


“Ownership concentration, ownership identity, and bank performance”

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OWNERSHIP CONCENTRATION, OWNERSHIP IDENTITY, AND BANK PERFORMANCE

Abstract

This paper examines whether ownership concentration and certain type of ownership can affect the financial performance of Lebanese banks. It uses longitudinal data from the largest 35 Lebanese banks over the period 2009–2014 and employs the panel regression model. The empirical results show that ownership concentration and certain type of shareholders play an important role in the area of corporate governance in Lebanese banks. In particular, bank financial performance is positively associated with ownership concentration, managerial ownership, and foreign and institutional ownerships; however, family ownership is not related to bank performance. Also, this paper shows that both ownership concentration and managerial ownership have a U-shaped relationship with bank performance. Several robustness tests largely confirm the findings, with important implications for policy-makers. The findings are crucial to policy-makers and bankers who are interested in tailoring good corporate governance principles for the Lebanese banking sector.

Keywords

ownership concentration, ownership structure, bank
profitability, corporate governance, Lebanon

JEL Classification G30, G32

INTRODUCTION

The role of corporate governance in the proper functioning of banks and the whole economy cannot be underestimated. In addition to stakeholders (shareholders, depositors, customers), the failure of a bank may have a systematic – domino – effect that puts at risk the stability of the banking sector and hinders economic activity. Because banks are generally more opaque than non-financial firms (Furfine, 2001), internal governance mechanisms such as ownership structures can play an important role in monitoring bank management. The patterns of ownership concentration, the identity of owners, and the institutional setting often differ dramatically across countries, but interestingly they consistently affect bank performance.

Following markets globalization and worldwide corporate failures, the interest in corporate governance practices has mounted in Lebanon; though, unlike developed countries, Lebanon did not experience waves of corporate governance failure. During the last two decades, and following the adoption of a law in 1993 to encourage the merger of banks, the Lebanese banking sector has seen several mergers and acquisitions. Although the major goal was to 'clean' the sector from financially unstable banks, this has led to significant changes in the ownership structure of banks. However, the effect of ownership structure on bank performance in Lebanon remains unexplored. Prior studies in Lebanon have only dealt with board size and board

independence as explanatory factors of bank performance (Chahine & Safieddine, 2011; Salloum et al., 2013). Little is known about this relationship in small and unlisted financial firms, especially in a weak institutional emerging economy, such as Lebanon, where most banks are privately owned. Accordingly, the aim of this paper is to examine the relationship between ownership structure and bank performance in Lebanon. Such an examination is valuable to scholars, bankers, and policy-makers. In particular, it will help the government in tailoring corporate governance principles for the banking sector.

In addition to examining an unexplored area of research related to ownership structure and bank performance in Lebanon, another contribution provided in this study is related to data collection. In particular, the construction of data on ownership in a part of the world that is rarely represented in academic research is a challenging task. However, this paper has succeeded in assembling data on ownership structure in Lebanese banks that represent a significant advancement relative to prior empirical studies in Lebanon.

Methodologically, panel data regression has been employed using a sample of 35 Lebanese banks from 2009–2014. The main results indicate that corporate governance is not only an important ingredient of banking's image but also an important element of a broader value creation framework. Particularly, this paper shows that ownership concentration and the identity of owners can serve as an effective corporate governance mechanism and thus can influence bank performance. Non-monotonic relationships among some of the examined variables have also been reported.

The paper proceeds as follows. Section 1 reviews the related literature and formulates the research hypotheses. Section 2 provides the data and research methods. Section 3 presents and discusses the empirical results. Concluding remarks are given in the last section.

1. LITERATURE REVIEW

1.1. Ownership structure in the Lebanese banking sector

In Lebanon, banks' ownership is concentrated in the hands of private investors, including families¹, whereas ownership by the State is almost absent. Pyramid structures and the disparity between voting rights and cash flow rights are frequently used by family owners to maintain their control over banks. As a result, agency conflicts may mainly arise between controlling and minority shareholders, generating more incentive to extract private benefits (Azoury & Bouri, 2015, 2016). Moreover, the predominant culture of family ownership of businesses in Lebanon does not support the development of the financial market which remains constrained by several structural and regulatory weaknesses. The local stock market is characterized by a relatively small number of listed firms, large family holdings, and low sectoral diversification. Total market capitalization of the ten publicly

owned companies stood at \$11.08 billion at the end of July 2016, about 23.5% of nominal GDP. Of the stock markets in the Middle East and North Africa (MENA) region, Lebanon is noted to be the second least liquid, after Bahrain (Bouri, 2013; Bouri, 2014).

Bank ownership in Lebanon has been shaken following a series of mergers and acquisitions. Furthermore, the share of institutional foreign ownership has increased relatively. For instance, Byblos and BLOM banks have a common largest shareholder, Bank of New York Mellon, with an 11.38% and 34.37% share, respectively; Deutsche Bank Trust Company Americas is the largest shareholder of Bank Audi and holds 27.88% of its common shares.

While concentrated ownership often leads to better monitoring and firm performance, it also generates more incentive to extract private benefits. According to the World Bank Group report, in 2016, the extent of ownership control index is two out of ten in Lebanon compared to four in the MENA region.

1 Family ownership represents more than 50% of the Lebanese banking sector (Chahine & Safieddine, 2011).

1.2. Theoretical foundations of ownership structure and hypotheses development

The ownership structures reflect incentives to monitor the activities of the managers by the shareholders, and thus are considered as an effective internal governance mechanism (Claessens & Yurtoglu, 2012). In a recent study, Ahmed et al. (2017) show that corporate governance matters to bank performance.

1.2.1. Impact of managerial ownership on bank performance

Numerous studies refer to the positive role played by managerial ownership in aligning interests between shareholders and managers. As the managerial participation in the firm capital increases, managers are less inclined to make decisions that adversely affect performance. As such they use their firm's resources efficiently to maximize the shareholders' value and thus reduce agency costs (Bebchuk et al., 2010). However, managerial ownership may be harmful to the firm performance if it increases to a certain level, suggesting that managers may abuse their powers for their own benefits. Acharya and Bisin (2009) suggest that managers who hold a larger share of equity are characterized by less aggregate risk, and hence by low expected returns. Cheung and Wei (2006) also indicate that once allowance is made for adjustment costs, managerial ownership is no longer associated with firm performance. In addition to the above-mentioned inconclusive results, Azoury and Bouri (2015) show that the institutional environment in which firms operate influences their ownership structures. In particular, ownership concentration by firm insiders may be a response to the Lebanese weak level of legal protection and law enforcement.

H1a: The percentage of managerial equity ownership is positively associated with bank performance.

H1b: Low levels of managerial ownership and its alignment effect enhance bank performance, while at high levels managerial ownership and its entrenchment effect diminish bank performance.

1.2.2. Impact of ownership concentration on bank performance

Ownership concentration reduces governance problems arising from the separation between ownership and control. The concentration of decision-making power in the hands of a large shareholder affects its corporate governance system since it has resources and interests to monitor and control effectively the management, suggesting a positive impact on firm performance (Nguyen et al., 2015). Conversely, this concentration can generate additional costs due to the fact that majority shareholders can expropriate to themselves significant benefits. Ownership is found to be concentrated in listed firms in Egypt and Saudi Arabia (Piesse et al., 2012). However, Omran et al. (2008) indicated that ownership concentration is insignificant to the value of firms in the MENA region. While some studies show that the ownership concentration-performance relationship in banks is insignificant (Pinteris, 2002; Iannotta et al., 2007), Spong and Sullivan (2007) report a positive relationship in banks, particularly in countries that have a low level of investor protection (Caprio et al., 2007).

Since previous studies fail to offer a consensus on the relationship between ownership concentration and performance, this paper conjectures:

H2a: Operating performance is positively related to ownership concentration.

H2b: Low levels of ownership concentration and its monitoring effect enhance bank performance, while at high levels ownership concentration and its expropriation effect diminish bank performance.

1.2.3. Impact of family ownership on bank performance

Family ownership emerged in economies characterized by weak and unstable institutional settings to shape corporate governance and control managerial opportunism. Prior studies argue that family-owned firms perform better than the non-family firms. Family managers are long-term oriented and unlikely to make short-term strategic decisions that jeopardize the firm's survival. As a result, the priority

of family firms' endurance evokes an environment of trust between stakeholders and firm owners (Schmid, 2013). However, Schulze et al. (2001) argue that business objectives are often mixed in family firms, and that altruism among family members may adversely affect performance. Furthermore, family ownership tends to be large and concentrated, suggesting possible conflicts between majority and minority shareholders, and thus has a negative impact on firm performance (Azoury & Bouri, 2015; 2016). In addition, Saghi-Zedek (2016) finds that when banks have only family controlling shareholders, activity diversification yields higher earnings volatility and default risk. In the MENA region, Piesse et al. (2012) emphasize the prominent role of large family shareholders as monitors of corporations in Saudi Arabia and Egypt. In Lebanon, families have long-term expertise in running banking firms, whereas the State has almost no presence. Family-owned banks are more conservative in their approach to risky assets and in their policy of managing the bank. This was partially reflected in the so called "resilience" of Lebanese banks during the 2007–2008 global financial crisis. Accordingly, the pivotal role played by family firms deserves to be studied in relation to bank performance.

H3: Operating performance is positively related to family ownership.

1.2.4. Impact of foreign ownership on bank performance

Micco et al. (2007) find that bank efficiency and performance differ significantly between foreign-owned banks and local banks. Foreign banks outperform their local counterparts because they enjoy economies of scale and have the advantage of serving a large multinational customer base in different countries. Moreover, the presence of foreign banks increases transparency, and boosts regulation and supervision (Mishkin, 2006). Foreign presence in the Lebanese banking sector has been strengthened through privatization or direct participation in local banks. According to Rahman and Reja's (2015) results, foreign ownership does not have a significant impact on bank performance. However, Lensink et al. (2008) examined the influence of foreign ownership presence on banks' efficiency and found it to be negative and dependent upon the country's regulation. Conversely, Piesse et al. (2012) emphasize the

prominent role of foreign investors as monitors of corporations in Saudi Arabia and Egypt. Kobeissi and Sun (2010) indicate that foreign ownership in 17 MENA countries is positively related to performance.

H4: Operating performance is positively associated with the presence of foreign shareholders.

1.2.5. Impact of institutional ownership on bank performance

The association between institutional ownership and bank performance is inconclusive. A study by Florackis and Ozkan (2009) finds that institutional ownership is not always concentrated enough to accumulate voting power to monitor management. Rahman and Reja (2015) find no association between institutional investors and bank performance. Piesse et al. (2012) examine the ownership structure in listed firms of Saudi Arabia and Egypt and indicate that the role of institutional investors in monitoring is negligible. Another view suggests that institutional shareholders tend to become involved in the firm in order to protect their investments and influence the firm management and performance (Ferreira & Matos, 2008). Institutional investors occupy seats on the board of directors and promote banks to adopt relatively low-risk investment. Furthermore, their large financial resources allow them to invest more in monitoring at a lower cost compared to individual investors and to exercise more active control of the bank's management in a way that reduces agency costs and enhances performance. According to Saghi-Zedek (2016), institutional investors may deliver additional expertise and skills allowing the bank to earn higher benefits due to their prior experience in brokerage and mutual fund activities, securities, and insurance underwriting.

H5: Operating performance is positively associated with the presence of institutional shareholders.

2. DATA AND METHODOLOGY

2.1. Data

Even though 54 commercial and investment banks operate in Lebanon as of 2015, we choose to conduct our analysis by considering primary and second-

dary data from a sample constituted from the largest 35 banks (as measured by total assets) for the period 2009–2014. This choice is motivated by the view that data on ownership structure variables from the 57 banks operating in Lebanon might be biased, whereas the top 35 banks have more detailed data on ownership structure. Furthermore, our sample adequately covers the overall banking system assets as it represents around 95% of the total banking system assets.

Data are collected from the Bilanbanques database augmented by that of the Association of Banks in Lebanon (ABL) such as the Almanac of banks. The latter, which is updated on a yearly basis, provides a list of banking and financial institutions operating in Lebanon and includes, among others, comprehensive details on boards of directors and senior management. In the Bilanbanques database, annual reports, balance sheets, and income statements are available. To complete secondary data, primary data have been collected on the owner-

ship structure variables that are not available in secondary data. Further investigations were conducted concerning the independence of board members by phone meetings with the banks' management. Financial measures of bank performance were calculated using end-of-year financial statements. The macroeconomic variable used in this study was extracted from DataStream. Table 1 presents a summary of the examined variables.

Table 2 presents the correlation matrix of the examined variables². The reported correlation coefficients (Table 2) are all below 0.70, suggesting the non-violation of the assumption of independence (Kervin, 1992). Unsurprisingly, there is a strong positive correlation between family CEO dummy and family ownership. Similarly, ownership concentration and family ownership are strongly and positively correlated. Besides, there is a positive correlation between bank size and listing dummy. The presence of outside directors is also positively correlated to variables such as size, and listing and

2 The summary statistics of the examined variable are not presented here to conserve space.

Table 1. Summary of dependent/independent/control variables and their measurements

| Dependent variables | Definition and measurement |
|-------------------------|---|
| ROA | A continuous variable calculated as the ratio of net income to the book value of assets |
| ROE | A continuous variable calculated as the ratio of net income to the value of equities |
| Independent variables | |
| Managerial ownership | A continuous variable calculated as the sum of the total number of shares owned by top managers, including the CEO, to the total shares outstanding |
| Ownership concentration | A continuous variable calculated as the ratio of cash flow rights of the three largest shareholders over the total of shares outstanding |
| Family ownership | A continuous variable calculated as the ratio of cash flow rights of families over the total of shares outstanding |
| Foreign ownership | A dichotomous variable equal to one if a foreigner investor has a stake in the bank capital and zero otherwise |
| Institutional ownership | A dichotomous variable equal to one if an institutional investor, such as a bank, insurance company, or private equity firm, has a stake in the bank capital and zero otherwise |
| Control variables | |
| Outside directors | A continuous variable calculated as the number of external directors divided by the total number of board members |
| Board size | A continuous variable calculated as the number of directors on the board |
| Duality | A dichotomous variable equal to one if the CEO serves as the chair of the board, and zero otherwise |
| Foreign directors | A continuous variable calculated as the number of foreign directors divided by the total number of board members |
| Lending/total assets | A continuous variable calculated as the percentage of total net lending to total assets |
| Financial leverage | A continuous variable calculated as the book value of equity to book value of liabilities |
| Bank size | A continuous variable calculated as the natural logarithm of total assets for each year |
| Economic activity | A continuous variable, which measures the growth rate in the real GDP of Lebanon |
| Listing dummy | A dichotomous variable, which takes a value of one if it represents a listed bank, and zero otherwise |
| Commercial bank dummy | A dichotomous variable equal to one if it represents a commercial bank, and zero otherwise |
| Family CEO | A dichotomous variable equal to one if a member of the identified controlling family is the CEO and zero otherwise |
| Year dummies | Dichotomous variable |

Table 2. Correlation matrix

| No. | Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | VIF |
|-----|-------------------------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|--------|--------|-------|-------|-------|
| 1 | Managerial ownership | 1.000 | | | | | | | | | | | | | | | | 3.980 |
| 2 | Ownership concentration | 0.385 | 1.000 | | | | | | | | | | | | | | | 4.918 |
| 3 | Family ownership | 0.521 | 0.681 | 1.000 | | | | | | | | | | | | | | 4.790 |
| 4 | Foreign ownership | 0.212 | 0.198 | 0.003 | 1.000 | | | | | | | | | | | | | 2.768 |
| 5 | Institutional ownership | 0.223 | −0.008 | 0.035 | 0.188 | 1.000 | | | | | | | | | | | | 2.941 |
| 6 | Outside directors | −0.192 | −0.107 | −0.211 | 0.399 | −0.202 | 1.000 | | | | | | | | | | | 1.987 |
| 7 | Board size | 0.007 | 0.232 | 0.322 | 0.502 | 0.189 | 0.219 | 1.000 | | | | | | | | | | 2.079 |
| 8 | Duality dummy | 0.032 | 0.381 | 0.295 | −0.009 | −0.121 | 0.304 | 0.113 | 1.000 | | | | | | | | | 3.881 |
| 9 | Foreign directors | −0.093 | −0.101 | −0.071 | 0.221 | 0.377 | −0.112 | 0.182 | −0.116 | 1.000 | | | | | | | | 2.991 |
| 10 | Bank size | 0.025 | −0.007 | 0.059 | 0.162 | 0.110 | 0.088 | 0.612 | 0.008 | 0.414 | 1.000 | | | | | | | 2.871 |
| 11 | Lending/total assets | 0.090 | 0.098 | 0.017 | 0.177 | −0.072 | 0.289 | 0.401 | −0.021 | −0.086 | 0.314 | 1.000 | | | | | | 1.089 |
| 12 | Financial leverage | 0.075 | 0.128 | 0.027 | 0.108 | 0.009 | 0.169 | 0.387 | 0.106 | 0.002 | 0.241 | 0.31 | 1.000 | | | | | 2.891 |
| 13 | GDP growth rate | 0.021 | 0.102 | 0.061 | 0.091 | 0.035 | 0.008 | 0.063 | 0.068 | 0.001 | −0.002 | −0.003 | 0.397 | 1.000 | | | | 1.007 |
| 14 | Listing dummy | 0.302 | 0.207 | 0.112 | 0.341 | 0.211 | 0.173 | 0.299 | 0.091 | 0.205 | 0.633 | 0.275 | 0.207 | 0.12 | 1.000 | | | 3.228 |
| 15 | Commercial bank dummy | 0.377 | 0.171 | 0.338 | 0.301 | 0.197 | 0.223 | 0.274 | 0.128 | 0.162 | 0.618 | 0.629 | 0.075 | −0.007 | 0.681 | 1.000 | | 3.903 |
| 16 | Family CEO | −0.068 | 0.309 | 0.647 | −0.108 | 0.125 | −0.012 | 0.017 | 0.671 | −0.077 | 0.071 | 0.001 | 0.197 | −0.001 | −0.162 | 0.309 | 1.000 | 4.113 |

commercial bank dummies. Bank size is positively correlated with foreign and institutional ownership, implying that foreign and institutional investors prefer to invest in large, liquid commercial banks. Interestingly, the reported VIF values indicate that the highest value is below five, implying a lack of multicollinearity problem (Rogerson, 2001).

2.2. Methodology

The basic model is a panel least squares regression:

$$\begin{aligned} \text{Bank performance} = & \beta_0 + \\ & + \beta_1 (\text{Ownership structure}) + \\ & + \beta_2 (\text{Control variables}) + \varepsilon_t, \end{aligned} \quad (1)$$

where β_0 denotes the intercept; β_1 and β_2 are two sets of parameters to be estimated; and ε_t is a random term.

The above equation has been estimated with one-year lagged explanatory variables to reduce the potential effect of endogeneity on the ownership structure-performance relationship (Choi et al., 2007). While such an estimation does not completely exclude endogeneity, it does decrease the chances that causality subsists. Additional analyses will be conducted to minimize concerns for reverse causality. Also the effects of non-linearity in the ownership-performance relationship have been examined by including in Eq. (1) squared and the cubed terms. However, prior to the estimation of our panel regression model, the Hausman test has been applied to choose between the panel model with individual fixed effects and the panel model with random effects.

3. EMPIRICAL RESULTS AND DISCUSSION

3.1. Main results

Results from the Hausman test, which are not presented here but available from the author, indicate that the random effects model is the best choice³. Table 3 presents the results from the panel regres-

sion model with random effects. The results from Model 1 show a significant positive association between managerial ownership and bank performance, which is consistent with the agency perspective and the convergence of the interests' hypothesis (Jensen & Meckling, 1976). This result, which confirms Hypothesis 1a, is broadly in line with Pi and Timme (1993), Spong and Sullivan (2007), and Belkhir (2009). Models 2 and 3 also tested the possibility that managerial ownership has a U-shaped relationship with bank performance. The results confirm such a curvilinear relationship, as the coefficient estimates of the squared and cubed terms are statistically significant. Hypothesis 1b is thus supported. This implies that there is evidence of an entrenchment effect of owner-managers among banks operating in Lebanon. As managers own a small portion of the bank up to a certain level, the alignment hypothesis is supported. However, a high level of managerial ownership is harmful to bank performance. The findings are consistent with that of Griffith et al. (2002). In Model 4, Hypothesis 2a is supported. Ownership concentration has a positive and significant effect on bank performance, suggesting that ownership concentration in Lebanese banks, in response to a weak legal environment, brings better governance and monitoring practices through the reduction in classical agency costs. This is consistent with the theory on the role of ownership concentration in countries with poor institutions of investor protection such as Lebanon. This finding concords with that of Caprio et al. (2007) and Spong and Sullivan (2007), but it contradicts with that of Pi and Timme (1993) and Pinteris (2002) who found an insignificant relationship. However, concentrated ownership created a trade-off between incentives and entrenchment, as suggested by the evidence of a curvilinear relationship between ownership concentration and bank performance (Models 5 and 6). Hypothesis 2b is thus supported. High ownership concentration generates additional costs due to the fact that majority shareholders can expropriate minority shareholders (Claessens & Yurtoglu, 2012), particularly given the weak legal protection environment in Lebanon. In Model 7, an insignificant relationship between family ownership and bank performance was reported, suggesting that family ownership in Lebanese banks is not an effective governance mechanism.

3 To conserve space, we only reported results using ROA as a proxy for bank performance. However, when we used the ROE as an alternative proxy for bank performance, the estimated results (not reported here) were qualitatively the same.

Hypothesis 3 is thus rejected. It could be that controlling families are torn between the logic of family functioning and that of the Lebanese banking industry. The result contradicts with that of Piesse et al. (2012) who emphasize the prominent role of large family shareholders as monitors of non-financial firms of Saudi Arabia and Egypt. In Model 8, foreign ownership enhances bank profitability. Hypothesis 4 is thus supported. It could be that the benefit of foreign shareholders is based on their superior monitoring incentives, abilities, and skills to use the Lebanese institutional environment to their advantage. This finding is consistent with Piesse et al. (2012). Particularly in banks, this result is consistent with that of Levine (2004) and Kobeissi and Sun (2010) but contradicts partially with that of Lensink et al. (2008) who found a negative influence of foreign ownership presence on banks' efficiency. In Model 9, institutional ownership is positively related to bank profitability. This result, which confirms Hypothesis 5, supports the view that institutional investors are good monitors of bank managers and suggests that institutional owners, which are well informed, may have insisted on more quality requirements concerning the auditing and disclosure practices of bank clients, which has led to lower risk and better performance. Another explanation is that institutional investors may have implemented complementary and efficient monitoring activities that have led to a reduction in agency conflicts/costs. The above finding also implies that any (potential) opposing goals between those institutional investors and other bank owners did not lead to a rise in agency costs caused by the agency conflicts between majority and minority shareholders. Instead, institutional ownership enhances effective monitoring of bank managers, leading to a better performance through the reduction of agency costs as shown by Bonaccorsi di Patti (2003). However, this finding contradicts with that of Florackis and Ozkan (2009) who indicate that institutional ownership is not concentrated enough to accumulate voting power to monitor management. It also contradicts the result of Piesse et al. (2012) who examined the ownership structure in listed firms of Saudi Arabia and Egypt and indicated that the role of institutional investors in monitoring is marginal. In Model 10, we include the (main) independent variable all together and the estimated results show the importance of managerial ownership, ownership concentration,

foreign ownership, and institutional ownership to bank financial performance. Overall, Table 3 highlights the importance of some control variables in explaining bank performance. In particular, we refer to the positive effects of bank size, lending/total assets, leverage, GDP growth, and commercial bank dummy. It is also worth noting here that particularly the presence of outside directors has a positive impact on bank profitability in Model 9, suggesting that the monitoring role of outside directors is more clear-cut in the presence of institutional ownerships.

3.2. Endogeneity issues and robustness check

Though this paper tried to explain bank profitability by ownership structure, another plausible argument is that the ownership structure and bank performance are endogenously determined. When banks are performing well, managers, family members, and foreign and institutional investors may increase their equity holdings in banks and vice versa (i.e. they chase better-performing banks). If this is the case, the previously reported association between foreign and institutional ownership and bank performance becomes biased. To address this endogeneity issue, this paper employed a number of checks. First, the potential endogeneity problem has been addressed partially since the main regression model has been estimated using lagged explanatory variables. Second, we further address the endogeneity problem by assuming that the ownership structure variables depend on bank profitability (i.e. we test reverse causality). Table 4 shows that the *p*-values for Fisher statistics are insignificant at the 5% level, suggesting a relatively weak degree of explanation of the estimated models. As for the estimated coefficients they are insignificant, suggesting the absence of endogeneity problems in the initial estimated models. For example, regarding the foreign and institutional owners variables, the results completely rule out the possibility of selection of banks by foreign owners or institutional owners, suggesting that our main results reported earlier in Table 3 are robust. Finally, as a robustness check, the linear and nonlinear relationships have been re-examined using data only from the largest ten banks. The results, which are not reported here but are available from the author, are qualitatively the same as reported in Table 3.

Table 3. Regression results of firm performance (ROA)

| Dependent variable: ROA | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
|---------------------------------|-----------|-----------|-----------|----------|-----------|-----------|----------|----------|----------|----------|
| Intercept | | | | | | | | | | |
| Main effects | | | | | | | | | | |
| Managerial ownership | 0.014*** | 0.016*** | 0.022*** | | | | | | | 0.012** |
| Managerial ownership squared | | −0.007*** | 0.012*** | | | | | | | 0.001** |
| Managerial ownership cubed | | | −0.005*** | | | | | | | −0.002 |
| Ownership concentration | | | | 0.030*** | 0.025*** | 0.018*** | | | | 0.023*** |
| Ownership concentration squared | | | | | −0.005*** | 0.009*** | | | | 0.008* |
| Ownership concentration cubed | | | | | | −0.003*** | | | | 0.000 |
| Family ownership | | | | | | | 0.035 | | | 0.028 |
| Foreign ownership | | | | | | | | 0.009** | | 0.005** |
| Institutional ownership | | | | | | | | | 0.017*** | 0.022** |
| Control variables | | | | | | | | | | |
| Outside directors | 0.009 | 0.012 | 0.003* | 0.017* | 0.008** | 0.011* | 0.018 | 0.059* | 0.061** | 0.009** |
| Foreign directors | 0.014 | 0.023 | 0.009** | 0.009 | 0.000 | 0.007 | 0.012 | 0.061** | 0.008** | 0.008 |
| Duality | 0.003** | 0.008** | 0.005* | 0.008* | 0.000 | 0.002* | 0.017* | 0.032* | −0.016* | 0.001* |
| Family CEO | 0.000* | 0.007* | 0.003** | −0.007** | −0.010* | −0.008** | 0.016*** | −0.009** | −0.032** | 0.012 |
| Bank size | −0.008 | 0.000 | −0.003 | −0.016** | −0.026** | −0.018** | −0.031** | 0.033* | 0.036** | 0.032** |
| Bank age | 0.012 | 0.017 | 0.002* | −0.010 | −0.008* | −0.000 | −0.010 | 0.012 | 0.041* | 0.007* |
| Lending/Total assets | 0.014*** | 0.027*** | 0.009** | 0.023*** | 0.035** | 0.063* | 0.041*** | 0.007** | 0.039*** | 0.061*** |
| Financial leverage | −0.080*** | −0.035*** | −0.063** | −0.018** | −0.023* | −0.017** | −0.028** | −0.020** | −0.021 | 0.075** |
| GDP growth rate | 0.030*** | 0.002** | 0.035** | 0.012*** | 0.017*** | 0.014** | 0.019 | −0.007 | 0.018* | 0.022*** |
| Commercial bank dummy | 0.061*** | 0.068*** | 0.088** | 0.032*** | 0.041*** | 0.035** | 0.043** | 0.088** | 0.070*** | 0.041** |
| Listing dummy | 0.059** | 0.039** | 0.022** | 0.009*** | 0.025** | 0.012** | 0.021* | 0.034*** | 0.107*** | 0.081*** |
| Model | | | | | | | | | | |
| Adjusted R2 | 0.408 | 0.410 | 0.419 | 0.378 | 0.388 | 0.395 | 0.350 | 0.372 | 0.392 | 0.383 |
| P-value for F-test | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 |

Notes: The sample period spans from 2009 to 2014. This table reports regression coefficients and T-values. Two-tailed tests for variables ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 4. Results of reversal causality

| Dependent variable | Managerial ownership | Ownership concentration | Family ownership | Foreign ownership | Institutional ownership |
|---------------------|----------------------|-------------------------|--------------------|-------------------|-------------------------|
| Reverse models | Model 1 | Model 4 | Model 7 | Model 8 | Model 9 |
| Main effects | | | | | |
| ROA | 0.012 (1.182) | | | | |
| ROE | 0.008 (0.983) | | | | |
| ROA | | 0.009 (0.388) | | | |
| ROE | | 0.007 (0.198) | | | |
| ROA | | | −0.000 (−0.179) | | |
| ROE | | | 0.003 (1.016) | | |
| ROA | | | | 0.012 (0.995) | |
| ROE | | | | 0.020 (1.277) | |
| ROA | | | | | 0.018 (1.083) |
| ROE | | | | | 0.009 (1.319) |
| Model | | | | | |
| R2 adjusted | 0.079 | 0.098 | 0.102 | 0.083 | 0.112 |
| P-value for F-test | >0.100 | >0.100 | >0.100 | >0.100 | >0.100 |

Notes: Managerial ownership, ownership concentration, family ownership, foreign ownership, and institutional ownership are one-year lagged variables; although only the coefficients of the main independent variables are reported, all control variables were included in all regressions. T-statistics are reported in parentheses. In order to control for error dependence, the T-statistics are implied from estimated standard errors clustered by years; ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

CONCLUSION

Studying the shareholding structure in banks has been largely inspired by the work of Jensen and Meckling (1976) on the agency theory. However, the national governance mechanisms, such as rule of law, legal system, or investor protection, may also affect the effectiveness of corporate governance strategies. So, our study draws upon both agency and institutional theories to examine the ownership concentration and ownership identity on the performance of banks operating in Lebanon. Our analyses involved data from 35 large banks covering the period 2009–2014. Our main results indicate that ownership concentration, ownership by managers, institutional, and foreign investors are effective governance mechanisms that can be used to reduce agency costs. We showed the existence of non-monotonic effects given that managerial and concentrated ownerships in banks create a trade-off between incentives and entrenchment, leading to a nonlinear relationship. As for the role of equity ownership by families, it had no significant effect on bank performance, despite the fact Lebanese families have valuable expertise in running banks. Our analyses also revealed that foreign ownership and institutional ownership affect bank performance differently. However, this latter finding doesn't necessarily imply that category of ownership is the cure for all the monitoring and performance flaws facing banks in Lebanon, as foreign or institutional shareholdings are often sensitive to geopolitical risks. Furthermore, it is recommended that Lebanese banks continue developing good governance practices that could ultimately enhance their resilience in a highly competitive environment. As such, they are required to move from

personal and family relationship governance to one based on rules and guidelines. Despite our above-mentioned findings, it is worth noting here that the rigid supervision role of the Lebanese Central Bank, which uses a prevention-over-cure strategy, may have served as an external governance mechanism that complements and even overshadows some of the internal governance mechanisms. Finally, a major limitation of this paper is related to the lack of data on ownership structure with a share below 10%. Probably, future research could address this limitation.

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