# OWNERSHIP STRUCTURE AND CORPORATE FINANCIAL PERFORMANCE IN BAHRAIN BOURSE

***Reem Khamis*, Wajeeh Elali**, Allam Hamdan****

**Abstract**

The study aimed at investigating the relation between different types of ownership structures and corporate financial performance. The study sample was 42 companies from all sectors listed in Bahrain Bourse in the period of 2007-2011. Different dimensions of ownership structure were put under scope and two different measurements of financial performance were used (Tobin's Q and ROA) evaluate the different results from using each one of them, which will help in justifying the conflicting results found by previous studies.

Another objective of this study was to explore the patterns of ownership structure found in Bahraini market. It was found that institutional ownership is the most common type of ownership in Bahrain Bourse. The study's results were conflicting regarding the effect of ownership structure on financial performance using both measurements of performance. It was also found that ROA represents financial performance more that T'Q.

**Keywords:** Ownership Structure, Tobin's Q, ROA, Bahrain Bourse, Financial Performance, Company Performance

* *Ph.D. Scholar, in Finance; Brunel University, UK*
** *Professor of Finance, Vice President of Administration and Finance, Ahlia University, Bahrain*
*** *Associate Professor of Accounting, Chairperson of Accounting and Economics Department, Ahlia University, Bahrain*

## 1 Introduction

The relation between ownership structure and firm value and performance has been studied early since 1932, when researchers studied the conflict between owners and management and how it affects corporate value. Berle and Means (1932) indicated that an increase in professionalization of management, companies may operate for managers' benefit not for the benefit of owners. This what was known later as agency problem, when there is a conflict between the owners of the firm and the management of the firm when they work to achieve their own benefits rather than the benefits of the owners. Managers often have the discretion and incentives to pursue strategies and practices that benefit themselves at the expense of shareholders (Fama and Jensen, 1983). Different ownership structures affects agency problem differently, so it is crucial to know the firm's ownership structure to determine the nature of agency problem and costs associated with it and how corporate value and performance might be affected by that issue, for example , managers of publicly held firm has different objectives than a manager of a family business and so.

Knowing the firm's ownership structure and determining its effect on corporate value and performance have concerned many researchers around the world from developed to developing countries but few in the middle east and fewer in GCC countries and this study may be the first one to do so in Bahrain.

This study provides empirical evidence from Bahrain on the effect of ownership structure on corporate performance, using different measures of corporate performance and different dimensions of ownership structure to justify the conflicting results found by different researchers. It also investigates the patterns of ownership structures in Bahraini financial market in addition to providing useful information to other interested parties that may benefit from it such as investors and researchers.

### *1.1 Problem statement and study questions*

The study may provide answers to many questions that may be asked by any interested individual or institute. The first question that may arise, do ownership structure really matter? If yes; how do they affect corporate performance? What is the best ownership structure that maximizes the firm's value? What are the patterns of ownership structure in Bahraini market? What are the other factors that may affect corporate performance?

### *1.2 Study objective*

The study aims at exploring the effect of ownership structure on corporate performance in Bahrain using

two different ways of measuring corporate performance and different dimensions of ownership structure to know how exactly these factors affect corporate performance and how investors can benefit from this information to make the correct investment decision.

The paper is organized as follows: Section 2 background and literature review. Section 3 describes research design and methodology. Section 4 presents empirical results. Section 5 provides a brief summary and concluding remarks.

## 2 Background and Literature Review

Corporate performance and factors affecting it is an important topic in corporate finance, as many researchers were concerned about the firm performance and what makes one firm more successful than another. There are two different lines of research in the business research world. The first one is concerned about factors in the external economic atmosphere that affects the firm's successfulness, and the second one is concerned about the internal organizational characteristics. Both lines do not give proper attention to the competitive position of the firm itself (Hansen and Wernerfelt, 1989).

Evaluation of the firm performance is an important issue for the management of the company, investors and researchers. For managers, evaluation of the firm performance is sometimes tied to their compensation . for investors, performance is an important indicator of successfulness of their investment or not. In the following section, we will take a look on some performance measures and later on, we will use some of them in measuring the variables of the study.

Ownership structure and its effect on performance of the firm is one of the important topics in the literature of corporate finance although the results of most studies are conflicting and that may be because of the difference between these studies in the measurement tools used to measure ownership structure or the dimensions of ownership structure that are studied.

The issue of ownership structure was studied as early as the property rights were known. Berle and Means (1932) were from the earliest ones to study this topic and indicated that there is a significant relationship between ownership structure and company value. Perhaps it is useful to indicate that researchers from different countries found different results. Some researchers found that there is a significant relationship between these two variables others couldn't find this relationship. That could be because they studied the issue from different perspectives. Thus we found it easier to classify ownership structures that were reviewed according to the dimension that was studied and then we will take a look on the previous studies that studied ownership structure in different countries from around the world.

Ownership structure is divided into two dimensions which are: degree of concentration and identity of the owner which is also divided into sub dimensions which are: family ownership, institutional ownership, government ownership, foreign ownership, and insider or managerial ownership.

### *2.1 Concentration of ownership*

This dimension is about the degree of dispersion of ownership among certain shareholders. Ownership could be diluted among large number of shareholders or concentrated in small number of shareholders or "block holders". The problem of diffuseness of ownership among large number of shareholders means that there will be weakness in monitoring management (Morck et al. 1988), but the advantage is that, there will not be a structure that is large enough to over control management. In some cases, management would exploit the resources of the firm affecting its value and performance negatively (Berle and Means, 1932).

Some studies such as (Demesetz and Lehn, 1985; Demesetz and Vilalonga, 2001; Kumar, 2003 and Rowe and Davidson, 2002) found that there is no significant relationship between concentrated ownership and company value.

Other studies such (Pivovarsky, 2003; Sanda, Mikailu and Garba, 2005; Joh, 2002 and Xu and Wang, 1997) found a significant relationship between the two variables. Some studies found a positive relationship but insignificant relationship between the two variables such as (McConnell and Servaes, 1990).

### *2.2 Foreign ownership*

Usually foreign investors perform a detailed analysis before investing and they tend to invest in profitable companies. Foreign investors are expected to bring in the latest technologies which allow companies to perform better in an efficient manner thus performance is expected to improve (Caves, 1996; Kumar, 2003)

Again researchers found conflicting results as some found a relation between foreign ownership and company value such as (Bai et al., 2005; Sarkar and Sarkar, 2000 and Patibandle, 2002). Others found a negative relationship such as (Sarac, 2002 and Kumar, 2003)

### *2.3 Institutional ownership*

This dimension of ownership is measured by the total percentage of equity owned by institutional investors. Fama, 1980 claimed that institutional ownership is beneficial to the firm and leads for improving its performance and value. Shleifer and Vishny, 1986 explained that possible relation in two points: The

first one is that outside block owners have the ability to overcome the problem of controlling managers. The second one is that large block shareholders may also improve the effectiveness of takeover mechanism by overcoming the problem of free rider which rises from the lack of control by shareholders. (Berger, 2003 and Sarac, 2002) found a positive relationship with a moderate statistic effect between institutional ownership and firm value. Others like Wan (1990) found a positive, statistical and significant correlation between the two variables.

### *2.4 Managerial ownership*

This dimension with the concentration ownership dimension forms the agency problem which still a debate between researchers, as when the management controls the firm, it is expected to work in its own interest and if owners control managers, they are expected to work in the interest of the firm thus improving its performance and value and not wasting the firms resources or abuse them. As expected, researchers also found conflicting results regarding managerial ownership as some found a positive relationship such as (Severin, 2001 and Kumar, 2003). Others didn't find that relationship such as (Demsetz and Villalonga, 1999; Rowe and Davidson, 2002 and long and So, 2002).

### *2.5 Family ownership*

Family ownership is very common worldwide. Perhaps it's one of the most presented types of ownership structures around the world. La Porta et al. (2003) mentioned that family business is the most common type of organizations in 27 countries worldwide. Some studies found a positive relationship between family ownership and corporate value and performance while others did not find this relationship. A study like Villalonga and Amit (2006) found that firm only makes value when the founder of the firm acts as the COE of the firm. The most important issues that were studied are the founding family owner effect and generation difference effect. In an overall perspective, it can be seen that when family owners are in the management there will be what called incentive alignment where the conflict between owners and management will be reduced thus agency costs will be reduced too. The other important issue which was discussed that other types of owners think only about profit maximization but family owners look at the long term commitment to the company and they try to create competitive advantages that requires large investments at the beginning. (Hsu and Chen, 2009).

Some researchers found a negative effect of family ownership as when the family acts as the block holder of shares, the minority owners will be affected negatively specially when protection laws are weak in certain countries thus a conflict will exist and the performance of the firm will deteriorate as a result. The other issue is that family owners, usually are involved in management thus there may be a bias in choosing management to the family relations issue versus the efficiency issue and that will affect performance for sure, this argument is known as manager discouragement. (Smith and Amoako – Adu, 1999).

### *2.6 Governmental ownership*

In the early years of last century governments played an important role in planning market economy to overcome problems arising from social monopoly (Meade 1948). But in 1970's and 80's lots of government owned companies went through privatization to reduce the government role in market mechanisms. Few governments around the world are still owning and controlling their markets such as China, Russia and some Eastern Europe countries.

There is a debate about the advantages and disadvantages of governmental ownership and the positive and negative effects of it on firm performance.

In the positive side, the total effect of government ownership on society as a whole is considered but not the success of the individual firms. It is known that governmental ownership cures market failures as when the social cost of monopoly becomes high, governments interfere to restore the purchasing power of its citizens thus protecting them. The other issue is governmental ownership of some industries is considered of strategic importance to the whole nation such as natural resources, utilities and infrastructures. As some studies found positive effect of government ownership among private ownership in some industries such as utilities.

In the negative side, governmental ownership is considered to be inefficient and bureaucratic (Stulz, 1988). As the control rights and cash flow rights of decision maker are interfered, there will not be significant cash flow as all profits are allocated to the firm or to the national budget. Thus, there will be lack of incentives to maximize firm's profits.

Some studies concluded that government owned firms depend largely on the quality of the government itself which varies from one country to another. (La Porta et al., 1999).

The relation between ownership structure and performance has been investigated in many studies around the world. This part will review some of these studies that are related to our study in somehow from different countries.

Severin (2001) investigated the relationship between ownership structure, other variables and the economic performance in a sample of French companies. The results of his study indicated that there is a non-linear relation between ownership structure and performance. He also found that debt

level has a negative effect on performance and company size had a positive effect on performance.

Pinteris (2002) conducted a study on a panel data of 228 Argentine banks from 1997 to 1999. The study explored the relationship between ownership structure, board composition and performance. Results showed that there is statistically negative relation between the proportion of insider directors and performance.

In Turkey, Sarac (2002) conducted a study on a sample of 138 Turkish manufacturing companies. The results showed that a relation between ownership structure and net profit. It also proved that there is a positive relation between institutional ownership and profitability.

A study conducted by Reyana & Valdes (2012) in Mexico on a sample of 90 companies listed in Mexico Stock exchange over five years, explored the relationship between corporate governance, ownership structure and performance. Results indicated that there is a negative relation between CEO ownership and performance. There was a positive relationship between governance mechanisms and performance.

A study by Tsegba (2011) was conducted on a sample of 73 companies listed in Nigerian Stock exchange. It investigated the relation between ownership structure and performance. It concluded that there is a negative relation between ownership concentration and performance. There was also a negative relationship between insider ownership and performance. The last finding was that there is a positive but insignificant relation between foreign ownership and performance.

Kummar (2003) investigated the relation between ownership structure and performance using ROA measurement on a sample of 5224 Indian companies from 1994 to 2000. He found an evidence that institutional ownership and managerial ownership are related to performance.

Nadia (2004) explored the impact of ownership structure on 15 private banks listed in Amman Stock exchange. The study found that there is a high concentration of ownership in Jordanian banks although it didn't affect performance which was measured using the accounting measurement Returns On Assets (ROA).

A study conducted by Sulong and Nor (2008) on Malaysian listed firms, investigated the effect of dividends, ownership structure and board governance on firm value. The study found that dividend has a positive significant relationship with firm value. It also showed that concentrated ownership and managerial ownership have insignificant effect on firm value which was unexpected.

## 3 Research Methodology

This part will include three sections. Study sample and resources of data, second section will be measuring of variables and statistical tools, study models and the last one will be validity of data.

### *3.1 Study sample and resources of data*

This study is conducted in Bahrain Bourse which is an emerging market as most previous studies were conducted in developed ones like US, UK and European markets or other developing markets such as Nigeria, Pakistan, Malaysia and other developing Asian economies but fewer studies were conducted in the region specially in the GCC markets. Bahrain Stock exchange contains 48 listed companies. Companies were selected according to the following criteria:

a) Data is available in the period of 5 years (2007 to 2011)

b) Companies have not been closed or emerged with any other company during the study period.

Six companies were excluded from the sample and they were either non Bahraini or were closed during the study period, which left us with 42 companies representing 87.5% of the original sample.

Data was obtained from Bahrain Stock exchange data base. The data is considered panel data which resembles time series (2007 to 2011) and cross sectional data that resemble a group of companies. Panel data is considered as one of the best types of data because it contains two types of data.

#### *Hypothesis Development*

This study explores the effect of ownership structure on one dependent variable which is company performance. The main hypothesis may be formed as follows:

*Ha1: There is a significant relationship between ownership structure and performance among Bahraini companies.*

Thus, the study hypothesis may be divided into one main hypothesis and four sub hypotheses according to the ownership dimension that will be studied:

#### *3.1.1 Ownership concentration and performance*

The findings of previous studies are contradicted, as some of them like (Joh, 2002 ; Severin, 2001 ; Xu and Wang , 1997) found a positive effect of ownership concentration on performance as concentrated companies had a better performance. Other studies like (Kumar, 2003 ; Rowe and Davidson, 2002; Demsetz and Villalonga, 1999) couldn't find that positive relationship. Thus the first sub hypothesis may be formed as follows:

*Ha1.1: There is a significant relationship between ownership concentration and performance among Bahraini companies.*

### 3.1.2 Institutional ownership and performance

Reviewed previous studies concerning the relation between institutional ownership and company performance indicated a positive, significant statistical relationship between the two variables like (Wan, 1999). Other studies like (Berger, 2003 and Sarac, 2002) found a relationship between the two variables but in a moderate statistical effect. Thus the second sub hypothesis may be formed as follows:

*Ha1.2: There is a significant relationship between institutional ownership and performance among Bahraini companies.*

### 3.1.3 Foreign ownership and performance

Previous studies that explored the effect of foreign ownership on performance found different results. Some ones like (Kummar, 2003 and Sarac, 2002) couldn't find any relation between the two variables. Others, like (Sarkar and Sarkar, 2000 and Patibandle , 2002) found a positive relationship between foreign ownership and company performance. Thus, the third sub hypothesis may be formed as follows:

*Ha1.3: There is a significant relationship between foreign ownership and performance among Bahraini companies.*

### 3.1.4 Managerial ownership and performance

Results obtained from previous studies concerning the relationship between managerial ownership and company performance, were also conflicting. While some of them found a positive influence of managerial ownership on performance.(Severin, 2001 and Kummar, 2003). Others like (Demsetz and Villalonga, 1999; Rowe and Davidson, 2002; Long and So, 2002) found that managerial ownership does not enhance performance. Thus the fourth sub hypothesis may be formed as follows:

*Ha1.4: There is a significant relationship between management ownership and performance among Bahraini companies.*

## 3.2 Study Models

This study explores the effect of ownership structure on company performance. Thus, ownerships are considered as independent variables and company performance is considered as the dependent variable. The study also uses two different measurement tools to measure the dependent variable (company performance). The first one is simple Tobin's Q formula and the second one is Return on Assets (ROA) formula. Based on that two study models may be developed as follows:

### 3.2.1 First model

The first model was developed using Tobin's Q as measurement tool to measure the dependent variable (company performance).

$$Tobin'sQ_{i,t} = \beta_0 + \beta_1 Concen_{i,t} + \beta_2 Foreign_{i,t} + \beta_3 Institutional_{i,t} + \beta_4 Managerial_{i,t} + \beta_5 Size_{i,t} + \beta_6 Leverage_{i,t} + \beta_7 FirmAge_{i,t} + \beta_8 Income_{i,t} + \beta_9 EPS_{i,t} + \beta_{10} Industry_{i,t} + \varepsilon_i$$

Where:

Tobin's Qi,t: is a continuous variable: dependent variable: is the firm value measured by Tobin's Q model, for the company (i) and the year of (t).

$\beta_0$: is the constant.

$\beta_{1..10}$: is the slope of the independent and controls variables.

$Conceni_{,t}$: is the ownership concentration, for the company (i) and the year of (t).

$Foreigni_{,t}$: is percentage of foreign ownership, for the company (i) and the year of (t).

$Institutional_{i,t}$: is the percentage , for the company (i) and the year of (t).

$Managerial_{i,t}$: is the percentage of managerial ownership, for the company (i) and the year of (t).

$Sizei_{,t}$: is a continuous variable: company size, for the company (i) and the year of (t).

$Leverage_{i,t}$: is a continuous variable: Financial Leverage is the ratio of total debt to the book value of total assets, for the company (i) and the year of (t).

$FirmAge_{i,t}$: is a continuous variable: is the number of years since the firm first appeared in the BSE database, for the company (i) and the year of (t).

$Netincomei_{,t}$: is a net income for the company (i) and the year of (t).

$EPSi_{,t}$: are earnings per share for the company (i) and the year of (t).

$Industryi_{,t}$: is a type of sector for the company (i) and the year of (t).

$\varepsilon_i$: random error.

### 3.2.2 Second model

The second model was developed using Return On Assets (ROA) as a measurement tool of the independent variable (company performance).

$$ROA_{i,t} = \beta_0 + \beta_1 Concen_{i,t} + \beta_2 Foreign_{i,t} + \beta_3 Institutional_{i,t} + \beta_4 Managerial_{i,t} + \beta_5 Size_{i,t} + \beta_6 Leverage_{i,t} + \beta_7 FirmAge_{i,t} + \beta_8 Income_{i,t} + \beta_9 EPS_{i,t} + \beta_{10} Industry_{i,t} + \varepsilon_i$$

Where:

$ROA_{i,t}$: is a continuous variable: dependent variable: is the firm value measured by return on assets, for the company (i) and the year of (t).

$\beta_0$: is the constant.

$\beta_{1..8}$: is the slope of the independent and controls variables.

$Conceni_{,t}$: is the ownership concentration, for the company (i) and the year of (t).

$Foreign_{i,t}$: is percentage of foreign ownership, for the company (i) and the year of (t).

$Institutionali_{,t}$: is the percentage , for the company (i) and the year of (t).

$Managerieli_{,t}$: is the percentage of managerial ownership, for the company (i) and the year of (t).

$Sizei_{,t}$: is a continuous variable: company size, for the company (i) and the year of (t).

$Leverage_{i,t}$: is a continuous variable: Financial Leverage is the ratio of total debt to the book value of total assets, for the company (i) and the year of (t).

$FirmAge_{i,t}$: is a continuous variable: is the number of years since the firm first appeared in the BSE database, for the company (i) and the year of (t).

Incomei,t: is a net income for the company (i) and the year of (t).

$EPS_{i,t}$: are earnings per share for the company (i) and the year of (t).

$Industry_{i,t}$: is a type of sector for the company (i) and the year of (t).

$\varepsilon_i$: random error.

## *3.3 Measuring of Variables*

The selection of variables is based on previous empirical studies, table 2 shows the dependent variable, the independent variables, and the control variables used for models of the study.

### *3.3.1 Dependent variables; corporate performance*

The main purpose of the study is to investigate the influence of ownership structure and other control variables on firm value in Bahrain stock exchange. Which means that firm performance will be considered as dependent variable. To measure firm performance three major ways were found in the literature:

a) Financial ratios. (Long and So, 2002; Pinteris, 2002; Kumar, 2003; Shahid, 2003)

b) Tobin's Q (e.g. Ruan et al., and Sevein, 2001)

c) Combined method which uses both measures combined together, financial ratios and Tobin's Q (e.g. Abu Serdaneh et al., 2010 and Demset and Villalonga, 1999 and Wan, 1999)

Demset and Villalonga (1999; 2001) compared between using financial ratios and Tobin's Q. They claimed that accounting ratios are used widely due to their simplicity but they may be affected by accounting practices.Tobin's Q which measures market value of the firm by using replacement cost and market value of equity may generate incorrect data regarding companies that depend on intangible capital. On the other hand; using Tobin's Q captures the expected future performance of firm in addition to the past and current performance (Wan, 1999). The original Tobin's Q formula requires some figures that may not be obtainable because the data is not available, thus researchers usually use a simplified formula for Tobin's Q, the correlation between the two formulas was found to be very high (97%) as calculated by Chung and Pruitt (1994), which means that it is reliable to use it instead of the original Tobin's Q formula. In this study both measures (ROA and Tobin's Q) will be used as using each measure individually may generate conflicting results concerning the same variables so combined measures will be used to capture features of each measure and the possibility of changing the results (Abu Serdaneh, Zriekat and Al- Shaikh, 2010).

## *3.4 Data Validity Tests*

This study belongs to the General Linear Model (GLM) which requires certain conditions before applying it. Table (3) summarizes the tests that were conducted to validate the date of the study.

### *3.4.1 Normal distribution test*

To test normality of the data (Jarque-Bera) test was conducted and results showed that all the data of the study was normally distributed as p-value more than 5% except two variables which are ownership concentration and, company age and earnings per share where p-value less than 5%. To overcome this problem, natural logarithm of these variables was taken.

### *3.4.2 Time series stationarity test*

Studies that use time series data as this study consider these series to be stable otherwise there might be autocorrelation because the time series are not stable. To test the stationarity of the time series Unit Root Test was used, which include: Augmented Dicky-Fuller Test (ADF) and Phillips-Person Test (PP). From table (1) we notice that the results of both tests were more than the critical value at 1% which means that the time series from 2007-2011 are stable.

**Table 2.** The labels and measurement of the variables

| Variable | Label | Definition and Measurement |
|---|---|---|
| ***Dependent variables:*** | | |
| ***Corporate performance:*** | | |
| Return on Assets | ROA | Is the ratio of the net income to the total assets. |
| Simple Tobin's Q | Tobin's Q | Is the (Market value of equity + Book value of short term liabilities) ÷ Book value of total assets. |
| ***Independent variables:*** | | |
| ***Ownership structure:*** | | |
| Ownership Concentration | Concen | This dimension will be measuring the ratio of concentration/dispersion in a way that is similar to what was done in previous studies concerned with the same issue which is the ratio of total percentage of shareholding by the largest shareholder (Top1) divided by the sum of share holdings of largest five shareholders in the company. |
| Foreign ownership | Foreign | It is the percentage of total shares held by foreign shareholders to the total number of shares. Or the proportion of stocks owned by foreign investors. |
| Institutional ownership | Institutional | This dimension is related to the proportion of equity owned by institutional investors to the total number of shares. |
| Managerial ownership | Managerial | In many studies such as Morck et al. (1988) and Chen et al. (2003) directors' share holdings was used as a proxy of managerial ownership which is measured by total percentage of shares directly held by executive directors. |
| ***Control variables:*** | | The main objective of the study is to measure the effect of ownership structure on corporate value. It is expected that corporate value is not only affected by ownership structure dimensions but also other variables that will be controlled in the study. These control variables were chosen according to previous studies and they were used extensively. (e.g. Kumar, 2003; Berger, 2003; Nadia, 2004). |
| Firm size | Size | Natural log of total assets. This variable was studied widely in previous studies and it was found that larger firms mostly has higher value and this may be explained to their experience and they may be more efficient due to economies of scales, the ability to employ skilled managers, ability to reach wider range of customers and diversify their operations . |
| Financial leverage | Leverage | The ratio of total debt to total assets. It affects the firm's ability to borrow money and the cost of doing so which affects the firm's profitability and value due to the increase of interest rate and financial obligations of the company. |
| Firm Age | FirmAge | The firm age is related to the shareholders distribution as companies with older ages entered many business cycles and they have more shareholder distribution. The age of incorporation is taken rather than the age of listing the stock in the market. |
| Net Income | Income | Information regarding net income of the company can be taken from the balance sheet and income statement of the company. |
| Earnings Per Share | EPS | is the (net income - dividends on preferred shares) ÷ number of outstanding shares. It indicates profitability of the firm and some researchers consider it as a performance measure. |
| Industry Sectors | Industry | Companies who belong to different sectors differ in their free cash issues and as a consequence in their dividends. In our study, Bahrain Stock Exchange contains 6 sectors. They were resembles by a dummy variable from 1 to 6 . e.g. bank sector =1 , Investment =2 , …etc. |

### *3.4.3 Multicollinearity test*

The strength of the general linear model depends on the independency of each variable of the independent variables used in the model. If this condition was not met, then the linear model is not considered to be good to be applied and used. To test the independency of the independent variables, (Collinearity Diagnostics Test) was used by measuring the tolerance of each independent variable and then finding the (Variance Inflation Factor (VIF)) as this test is used a measure of the effect of correlation between the independent variables .Gujarati (2003). If the value of (VIF) is more than (10), that indicates that there is a problem with the multicollinearity of the measured independent variable. From table (4), we notice that VIF value is less than (10) for all the independent variables, which means that the study models do not suffer from multicollinearity problem.

**Table 3.** Normal Distribution and Time Series Stationarity Tests

| Variable | Normal Distribution: Jarque-Bera Test | | | | Time Series Stationarity: Unit Root Test | |
|---|---|---|---|---|---|---|
| | J-B | *p*-value | Skewness | Kurtosis | ADF Test | PP Test |
| ***Dependent variables:*** | | | | | | |
| Tobin's Q | 2.886** | 0.236 | 0.312 | 1.739 | 4.259*** | 6.211*** |
| Return on Assets | 2.324** | 0.313 | 0.625 | 3.178 | 4.870*** | 9.287*** |
| ***Independent variables:*** | | | | | | |
| Concentration ownership | 11.181 | 0.004 | 1.263 | 4.132 | 6.370*** | 5.287*** |
| Foreign ownership | 1.044** | 0.593 | -0.331 | 2.473 | 4.035*** | 3.874*** |
| Institutional ownership | 4.743** | 0.093 | 0.694 | 1.849 | 4.560*** | 4.225*** |
| Managerial ownership | 3.658** | 0.161 | -0.771 | 2.634 | 6.741*** | 5.455*** |
| ***Control variables:*** | | | | | | |
| Firm Size | 5.456** | 0.065 | -0.823 | 4.016 | 7.455*** | 5.292*** |
| Financial Leverage | 3.452** | 0.178 | 0.029 | 1.462 | 3.683*** | 4.032*** |
| Firm Age | 6.102 | 0.047 | -0.227 | 2.297 | 5.677*** | 5.213*** |
| Net Income | 2.461** | 0.292 | 0.240 | 1.793 | 6.996*** | 11.826*** |
| Earnings per Share | 100.748 | 0.000 | 2.702 | 9.315 | 7.611*** | 18.358*** |

*Distributor naturally at: **5%*
*ADF test Critical Value at 1% is 3.468; at 5% is 2.878; and at 10% is 2.575*
*Time Series Stationarity at: ***1%; **5%; and *10%*

**Table 4.** Multicollinearity, Autocorrelation and Homoskedasticity Tests

| ***Part A: Multicollinearity Test: Collinearity Statistics Test*** | | |
|---|---|---|
| **Variables** | **Tolerance** | **VIF** |
| ***Independent variables:*** | | |
| Concentration ownership | 0.804 | 1.243 |
| Foreign ownership | 0.560 | 1.785 |
| Institutional ownership | 0.461 | 2.169 |
| Managerial ownership | 0.897 | 1.115 |
| ***Control variables:*** | | |
| Company Size | 0.725 | 1.379 |
| Financial Leverage | 0.831 | 1.204 |
| Company Age | 0.685 | 1.460 |
| Net Income | 0.669 | 1.495 |
| Earnings per Share | 0.793 | 1.261 |
| ***Panel B: Autocorrelation and Homoskedasticity Tests*** | | |
| **Model** | **D-W Test** | **White Test (*p*-value)** |
| Model 1: Tobin's Q Model | 0.722 | 2.570 |
| | | (0.001) |
| Model 2: Return on Assets Model | 1.614 | 2.407 |
| | | (0.001) |

*Durbin–Watson d Statistic at k=10, and n=210 is: $d_L$ 1.665 – $d_U$ 1.874*

### *3.4.4 Autocorrelation Test*

Autocorrelation problem appears in the model when two following observations are related which will

affect the validity of the model as the independent variables will be affecting the dependent variables in a high degree because of that correlation. To test the presence of that correlation Durbin Watson (D-W) test was used. Table (4) part (B) indicates that (D-W) for the two models is not located in this range (d-statistic dL 1.665 – dU 1.874) which means that there is a positive correlation in the two study models (Gujrati, 2003) to overcome this problem Lag (-1) was used when testing the study models.

### *3.4.5 Homoscedasticity Test*

When using linear regression models and Ordinary Least Squares (OLS), variance of random error should be constant and the average of it should equal zero, that when it is said that the model has homoscedasticity. And if the variance is not constant it is said that the model has Heteroscedasticity then some statistical methods are used to overcome this problem, one of them is (White test) which is used automatically when using programs like (E-views) when detected by the program itself. From table (4) part (B) p-value for white test is less than 0.05 for both study models which means that the two study models has homoscedasticity and the random error is constant so the models are valid to be used.

## 4 Descriptive Study

The first step in statistical analysis is descriptive statistics for the study variables as mentioned in table (5). After that in tables (6) and (7) we divided the firm performance into firms with high performance and the other with low performance based on the value of the median to compare between firms according to performance. In table (6) firms were divided to firms with high T'Q (high performance) and firms with low T'Q (low performance) which their T'Q value is less than the median. When doing so we end up with two samples and then we find the Mean and Standard deviation for the characteristics of the firm (dividends, ownership concentration, foreign ownership, institutional ownership, managerial ownership) and other control variables (company size, financial leverage, company age, net income, EPS). To identify the significance in the variance between the means of the two samples t-statistic test and z-statistic tests were used. The same can be said about table (7) where performance was divided based on ROA measurement.

In table (8), we looked at the other side, where we divided the characteristics of the firm (ownership concentration, foreign ownership, institutional ownership, managerial ownership) into two parts according to the median value and in each part the mean and standard deviation were found to T'Q and ROA values one at a time. Based on that we can describe the study variables as follows:

**Table 5.** Descriptive statistics of study variables

| Variables | Label | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| ***Dependent variables:*** | | | | | |
| Tobin's Q | Tobin's Q | 1.024 | 0.374 | 0.201 | 2.336 |
| Return on Assets | ROA | 3.713 | 31.357 | -300.030 | 38.670 |
| ***Independent variables:*** | | | | | |
| Concentration ownership | Concen | 55.324 | 24.668 | 0.000 | 98.000 |
| Foreign ownership | Foreign | 28.632 | 27.133 | 0.000 | 94.510 |
| Institutional ownership | Institutional | 51.049 | 27.342 | 0.000 | 94.510 |
| Managerial ownership | Managerial | 4.525 | 11.087 | 0.000 | 47.140 |
| ***Control variables:*** | | | | | |
| Company Size BD'000'000 | Size | 981 | 2,282 | 5 | 12,344 |
| Financial Leverage | Leverage | 0.428 | 0.293 | 0.001 | 0.934 |
| Company Age | FirmAge | 26 | 13 | 1 | 54 |
| Net Income BD'000'000 | Income | 11 | 54 | -315 | 212 |
| Earnings per Share | EPS | -1.300 | 30.371 | -422.240 | 79.924 |

### *4.1 Company Performance*

Company performance was measured using T'Q and ROA measurements. The Mean for T'Q was more than (1) which gives a positive indication about the value of companies listed in Bahrain Stock Exchange as this means that it achieved a market value that is higher than its book value. The lowest value of T'Q was (0.201). The highest value was (2.336). The highest T'Q was achieved by service sector while the lowest value was achieved by industrial sector. Regarding the second measurement (ROA), it had a mean of 3.782% during the study period and the standard deviation was very high which means there is huge difference between companies in achieving returns on their assets. Lowest (-45.4%) – highest (24.34%). The highest ROA was achieved by service sector and the lowest value was achieved by investment sector. All these results may be found in table (9).

**Table 6.** The company characteristics depending on the level of performance measured by Tobin's Q

| Variables | Companies with high Performance | | | Companies with low Performance | | | Difference |
|---|---|---|---|---|---|---|---|
| | No. Obs. | Mean | Std. Deviation | No. Obs. | Mean | Std. Deviation | *t*-statistic | *z*-statistic |
| ***Independent variables:*** | | | | | | | | |
| Concentration ownership | 102 | 57.118 | 24.139 | 102 | 52.791 | 25.580 | 1.243 | 1.330** |
| | | | | | | | (0.108) | (0.029) |
| Foreign ownership | 101 | 26.085 | 26.126 | 98 | 30.615 | 28.004 | -1.180 | 1.048 |
| | | | | | | | (0.120) | (0.111) |
| Institutional ownership | 101 | 48.949 | 29.418 | 98 | 51.486 | 24.936 | -0.655 | 1.233** |
| | | | | | | | (0.256) | (0.048) |
| Managerial ownership | 101 | 4.824 | 12.167 | 98 | 4.495 | 10.223 | 0.206 | 0.415 |
| | | | | | | | (0.418) | (0.498) |
| ***Control variables:*** | | | | | | | | |
| Company Size BD'000'000 | 102 | 506 | 1,082 | 102 | 1,455 | 2,973 | -3.028*** | 1.890*** |
| | | | | | | | (0.001) | (0.001) |
| Financial Leverage | 102 | 0.463 | 0.286 | 102 | 0.393 | 0.298 | 1.714** | 1.050 |
| | | | | | | | (0.044) | (0.110) |
| Company Age | 102 | 28.520 | 12.704 | 102 | 22.176 | 11.799 | 3.695*** | 1.540*** |
| | | | | | | | (0.000) | (0.009) |
| Net Income BD'000'000 | 102 | 14 | 57 | 102 | 8 | 51 | 0.872 | 2.030*** |
| | | | | | | | (0.192) | (0.000) |
| Earnings per Share | 101 | -3.084 | 42.716 | 102 | 0.485 | 4.777 | -0.839 | 2.591*** |
| | | | | | | | (0.201) | (0.000) |

*t-test and z-test top, p-value (bottom), one-tailed.. Significance at: *10%; **5% and ***1% levels.*

**Table 7.** The company characteristics depending on the level of performance measured by ROA

| Variables | Companies with high Performance | | | Companies with low Performance | | | Difference |
|---|---|---|---|---|---|---|---|
| | No. Obs. | Mean | Std. Deviation | No. Obs. | Mean | Std. Deviation | *t*-statistic | *z*-statistic |
| ***Independent variables:*** | | | | | | | | |
| Concentration ownership | 102 | 54.684 | 24.172 | 102 | 55.225 | 25.730 | -0.155 | 1.330** |
| | | | | | | | (0.439) | (0.029) |
| Foreign ownership | 102 | 21.095 | 22.251 | 97 | 35.908 | 29.657 | -3.998*** | 2.742*** |
| | | | | | | | (0.000) | (0.000) |
| Institutional ownership | 102 | 45.193 | 28.681 | 97 | 55.462 | 24.760 | -2.698** | 1.613** |
| | | | | | | | (0.004) | (0.006) |
| Managerial ownership | 102 | 5.674 | 13.087 | 97 | 3.597 | 8.800 | 1.307*** | 0.700 |
| | | | | | | | (0.096) | (0.356) |
| ***Control variables:*** | | | | | | | | |
| Firm Size BD'000'000 | 102 | 177 | 309 | 97 | 1,785 | 3,011 | -5.365*** | 3.221*** |
| | | | | | | | (0.000) | (0.000) |
| Financial Leverage | 102 | 0.289 | 0.232 | 97 | 0.566 | 0.284 | -7.618*** | 3.361*** |
| | | | | | | | (0.000) | (0.000) |
| Firm Age | 102 | 26.363 | 12.436 | 97 | 24.333 | 12.814 | 1.148 | 0.770 |
| | | | | | | | (0.126) | (0.297) |
| Net Income BD'000'000 | 102 | 18 | 36 | 97 | 31 | 67 | 1.908** | 3.221*** |
| | | | | | | | (0.029) | (0.000) |
| Earnings per Share | 102 | 0.533 | 4.772 | 97 | -3.132 | 42.712 | 0.861 | 3.711*** |
| | | | | | | | (0.195) | (0.000) |

*t-test and z-test top, p-value (bottom), one-tailed. Significance at: *10%; **5% and ***1% levels.*

**Table 8.** Company performance measured by Tobin's Q and ROA depending on characteristics of the company

| Statistics | Concentration ownership | | Foreign ownership | | Institutional ownership | | Managerial ownership | |
|---|---|---|---|---|---|---|---|---|
| | High Level | Low Level | High Level | Low Level | High Level | Low Level | High Level | Low Level |
| ***Descriptive*** | **Tobin's Q** | | | | | | | |
| No. Obs. | 99 | 105 | 98 | 101 | 99 | 100 | 25 | 174 |
| Mean | 1.005 | 1.042 | 0.982 | 1.068 | 1.062 | 0.989 | 0.896 | 1.04 |
| Std. Deviation | 0.312 | 0.425 | 0.402 | 0.351 | 0.421 | 0.329 | 0.325 | 0.38 |
| ***Difference*** | | | | | | | | |
| *t*-statistic | -0.710 | | -1.613* | | 1.362* | | -1.840** | |
| *p*-value (t-test) | (0.239) | | (0.054) | | (0.087) | | (0.034) | |
| *z*-statistic | 1.318** | | 0.938 | | 1.311** | | 0.969 | |
| *p*-value (z-test) | (0.031) | | (0.171) | | (0.032) | | (0.152) | |
| ***Descriptive*** | **Return on Assets** | | | | | | | |
| No. Obs. | 99 | 105 | 98 | 101 | 99 | 100 | 25 | 174 |
| Mean | 0.841 | 6.554 | 1.941 | 5.775 | 2.997 | 4.768 | 5.601 | 3.64 |
| Std. Deviation | 11.545 | 6.628 | 9.436 | 9.909 | 9.861 | 9.796 | 5.596 | 10.3 |
| ***Difference*** | | | | | | | | |
| *t*-statistic | -4.365*** | | -2.794** | | -1.271 | | 0.931 | |
| *p*-value (t-test) | (0.000) | | (0.003) | | (0.103) | (0.177) | | |
| *z*-statistic | 1.708** | | 2.301*** | | 1.463** | 0.862 | | |
| *p*-value (z-test) | (0.003) | | (0.000) | | (0.014) | (0.224) | | |

*Significance at: *10%; **5% and ***1% levels.*

**Table 9.** Company performance depending on industry sector

| Variables | Banks | Investment | Insurance | Service | Industrial | Hotel-Tourism | *F*-statistic | Chi-Square |
|---|---|---|---|---|---|---|---|---|
| Dependent variables: | | | | | | | | |
| Tobin's Q | 0.858 | 1.003 | 1.141 | 1.191 | 0.709 | 1.079 | 6.599*** | 36.707*** |
| Return on Assets | 0.804 | -2.147 | 3.211 | 11.299 | 6.100 | 7.778 | 15.272*** | 86.734*** |
| Independent variables: | | | | | | | | |
| Concentration ownership | 41.981 | 62.911 | 49.926 | 48.676 | 65.023 | 70.011 | 7.657*** | 31.859*** |
| Foreign ownership | 20.126 | 46.012 | 42.272 | 15.579 | 16.020 | 16.248 | 14.054*** | 49.056*** |
| Institutional ownership | 53.974 | 56.419 | 52.302 | 33.731 | 68.950 | 53.240 | 6.178*** | 23.201*** |
| Managerial ownership | 0.000 | 4.022 | 5.320 | 11.493 | 0.000 | 1.448 | 6.407*** | 29.208*** |
| Firm Size BD'000'000 | 2,331 | 1,673 | 123 | 122 | 323 | 34 | 8.052*** | 106.699*** |
| Financial Leverage | 0.662 | 0.543 | 0.622 | 0.217 | 0.208 | 0.097 | 43.925*** | 106.832*** |
| Firm Age | 24.026 | 23.000 | 25.400 | 26.556 | 35.667 | 26.400 | 2.741** | 18.872*** |
| Net Income BD'000'000 | 24 | 3 | 2 | 16 | 21 | 3 | 1.106 | 13.649** |
| Earnings per Share | 0.015 | -4.750 | 0.029 | 0.067 | 0.042 | 0.030 | 0.200 | 30.552*** |
| No. Obs. | 40 | 60 | 25 | 45 | 15 | 25 | | |

*Significance at: *10%; **5% and ***1% levels.*

### *4.2 Ownership concentration*

In table (5) we notice that ownership concentration "which was measured by dividing number of shares owned by the largest investor by the total number of shares owned by the largest five investors." is 55.3% with a very high standard deviation which means that the sample is dispersed.

From table (6) we notice that ownership concentration was higher in companies with high performance as ownership concentration in companies with higher performance (using T'Q measurement) was 57% whereas ownership concentration in companies with lower performance was 52.8%. This difference was statistically significant at 5% according to z-test while it was not according to t-test. This means that whenever the performance of the company increases, it attracts more investors who wish to control the company to invest in it. Whereas if we looked at table (8) where we divided concentration into two parts according to the median value and then we found the mean and standard deviation for the T'Q values, we notice that T'Q values for companies with low ownership concentration was higher than companies with high ownership concentration. This is an indication that ownership concentration does not contribute in improving the company performance as investors invest in companies with high performance without working on improving and increasing the company performance following their investment. Industrial sector has the most concentrated ownership and bank sector had the least as seen in table (9).

### *4.3 Foreign ownership*

Foreign ownership was measured by the percentage of shares owned by non - Bahraini investors in BSE. From table (5) we notice that foreign ownership percentage in BSE is 28.632% and the highest percentage of foreign ownership was 94.51% that was because Bahraini laws allow GCC citizens to invest and own freely in the country while other companies was with 0% foreign ownership. In table (6) we notice that foreign ownership was less in companies with higher performance using T'Q and ROA measurements. And that difference was statistically significant at less than 1% in performance using ROA measurement but it wasn't the same using T'Q. In table (8) we notice that low percentage of foreign ownership in companies is followed by lower performance using both measures (ROA and T'Q) and that was statistically significant using both measures. Which indicates that foreign ownership and performance has negative relationship in both directions. Foreign ownership was the highest in investment sector and the lowest in service and industrial sector as seen in table (9).

### *4.4 Institutional ownership*

Institutional ownership was the most form of ownership presented in the Bahraini market. As 51% of companies' shares were owned by institutional investors. In some companies, the percentage of institutional ownership reached 94.5%. The relation between institutional ownership and performance was cleared out in table (6, 7) as we notice that institutional ownership decreases in companies with high performance and it increases in companies with low performance and that difference was statistically significant. Also it was found that companies with high institutional ownership have lower dividend yields with statistical significance while company performance measured by T'Q increased when institutional ownership increased. Institutional ownership was the highest in industrial sector and the lowest in service sector as seen in table (9).

### *4.5 Managerial ownership*

Bahraini market may be characterized by the low managerial ownership in its companies. The mean percentage of this ownership dimension was 4.525% meanwhile, the standard deviation was very high, while in some companies, managers owned 47% of the shares, and other companies presented 0% managerial ownership according to the measurement tool used in our study. Managerial ownership did not differ in companies with high or low performance using T'Q measurement while there was difference at 10% using ROA measurement as companies that achieved high ROA was characterized by high managerial ownership and vice versa, companies that are characterized by high managerial ownership had high ROA but that was not statistically significant. Managerial ownership was the highest in service sector and it reached 0% in bank and industrial sectors as cleared out in table (9).

## 5 Empirical Study

After validating the data used in our study using statistical tests to ensure that this data goes with the conditions of applying General Linear Model and Ordinary Least Squares (OLS) as been cleared in the section methodology. As data is considered as panel data that combine time series (2007-2011) and cross sectional data (42 companies). Based on that Pooled Regression and the results of this test can be found in table (10).

**Table 10.** Pooled Least Squares Regression Results

| Variables | Pooled Least Squares | | | |
|---|---|---|---|---|
| | **Model 1: Tobin's Q** | | **Model 2: ROA** | |
| | *t*-Statistic | *p*-value | *t*-Statistic | *p*-value |
| ***Independent variables:*** | | | | |
| Constant | -0.174 | 0.863 | 0.190 | 0.850 |
| Concentration ownership | 1.427 | 0.161 | -2.014** | 0.045 |
| Foreign ownership | 0.538 | 0.594 | -0.747 | 0.456 |
| Institutional ownership | 2.518** | 0.016 | -0.273 | 0.786 |
| Managerial ownership | -1.742* | 0.089 | 0.388 | 0.699 |
| ***Control variables:*** | | | | |
| Firm Size | -1.833* | 0.074 | 0.973 | 0.332 |
| Financial Leverage | 5.322*** | 0.000 | -2.490** | 0.014 |
| Firm Age | 0.327 | 0.745 | 1.137 | 0.257 |
| Net Income | 1.762* | 0.080 | 5.568*** | 0.000 |
| Earnings per Share | 1.295 | 0.203 | -0.263 | 0.793 |
| Industry Dummy | 5.284*** | 0.000 | 2.863*** | 0.005 |
| | | | | |
| R-squared | 0.391 | | 0.482 | |
| Adjusted R-squared | 0.239 | | 0.451 | |
| *F*-statistics | 2.573** | | 15.320*** | |
| p-value (F-statistics) | 0.017 | | 0.000 | |
| No. of Observations | 210 | | 210 | |

*t-Critical: at df 209, and confidence level of 99% is 2.326 and level of 95% is 1.960and level of 90% is 1.645.*
*F-Critical (df for denominator n-β-1 = 210-10-1 = 199) and (df for numerator =β =11 and confidence level of 99% is 2.34 and confidence level of 95% is 1.84 and confidence level of 10% is 1.6.*
*Significance at: *10%; **5% and ***1% levels.*

The study hypothesis may be tested as follow:

### *5.1 Testing the first Sub-hypothesis; relationship between ownership concentration and performance*

Ownership concentration is considered to be as one dimension of ownership structure. Many studies explored the effect of ownership concentration on company performance. Morck et al. (1988), claimed that the diffuseness of ownership would weaken the monitoring power on management or it may be an advantage to the management by not letting any block shareholders control the firm in their favor against minority shareholders. In both cases company performance would be affected. Table (10) clears out that the effect of ownership concentration on company performance in Bahrain Stock Exchange using T'Q, we notice that t-statistic was positive which indicate the presence of a positive relation between concentration and performance, nevertheless, this relation was not statistically significant, where t-statistic was less than the critical value and p-value was more than 5%. This is consistent with what was found by some researchers such as, (McConnell and Servaes, 1990) when they found that there is a positive but insignificant relation between the two variables. This is consistent with (Perrini, Rossi and Rovetta, 2008), when they indicated a positive effect of ownership concentration on performance.

The relation between concentration and performance using ROA, we notice that it was a negative relation and statistically significant at less than 5%. Which make us accept the hypothesis that indicate that ownership concentration has a negative effect on ROA. Which means that companies that has high ownership concentration will have reduced ROA. This result is consistent with (Abuserdaneh, Zureikat and Al- Sheikh, 2010) where they found a negative and statistically significant relation between ownership concentration and performance in the Jordanian market. But however our results contrasted what was found in Nadia (2004) study which was conducted on the Jordanian banks using ROA measurement and it indicated that ownership concentration did not affect performance.

### *5.2 Testing the second Sub-hypothesis; relationship between foreign ownership and performance*

The effect of foreign ownership was studied by many researchers like (Caves, 1996 and Kummar, 2003) where they mentioned in their studies that usually foreign investors buy shares in successful companies and they are expected to bring in the most recent technologies to the firm thus they play an important role in improving the performance in the firms they invest in. In table (10), we notice that the effect of foreign ownership on performance using T'Q was positive, which is consistent with studies like (Bai et al., 2005 , Sarkar and Sarkar , 2000 and Patibandle, 2002) and a negative effect on performance using ROA model which is consistent with studies like (Solung and Nor, 2008). But both models failed to find a statistically significant effect neither positively nor nigativelly.

### *5.3 Testing the third Sub-hypothesis; relationship between institutional ownership and performance*

Fama (1980), indicated in his study that institutional ownership improves firm performance, many studies like (Shleifer and Vishny, 1986) that institutional ownership would affect performance in two ways: the first one that it makes outside block shareholders overcome the controlling managers and the second one is: that it would reduce the free rider problem which arise from the lack of shareholders control. Institutional ownership is the most common form of ownership structure in Bahrain Stock Exchange as mentioned in the descriptive statistics section as institutions own over 51% of the companies' shares, but the question here is does this type of ownership affects performance? In table (10), we may see the regression results where we can see the effect of institutional ownership on performance using T'Q model, we notice that it was a positive effect and statistically significant at less than 5%. This result is consistent with what was found in some studies like (Wan, 1990) and partially with what was found by others like (Berger, 2003 and Sarac, 2002) where they found a positive relation but with moderate statistic effect between the two variable. Using ROA model, the effect was negative and without any statistical significance between institutional ownership and performance. This result contrast what was mentioned in the study of (Abuserdaneh, Zureikat and Al-Sheikh, 2010) where the effect of institutional ownership on performance was positive when using ROA model.

### *5.4 Testing the fourth Sub-hypothesis; relationship between management ownership and performance*

This dimension is related to the agency theory, as when management owns a large portion of the firm, it is expected to work in its own favor and when it owns less portion, it is expected to work in the favor of the firm itself. In Bahrain, although management ownership percentage is minimal, there was a negative effect with statistical significance at less than 10% on performance using T'Q model which is consistent with what was found by researchers like (Demsetz and Villalonga, 1990 and Rowe and Davidson, 2002) and a positive insignificant effect using ROA model which is consistent with studies like (Severin, 2001 and Kummar, 2003).

### *5.5 Testing the effect of control variables on performance*

The findings of the study were conflicting regarding the effect of company size on performance. We can see in table (10) that company size has a negative effect that is statistically significant at less than 1% on performance using T'Q model. We can see also in the same table that it has a positive effect that is not statistically significant on performance using ROA model.

The results were conflicting again. We noticed that financial leverage has a positive effect with statistical significance at less than 1% on performance using T'Q model and a negative effect with statistical significance at less than 5% on performance using ROA. Although company age has a positive relation with performance as seen in table (10) but it was not a statistical significant effect on performance. The study proved that net income has a positive significant effect on performance using T'Q and ROA models. In table (10), we can see that EPS has a positive insignificant effect on performance using T'Q model and a negative insignificant effect on performance using ROA model.

Our results confirmed that the sector that the company belong to has a positive significant effect at less 1% on performance. This is consistent with what was mentioned previously in the descriptive statistics which indicated that the performance of the company is different according to the sector it belongs to.

### *5.6 Comparing the study models*

To know which of the study models represents the relation between the study independent variable (ownership structure ) and the dependent variable (company performance), Adjusted R- Squared was measured, as seen in table (10), which is used to compare between the models of the study. Whenever Adj. R2 increases this means that the model represents the relation more. From table (10), we notice that Adj. R2 for ROA model equal 45.1% and for T'Q equal 23.9%. Based on that we may consider ROA model represents the relation between variables more. This is consistent with what was found by previous studies

such as Abu Serdaneh et. al. (2010) , where they used both models to measure performance and they found that ROA model represents the relation more but they indicated that this needs to be confirmed by other studies that follow the same methodology.

## 6 Conclusion and Recommendation

The main objective of the study was; knowing what really affect company performance. Four factors of ownership structure were chosen and believed to be from the most important factors that affect performance. ownership structure were from the earliest factors to be studied as (Berle and Means, 1932) were from the first researchers to study the effect of ownership structure on performance. Few studies were conducted in the Middle East and very few or no studies were conducted about this topic in the GCC area. In Bahrain, this is the first time that this topic has been studied. So, this study is considered to be the first study to cover this gap.

It is beneficial to know what really affects company performance in this area and whether ownership structure really affect performance. The study also aimed at investigating the most common type of ownership structure that presents in Bahraini market. It also consider giving investors some hints about what may be the best choice of companies to invest in that achieve the best performance according to the statistical analysis conducted by the study.

Ownership concentration was found to be having positive effect but not statistically significant on performance using T'Q indicator. And it has a negative statistically significant effect on performance using ROA measurement. Institutional ownership was found to be having positive and statistically significant effect on performance using T'Q indicator. And using ROA indicator, the effect was negative with no statistical significance. Foreign ownership was found to be having positive effect using T'Q indicator and negative effect using ROA indicator with no statistical significance using both indicators. Managerial ownership was found to be having negative statistically significant effect on performance using T'Q and a positive insignificant effect using ROA indicator. The effect of company size on performance was found to be negative with statistical significance using T'Q and a positive effect that is not statistically significant using ROA indicator. The effect of financial leverage on performance was found to be positive and statistically significant using T'Q and a negative effect that is statistically significant using ROA indicator. Company age was found to be having positive effect with no statistical significance on performance. Net income was found to be having positive significant effect on performance using ROA and T'Q indicators. EPS was found to be having positive effect on performance using T'Q and a negative effect on performance using ROA. Both effects were not statistically significant. Company sector was found to be having a positive statistically significant effect on performance. The best indicator of performance that was used by the study was ROA over T'Q. As it was found to be more related and it reflects the truth about performance more than the other indicator as was proved by statistical tests when the hypothesis of the study were tested.

Based on the study results; Investors are strongly encouraged to look at low debt companies when they expect high profits. The study found that ownership concentration affects performance negatively when applying ROA indicator so lows that protect minority shareholders and their rights are surely welcome.

The study is considered to be limited because it studies performance in companies in a period of five years only 2007-2011. This time series may be un-stable because the global financial crisis occurred during this period. Future studies may take longer and different time series. The study was conducted in Bahraini market and it is considered to be a small sample to be studied and it is considered to be an emerging market. Further studies may be conducted on the whole GCC market, because the GCC economies are considered to be having a lot of similarities in lows and nature of economy. The study found that ROA indicator is more representative and related to performance. This needs to be confirmed by other studies following the same methodology to confirm what was found in our study or other data needed to be known when applying the T'Q indicator to correctly assess its relevance to performance. Family ownership was not studied in our research although it exists in Bahrain because of lack of data; Bahrain Stock Exchange is encouraged to announce the data that is related to family ownership so that its effect on performance may be studied in future.

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