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OWNERSHIP STRUCTURE AND BANK PERFORMANCE: EMPIRICAL EVIDENCE FROM THE UAE

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ABSTRACT

This study presents an empirical analysis of ownership structure and bank performance in the UAE banking system. To examine the control exerted by owners on bank performance, we employed a panel data on selected banks in the UAE from 2011 to 2017 using two-stage least squares to estimate the system of two equations. We use reverse causality to account for any endogeneity issues between ownership structure and bank performance. Our results found no reverse causality between ownership structure and bank performance. The study registered ownership structure to be a driver of bank performance but recorded bank performance not to be a driven factor of ownership structure. The study also found macroeconomic factors not to be impacted by both ownership structure and bank performance. The research could help in examining the nature of existing bank ownership structure in the economy and consequently aid the UAE government in developing ownership regulations for the banking industry.

Contribution/ Originality: This study contributes to the existing literature by extending the knowledge of the ownership structure and firm performance of listed banks and how macroeconomic factors impacted on shareholders decision in an emerging economy, such as UAE.

1. INTRODUCTION

Economists have been much concerned about the incentive problems that arise when decision making in a firm is the domain of managers who are not the firm's security holders. Theories in corporate finance shoulder that firms' management will trail policies designed at maximizing the wealth of shareholders. This has been contended not to be the case always. The agency theory proposes that, the separation of ownership and control in firms' crafts conflicts of interest between the firm's shareholders and managers. According to Abor and Biekpe (2006) managers have the chance to use the assets of the company on a path that aid themselves personally to the disadvantage of shareholders' wealth maximization. When ownership and management detached in this mode, managers might have considerable authority. This gratitude goes spinal, of course, to Berle and Means (1932) who observed that top corporate executives, "while in office, have almost complete discretion in management." Since Jensen and Meckling (1976) the problem of managerial authority and choice has been scrutinized in modern finance as an "agency problem." Demsetz (2003), proposed that the ownership structure of the firm is optimally determined based on the

principle of profit maximization. Owners of a firmly held firm will sell shares only when they expect that doing so will increase the firm's performance. Similarly, owners of a widely held corporation will sell their shares in a takeover situation when they assume that doing so is optimal. According to Demsetz (2003) existing and potential shareholders choose concentrated, or diffused ownership structure for a firm achieve optimal performance level. This infers that there is no systematic relationship between the level of ownership concentration in a firm and the firm performance. Bebchuk and Roe (1999) advocated benefits such as removal of assets and the use of firm's products may be exploited by owners with majority shares. If these benefits have adverse effects on firm performance, higher ownership concentration, either by outsiders or insiders, might hurt performance. The nature of the interaction between different stakeholders, and hence its implication for firm value, is different in developing economies and in emerging economies. Claessens *et al.* (1999) maintain that many of the East Asian economies, for example, are characterized by weak property and investors' rights, reduced judicial efficiency, and corruption. These features make it easier for influential parties to exploit weaker ones. According to these authors, many of the developing countries and emerging countries including UAE have a family- and group-controlled businesses where a substantial portion of shareholdings lies with family members or associated companies. Large shareholders such as these have significant powers to redistribute wealth in ways that might not coincide with the interests of other stakeholders (Shleifer and Vishny, 1997).

Saito (2016) argued that in a country where judicial efficiency is low, and property, as well as investors' rights, are weak, family- and group-controlled businesses are pervasive. In the UAE this is not the case since the government has established a firm judiciary control. We expect the relationship between ownership and firm performance to have a positive direction since the UAE government is continuously and heavily supporting initiatives and laws that ensure investors protection in the UAE financial markets. Also, the UAE government is acting as a role model for other businesses regarding transparency and corporate monitoring. So it is expected that the UAE Government ownership in listed companies will act as a CG mechanism and is expected to have a positive impact on firm performance. Ultimately, the question relating to the impact of ownership structure on firm performance is a question about the incentives of managers and owners and their influence on firm decision making. This paper examines the relationship between the ownership structure of the banks and their effect on banks performance on selected banks in the UAE. We are much concerned about the effect of shareholders decision on bank performance. The paper also investigates the impact of macroeconomic factors such as inflation and GDP growth on banks performance. The study employed a panel of data on selected banks in UAE from 2009 to 2015 using two-stage least squares to estimate the system of two equations, performance, and ownership models. The bank performance is measured by Tobin's Q, which is also the most commonly used measure in studies related to firm performance. To the best of our knowledge, this is the first study to incorporate macroeconomic factors into ownership structure and bank performance in the UAE. The significant contribution of this study is that it has extended the knowledge of the ownership structure and firm performance of listed banks and how macroeconomic factors impacted on shareholders decision in an emerging economy, such as UAE. The study could help in examining the nature of existing bank ownership structure in the economy and consequently aid the UAE government in developing ownership regulations for the banking industry.

The rest of the paper is as follows. Section two focus on the ownership structure of banks in the UAE whiles section three reviews the literature on the previous studies on the relationship between ownership structure and firms' performance. Section four presents the research method used in the study which includes data consideration and sources and model specification. Part five discusses the results and the findings of the study. The final section presents conclusions and policy implications.

2. LITERATURE REVIEW

2.1. Ownership Structure of Banks in UAE

Ruler and business group families often play a significant role as significant shareholders in UAE banks and are also appointed to the Boards of financial institutions. Directors from rulers' families dominate 13-15% of Board positions (Saito, 2016). For example, the two largest banks, Emirates NBD and National Bank of Abu Dhabi, elect their directors from persons of the Maktoum family and Nahyan family, respectively, which are ruler families in Dubai and Abu Dhabi. With reverence to Emirates NBD, Sheikh Ahmed bin Saeed Al Maktoum from the Maktoum family takes office as Chairman of the Board of Directors. It is often seen in the UAE that a member of a ruler family becomes the Board Chairperson in financial institutions (Saito, 2016). Business family members also constitute a large share in Board directorships which is almost the same as ruler family members. As major shareholders, business families send their representatives into Boards to participate actively in the management of the financial institution. However, it is not often observed in UAE that any single business group possesses the greater part of Boards or that they have a strong impact on executive officers (Saito, 2016; Mapharing and Basuhi, 2017; AlSagr *et al.*, 2018; Obiero, 2018). According to Saito (2016) Boards of UAE financial institutions mainly consist of rulers' family members and more than one business family. It is sporadic that a Board is comprised entirely of members of a single family. For example, in Abu Dhabi Commercial bank's case, of its eleven directors, five are from four business families, al Khouri, al Dhaheri, al Khoory, and al Suwaidi (Saito, 2016). The separation of supervision and management improved as a part of the actions of overall corporate governance in financial institutions. Lately, some financial institutions have proactively appointed independent directors who do not hold company stock and announce this action in their annual report or website. Many large commercial banks such as Emirates NBD and Abu Dhabi Commercial Bank have no provisions for independent director appointments. On the other hand, some medium-sized banks such as Union National Bank and Abu Dhabi Islamic Bank designate independent directors. The cases where non-executive directors are appointed have been increasing in recent years (Chidoko and Mashavira, 2014; Salvioni and Gennari, 2014; Saito, 2016; Tijani *et al.*, 2017).

2.2. Empirical Literature Review

Demsetz and Lehn (1985) empirically studied the impact of ownership structure on firm performance to test Berle and Means (1932) proposition that diffuse ownership would unfavorably distress firm performance. Especially, they analyze the effect of the most extensive shareholder's holdings on performance using a cross-sectional dataset consisting of averages over the period 1976-1980 for their sample of firms. They first estimate a model for ownership, and then use those results to determine a recursive regression model on firm performance as proxies by the profit rate. Demsetz and Lehn (1985) found no relationship between these two and resulting in rejecting the Berle and Means hypothesis. Demsetz revisited the issue of his earlier studies with Demsetz and Villalonga (2001) by employing more explicit simultaneous equations setting, and included insider ownership in a separate model. Using two-stage least squares to estimate the system of two equations, thus performance and ownership equations, they found no relationship between ownership structure and performance, but saw the performance as measured by Tobin's Q to be a negative predictor for ownership concentration. The results for ownership are similar for both block holders and insiders.

In an important paper Morck *et al.* (1988) also analyzed the effect of insider ownership on firm performance using cross-sectional data in a piecewise fashion. They found a nonlinear relationship with performance, as measured by Tobin's Q, first increasing, then decreasing and finally increasing again in the fraction of shares held by insiders. Demsetz and Villalonga (2001) did not found any relationship between ownership and performance, others researchers such as McConnell and Servaes (1990); Kapopoulas and Lazaretou (2007) and Hu and Izumida (2008) found a relationship between ownership structure and performance. This level of divergence in the various can be explained in part by the fact that some studies only include either an insider (Himmelberg *et al.*, 1999) or

some only an outsider (Hu and Izumida, 2008) ownership variable and that the datasets are also from different countries. Hu and Izumida (2008) had a wide and long panel dataset at their disposal, which cliques them apart from the other studies. The long panel dataset allows them to estimate a panel vector autoregression (VAR) model with two-way (firm and time specific) fixed effects and perform Granger causality tests. Hu and Izumida found a statistically significant positive relationship between Tobin's Q and one year lag of ownership concentration (10 and five largest owners) even when controlling for endogeneity with generalized method of moments (GMM) estimation. The Granger causality tests further (whether a change in x predicts a change in y) confirm that changes in ownership concentration are followed by changes in firm performance. However, the bivariate setting Hu and Izumida use are susceptible to bias due to omitted variables. They also estimated a panel simultaneous equations model (with contemporaneous variables) with industry dummies, which largely confirms the earlier results. Their studies suggested that ownership structure affects performance both contemporaneously and with a lag of one year. Kapopoulas and Lazaretou (2007) make an exception, however this might be because they do not take nonlinearity. Several studies use the same piecewise regression by Morck *et al.* (1988) but have mostly not been able to find an exactly matching nonlinear shape for the relationship on performance. An exciting remarks results on ownership concentration obtained by Kapopoulas and Lazaretou (2007) differs from the ones reported by Demsetz and Villalonga (2001) even though the two studies estimated almost the same models. Kapopoulos and Lazaretou show a positive and statistically significant relationship between ownership concentration and performance whiles Demsetz and Villalonga results show the insignificant relationship. This might explain by institutional factors, For instance corporate governance in Greece may differ from that in the United States. A study by explore the relationship between owner incentives and stock returns. Their results reveal a positive relationship between concentrated ownership in a firm and the operating performance of the firm. The study by Bhattacharya and Graham (2009) is an example of studies that focused on different investor types: they estimated the effect of institutional ownership on firm performance. Their results are consistent with Maury and Pajuste (2005) whom equally found a positive relationship between institutional ownership and performance. Fama and Jensen (1983) argued that insider ownership can cause two types of fully differentiated behavior: convergence of interests with shareholders and the entrenchment effect. Jensen and Meckling (1976) proclaimed that as insider ownership grows, the tendency of owners to devour company resources decreases, and therefore their interests and those of shareholders are aligned. In this mode, conflicts between owners and managers tend to disappear, and the hypothesis of convergence of interests triumphs. They, however, argued that the natural tendency of managers is to use company resources in their interests, which may conflict with those of external shareholders. The authors noted that with increasing insider ownership, conflicts of interest between shareholders and managers disappear because their interests tend to converge. Fama and Jensen (1983) however, argued that significant percentages of insider ownership generate compensation costs. They further contended that even when the levels of insider ownership are low, market discipline may encourage managers to seek to maximize value, despite little personal incentives to do so. Conversely, when insiders hold a percentage of the capital of the company that is large enough to give them voting power or influence, they can achieve their objectives other than the maximization of value without compromising either their jobs or their salaries. These arguments show an entrenchment effect on the part of insiders, which means that too high a percentage of insider ownership has a negative impact on business performance. A study by provides new evidence of the influence of insider ownership on non-listed firm's performance, which differentiated the behavior of family and non-family firms using data on 586 Spanish non-listed firms. The results reveal that depending on how generation manages the firm; there is a significant difference between insider ownership and firm performance. However, a study by Xu and Wang (1999) in the context of China on the same token indicated a negative relationship. Alfaraih *et al.* (2012) conducted a study on Kuwait, UAE, and Singapore and found a significant positive link between government ownership and firm performance. Qasim and Mohammad (2014) examined the relationship between corporate governance and firm performance in UAE by

using data from Abu Dhabi stock exchange. The paper argued that strong corporate governance mechanisms are expected to have a positive impact on performance measures. The study uses pooled regression analysis on 281 listed companies by considering ROA and Tobin's Q as a performance measurement. The author used firm size, debt ratio, dividend yield, and age as control variables. They found a significant positive impact of corporate governance measures on firm performance. Saito (2016) presented an empirical analysis on ownership structure proxy by Board of Directors and bank performance in the UAE. The study examine the effect of control exerted by particular families on bank management. The researcher tested how the presence of ruler or business group family members on the boards of these banks influences bank performance by using data from 2000 through 2012. The data used focus on only domestic banks and excluded foreign banks from the sample. Profitability indicators such as ROA and ROE were used as a measure of performance. The results of the study demonstrates that the control of the bank management by rulers' families has a good effect on bank profitability. The results indicate a significant positive effect on board of directors and bank profitability. Rahman and Reja (2015) provides evidence on the impact of different types of ownership structure on bank performance in Malaysia using data from 2000 to 2011 Their results show that insider ownership and government ownership have significant impact to changes in bank performance. The study however, found insignificant results of family ownership and foreign ownership on bank performance. The insignificant results of family ownership and foreign ownership suggest that both types of ownership structure do not have vital impacts on the bank performance. The study concluded that different types of ownership structure present different impact to the bank performance in Malaysia. Fazlzadeh *et al.* (2011) examine the role of ownership structure on firm performance of 137 listed firms of the Tehran stock exchange within the period 2001 to 2006. The ownership structure included ownership concentration, institutional ownership and institutional ownership concentration. They concluded that ownership concentration doesn't have any significant effect on firm performance but the two other variables are significant. Institutional ownership has positive significant effect on firm performance while the effect of concentrated institutional ownership was negative. Micco *et al.* (2007) in their studies of ownership structure of 179 countries around the world found that government-owned banks in developing countries have lower profitability and higher costs than their private counterparts. A study by La Porta *et al.* (2002) found that higher government ownership of firms in 1970 were associated with the slower subsequent financial development and lower economic growth. Interestingly Iannotta *et al.* (2007) found government-owned banks to have less profits than the privately-owned banks in spite of their lower costs. Gursoy and Aydogan (2002) observed that government-owned banks have high risk-taking and high performance while Bonin *et al.* (2005) in their study of 11 transition countries found government-owned banks to be performed better than the domestic private banks. Najid and Rahman (2011) however found a positive relationship between performance and government ownership and. They observed that most investors like to conduct business with government-owned firms because those firms have assistance from the government in times of financial troubles. Nguyen *et al.* (2015) By using the data collected from the whole 44 banks in the banking system in Vietnam from 2010-2012, the authors try to investigate the impacts of ownership structure on bank performance in Vietnamese banking system. Research results show that capital concentration and private ownership have positive impact on bank profitability, the nonperforming loan ratio has negative relation with banks' profitability.

3. METHODOLOGY

3.1. Data Consideration and Sources

The paper examines the relationship between ownership structure and bank performance of the listed banks in UAE. The study further looks at how the macroeconomic variables impact on the decision made by shareholders to affect the performance of the banks. The bank data from 18 selected banks extracted from the annual balance sheets and income statements of banks, listed on the Dubai Stock Exchange. The macroeconomic data obtained from the International Financial Statistics Yearbook. To this end, the accuracy and reliability of the data were not an issue.

The study utilized a panel data from 2011 to 2017. Panel data as noted by Hsiao (1986) has numerous distinct benefits. For example, panel data offers more degrees of freedom, increase variations in the data and thus reduces the chances of multicollinearity, and makes it possible to control for fixed effects. The period of 2009 and 2015 chosen for two reasons. First, the banking sector's profitability suffered in 2009 as the global economic crisis impacted the region. Secondly, with acute inflation and prolonged period of low oil prices and economic volatility has handcuffed the financial hands of the bank.

3.2. Variables and Measurement

The ownership structure impact on firm performance has been the subject of numerous empirical research, and there is a continue interest to estimate the impacts of ownership structure on firm performance. Most empirical studies are based only loosely on agency theory, however, and most often involve the analysis of firm performance given some set of variables. There are studies that look at changes after a particular event has caused some changes in agency control mechanism example Cole and Mehran (1998) and there are also studies that try to find a relation across firms between the intensity of particular mechanisms and firm performance example Jarrell and Poulsen (1988). This study focused on the studies analyzing ownership levels and bank performance. Some studies use either cross-sectional or panel linear regressions to uncover a relationship between the various control mechanisms for agency problems and firm performance. For example, a study by Rahman and Reja (2015) used linear panel regression to determine the link between bank performance and ownership structure in the Malaysian banking system. Other studies also done on the effects of ownership structure only feature it as an independent variable in the performance equation see Rahman and Reja (2015); Fan and Wiwatanakantang (2005). Others also use simultaneous equations to control for endogeneity of performance and ownership. A study by Iannotta *et al.* (2007) is cited to this effect. Performance is likely to affect ownership structure as well as the other way around. According to Rahman and Reja (2015) if performance impacts ownership, then ordinary least squares regression with the performance variable as the dependent variable is biased, because of the correlation between the dependent variable and the error term as it also enters the other side of the equation through the control mechanism variables. Most of the empirical literature on ownership structure nevertheless only includes the ownership variable and the performance variable (Rahman and Reja, 2015). This study uses two dependent variables; Tobin's Q and Ownership structure. The literature suggests the use of accounting-based and market-based measures of a firm's performance. Both of them have their own merits and demerits. Demsetz and Lehn (1985) used accounting profit rate while Demsetz and Villalonga (2001) used both accounting measure and Tobin's Q as alternative measures of firm performance. Many researchers like Loderer and Martin (1997); Himmelberg *et al.* (1999) and Holderness *et al.* (1999) have favored Tobin's Q as a measure of firm performance. These two measures differ regarding time and the fact that who measures performance. The problem with accounting profit rate is that its calculation is subject to accounting standards which do not account for the market value of growth options. Also, the accounting profit rate is inherently more backward. In essence, accounting profit rate is pounded on the facts stated in the financial records, so future expected cash flows are slightly considered (Jarrell and Poulsen, 1988). Tobin's Q, on the other hand, is a market-based measure of performance. It accounts for all present decisions and actions taken by the management as well as the future expected performance of the firm. The shortcoming related to this measure is that it is determined by the investors' psychology and may be biased at the time because of the investors' undue optimistic or pessimistic behaviors. Furthermore, Tobin's Q also involves the figures from financial records (i.e., the book value of tangible assets) in its calculation. Demsetz and Villalonga (2001) suggested a possibility of a correlation between the two measures. This discussion signifies that each measurement has its own merits and demerits and therefore should be used with carefulness. Despite these shortcomings, Tobin's Q is a better measure for this research relative to profit rate measure. The fact that it uses the market valuation makes it better measure for this study. This study uses Tobin's Q as one of the dependent variables. Tobin's Q is computed with the

accounting values for debt and total assets it might then also be affected by accounting practices. The second dependent variable for this study is the Ownership structure which is calculated by the fraction of shares held by the insiders, by the largest shareholders or both. Insider holdings are used as a proxy for managerial shareholdings and include the management team and the holdings of the board of directors. Their widespread use is may be due to that they are easy to gather from the insider records companies must keep. In the UAE banking system majority of the shareholders are the families and the government. Within this perspective, we use total equity as a proxy to the ownership structure variable. Demsetz and Lehn (1985) used ownership structure as the dependent variable in their regression equation. Omran (2007) empirically studied the concentration of ownership in four Arab countries and found that high market uncertainty has resulted in firms having high levels of ownership.

Independent Variable

Firm size

One of the variables that can be used to determine the size of a financial institution or a firm is its total assets. To this effect, the log of total assets (TA) is used as a proxy for economies or diseconomies of scale, given the full range of bank asset sizes in UAE's banking systems. A necessary implication of asset diversification is less risk and, hence, a lower required rate of return. Therefore the size of a firm has a significant role to play in determining the performance of the firm. According to Titman and Wessels (1988) large firms are likely to be more diversified both regarding demographics and product offerings which make them less vulnerable to the risk of bankruptcy. A study by Fama and French (1992) found a significant size premium in a sample of more than 5000 US firms from 1927 to 1987. This indicates riskiness of small firms. They explained that the premium might relate to low resources endowment, lack of research, lower provision for training and development of employees, and absence of qualified management in small firms. Some of these predicaments can be found in the UAE banking system. A pawn dispute is that big firms might suffer from inefficiencies due to tall bureaucratic structures. This is precisely seen in the UAE banking industry where most of the final decision coming from the shareholders without adherence to management. To this end, we are expecting agency problems to be more severe in big banks such as ADCB, FSGB. Murphy (1985) however, explained that the relatively big size of a firm might not necessarily be a result of the honest efforts of the management. Instead, the managers might have invested in non-value maximizing projects to ensure continued employment in the firm, get more bonuses, or for empire-building. Capon *et al.* (1990) in a meta-analysis reported that the relationship between firm size and financial performance was flat based on the results of 88 empirical studies. This study employ firm size as an explanatory variable in our ownership and performance equation. We use the total asset as a proxy for the size of the banks, and we expect a positive relationship with the dependent variable.

Tangibility (TG)

Other factors that may result in agency problems are the level of tangible fixed assets and the growth opportunities of the firm. Assets tangibility refers to the proportion of tangible fixed assets in the firm's total assets. According to Titman and Wessels (1988) the degree to which the firm's assets are tangible should result in the firm having greater liquidation value. Booth *et al.* (2001) opine that the relationship between physical fixed assets and debt financing is linked to the maturity structure of the debt. In such a situation, the level of tangible fixed assets may help firms to obtain more long-term debt, however the agency problems may worsen with more tangible fixed assets since less information is revealed about future profit in these firms. If this is the case, then it is likely to find a negative link between tangible fixed assets and debt ratio. This study includes asset tangibility as one of the explanatory variables. Asset tangibility calculated as the percentage of the bank fixed asset to the total asset. We expect a positive relationship. Chan and Kanatas (1985) include asset tangibility as one of the explanatory variables in their model.

Financial Leverage (FL)

In perfect capital markets, the capital structure does not influence a firm's value (Modigliani and Miller, 1958). However, once the assumptions of the ideal capital markets are relaxed, then capital structure does matter. Stiglitz and Weiss (1981) looked into this relationship in the context of asymmetric information where leverage treated as a signaling device. They found that information asymmetry between managers and shareholders and between lenders and borrowers could lead to an adverse selection problem. Leland and Pyle (1977) indicated that high-quality borrowers could use debt as a signaling ruse and improve its market performance. Further, leverage viewed as a mechanism to align the interest of managers and shareholders. Agency theory suggests that there exists a conflict of interest between the firm's managers and shareholders where managers follow their objectives. According to Easterbrook (1984) higher leverage under such circumstances can play a disciplining role by reducing the free cash flow at the managers' disposal and may expose the managers to external monitoring of lenders. An alternative view held by the researchers like Jensen and Meckling (1976) and Myers (1977) targets the agency cost created by different priorities of bondholders and stockholders. Shareholders indulge in moral hazards by investing in risky projects and enjoy the win-win situation at the cost of bondholders who share in losses if the projects fail and do not share in gains if the risky project is successful. Myers (1977) conjectures that a firm foregoes positive NPV projects in the presence of risky-debts, which is known as the underinvestment problem. This set of arguments suggests a negative relationship between leverage with firm performance. Financial leverage (Leverage) is measure as long-term debt plus short-term debt scaled by the book value of assets Schoar (2002). A recent study applied by Hussainey and Aljifri (2012) on UAE find that the total number of board directors has a positive relationship with the debt-to-equity ratio.

Free Cash Flows (FCF)

Free cash flow is the cash a firm produces through its operations, less the cost of expenditures on assets. Theoretically, FCF is the total amount of money that could be returned to its shareholders if no future growth realized. To use a reliable variable to proxy the agency problem, we followed the previous studies and chose the free cash flows (Chiang and Lin, 2011). We assumed that agency problems would exist when firms have substantial free cash flows. The free cash flows are calculated as cash flows from operations minus capital expenditures, scaled by total assets. This calculation was done to prove our expectation that the positive relation between industry competition and firm performance was more intense for firms with higher free cash flow, thus presenting a severe agency problem.

Total Deposit

Banks are said to be heavily dependent on the funds mainly provided by the public as deposits to finance the loans is being offered to the customers. Generally, deposits are the cheapest sources of funds for banks and so to this extent deposits have a positive impact on banks profitability if the demand for bank loans is very high. That is, the more deposits commercial bank can accumulate the higher is its capacity to offer more loans and make profits; Rasiah (2010). However, one should be aware that if banks loans are not high in demand, having more deposits could decrease earnings and may result in low profit for the banks. This is because deposits like Fixed, Net loans to total assets (NLA) or the percentage of assets that consist of the loan portfolio may suggest better bank performance because of increases in interest income. But, very high ratios could decrease liquidity and increase the number of marginal borrowers that default. Again, NLA's effect on bank performance is unclear.

Inflation

Inflation (INFL) measures the overall percentage increase in the consumer price index for all goods and services. Over the past five years, the UAE has been experiencing creeping inflation (6.2% in 2005). The housing

sector inflation is becoming more of a problem and may start to impede economic growth. Therefore, authorities must take measures to avoid any further rise in inflation and curtail the potentially detrimental economic consequences that it may produce. An increase in inflation is expected to reduce expenditure and borrowing by firms and households, which could raise default rates and could affect the bank's performance adversely. Higher inflation can crash down the disposable income of both shareholders and management. Therefore we expect that in times of economic stinginess management can ask for increment and other compensation to equivalent the increase in inflation. We hope inflation to have a negative relationship between ownership and performance.

GDP growth rate is a measure of the total economic activity and is adjusted for inflation. It affects the demand and supply for banks deposits and loans. A positive GDP growth facilitates high application for credit which in turn positively impacts the bank's profitability. Conversely, demand for credit is low during recession periods which negatively affect the profitability of financial institutions. Bikker and Hu (2002) to this effect, we include the GDP growth in our both models and expect to have a positive impact on ROA and ownership structure.

3.3. Model Development

To examine the link between ownership structure and bank performance, we conducted two regression analyses mainly at the bank-specific and country-specific levels. Our general regression model is given as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_n X_n + \ldots\ldots\ldots\ldots \varepsilon_n \quad (1)$$

Where y is the dependent variable, the coefficients, and the Xnth the independent variables.

This study uses two dependent variables; Tobin's Q and Ownership structure. As suggested by Uotila *et al.* (2009) market-based performance indicators are more capable of capturing both short- and long-term performance, and of reflecting the real underlying value of corporate operating performance. This study adopts Tobin's Q as the dependent variable in equation 1, which estimated as the ratio of the market value of equity plus the book value of debt to the book value of the total assets.

Following the work of Demsetz and Villalonga (2001) this study considers bank performance and ownership structure as endogenously determined. In this sphere, we use two stages least square (2SLS) method to account for the endogeneity problem. Demsetz and Villalonga (2001) use time series averages in their studies. Due to the country's specific data incorporates in our model, this study uses the combination of panel data and time series data. The final form of the model estimated has the following two equations..

$$\ln TQ = \alpha + \beta 1 \ln OWNSi + \beta 2 \ln TAi + \beta 3 \ln TGAi + \beta 4 \ln FLi + \beta 5 \ln FCFi + \beta 6 \ln NLAi + \beta 7 \ln TDPi + \beta 8 \ln INFLt + \beta 9 \ln GDPGt + \varepsilon \quad \text{(eq. 2)}$$

$$\ln OWNS = \alpha + \beta 1 \ln TQi + \beta 2 \ln TAi + \beta 3 \ln TGAi + \beta 4 \ln FLi + \beta 5 \ln FCFi + \beta 6 \ln NLAi + \beta 7 \ln TDPi + \beta 8 \ln INFLt + \beta 9 \ln GDPGt + \varepsilon \quad \text{(eq. 3)}$$

where TQ denotes Tobin's Q performance measurement. OWNS represents the ownership structure, and TA signifies total asset as a proxy to market size. TGA represents tangible assets, and FL denotes financial leverage, FCF also denotes free cash flows. NLA is the net loans to total assets. INFL represents inflation and GDPG denotes gross domestic product growth rate.

Results of Panel Unit Root Test

To consider for the stability of our dataset, we conducted a panel unit root test to determine whether the variables used in the study are stationary. The panel unit root test allows us to identify a precise parameter estimate. The significance of the stationary is the order of integration of the variables which aid us to choose the appropriate model for estimating the coefficients. To this end, we employed four-panel unit root test: the Levine–Lin Chu (LLC) test, In Pesaran, and Shin (IPS) test Augmented Dickey-Fuller (ADF) test and Philips Perron (PP) test. The results of the panel unit root test presented in Table 3. The results from table 3 indicate that all the variables integrated of order one I(1) except Tobin-Q(TQ), tangible assets (TGA), net loans to total assets (NLA)

and GDP growth rate (GDPG) variables that are integrated of order zero I(0). This implies that not all the variables used in the study follow a unit root process. Table 1 presents the results of the panel unit root test.

Table-1. Panel unit root test

	LNTBQ	LNOWNS	LNTA	TGA	INFL	INFCF	LNLA	LTD	INFL	LNGDPG
LEVEL										
LLC	-15.40***	-0.52	7.98	-7.63***	1.80	4.38	-21.16***	-0.56	18.54	-21.24***
IPS	-4.08***	4.32	7.17	-0.81	3.04	3.96	-4.17***	3.57	7.80	-8.84***
ADF	74.74**	13.41	3.20	53.35**	16.75	18.60	72.90***	28.61	0.29	152.50***
PP	83.92***	20.61	4.44	46.70	14.35	18.79	97.91***	38.05	0.59	195.83***
1ST DIFF.										
LLC		-6.32***	-7.43***		-9.01***	-11.76***		24.93***	-7.50***	
IPS		-1.94**	-4.55***		-2.22***	-3.07***		-3.39***	-1.46*	
ADF		60.18***	76.22***		59.26***	68.97***		60.47***	37.66	
PP		74.35***	88.48***		72.45***	85.65***		58.53***	37.66	

Source: Authors estimate from research data

Reverse Causality

The purpose of this study is to examine the problem of simultaneity or endogeneity problem between banks performance (TOQ) and ownership structure (OWNS). To test for endogeneity, Granger causality test was carried out using Eviews 7 to determine whether banks performance (TOQ) granger causes ownership structure (OWNS) or it is ownership structure (OWNS) that Granger causes banks performance (TOQ) in UAE. The Granger causality test pioneered by Sims (1980) is conducted within a vector autoregressive (VAR) context, the Granger-causality test determines the order of information being processed between variables. The general notation of a Granger causality test which tries to determine whether lagged terms of X predict Y and whether lagged terms of Y predict X respectively are specified as follows.

$$Yt=\propto 0+\propto 1Yt\text{-}1+\propto 2Yt\text{-}2+\ldots+\propto pYt\text{-}1+\ldots+\beta pXt\text{-}p+ei\ldots\ldots\ldots\ldots (3)$$

$$Xt=\beta 0+\beta 1Xt\text{-}1+\beta 2Xt\text{-}2+\ldots+\beta pYt\text{-}1+\ldots+\beta pYt\text{-}p+ui\ldots\ldots\ldots(4)$$

Where p is the number of lags, ei and ui are error terms. Equation 1 tests whether X Granger causes Y. If βeta βdoes not equal to zero (0) significantly, we can say that Y Granger causes X.

To perform the Granger causality banks performance (TOQ) and ownership structure (OWNS) is used. The Granger – causality model is specified as follows.

$$TOBQ=\propto 0+\propto 1TOBQt\text{-}1+\propto 2TOBQt\text{-}2+\ldots+\propto pOWNSt\text{-}1+\ldots+\beta pOWNSt\text{-}p+ei\ldots..(5)$$

$$OWNS=\beta O+\beta 1OWNSt\text{-}1+\beta 2OWNSt\text{-}2+\ldots.+\beta pTOBQt\text{-}1+\ldots.+\beta RTOBQt\text{-}p+ui\_\_\_\_\_(6)$$

Table 2 below presents the pairwise Granger causality test. According to the results obtained, there is no reverse causality or Granger causality between banks performance (TOQ) and ownership structure (OWNS). Hence the problem of endogeneity does not exist. The 4 table represents the results obtained from the Granger causality test of the dependent variables.

Table-2. Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
OWNS does not Granger Cause TOQ	90	0.05131	0.9500
TOQ does not Granger Cause OWNS		0.84729	0.4322

Source: Authors estimate from research data

Descriptive Statistics

There are 126 observations in total, 35 representing 18 banks in UAE. The statistic description which includes several necessary parameters like mean, standard deviation minimum and a maximum of the ratios would provide an overall profile of the selected parameters. This study employs 2SLS techniques to examine the influence of ownership structure on bank performance using Tobin's Q as the performance measurement. Table 3 below

presents the descriptive statistics of the variables used in the study. The results indicate that the average Tobin-Q of banks in UAE is 0.25 with a standard deviation of 0.26. The bank's average equity which represent ownership is about 13.4 billion AED whiles their total assets averages 83.2 billion AED. The results also indicate that the financial leverage (FL) of UAE banks is 6.123 whiles their free cash flow (FCF) is negative averaging -4.9 billion. The bank's net loans to total assets (NLA) and total deposits (TD) in UAE averages 0.642 and 5.47 billion respectively. United Arab Emirates (UAE) inflation rate and GDP growth rate averages 1.632% and 3% respectively.

Descriptive Statistics of Variables

Table-3. Descriptive Statistics

	TOBQ	OWNS	TA	TGA	FL	FCF	NLA	TD	INFL	GDPG
Mean	0.25	1.34E+10	8.32E+10	0.012	6.123	-4.9E+10	0.642	5.47E+10	1.632	3.043
Median	0.18	4.66E+09	3.14E+10	0.009	5.815	-1.7E+10	0.662	2.42E+10	1.1	4.300
Maximum	1.78	3.08E+11	4.07E+11	0.049	10.640	1.31E+11	1.302	2.43E+11	4.1	7.200
Minimum	0.05	9.98E+08	1.93E+09	0.003	2.350	-2.7E+11	0.080	7.27E+08	0.67	-5.200
Std. Dev.	0.26	2.90E+10	9.95E+10	0.010	1.743	6.68E+10	0.133	6.09E+10	1.132	3.708
Skewness	3.58	8.519409	1.6002	2.184	0.179	-1.27354	-0.492	1.355298	1.337	-1.356
Kurtosis	17.66	86.57848	4.70279	7.328	2.757	4.470674	11.358	3.862677	3.434	3.792
Jarque-Bera	1396.44	38197.34	68.9959	198.523	0.969	45.4152	371.840	42.14345	38.55	41.927
Probability	0.00	0	0	0.000	0.616	0	0.000	0	0	0.000
Observations	126.00	126	126	126.000	124.000	126	126.000	125	126	126.000

Source: Authors estimate from research data

Correlation Analysis

The correlation matrix in Table 4 shows low correlations between key independent variables. This implies that the model estimation is not likely to suffer from multicollinearity bias. The existence of correlation of about 0.8 or larger will indicate that there is a problem of multicollinearity (Lewis-Beck, 1993). None of the explanatory variables achieve a value of more than 0.8. Multi-collinearity appears when two or more explanatory variables are correlated and positive similar informative in this situation, the coefficient estimates may change erratically in response to a small change in the model or data. The consequence of high multicollinearity is (an increase of the standard error of the coefficients, reduce reliability), the results are often confusing and misleading. Collinearity detection is done by calculating the correlation between the variables. The results obtained denied the existence of multicollinearity issues. However, FCF and TD were somewhat correlated with the total asset (TA) with the values of -0.602188 and 0.573521 respectively.

Correlation Matrix of Variables

Table-4. Correlation Matrix

	TOBQ	OWNS	TA	TGA	FL	FCF	NLA	TD	INFL	GDPG
TOBQ	1.000000									
OWNS	-0.177224	1.000000								
TA	-0.274967	0.570647	1.000000							
TGA	-0.109752	-0.131796	-0.265620	1.000000						
FL	0.060692	0.165632	0.370347	-0.073022	1.000000					
FCF	0.253810	-0.554077	-0.602188	0.232195	-0.286716	1.000000				
NLA	-0.020953	0.043873	-0.009442	-0.043723	-0.045953	-0.098430	1.000000			
TD	-0.288048	0.544552	0.573521	-0.299287	0.396600	-0.474792	-0.009262	1.000000		
INFL	-0.069604	-0.008379	0.132442	-0.094157	0.139725	-0.135943	0.004484	0.122105	1.000000	
GDPG	-0.121802	0.118361	0.058114	-0.028408	0.050583	-0.011038	-0.084569	0.051213	-0.034971	1.000000

Source: Authors estimate from research data

Discussion of Regression Results with Ownership Structure (OWNS) as the Dependent Variable

Table 5 below presents the regression results of the impact of banks performance (TOQ) on ownership structure (OWNS). The results indicated that banks performance (TOQ) is not significant in determining ownership structure in the model (1) through to model (4) in table 5 suggesting that banks performance measured by the Tobin-Q is a not a significant driver of ownership structure in UAE. This was however positive and consistent with the study by Fazlzadeh *et al.* (2011) who found a positive relationship between banks performance and ownership structure. The other variables that significantly influence UAE banks ownership structure (OWNS) are size (log of total assets), tangible assets (TGA) and financial leverage (FL). The relationship between ownership structure and bank size (LNTA) is positive, and this is consistent with other studies that found a positive relationship between ownership structure and bank size (LNTA) (Fama and French, 1992). Tangible assets (TGA) positively influence ownership structure in the model (1) through to model (4) in table 5. This implies that as tangible assets increase ownership structure which is a measure of equity increases. The explanation we offer for this finding is that banks can borrowed and provide collateral security with their tangible assets and hence they will prefer debt financing to equity financing (Chan and Kanatas, 1985).

Another variable that significantly influences ownership structure is banks financial leverage (LNFL). This is evident by the negative relationship between ownership structure and financial leverage in the model (1) through to model (4) in table 5. This means as banks financial leverage increases, ownership structure decreases. Banks Total deposits (LNTD) also significantly influence their ownership structure in the model (3) and (4) in table 5. However, free cash flow (FCF), inflation rate (LNINFL), GDP Growth rate (LNGDPG) and net loans to total assets (LNNLA) are not significant drivers of banks ownership structure in UAE in table 5.

Table-5. Dependent variable ownership Structure (OWNS)

	Model (1) LNOWNS	**Model (2) LNOWNS**	**Model (3) LNOWNS**	**Model (4) LNOWNS**
TOBQ	0.131824 (1.326304)	0.1258131 (1.282058)	0.235335 (1.488555)	0.189819 (1.233586)
LNTA	0.953973*** (13.64849)	1.004788*** (102.7842)		
LNTGA	0.163960*** (4.088320	0.157247*** (4.173186)	0.268394*** (4.219082)	0.366843 (4.192506)
LNFL	-0.732948*** (-8.465980)	-0.723682*** (-8.524659)	-0.812730*** (-5.822745)	-0.797300*** (-5.737552)
FCF	-3.56E-13 (-0.921228)	-3.35E-13 (0.873042)	-6.78E-13 (-1.086322)	
LNNLA	0.013676 (0.176527)	0.013123 (0.170542)	0.008430 (0.067335)	0.029547 (0.238734)
LNTD	0.053634 (0.728158)		1.048780*** (62.14159)	1.049712*** (62.22917)
LNINFL	-0.039019 (-0.940754)	-0.036449 (-0.898918)	-0.042460 (-0.632367)	-0.036969 (-0.551719)
LNGDPGR	0.005195 (0.781438)	0.005657 (0.859357)	-0.000508 (-0.047342)	-0.000944 (-0.088017)
R-SQUARE ADJ. R-SQ.	0.949512 0.945969	0.949231 0.946167	-0.867012 0.858917	0.865647 0.858698

t-statistics in ( )
***, **, * represents significance at 1%, 5% and 10% respectively

Discussion of Regression Results with Banks Performance (TOBQ) as the Dependent Variable

This study also examines a reverse causality between ownership structure and banks performance measured by the Tobin Q. We use Tobin's Q as the dependent variable and ownership structure as the primary independent variable. This study finds that ownership structure is a driver of banks performance in UAE in the model (4) in table 6 when we total takeout assets (LNTA) and total deposits (TD) due to the problem of multicollinearity. The

relationship between banks performance and ownership is negative, and this suggests that, as ownership structure increases, banks performance decreases. The finding of this study is consistent with the agency theory of capital structure suggesting that firms with less debt underperform. This is because debt serves as a disciplinary tool to monitor managerial behavior and hence a firm that has a lot of debt will perform well because the bondholders will put the managers of the firm in check. That said, most of the UAE based banks benefit from strong ownership structure backed by local governments. Our findings are consistent with other studies that found a negative relationship between firms' performance and ownership structure (Micco *et al.*, 2007). Another significant driver of UAE banks performance is their tangible assets (TGA) which negatively relates to performance. The explanation we offer for this finding is that as banks tangible assets increases, they turn to take on more debt which in future, they turn to pay more interest and this will reduce their profitability and performance.

Banks financial leverage is also a significant driver of their performance measured by Tobin-Q. This is evident by the positive relationship between financial leverage (FL) and Tobin- q in the model (1) through to model (4) in table 6 as financial leverage increases, banks performance also increases. The explanation we offer for this finding is that increases in debt reduce the cost of capital of the banks because debt is a cheaper source of financing than equity and this will translate into increased performance. Our finding is consistent with other empirical papers that examine the relationship between firms' performance and their financial leverage (Jensen and Meckling, 1976; Leland and Pyle, 1977; Myers, 1977). Free cash flow (FCF) is also a significant driver of performance. This is evident by the positive relationship between free cash flow (FCF) and Tobin- Q in the model (1) through to model (4) in table 6. This finding suggests that as the banks' free cash flow (FCF) increases, their performance increases. Total deposits also significantly influence banks performance in the model (3) in table 6. However, firm size (TA), inflation rate (INFL) and GDP growth rate are not rivers of the performance of banks in UAE because they are not statistically significant in all the models in table 6. The findings of this study suggest that macroeconomic factors do not matter when examining the relationship between ownership structure and Bank performance. This implies that macroeconomic factors are not drivers of banks performances and ownership in UAE base on the results in table 5 and table 6.

Table-6. Dependent variable Banks performance (TOBQ)

	Model (1) LNOWNS	**Model (2) LNOWNS**	**Model (3) LNOWNS**	**Model (4) LNOWNS**
LNOWNS	0.115276 (1.326304)	0.109451 (1.258468)	0.079315 (1.488555)	-0.017138* (-1.904259)
LNTA	-0.055593 (-0.524700)	-0.128809 (-1.470102)		
LNTGA	-0.144147*** (-3.811324)	-0.131197*** (-3.605557)	-0.140870*** (-3.788484)	-0.160969*** (-3.245241)
LNFL	0.239737** (2.377113)	0.221403** (2.215195)	0.215524** (2.410988)	0.123255* (1.645598)
FCF	1.12E-13*** (-0.921228)	1.11E-12*** (0.873042)	1.12E-12*** (-1.086322)	1.10E-12*** (3.174234)
LNNLA	-0.019473 (-0.268829)	-0.017301 (-0.238403)	-0.018908 (-0.261885)	-0.012312 (-0.169540)
LNTD	-0.038910 (-1.223363)		-0.104239* (-1.847525)	
LNINFL	-0.024061 (-0.617842)	-0.024471 (-0.627045)	-0.025461 (-0.657408)	-0.025721 (-0.672698)
LNGDPG	-0.009475 (-1.535666)	-0.010070 (-1.633597)	-0.009184 (-1.499180)	-0.009396 (-1.525993)
R-SQUARE ADJ. R-SQ.	0.188231 0.131265	0.177574 0.127513	0.186271 0.136739	0.160184 0.117116

t-statistics in ( )
***, **, * represents significance at 1%, 5% and 10% respectively

4. CONCLUSION

This paper examines the relationship between ownership structure and banks performance in UAE. The findings suggest that, there is no reverse causality between ownership structure and Bank performance and that the relationship is unidirectional. The study finds that ownership structure is a driver of banks performance. However, banks performance is not a driver of ownership structure.

The study also finds that macroeconomic factors are not drivers of ownership structure (OWNS) and Banks performances (TOBQ). This suggests that in examining ownership structure and banks' performance nexus macroeconomic factors do not matter. This also indicates that banks performance in UAE does not depend on macroeconomic factors. The ownership structure of banks in UAE also do not depends on macroeconomic factors. For banks in UAE to increase their performance, we recommend a policy direction that, they should enhance their financial leverage (FL) and free cash flow (FCF).

5. IMPLICATIONS

Moreover, this study, while establishing the relationship between ownership structure and the bank's performance, still plants some open questions and conceivable directions for further research in this field. Firstly, more data needs to be generated for future analysis. Secondly, future research should account for social objectives that are related to stakeholders. Finally, the findings do not suggest that improving bank performance is merely a matter of changing ownership. Instead, the causes of bank performance seem to be found in broader economic and regulatory issues, although this needs a much further investigation that has been possible in this study. Hence, a potential area for future research. Besides, future research can be a focus on the broader view of measuring performance. In other words, future research should be concerned with the causes of performance differences that are not related to ownership.

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