

UNIVERSITY OF BAHRAIN
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SHAREHOLDERS' VALUE
OF PUBLIC CORPORATIONS
IN BAHRAIN



BY
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Abstract

The purpose of the present study is to measure the shareholders' value of public corporations listed in Bahrain Stock Exchange, mainly, by determining if those corporations create value or not. It is also done by determining the value drives in order to obtain a good model for calculating the economic value added (EVA) of shareholders' value.

The sample consists of 15 corporations (seven from the service sector, three from the industrial sector, three from the hospitality sector and two from the investment corporations) over the period of seven years, from 1990 to 1996. The selection of companies is based on the basis of their listing in Bahrain Stock Exchange and if their trading records are available for at least seven years.

The methodology relies on two main approaches: the pilot study and the main study. The model applied in this study is the economic value added (EVA) which is designed to measure the shareholders' value, and multiple regression is applied in order to determine the value drives.

The general conclusions reached are as follows: service corporations sector is the only sector, during the study period, that created value to their shareholders.

The industrial and hospitality sectors are not in a stable status: in 1990, 1994 and 1995 they destroyed value while in 1991, 1992 and 1993 they created value.

The Investment companies, during the study period, destroyed value.

In addition, the study indicates that EVA can be explained as a function of Return on Equity (ROE) or Return on Assets (ROA).

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List of Abbreviations

EVA	The Economic Value Added
NOP	The Net Operating Profit
TCE	The Total Capital Employed To Operate The Business
R=ROE	The Return On Shareholder Equity
C	The Cost Of Capital
ROA	The Return On Assets
Lev.	The Leverage Of Debts
DPS	The Dividend Per Share

Chapter 1

Introduction

1.1: Introduction:

In the global economy of the 1990s, capital movement is very high. It is facilitated by a smooth movement of capital. The new technology has removed most of the barriers that restricted capital transfer from one place to another. Capital can be transferred in a matter of seconds. Investment levels are changed to improve returns on the investment. The investors move their money quickly and easily around the world in search of the greatest returns. Therefore, it is essential for today's business graduates to understand the importance of measuring, managing, and maximizing shareholders' value.

Valuation illustrates how to take advantage of the tradition of maximizing shareholders' value. It demonstrates how value-based management contributes to an improved strategic thinking, and shows how managers at any level can create value for their companies.

Empirical evidence indicates that increasing shareholders' value does not conflict with the long-run interests of other stockholders.

Successful companies seem to create relatively greater value for all stockholders: customers, labor, the government, and suppliers of capital. Yet, there are additional reasons, more conceptual in nature, but equally compelling, to adopt a system that emphasizes shareholders' value. First, value is the best metric for performance that we know. Second, shareholders are the only stockholders of a corporation who simultaneously maximize everyone's claim in seeking to maximize their own. And finally, companies that do not perform will find that capital flows toward their competitors.

In addition to the above, in the current political and economic system, the mission of any business is to create value for its shareholders. The reason company management focuses so strongly on creating economic value as opposed to producing something or serving customers is 3-pronged:

- 1) Increasing shareholder value over time, is the job today's economic system demands of management.
- 2) By increasing shareholder value, a business is able to contribute to society in meaningful ways.
- 3) It keeps management from acting in a short sighted way.

1.2: Purpose of this Study:

The purpose of this study is twofold. The first objective is to measure the shareholders' value in public corporations listed in "Bahrain Stock Exchange" by determining if those corporations create value or not.

The second is to determine the value drives in order to obtain a good model for calculating economic value added of shareholders value.

1.3: Justification of the Research:

The basic reasons for selecting this empirical research are as follows:

1. To study the important role played by public corporations in the national economy.
2. To test whether the theoretical assumptions hold good in practice.
3. To show importance of shareholders' value creation.
4. Personal interest for implementing financial and statistical analysis on the accounting variables.

1.5: Organization of the Research:

The study will be divided into eight main chapters:

Chapter 1: Introduction

This chapter explains the purpose of the study, justification of the research, and the significance of the study.

Chapter 2: Review of the Related Literature:

This chapter covers general literature on modern theories of corporate finance.

Chapter 3: Shareholder Value:

This chapter includes related literature on shareholders' value.

Chapter 4: Corporations in Bahrain: An overview:

This chapter includes an overview of the public corporations in Bahrain.

Chapter 5: Methodology:

This chapter includes the methodology of the research which contains data gathering methods, sampling size, research questions, hypothesis and data analysis techniques.

Chapter 6: Pilot study:

This chapter includes the pilot study of the research which contains objectives and scope, the variables, results and analysis, multiple regression results and conclusions.

Chapter 7: Analysis of the Results:

This chapter covers the profile analysis as well as statistical analysis.

Chapter 8: Conclusions and Limitations:

Conclusions and results based on the findings of this study are presented in this chapter.

Chapter 2

Review Of The Related Literature

2.1: Introduction:

The purpose of this chapter is to provide a brief of the development of the modern theory of 'corporate finance' as a general background for the articles included in this research. Finance literature through the early 1950s consists of a large part of theories, Dewing (1919 ; 1953).

2.2: The Theory Of Corporate Finance: An Overview:

The study of finance as an independent subject of inquiry is relatively recent. Its roots are traced back to the turn of this century. The theory of finance in its present day form originated in the 1950s with the work of Markowitz (1952) and Modigliani and Miller (1958).

2.2.1: Efficient Markets Theory:

The efficient markets hypothesis holds that a market is efficient if it is impossible to make economic profits by trading on available information.

Cowles (1933) documented the inability of 45 professional agencies to forecast stock price changes. Other work in the field by statisticians such as Working (1934), Kendall (1953), and Osborne (1959, 1962) documented that stock and commodity prices behave like a random walk; *i.e.*, stock price-changes behave as if they were independent random drawings.

Samuelson (1965) and Mandelbrot (1966) argued that unexpected price changes reflect new information. Since new information is information that cannot be deduced from previous information, new information must be independent over time.

Smith (1990), Copeland and Weston (1988) argued that the efficient markets hypothesis has several important implications for corporate finance:

First, there is no ambiguity about the firm's objective function: Managers should maximize the current market value of the firm. Second: There is no benefit in manipulating earnings per share. Third: If new securities are issued at market prices which reflect an unbiased assessment of future payoffs, then concern about dilution or the sharing of positive net present value projects with new security-holders is eliminated. Fourth: Security returns are meaningful measures of firm's performance.

Fama (1970, 1976) had a great deal to operationalize the notion of capital market efficiency. He defined three types of efficiency, each of which is based on a different notion of exactly what type of information is understood to be relevant in the phrase:

- a. Weak-form efficiency: No investor can earn excess returns by developing trading rules based on historical price or return information.
- b. Semi-strongform efficiency: No investor can earn excess returns from trading rules based on any publicly available information, *e.g.* if publicly available information are annual reports of companies, investment advisory data such as "Heard on the Street" in the Wall Street Journal, or ticker tape information.
- c. Strong-form efficiency: No investor can earn excess returns using any information, whether publicly available or not.

Rubinstein (1975) and Latham (1985) argued that the market is said to be efficient with regard to an information event if the information causes no portfolio changes.

While Copeland and Weston (1988) argued that if markets are efficient, no one can earn abnormal returns, but without abnormal returns there is no strong incentive to acquire information.

2.2.2: Portfolio Theory:

It implies that the firm should evaluate projects in the same way that investors evaluate securities.

Markowitz (1952) points out that if risk is an undesirable attribute for investors, merely accumulating predicted "winners" is a poor portfolio procedure because it ignores the effect of portfolio diversification on risk.

Martin; Cox and McMinn (1988) argued that the value of a security equals the present sum that the holder would be willing to exchange for the future cash flow(s) to which he or she is entitled to and in a multi-period settings. This statement translates into the following valuation model:

$$V = \left[\frac{C_1}{(1+r_1)} \right] + \left[\frac{C_2}{(1+r_1)(1+r_2)} \right] + \dots + \left[\frac{C_N}{(1+r_1)(1+r_2)\dots(1+r_N)} \right]$$

$$\text{Or } V = \sum_{t=1}^N \left[\frac{C_t}{\prod_{j=1}^t (1+r_j)} \right]$$

Where:

V is the present value of all future cash flows, C_t , to be received over the next N years and r_j ($j=1,2,\dots, N$) is the corresponding single - period risk-free rate.

Archer; Choate and Racelle (1979) argued that the cash flows of a firm belong to the suppliers of funds who exchange money or services to claim future cash flows. Also they assume that there is no single valuation model that is mechanically applicable to all securities rather there is a family of models, all of which are derived from the concept of present value, or discounted cash flow.

2.2.3: Capital Asset Pricing Theory - (CAPM):

The CAPM is a simple linear model that is expressed in terms of expected returns and expected risk. In its ex ante form, we have :

$$E(R_j) = R_f + \{ E(R_M) - R_f \} \beta_j$$

Where:

$E(R_j)$ = Equilibrium expected return of security i

R_f = Riskless rate of interest

$E(R_M)$ = Expected return on the market

β_j = Systematic risk of asset j

The major empirical tests of the CAPM were published by Friend and Blume (1970), Black; Jensen and Scholes (1972), Miller and Scholes (1972), Blume and Friend (1973), Blume and Husick (1973), Fama and MacBeth (1973), Basu (1977), Reinganum (1981b), Litzenberger and Ramaswamy (1979), Banz(1981), Gibbons (1982), Stambaugh (1982), and Shanken (1985b).

Treynor (1961), Sharpe (1964), and Lintner (1965) have argued that in equilibrium, an individual security is priced to reflect its contribution to total risk (or systematic risk) , which is measured by the covariance of its return with the return on the market portfolio of all assets.

Roll (1977) offered criticisms of tests of the capital asset pricing model, and Schwert (1983) provides a survey of size - related deviations of average returns from those predicted by the capital asset pricing model.

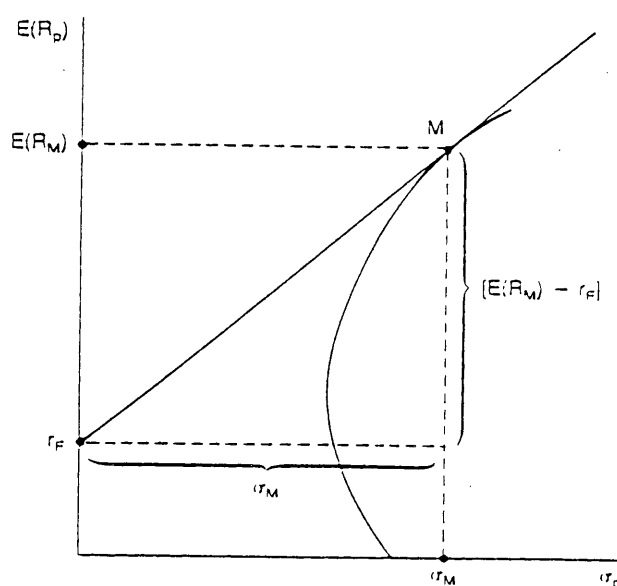
Martin, Cox, MacMinn (1988) and Elton & Gruber (1987) debated that the basic assumptions underlying the CAPM include the following:

1. Investors are risk-averse individuals who maximize the expected utility of their end of period wealth.
2. Investors choose alternative portfolios according to expected return and variance in return.
3. Borrowing and lending are unlimited and take place at an exogenously determined risk-free rate.
4. All investors share identical subjective estimates of the means, variances, and covariance of return of all assets.
5. Assets are completely divisible and perfectly liquid, with no transactions costs incurred in their purchase or sale.
6. All investors are price takers, there are no taxes, and the quantities of all assets are fixed.

Furthermore, Sharp (1964) assumed that all investors share a set of beliefs regarding means, variances and covariance. This set would appear as depicted in figure 2.1, everyone can and will select the market portfolio (portfolio M in Figure 2.1) when choosing the optimal mix of risky securities, to combine with the risk-free asset. Simply put, when everyone solves the same problem of finding the optimal combination of risky and risk-free assets using the same inputs or estimates they will all arrive at the same answer.

The optimal set of assets consists of those portfolios made up of the risk-free asset earning a rate r_f and the risky market portfolio, M. This set of portfolios is a straight line passing through r_f and M. This line is referred to as the capital market line (CML).

Figure 2.1
Risk and Risk-Free Combination or Relation



Black (1972) derived an asset pricing model very similar in form to that of CAPM, which argued that the risk-free asset is replaced by a portfolio of risky assets that is uncorrelated with the market portfolio. This is called 'the zero beta portfolio'.

Where Lakonishok and Shapiro (1986) argued that in the historical relationship between stock market returns and the following variables: beta, residual standard deviation and size neither the

traditional measure of risk (beta) nor the alternative risk measures can explain - again, at the standard levels of statistical significance;

- the cross-sectional variation in returns; only size appears to matter.

Also, empirical work by both Bonz (1981) and Reinganum (1981b) had demonstrated that firm - size data can be used to create a portfolio that earns abnormal returns of up to 40 percent annually.

Copeland and Weston (1988) debated that in the selection of investment projects by the firm, the firm compares the cost of capital to the project's rate of return. The cost of capital for a firm is given directly by the CAPM. The company's beta is measured by calculating the covariance between the return on its common stock and the market index. Consequently, beta measures the systematic risk of the common stock, and if firm knows the systematic risk, the firm can use CAPM to determine the required rate of return on equity.

Also Copeland and Weston (1988) argued that the expected return is interpreted as an abnormal return and can be taken as evidence of market inefficiency if the CAPM is correct.

If capital markets are inefficient, then the assumptions of the CAPM are invalid and a different model is required. And, if the CAPM is inappropriate, even though the capital markets are

efficient, then the CAPM is the wrong tool in order to test for efficiency.

The CAPM provides a theory that allows the expected return of a 'fair-game model' to be conditional on a relevant costless measure of risk. If the CAPM is written as a fair-game, Copeland and Weston argued that the:

$$E(R_{jt}/\beta_{jt}) = R_{ft} + \{ E(R_{mt} / \beta_{mt}) - R_{ft} \} \beta_{jt}$$

Where :

$E(R_{jt}/\beta_{jt})$ = Expected rate of return on the asset.

R_{ft} = Risk - free rate of return .

$E(R_{mt} / \beta_{mt})$ = Expected market rate of return.

β_{jt} = Estimated systematic risk.

Black, Jensen, and Scholes (1972), Black and Scholes (1974) , and Fama and MacBeth (1973) show that the CAPM fits reality surprisingly well. However, because the theoretical CAPM assumes market efficiency.

2.2.4: Firms Valuation Theories:

Copeland *et al* (1996) argued that the value of a firm equals the present value of its expected cash flows, discounted at an appropriate discount rate. Also they debated that the value of a company is equal to the amount of capital invested, plus a

premium or discount equal to present value of its projected economic value added.

They also argued that growth is the fundamental driver of a company's value. And, to increase its value, a company must do one or more of the following:

- Increase the level of profit it earns on its existing capital in place (earn a higher return on invested capital).
- Increase the return on new capital investment.
- Increase its growth rate but only as long as the return on new capital exceeds weighted average cost of capital (WACC).
- Reduce its cost of capital.

Miller and Modigliani (1961) argued that the value of the firm is independent of dividend policy. A firm has value even if it pays no dividends. It would have the same value even if it had paid dividends.

Black (1990) argued that the value of an firm unlevered is the product of the fair price of the share and the number of shares outstanding.

$$V_u = V_{su} = P_o \times N_o,$$

Where :

- V_u = Fair value of an unlevered firm.
- V_{su} = Fair value of the shares in an unlevered firm.
- P_o = Fair price of the share.
- N_o = Number of shares outstanding.

Also he suggested that the value of the firm, which is financed by both equity and debt is the sum of the fair value of the shares and the fair value of the bonds:

$$V_L = V_{sL} + V_B$$

Where :

- V_L = fair value of a levered firm.
- V_{sL} = fair value of the shares in a levered firm.
- V_B = fair value of the bonds.

Copeland and Weston (1988) argued that the value of the firm unlevered with growth is the current level of cash-flow, which was assumed to be received at the end of each year.

They also argued that the value of new investment depends upon the amount of investment, I_t and its rates of return, r_t .

Modigliani and Miller (1958) argued that the value of a levered firm exceeds the value of an unlevered one by an amount which is

known as the gain from leverage (or the tax shield).

Copeland and Weston (1988) also argued that the gain from leverage, G , is the difference between the value of the levered and unlevered firms, which is the product of the corporate tax rate and the market value of debt.

Miller (1977), modified this result by introducing personal as well as corporate taxes into the model.

As suggested by Archer; Choate and Racelle (1979) the value of a financial asset should be defined as the price at which the asset should sell, when bought and sold in a market by well informed investors.

Modigliani and Miller (1990), stated that the total value of a firm depends on its expected performance. Its commercial risk is independent of the way in which it happens to be financed and that any other position is one of the disequilibrium which will be eradicated by investors playing the market through the process known as arbitrage.

Furthermore, there are other valuation approaches which are explained in section 2.2.5 and 2.2.6.

2.2.5: Traditional Valuation Theory: The Net Present Value (NPV):

Martin, Cox, and MacMinn (1988) argued that the value of a firm, or capital investment project, can be calculated by the net present value model (NPV) which can be defined as follows:

$$NPV = \sum_{t=1}^N \frac{NCF_t}{(1+K_{wacc})^t}$$

Where

- NCF = net cash flow to the project in period t.
- I = initial investment in the project.
- K_{wacc} = weighted average cost of capital corresponding to the project's financing.

They also facilitated their argument by the following assumptions:

1. All cash flows are level perpetuities.
2. Debt is perpetual and interest rates are constant.
3. All after-tax earnings are paid out to the common shareholders in dividends.
4. The tax rate on firm income is constant.
5. The firm's assets have perpetual lives.

Archer; Choate and Racelle (1979) stated that the value of a firm is the value of its assets whose future cash flows can be directly transferred from buyer to seller.

Copeland and Weston (1988) argued that the projects that have an NPV greater than zero will be accepted and the projects with the greatest NPV will be selected from the others. They also argued that the project with a positive NPV would increase the shareholders wealth.

Furthermore they argued that managers should take every positive - net present value project and avoid negative net present value projects to maximize shareholders' wealth.

Also, a traditional theory by Brockington (1990) argued that the cost of equity finance and the cost of debt are independently determined. If the cost of equity is higher, as logically it should be because it is more risky, then a more highly geared a company becomes, the lower its cost of capital.

2.2.6: The Q Ratio:

The Q ratio, developed in the early sixties by the economist - Tobin J. (1969), is a ratio of the market value of a company's physical assets to the cost of replacing those assets in current dollars. The Q ratio is calculated as follows:

$$Q \text{ at the corporate level} = \frac{\text{Market value of equity \& debt}}{\text{Inflation - adjusted assets}}$$

Reimann (1988) defined Q ratio as a market to book (M/B) multiplied by the book value of net assets. While Compeland and Weston (1988), defined Q ratio as the ratio of the market value of the firm's shares in relation to the replacement costs of the assets represented by these shares.

Reimann (1988) argued that Q ratio compares the market value of a firm's equity and debt to the real value of its net assets. He also assumed that firms with Q ratios greater than one are value creators, while those with less than one are destroying shareholders value.

Furthermore, he argued that Q ratio is the economist's way of explaining how the level of stock market prices affects capital spending.

2.3: Conclusions:

In this chapter, the financial theories are reviewed. The theory of finance is founded on the goal of owner wealth maximization. This goal can be viewed as a logical "mutation" of the traditional goal of profit maximization utilized in neoclassical microeconomics in the light of a richer set of environmental

assumptions addressed in the theory of finance. Specifically, the world is an uncertain place wherein choices must be made by managers who exercise their own discretion in selecting investments and financing alternatives. In addition, these choices may have an impact on owner wealth long into an uncertain future.

Chapter 3

The Shareholder Value

3.1: Introduction:

Value-based planning got its start in the late 1970s, when it was becoming apparent that many successful corporations were not creating much value for their shareholders.

Reimann (1988) suggested that since value is in the eye of the investor, it must be measured from the investors point of view.

Also Knapton (1996) represented the measurement of shareholders' value from the investor's perspective, (section 3.6).

Stewart (1988) argued that the value depends on a combination of returns and growth, however, Reimann (1988) looks at equity only, while Stewart (1988) considers total capital and adjusts the accounting numbers to a cash flow basis.

Bradley and Swire (1988) argued that shareholders wealth is a function of expected future cash flow, and that the investors' expectations for the future cash are heavily influenced by historical profitability and growth.

They also argued that the reliable measure of shareholders' value is the internal rate of return (IRR) while the chief executive officer's (CEO) goal is to fund strategies that will have a positive spread. A positive spread means an IRR that is greater than the cost of capital. Furthermore, they argued that the increases or decreases in shareholder's wealth are not directly proportionate to the level of research & development (R & D) investment. The exception is where investment intensity is high.

Rappaport (1981) argued that a lot of top managers are seen to be under the mistaken impression that shareholders' value analysis is nothing more than a number-crunching exercise. All they want to talk about are the financial numbers. However, when it is properly used, shareholder value analysis emphasizes strategic thinking.

Just a few financial numbers are used to identify the factors that drive the value of the business. These value drivers, which include sales growth margins, investment requirements, taxes, and the cost of capital, lie at the foundation of any strategy.

Day and Fahey (1990) argued that to understand why shareholder value analysis often goes awry, it is important to appreciate the importance of strategic thinking by the management. A manager must understand the relationship between competitive advantage, value creation, and business strategy. Competitive advantage means outperforming competitors along dimensions like cost,

technological capability, and acquisition of raw materials or providing superior value to customers.

3.2: Importance of Shareholders' value:

Knapton (1996), represented the importance of shareholder value as follows:

1. It enhances understanding: this is probably the most important debate conducted between Corporate Management and Fund Managers at present. Managers and shareholders seek an ever deeper understanding of business returns and the elements that drive them, and so find the means of judging the quality of operational and strategic management by measuring the change in value creation over a period of time.
2. It develops cleared focused strategy: simply put, a process to estimate the required return that the allocation of corporate financial resources must deliver in order to satisfy shareholders that additional value is being created. It helps determine which business, acquisition, disposal, product launch or project add value and so helps the development of a clear and focused corporate strategy.

3. It clarifies performance objectives: because of the alignment of corporate and shareholder returns, it is important to measure corporate performance and review management implementation and strategic direction.

3.3: Creating Shareholders' Value:

Reimann (1988) revealed that Marakon Associates is one of the pioneers of value based approach which emphasized that firms cannot create value unless they invest in projects where rates of return exceed capital costs. Also, he argued that a firm's clients should not look at ROE alone, but should focus on the spread between return on equity and the cost of capital in the corporate portfolio.

Reimann (1990) disputed that the shareholder value creation, as measured by dividends plus capital appreciation, will gain even greater importance as the measure of corporate performance in the 1990s. He also argued that the investment in the growth of positive-spread business is advisable, since this growth will contribute to shareholders' value. And he suggests that the units with negative spreads must either be turned around toward higher profitability or sacrificed. Furthermore, he argued that the size of the spread is affected by the way debt and risk are assigned to a particular business. And, that the equity spread only reflects the potential value contribution from profitability, ignoring other

important sources of value, such as deferred taxes and the terminal value of the business.

Bradley and Swire (1988) argued that - to find opportunities for growing and creating shareholders' value, we must find a business unit that have unusually good prospects for:

1. Sustaining a good profit record.
2. Extending sources of competitive advantage into new product and market arenas.
3. Building unusually aggressively in current markets.

They also debated that the average return on investment has a much greater impact on wealth creation than does actual return on investment. They dispute that there are many measures that can be valuable to business units and corporations, that can help predict prospects for value creation or value destruction:

1. Market Share: It is widely accepted that the market share of a business has a strong influence on its profit. A large-share business, on average, has access to economies of scale that are not achievable by their smaller competitors. They also have the advantage of higher cumulative experience of running the business, which translates into technological know-how.

2. Relative Quality: The measure of quality gives information about the future prospects for a business, beyond what the pure financial picture conveys. Regardless of current profitability, the business that enjoys a good quality reputation can build on that asset and attract new customers, raise prices or introduce new products that are favorably perceived, all of which can contribute to shareholder wealth.
3. Investment Intensity: Businesses with high levels of investment (fixed plus working capital) per dollar(or BD) on sales, or per dollar (or BD) of value added, have lower ROIs than low-investment businesses.
4. Capacity Utilization: Full utilization of capital raises profitability. But profits temporarily elevated by full utilization may give a misleading view of the overall value of the business.

Stewart (1988) suggested three alternative means to increase shareholders' value, based on a business unit's EVA (economic value added):

- a) Increase the economic earnings derived from the existing capital base.
- b) Improving the efficiency of business units without increasing their size.
- c) Invest only in those businesses whose economic returns exceed

their capital costs or risks; that is those with positive spreads.

- d) Reduce the drag on the value of uneconomic negative-spread businesses by shrinking them and diverting capital to positive spread units.

Arzac (1986) argued that the value creation is expressed in terms of the key determinants of free cash flow and their present value. They are – the expected return on equity (ROE), the cost of equity capital, the expected growth of the company, and the period during which the company is expected to maintain a positive spread between its ROE and its cost of equity. In addition, he argued that the company can create value from growth opportunities i.e., investments in new assets with a positive spread, while it destroys value when the spread is negative and if the ROE is expected to remain below the cost of equity capital, faster growth will simply accelerate destruction of share value.

Day and Fahey (1990) also argued that the value creation is the increase in shareholder value, which requires that the company earns more than its cost of capital.

Tully (1994) disputed that the market value added (MVA) is the best approach for evaluating how well a company performs its basic mission of creating wealth for shareholders, that if MVA is greater than zero, the company has created wealth for its shareholders.

Alan (1990) argued that the most effective strategies of creating shareholders' value are grouped into 3 categories: Operations, investment, and capital. Operating strategies were cited by 41%. Investment strategies were cited by 38% and capital strategies were cited by 21% of the respondents.

While according to Reimann (1990) the basic pointers to create shareholder value in the 1990s are:-

- 1) The focus of value-enhancing strategies must be at the strategic business unit level.
- 2) Strategies must focus on equity attractiveness in value creation terms.
- 3) Managers who fail to focus on shareholder value will be replaced by those who do.

Jack and Scott (1990) argued that the stock prices respond to the destruction or creation of economic value and this value is closely linked to the 5 value drivers (sales growth rate, operating profit margin, working capital, investment, cost of capital, and fixed capital investment).

David (1989) disputed that to create shareholder value, management must maximize economic value by managing growth and spread, which is what a company earns between its return on capital and its cost of capital.

3.4: Historic Valuation Techniques:

Knapton (1996) argued that the historic valuation techniques are represented in the following points:

- a) Yield: Dividend yield was the dominant measure of value and bond yields, the benchmark.
- b) Price/Earnings ratios: Essential feature is that the analysts seek to make accurate forecasts of future corporate earnings per share which when divided into the current share prices, gives a price/earnings ratio that can be used to compare different companies.
- c) Cash flow multiples: Measures the cash available for expansion after the demands of the current business have been satisfied.

3.5: The Historical Measurements of Shareholders' Value :

Steve (1993) argued that the historical measurements of shareholders' value, were based on the earnings per share, and return on capital employed. He displayed the advantages and disadvantages of each measure as follows:

Earnings Per Share:

- Includes exceptional and non-recurring items.
- Is not based on maintainable profits.
- Takes no account of quality of profits.
- Does not take risk into account.
- Backward looking.
- Audited.
- Well developed rules to calculate earnings.
- Consistency.
- Useful as a comparative tool.

Return on capital employed:

- Same attributes as earning per share.
- Takes into account extent of capital employed.
- Can show shareholders' financial return.

Knapton (1996) illustrated that the earning per share measurement gives no information about the amount of capital required to generate it and it is a short-term measure, as it fails to look at forecasts beyond 2 or 3 years. According to price earning ratios measurement, he argued that it depends heavily upon forecasting, relying upon earnings, and is an unreliable approach which cannot be guaranteed to deliver consistent value and which needs to be combined with other relationships to be more useful.

3.6: New Measurement of Shareholder Value:

The new valuation tools seek to overcome the shortcomings of earnings per share, as a measure of corporate performance and the failings of price earning ratios as valuation measures.

Knapton (1996) argued that there are 3 fashionable shareholders' value measurement systems. The originators of each claim that their method is superior to the others. They have a good deal in common but there are some important differences. One fundamental principle applied to each value, is created when returns exceed the cost of capital.

According to William (1997), the key indicators of shareholder value to firm, are now cash flows and risk, rather than reported earnings. This means that a firm need to focus on 4 key value drivers: Returns, Returns on Assets, the Equity capital needed to fund growth, and the Cost of Equity.

Furthermore, dividend policy and its effect on a firm's value is an issue that has been a cause for division among researchers. Miller & Modigliani (1961), argued that the value of the firm is independent of dividend policy, while other researchers like Edward (1993) argued that there is a relationship between dividend and firm's value.

3.6.1: Discounted Cash Flow:

Copeland, Koller, and Murrin (1996) argued that in using DCF, the value of a firm is the future expected cash flow discounted at a rate that reflects the riskiness of the cash flow. They argued that the DCF model, comprehends the difference in value by factoring in the capital expenditures and other cash flows required to generate earnings.

According to Knapton (1996), the basic principle of this approach is that return on invested capital (ROIC) is the single most important value driver which, when combined with the rate of new investment, reveals the free cash flow. He also represented the advantages and disadvantages of DCF and at the end, his conclusion was that DCF is theoretically better than EPS or ROE because it builds on growth and returns, but has significant shortcomings. In addition, Steve (1993) argued that the discounted cash flow takes risk into account through the discount rate used, based on audited numbers, well developed rules to calculate earnings, consistency, once adjusted attempts to indicate maintainable cash, and can be assessed against capital employed. While, on the other hand he also argued that the discounted cash flow approach is purely financial, and does not fully reflect economics of the business.

3.6.2: Economic Value Added (EVA):

Knapton (1996) argued that EVA is the best approach of valuing companies. EVA is created if the company produces positive operating profits after a notional charge for capital employed. Furthermore, he claimed that EVA:

1. Ties up less capital to produce the same profits.
2. Invests more capital at a return above the cost of capital.
3. Divests capital from EVA destroying businesses.
4. Lowers the cost of capital.

Birchard (1994) argued that EVA helps managers to get a clear picture of a business unit's capital efficiency.

According to Tully (1993) EVA is a way of measuring the profitability ratios (Return on Assets, Return on Shareholder Equity, Return on Paid Up Capital, and Margin of Net Profit). He pointed out that managers who run their businesses according to the precepts of economic value added have hugely increased the value of their companies. The investors who know about EVA and which companies are employing it, have grown rich. Also, He argued that EVA is a way of measuring an operation's real profitability.

Tully (1994) argued that if market value added is greater than zero, the company has created wealth for its shareholders. He also argued that market value added is winning widespread acceptance among managers, and to increase market value added, companies used economic value added to make management decisions. And at the end he suggested that the key to increasing EVA was not multiplying sales or even driving up return on equity; it is consistently investing in projects that earn more than their cost of capital.

Kenneth and Ronald (1997) argued that the economic value added (EVA) is examined as a measure of corporate performance. A definition of EVA is net operational profit after taxes, less an internal charge for the capital employed by the business.

Putnam (1997) argued that EVA focuses on 4 key factors to analyze how shareholder value is created: 1. Net Operating Profit After Tax, 2. The Weighted Average Cost of Capital, 3. Investment in the business, 4. The Rate of Return on Assets.

Dennis (1997) suggested that EVA is a superior measure of economic performance when compared with the conventional measures of net income, earnings per share, return on assets, or return on equity.

Jack and Scott (1990) theorised that the shareholder value approach holds that the economic value of any firm, is its anticipated cash flows discounted multiplied by the cost of capital. Cash flows are affected by value drivers: operating net profit after tax, investment, cost of capital, and the fixed capital investment.

White (1994) argued that EVA is helping firms make investment decisions as it focuses management's attention on an important objective: adding value for the shareholders.

Furthermore, he argued that EVA is a management tool that examines the difference between the net operating profit after taxes and the cost of capital, which includes the cost of both debt and equity capital. He also suggested three steps to using EVA :

- 1) Earn more profit from existing capital.
- 2) Use less capital to meet the firm's needs.
- 3) Invest capital in good material handling projects that earn more than the cost of capital.

McConville (1994) argued that EVA is a financial tool that enables companies to do more with less, by spotlighting the cost of capital. They suggested that to determine EVA of any operation, a company simply subtracts from the net operating profit after taxes, the value of the capital employed to produce that profit.

In addition they argued that the value is increased by earning a return greater than shareowners or lenders required; EVA is diminished when the return is less.

According to Rappaport (1981) EVA is a short-term measure based on sunk costs and can report value increases while the business is investing below the cost of capital, or value destruction while the company is actually investing above the cost of capital.

Stern (1994) argued that an EVA system can be a useful tool for senior managers to measure performance and create incentives for staff to improve performance, in a way that maximizes both shareholder value and their own remuneration.

McAlister (1994) argued that EVA takes into account the true cost of capital and recognizes that a business must not only break-even, but must earn sufficient returns to justify the cost of capital used, given that the primary focus of investors is wealth creation. In addition he argued that the particular advantage of EVA is that it is descriptive and not prescriptive. It reveals business conditions rather than suggesting courses of action. EVA gives managers a better benchmark to work from.

Perkins; Andre (1994) argued that the corporate manager's most important task today is to maximize the current market value of the business. In order to achieve this, companies must move away

from traditional financial goals, performance measurements and valuation procedures. Cash flow adjusted for time and risk is what really determines value. Free cash flow ultimately establishes value. They also argued that EVA is net operating profit after tax, less the cost of all capital employed to generate such profit.

Brossy and John (1994) argued that the rationale for applying some combination of EVA to executive compensation programs is that shareholder value measures are better drivers of executive performance than traditional accounting measures. Shareholder value measures rely on cash flow, thus they reflect all expenditures, and are not distorted by changing accounting rules and purportedly, correlate closely with investor returns.

Rutledge (1993) argued that EVA is a trade name for a specific method of calculating economic profit, which includes capital charges and a long list of other accounts adjustments. In addition he suggested that the value of economic profit is to remind managers that they have not really made a profit until they have earned an economic return on the equity capital they use.

Stern (1993) argued that EVA is the performance criterion most closely associated with shareholder value. It links management goals with shareholder interests. Steve (1993) argued that EVA measurement is less reliant than other value management measures, on share price analysis and peer group benchmarking.

It focuses attention on quality, not just quantity of earnings. It encourages healthy competition, is intuitively correct and is an easy to understand concept. It is a single performance measure, which eliminates accounting distortions, and stresses the importance of excess returns above the cost of capital.

3.6.3: Market Value Added:

Copeland, Koller, and Murrin (1996) argued that the market value added is the best indicator of shareholder value creation and it is correlated to both productivity and gross domestic product (GDP).

Knapton (1996) argued that the market value added is the net present value of future EVA and also the market value less economic book value. Furthermore, he suggested that this approach can assist in the valuation of high growth companies before they are generating free cash flows and can be a useful guide to value, if absolute returns are falling but economic value is still being created. Finally, he stated the disadvantages of this approach. It is necessary to make a long term forecast of EVA, competitive advantage period and it is heavily dependent upon initial capital employed being neither over nor understated.

3.6.4: Cash Flow Return on Investment:

This is the most comprehensive of the 3 methods, but it is also the most complex. It can be described as an adjusted 'Internal Rate of Return' approach. The method attempts to restate the profit and loss account and the balance sheet into a cash-in and cash-out basis respectively. The basic view of Boston Consultancy Corporation Holt is that the analysis of historic accounts are useless because high levels of inflation have greatly reduced the comparability and usefulness of such analysis. Their approach is to look at cash invested in business assets on an inflation-adjusted basis. The focus of capital investment is on cash-out basis. Holt looks at the gross assets less accumulated depreciation.

Knapton (1996) argued that the cash flow return on investment approach adjusts for the historic nature of balance sheets, not dependent upon accounting data and takes into account the expected life of the company's assets and returns.

While the application of this approach needs long term forecasts, external analysts should be clear as to the justification and calculation of all the adjustments made. All this makes it a more complex approach to apply.

3.7: Maximizing Shareholders' Wealth:

The broad goal of the firm can be brought into focus if we say that the financial manager should attempt to maximize the wealth of the firm's shareholders, through achieving the highest possible value for the firm.

Edmister (1987) argued that the manager's objective is usually to maximize the wealth of the stockholders, where wealth is measured by the market value of common stock. The manager analyzes, selects and implements strategies for creating and exchanging securities that benefit stockholders. Strategies are developed by:

1. Recognizing individuals, governments and businesses qualified to borrow and invest money.
2. Facilitating the movement of money provided by savers.
3. Controlling the timing and terms of repayment.

Arzac (1986) argues that to increase shareholders' value, managers must identify the sources of value creation and destruction, within the company and be aware of the impact of alternative strategies on value. A method of value creation analysis helps managers determine the value of particular business units and determine whether to maintain or discard them. The technique begins by estimating basic data, including the cost of equity and

debt and return on investment for each unit. Performance standards are then set and compared against projected performance. Next, the value creation implications of the current strategy are estimated, using return on investment and debt ratios. Finally, various strategic decisions, including changes in production, liquidation options, and alternative growth rates, are evaluated.

3.8: Conclusion:

Previous studies discussed the shareholders value. Their discussion focused on the importance of shareholders' value, creating shareholders' value, plant-closing and the effect on valuation, historic valuation techniques, the historical measurement of shareholders' value, new measurement of shareholders' value and at the end they discussed the ways of maximizing shareholders' wealth. Toward this end, managers should attempt to maximize the wealth of the firm's shareholders' through achieving the highest possible value for the firm. Regarding the measurement of shareholders' value, many methods are presented, such as Discounted Cash Flow (DCF), Economic Value Added (EVA), Market Value Added (MVA) and Cash Flow Return on Investment (CFROI). As for this study, the Economic Value Added (EVA) is used to measure the shareholders' value.

Chapter 4

Corporations in Bahrain

4.1: Introduction:

A corporation is a legal entity, having an existence separate and distinct from that of its owners. In the eyes of the law a corporation is an "artificial person", having many of the rights and responsibilities as that of a real person. A corporation, as a separate legal entity, may own property in its own name, hold a bank account and possess assets. Thus, the assets of a corporation belong to the corporation itself and not to the shareholders. In a court of law, it has the rights to sue and be sued as if it were a person. As a legal entity, a corporation may enter into contracts, is responsible for its own debts, and pays taxes on its earnings.

The corporation offers a number of advantages not enjoyed by other forms of organizations. Among these advantages are the following:

1. No personal liability for shareholders: Creditors of a corporation have a claim against the assets of the corporation not against the personal property of the shareholders. Thus, the amount of money which shareholders risk by investing in a corporation, is limited to the amount of their investment.

2. Ease of accumulating capital: Ownership of a corporation is evident by transferable shares of stock. The sale of corporate ownership in units of one or more shares, permits both large and small investors to participate in ownership of the business. Some corporations actually have more than a million individual shareholders. For this reason, large corporations are often said to be publicly owned.
3. Ownership shares are readily transferable: Shares of stock may be sold by one investor to another without dissolving or disrupting the business organization. The shares of most large corporation may be bought or sold by investors in organized markets.
4. Continuous existence: A corporation is a separate legal entity with a perpetual existence. The continuous life of the corporation, despite changes in ownership, is made possible by the issuance of transferable shares of stock. By way of contrast, a partnership is a relatively unstable form of organization which is dissolved by the death or retirement of any of its members.
5. Professional management: The shareholders own the corporation, but they do not manage it on a daily basis. To administer the affairs of the corporation, the shareholders elect a board of directors. The directors, in turn, hire a president and

other corporate officers to manage the business.

4.2: Types of corporations in Bahrain:

A corporation is created by obtaining a corporate charter from the state, in which, the company is to be incorporated. To obtain a corporate charter an application called the 'articles of incorporation' is submitted to the state corporations commissioner or other designated official. In Bahrain the applications are submitted to the Ministry of Commerce, which has the right to approve or disapprove these applications. Appendix 1 represents a copy of the application form for the registration of a company, which consists of the different types of corporations in Bahrain. They are: partnerships, simple commandite partnerships, WLL companies (companies with limited liability), joint stock companies (public and closed), joint stock exempt companies, exempt companies non-resident, branches of a foreign company and the companies which are registered with 100% foreign capital.

4.2.1: Associations of Capital:

A. WLL companies (companies with limited liability):

A WLL company is a company, which consists of two or more partners, who are liable for the debts of the company to the extent of their respective share in the capital. In this type of companies, the number of partners shall not exceed fifty. A WLL company

shall not resort to public subscription in establishing the company or to its share capital or to obtain a loan. It shall not issue negotiable warrants.

B. Joint Stock Companies (Public and Closed):

A joint stock company consists of a number of persons who have subscribed to it by negotiable shares. They shall not be held liable for the debts and commitments of the company except to the extent of the value of their shares.

C. Joint Stock Exempt Companies:

These are the companies which are licensed by the Ministerial Order No. 25 of 1979, which allows the formation of joint stock companies to carry on commercial activities outside Bahrain and to provide Bahraini nationality for companies with local Bahraini partners.

D. Exempt Company - Non -Resident:

These are exempt joint stock companies the headquarters of which shall be situated in Bahrain without the need to have actual offices there and to settle for only a registered address in Bahrain. Any office of a firm of auditors or law office, officially licensed to practice in the state of Bahrain or any other office determined by the Minister of Commerce shall be considered as a registered address for such companies in Bahrain.

E. Branch of A Foreign Company:

A company which is established outside Bahrain can open a branch office or agency in Bahrain, after obtaining the approval of the Minister of Commerce. The said company shall have a local agent who shall be a Bahraini businessman, whether individual or a company, who shall sponsor the said company. Such companies can operate in certain sectors like services, contracting, construction, engineering, management consultancy, financial services like offshore-banking, representative offices for companies, representatives for banks and representative offices for airlines, etc.

F. Companies Registered with 100% Foreign Capital:

These are the companies which are established in Bahrain with 100% foreign capital and use Bahrain as a regional office for their investment, industrial and service activities, mentioned in the Ministerial Resolutions No. 6 of 1995 and 12 of 1995.

4.2.2: The Study of Companies and the Shareholders Capital:

Table 4.1 is representing the name of the companies with their shareholders' capital:

Table 4.1

Name	Capital	Amount BD
National Import and Export Co. Established in 1973	Public Joint Stock Company	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	6,600,000
	Government participation in the share capital	10 percent

Name	Capital	Amount BD
General Trading and Food Processing Co. BSC (TRAFECO): Established in 1978	Public Joint Stock Company with limited liability	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	3,025,000
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Cinema Co. BSC Established in 1968	Public Shareholding Company	
	Authorized share capital	3,000,000
	Issued and fully paid share capital	1,524,455
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Ship Repairing and Engineering Co. Established in 1962	Limited Liability Company	
	Authorized share capital	800,000
	Issued and fully paid share capital	800,000
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Telecommunication Co. BSC, (Batelco) Established in 1981	Public Shareholding Company	
	Authorized share capital	100,000,000
	Issued and fully paid share capital	80,000,000
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Maritime and Mercantile International B.S.C.(c) Established in 1980	Closed Shareholding Company	
	Authorized share capital	90,000,000
	Issued and fully paid share capital	6,543,000
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Car Parks Co. Established in 1981	Public Shareholding Company	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	7,031,723
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Flour Mills Co. Established in 1970	Public Shareholding Company	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	2,150,000
	Major participants	
	Bahrain Government Bahrain Shareholders Kuwait Flour Mills	1,413,230 576,770 160,000

Name	Capital	Amount BD
Bahrain Light Industries Co. BSC Established in 1979	Joint Stock Company	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	1,250,000
	Major participants-	
	Abdul-Aziz Al-Abdul-Kader Hamed Zayani and family The Pension Fund The General Organisation for Social Insurance The National Bank of Bahrain BSC	20 percent 16 percent 16 percent 15 percent 11 percent-

Name	Capital	Amount BD
Delmon Poultry Co. BSC Established in 1980	Public Shareholding Company	
	Authorized share capital	10,000,000
	Issued and fully paid share capital	2,974,048
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Tourism Co. BSC Established in 1974	Public Shareholding Company	
	Authorized share capital	15,000,000
	Issued and fully paid share capital	6,589,428
	Major participation in share capital	
	General Organisation for Social Insurance	44%
	National Import and Export Company BSC	7%
	General Organisation for Pension Fund (Military)	6%,
	General Organisation for Pension Fund (Civil)	5.9%.

Name	Capital	Amount BD
National Hotels Co. BSC Established in 1973	Public Shareholding Company	
	Authorized share capital	14,441,785
	Issued and fully paid share capital	14,441,785
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Hotels Co. BSC Established in 1967	Public Shareholding Company	
	Authorized share capital	8,484,480
	Issued and fully paid share capital	8,484,480
	Government participation in the share capital	-

Name	Capital	Amount BD
United Gulf Industries Corp. BSC. Established in 1991	Public Shareholding Company	
	Authorized share capital	40,000,000
	Issued and fully paid share capital	22,530,100
	Government participation in the share capital	-

Name	Capital	Amount BD
Bahrain Commercial Facilities Co. Established in 1983	Closed Joint Stock Company	
	Authorized share capital	50,000,000
	Issued and fully paid share capital	10,000,000
	Government participation in the share capital	-

Chapter 5

Research Methodology

5.1: Introduction:

This chapter discusses the methodology of the study and describes the procedures used in conducting this research, data gathering method, sampling size, research questions, research hypothesis, and analysis techniques.

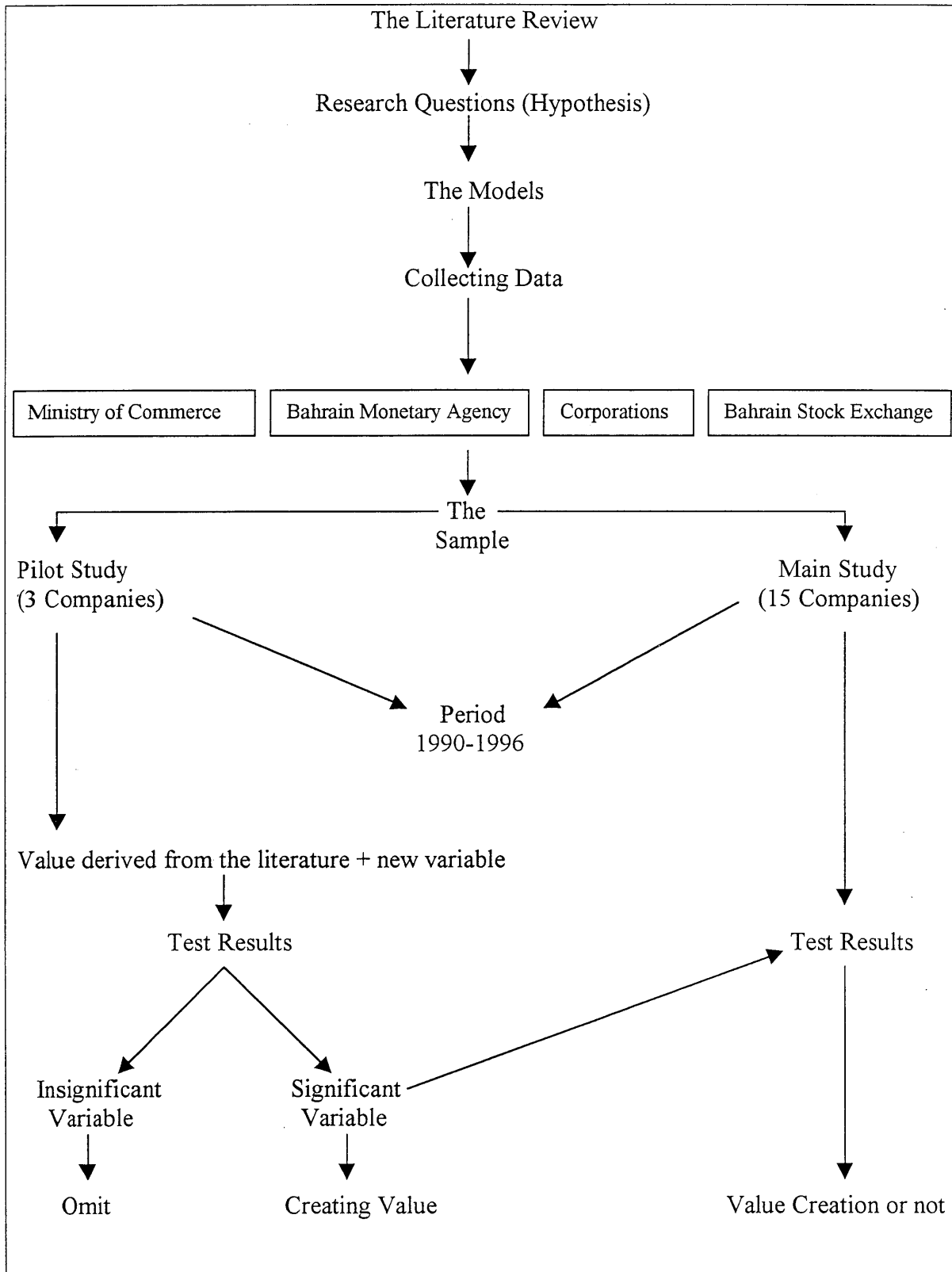
Figure 5.1 shows the research plan followed in conducting the research .

The literature review (chapter 2 and 3) supports the research question (hypothesis) which asks whether corporations in Bahrain create or destroy value? then models are developed for shareholders value.

The data is mainly obtained by gathering secondary data from different resources (Ministry of Commerce, Bahrain Monetary Agency, the annual reports of corporations, and from the Bahrain Stock Exchange). To make this hypothesis more reliable, a pilot study is conducted on a sample of 3 companies between 1990-1996.

The pilot study gives us significant variables and insignificant variables. The insignificant variables are omitted and the significant ones are considered as value creators. These are operated with the main study of 15 corporations.

Figure 5.1
Research Plan



5.2: Data Collection Instruments :

5.2.1: Secondary data:

The data of the study is mainly obtained by gathering secondary data from different resources. According to Zikmund (1991), the main disadvantage of the secondary data is that they were not designed specially to meet the researcher's needs. Therefore the researcher must examine secondary data for accuracy, bias, and soundness. One method for doing this is to cross-check different sources of secondary data.

Data related to financial statements has been collected from annual reports issued by the corporations, under this study, for the period 1990 - 1996. Costs of capital (borrowing cost) are collected from quarterly statistical bulletin of Bahrain Monetary Agency for the period 1990 - 1996.

5.2.2: Primary data:

In addition to the data collected from the above resources, five informal interviews were conducted with executives in the Bahrain Stock Exchange, Bahrain Monetary Agency, and KPMG Fakhro Public Accountants. The purpose of the interviews was to explore the interviewee's opinion in some aspects that serve this research.

5.3: The Sample Size:

For this study, the data collected is for the period of 7 years from 1990 to 1996, for 15 public companies listed in Bahrain Stock Exchange. The selection of companies is based on the basis of their listing in Bahrain Stock Exchange and if their trading records are available for at least seven years (1990 - 1996).

Table 5.1 lists the names of the companies under this study.

Table 5.1
The names of the companies

No.	Sector	Name
1	Service Sector	National Import & Export Co.
2		Bahrain Cinema Co.
3		Bahrain Ship Repairing & Engineering Co.
4		General Trading & Food Processing Co.
5		Bahrain Telecommunication Co.
6		Bahrain Maritime & Mercantile International Co.
7		Bahrain Car Parks Co.
8	Industrial Sector	Bahrain Flour Mills Co.
9		Bahrain Light Industries Co.
10		Delmon Poultry Co.
11	Hospitality Sector	Bahrain Tourism Co.
12		National Hotels Co.
13		Bahrain Hotels Co.
14	Investment Companies	United Gulf Industries Corp.
15		Bahrain Commercial Facilities Co.

(see Table 4.1 The Companies and the shareholders capital .ch.4 p.50-57)

5.4: The Research Variables:

The dependent variable:

(EVA) Economic Value Added

The independent variables:

(ROE)¹ Return on shareholder equity

(ROA)² Return on assets

(Lev.)³ Leverage of debts

(DPS)⁴ Dividend per share

Many researchers used EVA in their studies. Most of them argued that EVA is the best approach of valuing companies, Steve (1993), Stern (1993-1994), Rutledge (1993), Brossy and John (1994), Perkins and Andre (1994), McAlister (1994), Rappaport (1981), Birchard (1994), Knapton (1996), McConville (1994), White (1994), Tully (1993-1994), Jack and Scotts (1990), Dennis (1997), Putnam (1997), Kenneth and Ronald (1997).

Tully (1994) used EVA in measuring the profitability ratios (ROA and ROE), while Putnam (1997) argued that EVA focuses on 4 keys factors to analyze how shareholders' value is created, from those factors is Return on Assets (ROA).

¹ . Return on Shareholder Equity (ROE) : Net Income / Total Capital Employed

² . Return on Assets (ROA) : Net Income / Total Assets

³ . Leverage (Lev.): Total Debts / Total Assets

⁴ . Dividend Per Share (DPS): Paid Dividend / Outstanding Shares

Miller and Modigliani (1961) and Edward (1993) used (DPS) in their studies regarding the value of the firm.

5.5: Data Analysis Techniques:

In order to meet the objective of this research, a review was made of more than one theory of valuation (*chapter 2 page 7-22*). The value creation model developed by Stewart (1988), is used as a profile analysis of the study, and the regression techniques for the statistical analysis.

5.5.1: The Profile Analysis:

It is designed to calculate the Economic Value Added (EVA) in 15 public corporations in Bahrain during 1990-1996, to determine whether the corporations in Bahrain are creating or destroying value.

A company can create value (EVA) from the spread between its return on equity and its cost of equity, Knapton (1996), Marakon, Reimann, Stern (1988), and Arzac (1986) (*section 3.6.2, chapter 3, page 36-41*).

$$EVA = (R - C) * TCE$$

where:

EVA = Economic Value Added

$(R - C) = \text{Spread} = S$

$R = \text{Return on Shareholder equity} = \text{NOP/TCE}$

NOP = Net operating profit.

TCE = Total capital employed to operate the business.

$C = \text{Cost of capital} = \text{interest rate}^5$

Comparison between the corporations is made regarding their EVA during the study period, and a graph is drawn to explain the percentage change in EVA (*see Figure 6.1 p 75 and Figure 7.1 p 83*). The average EVA of each sector is calculated and explained for each year (1990 - 1996). A graph is drawn to explain the EVA average trend for different sectors in Bahrain (*see Figure 7.1 p 83*).

⁵. Adjustment assumption is made to the cost of capital. This is because the Bahrain Monetary Agency, Bahrain Exchange Market, and KPMG Fakhro Public Accountants, use interest rates instead of cost of capital.

5.5.2: The Statistical Analysis:

Once the model of EVA is developed, then a multiple regression is applied in order to determine the value drivers, and to obtain good models of valuation of share value. The regression model is characterized by two variables: y , the dependent variable (EVA), and x , the independent or explanatory variables, (section 5.4 page 64). A multiple regression is used which is appropriate when the research problem involves a single dependent variable, presumed to be related to one or more independent variables (Groebner and Shannon 1989).

The general format of a multiple regression is given below:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_K X_{Ki} + e_i$$

Where

Y_i = Value of the dependent variable.

X_i = Value of the independent variable.

β_0 = Regression constant.

β_1 = Regression coefficient for variable X_1 .

β_K = Regression coefficient for variable X_K .

K = Number of independent variables.

e_i = Error (residual).

The assumptions of the linear multiple regression model are:

1. The errors are normally distributed.
2. The model is linear.
3. The error terms have a constant variance.
4. The error terms are independent.

Standard error of the estimate (Se):

It is a measure of the variation of the points about the regression line. If the standard error is low, the line is a good fit for the observed points. In regression, the deviations are measured around the predicted $\hat{Y}$. Approximately 95% of the errors should be within $\pm 2se$.

Coefficient of determination (R^2):

Varies from 0 to 1; it is the measure used to indicate how well the linear regression line fits the (X,Y) data points. The better the fit, the closer R^2 will be to 1. R^2 will be close to zero when there is a weak linear relationship or no linear relationship at all.

Hypothesis tests for the slope of the regression model:

To test how well the regression model fits the data, and whether the slope is significantly different from zero, the t-test is needed. If the t-test is significant, it indicates that the null hypothesis should be rejected. If it is not significant, it means that there is no relationship between the dependent and the independent variables.

F-Test:

It is the global test of significance for the multiple regression model. As long as at least one of the regression coefficients is significant, then the F-Test will show overall significance of the model.

5.6: Research Hypothesis:

The null hypothesis:

- * Corporations in Bahrain did not create value between 1990-1996.
- * There is no relationship between Return on Shareholder Equity, Dividend Per Share, Return on Assets, Return on Paid Up Capital, Leverage and Economic Value Added (EVA).

The alternative hypotheses are as follow:

- Hypothesis No 1: All corporations in Bahrain create value.
- Hypothesis No 2: $EVA = f(ROE + DPS + ROA + Lev.)$

Where:

EVA	=	Economic value Added.
ROE	=	Return on shareholder equity.
DPS	=	Dividend per share.
ROA	=	Return on assets.
Lev.	=	Leverage.

All tests are at 5% level of significance.

Chapter 6

The Pilot Study

6.1: Objectives and Scope:

Selecting a topic is more difficult than it seems at first. Broadly, it is agreed that research is a recursive process. As new evidence comes to light, there will be a need to rechart the directions of the research and move forward again.

Bell (1993), suggested conducting an early consultation in order to avoid the difficulties that might arise later. A pilot study is an example of this early consultation, since it helps to establish the research focus and predict the directions of the research on the one hand. On the other hand, a pilot study in this research is also used to determine the relationship between variables in order to obtain a good model of shareholders value.

The data is collected for the period of 7 years from 1990 - 1996 for 3 public corporations:

1. The National Import and Export Co.
2. The General Trading and Food Processing Co.
3. BATELCO.

As for this study, the Economic Value Added (EVA) valuation theory tool is used, (*section 5.5.1 page 65-66*). As argued by Reimann (1988), Knapton (1996), Birchard (1994), Tully (1994) (*Section 3.6.2 ch 3 page 36-41*), EVA is the best approach of valuing companies and value is created if the company produces positive operating profits after a notional charge for capital employed.

A multiple regression analysis is applied to determine the value derived and the relationship between the dependent variable, EVA (economic value added), and the independent variables previous identified (*Section 5.4 page 64*).

6.2: The Variables:

The variables examined in this study were as follows: Dividend Per Share, Return on Shareholder Equity, Return on Assets, and Leverage of Debts (*see Section 5.4 ch 5 page 64*).

6.3: Analysis and Results:

During the period of the study, all 3 corporations were creating value by maintaining a positive spread between their return on equity and their borrowing cost. Except in 1994, the General Trading and Food Processing destroyed value by maintaining a negative spread between its return on equity and borrowing

cost.(Table No. 6.1, 6.2 and 6.3).

The results obtained in this section are supported by the findings of Marakon (1988), Reimann (1988), Stewart (1988), and Arzac (1986). They argued that the company can create value by maintaining a positive spread between its return on equity and its cost of equity, while the company can destroy value when the spread is negative and if the return on equity is expected to remain below the cost of equity.

National Import and Export Co.

During the study period, maintained a positive spread between its return on equity and its cost of equity. The spread was 8.5% in 1996, 8.9% in 1995, 19% in 1994, 13.2% in 1993, 7.6% in 1992, 5.3% in 1991 and 6.6% in 1990. The calculation of EVA in table 6.1 indicates that National Import and Export Co., during the study period, created value, but not in a stable trend (*see Figure 6.1*). The EVA in 1990 was BD 1,023,418, in 1991 it was decreased by BD 215,530 resulting from the decrease in NOP by 9.9% which leads to a decrease in return by 8.9% and a decrease in spread by 20%. In 1992, EVA increased by 45%, in 1993 by 80% and in 1994 by 64% only resulting from the increase in the cost of capital by 1.5%. In addition, the EVA in 1995 is decreased by 46% and in 1996 by 2% (*see Table 6.1*).

Table 6.1

EVA of The National Import and Export Co.

Year	NOP	TCE	R	C	S	EVA**
1990	2,260,305	15,461,085	0.146	0.08	0.066	1,023,418
1991	2,035,625	15,346,710	0.133	0.08	0.053	807,888
1992	2,252,547	15,449,257	0.146	0.07	0.076	1,171,099
1993	3,063,282	15,977,539	0.192	0.06	0.132	2,104,630
1994	4,793,385	17,961,096	0.267	0.075	0.192	3,446,303
1995	3,763,513	21,020,604	0.179	0.09	0.089	1,871,659
1996	3,577,214	21,736,923	0.165	0.085	0.085	1,838,260

** (see Section 5.5.1 ch.5 page 65-66)

The General Trading and Food Processing Co.

This company maintained a positive spread during the study period except in 1994. It was 3% in 1996 and 1995, 6% in 1994, 18.3% in 1993, 20.2% in 1992, 12% in 1991, and 11.5% in 1990. The EVA in table 6.2 shows that General Trading and Food Processing Co. created value during the study period, except in 1994 when the Co. destroyed value. The percentage increase in EVA in 1991 is 14% and it increased to 87% in 1992 resulting from 51% increase in NOP and the decrease in cost by 1%. In 1993 EVA was increased by 0.006% while it decreased by -2.95% in 1994, due to the net loss that resulting from the reorganisation of the Company. This led to increasing the local investment in the Bahrain Danish Dairy Company and in the Bahrain Water Bottling Company. Furthermore, the company had paid BD 130,205, as cost of machinery and equipment to TRAFECO Supply Centre at the Central Market.

In addition, the company also paid the cost of refrigerating equipment for the new fruit stores and BD 128,431 was paid against the purchase of BD 528,546 shares in different companies.

In 1995 and 1996 the Company created value by maintaining a positive spread between its return on equity and its cost of equity, equal to 2.6% in 1995 and 3% in 1996 (*see Table 6.2*).

Table 6.2

EVA of General Trading and Food Processing Co.

Year	NOP	TCE	R	C	S	EVA**
1990	823,694	4,229,975	0.195	0.08	0.115	485,296
1991	919,237	4,595,212	0.2	0.08	0.12	551,620
1992	1,388,068	5,097,280	0.272	0.07	0.202	1,031,258
1993	1,378,708	5,680,005	0.243	0.06	0.183	1,037,908
1994	-1,769,968	3,406,219	-0.52	0.075	-0.59	-2,025,434
1995	419,322	3,622,985	0.116	0.09	0.026	93,253
1996	411,992	3,732,893	0.11	0.08	0.03	113,361

** (see Section 5.5.1 ch.5 page 65-66)

BATELCO

This company achieved a positive spread between its return on equity and its cost of equity. The spread was 10.6% in 1996, 8.8% in 1995, 9.5% in 1994, 9% in 1993, 6.8% in 1992, 10.8% in 1991 and 9.5% in 1990. The EVA of BATELCO is not in a stable trend. It increased by 23% in 1991, decreased by 35% in 1992, increased by 38% in 1993 and also increased by only 6% in 1994, then decreased by 4% in 1995 and increased by 24% in 1996, (*see Table 6.3*).

Table 6.3
EVA of BATELCO

Year	NOP	TCE	R	C	S	EVA**
1990	21,338	121,943	0.175	0.08	0.095	11,583
1991	24,767	131,659	0.188	0.08	0.108	14,234
1992	18,646	134,855	0.138	0.07	0.068	9,206
1993	21,037	138,345	0.152	0.06	0.092	12,736
1994	24,181	142,478	0.17	0.075	0.095	13,495
1995	26,110	146,630	0.178	0.09	0.088	12,913
1996	28,095	150,979	0.186	0.08	0.106	16,017

** (see Section 5.5.1 ch.5 page 65-66)

Figure 6.1 represent a comparison between the three corporations on their EVA.

Figure 6.1

Comparison between the three corporations on their EVA

1990-1996

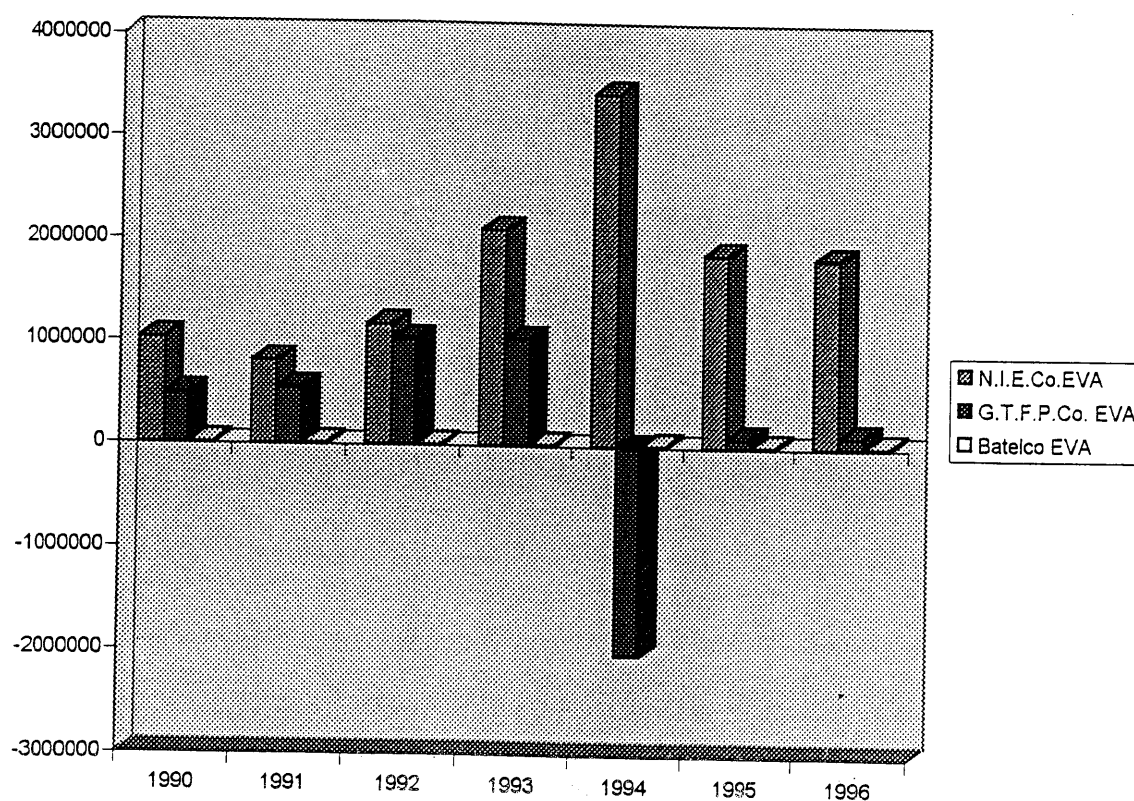


Figure 6.1 shows that the EVA of the **National Import and Export Co.**, during 1992 - 1994 followed an increasing trend, while during 1995 and 1996, it followed a declining trend. These results were similar to the expectation of the company's board of directors. They had expected the core business of the company to deteriorate during these years, due to a decline in cement volume sales, reflecting the lull in construction activity in Bahrain (Table 6.1). The reduction in 1991 resulted from a reduction in their volume sales, not only of cement but also of rice and sugar.

The EVA of **General Trading and Food Processing** over the period 1990 -1996 is increasing except in 1994, due to the negative spread achieved in that year.

The EVA of **BATELCO** followed an increasing trend during 1991, 1993, 1994, and 1996, and its trend declined in 1992 and 1995. In 1992 although borrowing cost had decreased from 8% to 7%, BATELCO'S net profits fell by 25% compared to 1991. This reduction in profit was caused by two factors: the impact of tariff reductions and the effect of the Gulf crisis in 1991.

The tariff reductions effective from 1st January 1992 meant a reduction of revenue by about BD 5 million. Even though the resultant stimulus in demand reduced the financial impact, the net loss in revenue was nevertheless significant. The drop in revenue as a result of the cessation of the Gulf crisis is reflected in a decline

in income, from the USA home direct services, from BD 4.5 million in 1991 to BD 1.5 million in 1992. Although the net profit was increased by 7% in 1995, EVA decreased by 4.5% because of the rise in borrowing cost, which caused a decrease in the spread between the return and borrowing cost. Furthermore, we conclude that Batelco's EVA level is the lowest when compared to the National Import and Export Co. and the General Trading and Food Processing Co. This could be due to lower total capital employed in BATELCO, compared to other organisations.

6.4: Multiple Regression Results :

Using many predictor variables instead of just one, the aim is to reduce the errors of prediction. The first run of the regression uses EVA as the dependent variable, and all the other variables as independent variables (DPS, ROE, ROA, Lev., and DPS) (*see Section 5.4 ch.5 Page 64*)

The summary of the regression model is :

(Model No. 1)
EVA = - 0.031 - 0.012 DPS + 0.078 ROE + 0.714 ROA + 0.046 Lev.
(-0.4)⁶ (2.2) (6.68) (1.25)

⁶. t - Value

The model shows that EVA cannot be explained by DPS, and Lev., As we can see from the t-values these variables are not significant. The only significant variables are ROE and ROA. (*Appendix no. 3 page 113*).

To avoid the multicollinearities between ROE and ROA, the correlation matrix is formed (*Appendix no. 3 page 114*). The correlation matrix shows that the two variables are highly correlated (0.8) as expected. Two simple regressions were run, the first considered ROE as the independent variable and the second considered ROA as the independent variable, in order to show which one could better explain the EVA. Is it total assets or the equity?.

The summary of the first simple regression model is :

(Model No. 2)

EVA = 0.024 + 0.306 ROE

(7.2)⁷

(0.00)⁸

⁷ . t - Value

⁸ . P - Value

It was found that EVA can be explained by ROE, at 0.0001 level of significance. For each unit increase in ROE, EVA can increase by 0.306%. $R^2 = 0.85$ which means that 85% of the variation in EVA is explained by this variable (ROE) and 15% of the variation is explained by other variables. The overall fit of the model is found to be very significant ($F = 0.0001$) (*Appendix No. 3 page 115*).

The summary of the second simple regression model is :

(Model No. 3)

$$\text{EVA} = 0.026 + 0.762 \text{ ROA}$$

$(16.8)^9$

$(7.54\text{E-}13)^{10}$

It was found that EVA can be explained better by ROA than ROE, at 0.0001 level of significance. Each one unit increase in ROA, can increase EVA by 0.762%. $R^2 = 0.96$ which means 96% of the variation in EVA is explained by ROA and 4% of the variation is explained by other variables. The overall fit of the model is found to be very significant ($F=0.0001$). (*Appendix No. 3 page 116*).

⁹ . t - Value

¹⁰ . P - Value

This findings are also supported by many researchers like Tully (1993), Putnam (1997) and William (1997). They all argued that EVA is an approach of measuring the profitability ratios like ROE and ROA. The ROA seeks to measure the effectiveness with which the firm has employed its total resources, unlike ROE.

ROE refers to the total stockholders equity, contributed by the common stockholders to finance the firm's assets and is composed of common stock at par value, paid in surplus, and retained earnings.

Consequent to the difference between ROA and ROE, EVA as a function of ROA differs from EVA as a function of ROE and it is immune from the distortion of high leverage on profitability.

6.5: Conclusion:

The three companies under study were creating value during the period 1990-1996 except the General Trading and Food Processing company which destroyed value in 1994.

This result leads us to reject the null hypothesis which states that all corporations in Bahrain do not create values. This is supported by the 0.85 R^2 developed in model 2, and by the 0.96 R^2 developed in model 3.

Chapter 7

Analysis of the Results: The Sample Study

7.1: The Profile Analysis:

This analysis technique is designed to examine hypothesis No. 1 showing whether corporations in Bahrain are creating value or destroying value during the study period. The EVA average trend for different sectors of industries in Bahrain is formed also for the same purpose. In addition to the results found from the pilot study we will continue to find an answer for hypothesis No. 1 to see whether different sectors in Bahrain created value or destroyed value during the study period.

Table 7.1 shows EVA average in different sectors during the study period :

Table 7.1
EVA average in different sectors in Bahrain
1990 -1996

Year	Service Sector	Industrial Sector	Hospitality Sector	Investment Companies
1990	523,064	-176,874	-145,854	-12,010
1991	584,552	37,877	943,209	-154,147
1992	763,264	108,407	841,601	-492,440
1993	1,044,367	241,164	201,417	-778,638
1994	606,933	-58,442	-191,017	-2,219,814
1995	633,020	-161,805	-765,550	-2,636,102
1996	519,177	26,265	-634,413	-1,976,642

From table 7.1 we can see that the service sector created value during the study period by maintaining a positive spread between their return on capital and their cost of capital. This is a good result, although some corporations, like Bahrain Ship and Engineering Co., were destroying value by maintaining a negative spread between its return and cost of capital during 1990, 1993, 1995 and 1996 (*see Appendix 2 Table no. 2 page 110*). The industrial sector also created value during 1991, 1992, 1993 and 1996 by maintaining a positive spread between its return and its cost of capital. It destroyed value in 1990, 1994 and 1995 by maintaining a negative spread. The hospitality sector created value in 1991, 1992 and 1993 only and destroyed value in 1990, 1994, 1995 and 1996. The investment sector destroyed value during the study period by maintaining a negative spread between its return and its cost of capital.

Figure 7.1 shows the EVA average trends of different sectors in Bahrain during the study period.

Figure 7.1
EVA average trends of different sectors in Bahrain
1990 - 1996

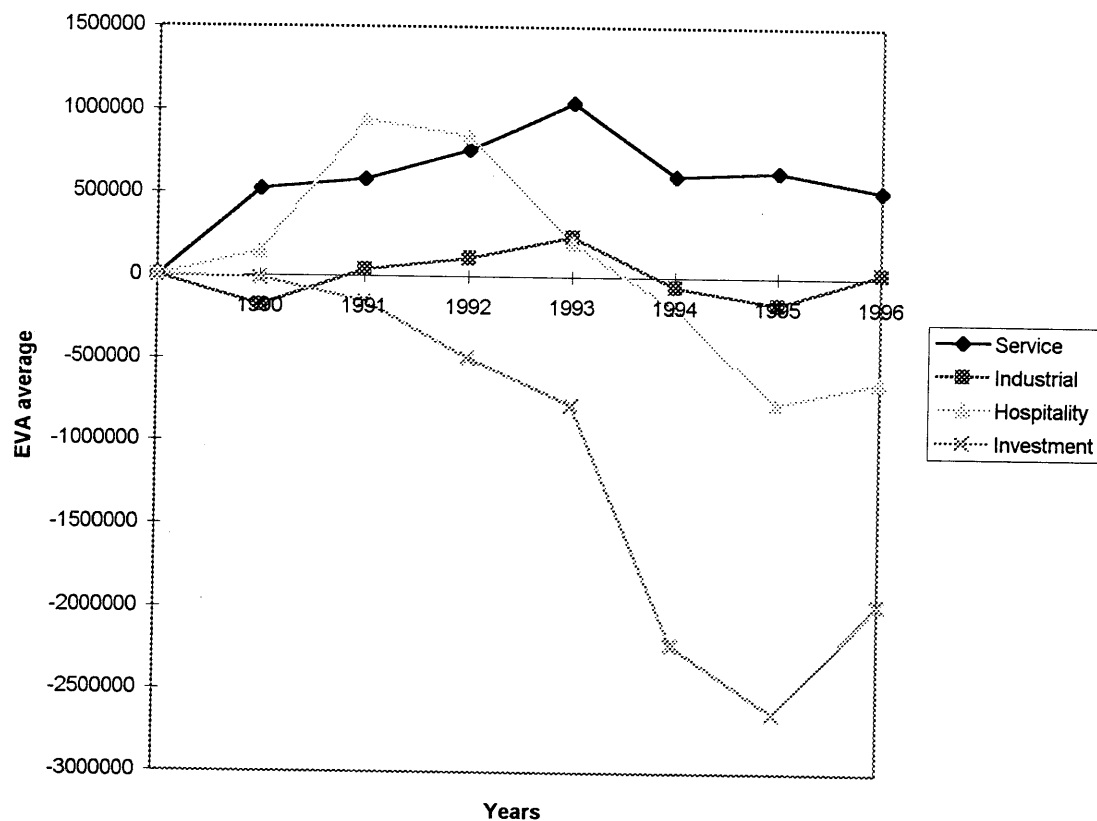


Figure 7.1 clarifies that on average the Service Sector followed an increasing trend during 1990, 1991 and 1993. For the period (1994 - 1996) it followed a fluctuating trend. In 1994, it decreased on average by BD 437,434, in 1995, it increased by BD 26,087 while in 1996 it decreased again by BD 113,843 (see Table 7.1 page 82).

The decline in trend of EVA average in service sector during 1994-1996 was due to the inclusion of the Bahrain Ship and Engineering Company, which remained at a relatively low level during these years. One explanation could be the marked decrease in the number of ships which required repairs, in the area. This may have been caused by the general recession in the activities of boat operators, and the over-capacity of ship repairing organizations in other locations within the Gulf (*Appendix No.2 Table No. 2 page 110*).

Bahrain Car Parks Company in 1994, 1995 was in a bad state, which led the company to destroy its value resulting from the negative spread between its return and its cost of capital. (*Appendix No. 2 Table No. 4 page 110*).

Figure 7.1 also shows that the industrial sector had an unstable trend during the study period. From 1991 to 1993 it was in an increasing trend while during 1994 and 1995 it was in a decreasing trend. Then in 1996 it increased again. This result could be due to the different situations facing each company in the industrial sector. For example, Bahrain Flour Mills Company had a negative spread between its return and its cost of capital during the study period, resulting from the losses that the company sustained within the study period (*Appendix No. 2 Table No. 5 page 111*).

Bahrain Light Industries Company also had a negative spread between its return and its cost of capital in 1990, 1991, 1994, 1995 and 1996. This resulted from its net losses during 1990, 1994 and 1995, and its lower return than its cost of capital. But the company achieved a positive spread between its return and its cost of capital during 1992 and 1993. (*Appendix No. 2 Table No. 7 page 111*).

Delmon Poultry Co. maintained a positive spread between its return and its cost of capital during 1990-1995. But in 1996 it had a negative spread resulting from the decrease in its return from 12% to 6% that was due to an increase in world prices of raw materials for chickens.

Figure 7.1 also shows that the hospitality sector, during the study period, did not have a stable trend. The EVA on average, was negative in 1990, 1994, 1995 and 1996 while it was positive in 1991, 1992 and 1993. The loss of value in the hospitality sector in 1990 was due to the Gulf crisis. Of course, this event had a major effect on all aspects of life, including economic activities of all sectors without exception. However, the effects of the crisis on the hotel industry were positive if they were looked at in terms of profit and loss. The local hotels were able to benefit from the political developments and the subsequent intensive foreign military presence in the region.

In spite of the difficulties in the region, the National Hotels Company was able to achieve a break-through in terms of its net profits for the year, as they totaled BD 849,054 compared with the profits of the previous year of BD 247,551. Since the company was able to get rid of the accumulated losses by reducing the company's capital to the extent of those losses, this action puts the company's EVA, on average, on the negative side. This led to the destruction of the shareholder value, by maintaining a negative spread instead of a positive spread. The destruction of value during 1992 to 1996 resulted from its negative spread between its return and cost of capital (*Appendix No.2 Table No. 9 page 112*).

In addition to all previous explanations, we must not forget the international reduction in the income from hotel operations and lower investment income, which also affected the hospitality sector in Bahrain in 1994. Also years 1995 and 1996 have indeed been different from previous years for all the hotels, as these years witnessed some disturbing incidents that adversely affected, not only the tourism sector, but also other economic activities in Bahrain.

In addition, 1995 was different especially for the Diplomat Hotel, as the development and the refurbishment works gathered momentum. In fact, the whole operation of the banquet department had totally ceased during this year which had obviously deprived the company of a considerable income from

one of the important departments of the hotel. In addition, the year in question has seen yet another surge in the rooms available, with the mushrooming of new hotels and furnished apartments here and there. All the above developments have caused the result of this year to show considerable reduction in the hotels revenue and consequently their profitability. We notice also from Figure 7.1 that the investment sector was in a declining trend from 1990 to 1995, while in 1996 it was in a better situation. The EVA on average decreased by BD 1,976,642 which is less than the pervious two years 1994 and 1995. We found that the result of investment sector can be related to the negative spread which it maintains between its return and cost of capital. (*Appendix No. 2 Tables No. 11 and 12 page 112*).

7.2: Statistical Analysis :

In the first run of the regression we used EVA as the dependent variable, and the four variables used in the pilot study as independent variables, for 105 observations testing hypothesis No.2 page 69. These variables were DPS, ROE, ROA, and Lev. (*see Section 5.4 ch. 5 page 64*).

The following results were obtained:

(Model No. 1)				
EVA = - 0.074 +0.035 DPS +0.054 ROE +0.944 ROA +0.021 Lev.				
	(3.02) ¹¹	(2.09)	(27.28)	(2.25)
	(0.003) ¹²	(0.04)	(0.00)	(0.03)

The model shows that EVA can be explained by all the variables (DPS, ROE, ROA, and Lev.) as we can see from t-values. All t-values were found to be significant, at above 0.0001 level of significance. The overall fit of the model is found to be very significant (F= .0001). (*Appendix No 4 page 117*).

This is supported by McConville (1994), White (1994), Putnam (1997), and also by Dennis (1997). They have explained EVA by NOP and the value of capital employed. Putnam (1997) focused on 4 keys to explain EVA: the NOP, weighted average cost of capital, investment in the business and the Rate of Return of Assets, while Tully (1993) found that EVA is explained by ROA or ROE.

¹¹ . t - Value

¹² . P - Value

Dennis (1997) explained EVA by NOP, EPS, ROA and ROE. Arzac (1986) explained it by return on investment and the debt ratios (lev. ratios).

To check for multicollinearity between the four variables in Model 1, the correlation matrix is formed to find the correlation between the variables.

<u>The Correlation Matrix</u>					
	EVA	DPS	ROE	ROA	Lev.
EVA	1				
DPS	0.551	1			
ROE	0.919	.560	1		
ROA	0.989	.519	.914	1	
Lev.	-0.445	-.379	-.469	-.468	1

The correlation matrix shows that there is a strong relationship between most of the independent variables. Some variables are highly correlated compared to others. So, the variables with high correlation are excluded in order to form a new model and to avoid the problem of multicollinearity.

From the correlation matrix, it is obvious that there is a high correlation between ROA and ROE (0.914). DPS, ROE and ROA are moderately related (0.5). The relationship between Lev. and DPS, ROE and ROA is weak. In addition the relationship of EVA

with Lev. is weak (-0.4), with DPS it is moderate 0.6 and with ROE and ROA is very strong (0.92) and (0.98) respectively. We chose the variables that are highly correlated with EVA, ROE and ROA. In addition ROA, ROE are the more commonly used measures of profitability for the companies. Gironex and Rose (1981), explained those two ratios as follows: ROA is an index of management's effectiveness in using all the resources, which society has made available to the company. One key advantage of this profitability measure, is that it is unaffected by the way in which the company finances its operations. Moreover, since ROA is a ratio, it can be used for comparing one company against another or for comparisons between industries, sectors and over time. Return on Equity is the profitability measure most closely related to the company's stock price.

As a result, we ran two simple regressions. One for ROE and the other one for ROA.

The second run is with ROE as an independent variable. The results supported our earlier results from the pilot study.

(Model No. 2)

$$\text{EVA} = - 0.053 + 0.683 \text{ ROE}$$

(23.6)¹³

(0.00)¹⁴

The overall fit of the model is found to be very significant (F= 0.0001). $R^2 = 0.92$ which means that 92% of the variation in EVA is explained by ROE and 8% of the variation is explained by other variables. The model shows that EVA can be positively explained by ROE. A one unit increase in ROE can lead to a 0.68% increase in EVA. (*Appendix 4 page 118*).

¹³ . t - Value

¹⁴ . P - Value

The third run is with ROA as independent variable. The results supported our earlier results from the pilot study.

(Model No. 3)

$$\text{EVA} = - 0.068 + 1.023 \text{ ROA}$$

(68.009)¹⁵

(0.00)¹⁶

The overall fit of the model is found to be very significant (F= 0.0001). $R^2 = 0.98$ which means that 98% of the variation in EVA is explain by ROA and 2% of the variation is explained by other variables. This model shows that EVA can be positively explained by ROA. A one unit increase in ROA can lead to a 1.023% increase in EVA which means that there is a positive relationship between EVA and the independent variable ROA. (Appendix 4 page 119).

¹⁵ . t - Value

¹⁶ . P - Value

Chapter 8

Conclusion & limitations

8.1: Conclusion :

EVA (Economic Value Added) is the best approach of valuing companies. EVA is created if the company produces positive operating profits after a notional charge for capital employed.

The service corporations sector is the only sector which created value for its shareholders, during the study period (1990-1996).

Although the trend of its EVA was not always in a straight-line, throughout the study period, the service sector maintained a positive EVA (*see Table 7.1 page 82*). This was because most service corporations, during the study period, maintained a positive spread between their return on equity and their cost of capital, as follows:

National Import and Export Co., during the study period, maintained a positive spread between its return on equity and its cost of capital. EVA indicates that National Import and Export Co. created value but not in a stable trend.

General Trading and Food Processing Co., maintained a positive spread during the study period, except in 1994, due to the net losses resulting from the reorganization of the company in this year.

BATELCO achieved a positive spread between its return on equity and its cost of capital but not in a stable trend.

Bahrain Cinema Company also maintained a positive spread during the study period, except in 1990, when the spread between its return on equity and its cost of capital was negative.

Bahrain Ship Repairing and Engineering Co., maintained a negative spread between its return and its cost of capital, during the study period, except in 1991 and 1992, when it achieved a positive spread.

Bahrain Maritime and Mercantile International Co., maintained a positive spread between its return on equity and its cost of capital but not in a stable trend.

Bahrain Car Parks Co. EVA was not in stable condition. In 1990, 1991 and 1993, it maintained a positive spread between its return on equity and its cost of capital, while in 1994 and 1995 it was in a bad position when it experienced a negative spread between its return on equity and its cost of capital.

On the other hand, the industrial and hospitality sectors created value during 1991 to 1993 but in 1990, 1994 and 1995 destroyed value. These findings indicate that these sectors did not experience stable conditions during the study period, instead they were in a changeable and anxious status. This result could be due to the different situations facing each company.

Bahrain flour Mills Co., maintained a negative spread between its return on equity and its cost of capital, during the study period, due to the losses that the company suffered within the study period.

Bahrain Light Industries maintained a negative spread between its return on equity and its cost of capital, during the study period except in 1992 and 1993, when it maintained a positive spread.

Delmon Poultry Co., maintained a positive spread between its return on equity and its cost of capital during the study period, except in 1996, when it maintained a negative spread resulting from the decrease of its return on equity by 6%, which was due to the increase in the world prices of raw materials for chickens.

Bahrain Tourism Company maintained a negative spread in 1990, 1994, 1995 and 1996 while in 1991, 1992 and 1993 it maintained a positive spread.

National Hotels maintained a negative spread between its return on equity and its cost of capital and also maintained a negative EVA, during the study period.

Bahrain Hotels Company maintained a positive spread between its return on equity and its cost of capital, during the study period, except in 1996, when it maintained a negative spread due to the decrease in its return on equity by 2%.

Investment companies, during the study period, were destroying value. United Gulf Industries Corp., and Bahrain Commercial Facilities Company maintained a negative spread between their return on equity and their cost of capital, during the study period, except in 1990, Bahrain Commercial Facilities Company maintained a positive spread between its return on equity and its cost of capital. The EVA on average, for Investment companies, was negative throughout the study period.

Results indicate that we cannot generalize that all corporations in Bahrain were value creating during the study period. Investors and shareholders must invest in projects where the rate of return exceeds their capital cost, to avoid destroying their share value.

In addition, the study indicates that EVA is affected by many variables. These variables are DPS, ROE, and ROA. EVA has a positive relationship with all of them independently. But, because

of the multicollinearity between these variables, we cannot put them all in one model.

To avoid the multicollinearity between them, the highest correlated variables with EVA (ROE and ROA) were selected to run a simple regression for each. Results indicate that EVA can be explained by ROE or ROA.

The first reliable model derived in this study is:

$$\begin{array}{r} \text{(Model No. 1)} \\ \text{EVA} = - 0.053 + 0.683 \text{ ROE} \\ (23.6) \\ (.000) \end{array}$$

And the second reliable model derived in this study is:

$$\begin{array}{r} \text{(Model No. 2)} \\ \text{EVA} = - 0.068 + 1.023 \text{ ROA} \\ (68.009) \\ (.000) \end{array}$$

8.2: Limitations and Recommendation:

There is a lack of empirical studies that can be used to determine shareholder value. most of the time I found no article on measuring the EVA as a function of another variable in a quantitative tests. The literature explains that profitability ratio and leverage is affecting EVA but with no direction, or size of the effect.

The value creation method which was defined as $EVA = (R - C) \times TCE$, is very difficult to apply, especially in Bahrain since 'C' which is the cost of capital is not computed in this study. The risk is totally ignored for the different sectors and different companies within the sector. The weighted average cost of capital is also ignored totally.

It was important to get the 'C' . Therefore, I built the model on the assumption that 'C', which is the cost of capital, is the same as the 'Cost of borrowing' only.

I recommend a further study on EVA, taking into account the risk in computing 'C'. In addition, I also recommend measuring EVA as a function of leverage, when given a proper data on leverage or any proxy to leverage.

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STATE OF BAHRAIN

MINISTRY OF COMMERCE

Directorate of Commerce & Company Affairs

P.O. Box No. 5479

Tel. (973) 530335, Fax (973) 530455



دولة البحرين

وزارة التجارة

إدارة التجارة وشئون الشركات

ص. ب. رقم: ٥٤٧٩

تلفون: ٥٣٠٣٣٥ (٩٧٣)، فاكس: ٥٣٠٤٥٥ (٩٧٣)

استمارة طلب تأسيس شركة مساهمة بحرينية
APPLICATION FORM FOR THE REGISTRATION OF A COMPANYTICK WHERE
APPLICABLE

WLL

☐
EXEMPT
RESIDENT
☐
EXEMPT
NON-RESIDENT
☐
JOINT
STOCK CLOSED
☐

PARTNERSHIP

☐
SIMPLE
COMMANDITE
☐

١- الاسم المقترح للشركة : 1. PROPOSED COMPANY NAME:

٢- الشركاء : 2. NAME OF PARTNERS :

العنوان
ADDRESSالجنسية
NATIONALITYالاسم
NAME

.....		
.....		
.....		
.....		
.....		
.....		

٣- الغرض من تأسيس الشركة : 3. OBJECT OF THE PROPOSED COMPANY :

٤- رأس مال الشركة : 4. CAPITAL OF THE PROPOSED COMPANY :

٥. DIRECTORS OF THE PROPOSED COMPANY :

٥- مجلس إدارة الشركة

جهة التمثيل
REPRESENTINGالجنسية
NATIONALITYالاسم
NAME

.....		
.....		
.....		

٦. NAMES OF DIRECTORS AUTHORISED TO SIGN
ON BEHALF OF THE PROPOSED COMPANY

٦- أسماء المديرين المفوضين بالتوقيع عن الشركة

.....		
.....		
.....		

7. ADDRESS OF THE PROPOSED COMPANY:

٧- العنوان الرسمي للشركة في البحرين

رقم الهاتف
TELEPHONE NUMBERرقم صندوق البريد
P.O. BOX NUMBERمجمع
BLOCKالمدينة
AREAشارع/طريق/ممر
AVENUE/ROADرقم
NO.

.....					
-------	-------	-------	-------	-------	-------

8. REGISTERED ADDRESS IN BAHRAIN :
TELEPHONE NUMBER P.O. BOX NUMBER BLOCK AREA AVENUE/ROAD PREMISES NO.

9. NAME OF PERSON/COMPANY FILING THE APPLICATION :

الجنسية
NATIONALITY

الاسم
NAME

أقر بأن البيانات المثبتة في هذا الاستمارة صحيحة وأن الشركاء يتمتعون بسعة مالية جيدة
وأنه لم يسبق أن اشهر إفلاس أي منهم

THIS IS TO CONFIRM THAT THE INFORMATION GIVEN IN THIS APPLICATION IS TRUE AND THAT THE
PROMOTERS ARE OF GOOD FINANCIAL STANDING AND HAVE NOT BEEN ADJUDGED BANKRUPT

التاريخ
DATE

التوقيع
SIGNATURE

يجب أن ترفق مع هذا الطلب المستندات المكملة التالية:

THE FOLLOWING DOCUMENTS MUST BE
ATTACHED TO THE APPLICATION FORM :

SEE 'DOCUMENTS REQUIRED IN SUPPORT
OF REGISTRATION'

OFFICE USE

COMMENT / DECISION

للاستعمال الرسمي

التعليق/القرار

رئيس شئون الشركات
CHIEF OF COMPANY AFFAIRS

توقيع الموظف
SIGNATURE OF THE ECONOMIC ANALYST

Appendix 2

Table 1

EVA Bahrain Cinema Company BSC.

Year	NOPAT	TCE	R	C	S	EVA
1990	191994	2659202	0.0722	0.08	-0.0078	-20742.16
1991	233409	2527944	0.09233	0.08	0.0123316	31173.48
1992	477655	2732483	0.17481	0.07	0.1048062	286381.2
1993	1026150	3426542	0.29947	0.06	0.239471	820557.5
1994	434701	3455629	0.1258	0.075	0.050795	175528.8
1995	424182	3437437	0.1234	0.09	0.0334007	114812.7
1996	472991	3431291	0.13785	0.08	0.0578464	198487.7

Table 2

EVA OF Bahrain Ship And Engineering Co.

Year	NOPAT	TCE	R	C	S	EVA
1990	477238	6630060	0.07198	0.08	-0.008019	-53166.8
1991	699623	7002192	0.09991	0.08	0.0199149	139447.6
1992	518154	7077392	0.07321	0.07	0.0032126	22736.56
1993	301968	7067811	0.04272	0.06	-0.017276	-122100.7
1994	136608	6912004	0.01976	0.075	-0.055236	-381792.3
1995	253269	6857941	0.03693	0.09	-0.053069	-363945.7
1996	297268	6743777	0.04408	0.08	-0.03592	-242234.2

Table 3

EVA OF Bahrain Maritime And Mercantile Inter National

Year	NOPAT	TCE	R	C	S	EVA
1990	2751992	7085533	0.3884	0.08	0.3083959	2185149
1991	3021815	7347348	0.41128	0.08	0.3312797	2434027
1992	3449505	8023853	0.42991	0.07	0.3599063	2887835
1993	3839236	8813089	0.43563	0.06	0.3756289	3310451
1994	3904074	9370163	0.41665	0.075	0.3416495	3201312
1995	3695017	9718180	0.38022	0.09	0.290217	2820381
1996	2233522	9266102	0.24104	0.08	0.1610422	1492234

Table 4

EVA OF Bahrain Car Parks Company

Year	NOPAT	TCE	R	C	S	EVA
1990	728489	8732247	0.08343	0.08	0.0034251	29909.24
1991	828434	8936985	0.0927	0.08	0.0126973	113475.2
1992	557763	8906210	0.06263	0.07	-0.007374	-65671.7
1993	668031	8694056	0.07684	0.06	0.0168377	146387.6
1994	450755	8421784	0.05352	0.075	-0.021477	-180878.8
1995	631822	8330579	0.07584	0.09	-0.014156	-117930.1
1996	898604	8506156	0.10564	0.08	0.0256416	218111.5

Table 5
EVA OF Bahrain Flour Mills Co.(B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	279000	6221886	0.04484	0.08	-0.035158	-218750.9
1991	422000	6361886	0.06633	0.08	-0.013667	-86950.88
1992	432000	6511886	0.06634	0.07	-0.00366	-23832.02
1993	382000	6611886	0.05777	0.06	-0.002225	-14713.16
1994	282000	6611886	0.04265	0.075	-0.03235	-213891.5
1995	282000	6611886	0.04265	0.09	-0.04735	-313069.7
1996	482000	6611886	0.0729	0.08	-0.007101	-46950.88

Table 6
EVA OF Bahrain Tourism Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	826060	1.3E+07	0.06239	0.08	-0.017614	-233221.2
1991	1825497	1.4E+07	0.13384	0.08	0.0538357	734310.4
1992	1103801	1.4E+07	0.07955	0.07	0.00955	132511.7
1993	1140480	1.4E+07	0.07974	0.06	0.0197387	282316.6
1994	849729	1.4E+07	0.05898	0.075	-0.016016	-230731.2
1995	480214	1.4E+07	0.03384	0.09	-0.05616	-796961
1996	885454	1.4E+07	0.06172	0.08	-0.01828	-262255.6

Table 7
EVA OF Bahrain Light Industries Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	-363707	706881	-0.5145	0.08	-0.594524	-420257.5
1991	14754	721635	0.02045	0.08	-0.059555	-42976.8
1992	301396	1023031	0.29461	0.07	0.2246108	229783.8
1993	373342	1396373	0.26737	0.06	0.2073655	289559.6
1994	-309063	1087310	-0.2842	0.075	-0.359246	-390611.3
1995	-266568	820742	-0.3248	0.09	-0.414789	-340434.8
1996	25345	846087	0.02996	0.08	-0.050044	-42341.96

Table 8
EVA OF Delmon Poultry Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	459563	4389703	0.10469	0.08	0.0246911	108386.8
1991	618383	4685315	0.13198	0.08	0.0519832	243557.8
1992	456677	4820121	0.09474	0.07	0.0247439	119268.5
1993	762360	5228552	0.14581	0.06	0.0858071	448646.9
1994	856560	5698426	0.15032	0.075	0.0753152	429178.1
1995	710050	6021790	0.11791	0.09	0.0279134	168088.9
1996	358859	6008445	0.05973	0.08	-0.020274	168088.9

Table 9

EVA OF National Hotels Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	849054	24128310	0.03519	0.08	-0.044811	-1081211
1991	1620669	24830472	0.06527	0.08	-0.014731	-365768.8
1992	666535	24739418	0.02694	0.07	-0.043058	-1065224
1993	1036483	24861894	0.04169	0.06	-0.01831	-455230.6
1994	781008	24907563	0.03136	0.075	-0.043644	-1087059
1995	669100	24846824	0.02693	0.09	-0.063071	-1567114
1996	422237	25259061	0.01672	0.08	-0.063284	-1598488

Table 10

EVA OF Bahrain Hotels Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	2119029	15526995	0.13647	0.08	0.0564739	876869.4
1991	3796974	16698625	0.22738	0.08	0.1473824	2461084
1992	2397544	17319273	0.13843	0.07	0.0684321	1185195
1993	1819605	17373982	0.10473	0.06	0.0447316	777166.1
1994	2069105	17658191	0.11718	0.075	0.0421754	744740.7
1995	1684948	17972467	0.09375	0.09	0.0037516	67425.97
1996	1436593	18488612	0.0777	0.08	-0.002298	-42495.96

Table 11

EVA OF United Gulf Industries Corp. (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	187813	4375434	0.04292	0.08	-0.037076	-162221.7
1991	208681	4375434	0.04769	0.08	-0.032306	-141353.7
1992	407352	12664254	0.03217	0.07	-0.037835	-479145.8
1993	344674	24397135	0.01413	0.06	-0.045872	-1119154
1994	-1093091	24639971	-0.0444	0.075	-0.119363	-2941089
1995	163707	23767794	0.00689	0.09	-0.083112	-1975394
1996	301162	24170243	0.01246	0.08	-0.06754	-1632457

Table 12

EVA OF Bahrain Commercial Facilities Company (B.S.C.)

Year	NOPAT	TCE	R	C	S	EVA
1990	722922	7309009	0.09891	0.08	0.0189083	138201.3
1991	912588	13494097	0.06763	0.08	-0.012371	-166939.8
1992	1261830	25250927	0.04997	0.07	-0.020028	-505734.9
1993	1622282	34340053	0.04724	0.06	-0.012758	-438121.2
1994	1501037	39994336	0.03753	0.075	-0.037469	-1498538
1995	607800	43384546	0.01401	0.09	-0.07599	-3296809
1996	1100353	42764745	0.02573	0.08	-0.05427	-2320827

Appendix 3

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.9790954
R Square	0.9586278
Adjusted	0.9482848
Standard	0.0128478
Observati	21

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressio	4	0.061195	0.015299	92.68335	7.441E-11
Residual	16	0.002641	0.000165		
Total	20	0.063836			

	<i>Coefficients</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	-0.031433	0.011516	-2.72963	0.014842	-0.055845	-0.00702	-0.05585	-0.00702
X Variable	-0.012464	0.028373	-0.4393	0.666318	-0.072611	0.047683	-0.07261	0.047683
X Variable	0.0784189	0.034957	2.243294	0.039386	0.0043133	0.152525	0.004313	0.152525
X Variable	0.7139047	0.106939	6.675785	5.33E-06	0.4872032	0.940606	0.487203	0.940606
X Variable	0.0464521	0.03732	1.244682	0.231173	-0.032664	0.125568	-0.03266	0.125568

The Correlation Matrix

	EVA	DPS	ROE	ROA	Lev.
EVA	1				
DPS	0.338	1			
ROE	0.856	0.071	1		
ROA	0.968	0.419	0.802	1	
Lev.	-0.797	-0.24	-0.73	-0.84	1

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.855919
R Square	0.732598
Adjusted	0.718524
Standard	0.029974
Observati	21

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressio	1	0.046766	0.046766	52.05401	7.5026E-07
Residual	19	0.01707	0.000898		
Total	20	0.063836			

	<i>Coefficient</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	0.024371	0.008955	2.721438	0.013547	0.00562767	0.043115	0.005628	0.043115
X Variable	0.305825	0.042388	7.214846	7.5E-07	0.21710538	0.394545	0.217105	0.394545

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.967877
R Square	0.936785
Adjusted	0.933458
Standard	0.014574
Observati	21

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressio	1	0.059801	0.059801	281.5618	7.541E-13
Residual	19	0.004035	0.000212		
Total	20	0.063836			

	<i>Coefficient</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	-0.02631	0.006484	-4.05738	0.000672	-0.039878	-0.01274	-0.03988	-0.01274
X Variable	0.762159	0.045421	16.7798	7.54E-13	0.6670913	0.857227	0.667091	0.857227

Appendix 4

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.990848
R Square	0.981779
Adjusted	0.98105
Standard	0.01474
Observati	105

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressio	4	1.170681	0.29267	1347.048	5.349E-86
Residual	100	0.021727	0.000217		
Total	104	1.192408			

	<i>Coefficient</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	-0.07435	0.002642	-28.1419	2.56E-49	-0.079592	-0.06911	-0.07959	-0.06911
X Variable	0.035239	0.011662	3.021777	0.003191	0.0121026	0.058376	0.012103	0.058376
X Variable	0.05368	0.025609	2.096093	0.038598	0.0028714	0.104488	0.002871	0.104488
X Variable	0.944721	0.034631	27.27981	4.03E-48	0.8760145	1.013427	0.876014	1.013427
X Variable	0.021115	0.009386	2.249579	0.026668	0.0024931	0.039738	0.002493	0.039738

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.9187878
R Square	0.84417102
Adjusted	0.84265811
Standard	0.04247349
Observati	105

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>gnificance F</i>
Regressio	1	1.006596	1.006596	557.981	2.25E-43
Residual	103	0.185812	0.001804		
Total	104	1.192408			

	<i>Coefficients</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>ower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	-0.0528937	0.005054	-10.4649	6.84E-18	-0.06292	-0.04287	-0.06292	-0.04287
X Variable	0.68291279	0.02891	23.62162	2.25E-43	0.625576	0.74025	0.625576	0.74025

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.989045
R Square	0.978211
Adjusted	0.977999
Standard	0.015882
Observati	105

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressio	1	1.166426	1.166426	4624.119	2.082E-87
Residual	103	0.025982	0.000252		
Total	104	1.192408			

	<i>Coefficient</i>	<i>andard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>pper 95%</i>	<i>ower 95.0</i>	<i>pper 95.0</i>
Intercept	-0.0682	0.001979	-34.4689	2.28E-58	-0.072124	-0.06428	-0.07212	-0.06428
X Variable	1.022797	0.015041	68.00087	2.08E-87	0.9929666	1.052627	0.992967	1.052627