CHAPTER -1

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1.1 Introduction

Economic Value Added (EVA) is a practical method of estimating the economic profit that is earned, as against accounting profit. This way of looking at financial performance enables Companies to truly understand if they are profitable because they manage assets (Taub, 2003)**.** Proponents of EVA provided evidence to establish this method as a superior performance measurement and incentive compensation system and claimed that it is really better to use EVA than traditional accounting performance measures such as Earnings Per Share (EPS), Return On Investment (ROI), and Return on Equity (ROE) (Stewart, 1991; Tully 1993; Stern et al., 1995; Ehrbar, 1998).

Firms focus on building, operating and harvesting new businesses and/or products that will provide a greater return than the firm's cost of capital, thus ensuring maximization of shareholders' value. EVA is a strategy formulation and a financial performance management tool that helps Companies make a return greater than the firm's cost of capital. Firms adopt this concept to track their financial position and to guide management decisions regarding resource allocation, capital budgeting and acquisition analysis.

The real value of corporations is one of the most important things that shareholders and investors care about (Lin & Zhilin, 2008). Financial perspective said that the primary goal of most firms is to maximize shareholder's wealth (Brigham & Ehrhardt, 2005). EVA is a practical refinement of economists' concept of residual income - the value remaining after a Company's stockholders and all the other providers of capital have been compensated. EVA is a performance measure and when linked to management, provides a strong incentive for managers to select and implement value-creating investments (Hatch, 1996).

EVA is a value based financial performance measure, an investment decision tool and it is also a performance measure reflecting the absolute amount of shareholder value created. It is computed as the product of the "excess return" made on an investment or investments and the capital invested in that investment or investments.

Economic Value Added (EVA) is a new method of performance measurement. Stern Stewart, the founder of EVA, believed that EVA was the best and most practical performance measurement and well reflects the Company's real economic profit than any other method (Chen & Zhilin, 2009).

Economic Value Added (EVA) is the financial performance measure that comes closer than any other to capturing the true economic profit of an enterprise. Thus, in modern economics and finance area, EVA holds an important part that has less debate among practitioners. It is the performance measure most directly linked to the creation of shareholders' wealth over time. Shareholders' are very much choosy for their interest into the business and they like management to come up with very specific solution.

Economic value added (EVA), a new performance measure, has been paid a lot of attention in recent years. EVA is such a method that is viewed as an effective measure reflecting both the value of Company and the interest of shareholder (Tully & Hadjian, 1993; Topkis, 1996). Many researchers have shown that EVA better reflects the Company's real economic profit than traditional performance measurement (Stewart, 1994). It is the right measure most directly linked to the creation of value for shareholders (Stern, Stewart, & Chew, 1995; Ameels, Werner & Geert, 2002).

Many other scholars, such as Milunovich and Tseui (1996), Lehn and Makhija (1996 & 1997), and Forker and Powell (2004) have published their studies in support of the superiority of EVA.

Market value added (MVA) is a measure of the wealth that a Company has created for its investors. It is the difference between the sum of the total market value of the firm's equity and the book value of its debt, and the capital invested in a firm. A positive EVA year after year will increase its MVA since MVA is the present value of the firm's expected future EVAs. The concepts of EVA and MVA were developed in order to reflect corporate performance more accurately. MVA is basically the present value of all the EVA that a Company is expected to generate in future (Kim et al., 2004).

Most Companies are not aware of value performance measure tools like Economic Value added (EVA) and Market Value Added (MVA). Many Companies do not know EVA and MVA, and use traditional methods for financial analysing. This

study introduces EVA and MVA as appropriate tools for performance evaluation and financial analysis of listed Companies of Tehran Stock Exchange (TSE).

This study examines relationship between Economic Value Added (EVA) and Market Value Added (MVA) as advanced performance evaluation tools and also Economic Value Added (EVA) and financial ratios as traditional performance evaluation tools.

1.2 Need for the study

Financial performance refers to firm's ability to generate new resources from day to day operations over a given period of time. The financial performance measures can be divided into two major types:

1. Traditional measures based on accounting/financial data (the effect of actions on one year's profits, ROI, ROE, etc.) which reflect a firm's past performance; and
2. Economic Value Added (EVA) and Market Value Added (MVA) approaches which are based on valuation principles and an advanced financial performance evaluation tool.

Traditional performance measures are unable to describe the Company's true business results and sometimes lead to wrong business decisions. The EVA concept is easy to understand and easy to use. The managers can make it transparent to all employees in a short time. Most of the managers still use Traditional methods for financial analysis. The EVA system covers the full range of managerial decisions, including strategic planning, allocating capital, pricing acquisitions or divestitures, setting annual goals-even day-by-day operating decisions. EVA provides for better assessment of decisions that affect balance sheet and income statement or tradeoffs between each through the use of the capital charge against Net Operating Profit After Tax (NOPAT).

The idea that the primary responsibility for management is to increase value gained prominence and became widely accepted in the US after the Rappaport s (1986 & 1998) publication of Creating Shareholder Value. Moreover, accounting earnings were under attack. Rappaport (1986), consistent with Stern (1974), argued that earnings fail to measure changes in the economic value of the firm. Arguments such as:

(i) Alternative accounting methods, which may be employed,

(ii) Investment requirements exclusion and

(iii) Ignorance of the time value of money, brought earnings under hard critique.

MVA is also defined as the present value of all future EVA the Company will generate. It stands to reason that an organization can maximize its MVA by maximizing its EVA.

EVA is superior to accounting profits as a measure of value creation because it recognizes the cost of capital and, hence, the riskiness of a firm's operations. It is used as a value based performance measure tool more widely. In this context, EVA is compared with some traditional measures and with some other value based measures as well. Studies have shown that, compared to other accounting measures, MVA has the best correlation with Economic Value Added (EVA).

The aim of this study is to investigate the relationship between Economic Value Added (EVA), Market Value Added (MVA) and traditional performance measures (liquidity, profitability, and activity and leverage ratios).

1.3 Statement of the problem

In a market-driven economy many Companies will create wealth. Other firms however will undoubtedly destroy it. Discovering those economic factors that lead to wealth creation and destruction among Companies is important. For corporate managers, wealth creation is fundamental to the economic survival of the firm. Managers who fail (or refuse) to see the importance of this imperative in an open economy do so at the peril of the organization and their own careers.

Finding the "best" Companies and industries in the marketplace is of primary importance to investment managers. With the proper financial tools, portfolio managers may be able to enhance their active performance over-and-above the returns available on similar risk indexed passive strategies. A new analytical tool called EVA is now assisting this wealth-discovery and Company-selection process.

EVA is reasonable proxies for the measurement of owners' wealth maximization while taking into account the relative risk-based costs of doing so (Hodak, 1994; Shiely, 1996).

As the competition among various Companies is increasing every day, these arises situation for Companies to improve their efficiency and effectiveness to reduce

the cost of capital. Hence it becomes extremely important to study the effect of this implementation on Companies' success.

This study investigates the relationship between traditional analysis and Economic Value Added (EVA) and also identify effective factors and important variables for Companies listed in Tehran Stock Exchange (TSE).

1.4 Objectives of the Study

The objectives of this study are as follows:

1. To computes the Economic Value Added (EVA) of listed Companies in Tehran Stock Exchange (TSE).
2. To compute Market Value Added (MVA) of listed Companies in Tehran Stock Exchange (TSE).
3. To compute the financial ratios of listed Companies in Tehran Stock Exchange (TSE).
4. To examine the relationship between Economic Value Added (EVA) and Market Value Added (MVA) of listed Companies in Tehran Stock Exchange (TSE).
5. To investigate the relationship between Economic Value Added (EVA) and financial ratios of listed Companies in Tehran Stock Exchange (TSE).
6. To indicate the relationship between Economic Value Added (EVA) and independent variables such as MVA, ROA, ROE, ROS, ROI, CR, DR, QR, P/E, EPS, DPS, P, and NOPAT of listed Companies in Tehran Stock Exchange (TSE) during 2005-2009 financial periods.

1.5 Hypotheses

In this study, H_0 is called the null hypothesis and H_1 is called the alternative hypothesis. The null and alternative hypotheses are used. The null hypothesis attempts to indicate that no variation exists between variables, or that a single variable is not different than zero. Alternative hypothesis is formulated as an opposite to the null hypothesis in a statistical test. In statistical hypothesis testing, the alternative hypothesis (or maintained hypothesis or research hypothesis) and the null hypothesis are the two rival hypotheses which are compared by a statistical hypothesis test.

Based on the results of prior empirical research, research objectives and data availability; the following hypotheses have been developed for the study:

Hypothesis 1:

H_0: There is no significant relationship between Economic Value Added (EVA) and Market Value Added (MVA) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Market Value Added (MVA) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 2:

H_0: There is no significant relationship between Economic Value Added (EVA) and Return on Assets (ROA) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Return on Assets (ROA) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 3:

H_0: There is no significant relationship between Economic Value Added (EVA) and Return on Equity (ROE) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Return on Equity (ROE) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 4:

H_0: There is no significant relationship between Economic Value Added (EVA) and Return on Sales (ROS) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Return on Sales (ROS) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 5:

H_0: There is no significant relationship between Economic Value Added (EVA) and Return on Investment (ROI) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Return of Investment (ROI) on listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 6:

H_0: There is no significant relationship between Economic Value Added (EVA) and Current Ratio (CR) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Current Ratio (CR) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 7:

H_0: There is no significant relationship between Economic Value Added (EVA) and Quick Ratio (QR) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Quick Ratio (QR) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 8:

H_0: There is no significant relationship between Economic Value Added (EVA) and Debt Ratio (DR) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Debt Ratio (DR) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 9:

H_0: There is no significant relationship between Economic Value Added (EVA) and Price to Earnings (P/E) ratio of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Price to Earnings (P/E) ratio of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 10:

H_0: There is no significant relationship between Economic Value Added (EVA) and Earnings Per Share (EPS) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Earnings Per Share (EPS) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 11:

H_0: There is no significant relationship between Economic Value Added (EVA) and Dividend Per Share (DPS) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Dividend Per Share (DPS) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 12:

H_0: There is no significant relationship between Economic Value Added (EVA) and Share Price (P) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Share Price (P) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 13:

H_0: There is no significant relationship between Economic Value Added (EVA) and Net Operating Profit After Tax (NOPAT) of listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Net Operating Profit After Tax (NOPAT) of listed Companies of Tehran Stock Exchange (TSE).

Hypothesis 14:

H_0: There is no significant relationship between Economic Value Added (EVA) and Independent Variables (IVs=MVA, ROA, ROE, ROS, ROI, CR, QR, DR, P/E, EPS, DPS, P, and NOPAT) on listed Companies of Tehran Stock Exchange (TSE).

H_1: There is significant relationship between Economic Value Added (EVA) and Independent Variables (IVs=MVA, ROA, ROE, ROS, ROI, CR, QR, DR, P/E, EPS, DPS, P, and NOPAT) of listed Companies of Tehran Stock Exchange (TSE).

1.6 Research Methodology

1.6.1 Sample and data collection

In this study, library method has been used for theoretical discussions and methods for collecting the data related to Tehran Stock Exchange (TSE).

The data used in this study is obtained from Companies listed in Tehran Stock Exchange (TSE). Total numbers of Companies listed in the Tehran Stock Exchange (TSE) are 337 over the 2005-2009 periods. The following conditions are considered for selecting a firm:

1. Required information relating to designated years for selected firms, should be thoroughly available from different sources.
2. Selected Companies should have been accepted in the Tehran Stock Exchange (TSE) before the year 2004.
3. Selected firms should have been active and their stocks should have been traded in the Tehran Stock Exchange (TSE) during the time period of the study (2005-2009).
4. Companies listed in Tehran Stock Exchange (TSE) should not have a negative net income, negative Earnings Before Interest &Tax (EBIT), and negative Net Operating Profit after Tax (NOPAT).

For determining sample size, this study use Morgan and krejcie table. Morgan and krejcie (1970) have produced a table for determining sample size. Based on Morgan and krejcie table, researcher has selected Stratified sampling and simple random sampling methods and randomly 180 Companies listed in Tehran Stock Exchange (TSE) are selected as sample during the years 2005-2009. This study has 24 subsets from listed industries of TSE. The distribution of the number of Companies and sample industries is cited in Table 1.1 as follows.

Table 1.1 List of sample Companies based on various types of industry

No	Name of industry	Number Companies in sample	Percentage in sample
1	Motor Vehicles And Auto Parts	23	12.8 %
2	Basic Metals	8	4.4 %
3	Machinery & Equipments	7	3.9 %
4	Food Products and Beverages (except sugar)	15	8.3 %
5	Chemicals & By-products (except pharmaceutical products)	18	10 %
6	Electrical Machinery & Apparatus	7	3.9 %
7	Other Non-metallic Mineral Products	13	7.2 %
8	Metal Ores Mining	5	2.8 %
9	Fabricated Metal Products (except machinery & equipments)	3	1.7 %
10	Wood & By-products	2	1.1 %
11	Rubber & Plastic Products	4	2.2 %
12	Refined Petroleum Products	3	1.7 %
13	Investment Companies	7	3.9 %
14	Transportation and Storage	2	1.1 %
15	Real Estate And Construction	5	2.8 %
16	Sugar & By-products	3	1.7 %
17	Ceramic & Tiles	5	2.8 %
18	Pharmaceutical & Medicinal products	21	11.7 %
19	Paper & By-products	2	1.1 %
20	Cement, Lime & Plaster	20	11.1 %
21	Other Mining and Quarrying	1	0.6 %
22	Financial Leasing	3	1.7 %
23	Coal & Lignite Mining	1	0.6 %
24	Computer & Related Activities	2	1.1 %
	Total	**180**	**100 %**

1.6.2 Research statistical methods

After determining the number of samples and their randomly selection and collecting the data related to them Descriptive Statistics, Pearson correlation, Durbin–Watson test**,** simple linear regression**,** and multiple linear regression have been used to test the research statistical hypotheses at confidence level of 95%. First, correlation among variables is tested, and then simple and multiple linear regression analysis are used extensively.

1.6.2.1 Descriptive Statistics

Descriptive Statistics is Presentation of data in the form of tables and charts or summarization by means of percentiles and standard deviations. Descriptive Statistics is a set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. The measures used to describe the data set are measures of central tendency and measures of variability or dispersion. Tables display the results for the descriptive statistics of the research variables. The arithmetic mean is the most common measure of central tendency. It is simply the sum of the scores divided by the number of scores. Minimum is the smallest value of a numeric variable and Maximum is the largest value of a numeric variable.

1.6.2.2 Pearson's correlation

The Pearson's correlation is used to find a correlation between at least two continuous variables. Pearson correlation co-efficient is a number between -1 and +1 that measures the degree of association between two variables (X and Y). A positive value for the correlation implies a positive association (large values of X tend to be associated with large values of Y and small values of X tend to be associated with small values of Y). A negative value for the correlation implies a negative or inverse association (large values of X tend to be associated with small values of Y and vice versa).

1.6.2.3 Simple and Multiple Linear Regression

In statistics, linear regression is an approach to modeling the relationship between a scalar dependent variable y and one or more explanatory variables denoted X. The case of one explanatory variable is called simple linear regression. More than one explanatory variable is multiple linear regression. Simple and multiple linear

regression allow the researcher to make predictions of the dependent variable based on one and several independent variables.

Simple linear regression is used to assess the relative influence of one independent (predicting) variable when it is used to predict a dependent variable. But multiple linear regression is used to assess the relative influence of a number of independent (predicting) variables when they are used to predict a dependent variable.

In simple and multiple linear regression analysis, co-efficient of determination expresses the amount of the variance in the DV (Dependent Variable) that is shared by the combination of the weighted IV (Independent Variable) and IVs (Independent Variables). As with R, R^2 will have a value that falls between 0 and 1. Simple and Multiplying R^2 by 100 allows the amount of variance to be stated as a percentage (Kerr et al, 2002). In simple linear regression, the regression equation becomes:

$$Y_{i,t} = \beta_0 + \beta_1 X_{1;\,i,\,t} + \varepsilon_{i,\,t}$$

Simple linear regression aims to find the regression coefficients or weight (β_1) for predictor variable. In multiple linear regression, the regression equation becomes:

$$Y_{i,\,t} = \beta_0 + \beta_1 X_{1;\,i,\,t} + \beta_2 X_{2;\,i,\,t} + \ldots + \beta_k X_{k;\,i,\,t} + \varepsilon_{i,\,t}$$

Multiple linear regression aims to find the regression coefficients or weights (β_1, β_2, etc.) for each of the predictor variables ($X_{1,\,x2}$, etc.) which will give the values of Y which are closest to the actual values. So the weights are chosen which reduce to a minimum the differences between the predicted values of Y and the actual values, the residuals (They actually reduce the sum of the squared differences between the predicted and actual y values.) This means the correlation between the combinations of the predictor values and the predicted Y values will be maximized. For each predictor, the regression weight, β, is the amount of change in the dependent variable resulting from one-unit change in the independent variable when all other independent variables are held constant. However, the size of β is related to the scale used to measure the independent variable (Foster et al, 2006).

Based on the above subject, multiple linear regression models of present study will be the following:

$$Y_{i,\,t} = \beta_0 + \beta_1 X_{1;\,i,\,t} + \beta_2 X_{2;\,i,\,t} + \ldots + \beta_k X_{k;\,i,\,t} + \varepsilon_{i,\,t}$$

$$\mathbf{EVA}_{i,t} = \beta_0 + \beta_1(\mathbf{MVA})_{i,t} + \beta_2(\mathbf{ROA})_{i,t} + \beta_3(\mathbf{ROE})_{i,t} + \beta_4(\mathbf{ROS})_{i,t} + \beta_5(\mathbf{ROI})_{i,t} + \beta_6(\mathbf{CR})_{i,t} + \beta_7(\mathbf{QR})_{i,t} + \beta_8(\mathbf{DR})_{i,t} + \beta_9(\mathbf{P/E})_{i,t} + \beta_{10}(\mathbf{EPS})_{i,t} + \beta_{11}(\mathbf{DPS})_{i,t} + \beta_{12}(\mathbf{P})_{i,t} + \beta_{13}(\mathbf{NOPAT})_{i,t} + \varepsilon_{i,t}$$

Where;

Y= dependent variable

$X_{1, 2...k}$= independent variable

i=the number of Company

t =time period

ε= Standard Error

β_0= Y-intercept =the point where the regression line crosses the Y-axis

$\beta_{1,2,3,4,5,6,7,8,9,10,11,12,13}$= Regression weight =the amount of change in the dependent variable resulting from a one-unit change in an independent variable when all other independent variables are held constant.

EVA= Economic Value Added

MVA= Market Value Added

ROA= Return on Assets

ROE= Return on Equity

ROS= Return on Sales

ROI= Return on Investment

CR=Current Ratio

QR= Quick Ratio

DR= Debt Ratio

P/E =Price to Earnings

EPS= Earnings Per Share

DPS=Dividend Per Share

P= Share Price

NOPAT= Net Operating Profit After Tax

In this study, the amount of value of EVA and MVA in all models compute value amount in million Rials.

1.6.2.4 Durbin–Watson test

Durbin–Watson test is a test that the residuals from a simple or multiple linear regression are independent. In statistics, the Durbin–Watson statistic is a test statistic used to detect the presence of autocorrelation (a relationship between values separated from each other by a given time lag) in the residuals (prediction errors) from a regression analysis. The Durbin-Watson statistic provides the standard test for autocorrelation. Autocorrelation occurs when the error between the fitted and actual value is not independent from one observation to the next. A Durbin-Watson statistic between 1.5 and 2.5 indicates that there is not serious autocorrelation. A Durbin-Watson outside this range indicates the probability of autocorrelation.

1.7 Research Variables

In this study, research variables are including:

1.7.1 Dependent Variable

In this study, Economic Value Added (EVA) is as Dependent Variable.

EVA (model 1 & 2) = NOPAT- (IC ×WACC)

Calculation of EVA with WACC by Dividend Discount Model (DDM) is named as EVA with model 1, and also EVA with WACC by Capital Asset Pricing Model (CAPM) is named EVA with as model 2.

1.7.2 Independent Variables

In this study independent variables are including Market Value Added (MVA) and 12 financial ratios that are selected from four main financial ratios (liquidity, profitability, activity and leverage ratios) and other traditional financial ratios (IVs=MVA, ROA, ROE, ROS, ROI, CR, DR, QR, EPS, DPS, P/E, NOPAT, and P).

Calculation of MVA with EVA and WACC by Dividend Discount Model (DDM) is named as MVA with model 1, and also MVA with EVA and WACC by Capital Asset Pricing Model (CAPM) is named as MVA with model 2.

Market Value Added (MVA model 1 &2) = EVA/ WACC

Also, MVA by following formula is named MVA as with model 3.

MVA (model 3) = MV-IC

1.8 Tehran Stock Exchange (TSE)

1.8.1 Historical Background

The Tehran Stock Exchange (TSE), the only formal capital market in Iran, was established in 1966. The exchange organization was structured through the work of two consultants from the Brussels Stock Exchange and was formalized in the Law on Establishment of the Stock Exchange, approved by the Majles (congress) in May 1966. Today, the TSE still operates under this original law. During its first year of activity only six Companies were listed. The number of Companies increased to 43 by early 1974. After the first oil price boom and along with the increase in foreign exchange revenues of the country, the activities of the TSE expanded considerably. As a result, the number of firms listed at the TSE reached 102 by early 1978. Of these, 24 were commercial and specialized banks. On the eve of the Islamic Revolution, in 1978-1979, trade slowed down. Only three new members were added in 1979, and in the following two years many Companies were either confiscated or nationalized, which reduced the number of listed firms to only 55. Because all banks and insurance Companies were nationalized in 1979 they stopped being traded on the stock market. Bond trading ended in 1983. It is notable, however, that despite being portrayed in the early days of the Revolution as a capital profiteering tool, the TSE was never closed down. Finally after a decade of reduced activities, the stock market picked up again in 1990 and today 335 Companies are listed on the TSE (Pourheydari & Ali Ahmadi, 2008; Frischenschlager, 2003).

1.8.2 TSE activities process could be divided into under periods

1.8.2.1 since the beginning of TSE activity until revolution (1967-1978)

In the period of 1967 to 1978 the number of listed Companies and their capital raised from 6 with IRRs 6.2 b to 105 (22 private banks, 2 Insurance Companies, and 81 industrial corporations) with IRRs 240 b. In 1967 the value of shares and bonds traded in the Tehran Stock Exchange (TSE), was IR 15 m, which increased to IRRs 34.2 b in 1978. Actually, most of this development activity was due to the ratification of ownership development of manufacturing units' stocks and tax exemption for the listed Companies' laws.

1.8.2.2 since revolution until the end of imposed war (1979-1988)

In the second period of Tehran Stock Exchange (TSE) activities, two important events i.e. the Islamic revolution and Iraq's invasion were reduced exchange activities severely and exiting number of listed Companies from Tehran Stock Exchange (TSE). In 1978 the value of shares traded was reduced to IRRs 4.1 b and this trend continued till 1982 and reached IRRs 9 m. From 1982 the trend of shares value increased and finally at the end of the period reached IRRs 9.9 b.

1.8.2.3 Since the end of imposed war until 2006 (1989-2006)

In fact, Tehran Stock Exchange (TSE) was taken into account as one of the most important executive mechanisms for national economy optimization in order to facilitate the equipment and active contribution of the private sector in the productive activities through transferring some of the state duties to the private sector, gathering and errant savings, all to be directed toward investment.

Furthermore, in 1988 the annual value of shares traded in the Tehran Stock Exchange (TSE), was IRRs 9.9 b, which increased to IRRs 44.8 b in 2006. During this period, especially between 2001 -2004, return of Tehran Stock Exchange (TSE) investments grown up considerably and in 2003 reached to 131.4% which on that year was the highest return between World Federation of Exchanges (WFE)'s members.

1.8.2.4 Since2008 until 2009

In September, the Tehran Stock Exchange (TSE) had a volatile month. Telecommunications Company of Iran (TCI) and several large commodity-related stocks suffered price losses and weighed heavily on the market’s main index. Price corrections in commodity-related stocks were expected; since there had been an over reaction to the global commodity price gains of the past few months.

On the other hand, the injection of new funds into the equity market resulted in high demand for stocks in a number of sectors such as industrial and engineering groups, pharmaceuticals and banks. Consequently, there were price Rials in these stocks.

Analysts argue that a slow real-estate market and lower bank deposit interest rates are the key reasons for the displacement of funds. On 28th September, the Iranian Over-The-Counter (OTC) market officially commenced its operations. The Iranian

OTC was established in October 2008 with a share capital of $10 million. Its aim is to promote and expand financial markets and instruments. Its shareholders include the Tehran Stock Exchange Corporation (20%), several banks, insurance Companies and other financial institutions (60%), and private and institutional shareholders (20%). In the first week, 3 instruments were traded on the OTC.

The new market attracted significant interest from investors, such that by the end of September total trade volumes reached $2.1 million. An important development for the Iranian capital markets was the opening of a fixed income market for the first time. Currently, the only type of tradable Islamic bond in Iran is the Participation Paper. These are typically short term bonds (1-3 years) and have the same economic characteristics as fixed-rate conventional corporate bonds.

However, their legal structure has been engineered in accordance with Sharia law. Regulations and procedure for the issuance of Sukuk (another form of Islamic bond) has been put in place recently. However, no Sukuk has yet been issued. Banks can also list tradable term deposit papers on the OTC bond market. EN Bank deposit papers were the first to be listed and traded on the OTC, and it is expected that there will be further listings in the near future (Rabii, 2009).

1.8.2.5 TSE in 2010

Analysts have anticipated price corrections for several months. Over the past 18 months, the main index has grown massively and many investors are now reducing some of their equity positions in order to realize profits. Selling pressure in the first half of October resulted in sharp price declines across several sectors.

However, gains in the global prices of crude oil and commodities brought relative stability to the market. Average daily trade volumes have fallen from $50 million during the summer, to less than $20 million over the past two months.

A recent report by the World Fact Book ranks Iran 3rd among “emerging industrial powers” in the world (after China and India) in terms of its industrial growth. According to the report, Iran’s industrial sector grew by 4% in the year 2009. Iran was ranked 13th among emerging economies in the year 2006.

Overall, Iran is ranked 31st in the world in terms of its industrial production growth rate (Rabii, 2010).

In 2010, the Kish Stock Exchange was launched to facilitate foreign investment and monetary activities in Kish Island Free Trade Zone (Fars news. 2010).

On August 2, 2010, the Tehran Stock Exchange (TSE) main index (TEPIX) reached a record level of 16,056 points, despite US-sponsored sanctions against Iran (Sheikholeslami & Sukumar, 2010). Thus, TEDPIX became the world's second-best performing equity index. Factors such as the global spike in oil and metal prices, government support for industries and oil sectors as well as the growth of stock market liquidity flow contributed to the boom. The table 1.2 shows historical highlights:

Table 1.2 Historical highlights in TSE

1966	The Law for the Establishment of the Stock Exchange was approved by The parliament.
1967	The Tehran Stock Exchange (TSE) commenced operation on Feb. 4.
1969	Trade of Treasury and Land Reform bills started.
1972	Stocks of 23 Companies and three bonds were traded at TSE.
1983	The law for Usury-Free Banking was enacted. Trading in bonds was abandoned.
1988	Eight-year war between Iran and Iraq came to an end.
1989	Sharp increase in trade from the beginning of autumn.
1992	TSE admitted as a full member of the International Federation of Stock Exchanges.
1995	TSE joins the Federation of Euro-Asian Stock Exchanges as one of its founding members.
2002	Capital market physical development occurs; principal steps in dissemination of information, education and development of financial products.
2003	Listed Companies are allowed to issue corporate bonds
2005	The Tehran Stock Exchange (TSE) new law is ratified by parliament. Increase the number of Regional floors to 21.
2006	TSE Demutualization is accomplished
2007	The market bottomed in June 2007 mainly because of the renewed privatization drive in the Iranian economy.
2008	The Iranian Over-The-Counter (OTC) Market was established in October 2008 with a share capital of $10 million
2010	The market capitalization on the Tehran Stock Exchange increased by 16.04 percent from the beginning of this year. In 2010, the Kish Stock Exchange was launched to facilitate foreign investment and monetary activities in Kish Island Free Trade Zone.

1.8.3 Organizational and Regulatory Structure

The Tehran Stock Exchange (TSE) operates subject to the influence and control of several government agencies. The TSE is under the formal management of the Tehran Stock Exchange Brokers' Organization whose board appoints the Secretary General and his management team. The Tehran Stock Exchange (TSE) is further subject to the powers of the Stock Exchange Council and the Securities Acceptance Committee (both of which are Chaired by the Governor of the Central Bank) and the Stock Exchange Arbitration Board. Various other government organs, including the Ministry of Finance and Economic Affairs are also members of these supervisory bodies (Frischenschlager, 2003).

1.8.4 Trading System

The Tehran Stock Exchange (TSE) is open for trading five days a week from Saturday to Wednesday, excluding public holidays. Trading takes place through the Automated Trade Execution System from 9 A.M. to 12:30 P.M, which is integrated with a clearing, settlement, depository and registry system. The Tehran Stock Exchange (TSE) is solely an order-driven market and all transactions are executed in the manner and under the principles of open auction. There are no minimum trading lots the range of price movements is typically restricted to five per cent daily. This can be changed in specific situation by the General Secretary of the TSE in case of unusual price movements resulting in an extremely high or low P/E ratio. Short selling is not permitted. All purchase and sale orders are executed exclusively by authorized brokers on the floor of the Tehran Stock Exchange (TSE) (Frischenschlager, 2003).

1.8.5 Privatization

In recent years, the role of the private sector has been further on the increase. Furthermore, an amendment of the article 44 of the Iranian Constitution in 2004 has allowed 80% of state assets to be privatized, 40% of which will be conducted through the "Justice Shares" scheme and the rest through the Bourse Organization. The government will keep the title of the remaining 20%.

Under the privatization plan, 47 oil and gas Companies (including Petro Iran and North Drilling Company) worth an estimated $90 billion are to be privatized on the Tehran Stock Exchange by 2014.

Foreign investors can bid in Iranian privatization tenders, but need permission from the Economy Ministry on a case-by-case basis. The government has reduced the bureaucratic channels and issues investment permits for foreign nationals in less than seven days. Iran has announced it will begin to allow foreign firms to purchase Iranian state-run Companies, with the possibility of obtaining full ownership.

1.9 An overview of the thesis

For analytical convenience, the present thesis has been organized into five chapters. A short overview of each chapter is presented **in the following:**

Chapter one provides an introduction to concepts of EVA and MVA. It then goes to present the background of the study, statement of the problem, need for the study, objectives, hypotheses, the methodology used in the study, scope and limitations of the research, and also the chapter scheme of the thesis. Further this chapter also explains about Tehran Stock Exchange (TSE).

Chapter two (Part I and II) includes theoretical concepts of study. This chapter explains all research variables used in the present study including Concept of Economic Value Added (EVA), MVA and financial ratios.

Chapter three includes the review of literature. It reviews certain topics related to the research and research variables used in the present study.

Chapter four presents the data analysis and interpretation. In analyzing the data, in this chapter is used certain statistical tools and also software packages such as statistical software package SPSS and excel software are used. This chapter is divided into two parts of descriptive and inferential statistics.

Chapter five gives a summary of the findings of the study. It also presents suggestions based on the findings of the research, and makes the concluding remarks on the topic, followed by recommendations.

1.10 Scope of the study

The study provides empirical evidence on Economic Value Added (EVA) and Market Value Added (MVA) as two tools of value creation and financial ratios as traditional performance measure. The study focuses on one hundred and eighty listed Companies of Tehran Stock Exchange (TSE).

The study covers five financial years to investigate relationship between Economic Value Added (EVA) as dependent variable and Market Value Added (MVA) and financial ratios as independent variables. This study consists 14 hypotheses and in order to support the results, correlation, simple and multiple linear regression is tested for study hypotheses. The analyses of study are divided into two sections, descriptive and inferential analyses.

1.11 Limitations of the study

Macro- economic variables may affect the main variables of the study and as a result it may not show the real amount of value creation. Inflation disturbs the result of EVA. EVA cannot be used during inflationary times to estimate actual value and profitability. Therefore inflation is ignored in the calculation of Economic Value Added (EVA) and research variables.

The results may differ and the EVA of one Company or industry might not be comparable to another and industry and corporation. The period of study that was analyzed was a research constraint. In this study, only 5 year' data is used in this work and it can be enhanced.

For new high growth Companies, such as those in technology, year-on-year changes in EVA, which may be negative at times, are unlikely to explain changes in a firm's value, given that the value is dependent on future expected cash flows.

There are two models to calculate EVA and according to the understanding and taste of shareholders and investors; this is a problem for presenting a coherent suggestion for of Tehran Stock Exchange (TSE).

Some other factors like; Cash Value Added (CVA), Refined Economic Value Added (REVA) and Adjusted Economic Value Added (AEVA) can also be linked to the EVA.