

**AS A NEW COST AND PERFORMANCE MANAGEMENT TOOL:  
ECONOMIC VALUE ADDED (EVA)**

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**SUMMARY**

Besides the proliferation of management sense based upon value, the importance of correct measurement of business performance has increased. Because of the inefficiency of the traditional accounting based measurements, EVA approach used frequently in recent years. The competition conditions that run up in recent years provide the globalization of financial market, the variation of these operations conducted on the market and the increase of mobility in the capital; furthermore they increase the importance of using the operating assets effectively and enable the operations that aim to increase operating value to gain more importance.

The change in the management goals requires the development of the means that aim to realize these goals, the incentive systems and the improvement of the criteria that will be used for measuring the degree of access to the main target. The efforts to raise operating value, searches for evaluating the operation performance more effectively and more objectively, and the improvement of performance measurements based on value can be evaluated within this scope. Economic Value Added and Market Value Added(MVA) take part in the performance measurements based upon value(EVA). The aim of this study is to explain a conceptual model of the Economic Value Added and Market Value Added(MVA) and how to apply these models.

**Key words:** Operation Performance, Traditional Performance Measurements, Economic Value Added, EVA

## **1. ENTRANCE**

Last years, there have been great changes in business life and economic order. The integrations and takeovers that have recently gained importance in business management, technological improvements and concepts such as innovativeness will help the business managers get competition advantage by raising the performance of the firms that they manage by taking decisions in a more complex situation. The competition conditions that have increased lately force the business firms to use their scarce sources more effectively and to enhance operation value. The efforts to enhance the operation value require the correct measurements of the operation value.

The firms activate their business in the national and international competitive markets. To increase profitability and competitive capability and to because of the traditional accounting based measurements are open to manipulations the firms have to use strategic accounting and management tools.

In this context, a measurement mean named EVA has been developed to use for the evaluation of financial performance by the consulting company, Stern&Stewart Since 1990s till today, the analyze methods like EVA, Value Added Management and Market Value Added have been used by many companions especially by the American companies(Topal, 2008, p. 249)

## **2. EVA (ECONOMIC VALUE ADDED)**

### **2.1. Definition of EVA**

EVA is an industry standart method of measuring a project progress an any given point in time, forecasting its completion date and final cost and analyzing variances in the schedule and budget as the project proceeds([www.wbdg.org.05.06.2009](http://www.wbdg.org.05.06.2009)). EVA is financial performance method to calculate the true economic profit at a corperation.

Abdeen and Haight investigated the relationship between EVA and MVA. They came to the conclusion that not only for whole company but also for each business line seperate relationships should be established.

The value-based performance measurement systems have come out after the competition conditions have increased and market-focused management sense has given its place to cost-focused management sense. The reason why value-based sense has appeared is that the firms evaluate their performance incorrectly. Since the traditional performance measurements don't take the capital cost into consideration, they are inadequate to measure the value created.

The value-based measurements enable the sources to be assigned in the correct way, allow the foundations to compare themselves with the others and give opportunity to get focused on investment decisions by brightening the capital costs.

Among the value based performance measurements EVA is the most common criterion in terms of providing ease of use, measuring the value correctly and creating a different culture by settling down an understanding to make up value in the foundation. EVA is a financial management system ranging from setting targets for the foundation to strategic planning, from budgeting to pricing, from creating incentive system to human resources.

The value-based management is the method that centralizes the shareholder's value into the mentality of the firm. The value-based can also be described as a management philosophy that uses analytical means and methods focusing on the single target that comprises of shareholder's value(Athanasskaos, 2007, p.1397-1411) Accordingly, the value-based contain three components(www.12manage.com.06.06.2009):

Creating value: How the company increases the maximum future value. (strategy)

Managing for value: Governance, change management, organizational culture, communication and leadership.

Measuring value: Evaluation.

To say briefly the value-based management is a management system that aims to create value, promotes and measures the value. In the early 1990s, the value based system came out as a comprehensive measurement and management system that combines the functional components of the shareholder's value and operating strategy within the framework of EVA. In 2000s, the value based management mentality made a great progress and became an actual performance evaluation system rather than be a one-dimensional financial measurement mean(Öztürk ve Demirgüneş, 2003, p.28)

<b>Table-1:</b> The Financial Criterion in Performance Evaluation	<b>Traditional criteria</b>	<b>New criteria</b>
Earnings per share		EVA
Market value		Market value added
Sale proceeds		CFROI
Assets proceeds		Cash Value Added- CVA
Total proceeds for shareholders		Net Value Added – NVA
Cash flow		Balanced Scorecard

**Source :** Şamiloğlu, 2004, 152.

EVA, described as the value achieved by purifying the operating profit from the capital cost that is used to make up this profit, was first used by Stern&Stewart. EVA expresses whether the actual economical profits or incomes are more or less than the minimum profit rate that the investors expect to get from the other risky investments probable to be compared( Steward, 1991, p.153)

Jackson ,on the other hand, regards EVA as a means that measures whether the investments made by the business firms provide the satisfying income or not and also regard it as the regulation of surplus profit and as the methods based upon discounted cash flow that measures the net present value used in the evaluation of the investments from this aspect(Jackson, 1996, p. 41-47)

Kudla and Arendt describe EVA as the difference between the profits acquired by the investments and the cost of total equity used for creating those profits. Kudle and Arendt indicate EVA's competence of measuring the net profit by taking the cost of all equity capital and liability into account as EVA's divergent point from the other traditional accounting measurements. In the same studies of them they stated EVA as a means that gives opportunity to the business performance to be evaluated monolith or periodical. They also indicated EVA as a means that give opportunity to the determination of the incentive and awards given to the managers and the determination of the insufficient product line(Kudla, 200, .98-101).

The main factor that featured the EVA concept is the feature of the market value maximization of companies instead of profit maximization from business targets. The business managers who aim the increase of their market value strive to get more competition superiority by focusing on creating long term value. Kleiman states that the main point that the company managers applying EVA in the companies they manage focus on is the increase of the firm's long term performance by creating value added in the firms instead of providing performance for the share of earnings(Kara, 2005, p.234)

Clinton and Chen searched the relationship between operating profit, surplus profit and EVA and tried to put forward what was new in EVA in the study they conducted in 1998. In the light of their evidence they stated that EVA gave the same results as does surplus profit in many terms and also stated EVA not to be a more superior evaluation criterion(Clinton, 1998, p.1998).

In the study they conducted in 2004, Gürbüz and Ergincan described EVA as the difference between net operating profit and the opportunity cost of whole capital invested in whole business or only in one project. Gurbuz and Engincan compared EVA and one of the traditional criteria used for determining equity share prices in their studies by taking the companies dealt in IMKB as models. According to the results of their studies, there was a high statistical relation between EVA and the market value of

the companies dealt in IMKB(Gürbüz ve Ergincan, 2004, p.1-5). Thus, EVA measures whether the operating business creates a value added through their investments or not by accounting the income acquired by the investments.

EVA is obtained by the multiplication of invested capital (debt and own capital) with the difference between earning rate acquired by invested capital and weighted average capital. As long as EVA, based upon cost-profit analysis, exceeds the capital cost that is gained in a period, this activity is probable to create value.

## **2.1. CALCULATION OF EVA**

EVA is a periodical sum of the years of the value that is created or lost by an operating business. EVA can be calculated not only for whole business but also separately for each part. When calculated whole business based or product based each department or product line must be regarded as separate business. EVA, calculated on the base of department or product, shows the value that each department or product creates or loses on behalf of the business. So, the chance for the comparison between products and departments comes up. EVA analysis aims the calculation of the value added created for companies' shareholder(Hacırustemoğlu, 2002, p.17). EVA analysis enables the necessary framework to the companies for examining the options that would increase the value for its shareholders(www.pazarlamadünyasi.com.05.06.2009).

EVA is a method to use for capital budgeting, value planning of shares, informing the investors and creditors, evaluation of the business performance integrally and periodically, determination of the incentives and awards to give managers and the determination of the product lines that are not profitable enough. It gives the businesses the opportunity to determinate annually or for short terms whether they have acquired acceptable (exceeding capital cost) activity profit through their investments or not. From this aspect it can be evaluated as the methods based upon discounted cash flows that measure the net value acquired by long term investments and also as the reorganization of Residual Income (Residual Income= Net Profit- Capital Cost) method(Kudla ve Arendt, 2000, p. 98-101).

EVA is conceptually based on the cost and profit analysis; so, as long as the profit acquired by an activity exceeds capital cost (the cost of debts and equity capital) that is used to get this profit, we can talk about the creation of value by this activity. EVA measures the competence of creating value added of the businesses, in other words the competence of the companies in economic profit creation by calculating the profit that exceeds capital cost. EVA is acquired by the multiplication of the capital (debt + equity capital) and the difference between the profit rate acquired by the capital and weighted average capital(Milunovich ve Tsue, 1996, p.104-115).

As shown in the figure below

$$EVA = \text{capital} \times (r-c) \quad (1)$$

Capital = Debt + Equity income,

r = Profit rate acquired by capital

c = Weighted average capital cost(Steward, 1991, p.153).

With another calculating method EVA is acquired by the subtraction of whole capital used to gain the profit from the net after tax profit of the business(Steward, 1990, p. 17).

$$EVA = VSNFK ( \text{ after tax net activity profit } ) - (c * x \text{ capital} ) (2)$$

Here;

VSNFK = After tax net activity profit

VSNFK = Sells – Activity expenses – Taxes.

As seen above, EVA is a method that takes up activity profits and the total cost of the capital used to get this profit together. EVA takes cost of equity debt into consideration beside cost of debt and from this aspect, it is seperated from the other performance measurements that takes just liability into account and that are based upon earning per share, equity capital profitability and reaturn on assets(Kidrommond, 2001, s .76). In this way, it determines the level of the expected provision of the shareholders' yield to have through their investments, also determines the needed expenses of the business performace for the activities of the business. It puts forward whether the business has gained a profit that exceeds capital cost or not so it constitutes of the indicator of the the increase or lose in value of the business in the period of observation(Yılğör, 2005, p. 65).

When the formulas given above are taken into account it will be possible to increase ecomonic value added of a business by(Lovata and Costigan, 2002, p. 215);

- Increasing after tax activity profit by decreasing costs and taxes
- Allowing for the investments in which the increase in after tax activity raise would be more than the increase in capital cost
- Not investing in assets and the activities that would get less profit than capital cost
- Creating an optimal capital structure in which total capital cost is minimised.

EVA can be used not only in the evaluation of total business performance but also in the evaluation of the performance of business' deparatments and units. In this way, it contributes to the determination of payments and incentive payments, evaluation of the managers, development of strategic planings on the level of product lines, units and

departments, assignment of usage effect of business sources in the subunits of the business(Grant, 1996, p. 41-47).

As seen in the formulas used for calculation of EVA, business is able to create more value by acquiring more activity profit over the present capital without increasing capital cost, using capital for the investments that exceed capital cost in the case of raising the capital, limiting the use of the capital in the fields of less earnings than capital are gained or retreating from those fields completely(Yılıgör, 2005, p. 66).

## **2.2. THE BENEFITS OF EVA APPROACH**

The application of EVA method in a firm highly benefits the firm and the important persons under the related of that firm. The usage of EVA method basically for the performance measurement of the firm gives analysts of the firm opportunity for figuring out the value parameters of the firm, beside this, the expansion value of sells, activity income, capital efficiency and income statement items such as the cost of sold products much better. EVA also enables analysts to head for longer term elements such as specific and systematic risks and the provision of capital income that is higher than the average. EVA method provides benefits for the investors in the issues like capital efficiency and provision of competition superiority in long term(<http://iktisat.wordpress.com>).

EVA reckons the expected economical return in terms of all investments (both past and future) and provides a very well managerial responsibility in terms of the investors' capital.

a. Although there is the compulsory for making necessary arrangement in calculating realist EVA value in terms of a firm carefully, the mensuration is generally easy in EVA.

b. It loads responsibility as it is a measurement that gives more control opportunity to top managers.

c. Another benefit of EVA is that its management gives opportunity its performance to be observed differently like the other based measures. For instance let's take two firms from the same sector. Firm A and firm B. Earnings per share of them both are the same. However, the firm A needs two times more capital than the capital of Firm B to gain the same profit. According to the value based management Firm B is more profitable than firm A. When looked from the point of traditional accounting model there is no difference in terms of performance.

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### **2.3. CRITICISMS AGAINST EVA APPROACH**

The general criticisms against EVA method can be listed as below:

a. The first criticism made against EVA is that the method has a commercial feature and it doesn't have a scientific base. However, the concept of economic profit is a concept that takes place in finance literature. EVA method is the same with the the concept of economic profitability that is available in finance literature in terms of basic logic and application and gives the same result in terms of the firm. Accordingly, the basis of EVA method can be said to be secure from the point of finance logic(Pablo, 2001, p. 5).

b. EVA method accepts firm's future dividend policy and the taxes applied by the state fixedly. However the fact that the future dividend payment and tax ratios can change should be kept in mind.

c. The application of this method is highly difficult for young firms since future assumptions are made based on the past performances of a firm in EVA method.

d. Since EVA focuses on the efficient use of capital, it is really significant for manufacturing industry and other traditional industries. But today many firms work for the sectors based upon more services, advanced technology and information. As less physical capital is used in these sectors the application of EVA is really difficult(Çam, 2006, p. 102).

e. The other criticism against EVA is that EVA method is deficient to determine market value by itself. According to this view, high EVA value doesn't mean high value(Ferdanez., 2001, p.122)

As an incentive and performance evaluation system, EVA method is accepted to be able to maximize business value and to give opportunity for future value evaluation from the past equity share prices' point of view and the application rates in business' are common. However, it is also argued that EVA is no more than the methods existed in the past and it doesn't carry any new items from this point. It is also discussed that although it is applied in the firms that are run in the countries whose market efficiency rate is high, its practice rate in the firms that exist in the developing markets is low.

### **2.4. EVA IN PRACTICE**



In this stage it is beneficial to talk about the way EVA is put into practice in the firms(Hacırüstemoğlu, 2002, p. 8)

- Some firm managements adopting EVA as value added measure have bound their payments systems to EVA. While some firms have made EVA based on the grounds of the system some, some have substituted it for other payment systems.

- Firms that use EVA to measure their success and failure do it by looking at the annual variation of EVA not its present value. While some firms simply reward a part of EVA that will be more in the future than this year, some reward their managers as long as they reach the expected EVA. Briefly, the reward is not regulated according to the present value of EVA in any way. The reason behind it is that it is based on subjective data.

- The firms that have adopted EVA apply it not only on the basis of firm but also on the basis of departments. Therefore, employees' success or failure is measured in accordance with the EVA by the department they are engaged with.

In addition to these, there are researches and portfolio managers who see transition to EVA as the way to provide excess profit. Though it is a method used for years, EVA comparison is still made in the simplest way; increase is evaluated as good news but decrease is bad for investors.

The adoption and application of EVA by firms doesn't guarantee that they will be successful and will create more value. For the achievement a firm should have a gaining strategy and an appropriate organizational structure. Considering the assumption that the organizational structure is appropriate there are 4 steps to take within the body of a firm(Young and Stephen, 2001, p. 78).

1. EVA means more than the calculation of profit in the firm. The change of firm's culture, attitudes and stance is necessary. Thus, primarily the attitude and posture of board management and top management for EVA method should be positive.

2. The main decisions of EVA programme that will be applied should be taken by submitting to board management. How EVA measurement centers will be explained and how EVA will be calculated should take place among these decisions. Before the calculation stage, what kind of accounting regulations will be made, whether there should be changes in corporation accounting, how often EVA will be calculated and whether whole capital that belongs to all corporation or capital cost about departments will be used should be compared.

**EVA in terms of Investmens Decisions of Firms:** When looked from the aspect of investment decisions EVA can be formulated in this way:

“EVA of an investment = Net return of investment – Capital cost of investment”.

In this definition net return means the part left after subtracting the returns that will be acquired via investments from expenses. Capital cost, though, means resource cost that will be paid to the ones who provide this source (banks or shareholders) in return for the source (money) necessary for the investment.

**EVA in terms of Personal Investment Decisions:** In the process of taking personal investment decisions EVA approach can be used. When looked from the perspective of finance, the application fields of EVA already comprise of personal investment decisions. Actually many people benefit from EVA approach without knowing while taking personal investment decisions. Anywhere in the world people want to appreciate their savings. The most significant reason behind it is that they have worries about future both for themselves and their families. Shares, currency, interest, plot, household, golden are just a few investment means through which people appreciate their savings. While taking investment decisions people consult either with each other or make use of their own evaluations as much as they follow economy. It is known how much return will be acquired as a result of some investment decisions(<http://www.byv.org.tr.06.05.2009>). For instance; it is known how much return will be gained after a sum of money is invested in one year long term deposit account. However, it is not valid for many investment means. When investment is made in share or currency it is not possible to guess how much return will be acquired as a result.

When seen personally, investment decisions whose EVA is high may affect people emotionally negatively. People, unlike companies, are living beings and they have emotions. Therefore, the decisions taken have emotional effect though they are economic.

Since human happiness is the combination of economical and emotional satisfaction, emotional value added (EVA2) beside economic value added (EVA1) should be taken into consideration for the personal decisions that are taken.

EVA can be formulated from aspect of personal investment decisions in this way:

EVA of chosen investment = Net return of chosen investment – Net return of the highest-yielded investment of the unpreferable investments”

### **3. CONCLUSION**

With increasing competition and globalization businesses need to measure not only the activities that they make to be able to continue their existence and its results but also they need to find out the flaws and remove them. To make this evaluation they need to set performance measurements that will introduce the issues such as cost, quality, manufacturing process and logistic issues with realistic data in an understandable way. As a performance measure EVA, forces the firms to make a creation of share holders value the number one priority EVA is changing the way

managers run their business. When business decision are aligned with the interest of the shareholders, it is only a matter of time before these efforts are reflected in a higher stock price.

Performance measurements determine the necessary information about the situation of business and help managers in terms of decisionmaking, planning, controlling and expediency and it also informs them about the fields that need amendment. The amendments made and constant controlling have great importance in the success of businesses. On one hand performance measurements provide correct, understandable and reliable data in terms of convenient management with business strategy, constant amendment, on the other hand, puts forward the tendency to success in business(Kabadayı, 2002. s74). Therefore; performance measurements should be paid great attention.

Since business strategies that aim to raise business performance have become significant competition means, new approaches and new method searchings have appeared in evaluation of business performance and market value. EVA is one of these methods.

EVA is a phenomenon that increases social welfare with knock-on effect. The companies that create better EVA pay much more to their employees and give better share of profits to their shareholders. As a social responsibility, the companies that produce more EVA, the employees and shareholders who earn more pay more taxes. States enable to raise social welfare by using these taxes for needy people or for the investments that serve for the purpose of whole society. The continuity of this chain effect and surplus production demand of social welfare may give companies opportunity to create better EVA.

In conclusion, EVA is a well accepted method in line with especially firm value maximization in all over the world and a method for which many studies have been conducted in finance literature. But is still accepted in our country neither by some theorist nor by some of the firms. However; when the fact that firm value maximization aim is the most significant aim for the firms is taken into consideration, EVA is considered to be a method that needs to be thought over especially by not only big firms in our country but also by small and medium scaled firms.

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