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Ratio of Book Value to Stock Market Value and Stock Returns of Food Industry Companies

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A B S T R A C T

This study examines the relationship between the ratio of book value to market value and the stock returns of food industry companies listed in Tehran Stock Exchange. With regard to the fact that stock returns is one of the most important evaluation measures to shareholders, if this relationship is approved, we can use the ratio of book value to stock market value as criteria for evaluating the return or to predict the return of the company. In the present study, active food industry companies in Tehran Stock Exchange since 2008 to 2011 (four years) have been studied. The relationships were obtained through the financial statements and other reports of above mentioned companies and after sorting were analyzed to test the hypotheses. Descriptive statistics were used to provide indexes and inferential statistics as well as regression models were used to test the hypotheses. These results indicate that there is a positive and significant relationship between the ratio of book value to market value and the stock returns.

Keywords: Book Value, The Value Of The Stock Market, The Ratio Of Book Value, Stock Returns.

INTRODUCTION

Investment necessity is undeniable for economic growth and development of any country. To provide the needed funds, fund resources will be required. The best source for funds is public savings. Accurate and proper guidance of wandering funds towards productive investments will lead to production increase, national gross growth and job creation, increased per capita income and ultimately public prosperity. So, a strong working structure should propel these savings into productive sectors and provide them with financial need. In this process the exchange can be a major contribution to propel the public capitals into production and through broker firms, divert them to the productive and commercial companies. Stock Exchange is a consistent and official market in which the accepted securities are traded in accordance with specific rules and regulations between buyers and sellers.

A brief overview of the stock history indicates that the first Stock Exchange formation refers to five hundred years ago. Iran with a twenty-some year experience is in its infancy and needs learning to make desirable and healthy progress(Burtonshaw-Gunn, 2017; Shapiro & Hanouna, 2019).

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Addressing research and conducting comprehensive financial, economic, social and cultural analyses about securities lead to growth and prosperity of the market, which is one of the main and important tools in the context of privatization(Bekaert & Hodrick, 2017; Madura, 2020; Shapiro & Hanouna, 2019).

However, in Iran country purchasers of securities are facing fundamental problems in decision making in the selection of companies stocks. Therefore, any research that can help investors to make optimal decision, certainly will lead to capital market favorable improvement. Stock return is an important indicator for the potential and current investors. This study examines the relationship between the ratio of book value to stock market value $\frac{BV}{MV}$ and stock returns in the food industry companies listed in Tehran stock exchange.

Book value of stock is total equity minus preferred stock value divided by the number of outstanding stock, and stock market value is obtained by the product of the number of stocks by the stock market price of the end of the cycle(Burtonshaw-Gunn, 2017).

The firm size is obtained by two indexes of the sum of sales and the sum of the stock market value. Stock return is obtained by the difference between the market value of each stock during one year period and cash flow resulting from the dividend which is divided by the market price of the first period of each stock(Avadhani, 2010; Briston, 2017).

At 1997 Burke on a study, entitled is size really an important issue, states that if the firm size is measured correctly, smaller firms have not necessarily higher returns than the larger firms. He believes that, as "Bans" expressed in 1981, the size effect will remain a mystery even if the empirical facts show that companies with smaller market value have higher returns than the companies with larger market value. Then what would be the solution to this riddle? Both of these aspects can be true. Theories do not explain why smaller firms have higher returns and if the firm size is measurement accurately, there is no evidence to show that smaller firms have higher returns(Fabozzi & Markowitz, 2011).

New economic theories predict when in the economy there is no relationship between firm size and returns, the relationship between firm market value and returns can be negative and companies with smaller market values will have higher expected returns.

He considers the company's market value as the discounted value of expected future cash flows of the company. When an investor decides to buy stocks of a company, his decision is not only based on the value of company’s assets but also is based on the discounted value of future cash flows of assets which he expects to obtain. If the market value of two companies with the same expected cash flows is compared, more risky companies have smaller market value than the companies that have less risk. Therefore, the market value is the measurement of the discount rate or risk of a company.

Accordingly, the research hypothesis that there is a significant relationship between the ratio of book value to stock market value and stock returns of food industry companies listed in Tehran Stock Exchange is proposed.

METHODOLOGY

The population of this study is the food industry companies listed in Tehran Stock Exchange. The main reasons for selecting the population of Tehran Stock Exchange are:

1. Information is clear and valid.
2. Information is available to researchers more easily than the other centers.

Due to limited statistical population, among the food industry companies listed in Tehran Stock Exchange, all companies were selected as the sample.

In order to calculate the research variables the following information is required for each year of the study course of study:

1. Number of company's stocks
2. Stock price of financial period termination
3. Sale
4. Equity of the company
5. Returns

The data for each of the sample companies was collected from performance report of these companies in Tehran Stock Exchange and the information contained in Rah Avard Novin software during the years 2014 till 2017.

Variables in the study included:

In this study, the ratio of book value to stock market value is considered as the independent variable and stock returns of the company is considered as the dependent variable.

Ratio of Book Value to Stock Market Value

Book value is obtained from total equity which is mentioned in the balance sheet. The stock market value is obtained from the stock number at financial period termination by the stock market price at financial period termination(Fabozzi & Markowitz, 2011).

Stock Returns of the Company

In this study, the total returns available in the performance report of Tehran Stock Exchange has been used. The SEC has defined stock return as follows:

Stock return is obtained by the difference between the market value of each stock during one year period and total cash flow resulting from the dividend which is divided by the market price of the first period of each stock(Fabozzi & Markowitz, 2011).

After gathering the information necessary to calculate these three variables and calculations were performed, using appropriate statistical methods and software (SPSS) statistical tests will be performed.

Procedure of the method is as follows:

Descriptive statistical calculations (minimum, maximum, mean and standard deviation)

Univariate chi-square test is applied to assess the relationship between the ratio of book value to market value and stock returns.

RESULTS

Table 1 yields return variable data related to active food industry companies in Tehran Stock Exchange after averaging for the years 2014 to 2017.

Table 1. Return of active food industry companies in Tehran Stock Exchange

	The Year 2014	The Year 2015	The Year 2016	The Year 2017
Pars Mino	0.2	19.3	121.94	103.37
Biscuit Gorji	119.18	106.27	117.38	93.65
Behnoosh Iran	12.69	107.2	189.48	166.09
Pak Labaniat	12.29	48.02	107.39	138.12
Pegah Khorasan	4.17	26.33	88.5	98.16
Pegah Esfahan	15.41	88.6	158.77	186.15
Shahd Iran	-9.23	-1.59	-10.91	2.94
Tose Sanaye Behshahr	0.02	107.92	139.88	180.77

In Table 2, the maximum and minimum returns of companies related to the years 2014 to 2017 are shown .

Table 2. Maximum and minimum returns of companies from 2014 to 2017

Description	Minimum	Maximum
The Year 2014 -Return	-2	119.18
The Year 2015 -Return	-1.59	107.2
The Year 2016 -Return	-10.91	189.48
The Year 2017 -Return	2.94	180.77

According to Table 2, the maximum and the minimum values are related to 2016. As a result in 2010 return has more volatility than the other years .

Table 3. Descriptive statistics of the returns of the years 2014 to 2017

	N	Mean	Std. Deviation	Variance
R87	8	19.0662	41.32075	1.707E3
R88	8	62.7562	44.95914	2.021E3
R89	8	1.1405E2	59.45257	3.535E3
R90	8	1.2116E2	60.54709	3.666E3
Valid N (list wise)	8			

Table 3 shows the maximum data scattering related to the mean in years 2016 and 2017.

Table 4. Book value to market value of active companies in Tehran Stock Exchange

	The Year 2008	The Year 2009	The Year 2010	The Year 2011
Pars Mino	۳,۸۸٦	1.026	0.689	0.922
Biscuit Gorji	0.499	0.751	0.51	0.284
Behnoosh Iran	1.135	0.284	0.198	0.158
Pak Labaniat	0.861	0.767	0.555	0.33
Pegah Khorasan	0.811	0.722	0.499	0.526
Pegah Esfahan	1.035	0.702	0.6002	0.658
Shahd Iran	1.22	0.931	0.826	0.735
Tose Sanaye Behshahr	2.021	1.13	1.163	0.784

To test the research hypothesis, the linear relationship between research variables was as follows.

Table 5. The significance of independent variables coefficient of the first sub-hypothesis

Regression Model	Expected sig.	Coefficients	Std. Error	t	Sig.
Fixed Value	+	40.933	2.380	17.196	0.001
The ratio of book value to stock market value$_{x1}$	+	22.523	1.212	18.580	0.001

The ratio of book value to market value and the stock returns based on the regression model that are shown in Table 5, have positive and significant relationship. The result is determined through the sign of the regression model coefficients and significance level (in t-test). The results of ANOVA and Fisher test (F=9.764) indicate significance of the means difference of the ratio of book value to stock market value and the stock returns and coefficient of determination (R^2=0.246) expresses the amount of the effectiveness of this feature on stock returns.

CONCLUSION

In the present study the relationship between the ratio of book value to market value and the return (R) in the food industry companies listed in Tehran Stock Exchange has been studied. Attempt has been made to investigate the relationship between the ratio of book value to stock market value and stock market through regression equations. The ratio of book value to stock market value is obtained from dividing the book value of the stock by its market value. With regard to the fact that stock returns is one of the most important evaluation measures to shareholders, if this relationship is approved, we can use the ratio of book value to stock market value as criteria for evaluating the return or to predict the return of the company.

Results showed a significant positive correlation. The result is determined through the sign of the regression model coefficients and significance level (in t-test). The results of ANOVA and Fisher test (F=9.764) indicate significance of the means difference of the ratio of book value to stock market value and the stock returns and express a significant and positive linear impact on the stock returns. Despite of high inflationary conditions in Iran financial markets, it is suggested that financial statements be prepared also in accordance with inflationary conditions. As a result it becomes closer to the current values, and the book value of the stock becomes closer to reality. Thus the ratio of book value to stock market value will be more realistic, as well.

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