	0.203	27.555	0.169
Median	0.405	0.134	0.388	0.011	25.213	-0.010	24.000	0.140
Min	0.001	0.007	0.066	0.000	0.470	-0.990	4.000	0.000
Max	2.141	34.630	0.965	0.965	126.300	87.228	68.000	0.990
Std. dev.	0.329	1.676	0.224	0.265	26.125	4.092	13.349	0.171
Panel C: Non-family firms								
N	339	339	339	339	339	339	339	339
Mean	0.717	0.120	0.399	0.042	217.700	0.011	35.265	0.166
Median	0.655	0.065	0.370	0.001	34.924	0.005	30.000	0.134
Min	0.002	0.002	0.057	0.000	1.530	-0.818	5.000	0.000
Max	2.994	5.538	0.987	0.503	1,799.000	0.817	83.000	0.701
Std. dev.	0.354	0.369	0.207	0.101	388.300	0.236	19.530	0.159
Panel D: T-test for the difference in means								
Diff.	0.276***	-0.222**	-0.038**	-0.158***	186.900***	-0.192	7.710***	-0.004

*Note: This table presents the descriptive statistics of variables. AU is the assets utilization ratio. SGA is the selling, general and administrative expenses ratio. LARGE is the percentage of shares held by largest shareholders. MOSH is the percentage of managerial ownership. SIZE is firms size measured in millions of Jordanian Dinar (JOD local currency). GRWOTH is firms growth opportunities. AGE is firms age. LEV is firms leverage. Diff. is means difference. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.*

Table 2. Pearson's pair-wise correlations

Variables		*AU*	*SGA*	*LARGE*	*MOSH*	*SIZE*	*GROWTH*	*AGE*	*LEV*
Panel A: All firms									
AU		1.000							
SGA		-0.162***	1.000						
LARGE		-0.052	0.028	1.000					
MOSH		-0.211***	0.123***	0.315***	1.000				
SIZE		0.318***	-0.054	-0.147***	-0.124***	1.000			
GROWTH		0.013	-0.006	-0.024	-0.011	-0.011	1.000		
AGE		0.215***	-0.026	-0.012	-0.134***	0.375***	0.034	1.000	
LEV		-0.032	-0.033	-0.091***	-0.008	0.076**	-0.041	-0.008	1.000
Panel B: Family and non-family									
		Non-family							
AU	***Family***	**1.000**	-0.277***	-0.011	-0.152***	0.348***	0.273***	0.147***	0.160***
SGA		-0.147***	**1.000**	-0.045	-0.004	-0.114**	-0.253***	0.039	0.115**
LARGE		-0.030	0.034	**1.000**	-0.079	-0.217***	-0.023	-0.145***	-0.284***
MOSH		-0.088*	0.108**	0.431***	**1.000**	-0.016	-0.101*	0.151***	0.039
SIZE		-0.298***	-0.079*	0.126***	-0.006	**1.000**	0.076	0.471***	0.140***
GROWTH		0.023	-0.006	-0.034	-0.023	-0.057	**1.000**	-0.043	-0.055
AGE		0.186***	-0.025	0.128***	-0.178***	0.009	0.061	**1.000**	0.127**
LEV		-0.170***	-0.062	0.029	-0.027	-0.046	-0.051	-0.120***	**1.000**

*Note: This table presents the Person's pair-wise correlations. The variables are as defined in Table 1. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.*

The results of the pair-wise correlation are reported in Table 2 for the full sample and for family and non-family firms in Panels A and B, respectively. The reported values of correlation coefficients present no supporting evidence on the existence of multicollinearity among variables that may distort the results of regression analysis. The reported coefficients are relatively low. However, managerial ownership is significantly and negatively correlated with *AU* in both family and non-family firms, but it is only positively and significantly correlated with *SGA* in family firms.

4.2. Regression analysis and discussion

Panels A, B, and C of Table 3 present the empirical results of two distinct model specifications for two agency costs measures: *AU* and *SGA* expenses for all firms, family firms, and non-family firms, respectively. Models 1 and 2 test the relationship using different ownership structure measures. To account for unobserved firm-specific variables, we employed the Breusch-Pagan Lagrange multiplier (LM) test for random effects, and the results confirm the existence of unobserved firm-specific effects. The Hausman test, then, is used to test the correlation between these unobserved variables and the regressors in the regression model, suggesting the need for fixed effects models[1]. While the discussion focuses on fixed effects results, random effects generalized least squares (GLS) estimates are also provided for robustness purposes.

4.2.1. Agency costs in all firms

Panel A of Table 3 reports the results for the full sample. The results show a positive and significant association between ownership measures, the largest shareholder and managerial ownership, and *AU*. The estimated coefficients are statistically significant at the 5% level. The results, however, show a negative but insignificant impact of the largest shareholder and managerial ownership on *SGA*. Since *AU* is an inverse measure of agency costs, then lower agency costs are reflected in higher *AU*. Therefore, the significant positive impact of the largest shareholder's ownership on *AU* imply that the largest shareholders use their power to monitor managers and discipline them to act in the best interest of shareholders. In addition, the results do not support the expropriation effect, and thus, indicate that large shareholders do not use their power to pursue private benefit or expropriate the rights of minority shareholders. On the contrary, according to Halili et al. (2015), the largest shareholders may intervene in firm's operations, establishing favorable business relations and participate in other business actions. In addition, the significant positive impact of managerial ownership on *AU* may imply that managers who own larger equity stakes in the firm's capital achieve a higher turnover rate in assets due to good investment decisions and efficient or sufficient efforts. This may also indicate that the aligned interests effect is more likely than the managerial entrenchment effect. Our results are consistent with the results of Ang et al. (2000), Singh and Davidson (2003), Mustapha and Che Ahmad (2011), and Vijayakumaran (2019), among others, but inconsistent with the results of Allam (2018) and Tayeh et al. (2023).

As for the control variables, the results show a negative and statistically significant impact of firm size on *SGA*, which is in line with Ang et al. (2000), Singh and Davidson (2003), Allam (2018), Vijayakumaran (2019), and Tayeh et al. (2023). This may imply that more resources are available in large firms to the extent that manager's behavior is monitored more effectively. However, the impact of firm size is insignificant in *AU* regression, which is consistent with the results of Florackis and Ozkan (2009) and Mustapha and Che Ahmad (2011). In addition, in all *SGA* regressions, the coefficient of firm's growth is negative and statistically significant at 1%, which is consistent with the results of Fleming et al. (2005) and Tayeh et al. (2023). This finding may indicate a potential negative correlation between growth opportunities and discretionary expenditures, suggesting that firms with higher growth potential may face cash shortages that limit their ability to allocate resources to suboptimal uses.

Only in *AU* regression, the impact of firm age is positive and statistically significant at least at the 5% level. This implies that older firms are more likely to have lower agency costs as they may be more efficient in managing and utilizing their resources.

[1] The results of the LM and the Hausman test are not included, but they are available upon request.

This is inconsistent with the results of Vijayakumaran (2019) and Tayeh et al. (2023), who find that firm age positively affects *SGA* expenses. However, firm age has no significant impact on agency costs, as shown in the results of *SGA* regression, which is consistent with Ang et al. (2000). Finally, the empirical analysis reveals that the estimated coefficient for leverage is statistically insignificant in both *AU* and *SGA* regressions. This is consistent with the findings of Tayeh et al. (2023), and does not support the argument that leverage acts as an effective corporate governance mechanism by deterring managerial actions such as suboptimal investments and excessive perquisite consumption, as evidenced by Vijayakumaran (2019) among others.

Table 3. Panel regression results for *AU* and *SGA*, and ownership structure

Variables	*AU*				*SGA*			
	Model 1		*Model 2*		*Model 1*		*Model 2*	
	FE	*RE*	*FE*	*RE*	*FE*	*RE*	*FE*	*RE*
Panel A: All firms								
Intercept	0.6415	0.0817	0.6362	0.1032	2.0490***	1.1939***	2.0691***	1.1570***
	(0.565)	(0.114)	(0.555)	(0.147)	(2.778)	(4.189)	(2.766)	(4.416)
LARGE	0.3157**	0.2419*			-0.0497	-0.0334		
	(2.226)	(1.960)			(-0.549)	(-0.505)		
MOSH			0.2127**	0.1430*			-0.0009	0.0271
			(2.497)	(1.708)			(-0.010)	(0.347)
SIZE	-0.0647	-0.0198	-0.0637	-0.0180	-0.1161***	-0.0606***	-0.1164***	-0.0593***
	(-1.073)	(-0.547)	(-1.051)	(-0.507)	(-3.189)	(-3.664)	(-3.147)	(-3.697)
GROWTH	-0.0019	0.0012	0.0005	0.0033	-0.1079***	-0.1134***	-0.1090***	-0.1145***
	(-0.053)	(0.034)	(0.014)	(0.095)	(-6.238)	(-6.245)	(-6.259)	(-6.244)
AGE	0.3284**	0.2637***	0.3551**	0.2702***	0.0280	-0.0036	0.0172	-0.0044
	(2.028)	(2.594)	(2.134)	(2.660)	(0.269)	(-0.100)	(0.175)	(-0.126)
LEV	-0.1124	-0.1203	-0.1299	-0.1341	0.0508	0.0222	0.0524	0.0228
	(-1.259)	(-1.339)	(-1.441)	(-1.478)	(1.087)	(0.532)	(1.119)	(0.552)
Adj. R-squared	0.157	0.170	0.153	0.166	0.184	0.185	0.182	0.182
Firm-year obs.	800							
Firm & time effect	Yes							
Panel B: Family firms								
Intercept	0.8325	0.8155	0.7356	0.7345	3.5614***	2.1059***	3.5959***	2.1091***
	(0.536)	(0.710)	(0.468)	(0.640)	(3.503)	(3.672)	(3.541)	(3.722)
LARGE	0.3155**	0.2542*			-0.0821	-0.0522		
	(2.057)	(1.929)			(-0.673)	(-0.578)		
MOSH			0.1928*	0.1720*			-0.0256	-0.0070
			(1.778)	(1.697)			(-0.213)	(-0.071)
SIZE	-0.0628	-0.0579	-0.0550	-0.0523	-0.1843***	-0.0992***	-0.1867***	-0.1002***
	(-0.781)	(-0.977)	(-0.670)	(-0.878)	(-3.563)	(-3.139)	(-3.439)	(-3.057)
GROWTH	-0.0745	-0.0721	-0.0720	-0.0704	-0.1474***	-0.1580***	-0.1486***	-0.1590***
	(-1.150)	(-1.154)	(-1.099)	(-1.118)	(-6.716)	(-7.111)	(-6.709)	(-7.057)
AGE	0.2503*	0.2392***	0.2691*	0.2571***	-0.0944	-0.0875	-0.1017	-0.0891
	(1.714)	(2.700)	(1.896)	(2.893)	(-0.624)	(-1.589)	(-0.690)	(-1.605)
LEV	-0.2360***	-0.2449***	-0.2822***	-0.2800***	0.1004	0.0160	0.1105	0.0201
	(-2.778)	(-3.144)	(-3.142)	(-3.344)	(1.364)	(0.236)	(1.505)	(0.304)
Adj. R-squared	0.203	0.230	0.201	0.229	0.261	0.272	0.260	0.270
Firm-year obs.	461							
Firm & time effect	Yes							
Panel C: Non-family firms								
Intercept	-0.1482	-0.2816	0.1835	-0.0690	0.8285**	0.4905***	0.8198**	0.4837***
	(-0.100)	(-0.320)	(0.130)	(-0.086)	(2.042)	(3.765)	(2.203)	(4.324)
LARGE	0.4348*	0.3919**			-0.0368	-0.0127		
	(1.811)	(2.121)			(-0.822)	(-0.340)		
MOSH			-0.0638	-0.1071			0.0650	0.0772
			(-0.404)	(-0.660)			(0.987)	(1.115)
SIZE	-0.0253	0.0117	-0.0475	0.0072	-0.0542***	-0.0290***	-0.0518***	-0.0285***
	(-0.403)	(0.326)	(-0.759)	(0.207)	(-2.810)	(-3.564)	(-3.116)	(-3.923)
GROWTH	0.0363**	0.0391***	0.0369**	0.0420***	-0.0460***	-0.0462***	-0.0452***	-0.0450***
	(2.465)	(2.705)	(2.374)	(2.798)	(-5.782)	(-6.113)	(-5.928)	(-6.109)
AGE	0.3645	0.1970	0.4352	0.1990	0.0688	0.0322*	0.0528	0.0288
	(1.267)	(1.412)	(1.425)	(1.453)	(1.406)	(1.660)	(1.068)	(1.417)
LEV	0.0462	0.0712	0.0438	0.0475	0.0104	0.0083	0.0144	0.0134
	(0.266)	(0.388)	(0.265)	(0.275)	(0.374)	(0.345)	(0.532)	(0.555)
Adj. R-squared	0.127	0.161	0.116	0.144	0.278	0.292	0.284	0.301
Firm-year obs.	339							
Firm & time effect	Yes							

*Note: This table reports panel regression results. The variables are as defined in Table 1. FE refers to fixed effect, and RE refers to random effect. Robust t-statistic (z-statistic) is in parentheses for FE (RE) regressions. *, ** and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.*

4.2.2. Agency costs in family versus non-family firms

The empirical results of the impact of ownership structure on agency costs in family and non-family firms are reported in Panels B and C of Table 3, respectively. The results of family firms show that family ownership has a positive and significant impact on *AU*. The estimated coefficient is positive and statistically significant at the 5% and 10% level in *AU* regressions. However, there is no evidence of the impact of family ownership on *SGA*. This means that family firms have lower agency costs reflected in efficient utilization of their assets, which does not support *H1a*. This suggests the convergence of

majority-minority interests and the absence of self-dealing expropriation activities by the family. At the same time, the results support the family owner role in monitoring managers and the involvement of family members in the firm's management as a result of their large equity stake. Consequently, Jordanian family firms exhibit reduced horizontal and vertical agency problems; low conflicts of interest between controlling family and minority shareholders, and between owners and managers. These results are in line with previous studies on family ownership and agency costs (Villalonga & Amit, 2006; Block, 2012; Audretsch et al., 2013; Halili et al., 2015), but inconsistent with Subekti and Sumargo (2015) and Chahal and Sharma (2020), among others. For non-family firms, the findings also show a positive and significant relationship between the largest shareholder and *AU*, but no association with *SGA*. This means that as the equity stake of the largest shareholder increases, utilization of firm's assets becomes more efficient and, thus, results in lower agency costs. This rejects the *H1b* that largest shareholders in non-family firms have an insignificant impact on agency costs. The results imply that largest shareholders exercise effective monitoring that reduces information asymmetry that allows managers to undertake optimal investment decisions that maximize shareholders' wealth. This result is consistent with the monitoring hypothesis and does not provide evidence on the engagement of large shareholders in expropriation activities at the expense of minority shareholders. These findings are in line with the results of Ang et al. (2000), Fleming et al. (2005), and Allam (2018), but inconsistent with the results of Singh and Davidson (2003) and Tayeh et al. (2023).

In relation to the role of managerial ownership in family firms, there is a positive and statistically significant association with *AU* but no relationship with *SGA* ratio. The findings indicate that managerial ownership in family firms could increase the efficiency of a firm's assets through generating a high level of sales and thus produce a larger amount of cash flows. Such firms create value for their shareholders and have lower agency costs compared to firms with inefficient asset utilization. This is consistent with the theoretical argument of Jensen and Meckling (1976) on the convergence of interests hypothesis, which views managerial ownership as a potential mechanism that will help align the interests of managers and shareholders and thus alleviate agency costs. But this contradicts the empirical evidence of several subsequent studies, such as Morck et al. (1988) and McConnell and Servaes (1995), who show that managers may behave in self-serving manner as their ownership increases. The results imply that there is a convergence of ownership and management within family firms that is expected to diminish agency costs. This alignment arises from the shared objective of family members, both as owners and managers, to prioritize the long-term prosperity and reputation of the family enterprise. This means that in Jordanian firms, although family members are involved in the firm's management, they do not behave in an opportunistic manner. On the contrary, their actions reduce the classical agency costs and thus the results do not support *H2a*. These results are consistent with Villalonga and Amit (2006), Poutziouris et al. (2015), Blanco-Mazagatos et al. (2016), Vijayakumaran (2019), among others, but inconsistent with those of Cucculelli and Micucci (2008), Subekti and Sumargo (2015), Allam (2018), and Tayeh et al. (2023), among others. For non-family firms, the results provide no evidence on any significant role of managerial ownership in affecting agency costs. The results show that the relationship between managerial ownership and both *AU* and *SGA* is statistically insignificant. These findings do not support *H2b*. This may indicate that the role of the largest owner in non-family firms is more pronounced and dominates the role of managers in impacting agency costs.

As for control variables, the empirical results for both family and non-family firms are qualitatively and quantitatively similar to those reported for all firms. One notable exception is the impact of leverage in family firms, which becomes negative and statistically significant at the 1% level in *AU* regressions. This indicates that leverage is not an effective controlling mechanism in family firms and may imply that funds raised from debt are not utilized according to the debt agreement. This is inconsistent with the results of Halili et al. (2015), Vijayakumaran (2019) among others. In addition, for non-family firms, the relationship between firm's growth and *AU* is positive and statistically significant. This is opposite to the results of Fleming et al. (2005), who argue that low asset utilization could be the result of a firm developing new processes and products.

Furthermore, to account for the possible impact COVID-19 pandemic during the sample period, we conducted robustness checks by re-estimating model parameters. The results regarding the impact of ownership variables on proxies of agency costs are quantitatively and qualitatively similar to those reported in Panels A to C of Table 3. That is, the results confirm the existence of low agency costs. The results, however, show that the pandemic had a negative and significant relationship with *AU* but a positive and significant impact on *SGA*. This indicates that during the pandemic, there was a significant drop in the efficiency of asset utilization and an increase in the *SGA* expenses[2].

4.3. Robustness analysis

Previous studies, such as Himmelberg et al. (1999), Weir et al. (2002), and Coles et al. (2012), among others, argue that endogeneity could be an estimation problem in the empirical research of ownership structure. Endogeneity arises because of the simultaneity between both agency costs and ownership that makes the estimation of the static model biased and inconsistent. Although the issue of unobserved omitted variables can be controlled for using both random- and fixed-effects models, they cannot account for endogeneity arising from the time-varying nature of the omitted variable (Tayeh et al., 2023). To address the endogeneity concerns inherent in the static model, this study implements a dynamic panel data approach utilizing the GMM estimator. This method offers several advantages over traditional techniques. Specifically, the system GMM estimator proposed by Blundell and Bond (1998) is adopted. This approach utilizes the changes in lagged dependent variables as instruments, rather than external exogenous

[2] For the sake of brevity, the empirical results that accounts for COVID-19 pandemic are not presented here but are available upon request from the authors.

variables. System-GMM's reliance on orthogonality conditions enables the control of heteroscedasticity of unknown form. As noted by Blundell and Bond (1998), system-GMM is more efficient and robust in finite samples, leading to reduced bias and improved precision in the estimated coefficients.

To account for endogeneity concerns, the empirical analysis is repeated, and the results are reported in Panels A to C of Table A.1 (Appendix), for the full sample, family, and non-family firms, respectively. These results are estimated using a dynamic setting of Blundell and Bond (1998) system GMM estimators that employ lagged values of both agency costs measures as explanatory variables. That is, the changes in the lagged values of measures of agency costs are used as instruments for their lagged values. The results reported in Table A.1 are qualitatively similar to those reported in Table 3. There are lower agency costs for all firms. The estimated coefficients of the largest shareholder and managerial ownership are positive and statistically significant in *AU* regressions. However, the impact of ownership variables is insignificant in *SGA* regressions. The results show that the largest shareholders and managerial ownership alleviate agency costs and thereby support the monitoring and alignment hypotheses. For family firms, the results in Panel B of Table A.1 provide evidence of low agency costs. That is, the findings show a positive (negative) and significant relationship between managerial ownership and *AU* (*SGA*). This is consistent with the convergence of interests argument. Finally, for non-family firms, the results show no evidence on agency costs as the estimated coefficients of ownership measures have an insignificant impact on both proxies of agency costs, which are inconsistent with the results in Panel C of Table 3 in terms of the impact of the largest shareholder on *AU*.

5. CONCLUSION

This study investigated the relationship between ownership structure and agency costs, focusing specifically on the differences between family-owned and non-family-owned non-financial firms in Jordan. The empirical results provide evidence on low level of agency costs in both groups. The results for the full sample show a positive and significant impact of the largest shareholder and managerial ownership on asset utilization. With regard to family firms, the results show that the largest family owner has positively influenced asset utilization. This implies that family ownership does have a role in alleviating agency costs, and the owners can be motivated and influential monitors. The same result is found for non-family firms. The largest shareholder also reduces agency costs, which lends support to the monitoring hypothesis. Furthermore, the negative impact of the largest shareholder on agency costs, in both family and non-family firms, indicates the absence of self-expropriation behavior of the largest owner. In other words, the largest shareholders indulge in value-maximizing behaviour and in activities that serve the interests of all shareholders. With regard to the role of managerial ownership, the results show that managers reduce agency costs only in family firms. That is, the managerial ownership has a positive and statistically significant impact on assets utilization. This confirms that managers are oriented towards family firms and have a common interest for the overall good of the family, which lowers agency costs between principals and agents. However, the results on the impact of ownership structure on agency costs measured by the sales, general, and administrative ratio are insignificant. According to Singh and Davidson (2003), this insignificant relationship is due to the low visibility of accounting expenses in relation to cash flow generation compared to sales revenue. The presence of information asymmetries, therefore, makes shareholders more attracted to metrics directly related to cash flow generation, such as the sales-to-assets ratio, rather than relying on accounting-based costs and profits.

To address the endogeneity issue, this study employed the system GMM estimator. The results of GMM are qualitatively similar to panel regression results, and thus provide evidence on lower agency costs in both family and non-family firms. In addition, this study accounts for the impact of COVID-19 during the sample period, and the results of re-estimating the panel regression model are quantitatively and qualitatively similar. The results show that COVID-19 has a significant negative and positive impact on a firm's asset utilization and expense ratio, respectively.

The findings of this study on ownership structure and agency costs in Jordanian family versus non-family firms have significant implications for corporate governance policymakers, regulators, and investors. Despite the prevalence of ownership concentration and pyramid structures in Jordanian firms, the results suggest that concentrated ownership and managerial ownership can serve as effective corporate governance mechanisms to mitigate agency costs for small and minority shareholders. Further research is warranted to delve deeper into the complexities of family firms. This includes examining the impact of inter-family relationships (e.g., sibling rivalry, family conflicts) on firm performance and agency costs, analyzing the behavior and decision-making of family managers who do not hold equity stakes in the firm, and investigating the potential influence of the firm's generational stage (e.g., founder-led, second-generation, third-generation) on its performance and agency costs. These research avenues remain largely unexplored within the Jordanian context.

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APPENDIX

Table A.1. Results of generalized method of moments estimation

Variables	*Panel A: All firms*				*Panel B: Family firms*				*Panel C: Non-family firms*			
	AU		*SGA*		*AU*		*SGA*		*AU*		*SGA*	
	Model 1	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*	*Model 1*	*Model 2*
Constant	0.1423	0.8914*	0.8931**	0.8744**	1.1738***	1.3336***	1.0464*	0.9517	0.1422	0.4017	0.3669**	0.3807***
	(0.202)	(1.723)	(2.102)	(1.971)	(3.008)	(3.073)	(1.729)	(1.482)	(0.233)	(1.044)	(2.275)	(2.585)
L.AU	0.6832***	0.7082***			0.7849***	0.8029***			0. 7614***	0 .7842***		
	(6.173)	(7.270)			(4.896)	(5.517)			(21.241)	(22.031)		
L.SGA			0.6895***	0.6872***			0.7242***	0.7185***			0.6772***	0.6676***
			(11.137)	(10.991)			(11.519)	(10.979)			(5.707)	(5.800)
LARGE	0.3907*		0.0591		0.1108		0.0655		0.1843		-0.0039	
	(1.698)		(0.870)		(0.984)		(0.976)		(0.561)		(-0.081)	
MOSH		0.1786*		0.0676		0.1439*		-0.0725*		0.2096		0.0263
		(1.781)		(1.322)		(1.776)		(-1.763)		(1.148)		(0.655)
SIZE	-0.0336	-0.0670***	-0.0588**	-0.0581*	-0.0666***	-0.0741***	-0.0678*	-0.0643*	-0.0516**	-0.0635***	-0.0165	-0.0172**
	(-0.987)	(-2.720)	(-2.042)	(-1.954)	(-2.857)	(-2.972)	(-1.944)	(-1.776)	(-2.332)	(-2.678)	(-1.639)	(-2.046)
GROWTH	0.1958***	0.2082***	-0.1576***	-0.1582***	0.0114	0.0116	-0.2095***	-0.2088***	0.0243**	0.0251**	-0.0702***	-0.0696***
	(3.697)	(4.466)	(-7.576)	(-7.507)	(0.651)	(0.621)	(-7.310)	(-7.378)	(2.067)	(2.063)	(-6.615)	(-6.494)
AGE	0.1229**	0.1265**	0.0489	0.0573	0.0113	0.0091	0.0428	0.0532	0.2493	0.2514	-0.0098	-0.0107
	(2.101)	(2.143)	(0.790)	(0.911)	(0.194)	(0.154)	(0.623)	(0.797)	(1.600)	(1.541)	(-0.610)	(-0.635)
LEV	-0.1021	-0.1139	0.0793	0.0765	-0.2461**	-0.2398**	0.1167	0.1190	-0.0365	-0.0128	-0.0061	-0.0054
	(-1.322)	(-1.503)	(1.379)	(1.399)	(-2.417)	(-2.482)	(1.266)	(1.292)	(-0.258)	(-0.091)	(-0.240)	(-0.200)
Obs.	729				413				306			
Time effect	Yes				Yes				Yes			

*Note: This table reports system GMM estimation results. L.AU and L.SGA are the lagged values of the dependent variable. The variables are as defined in Table 1. Robust z-statistic is in parentheses. *, ** and *** represent statistical significance at the 10%, 5%, and 1% level, respectively.*