

Investigate of the Effect of Leverage and Economic Added Value on Market Added Value of Listed Companies in Tehran Stock Exchange

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Abstract: The aim of study was to investigate the relationship between leverage and value-added economic value of companies listed on the stock exchange market in Tehran. For this purpose, 172 companies listed on the stock exchange information 6-year study (2008 to 2014) was chosen for it was available. To test the hypothesis linear multiple regression method was used. In order to investigate the relationship between independent and dependent variables are examined from two different aspects. On the one hand, this variable among different companies and on the other hand, in the period of 6 years old are tested. The data needed to test the hypothesis by using library and does faces directly from financial firms was extracted by statistical software's EXCEL and EVIEWS8 were analyzed. The results of tests indicates that financial leverage significant negative relationship with the market value of companies listed on the Tehran Stock Exchange However, operating leverage, leverage combined with significant economic value and market value of not attending.

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Keywords: economic value added, market value added, financial leverage, operating leverage, total leverage.

Introduction

Development of capital markets by raising the awareness of shareholders has increased the pressure on companies to have a better performance. Managers of companies now have a period ahead that obliges them to establish a new economic framework in their companies that better reflect the value and profitability. As the owners of business entities, shareholders seek ways to increase their wealth. Given that increasing wealth is the result of favourable performance of business units, evaluating the business unit is very important for owners. In management science, various indices are presented to assess the performance from different perspectives. These indices determine the purposes of performance evaluation. From a comprehensive perspective, performance evaluation is very essential and means a comprehensive look at all aspects that in fact reveal the signs of a firm management function.

Research background

Internal researches

Assadi et al. (2013) investigated in a research, the relationship of the information content of Economic Value Added (EVA) and traditional factors with Market Value Added of companies. The results of this research show that the information contents of economic value added are not superior to return on equity, net profit after tax and earnings per share to express the changes of Market Value Added.

Naderi Dahnavi & Hosseinzadeh (2012) investigated the effects of capital structure (financial leverage) on the economic performance of the company. The findings of this research show that there is a significant relationship between the degrees of financial leverage and economic performance of the company.

Talebniya and Shoja Esmail (2011) conducted a research for the comparison of the ratio of the market value added (MVA) to earnings and also the ratio of economic value added (EVA) to earnings in companies listed on the Tehran Stock Exchange (TSE) from 1382 to 1386 (2003-2007). The results obtained from this research indicate that there is a weak positive relationship between market value added (MVA) and earnings and also between economic value added (EVA) and earnings.

External researches

Vijayalakshmi & Manoharan (2015) conducted a survey of the effects of financial leverage of company on the indices of Economic Value Added and Market Value Added by using a sample of seven companies listed on the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE). They found that financial leverage has a tremendous impact on the indices of EVA and MVA in selected companies.

Alfred and Niresh (2014) investigated in a research, the relationship between leverage and Economic Value Added and also Market Value Added. Contrary to expectations, the results of the

study show that Economic Value Added and leverage have no impact on Market Value Added.

Kaouar & Nareng (2010) investigated the features of large companies that can be associated with the options of disclosing the economic value added of companies. This study showed that the application of Economic Value Added and the option of disclosing Indian companies are affected by company size, profitability, leverage and sales productivity.

Hypotheses of research

First hypothesis: Financial leverage has a significant impact on Market Value Added of listed companies on Tehran Stock Exchange.

Second hypothesis: Operating leverage has a significant impact on Market Value Added of listed companies on Tehran Stock Exchange.

Third hypothesis: Combined leverage has a significant impact on Market Value Added of listed companies on Tehran Stock Exchange.

Firth hypothesis: Economic Value Added has a significant impact on Market Value Added of listed companies on Tehran Stock Exchange.

Research approach

The present study is a descriptive research and in terms of objective, it is an applied research cause it is based on the analysis of collected information from the companies listed on the Tehran Stock Exchange (TSE). On the other hand, this is an ex post facto research. It means that the research is conducted based on the analysis of past data.

Statistical population

172 companies among listed companies on the Tehran Stock Exchange between 1388 and 1392 (2009-2014) have been chosen by systematic elimination.

Test model of research hypotheses

For testing the hypotheses 1 to 4 of this research, the following Multivariate regression Models are respectively used.

$$M1: MVA_{it} = \alpha_0 + \alpha_1 DFL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$$

$$M2: MVA_{it} = \alpha_0 + \alpha_1 DOL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$$

$$M3: MVA_{it} = \alpha_0 + \alpha_1 DTL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$$

$$M4: MVA_{it} = \alpha_0 + \alpha_1 EVA_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$$

In these models, MVA is the sign of Market Value Added (Dependent variable), EVA is the sign of Economic Value Added, DOL shows the Degree of Operating Leverage, DFL shows the Degree of Financial Leverage, DTL is the Degree of Total (combined) Leverage (Independent variables); SG is the sign of Sales Growth and Size shows the size of company (control variables).

The results of hypothesis testing

First hypothesis testing results

According to the results of table 4-6, t statistic related to the independent variable of financial leverage degree coefficient and its significance level (p-value) are respectively 4.88 and 0.00. Therefore, the variable of financial leverage has a significant impact on Market Value Added in companies listed on the Tehran Stock Exchange and the first hypothesis of research is approved with the confidence level of 95%. Variable coefficient (DFL) is negative. As a result, there is a significant negative relationship between financial leverage and Market Value Added in companies listed on the Tehran Stock Exchange.

As it can be seen in table 4-6, F statistic is significant with confidence level of 95%. Therefore, it is concluded that the research model is significant in overall.

Table 4-6: The results of Model 1 estimation test

M1: $MVA_{it} = \alpha_0 + \alpha_1 DFL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$				
Variable	Sign	Regression coefficient	T statistic	Probability
Degree of Financial Leverage	DFL	-0.02	4.77	0.00
Sales Growth	SG	0.2	9.79	0.00
Size of the company	Size	0.40	14.87	0.00
Constant part	C	-4.99	-13.03	0.00
Weighted Statistics				
Adjusted coefficient of determination	0.55	F statistic	8.52	
Durbin-Watson statistic	2.06	Significance level of F statistic	0.00	

Second hypothesis testing results

According to the results of table 4-7, t statistic related to the independent variable of operating leverage and its significance level (p-value) are respectively -0.67 and 0.49. Given that the error level for this research is 0.05, so the relationship between

the variable of operating leverage and Market Value Added in companies listed on the Tehran Stock Exchange is not approved. Therefore, the second hypothesis of research is not confirmed with confidence level of 95%.

Table 4-7: The results of Model 2 estimation test

$M1: MVA_{it} = \alpha_0 + \alpha_1 DFL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$				
Variable	Sign	Regression coefficient	T statistic	Probability
Degree of Operating Leverage	DOL	-0.00	-0.67	0.49
Sales Growth	SG	0.22	9.34	0.00
Size of the company	Size	0.41	15.25	0.00
Constant part	C	-5.15	-13.46	0.00
Weighted Statistics				
Adjusted coefficient of determination	0.56	F statistic		8.60
Durbin-Watson statistic	2.05	Significance level of F statistic		0.00

Third hypothesis testing results

According to the results of table 4-8, t statistic related to the independent variable of total (combined) leverage and its significance level (p-value) are respectively -1.90 and 0.056. Given that the error level for this research is 0.05, so the relationship between the variable of total or combined leverage

and Market Added Value in companies listed on the Tehran Stock Exchange is not approved. Therefore, the second hypothesis of research is not confirmed with confidence level of 95%. But if we consider the significance level as 0.90, the third hypothesis will be conformed. Also the kind of relationship is negative cause the t statistic is negative.

Table 4-8: The results of Model 3 estimation test

$M1: MVA_{it} = \alpha_0 + \alpha_1 DFL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$				
Variable	Sign	Regression coefficient	T statistic	Probability
Degree of Total Leverage	DTL	-0.00	-1.90	0.056
Sales Growth	SG	0.22	9.49	0.00
Size of the company	Size	0.41	15.05	0.00
Constant part	C	-5.07	-13.24	0.00
Weighted Statistics				
Adjusted coefficient of determination	0.56	F statistic		8.59
Durbin-Watson statistic	2.065	Significance level of F statistic		0.00

Forth hypothesis testing results

According to the results of table 4-9, t statistic related to the independent variable of Economic Value Added and its significance level (p-value) are respectively 1.18 and 0.23. Given that the error level for this research is 0.05, so the relationship between

the variable of Economic Value Added and Market Added Value in companies listed on the Tehran Stock Exchange is not approved. Therefore, the second hypothesis of research is not confirmed with confidence level of 95%.

Table 4-9: The results of Model 4 estimation test

$M1: MVA_{it} = \alpha_0 + \alpha_1 DFL_{it} + \alpha_2 SG_{it} + \alpha_3 Size_{it} + \mu_{it}$				
Variable	Sign	Regression coefficient	T statistic	Probability
Economic Value Added	EVA	0.19	1.18	0.23
Sales Growth	SG	0.20	8.23	0.00
Size of the company	Size	0.42	15.43	0.00
Constant part	C	-5.23	-13.65	0.00
Weighted Statistics				
Adjusted coefficient of determination	0.56	F statistic		8.67
Durbin-Watson statistic	2.05	Significance level of F statistic		0.00

Summary of results

The results of hypothesis testing and the status of hypotheses are shown in table 4-10:

Table 4-10: The overall results of the approval or rejection of hypotheses

Hypotheses	Independent Variable	The result of hypothesis testing
First hypothesis	Financial leverage	Approval of hypothesis
Second hypothesis	Operating leverage	Rejection of hypothesis
Third hypothesis	Total (combined) leverage	Rejection of hypothesis
Forth hypothesis	Economic Added Value	Rejection of hypothesis

Conclusion

The results of first hypothesis:

The results obtained from the first hypothesis testing show that financial leverage has a significant negative impact on Market Value Added of companies. It means that by increasing the degree of financial leverage, the Market Added Value of the company will decrease.

The results of second hypothesis:

The results obtained from the second hypothesis testing show that operating leverage has not a significant impact on Market Value Added of companies. It means that changes in Market Value Added are not influenced by the degree of operating leverage of the company.

The results of third hypothesis:

The results obtained from the third hypothesis testing show that total (combined) leverage has not a significant impact on Market Value Added of companies. It means that changes in Market Value Added are not influenced by the degree of total (combined) leverage of the company.

The results of forth hypothesis:

The results obtained from the forth hypothesis testing show that Economic Value Added has not a significant impact on Market Value Added of companies. It means that by increasing Economic Value Added, the Market Value Added doesn't change.

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