Relationship between Financial Ratios in the Stock Prices of Agriculture-Related Companies Accepted On the Stock Exchange for Iran

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ABSTRACT

Stock prices in the industry of stock market are considered a serious discussion. The main theme of the relationship between financial ratios and stock prices in the food groups, sugar, agricultural machinery and equipment and related services to companies listed on the Stock Exchange. Therefore, the first data from 1999 to 2009 for agricultural sector is associated with a stock in selected companies. Financial variables including liquidity ratios (current ratio), the activity of (asset turnover), the profitability (rate of return on assets and return on equity), financial leverage (debt) and equity prices is agriculture-related industries. The results of the financial ratio, stock prices depend on Agriculture indicates that the debt ratio, current ratio and return on assets ratio have a significant effect on stock prices. On the other hand, the profitability ratio (rate of return on equity) positively and significantly related to stock exchange agriculture of industry. Finally, the significant negative relationship with stock market activity in the stock industries of agriculture.

KEY WORDS: financial ratio, stock prices of agriculture

INTRODUCTION

Economic development of any country depends on the money and capital markets on the economy of any country. Given the importance of the capital market in mobilizing savings to the business community, identify variables affecting the stock price has great importance (Moradi, 2006). The most important resource that can give visibility to the investor in the company information, financial statements (Ala, 2005).

The financial statements give a decision on the guide. Using financial ratio analysis can be largely attributed to changes in stock prices was discussed. Therefore, this study examines the relationship between financial ratios and stock prices of companies listed on the Stock Exchange for industries dependent on the agricultural sector in the period beginning in 1999 to 2009 will be discussed.

Research in the field of financial and stock price is as follows:

He then (2002) Effect of income and book value of the stock price this year concluded that profits are more explanatory power than its book value when earnings forecast to a profit year after year is different from the explanatory power degree higher than the current year’s profit.

Inclusion and colleagues (2006) Effect of profits on stock price Turkey to the conclusion that the book value is an important indicator of stock price and earnings and adjusted book value due to inflation, a total of more than 75% of stock price changes explained.

Long Chen (2007) examined the factors affecting the stock price he pays and the results suggest that the greatest impact on stock prices is cash flows.

Dymytrpvs and Stereo (2009) as "the relationship between financial statement values and its effect on stock prices,” a study of 101 companies listed in the Athens Stock Exchange and at the same time for a period of 10 years due to accruals, earnings per share and six specific ratio as an indicator of stock price manipulation in
the financial statements were examined. Their results showed that six of the study and both obligation) voluntary and involuntary (growing importance in describing stock prices will change, but the importance of nondiscretionary accruals compared with higher discretionary accruals. The results their research showed that the variables most relevant variable accounting profit or anything current assets investment managers, the better affect it will have on stock prices.

Torpedo(2001) to determine the predictability of profitability of companies in the Stock Exchange using their financial ratios. In his own research, financial ratios with financial ratio analysis to less low correlation with each other and still have a high correlation with the reduced profitability and predictability by multiple regression financial ratios, including profitability test contract. The companies with low profitability and high profitability divided into two groups and the results of his research indicate a high potential for profitability is projected financial ratios.

Miri and Abraham (2010) linear and non-linear relationship between the ratio of stock prices in the financial and non-metallic minerals industry Tehran Stock Exchange for the years 2003 to 2007 were reviewed. The results showed that linear and nonlinear relationships between financial ratios and stock prices there is no intercept models are able to explain the stock price. Nonlinear models better than the other models can explain the stock price and in the ratio of activity in the circulation and profitability ratios return on assets, return on capital and the percentage margin on sales can better share price to explain.

Saleh nejad and brave (2010) the rate of return on assets and return on equity and leverage shares listed on the Stock Exchange multivariate regression variables lagged. Results test hypotheses suggest that Return on assets and return on equity stock companies listed on the stock exchange is significant and not significant leverage ratio.

Hashemi and B. Oven (2011) study as regards the assessment of the information content of accruals and financial ratios of the stocks of companies listed on the stock exchange showed that indicate significant assumptions earnings per share, the ratio of working capital assets, return on assets, net profit on sales and asset turnover in the stock price.

These studies show that the impact of the financial ratios of the stock. The study cited research to investigate changes in stock prices and use information presented in the financial statements of financial ratios, stock food groups, sugar, machinery and equipment, agricultural and related services to the agricultural sector (annually) review. Placed. The population of companies in the food industry, sugar, machinery and equipment and agriculture and services is dependent on the stock exchange and the requirements for inclusion in the sample are as follows:

Access to financial information of listed companies is possible.

None of the companies in the fiscal year does not change during the period under review. Also during the period under investigation is exchanged.

The purpose of the companies listed in the stock of the companies in this industry was dependent on the agricultural sector.

Research Methodology:

In the present study, the effects of financial ratios of the stocks in the food industry, sugar, machinery and equipment, agricultural and related services listed in a panel method is used.

Panel data, behavior and personal experiences at any time to other experiences and other behaviors at some point during their relationship. In this type of data can be achieved more flexibility in determining individual differences phenomena over time. Integration of time-series data increases the degree of freedom and fewer restrictions faced model (Baltajy, 2001). In addition to these advantages, several other advantages for panel data were as follows: the first is to control individual heterogeneity. The use of panel data makes use of data, reducing the multi collinearity between them and the more efficient use of time series data and cross-sectional estimates compared to the separately. Panel data to assess the effects that simply are not identified in time series data and cross-sectional suitable. The third panel data better able to adjust to the dynamic and complex behavioral models are better suited for processing and testing. Against these benefits, data collection, measurement errors and subsequent costs of collecting the data have mentioned the problem of data (Baltajy, 2001).

Since the estimation of panel data regression models with respect to assumptions that intercept, slope coefficients and the disruption to be accepted, it depends. Therefore, it is important to specify the model in this model. Baltajy (2001), with the introduction of one-way and two-way error component models, panel data regression model is as follows:

\[ y_{it} = \alpha + X_{it}'\beta + u_{it}, \quad i = 1, \ldots, N; \quad t = 1, \ldots, T \]  

(1)

The subtitle indicates individuals, households, firms, and countries like it. In other words, the cross shows. While the indicator. A scalar, Vector, and is, my observation is the explanatory variable.

Among the financial variables included in the liquidity ratio (current ratio), the ratio of activity (asset turnover), compared profitability (return on assets and return on equity) and financial leverage (debt ratio) of
each of the groups linked to the agricultural sector and stock prices of machinery and equipment (Combine), Department of Agriculture and Related Services and food (dairy clean, feed Barking, trademark) and sugar (glucose Torbat-e Jam, sugar of the world).

In this study, the presence or absence of long-term relationship between the variables tested Model play. To this end, stability and co-integration tests have been used. Also, according to the panel data estimation methods, to obtain the proper way to estimate the effects have been proven to work. Then, the tests and methods have been investigated.

Static tests, including the tests to estimate a regression coefficient is reliable. To prevent the creation of artificial regression tests used static. In determining the stationary panel data, there are different tests this study, static variables Levin, Lin Chow Augmented Dickey Fuller and Phillips Perron is used. Variables in the model, there is a possibility of spurious regression. To avoid spurious regression situations, co-integration test as a pre-test be used. (Granger, 1986). Thus, the results can be trusted only in terms of co-variables (Pdrvny, 2004), the co-integration by combining data from seven different statistics in two groups of four in the group and three test statistics between the groups can be checked as follows out:

\[ \Delta y_{it} = \alpha_i + \beta_1 t + \gamma_{1i} x_{1it} + \gamma_{2i} x_{2it} + \ldots + \gamma_{Mi} x_{Mit} + c_{it} \]
\[ i = 1,2,\ldots, N \]
\[ t = 1,2,\ldots, T \]
\[ m = 1,2,\ldots, M \]

After calculating the above equation, the following auto model for disturbing component is calculated.

\[ \hat{e}_{it} = \hat{\alpha}_{i} + \hat{\beta}_{i} \hat{U}_{it} \]

In the absence of co-integration test within a group considered as null hypothesis and assumptions are as follows:

\[ H_0 : \hat{\alpha}_i = 1 \]
\[ H_1 : \hat{\alpha}_i \neq 1 \]

In this way a ~ i have the same values. Statistics obtained from statistics panel with group, co statistics data mean panels. Seven statistics derived from research group prefix Diki- Fuller t-statistic for only two parameters similar to generalized statistics. Five other statistics, nonparametric and four of the five test statistic is Phillips and Perron. The suitability of the parametric test for panel data medium, in this study, the test was used. The method of calculating this statistic is as follows. First using the following equation residuals are calculated:

\[ \Delta y_{it} = b_0 \Delta x_{1it} + b_2 \Delta x_{2it} + \ldots + b_m \Delta x_{mit} + c_{it} \]

This indicates that the relationship remains. The variance is run according to the following equation:

\[ \hat{\Delta}_{y_{it}} = \frac{1}{T} \sum_{t=1}^{T} \hat{\Delta}^2_{y_{it}} + \frac{2}{T} \sum_{t=1}^{T} \left( 1 - \frac{1}{k_t} + 1 \right) \sum_{t=1}^{T} \hat{\Delta}^2_{y_{it} \Delta y_{i,t-1}} \]

Then we calculated the variance:

\[ \hat{s}_{1}^2 = \frac{1}{T} \sum_{t=1}^{T} \hat{\Delta}_{y_{it}}^2 \]
\[ \hat{s}_{2}^2 = \frac{1}{N} \sum_{i=1}^{N} \hat{\Delta}_{y_{it}}^2 \]

At the end of the test

\[ \text{Panel} - t = \left[ \sum_{i=1}^{N} \sum_{t=1}^{T} \hat{\Delta}_{y_{it}}^2 \right]^{-1/2} \sum_{i=1}^{N} \sum_{t=1}^{T} \hat{\Delta}_{y_{it}}^2 \Delta \hat{\Delta}_{y_{it}} \]
\[ \text{Group} - t = N^{-1/2} \sum_{i=1}^{N} \left[ \sum_{t=1}^{T} \hat{\Delta}_{y_{it}}^2 \right]^{-1/2} \sum_{i=1}^{N} \hat{\Delta}_{y_{it}}^2 \Delta \hat{\Delta}_{y_{it}} \]

Then standard is as follows:
Which respectively mean and variance of the values in the Pdrvny (1999) there. For in this study, fixed and random effects panel data is used for.

RESULTS AND DISCUSSION

In order to determine appropriate strategies to estimate, in the present study were first static test variables. Static test results are presented in Table 1. The results show that the reliability of variables for non-static variables on stock prices are after financial ratios according to the results of this test, because of the static variables co-integration tests have been used; state of stagnation variables, only if there is a relationship between variables Cumulative results can be trusted.

According to Table 1, none of the variables in the first part of panel data, the level is not static. But according to the results of the first differences of the variables, assumptions and variables are significant. Thus, according to the results of this test, because of the stagnation level of co-integration tests have been used; state of static variables, only if there is a integration relationship between variables can be trusted results. Accordingly, the purposes of this study, parents were used to estimate the collective model.

Table 1: Stationary variables (financial ratio and price of stock).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Stationary status</th>
<th>Levin lee Chow Test</th>
<th>Dickey fuller test</th>
<th>Philips Peron test</th>
</tr>
</thead>
<tbody>
<tr>
<td>the stock prices of agriculture-related companies</td>
<td>Y</td>
<td>I(1)</td>
<td>-3.87</td>
<td>0.000</td>
</tr>
<tr>
<td>financial leverage ratio (debt)</td>
<td>X1</td>
<td>I(1)</td>
<td>-5.70</td>
<td>0.000</td>
</tr>
<tr>
<td>profitability ratio (rate of return on assets and return on equity)</td>
<td>X2</td>
<td>I(1)</td>
<td>-8.03</td>
<td>0.000</td>
</tr>
<tr>
<td>return on assets ratio</td>
<td>X3</td>
<td>I(1)</td>
<td>-5.22</td>
<td>0.000</td>
</tr>
<tr>
<td>activity ratio</td>
<td>X4</td>
<td>I(1)</td>
<td>-6.11</td>
<td>0.000</td>
</tr>
<tr>
<td>liquidity ratio (current ratio)</td>
<td>X5</td>
<td>I(1)</td>
<td>-5.13</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: research findings

In this part of the test, Group t Panel T is used then the standardized test zeros Suppose that there is no relationship between variable obtained from integration is rejected. According to Table (2) long-term relationship between the variables there. According to the null hypothesis can be rejected. Rejecting the assumption long-term relationship between the variables there. It should be noted that co-integration test only tells presence or absence of long-term relationship and this relationship and how the sign can not be determined with this test.

Table 2: Result of cointegration test.

<table>
<thead>
<tr>
<th>Cointegration test</th>
<th>estimator</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.38</td>
<td>Panel adf-stat</td>
</tr>
<tr>
<td>-2.37</td>
<td>Group adf-stat</td>
</tr>
</tbody>
</table>

Source: research findings

Hence to the relationship between liquidity ratio (current ratio), the ratio of activity (asset turnover), compared profitability (return on assets and return on equity), financial leverage (debt) and equity prices industries related to agriculture in the form of cross-sectional and time fixed effects panel estimates that the test results presented in the following tables is finally fixed effects model was used to check out.

Table 3: results of cross and time fixed effects.

<table>
<thead>
<tr>
<th>probability</th>
<th>estimator</th>
<th>Effects test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.005</td>
<td>3.47</td>
<td>Estimator F for cross effects</td>
</tr>
<tr>
<td>0.000</td>
<td>75.24</td>
<td>Estimator F for cross effects</td>
</tr>
<tr>
<td>0.87</td>
<td>0.50</td>
<td>Estimator F for time effects</td>
</tr>
<tr>
<td>0.74</td>
<td>6.57</td>
<td>Estimator F for time effects</td>
</tr>
<tr>
<td>0.10</td>
<td>1.59</td>
<td>Estimator F for time and cross fixed effects</td>
</tr>
<tr>
<td>0.02</td>
<td>29.34</td>
<td>Estimator F for time and cross fixed effects</td>
</tr>
</tbody>
</table>

Source: research findings

According to the results of studies in Table 4, financial ratios industries related to agriculture was estimated using ordinary least squares method. Results for the price of the stock exchange industry are dependent on the agricultural sector shows that the leverage ratio (debt ratio) is negative but not significant. The profitability ratio (return on equity) and significant coefficient obtained 54/1103. Other than profitability, the return on assets (net
income / total assets) is not significant. Activity ratio has significant negative correlation with stock prices in the agricultural sector is the exchange industry. The current rate is not significant. What is important in the process of return on equity capital that industry stock exchange prices depend on agriculture for a significant direct relationship. F model is significant.

**Table (4):** results of estimation for financial ratios in the stock prices of agriculture-related companies accepted on the Stock Exchange in Iran

<table>
<thead>
<tr>
<th>t test</th>
<th>coefficient</th>
<th>variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.31</td>
<td>7650.74</td>
<td>C intercept</td>
</tr>
<tr>
<td>-0.91</td>
<td>-661.48</td>
<td>X1 financial leverage ratio (debt)</td>
</tr>
<tr>
<td>1.35</td>
<td>1103.54</td>
<td>X2 profitability ratio(rate of return on assets and return on equity)</td>
</tr>
<tr>
<td>0.47</td>
<td>1935.79</td>
<td>X3 return on assets ratio</td>
</tr>
<tr>
<td>-1.69</td>
<td>-1443.56</td>
<td>X4 activity ratio</td>
</tr>
<tr>
<td>1.15</td>
<td>3637.95</td>
<td>X5 liquidity ratio (current ratio)</td>
</tr>
</tbody>
</table>

R² = 0.16

F = 2.8

Source: research findings

**Conclusion:**

Conclusions The results indicate that the stock price is dependent on the agricultural sector in the face of the financial exchange industry reacts to the exchange industry related to agriculture, including the food industry, sugar, machinery and equipment and agriculture and services is dependent. The relationship between financial ratios and stock exchange industries related to agriculture co-integration test confirms the long-term relationship.

Results of financial exchange industry prices depend on agriculture shows that the leverage ratio (debt ratio), current ratio and return on assets ratio have a significant effect on stock prices. On the other hand, the profitability (return on equity) and a significant positive correlation with the stock price exchange industry is dependent on the agricultural sector. Finally, the activity is also a significant negative correlation with stock prices in the agricultural sector is the exchange industry.

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