

# Considering of the Relationship between Economic Value Added, Stock Yield and Accounting Net Income Case Study: Iran

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## ABSTRACT

Economic value added is one of the accounting functional criteria. Herein this research, we are studying the relationship between the economic value added and stock yield and accounting profit. The variables that are studied herein this research, are namely Economic Value Added (EVA), Accessible Net Income for stockholders (NI), Net Operational Profit after Tax Deduction (NOPAT), Operational Cash Flow (OCF), and Remaining Interest (RI). Statistical population of this research is Tehran stock exchange companies. Since the statistical population of this research is large and number of existing companies at Stock Exchange, a few companies from among the said companies have been chosen. These companies consist of thirty foodstuff, beverage, rubber and plastic companies from 2004-05 to m2006-07. The results have revealed that variables of net income (NI), Economic Value Added (EVA) and Remaining Interest (RI) and Operational Cash Flow have meaningful effects at the level of 0.05% and Net Operational Profit After Tax Deduction at level of 10% have meaningful effects on stock yield rate. Moreover, considering the results obtained from Net Income (NI) have negative meaningful effects on stock yield and there is no positive relationship between Net Income (NI) and stock yield. Furthermore, according to results obtained, it has been found that Net Income (NI) variables have more effects (with a coefficient of 4.54E-12) compared to Economic Value Added (EVA) (with a coefficient of -3.67-E16).

**KEYWORDS:** Economic Value Added, Net Income, Stock Yield, Net Operational Profit, Operational Cash Flow, Remaining Interest.

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## 1. INTRODUCTION

Economic and financial relations and on a whole transactions have been formed since humans were created. First, these relations in primitive communities were so simple. After passage of time, small communities have gradually been established. Larger and the more advance the said communities were, the more complicated their economic relations would be. At first, these relations were in form of barter transactions. Companies were increasing grown, turned to large economic units. This has created financial and monetary markets and thousand persons throughout the world have acted upon investment in the said companies. In late 18<sup>th</sup> century, the range of activity of companies went beyond geographical borders as well. In the twentieth century, multinational companies have been appeared. Upon outburst of large companies and formation of the great concept of separation of ownership from management, creating a contrast, great contract of great interests among owners and managers, evaluation of operation of companies and manager and their leaders are among the issues, which are of great interest by different persons such as credit grantors, owners, government and even managers. In the view of stockholders, the extent of increase of wealth, either through increase of price and value of the company or through ash interest is of great interest. In the view of managers, such evaluations are of great interest by governments in consideration of evaluation of their performance and other sectors and amount of precise gratitude paid to them, as their absolute right. Great importance is attached to the said evaluations in order to materialize three objectives namely optimized allocation of resources as main goal, fair distribution of income and stabilizing economic conditions through participation in economic activities. In the view of banks and credit and finance institutions, perpetuation of activity of company and belief in survival of the company in order to provide loans and facilities granted is of great interest on consideration of rate and amount.

Usually, now the most important criterion for evaluation of operation of institutions is stock yield rate. The said criterion contains information concepts for investors by itself and is used for operational evaluation as well. When the said criterion decreases, it shall jeopardize the company and doesn't properly reflect operation of the company.

## **RESEARCH LITERATURE**

In 1998, Baykasoglu, understood that there was no meaningful relationship between non-numerical economic interest and value of stockholders' equalities or price of stocks. Contrary to the said findings, Yelkur, Rama, Herbig, Paul, (1993) reported that the economic value added, as an operational scale, has a relatively desirable effect, compared to Net Interest criteria.

O'Brien (1996-97) has shown that economic value added, compared to Net Operational Profit after deduction of tax doubles the fluctuations in ratio of market value/ explains nominal price of capital more desirably. While economic value added model has positive and negative coefficients for the economic value added. Moreover, he has indicated that changes in economic value added desirably explain fluctuations in stock market value noticeably.

Freeman, Ulson and Peneman (1982) studied the relationship between value added (including economic value added and cash value added) and net interest. This is the main goal of their research. For this purpose, the relationship between changes of net interest and respective data associated with economic value added and cash value added of the manufacturing companies, accepted by Brazil Securities and Stock Organization from 2001 to 2003 was tested. The statistical method in this research was correlation analysis through regression to OLS technique and respective tests have been conducted using SPSS. The results obtained from test of research hypothesis have revealed that there is a meaningful relationship between net interest changes and economic value added changes at all companies, subject of study discarding the industry to which they belong. Moreover, such relationship in all industries, subjects of study, except for equipments and motor vehicles industries has been confirmed. Moreover, respective results have shown that there is no meaningful relationship between net interest changes and cash value added changes in the companies, subject of study irrespective of type of their industry and separately based on the industries to which they belong.

Leo, Ovio, supporting the concept of economic value added claim that this index is the most outstanding operational criterion because as an evaluating criterion takes respective cost of opportunity of shareholders and timeline value of money removing alteration rose due to application of accounting principles. Contrary to common profiting criteria, economic value added helps the manager perceive expenses of stockholders and is regarded as real index for success of the company in creating or deteriorating value.

### **Research variables**

Independent variable: Economic value added, net value available for the shareholders, net operational profit after tax deduction, operational cash flow, remaining profit.

Dependent variable: Shares return.

### **Research hypotheses**

1. There is a positive relationship between economic value added and stock yield.
2. There is a positive relationship between economic value added and net income.
3. There is a less relationship between stock yield and Net Income (NI) compared to Economic Value Added (EVA).

### **Statistical method**

In this research, in order to calculate and to do descriptive comparison between tests and meaningfulness test of hypotheses, statistical analyses and cost-effectiveness will be used. In order to do descriptive analysis of collected data, Eviwes statistical software shall be used. The relationships among variable shall be determined as well.

### **Research Data**

Existing information has been obtained from thirty companies including fifteen foodstuff companies, fifteen rubber and plastic companies, available at Iran's Securities and Exchange Organization. Each company has been provided for Stock Exchange Organization.

**Analysis of Research Results**

Regarding theoretical analysis, the researcher does need a proper pattern to present his materials. Thus, the researcher uses respective patterns of cost-effectiveness for study the relationship between economic value added and stock yield and net interest.

**Statistical description of variables**

- EVA: Economic Value Added
- $EVA = RI + ACC_{adj}$
- Net income after sale + net tax incomes= NI
- NOPTA: Net Operational Profit After Deduction of Tax
- OCF: Operational Cash Flow
- Total Capital
- ACC<sub>adj</sub>: Net adjustments
- $OCF = NOPTA + accruals - K * \text{total capital} + ACC_{adj}$
- RI: Remaining interest
- $RI = (NOPTA - K) * \text{total capital}$
- Accruals-k: Financial obligations

Table 1: Estimation of coefficients and respective statistics

Remaining interest	Operational Cash Flow	Net Operational Profit After Tax Deduction	Net Income, accessible by stockholders	Economic Value Added	Stock yield	
3,01,E10	22930,37	11414,73	3,11E+11	7,63E+11	2,821429	Average
3,99E+9	3593,500	3352,500	1,52E+11	4,23E	0	Mean
1,84E+12	-315928,0	19811,0	1,47E+12	9,41E+15	19	Maximum
-7,59E+12	-172821,0	-182436,0	1,19E+8	-3,06E+11	-10	Minimum
2,02E+11	70514,29	49431,71	3,51E+11	6,99E+11	5,282754	Standard Deviation

As you see in the aforesaid Table, Operational Cash Flow has maximum average and mean. Moreover, the maximum amount of stock yield among the companies, subject of study is 19 and the minimum amount of the same is -10 and its mean is zero.

**Correlation among variables**

Table 2: Relationships of correlation among variables

remaining Interest	Operational Cash Flow	Operational Net Profit After Tax Deduction	Net Interest, accessible by shareholders	Economic Value Added	Stock yield	
0.106021*	0.115347*	0.232820*	-0.58766	-0.058958	1,000000	Stock yield
-0.016290	-0.035864	-0.025431	-0.097223	1.000000	0.058958	Economic Value Added
*0.287324	0.541579*	0.336863*	1.000000	-0.097223	0.58466	Net Income, accessible by stockholders
0.399867*	0.449303*	1.000000	0.336863*	-0.025431	0.232820*	Net Operational Profit
1.0000000	0.470646*	0.399867*	0.28732*	0.103290*	0.106021*	Remaining Interest

According to Table 4-4, the extent of correlation between independent variables and affiliate variable is designated. Considering the said table, each variable with a correlation, higher than 10%, has a meaningful relationship with each other. The said variables have been marked with an asterisk.

As you see in the said table, 23% of net operational profit after tax deduction has a maximum correlation with stock yield. Cash operational flow stands next at 11%. Remaining interest has a correlation of 10,1% . It shows that the remaining interest has a correlation with stock yield. However, economic value added doesn't

have a strong relationship with affiliate variable. Net income, accessible by stockholders has a negative correlation as well.

Table 3: Estimated results of various models

Prob (F)	Standard Deviation	Operational Cash Flow	Net Operational Profit after Tax Deduction	Economic Value Added	Remaining Interest	Net Income, accessible by stockholders	
0.000000	0.860064	-	-	-	-	249E-12	Model 1
0.000000	0.814103	-	-	-	-2.80E-16 0.7451	-	Model 2
0.000000	0.808040	-	-	-1.35E-20 0.0070	-	-	Model 3
0.000000	0.903851	-	6.84E-06 0.3621	-	-	-	Model 4
0.067001	0.449645	1.07E-05-0.3206	-	-	-	-	Model 5
0.000000	0.861724	-	-	-	-1.55E-14 0.9718	-2.54E-12 0.0041	Model 6
0.000000	0.860195	-	-	-2.54E-17 0.0053	-	-2.50E-12 0.0043	Model 7
0.000000	0.957374	-	4.89E-06 0.2268	-	-	-3.97E-12 0.0000	Model 8
0.000000	0.951777	1.81E-06 0.0966	-	-	-	-4.28E-12 0.000000	Model 9
0.000000	0.990338	-	-	-3.63E-16 0.0000	4.28E-13 0.0000	-4.10E-12 0.0000	Model 10
0.000000	0.978611	-	3.26E-13 0.0000	-	3.74E-13 0.0000	-4.17E-12 0.0000	Model 11
0.000000	0.980805	8.45E-07 0.7587	-	-	3.27E-13 0.0450	-4.19E-12 0.0000	Model 12
0.000000	0.983751	-	3.13E-12 0.4545	603,62E-06 0.0000	4,32E-13 0.0141	-4.28E12-0.0000	Model 13
0.000000	0.977989	5.49E-06 0.559	2.19E-06 0.1033	-3.67E-16 0.0000	2.77E-13 0.0305	-4.54E-12 0.0000	Model 14

According to the results of Table 4, considering Model 14 of Net Income variables and Economic Value Added (EVA) has negative and meaningful effects on stock yield rate and Net Income variables, Operational Cash Flow (OCF) and Net Operational Profit after Tax Deduction (NOPTA) has positive and meaningful effects on stock yield rate in such a way as upon increase of Net Income variables by one unit decreases stock yield rate by 4.54 E on the condition that other conditions remain constant.

Moreover, upon increase of remaining interest by one unit, stock yield rate will be increased by 2.77E-13 on the condition that other conditions remain constant. Upon increase of economic value added by one unit, stock yield rate will be decreased by 3.67E-16 units on the condition that other conditions remain unchanged. Upon increase of net operational profit after tax deduction (NOPTA) by one unit, stock yield rate will be increased by 2.19E-0.6 and 5.49-0E respectively provided that other conditions remain constant. According to estimated results, the relationship between Economic Value Added (EVA0 and stock yield is negative. Thus, we come up with this conclusion that our first hypothesis, based on positive relationship between Economic Value Added and Stock Yield is not accepted.

In consideration of results obtained from Table 3-4, and choosing Model 14 as the best model, respective results have shown that net interest has negative meaningful effects on stock yield. Consequently, the second hypothesis stating that "there is a positive relationship between net interest and stock yield" in economy of Iran and for existing foodstuff, rubber and plastic companies is not accepted.

According to the third hypothesis, we have stated that there is a less relationship between stock yield and Net Interest (NI) compared to Economic Value Added. According to respective results, it has been found that Net Income variables have more effects (with a coefficient of 4.54E-12) compared to Economic Value Added with stock yield (with a coefficient of -3.67E16) and eventually, the said hypothesis can't be accepted.

### Algebraic form of finalized accepted model with the two models 12 and 13

$$\text{Model 14: } R_{it} = (-4.54E-12)NI + (-3.67E-16)EVA + (2.19E-06)NOPTA + (2.77E-13)RI + (5.49E-06)OCF + e_{it}$$

$$\text{Model 13: } R_{it} = (-4.28E-12)NI + (-3.67E-16)EVA + (2.19E-06)NOPTA + (4.32E-13)RI + e_{it}$$

$$\text{Model 12: } R_{it} = (-4.18E-12)NI + (-3.27E-13)RI + (8.45E-07)OCF + e_{it}$$

### Conclusion

According to studies conducted, it has been found that Economic Value Added has negative and meaningful effects on stock yield rate and Net Income variables, Operational Cash Flow and Net Operational Profit after Tax Deduction (NOPTA) has negative and meaningful effects on stock yield in such a way that upon increase of Net Income variables by one unit, stock yield rate will be decreased by 4.54E on the condition that other conditions remain constant. Net Income (NI) and Economic Value Added has meaningful effects on stock yield rate and Remaining Interest, Net Operational Profit after Tax Deduction (NOPTA) and Operational Cash Flow don't have separate meaningful effects on stock yield rate.

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