

## The Investigation of Relationship between Economic Value Added (EVA) and Paid Bonus of Managers: A Case of Tehran Stock Exchange

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### Abstract

*In today world, companies have to adopt proper financial strategies in order to use capital in an optimal way and can never overlook costs related to limited financial repair of capital in their planning. Performance evaluation shows the success level of organizations in achieving their objectives and performance is closely related too company objectives. Generally the performance of companies may be evaluated in three levels: efficient non-effective and economic benefit and capability; efficiency indicates the level of achieving objectives and doesn't regard how the activity is performed; efficiency relates to the way of achieving goals and choosing the suitable methods to use resources in order to limit the related charges. Economic benefit and capability is using resources efficiently regarding it profitability in long- term. In this study, economic benefit and arability are considered and according to that the aim of institution should be creating added value (economic value) or utilizing the existing resources in the business unit, so different criteria are presented for evaluation: sale amount, profit of each share (EPS), return of investment (ROI), return of share owners emolument (ROE) which all are traditional criteria for measuring company performance questioned by the accounting information in efficient market and different existing accounting methods.*

**Key words:** ledger asset, company size, economy value added (EVA), operating net profit

### 1. Introduction

Evaluating company performance is one of the most important subjects for investors, government creditors and managers. It is regarded as the basis for many decisions internal and external to the organization. Not utilizing proper criteria in determining the value of companies and evaluating their performance leads to pricing their share value or price less or more than real value and the outcome of it is loss of the beneficiary people or organizations.

#### Measuring the performance of companies is through following criteria

- a. Accounting criteria: these criteria measure the performance of companies through using accounting data like ROA, ROE, EPS, and so on.
- b. Economic measures: which measures the performance of company considering factors like power of profit earning, existing assets and potential investment regarding return rate and charge rate of capital like MVA, EVA, REVA and so on.
- c. Methods in which a combination of market and accounting information is used to measure performance like Q or P/E ratio.

In studies accomplished by Fama, French (1960), and others, size of the company and emolument paid to mangers are known as the main indicators sowing company risk, so reviewing the correlation relationship between company size and its economic added value for stockholders, government creditors, company managers, and other beneficiaries are very important. The study by Riahi-Belkouii accomplished in 1997 relies on profit-making criterion based on added value as the main criterion for economic performance. USA companies' results show that the efficiency of companies merged vertically reduces but in horizontal affiliate companies,, it increases.

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In 1994, Askern et al through presenting samples of American companies showed that companies adopting accounting based on performance planes don't achieve any increase in accounting profit or efficiency based on economic added value compared with companies acting as control group. Considering that economy added value (EVA) indicates company performance about carrying out the value creating strategy in the company and its effect on stockholder's asset, studying the factors influencing economic added value will be important and in this regard we are going to analyze the effect of emolument paid to managers on the performance related to economy added value (EVA). Industrial management organization annually ranks 100 superior companies according to indicators like company size (sale level, employee number, and company asset level). In this study we are going to analyze the correlation between economy added value (EVA) and variables like company size, emolument paid to managers, and finally study the level of user's reliance on ranking results.

## **2. Literature Review**

### **2.1 Economic added value (EVA)**

Economic added value (EVA) is residual profit achieved through reducing capital charge from company operations. Operation net profit is the profit in whose calculation the effect of accounting non-cash records is omitted. In this study, we use three main criteria to determine company size including ledger asset, sale sum and direct wage and salary charge (manager's emolument). It is nearly many decades that evaluating and valuation of companies are studied in books, magazines and economic and financial seminars of developed countries but in Persian books and scientific meetings of our country, this subject is not investigated seriously, while in recent years, the discussion of evaluating and valuation of companies are among the most clamorous subjects of privatization process.

#### **But some studies regarding the analysis of subject are as follows**

Financial research no. 5 and 6 have discussed the effect of economy added value (EVA) on financial decisions by A. Jahankhani and A. Sajjadi; and A. Ekhtiari analyzed the process of creating and developing added value. A. Bahrami's thesis named as an investigation about the effect of added value information in decision making of users of accounting information, accounting Master of Science, administrative science and business Management University of Tehran University guided by Bahramfar, Naghi, 1997 discussed items like employees awareness from their own share in the created asset, making the schedule of production profit emolument, acquainting potential and actual investors with company performance ability level, producing financial ratio according to added value in order to identify deficiencies and preventing from problem emergence and the role of added value in calculating financial income. It has mentioned accurate information for calculating national income as the main practical use of added value bill, so it is very careful and objective. Different viewpoints has been analyzed and studied. After reviewing financial ratios created according to added value, utilizing added value as a basis for paying profit emolument is discussed. Special items in added value bill were analyzed briefly in three main axes: amortization, non-operational gains and tax.

Ghorbani (1998) has accomplished a research about profit change according to the added value change in affiliate productive companies of Iran industry growth and renewal organization. The research is around determining profit change direction resulting from added value changes. In fact net profit is considered as a share which shareholders (investors) as the main owners of company attain form the added value achieved in the company. In this research we expect that by increasing added value, the share of stockholders increase, too; but the reality is that actually because of reasons like mismanagement, increase in added value is not only accompanied with profit increase but also is achieved to the cost of its reduction. In

fact in special condition shareholders benefits are sacrificed for increase in added value (in other words sacrificed for the benefit of other groups).

Hashemi (1998) has dealt with studying the necessity of preparing and presenting added value through accounting information system in Iran and discussed that measuring added value is done through two ways: 1) deducting the value of broker goods used in good producing from the value of produced products and 2) calculating added value through calculating paid amounts to production operators. Operators are accepted as salary, wages, profit, gain and rent.

Hanife (1999) has dealt with reviewing the role of economic added value of companies admitted in bourse in their share price. In all above articles economic added value criterion is used as a safe criterion for measuring the performance of companies and determining their value. In the present article after studying and evaluating the above criterion, we discuss some hypotheses and calculate the economic added value of companies in one specified industry and examine the hypotheses.

## 2.2 Research background

In new discussions of management, added value indicators replace traditional management indicators and are used in profit programming and performance measurement. The importance of analyzing added value by managers is that they operate basically for measuring profitability. Analyzing added value is useful since it shows the relationship between employee's emolument and success of the institute and is used as a management tool and encouraging mood for participation of employees in enhancing the institute performance. In 1929s, the importance of added value in economy has revealed more and more. For example in Germany, May Lehman has investigated the usefulness of added value criterion in controlling the institute activities.

But using added value concept in accounting returns to 1975; the publication of Corporate Report by England accounting standards committee presenting added value bill by companies along with other annual reports was suggested and using added value bill in other countries became prevalent.

Publication of report making standards under the title of Green Paper in Australia in 1983 and publication of accounting procedure suggested bulletin no. 2 in 1984 in Singapore and publication of the suggested guidance of Holland accounting standards in 1990 shows the interest of world countries in publishing added value report. In India the use of added value in financial report making is increasing. In South Africa added value bill is known as the complement note of financial notes. The number of companies preparing added value note has increased from 6% in 1977 to 86% in 1995. Japanese companies use added value concept in management accounting and Singaporean companies use it in financial accounting. In Germany and France added value concept is investigate in three levels of national accounting, financial accounting and management accounting. But in America added value is not as recognized as in Europe. In 1992 America accounting society and in 1997 accounting international standards committee suggested that preparing added value note by companies has become necessary. Riahi-Blockin and Paulic have done some investigation in 1994 and believe that if some relationship is going to be established between performance and capital structure, whole return should be considered and it should not be limited to accounting return. Askern et al showed in 1994 through presenting some samples from American companies that companies which adopt accounting based on performance plans don't achieve any increase in accounting profit or efficiency based on added value compared with companies which control it.

Bao & Bao (1998) have used evaluation model of Bao & Litzenbeyer in their research about enjoying benefits and company value and resulted that compared with the

relationship between company value and profit in the same industry, the relationship between company value and enjoying benefits in Oil Refining Industry and textile manufacturing is stronger.

Riahi and Belkoui (1996) addressed unexpected return or net added value in comparison with market modified return using linear and nonlinear evaluation models and they resulted that models related to accounting and market return have high explanatory power when a) accounting return is expressed according to relative changes in net added value and b) the relation is nonlinear and dependent is convex-concave.

Riahi-Belkoui and Picur (1997) while examining the information about added value and profit using combinational evaluation model of profit and added value found that there is a relation between added value and profit relative changes and relative changes in paper prices.

### 3. Methodology

This research is descriptive and analytic based on theoretical methods; it means that it is going to find the elements of a model and describe the cause and effect relation between the model components. Research method is assumed correlative and research methodology post-occurring. The aim of post-occurring research is reviewing cause and effect relations through studying the existing results and previous theme in order to find the reason for accomplished actions.

#### 3.1 Statistical population

Research statistical population is composed of Tehran stock exchange companies economically active in 2007-2009 in stock market. Considering that industry type influences the results of this research, so we have to choose an industry as our statistical population. In this course, we consider active companies in foodstuff field whose names are included in the list of companies admitted in Tehran stock exchange as the research statistical population. The reason for choosing admitted in bourse is the accessibility of information related to these companies through review records, internet bases and also information banks of different software packages.

#### 3.2 Research variables

The independent variable of research is the economic added value (EVA). Economic added value is the residual profit achieved after reducing capital charge from the profit resulting from company operations. Research dependent variables are company size and managers paid emolument. In order to determine company size three prevalent criteria are used including: a) ledger asset value, b) sale sum and c) income and direct wage charge (manager paid emolument). "Necessity of research about definition of company size is inevitable. Research shows that governments use several definitions in this relation. Company size is determined through different indicators like sale value, asset value, market value and ...<sup>2</sup>"

#### 3.3 Research models

**EVA is calculated in the following way:**

$$EVA = (r - c) \times \text{capital}$$

$$EVA = (r \times \text{capital}) - (C \times \text{capital})$$

$$EVA = \text{NOPAT} - (C \times \text{capital})$$

$$\text{Capital} = \text{asset}$$

$$R = \text{capital return rate}$$

<sup>2</sup> .Fadaii Nejad, M.E. studying the effect of B/M ratio and company size with company's profit-making level; financial research magazine; no. 18; autumn and winter.

C= cost of capital= capital cost rate

The Rate of Return on Total Capital= capital return rate

$$r = \frac{NOPAT}{Capital}$$

#### 4. The results of examining the first hypothesis

There is a significant correlation between economy added value (EVA) and ledger asset value of food industrial companies admitted in bourse. Considering the information achieved from financial notes, food industrial companies from above hypothesis are tested for the year 2009. We first calculate Pearson correlation coefficient for economy added value (EVA) and ledger asset value:

$$r = \frac{cov(X.Y)}{\delta_x \delta_y} = -0.363$$

In order to test the significance of calculated correlation coefficient, we use T statistic:

$$T = r \times \sqrt{\frac{n-2}{1-r^2}} = -0.363 \times \sqrt{\frac{23}{1-0.131769}} = -1.868.5$$

There is no significant correlation between EVA and asset value in this year.

#### 4.1 Results of the first hypothesis

Table (1): Correlations

	Ledger asset value	EVA 2009
Ledgers asset value		
Pearson Correlation	1	-0.363
Sig. (2-tailed)	25	0.075
N		25
EVA 2009	-0.363	
Pearson Correlation	0.075	1
Sig. (2-tailed)	25	25
N		

Source: finding of research.

Correlation relation between economy added value (EVA) and ledger asset value for 2008 is examined by above method. In the confidence level of 95% we may say that there is a significant relation between economy added value (EVA) and ledger asset value in 2008 and this correlation is significant.

Correlation relation between economy added value (EVA) and ledger asset value for 2007 is examined and it was obvious that there isn't a significant relation between economy added value (EVA) and ledger asset value in 2007. Correlation between economy added value (EVA) and ledger asset value from 2007-2009 was examined and it was determined that correlation between economy added value (EVA) and ledger asset value is not significant.

Results of second hypothesis: There is a significant relation between economy added value (EVA) and sale of food industry companies admitted in stock market. Considering the results of sale test and economy added value (EVA) for testing year (2009), since p-value amount is not located in critical region H. hypothesis is accepted so there is not a significant relationship between economy added value (EVA) and sale in 2009.

Economy added value (EVA) correlation relation and sale for years 2007-2009 is tested and was determined that this correlation hasn't been significant. Results of third hypothesis: There is a significant relation between economy added value (EVA) and salary

and wage charge of food industry companies admitted in stock market so it was determined that there is not a significant relationship between economy added value (EVA) and salary and wage charge in 2009.

Considering results achieved through testing hypothesis, it was determined that there isn't significant relationship between economy added value (EVA) and salary and wage charge in 2007 and 2009, but in 2008 there is a relatively strong and inverse relationship between these two variables.

The correlation between economy added value (EVA) and sale during 2007-2009 was also studied and showed that in all years under study the correlation between economy added value (EVA) and sale in food industry companies is not significant.

According to the results of third hypothesis there is correlation between economy added value (EVA) and salary and wage charge of food industry companies during 2007-2009.

As is observed P-Value  $< 0.5$  and is equal to 0.06 so the correlation between economy added value (EVA) and salary and wage charge during all the years under study in food industry companies is significant.

## 5. Conclusion

In this study, we study the effect of economic added value (EVA) and emolument paid to financial managers through studying the relation of company size and the performance related to economy added value (EVA) has been investigated. Regarding the hypotheses we can discuss that during 2007, 2008, and 2009 there hasn't been a significant correlation between economy added value (EVA) and ledger asset value and economy added value (EVA) and sale, but the correlation between economy added value (EVA) and salary and wage charge during these years is significant and this correlation is weak and inverse. Considering above mentioned items the results obtained from investigation shows lack of significant correlation between economic added value (EVA) and company size (ledger asset value, sale and salary and wage charge) in measuring the performance of food industry companies in stock market during these years. Regarding the findings related to 2007, 2008, and 2009 we can conclude that considering industry type and ranking according to company size completely different results are presented compared to ranking according to EVA; depending to industry type the relation between company size and economy added value (EVA) will be different. For example in industries in which the difference between return rate and capital expense is positive the results obtained from ranking according to economy added value (EVA) are positively correlated while in industries in which the difference between return rate and capital expense is negative the results obtained from ranking according to company size and economy added value (EVA) are negatively correlated.

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