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The Impact of Ownership Structure on Firms - Evidence from Egyptian Listed Companies Financial Performance

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The Impact of Ownership Structure on Firms Financial Performance - Evidence from Egyptian Listed Companies

Marwa Anis^α, Amon Chizema^σ, Xiahui Lui^ρ & Hadia Fakhreldin^ω

Abstract- This study examines internal corporate governance mechanisms in the Egyptian securities market, and aims to shed new light on understanding how the structure of internal governance mechanisms differs from that of the extensively studied governance mechanisms in developed countries. It investigates the impact of state ownership, private ownership, managerial ownership and employee association ownership on financial performance. The author tests the hypotheses on a sample of 70 Egyptian firms over a six-year period from 2005 to 2010. The sample includes the most Egyptian active firms (EGX 100) listed on the Egyptian stock exchange.

To investigate the influence of ownership structure on performance, this study adopts the agency theory and the resource-based view to develop the hypotheses. The analysis shows the important role of private ownership and managerial ownership in firm performance. However, state ownership has provided inconsistent results with the two performance measures. For employee ownership, the inconsistency across the two performance measures can be justified by the positive investors' perception about this type of ownership as it evolved as consequences of the privatisation programme for state-owned companies.

In conclusion, the findings of the study help stimulate further research into identifying the contingency conditions upon which ownership structure affect firm performance. The empirical results also have some managerial implications for reforming ownership structure.

Keywords: corporate governance, egyptian-listed companies, ownership structure, isomorphism, institutional theory.

I. INTRODUCTION

The separation of ownership and control has represented one of the core discussions in much academic research, starting from Berle and Means (1932). They reveal that what is called the agency problem emerges when ownership is dispersed which makes it hard to provide value maximization. The separation of ownership and control initiates the agency problem. One of the expected costs of this conflict of interest between managers and shareholders is that managers are encouraged to indulge in behaviours that may lead to a deterioration of firm performance. Patterns of corporate governance are known to be different in ownership structure and board composition (Li, 1994). That is why it is obvious that corporate governance

differs significantly across countries due to the variations in political and legal constraints on the ownership and control of public companies (Roe, 1990). This supports the argument of Demsetz and Villalonga (2002) regarding the importance of choosing an ownership structure that most suits the conditions under which the firms operate (King and Santor, 2008; Demsetz and Villalonga, 2002).

II. CLASSIFICATION OF OWNERSHIP STRUCTURE

Based on agency theory, Shah (2011) has classified shareholders into three main categories: managerial ownership, financial shareholders, and institutional shareholders. Yang et al. (2009) have presented two broad classifications for ownership structures. The first classification is according to the proportion of shares owned by insiders and outsiders and the second is the proportion of shares owned by institutional versus individual shareholders.

Also, there are two streams of thought regarding an effective ownership structure. Firstly, insiders or managers of the firm act also as shareholders if they acquire a considerable portion of the entity's shares and this is deemed to be useful in reducing agency conflicts and aligning the interests of management and shareholders. Secondly, outsiders who own a significant number of the firm's shares have more power and more incentive to monitor management activity, particularly the financial reporting process, thereby reducing the likelihood of earnings management (Habbash, 2010).

Based on the previous studies (Ongore, 2011; Bozec and Dia, 2007; Chen, 2006; Gugler, Mueller and Yurtoglu, 2008; Garcia et al., 2008; Jaggi, Leung and Gul, 2007; Barontini and Caprio, 2005), classification of ownership structure considers the way control and ownership rights are developed and implemented. Basically ownership is considered from two main dimensions: ownership concentration and ownership identity. Ownership concentration refers to the number of shares owned by the majority shareholders. Ownership identity relies on the people who have shares in the corporation and how they use such shares to generate revenues for the shareholders. These

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classifications lead to the major types of ownership as already identified in this study.

III. RESEARCH GAP

While there are a large number of ownership structure studies that assess the relationship with firm performance, the majority of these studies concern developed countries (e.g. Seifert, Gonenc and Wright, 2004; Maury, 2006; Davis, Hiller, McColgan, 2002; Andreson and Reeb, 2003; McConnell, Servaes and Lins, 2007) and Asian countries (e.g. Wei and Varela, 2003; Li, Moshirian, Nguyeh and Li-Wentan, 2007; Chen et al., 2006; Ruan et al., 2011; Tsai et Gu (2007); Hu and Zhou, 2008). There are few studies in developing countries and especially Arab Countries and North Africa (MENA) (e.g. Shahid, 2003; Omran, 2006; Omran, Bolboland Fatheldin, 2008; Abdel Salam et al., 2008; Omran, 2009; Naceur et al., 2007).

All the above studies have tested firm performance as a function of ownership structure and they yield relatively conflicting findings. For instance, different results are found within Anglo-American countries, for instance empirical evidence on the role of institutional investors in the UK shows that they are passive and ineffective in monitoring (Cosh and Hughes, 1997; Ozkan, 2007), whereas US institutional investors are found to improve governance quality and the monitoring capabilities of managers (Fahlenbrach, 2009). This inconsistent international evidence may partly be explained by the fact that prior studies use different measurement for independent variables, performance proxies, different hypotheses, sample periods, control variables and estimation techniques. However, it may be explained by country and contextual differences. In these terms, Seifert, Gonenc and Wright (2004) find that ownership and governance patterns vary between countries due to a number of factors including laws, taxes, capital market, culture, history, and industrial organisation. Confirming the above, Thomsen, Redersen, Kivst (2005) find that ownership is influenced by a firm's country and size.

With respect to the reviewed literature, although these studies have made a significant contribution to knowledge by providing a solid theoretical and empirical backaround of the area. a number of limitations or gaps have been detected. Some studies are limited by their use of cross-sectional data (e.g. Maury, 2006; Andreson and Reeb, 2003; Shah, 2011; Morck et al., 1988) which may lead to several inherent limitations to such studies. Even Chen (2006) calls for using panel or longitudinal data to improve his finding that is based on cross-sectional analysis. Cross-sectional analysis is always referred to as being statistically unable to control for the problem of endogeneity. It is always argued in corporate governance literature that to properly test the effect of ownership on performance it is necessary to allow the

possibility that ownership will affect performance and that performance will affect ownership. So, panel data is attractive since it contains more information than single cross-sections, and therefore allows for an increased precision in estimation (Hoechle, 2007).

Also, there are a few methodological issues that need to be addressed. First, the Ordinary Least Square (OLS) and the two stage linear simultaneous (2SLS) regressions model have been the most widely applied econometric estimation method used by previous empirical studies. However, these two methods are employed without any prior tests concerning the characteristics of the data set. That is why this choice of estimation model is questionable. There is a possibility that the results generated by the OLS and the 2SLS regression methods can be misleading and unreliable. Some of the tests that are required are testing for endogeneity and heterogeneity; they are essential to the methodology of panel data. In case the presence of both endogeneity and heterogeneity is detected, the Generalised Methods of Moments (GMM) regression is more appropriate than the OLS and the 2SLS regressions.

Second, in terms of measurement of data, some previous studies are based on a single type of performance measure as a dependent variable (e.g. Seifert, Gonenc and Wright, 2004; Wei and Varela, 2003; Chen, Firth, Gao, Rui, 2005; Chen, 2006; Yang, Chun and Ramadili, 2009; McConnell, Servaes and Lins, 2002; Vilalonga and Amit, 2005; Ruan et al., 2011; Rose, 2005; Morck et al., 1998; Cronquist and Nilson, 2003). A single performance measure is effective in detecting the relationship between ownership and firm performance in some circumstances, but it fails to detect a relationship in most circumstances. To improve the limited capability of one measure, it is suggested by Daudet et al. (2009) to adopt multiple measures in order to have the benefit of capturing most of the firm performance goals. The current study adopts an accounting-based measure and a marketing-based measure and they may differ from each other as each one captures a different dimension of firm performance.

As for the independent variables, numerous studies stress ownership concentration rather than ownership identity (for instance, Demstet and Villalonga, 2001; Thomsen et al. 2005; Ongore, 2011; Chen et al., 2005). As for the few studies which concentrate on ownership identity, they consider only a single type of ownership. For instance, Li et al. (2007), Chen (2006), Davies, Hiller and Mc Colgan (2002), Bos et al. (2013), Ruan et al. (2011) and Villalonge and Admit (2005) examine the relationship between managerial ownership and firm performance. It is noticeable in these studies that they define insider ownership as the percentage of shares owned by directors and top executives ignoring employee associations (e.g. Park and Jang, 2010), another type of insider ownership.

Other studies concern the relationship between state ownership and performance (e.g. Wei and Verla, 2003; Omran, 2006; Naceur et al., 2007; Omran, 2009). These studies that relate state ownership to firm performance link it to the privatisation effect. They examine the relationship between ownership and performance pre- and post-privatisation. This indicates that their findings may be limited to certain situations as they are concerned primarily with examining the effect of privatisation on firm performance. Previous studies about the impact of ownership on performance, in spite of being recent, base their study on data from the 1990s and early 2000.

For Egypt as a context, the economic reform policy that was executed during the three previous decades has played an influential role on the socio-economic and political circumstances in Egypt. Moreover, privatisation has been implemented on the state owned Egyptian companies is characterised with slow pace and mix-up over the reformation process. In return, they have inevitable to build a local ownership structure that is different from that of the Western countries. The institutional environment in Egypt differs from that of the developed economies. The Egyptian context is characterised by weak national governance, crony capitalism, ownership is concentrated in the hands of large families and/ state. So the findings from studies that are based on data from developed countries might not be applicable on the Egyptian context. That is why the Egypt as context becomes worth exploration as the local ownership is important mean to effectiveness, efficiency and sustainability of the economic system.

Furthermore, considering all the governmental attempts to make an economic reform, the reform was not successful enough in raising the Egyptians' standard of living and the government still provides subsidies for basic necessities to a wide range of people (Abdelrahman, Maha and Apthorpe, 2003). For that and to achieve higher GDP the government need to implement an aggressive reform policy as an attempt to improve economy. That's why examining the relationship between the current ownership structure and performance can be informative to the policy makers and governmental officials. Also, ownership structures are contextual variables that can have its effects on the way governance is practiced within firms.

Furthermore, there are very few empirical studies that relate ownership structure and firm performance on Egypt or include Egypt as part of their studies. Traditionally, corporate ownership has been operationalised along one or two dimensions of ownership structure of ownership structures. Even the limited studies on the Egyptian listed firms concentrate on the impact of privatisation on firm performance; they mainly concentrate on comparing pre-and post privatisation performance (e.g. Omran et al., 2008). Thus

this study find it an opportunity to investigate more than one dimension and they are managerial ownership, private ownership, state ownership and employee association altogether in the same model. Moreover, previous studies evaluate the ownership structure-performance relationship based on different performance measures, For instance, Abdul salam et al. (2008) used dividends policy as a performance measure, and Naceur et al. (2007) base their study on Return on Sales (ROS) and operating efficiency.

Accordingly, this study will try to mitigate these limitations and fill the gaps left by previous studies as follows: first, the current study utilises panel data to examine the relationship between ownership structure and firm performance; second, the current study tries to contribute to the ownership structure literature through examining the collective effect of managerial ownership, private ownership, state ownership and employee association ownership on two different measures of performance in Egypt as a developing Arab country that is not given enough attention in research; third, this study will apply a series of more advanced econometric methods to explore the relationship between ownership structure and firm performance in order to increase the reliability and validity of the results.

In the following sections a detailed review on the relation between different ownership structure and firm performance is employed to develop eight hypotheses.

a) *Literature Review and Hypothesis Development* *State ownership and firm performance*

From the traditional perspective, state ownership is known to be associated with imposition of political objectives on the firm and the exploitation of the firm's assets through what is called the "grapping hands" of the state (Shleifer and Vishny 1998 as cited in Le and Buck, 2009). A specific characteristic of state-owned firms is that owners (citizens) have no direct claim on their residual income and are not able to transfer their ownership rights. Generally, ownership rights are exercised by some level in the bureaucracy, which does not have clear intentions to improve performance (Ongore, 2011).

State-owned companies are viewed from two perspectives: the developmental view and the political view (Borisoura et al., 2012). According to the developmental view the government can intervene to lend support to firms and markets through its legal power. In this view the government can work as a safeguard for the economy and prevent capital market collapse. In contrast the political view emphasises politicians' desire to achieve political goals. The government may misallocate capital resources for political gains (Borisoura et al., 2012).

Considering the public interest perspective, the aim of SOEs is to maximise social economic welfare.

SOEs do not necessarily aim to maximise shareholder value. SOEs function may be based on non-financial goals (Sokol, 2009). For instance, SOEs seek to decrease the unemployment rate and struggle with inflation. Besides, managers of SOEs concentrate on growth rather than short-term profitability.

Moreover, Arocena and Oliveros (2012) highlighted three main problems related to state-owned companies. The first one entails problems associated with the alignment of the interests of state-owned management with its owners, which are the citizens. The owners of state-owned enterprises have weaker abilities to monitor the behaviour of the managers. The people are the government's residual claimants in a business corporation. They are also the primary recipients of what such government corporations provide. Therefore, it is argued that such a dualistic relation between the public (citizens) and the government makes it very hard to decide how to act in the best interests of the public. The second problem is suggested through property rights theorists. In public firms, managers do not suffer the consequences of their decisions. It is claimed that in SOEs managers are less likely to be fired by the board for making bad decisions (Sokol, 2009). And finally from the perspective of public choice view, it is argued that being actors in the political process makes politicians, bureaucrats and government officials more concerned with the maximisation of their own objectives like votes, power and prestige than the pursuit of the general interest and the efficiency of their decisions.

The concern that dominates the literature so far is that inefficiency in state-owned firms stems from the conflict inherent in the state's dual role as a shareholder and as a governance regulator (Pargendler, 2012). Nevertheless, Mura (2006) argues that this type of corporate ownership still plays a significant role in Western Europe due to its political influence. In his survey, there are a number of factors why politicians prefer state-corporate ownership. These include: social and distributional concerns, private and public partnership development, interest with national protection, problems with making successful contracts with private service providers, as well as government ideology. Interestingly, the continued involvement of government in the production of products/services has made activists in corporate governance consider privatisation as the best way to solve governance challenges in state-owned corporations.

State ownership is not without benefits to society. For Le and Buck (2009), state ownership is a strategic asset not an agency cost. They have highlighted that beside the costs associated with this type of ownership, some benefits do exist. In the view of Sokol (2009), state-owned enterprises are traditionally called upon to alleviate market failures. With increasing significance of the social costs of monopoly control, the author asserts that it is imperative to consider state

controls as having more economic advantages compared to other forms of ownership. This is basically due to the fact that these corporations face few financial problems as opposed to other forms. The advantages offered to state-owned firms could be in the form of implicit loan guarantees for favourable lending, limitations on foreign ownership, reduction /exemption of taxation.

Nevertheless, some countries encourage this type of ownership where monopolies are considered natural. Examples of these natural monopolies are sectors that require an interlocking supply network for the provisions of goods and services (electricity, or gas provisions, railways, etc.). A private monopolist may produce and price at levels which are not socially optimal. Governments can mitigate this through effective regulation (Kowalski et al., 2013)

In a system of concentrated ownership, collective action problems allow controlling families to exercise influence on legislative outcomes, stifling the enactment of investor protection law. Moreover the coexistence of state and family control creates a natural alignment between government and controlling families against minority shareholders (Pargendler, 2012). So, this is considered a symbiotic relationship between the state and controlling families. In this sense managers of SOEs typically face lower incentives to perform than those in private firms. Also, state controlled firms tend to pursue political objectives rather than shareholder wealth (Pargendler, 2012).

The impact of state ownership on firm performance has been a major area in empirical research. This is not only because state shares account for a reasonable share of listed companies but also because they are a means for government intervention (Kang and Kim, 2012). While the relationship between state ownership and firm performance has been widely researched, the empirical evidence has provided mixed results (Yu, 2013; Kang and Kim, 2012).

From the above reviewed literature, the author expected a negative relationship between state ownership and firm performance and this is from the agency perspective.

H₁: There is an inverse relationship between state ownership and firm accounting performance (ROA).

H₂: There is an inverse relationship between state ownership and firm market-based performance (Tobin's Q).

IV. PRIVATE OWNERSHIP AND FIRM PERFORMANCE

According to Peng, Buck, and Filatotchev (2003), private firms in general are viewed to be superior to state owned enterprises and, in theory, privatisation may help to minimise the agency problem and lead to greater efficiency by improving monitoring systems and providing agents with better incentives to perform.

Furthermore, it is shown that companies with private ownership are much more motivated to seek wealth maximisation and reduce costs (Alipour, 2013).

Privatisation in general is considered to have a positive effect on the efficiency of SOEs. SOEs generally are required to address multiple, if not contradicting roles (Boycko et al., 1996 as cited in Li, Moshirian, Nguyen and Tan, 2007). SOEs may also have to carry out politically motivated projects that can seriously undermine their competitiveness. So, by relieving state-owned companies from excessive burdens by privatisation, as a result performance may increase. Another effect of privatisation is to impose market discipline in the hands of private investors (Li, Moshirian, Nguyen and Tan, 2007).

In the view of (Sarioglu and Demikci, n.d), there are several characteristics that differentiate private ownership from state ownership. From the perspective of profit maximisation, private ownership is more eager to maximise profits as they bear the financial consequences of their decisions. Owners of private firms monitor the performance of managers closely. Privately-owned companies are supposed to hire the best possible qualified people to perform the job, not being pressured like state firms to hire politically connected people.

Moreover, privatisation has brought in foreign ownership. The effect of foreign ownership on performance has been an issue of interest to academics and policy makers. It has been suggested that multinational firms outperform domestic firms (Ongore, 2011). Foreign owners have more ability to monitor managers and give them performance-based incentives. This leads managers to work seriously and avoid activities that are not in the best interests of shareholder. Also, foreign ownership helps in the transfer of new technology and best management practices globally which helps to enhance efficiency by reducing operating expenses and generates savings to the company (Ongore, 2011).

Some empirical studies document significant performance improvement following privatisation (e.g. Li, Moshirian, Nguyen and Tan, 2007; Omran, 2006; Omran, 2009 and Naceur et al., 2007)

Based on the previous proponents above, it is suggested that private ownership is expected to have efficient performance.

H₃: There is a positive relationship between private ownership and firm accounting performance (ROA).

H₄: There is a positive relationship between private ownership and firm market-based performance (Tobin's Q).

V. MANAGERIAL OWNERSHIP AND FIRM PERFORMANCE

The major subject in ownership literature (e.g. Bos, Pendleton and Toms, 2013; Iqbal and French,

2007; Hu and Zhou, 2007; Short and Keasey, 1999; Morck et al., 1987) is the separation of ownership and control of a firm. In their view, this separation is supposed to yield agency costs given that managers who are the agents and the owners who are the principals have distinct objectives. These authors argue that with the large size of modern corporations and the diffuse ownership usually witnessed, management is likely to take over effective corporate control. This signifies that the management operates the corporation in its own interest and diverts progressively fewer resources to non-value maximising activities. So, further studies of firm ownership equity state that managerial ownership can alleviate the challenge associated with the agency problem through incentive alignment of the firm's ownership equity. There is an assumption that managerial ownership may mitigate agency costs due to the separation of ownership and control. The reason is that a higher ownership stake by insiders may help to align the interests of management and shareholders as the manager will be one of the residual claimants.

The basic assumption on the relationship between managerial ownership and firm performance is based on two main issues, i.e. the convergence of interest and entrenchment (Shah et al., 2011). Under the assumption of convergence of interest, the greater the managerial ownership, the less inclined the managers are to divert resources away from the value maximisation. Hence, the greater the managerial ownership percentage, the better will be the firm performance. According, to the entrenchment assumption, the greater the percentage of shares held by managers the lessor they will manage the firm in the other shareholders interest.

Park and Jang (2010) have confirmed that increasing the convergence between the owners and managers interests, thus resulting in a positive impact on firm performance. On the other hand, the entrenchment hypothesis argues that managers who control substantial shares can have voting rights to guarantee their own stable employment in the firm. This indicates that they may have an adverse impact on performance.

Based on the convergence-of-interest assumption, Hanson and Song (2000) state that stock ownership provides managers with the economic incentive to act in accordance with the interests of outside shareholders and monitoring by the board of directors helps to assure that managers will not make decisions that stray too far from their interests.

On the other hand, Iqbal and French (2007) argue that while managerial ownership can encourage wealth maximisation behaviour among managers, it can allow entrenchment by managers who own a large enough stake to reduce the possibility of their dismissal. The author argue that managers with a large stake are less likely to be removed. They concluded that

individual managers can use large shareholdings and the purchase of additional shares to influence the mechanisms of corporate control within the organisation. The authors have found that executives who own a high proportion of their firm's stock will be in a better position to avoid removal during periods of financial difficulty when firms are more likely to replace managers. In addition, executives who retain their position with the firm tend to increase their ownership position.

From the above literature about the relationship between managerial ownership and firm performance it is obvious that differences in the findings and mixed results can emerge due to the characteristics of the sample used. So it is normal that companies have different optimal levels of managerial ownership. Hence the author suggests these hypotheses based on the assumption of the convergence of interest:

H₅: There is a positive relationship between managerial ownership and firm accounting performance (ROA).

H₆: There is a positive relationship between managerial ownership and firm market-based performance (Tobin's Q).

VI. EMPLOYEES AS SHAREHOLDERS AND FIRM PERFORMANCE

Recently, the importance of the stakeholder model has been recognised, so firms start to recognise that the engagement of not just the shareholders but of a wider circle of stakeholders such as customers, employees, communities and suppliers can be competitive in the short term and more sustainable in the long term (Michie and Oughton, 2001). This section is concerned with one of the stakeholders inside the organisation – the employee – and the consequences of allowing them to share ownership.

Employee ownership is not only growing in the US but also worldwide (Guedri and Hollandts, 2008). Employee ownership can be found in such diverse countries as Ireland, Egypt, the Philippines, South Africa, Costa Rica, Sweden, Japan and Australia (Durso, 1991) and it is defined as "ownership of the company stock by employees through broad based ownership plan (EOSP), stock awards, and stock purchase plans" (Guedri and Hollandts, 2008, p.460).

In Pukthuanthong et al. (2007) it is stated that equity based compensation comes in a variety of forms, but the two most common are awards of shares and grants options on the firm's stock and both are commonly subject to various restrictions on reselling, vesting...etc. Stock options might be an especially effective form of compensation when cash availability is limited, especially in start-up firms. Employee stock options plans award a fraction of ownership in the firm to an employee who gives employees not only fractions claims but also voting rights (Park and Song, 1995).

In these terms, Pierce and Furo (1991, p.34) have identified four general forms of employee-owned organisations: social ownership, worker cooperatives, employee stock options and direct ownership. Social ownership is an arrangement whereby people in a society or community, including the employees, have an ownership stake in the organisation. Worker (producer) cooperatives are an arrangement whereby employees are the exclusive owners. Employee Stock-Ownership Plan (ESOP) is an arrangement whereby employees may or may not be the exclusive owners of the organisation. Direct ownership is an arrangement whereby employees purchase and hold stock in the organisation that employs them. Within each of the last three categories there may be several subsystems, defined by the following criteria: the role that shares of stock play; the method of share purchase or acquisition; the manner of shareholding; the provisions for the sale or transfer of stock; the extension of employee ownership; the share concentration; the role of outside investors; and the principles of control.

According to Kruse (2002), employee ownership is not a simple concept that allows easy classification of firms as 'employee owned'. Kruse has classified employee ownership into four dimensions: (1) the percentage of employees who participate in ownership; (2) the percentage of ownership held within the company by employees; (3) the inequality of ownership stakes among employee-owners; (4) the prerogatives and rights that ownership confers upon employees. These rights can be direct where employees can freely buy or sell their stock, or indirect where stock is held through an employee trust or cooperative. Also, these rights are related to voting rights and any other rights associated with the participation within the firm.

It is essential to review a related term to employee ownership which is employee incentive stock option plan. These plans are considered deferred compensation plans that allow employees to acquire stocks after serving their organisations for a certain period of time. Moreover, stock options are used as an attractive recruitment tool. In theoretical consideration, employee ownership is related to employee attitudes like organisational commitment and reduced intention to quit. It also creates a sense of psychological contract between the organisation and employee (Selvarajan and Ramamoorthy, 2006). However, there has been a debate against employee stock options as they become too costly and are not properly recorded according to the Generally Accepted Accounting Principle (GAAP) rules and it tends to make employees abuse the system (Pukthuanthong et al., 2007).

With respect to the benefits of employee ownership to the organisations, academic literature refers to employee ownership as a double edged weapon (Aubert et al., 2014; Guedri and Hollandts, 2008). On the one hand, it is an instrument for rewarding

employees but on the other hand it can result in poor corporate governance due to the potential collision between employee owners and management when it is used in management entrenchment. In Aubert et al. (2014) it is shown that managers use employee ownership as a way to compensate for their actual skills. It is argued that managers protect their own control by setting up employee stock options plans.

According to Pierce and Furo (1991), employee ownership is a powerful phenomenon as it helps to increase job commitment, job satisfaction, work motivation and group cohesiveness, besides helping to build a team spirit and motivate employees to be good corporate citizens. However these positive consequences are produced under certain conditions. Employee ownership operates as both a psychological and formal experience. Both of these forms play a critical role in the attitudes and the behaviour of the employee owners. Employee ownership is defined in terms of three main rights. The first right is the possession of some share of the owned object's physical or financial being. The second is related to the information about the status of the object being owned. The third is related to the exercise of influence over the owned object. Moreover, the same study has highlighted the importance of the employee owner bonds with the organisation. The psychological bond with the organisation is the key instrument that will lead to the positive consequences of this type of ownership. Without the creation of this state, it is unlikely that the employee owners will differ from the non-employee owners in terms of their commitment, satisfaction, motivation, performance and work attendance behaviours.

In these terms, Pukthuant hong et al. (2007) argue that employees are provided with equity to create incentives and align the interests of managers and owners. It can also assist to attract new talented staff to join the firm and to retain existing staff.

In addition to the above benefits for corporate performance, employee ownership has other advantages of interest to leaders in many countries. For many countries, privatisation through employee ownership is a means for economic reform. Moreover, developing nations have expressed interest in this type of ownership as it stresses local development. Local ownership for the companies provides jobs and gives people the money to buy consumer goods, as a way of "prime and pump" (Durso, 1991).

Although these abovementioned aspects seem to be theoretically tempting, still its application is debateable. When employee ownership as an employee incentive is allocated to a large number of employees, it might not lead to an increase in employee motivation due to the well-known free-rider problem (Meng et al., 2011).

Empirical evidence to date for the performance effect of employee ownership is scarce and even the few studies that exist provide mixed results. However, this is not unexpected because firms usually allocate less than 10 percent of the firms' shares to employees (Meng et al., 2011)

In the view of this study, the literature above is enough to show that involving employees as shareholders in corporate investments gives the firm an upper hand in establishing and achieving higher sustainable performance; hence the author has suggested H_{15} and H_{16} with respect to the relationship between employee ownership and firm performance.

H₇: There is a positive relationship between employee association ownership and firm accounting performance (ROA).

H₈: There is a positive relationship between employee association ownership and firm market-based performance (Tobin's Q).

VII. METHODOLOGY

a) Research design

This study empirically tests the model developed from the literature reviewed that relates ownership structure as an internal governance mechanism to firm financial performance. The sample used in this study consists of EGX 100, the most active Egyptian-listed companies for the period 2005-2010. The study provides measurements for ownership structure, board characteristics and firm performance. The research empirically estimates the parameter of the models by estimating pooled OLS, FGLS and GMM regressions. The dependent variables are the accounting-based performance measure (Return on Assets) and market-based performance measure (Tobin's Q).

The independent variables in the regression models are the internal corporate governance mechanisms. Internal corporate governance mechanisms are represented by the ownership structure variables. The model also controls for the age of the company, type of industry and size of the company.

b) Sampling and data collection procedures

All relevant data is collected from 2005 to 2010. The sample period of this study starts from 2005 because it is the year in which the Egyptian code of corporate governance was issued. Thus, the changes that have occurred in the Egyptian-listed companies since the code was issued can be traced. Data after 2010 have not been included because of the Egyptian revolution or what is called "Arab Spring" on 2011 which in turn, may lead to different conclusions. The political and economic outlook of much of the MENA region in which Egypt is part of it remain uncertain. Accordingly it is expected that Egypt may register low economic

growth after 2011 given the substantial levels of political and social uncertainty, the cancellation or suspension of investments and the temporary shutdown of some banks, stock market...etc. Nevertheless, there is expected kind of political reform which is accompanied with further economic reform (World Bank, 2013, World Bank, 2011). To underpin a proper economic and political reform, it will be essential to understand the situations that led to sever problem in Egypt. Understanding the challenges that exist in the context before 2011 is essential as it will help practioners and policy makers to put them into consideration to develop a more transparent and effective governance to unleash the region's economic development. Yet, three years after this dramatic change, it is still unclear to what extent this political turmoil has affected the Egyptian listed firms as it is likely that stock prices will retort with great deal of uncertainty and adjust negatively during the unrest(Chau et al., 2014). Even the studies that are performed after 2011 the researchers always divide their sample before and after 2011 (e.g. Chekit and Diwan, 2013) or they concentrate on only one of them like Wahaba (2014) who based her study on the period before 2011.

All the sectors are investigated with no companies excluded, except for those which refused to provide the researcher with any information to not disclose any relevant data to this research. In total there are ten major industries consisting of: food and beverage, banking and financial services, building and construction, basic resources, personnel and house holding, utilities, telecommunication, entertainment and real estate.

Two main categories of data are used in examining the relationship between ownership structure

and financial performance of Egyptian-listed companies. Considering the first category of data, the ownership structure variables are provided through the Misr Clearing, Settlement and Central depository (MCSD)¹and from some annual reports are obtained from the company website. Company annual stock market and financial accounting performance variables constitute the second category of data used in the study. These are collected from several sources: the companies' annual reports and the disclosure book; information is also obtained from databases such as Bank Scope, Reuters and Coface Egypt.

Accordingly, a total number of 70 Egyptian-listed companies were ready for the statistical analysis; companies with incomplete data are rejected. It may be argued that a sample of EGX 100 may limit representation of the sample and generalisation of the finding. (EGX 100) comprises (EGX 30) and (EGX 70) and these are indeces that constitute the most active Egyptian listed companies (The Egyptian Exchange, 2010). For instance, in 2010 (EGX 100) not only represent 33 percent of the total listed firms (Total number of the listed firms in the EGX is 211 in 2010), but it also constitute the main two indeces of the Egyptian Exchange (EGX 30 and EGX 70). (EGX 100) market capitalisation represents 63 percent of the total market capitalisation which represents around 40 percent of GDP. The total market capitalisation during the period from 2005 to 2010 for all the companies listed in the Egyptian Stock Exchange, as well as for those firms constituted the sample of the current study are summarised in the table below (Table 1). Accordingly, the sample does represent the population (i.e. The Egyptian listed companies).

Table 1: Market capitalisation of the sampled firms from 2005 to 2010

In L.E Billion	2010	2009	2008	2007	2006	2005
Total Market Cap. Main Market	488	500	474	768	534	456
Total Market Cap. (EGX 30)	258	229	170	439	301	246
(EGX 30) Market Cap. as a percentage of total market capitalisation	53%	46%	36%	57%	56%	54%
Total Market Cap. (EGX 70)	54	69	61	N/A	N/A	N/A
Total Market Cap. (EGX 100)	312	279	231	N/A	N/A	N/A
Total Market Cap. Main Market as a percentage of GDP	40%	48%	46%	56%	80%	74%

(Source: The Egyptian Exchange, 2011, 2009, 2008, 2007, 2006, 2005)

c) Variables of the constructs

i. Financial Performance (Dependent Variables)

Accounting-based measures and market-based measures are the two most common estimators for performance in the corporate governance literature. The accounting-based measure is derived from the firm's operating environment (from within the firm) while the market-based measure is derived from the firm's trading transactions (Echer et al., 2009).

ii. Return on Assets (ROA)

ROA is defined as the measure of the capacity of assets of a firm to generate profits and is considered to be a key factor in determining the future investment of

¹ In which the stock exchange settlement and clearing transactions are performed and it is working as the major depository for securities which is sold in the capital market and helps to shifting them into entries of books and performing corporate actions.

the firm; therefore it is used as an indicator of a firm's profitability (Arosa et al., 2010).

The formula used to calculate return on asset is as follows:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$$

a. *Tobin's Q*

Lindenberg and Ross (1981) have described that the ratio of the market value of the organisational assets to the replacement cost of the assets of a firm is known as Tobin's Q.

Tobin's Q is used as a proxy for organisational performance when learning the relationship between corporate governance and organisational performance. Thus Smirlock, Michael, Gilligan and Marshall (1984) infer that organisations with more shareholder rights are governed better, since these organisations have a greater value of Tobin's Q. For the marketing-based measure the author uses Tobin's Q.

A modified version of the Tobin's Q by Chung & Pruitt (1994) is used. This modified version closely approximates Tobin's original statistic and produces a 96.6% approximation of the original formulation used by Lindenberg & Ross (1981):

Where: Tobin's Q = (MVS + D)/TA

MVS = Market value of all outstanding shares
(the firm's Stock Price x Outstanding Shares)

TA = Firm's assets, i.e. cash, receivables, inventory and plant book value

D = Debt defined as:

D = (AVCL – AVCA) + AVLTD

Where:

AVCL = Accounting value of the firm's Current Liabilities
= Short Term Debt + Taxes Payable

AVLTD = Accounting value of the firm's Long Term debt
= Long Term Debt

AVCA = Accounting value of the firm's Current Assets =
Cash + Inventories + Receivables

iii. *Internal Corporate Governance mechanisms
(Explanatory Variables)*

a. *Ownership structure*

This study classified the substantial shareholders into managerial, state-owned, private and employee association. Table 2 provides a summary of the ownership measurements used in this study.

b. *Control variables*

1. *Firm size:* Many previous studies (e.g. Yang et al., 2009; Demsetz and Villalonga, 2001; Ferick and Bermig, 2009; Iannotta and Nocera and Sironi,

to corporate governance characteristics and may be correlated with firm performance and that it can be represented by the natural logarithm of total assets (Book Value). It is also suggested by the conventional wisdom that a larger organisation would lead to a larger board of directors, since these organisations are more complex and need more diverse expertise on the board (Klein, 1998).

2. *Industry/sector:* Previous studies indicate the importance of sector classification of the companies in order to determine some factors related to corporate governance in general (King and Santor, 2008, Cui and Mark, 2001). The current study uses the sector classification published by the Egyptian Stock Exchange. These sectors are food and beverage, banking and financial services, building and construction, basic resources, personnel and house holding, utilities, telecommunication, entertainment and real estate. An industry-fixed effect is composed of Y-1 industry where Y represents the number of industries included in the sample of this study. Each industry variable equals 1 if the observation falls within that industry and zero if otherwise. The industry dummy used in this study is :

$$\text{Industry}_i = \begin{cases} 1 & \text{if it belongs to a} \\ & \text{certain industry} \end{cases}$$

Where i means certain industry.

3. *Firm age:* Firm age refers to the number of years which a firm has been in operation. Previous studies in corporate governance (e.g. Gregory, Rutherford, Oswald and Gardiner, 2005; Boone et al., 2007) assure that firm age has been linked to many issues in the firm. For instance, Boone et al. (2007) found that as firms grow, boards also grow in response to the increasing needs and benefits of monitoring and specialisation by board members. However, the magnitude of these relationships may differ. For example, board size and composition reflects a trade-off between specific benefits of monitoring and costs of such monitoring (Raheja, 2005). Moreover newly-established firms are expected to have fewer profits than older ones because they have less experience in the market, are still building their market position, and normally have a higher costs structure (Lipczinsky and Wilson, 2001). Further, Boone et al. (2007) also suggest that complexity increases with firm age. In view of the uncertain relationships of firm age on board characteristics as well as firm performance, it is decided to control for firm age. Firm age is measured by the number of years from the time the firm was incorporated.

Table 2: Summary of the measurements of the variables

Variables	Measurements
Dependent Variable:	
Return on Assets (ROA)	Calculated net income divided by total assets
Tobin's Q	Calculated (Market value of all outstanding shares+ debts) divided by total assets.
Independent Variable	
Ownership Structure	
% of managerial ownership	% of shares held by managers/ executives.
% of state ownership	% of shares held by governmental /state institutions and companies.
% of private ownership	% of shares held by private institutions and companies.
% of employee association ownership	% of shares held by employees from within the listed firm.
Control Variables:	
Firm size	Natural Logarithm of total assets (Book value)
Firm industry	Industry dummy: 1 if the firm i belongs to Y-1 industry 0 otherwise.
Firm age	Number of years since incorporation calculated as the difference between 2010 and the year of establishment of the company.

VIII. ANALYSIS PROCEDURES

An initial descriptive analysis highlights the summary statistics of the different variables. The descriptive statistics include minimum and maximum values along with the means, medians, and standard deviations for various measures.

The correlation between the variables is an indication of concern for multicollinearity in the regression model. The correlation analysis of the independent and control variables is an attempt to examine the preliminary relationships among these variables. The high multi-collinearity can be detected through the phenomenon "high pair-wise correlation among explanatory variables" (Brooks, 2008, p.173). In addition to presenting the correlation matrix, this study applies the variance inflation factors (VIF) tests. The tolerance factor and the variance inflation factor for each corporate governance variable and control variables are calculated. A tolerance factor close to 0, and a value of the variance inflation factor greater than 10, shows the presence of multi collinearity in the models (Hair et al., 1998; Kennedy, 2008).

a) Panel data analysis

The two types of panel estimator's approaches that can be employed are fixed effect models and

random effect as shown in the above equations. Fixed effects are tested by the F-test while random effect is examined by the Lagrange multiplier (LM) test. The F-test compares the fixed effect model and OLS to identify which one of them will improve the goodness of fit, the null hypothesis is that all dummy variables except for the one dropped are all zero, $H_0: \mu_1 = \dots \mu_{n-1} = 0$. The alternative hypothesis is that at least one dummy parameter is not zero. If the null hypothesis is rejected this indicates that the fixed effect model is better than the pooled OLS. The Breusch and Pagan Lagrange multiplier (LM) for random effect test contrasts the random effect model with the OLS. This test indicates whether OLS regression is appropriate or not (H_0 : OLS regression is appropriate). The result of this test obeys the chi-square distribution. If the null hypothesis is rejected this indicates that there is a random effect in the panel data, and that the random effect model is able to deal with heterogeneity better than the pooled OLS (Park, 2011). Accordingly, if the null hypothesis is not rejected in either test, then the pooled OLS regression is favoured. Once these two tests are implemented then the model is determined as shown in Table 6.6 below:

Table 3: Fixed Effect and Random Effect models

Fixed Effect (F test)	Random Effect (Breuch-Pagan LM test)	The Model
H_0 is not rejected (no fixed effect)	H_0 is not rejected (no random effect)	Data are poolable = Pooled OLS
H_0 is rejected (fixed effect)	H_0 is not rejected (no random effect)	Fixed Effect Model
H_0 is not rejected (no fixed effect)	H_0 is rejected (random effect)	Random Effect Model
H_0 is rejected (fixed effect)	H_0 is rejected (random effect)	Choose one depending on the results of Hausman test

Source: Park (2011)

To decide which technique is appropriate for panel data, the Hausman Test is employed. The null hypothesis of the Hausman test shows the random effect model is more suitable, and the alternative hypothesis is that the fixed model is more suitable. The results of the Hausman test obey the Chi square distribution; if it is lower than the critical value, the null hypothesis will be rejected.

b) Instrumental regression

A further step in the analysis involves conducting an exogeneity test in the key explanatory variable to ascertain whether it is actually endogenous or not. This step is done following the recommendation from some previous corporate governance studies (e.g. O'Connell and Cramer, 2010; Li, 1994; Brunello, Graziano and Parigi, 2000; Hermalin and Weibach, 1998). If the coefficient resulting from the tests is significant, then the relationship between corporate governance variables and firm performance will tend to be endogenous. This suggests that the researcher should be directed towards using the instrumental variable regression IV. Hence, the two stage least square regression or the GMM are appropriate methodologies to use for the estimation.

Endogeneity causes the usual OLS estimation to generate biased results. Under this circumstance, it is necessary to adopt the instrumental variables (IV) method. Efficient GMM brings an advantage of consistency in the presence of arbitrary heteroskedasticity. Accordingly, the regular Breuch-Pagan tests for the presence of heteroskedasticity in the regression

equation can be applied to an IV regression. If heteroskedasticity is proved to be present then the standard IV is not recommended and the GMM regression has to be employed (Baum, Schaffer and Stillman, 2007).

IX. RESULTS

a) Descriptive statistics

Descriptive statistics of ownership and performance variables are initially examined. Table 4 presents the descriptive statistics of the sampled firms which includes the mean, the standard deviation, and the maximum and minimum values for each ownership structure variable and the two performance variables. The descriptive statistics in Table 7.1 show that the mean value of managerial ownership is 0.15 with a range between 0 and 0.80; the mean value of private ownership is 0.21 with a range of 0 to 0.98; the mean value of state ownership is 0.18 with a range between 0 and 0.92; and finally for the employee association the mean is 0.01 with a range between 0 and 0.10. Data indicates that variations across firms in ownership structures exist. These findings are consistent with the findings of some previous studies applied to the Egyptian capital market. Omran (2009) states that, in Egypt, state and family ownership structures dominate. AbdelShahid (2002) also states that employee association is found in the privatised economy but does not exceed 10 percent.

Table 4: Descriptive statistics: Summary measures for ownership structure variables and performance variables

Variables	obs	Mean	Standard Deviation	Min	Max
Tobin's Q	412	2.342	5.761	-3.320	62.992
ROA	412	0.079	0.126	-0.569	1.277
Managerial ownership	412	0.147	0.225	0	0.800
Private ownership	412	0.215	0.284	0	0.981
State ownership	412	0.182	0.250	0	0.922
Employee association ownership	412	0.013	0.027	0	0.100

b) Description of ownership variables over the period

The finding from the pooled sample for all the firm years is discussed in the above section. However, it is crucial to discuss the differences in terms of years. Table 7.2 demonstrates the breakdown of the average or mean of the study's ownership variables in each year. The differences between years of the variables are used to examine the evolution, changes, directions and development of these variables during the period. Table 4 and Figures 1 to 4 indicate that the ownership structure of Egyptian-listed companies experienced slight changes during the period from 2005 to 2010.

Firstly, there is a decrease in state ownership. As seen in Table 4 and Figure 3, the average state ownership was 20% in 2005; it continued to decrease over time until it reached 17% in 2010. This finding demonstrates a downward trend in average state ownership. Changes in state ownership indicate that there is allowance for more companies to become private. This is consistent with some previous studies that indicate that there is a trend towards privatisation as a part of economic reform in Egypt (Shahid, 2003). Secondly, for managerial ownership, Table 4 and Figure 1 report that there was a slight increase from 13% to 15% from 2005 to 2010.

Thirdly, private ownership shows an increase from 21% to 22% as shown in Figure 4 from 2005 to 2010. Finally, employee association ownership means show stability over time as shown in Table 4 and Figure 4: it does not exceed 10% in any of the years. It can be seen that private ownership and state ownership are the highest

compared to other types of ownership. Overall, figures in Table 4 reflect the fact that the Egyptian-listed companies did not experience dramatic changes in ownership structures during the period from 2005 to 2010. Figures 1, 2, 3 and 4 demonstrate the changes in the values of the study as explained in detail above.

Table 5: Ownership structure variable means across

Year	Tobin's Q	ROA	Managerial ownership	Private ownership	State ownership	Employee association ownership
2005	3.484	0.080	0.132	0.218	0.199	0.018
2006	3.546	0.064	0.137	0.192	0.185	0.016
2007	2.436	0.010	0.160	0.208	0.183	0.0123
2008	1.143	0.079	0.141	0.224	0.178	0.0104
2009	2.001	0.083	0.156	0.220	0.176	0.011
2010	1.577	0.067	0.152	0.224	0.175	0.008
Total	2.342	0.079	0.147	0.215	0.182	0.0127

c) Correlation matrix

Table 7.3 presents the correlations between ownership structure variables and ROA and Table 7.4 presents the correlations between ownership variables and Tobin's Q. All ownership structure variables exhibit a positive correlation with ROA. This indicates that a high proportion of managerial ownership, private ownership and state ownership affects an increase in ROA. In regard to the results of ownership structure variables and ROA, state ownership has the highest correlation with ROA followed by private ownership and then managerial ownership. Employee association has no correlation with ROA. Furthermore, apart from state ownership all independent variables exhibit a positive correlation with Tobin's Q, indicating that a high proportion of state ownership affects a decrease in Tobin's Q amongst Egyptian-listed firms. In regard to results of ownership structure variables and Tobin's Q, private ownership has the highest correlation (0.24) to corporation performance (Tobin's Q). This is followed by state ownership which has a negative correlation, followed by managerial ownership and finally employee

association ownership. The highest correlation compared with other variables is found between the proportion of state ownership and the proportion of private ownership (34%). This relatively high correlation is expected since there is a trend towards privatisation in Egypt as a part of the reform plan that was initiated in the 1990s (Shahid, 2003). Generally, with respect to other variables, none are correlated to an extent that merits noting.

Overall, the low magnitude of the correlations amongst the exogenous variables indicates that multicollinearity should not be a problem for the sample set. Further to these relatively low correlations, this study calculates variance inflation factors (VIF) and finds that VIF values are within acceptable limits. Table 7.5 shows the VIF and tolerance coefficients of each independent variable. Gujarati (2003, p.339) suggests that a VIF value of less than 10 is acceptable. The largest VIF value from the variables is 2.64. The mean of VIF for the model is 1.85. Thus, multicollinearity does not appear to be a problem in either of the two models.

Table 6: Correlation matrix – ownership variables and ROA

Table 7: Correlation matrix – ownership variables and Tobin's Q

Table 8: Multicollinearity among ownership variables

Variable	VIF	1/VIF
Building and Construction materials	2.64	0.38
Financial Services and Banks	2.53	0.40
Real estate	2.2	0.45
Personal and Household products	2.16	0.46
Food and Beverage	2.12	0.47

Private Ownership	1.88	0.53
Managerial Ownership	1.81	0.55
Telecommunication	1.73	0.58
State Ownership	1.7	0.59
Employee Association Ownership	1.58	0.63
Utilities	1.52	0.66
Entertainment	1.51	0.66
Size of the company (lnTA)	1.48	0.68
Age of the company	1.46	0.68
Basic Resources	1.39	0.72
Mean VIF	1.85	

d) Statistical tests

This section presents the results of the statistical tests employed and accordingly the type of regression is decided as explained in chapter 6.

System endogeneity tests are performed in order to determine whether the endogeneity problem needs to be addressed in the regression methods. Endogeneity between ownership structure variables and ROA and between ownership structure and Tobin's Q have been revealed by system exogeneity tests (Table 7.6 and Table 7.7) respectively. Thus, reverse causation between ownership structure and firm performance measures (ROA and TQ) needs to be addressed in the analysis. In this case, the association between dependent and independent variables should be estimated using instrumental variable regression methods, rather than pooled OLS.

Table 9: Results of endogeneity test – ownership structure and ROA

Variable	P-Value	Endogeneity Test
% of Managerial ownership	0.11	2.654
% of Private ownership	0.10*	2.628
% of State ownership	0.2441	1.357
% of Employee association	0.9856	0.000

Table 10: Results of endogeneity test – ownership structure and Tobin's Q

Variable	P-Value	Endogeneity Test
% of Managerial ownership	0.5342	0.386
% of Private ownership	0.0003***	13.126
% of State ownership	0.9511	0.004
% of Employee association	0.4817	0.495

Additionally, in order to test whether the no heteroskedasticity assumption of the two stage least square (2SLS) is valid in this data set, the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is performed to detect the existence of heteroskedasticity. The result of this test obeys the chi-square distribution. The null hypothesis is homoscedasticity (for constant variable). The results of the test are presented in Table 7.8 below. Hence, heteroskedasticity has been proved to exist, which indicates that 2SLS is less efficient than the GMM estimator when it is applied to this data set. As a result, the relationship between ownership structure and performance will be estimated by using GMM and the results are presented in the next section.

Table 11: Summary for the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

	Ownership structure and ROA	Ownership structure and Tobin's Q
Chi(2)	7.38	378.65
Prob> Chi(2)	0.0066	0.000
Hypothesis Testing	Rejected	Rejected
Type of regression	GMM regression	GMM regression

e) GMM regression results

The result of the GMM estimator is largely consistent with the hypotheses, with some interesting twists, which will be discussed in the following two sub-sections. The empirical results of this section indicate that ownership structure significantly affects firm performance of Egyptian-listed companies. Thus, in discussing the effect of the corporation governance mechanism on firm performance of Egyptian companies, their ownership structure must be considered. The results of two sets of regressions models representing the relationship between ownership structure variables and firm performance measures (ROA and Tobin's Q) are presented below in Table 7.9 and Table 7.10. Also, the results of the three post-estimation tests are reported in the same tables. First, the under-identification test is essentially an LM test of

whether the equation is identified. In the presence of heteroskedasticity, the more traditional Anderson LM and Cragg-Donald Wald statistics are no longer valid. Instead, Table 8.8 and Table 8.9 present the LM and Wald versions of the Kleibergen-Paap (2006) rk statistic, which is a generalisation of the more traditional tests. Second, the weak identification test estimates how relevant and how strong our instruments are. In the presence of heteroskedasticity, the traditional Cragg-Donald-based F-statistic is not valid so instead the Kleibergen-Paap Wald rk F-statistic is again reported. For our sample, the F-statistic is at least 20, affirming that the instruments are relevant and strong. Finally, the over-identification test is reported. For this test, the null hypothesis is that the instruments are exogenous (uncorrelated with the error term), so if the statistic is significant and the p-value is small enough, this

suggests that the instruments are not exogenous. Since the traditional Sagan test is no longer valid, the Hansen's J statistic (1982) is employed to provide information about the validity of the instruments, and it remains consistent when the error is heteroskedasticity. For our specification, the null hypothesis is not rejected. This indicates that the instrument employed is valid.

f) *Relationship between ownership structure and the accounting-based financial performance measure (ROA)*

As highlighted above and according to the sample conditions, the GMM regression is applied to assess the extent of the relationship between ownership and ROA. The age of the firm and firm size are used as control variables in addition to the industry dummies. Below are the details of the empirical results.

Table 12: Results of GMM regression – Ownership structure variables and ROA

Independent variable	Coefficient	Standard Error	P value
Private ownership	0.05**	0.017	0.01
Managerial ownership	0.05***	0.016	0.00
State ownership	0.05***	0.011	0.00
Employee associations ownership	-0.009	0.073	0.90
Control Variables			
Food and Beverage	-0.029**	0.009	0.02
Financial services and banks	-0.049***	0.009	0.00
Building and Construction material	-0.0129	0.009	0.19
Basic Resources	-0.02	0.013	0.14
Personal and Household Products	-0.04***	0.010	0.00
Utilities	-0.10***	0.030	0.00
Telecommunication	-0.03**	0.010	0.01
Entertainment	-0.05***	0.012	0.00
Real estate	-0.04***	0.009	0.00
Firm's age	-0.00	0.000	0.76
Firm's size	0.00	0.002	0.643
_cons	0.026	0.025	0.302
Adjusted R²	0.20		
Kleibergen-Raap rk LM statistic (Under-identification test)	62.28		0.00
Kleibergen-Raap rk Wald F Statistic (Weak identification)	27.10		
Hansen J statistic (Over-identification test)	3.94		0.36

Note: ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Table 7.9 suggests that the P-value of this model is statistically significant at 1% significance level. It suggests that coefficients of ownership structure variables can jointly explain significant variations in the sampled firms' return on assets (ROA). The adjusted R² is approximately 20%. This means that at least 20% of

the variations in the sampled accounting return ROA can be explained by the ownership structure variables. Out of the four variables of ownership, the coefficients of private ownership, managerial ownership and state ownership are statistically significant. However, employees association as a type of ownership shows an

insignificant negative relationship. The control variables are included in the regression model. Results suggest that P- value is statistically significant for a number of industries: food and beverage, financial services and banking, personnel and household products, utilities, telecommunication and real estate. However, coefficients on firm age and size of the firm as control variables are insignificant. This means age and size of the firm with respect to this relation do not matter.

These findings support Hypotheses 3 and 4. By contrast, state ownership is found to be significant but with a sign contrary to expectation as predicted in Hypothesis 1. The employee association ownership is found to be insignificant. Therefore, Hypothesis 7 is not supported. Each of these main findings will be discussed in more detail in the discussion section later.

g) *The relationship between ownership structure and the market-based financial performance measure (Tobin's Q)*

Table 13: Results of GMM regression – ownership structure and Tobin's Q

Independent variable	Coefficient	Standard Error	P value
Private ownership	0.026*	0.015	0.075
Managerial ownership	0.019*	0.011	0.084
State ownership	-0.016	0.075	0.828
Employee Associations ownership	0.021**	0.009	0.024
Control Variables			
Food and Beverage	-0.00108	0.007	0.869
Financial services and banks	-0.016***	0.006	0.006
Building and Construction material	0.001394	0.005	0.784
Basic Resources	0.000771	0.008	0.925
Personal and Household Products	-0.01011	0.007	0.141
Utilities	-0.00265	0.011	0.81
Telecommunication	-0.00743	0.006	0.235
Entertainment	-0.026***	0.008	0.001
Real estate	-0.01047*	0.006	0.075
Firm's age	7.01E-05	0.000	0.303
Firm's size	-0.0015	0.001	0.21
_cons	0.065067	0.015	0
Adjusted R ²	0.15		
Kleibergen-Raap rk LM statistic (Under-identification test)	65.02		0.00
Kleibergen-Raap rk Wald F-Statistic (Weak identification)	29.69		
Hansen J statistic (Over-identification test)	1.74		0.63

*Note: ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively*

Table 7.10 suggests that the P-value is significant at 1% level. It suggests that the coefficients of ownership variables can jointly explain significant difference in the sampled firms' market-based performance measure (Tobin's Q). The adjusted R² is approximately 15%. The results show that private ownership, managerial ownership and employee association are positively associated with Tobin's Q. These associations are statistically significant. However, state ownership is negatively associated with the sampled firms' market-based performance measure (Tobin's Q) and this association is insignificant. For the

control variables considered in the regression model, the age and size of the firm show insignificant statistical association with Tobin's Q. This means that age and size of the firm do not matter. Furthermore, the sectors/industry type financial services, banking, entertainment and real estate show significant results. These findings support Hypotheses 4, 6 and 6. The coefficient on state ownership is found to be insignificant. Therefore, Hypothesis 8 is not supported. Each of these main findings will be discussed in more detail in the discussion section below.

X. DISCUSSION OF RESULTS

a) State ownership

The current study finds that state ownership is positively associated with the accounting-based performance measure (ROA). This association is found to be statistically significant.

From the perspective of the public sector school, this finding is inconsistent with the concern that dominates the literature (e.g. Pargendler, 2012; Arocena and Oliveros, 2012; Sokol, 2009) about the inefficiency of state-owned companies. These studies based their argument on the great influence of agents/managers who are politically directed. It is widely believed that they are more concerned with creating good reputation and political popularity, seeking to be re-elected. Having the state-owned companies with politicians, bureaucrats; governmental officials make them more concerned with the maximisation of their own objectives which are related to votes, power and prestige rather than pursuit of the general interest and efficiency of their decisions (Sokol, 2009).

Most of the previous studies have found that state-owned companies are inefficient compared to privately-owned ones. State-owned companies are considered a loosely defined setting; they state that the main concern is political and not monetary (Wei and Varela, 2002). Also, the finding of the current study is inconsistent with Andres (2008), Wei (2007), Lin (2009), and Zeitun and Tian (2007).

However, this finding lends empirical support to the few studies which have found a significant positive relationship with firm performance (e.g. Kang, 2012; Borisova, et al., 2012; Li and Buck, 2009; Le and Chizema, 2011).

From the reviewed literature about companies (see chapter 5) this finding may be linked to the privileges that are granted to these companies by the government as highlighted by Sokol (2009). Sokol has stated that state-owned companies have more economic advantages compared to other forms of ownership; for instance they face less financial problems.

Nevertheless, this study shows a negative association between state ownership and the market-based performance measure (Tobin's Q) and this relationship is statistically insignificant. This indicates that Hypothesis 10 is rejected, and implies that state ownership has no effect on the firm's market value.

The current study shows inconsistent results with the two performance measures employed. This inconsistency among the two performance measures can be justified from the background drawn on Egypt as a context in Chapter 2. The legal origin and financial arrangements in Egypt, as in many other Arab countries, merely reflects the influence of the role of the state or the nature of the political system and its national

governance. The Arab world is known for having a relatively closed and highly concentrated political system with a poor mode of national governance (Omran, Bolbol and Fakhreldin, 2008). Considering this nature of Egypt as a context and that the accounting-based performance measures can be subject to managerial distortion (Itter and Larcher, 1998), it is expected that the inconsistency in the results of the two performance measures may be due to some kind of manipulation in the accounting records especially that managers know that they are evaluated in accordance with these records. State-owned companies in Egypt are known to be politically directed, and it is clear that politicians are concerned with creating a good image in order to be re-elected and are mainly concerned with their party policy therefore are far from achieving the goal of maximising shareholder value (Ongore, 2011).

b) Private ownership

The current study finds that private ownership is positively associated with the two performance measures (ROA and Tobin's Q) and these two relationships are statistically significant. This finding lends empirical support to previous studies (e.g. Alipour, 2013; Omran, 2009 and Naceur et al., 2007; Li, Moshirian, Nguyen and Tan, 2007; Omran, 2006; Peng, Buck, and Filatotchev 2003).

It is highlighted in chapter 2 that the privatisation process that has been adopted as a part of Egyptian economic reform has altered the nature of ownership in Egypt. The ownership structure that emerged from the privatisation process is characterised by being concentrated and this is due to selling majority packages of shares to one investor. Also, foreign investment has increased (Omran, 1997; PCSU, 2002; Omran, 2009).

Privatisation has the most positive impact at firm level as it is followed by significant restructuring of management and operations. This is most likely to happen when one investor has majority control and this return will eliminate the gap between manager and owner. Moreover, foreign investors are in the best position to provide additional investment and internationally competitive technologies; in addition, they try to improve corporation governance standards to bring them in line with international standards (PCSU, 2002).

Generally, the financial performance of private Egyptian companies has improved since privatisation and this can be attributed to the improvements in efficiency since the output has increased. And this can justify the findings of the current study.

c) Managerial ownership

This study finds a positive association between the two measures of performance (ROA and Tobin's Q). This finding lends empirical support to and is consistent with many previous studies this is based on the

alignment assumption (e.g. Li, Moshirian, Nguyen, Li-Wentan, 2007 and Palia and Lichtenberg, 1999). The findings are based on the alignment assumption which considers managerial ownership a means of incentive alignment that will reduce the agency problem and increase the job security of the firms' managers (Bos, Pendleton and Toms, 2013; Iqbal and French, 2007; Hu and Zhou, 2007; Short and Keasey, 1999; Morck et al, 1987).

Managerial ownership also provides managers who are at the same time owners with the ability to increase their level of representation to third-parties; this in return increases their ability to perform more business on behalf of the corporation (Chen, 2006). According to Seifert, Gonenc and Wright (2005), the majority of investors consider managers who are at the same time owners are usually committed to giving attention to quality of work than other company's owners. Also, the same authors believe that this type of ownership has other positive contributions to organisations such as improved teamwork and cooperation among employees, thus improving output. Similarly, reduced labour management conflicts potentially lead to performance improvement.

Precisely this relationship between managerial ownership and financial performance in Egyptian-listed companies is expected. Considering the fact that ownership is known to be concentrated in the hands of families in Egypt (Omran, 2008 and World Bank, 2009) and that family businesses always seek to keep managerial positions for family (Gamal Eldin, 2008), it is implied that the founder is the one who manages the operations. Having the founder involved in the operation of the firm proved to have a positive relationship with performance (Barontini and Caprio, 2005). Family relationship among corporation managers and owners increases the chances for improving performance since it eliminates the gap between corporation owners and managers. Such a situation overcomes the agency problem that results from the separation of ownership and control. Besides it simplifies the monitoring process (Bartholomeusz and Tanewski, 2007). All these factors may lead to enhancement of performance from the alignment assumption. These presented facts about the managerial ownership structure in Egypt can help in justifying the positive relation with the performance measures.

d) Employee association ownership

As highlighted earlier in the literature review (see chapter 5), Aubert et al., (2014), Meng et al. (2011), Guedri and Hollandts, (2008) and Pierce and Furo (1991) argue that allowing employees to have shares in the company can enhance their level of commitment towards improving the performance of the firm. Also, employees with economic interests that are aligned with the overall corporation interests and goals offer

management ample time to improve the corporation's performance. The current study lends empirical support to the above argument. There is a positive association between employee ownership and Tobin's Q and this association is statistically significant. Nevertheless, the association between employee association ownership and ROA is statistically insignificant. This implies that employee ownership has no effect on the accounting-based performance measure (ROA) but it is associated with the firm's value.

The findings of the two performance measures (ROA and Tobin's Q) are inconsistent. Employee association held is 1% of the shares of the official offering, hence it is agreed that this proportion is very low in giving significant implications to the performance of the organisation. As for the association with the market-based performance measure (Tobin's Q), it may be related to investors' perceptions towards this type of ownership and somehow it may be related to the privatisation programme implemented in Egypt. As highlighted in Chapter 2, the privatisation programme in Egypt has led to the government sale of SOEs to ESAs. Selling shares to employees during the privatisation process may reflect the high level of governmental concern with employment and social stability (PCSU, 2002). It is clear that the Egyptian government gave priority to this issue when implementing privatisation. This may lead to enhancing the investor's positive perception and may lead to the improvement of the market value of the firm.

XI. RECOMMENDATION

a) Reform of ownership structure

According to the empirical results presented in Chapter 8, a key factor of the corporate governance mechanism in Egyptian-listed companies is ownership structure. The reform of ownership structure could provide opportunities for other corporate governance mechanisms to influence corporate firm performance. In other words, ownership structure complements other governance mechanisms such as the board of directors. For that reason, the quality of corporate governance may depend on the reform of ownership structure in Egyptian-listed companies. With regard to corporate ownership structure and corporate performance based on ROA, the results of managerial ownership with ROA signified that the inclusion of managers in firms' ownership can be an incentive alignment that will reduce the agency problem. Hence, in the corporate governance of Egyptian firms, the shareholders and managers, who are focused to increase only corporate ROA, should not rely on previous studies that confirm a negative relationship between managerial ownership and firm performance (Prowse, 1994). Similarly, it can be seen that the encouragement of state-ownership of firms in Egypt can enhance performance (ROA).

However, considering the mixed results between ownership variables and the two performance variables (ROA and Tobin's Q), state-ownership should not be encouraged, especially if the management wants to enhance corporate market-based performance in state companies. Generally, the management and corporate shareholders need to encourage private ownership, managerial ownership and employee association in corporate ownership.

Among all these, privatisation should be given first preference as it has higher potential to increase corporate performance than employees association and managerial ownership structures. But still there should be caution about the privatisation process. Although state ownership has been criticised all over the world (e.g. Wehab, How and Verhoeven, 2007; Mura, 2006; Ongore, 2011; Peng, 2005), it still has a significant role and it is preferred by governments for many reasons, such as: interest with national protection, problems with dealing with private sectors as well as government ideology (Mura, 2006). Moreover, state ownership has economic advantages over other forms of ownership: state ownership faces less financial strain as opposed to other forms and it can help to restore the public's purchasing power. However, alternative governance mechanisms in state-owned companies besides privatisation could be used. For example, state-owned companies could use more independent directors to reduce the agency cost which in turn may affect performance positively. Moreover, transferring the right of decision making in state-owned companies from governments to managers can help to improve the performance of this type of ownership and to reduce manipulation that distorts the accounting records of state-owned companies.

b) Limitations of the study

While the current study findings are important, like any other empirical research, it may suffer from several limitations which need to be acknowledged. The limitations in this study could be associated with the research setting. The current study is only focused on one country, and this may limit the application of its findings and implications to other countries that are not similar to Egypt. So, the generalisation of this study is questionable.

The sample framework of the study is limited to the most active listed Egyptian companies (EGX100) and this is because they are the most likely to have resources and motivation to adopt good corporate governance practices, especially as the adoption of corporate governance codes is not mandatory in Egypt. Although this sample is observed over six years, it is still only representative for the Egyptian-listed companies and there are some other firms that are not investigated such as family businesses and foreign companies operating in Egypt. Moreover, the six-year period

appears to be relatively short though it is longer than in some previous studies, which are based on cross-sectional samples (e.g. O'Connell and Cramer, 2010; Arosa et al., 2010; Donaldson and Davis, 1991; Haniffa and Cooke, 2005). Further and for practical consideration, the sample was restricted to the EGX 100. In particular, the corporate governance variables were manually extracted from different secondary sources, which was a difficult and time-consuming exercise. As a result, practical limitations of time and effort meant that the sample had to be reduced to a number statistically large enough to make a significant contribution. However, although the sample size is small, it represents different sectors of the economy.

The choice of the research methodology is based on the nature of the research questions of this study. The data used are mainly quantitative, hence leaving out qualitative data that could actually inform the study to develop strong justifications of quantitative findings. Moreover, this study is based on secondary data analysis; although the author has dedicated enough time to evaluate the secondary data in hand, it still has some limitations. The choice of the variables and the timeframe of the study are restricted by the availability of data. Accordingly, the methodology used in data collection could have been more effective through using triangulation. The author could have cross-checked the data collected with other sources such as questionnaires and face-to-face interviews.

In terms of measurement of variables, although proxies used to measure the variables have been carefully chosen in order to reduce potential problems, the proxies used are still subject to limitations mainly due to the availability of data. Consequently, non-executive directors are not distinguished between independent and non-independent directors. Moreover, it would be beneficial to classify managerial ownership into managerial-family ownership and managerial non-family ownership. The influence of these two categories on performance might be different.

Finally, the study only chose two components of corporate governance – ownership structure and board characteristics – and how they influence corporate performance. Thus, the findings could exhibit some weaknesses due to exclusion of other elements of corporate governance as well as other control variables. For instance, this study has provided some findings with respect to proper board structure but board practices within the organisation are still not well established. However, the investigation of the board practices and the activities within the board are difficult to empirically implement due to the confidentiality of data and the difficulty in accessing it.

The research findings must therefore be interpreted in the light of these limitations. Also, these limitations potentially represent avenues for future

research and improvement, therefore the next section points out such avenues.

c) Avenues for future research

This study has mainly examined the association between internal corporate governance structures and firm financial performance. Future research can investigate how external governance mechanisms, such as laws, regulations, political, cultural factors and others affect firm performance. Moreover, future research can also analyse the interaction and inter-dependences between internal and external governance mechanisms and their impact on firm financial performance.

This study recommends the use of different corporate governance factors that have not been considered in this study. However, if future studies used similar elements to those in this study, then it would be better to conduct the same study in other countries in the region. This would help in strengthening the findings in this study. In order to gain a more complete picture of corporate governance practices, it would be desirable to extend data to other listed companies, non-listed companies and family businesses. Comparative study can be also considered between small and large firms. Also, a future theoretical framework could be based on other corporate governance theories such as stakeholder theory or transaction cost theory.

The definition of variables can be improved and made more precise. For instance managerial ownership can be better classified into managerial family ownership and managerial non-family ownership. The influence of each of these categories might be different.

With respect to the impact of managerial ownership on performance, it is investigated from the alignment perspective only. So, the relationship between managerial ownership and performance can be re-examined based on the entrenchment assumption.

Moreover, this study did not consider primary qualitative data to justify the findings and make implications. Thus, in future studies, qualitative data should be considered instead of relying on qualitative data to justify quantitative findings in this line of study. On this note, the application of both quantitative data and qualitative data can offer strong and relevant findings and justifications. Also, there are some pressing corporate governance issues that may be better addressed by future researchers via qualitative methodology such as the effectiveness of board of directors in decision making processes. This requires observations and conducting interviews with key directors, board secretaries, and senior management. This can also help to understand why firms comply or do not comply with the recommended codes.

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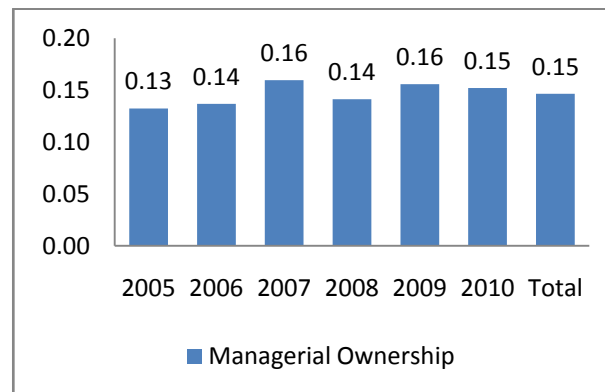


Figure 1: Variable means across years – Managerial Ownership

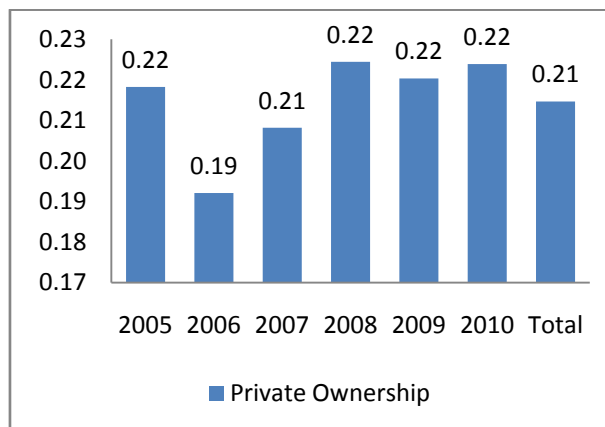


Figure 2: Variable means across years – Private Ownership

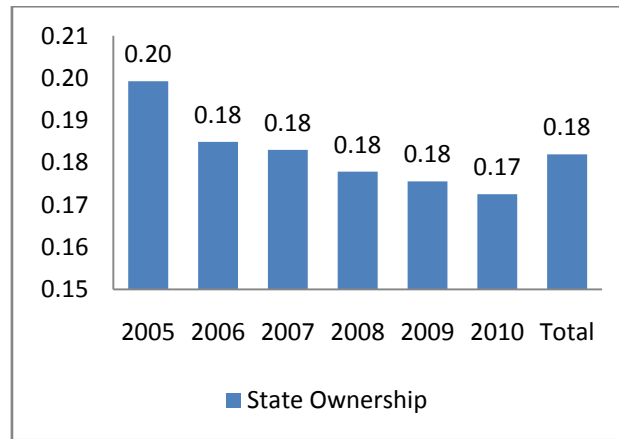


Figure 3: Variable means across years – State Ownership

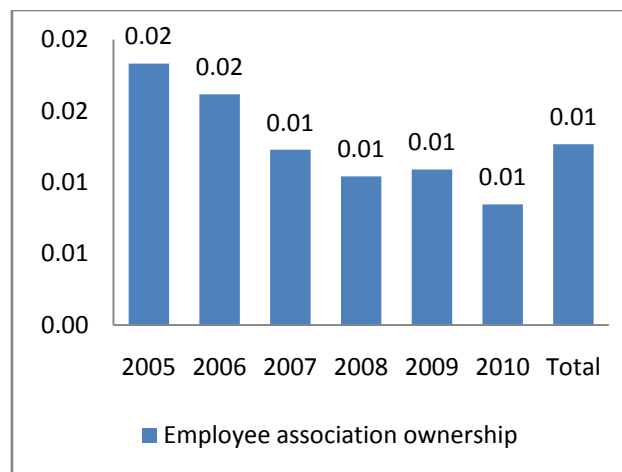


Figure 4: Variable means across years – Employee association Ownership

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