The Role of Economic Factors in Profitability of Accepted Companies in Stock
Exchange of Tehran

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Abstract

For every business enterprise, net profit or specific equity after tax deduction for a specific time period is the final result of investment activities, and financial and operational provision. These activities can result from managerial decisions and a group of extrinsic or intrinsic environmental factors. This study examines how firms’ profitability is impressed by selected economic and financial indices or what is the relationship between profitability and mentioned indices. In other words, this study probes if there is any relationship between profitability and selected indices according to general accepted theory. Moreover, the results from data analysis may lead to some useful strategies for a better profit management. In this study, the data of 42 companies were analyzed in Stock Exchange of Tehran, using an econometric framework from 2008-2011. Return on equity (ROE) and return on assets (ROA) were regarded as main profitability indices (dependent variables); while current ratio, financial leverage (long-term debt to total capital and long term debt ratio), annual income growth and GDP were considered as independent variables. The correlations between dependent and independent variables were tested, using combined regressions. At 95% confidence level, however stockholder equity or asset return is regarded as the dependent variable; the results show direct and significant correlation between liquidity (current ratio) and profitability of the firms. Maybe the most important reason for that is growing inflation rate in Iran which causes high rise of basic products’ prices such as manufacturing raw materials and machinery in recent years. When asset return is regarded as profitability criterion, it is concluded that there is a negative and significant correlation between financial leverage and profitability at 90% confidence level.

Keywords: PROFITABILITY, FINANCIAL LEVERAGE, OPERATIONAL LEVERAGE, LIQUIDITY, GDP, GNP, ROA, ROE, COMBINED DATA, ECONOMETRICS

1. Introduction

Financial reports are one of the most important accounting products whose function is providing essential information for assessing performance and profitability, as well as predicting cash flows of the firms. One accounting item, mentioned in profit/loss statements, is net profit which is calculated in obligatory system, impressed by accounting trends and selected by management. Accepted accounting standards give discretion to the managers to select different accounting methods. Then, the managers can select time, identify costs and
incomes and their expenses. For the reasons such as job safety, reward, firm value increase, and other factors, managers may overstate their firms’ profits to offer a desirable picture from their performances. In other words, they may manage the profits. Thus, discretionary accruals increase, enhancing the space between operational profit and cash flow. This leads reported profit to have a weak performance although it should be a reflection of real performance of economic units. The quality of financial reporting has great importance for the researchers and investors. Accounting information quality is affected by the factors related to the demands for such information to be used in contracts and motivate managers for managing digits. Both of these parts are affected by the firms' public ownership. Since the quality of financial reporting has many dimensions, some of them are examined in this paper, related to the previous studies. The effects of public ownership on the quality of accounting has been studied in previous literature in a limited way.

2. Literature review

At the moment, the role of big companies in building the economy of the countries is not covered for anyone. These companies use many economical resources (such as work force, raw materials, managerial sources, and etc); in return, they play a great role in developing the economies of the countries for their high production and sale amounts. For this reason, debates on these companies and their roles in development, their goals, performance, control, division, and etc are considered by the theoreticians and researchers of applied sciences. Especially, in recent decades, most classic theories about the companies have been revised and new theories like Agency Theory, Ownership Rights Theory, And Investment Portfolio Theory have been introduced.

Profit organizations

From traditional perspectives, the major goal of a company is maximizing earnings and value for the stakeholders. But, if it is regarded as a collection of contracts, the supposed goals for the company become meaningless; thus, the purposes of contract sides (e.g. maximizing earnings) should be concerned. Since competition is the essence of market or capitalism, it is theoretically postulated that in fully competitive markets, economic factors are balanced. So, the goal of those contracts is reaching equilibrium.
Earning maximization

Before buying stocks, stakeholders evaluate management efficiency of the company. A representation of management efficiency is the optimum usage of resources in the company which leads to the stock return. Return is considered as the index of evaluating managers’ efficiency. Efficiency is related to the optimum application of existing resources during the operational trends of a unit, inducing higher earnings. In other words, efficient economy is the correct combination of production factors such as work, land, capital and management.

Wealth maximization

The second goal of most companies is maximizing the value of the companies in long term, mostly referred as wealth maximization. Instead of direct emphasis on the earnings as a goal, the focus is on the return, resulting from company value; therefore, a bilateral correlation exists between the present value of the company and its long-term value. The manager who aims to maximize his wealth, concerns the current stock value of the company as the main factor of wealth increase. This strategy balances wealth maximization and its related goals such as growth, stability, risk avoidance, and stock market prices.

Grinblatt and Moskowitz (2004), Gutierrez and Kelly (2008) showed that trend consistency in capital return in the past is a determinant of future price changes.

Increasing research body on the predictability of stock return creates the picture that doesn’t match with traditional market model based on the supposition that public accessible information are immediately reflected in market prices. Three previous decades have witnessed empirical evidences that show that future price changes can be predicted from the trend of their previous performance like stock returns (Jegadeesh and Titman 1993, 2001; De Bondt and Thaler 1985, 1987) and cash flows and dividends (Lakonishok, Shleifer, and Vishney 1994).

The researches on the relationship between accounting criteria and future price changes only focused on the ability of past dividends size in predicting expected returns. Although the relation between accounting variables consistency and future price changes.

Park (2008) stated that after terrorist attacks to global trade center, investors overreacted to the stock prices of insurance companies in Stock Exchange of America. He found evidences, indicating the reverse movements of stock return of insurance companies after Sep 11th, proving their overreaction in short terms. He found the similar results as a risk criterion even after controlling market β. He concluded that the reason for investors' overreaction is the existence of main ambiguity about the stock future in the market after that event.
The present study aims to answer the question that whether the investors react to the growth stability in quarterly performance measures of accounting in the accepted companies of Tehran Stock Exchange. Answering this question can facilitate investors' decision-makings, encouraging them to use the ideas and analysis of financial analyzers.

3. Research hypotheses

The hypotheses of the study are as follows:

1. There is a significant correlation between profitability and measured liquidity with current ratio of the firm.
2. There is a significant correlation between profitability and measured financial ratio with long-term debt to the sum of total long-term debt and capital ratio of the firm.
3. There is a significant correlation between profitability and annual income growth of the firm.
4. There is a significant correlation between profitability and GDP growth in the firm.

Profitability has two criteria: ROA and ROE

4. Methodology

Statistical population of this study included accepted companies in Stock Exchange of Tehran. Since sampling was purposeful, the companies with specific features were selected. Those features are shown in Table 1.

<table>
<thead>
<tr>
<th>Total number of statistical population (before restrictions and based on Rahavardnovin software)</th>
<th>461</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samples number after omitting investment companies, financial intermediates, holdings, banks, and Lasing</td>
<td>433</td>
</tr>
<tr>
<td>Samples number whose stocks were transacted during the study</td>
<td>310</td>
</tr>
<tr>
<td>Samples number whose fiscal year ended in the last month of winter</td>
<td>237</td>
</tr>
<tr>
<td>Samples number with unchanged fiscal year during the study</td>
<td>237</td>
</tr>
<tr>
<td>Samples number accepted in Tehran Stock Exchange before 2010</td>
<td>234</td>
</tr>
<tr>
<td>The samples number with non-stop business activities during the study</td>
<td>234</td>
</tr>
<tr>
<td>The samples number with accessible convention ads</td>
<td>133</td>
</tr>
<tr>
<td>The samples number with accessible websites (final sample)</td>
<td>42</td>
</tr>
</tbody>
</table>

This study is correlation, from post event type since it uses real and historical data. To analyze data, combined regression was used. In that regression, procedural data of the
company and time series data are shared in an individual column, supposing that there are no significant procedural effects.

On this basis, some accepted companies in Tehran Stock Exchange and their data from 2008-2011 were collected, probing the correlations between variables. Probable expected effects of research variables on firm profitability are shown in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected correlation with profitability</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>Positive/ negative</td>
<td>Annual income growth</td>
</tr>
<tr>
<td></td>
<td>positive</td>
<td>growthGDP</td>
</tr>
</tbody>
</table>

1.4. Used model in the study

According to the mentioned points about variables, research model can be represented in the following form:

Equation 1:
\[ PF = \beta_1 CR + \beta_2 LTDC + \beta_3 REVG + \beta_4 GDP + \varepsilon \]

\[ H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0 \]

\[ H_1 : \beta_i \neq 0 \]

PF=represented profitability by ROE & ROA
CR=current ratio
LTDC=ratio of long term debt to the sum of long term debt and capital
REVG=annual income growth
GDP=gross domestic production
C=constant coefficient
\( \varepsilon = \)error coefficient

In the case of \( H_0 \) rejection, \( H_1 \) is accepted, showing a significant correlation between profitability and tested independent variable.
5. Research findings

5.1. Profitability measure tests (equity holders' return)

First hypothesis

$H_0$. There is no significant correlation between profitability (equity holders’ return) and liquidity (measured with current ratio).
$H_1$. There is a significant correlation between profitability (equity holders’ return) and liquidity (measured with current ratio).

The first hypothesis shows the relationship between profitability (equity holders' return) and liquidity (measured with current ratio). According to the extant literature, there is a negative correlation between them. Since the coefficient of independent variable is positive (0.190234), and $t$ statistics’ likelihood is less than 5% (0.154), $H_0$ is rejected at 95% confidence level and $H_1$ is accepted.

Second hypothesis

$H_0$. There is no significant correlation between profitability (equity holders' return) and financial leverage (long-term current ratio/sum of long-term debt and capital).
$H_1$. There is a significant correlation between profitability and financial leverage (long-term current ratio/sum of long-term debt and capital).

The second hypothesis shows the correlation between profitability and financial leverage. According to the literature, expected correlation can be either negative or positive. Since the coefficient of dependent variable is positive (0.027) with and $t$ statistics’ likelihood is over 5% (0.875), $H_0$ is rejected at 95% confidence level and $H_1$ is accepted. Thus, when the return of stockholders’ equity is profitability measure, there is a positive correlation between profitability and financial leverage. But, this correlation is statistically insignificant.

Third hypothesis

$H_0$. There is no significant correlation between profitability and annual income growth.
$H_1$. There is a significant correlation between profitability and profitability and annual income growth.

Third hypothesis suggests a correlation between profitability and annual income growth. According to extant literature, a positive correlation is expected. Since the coefficient of independent variable is positive (0.86) and $t$ statistics’ likelihood is over 5% (0.578), $H_0$ is rejected at 95% confidence level and $H_1$ is accepted. Thus, there is a positive correlation between variables. But, this correlation is statistically insignificant.

Fourth hypothesis

$H_0$. There is no significant correlation between profitability and GDP growth.
$H_1$. There is a significant correlation between profitability and profitability and GDP growth.
Fourth hypothesis suggests a correlation between profitability and GDP growth. According to extant literature, a positive correlation is expected. Since the coefficient of independent variable is negative (-0.566) and \( t \) statistics’ likelihood is over 5% (0.709), \( H_0 \) is accepted at 95% confidence level and \( H_1 \) is rejected. Thus, there is a negative correlation between variables. But, this correlation is statistically insignificant. Based on the results, when the return of stockholders’ equity is selected as a profitability criterion, economic equation of profitability is as follows:

\[
P_F = 29.24786 + 0.190234 \text{CR} + 0.027942 \text{LTDC} + 0.086324 \text{REVG} - 0.566227 \text{GDP}
\]

2.5. Asset return tests

First hypothesis

\( H_0 \). There is no significant correlation between profitability and liquidity.

\( H_1 \). There is a significant correlation between profitability and liquidity.

The first hypothesis suggests a correlation between profitability and liquidity. According to extant literature, a negative correlation is expected. Since the coefficient of independent variable is positive (0.364) and \( t \) statistics’ likelihood is less than 5% (0.92), \( H_0 \) is rejected at 95% confidence level and \( H_1 \) is accepted. Thus, there is a positive correlation between variables which is statistically significant.

Second hypothesis

\( H_0 \). There is no significant correlation between profitability and financial leverage.

\( H_1 \). There is a significant correlation between profitability and financial leverage.

The first hypothesis suggests a correlation between profitability and liquidity. According to extant literature, a negative correlation is expected. Since the coefficient of independent variable can be either positive or negative. For negative coefficient of independent variable (-0.304) and \( t \) statistics’ likelihood over 5% (0.694), \( H_0 \) is accepted at 95% confidence level and \( H_1 \) is rejected. Thus, there is a positive correlation between variables which is statistically significant at 95%; but, it is insignificant at 90%.

Third hypothesis

\( H_0 \). There is no significant correlation between profitability and annual income growth.

\( H_1 \). There is a significant correlation between profitability and annual income growth.

The first hypothesis suggests a correlation between profitability and annual income growth. According to extant literature, a positive correlation is expected. For positive coefficient of independent variable (0.0360) and \( t \) statistics’ likelihood over 5% (0.740), \( H_0 \) is accepted at 95% confidence level and \( H_1 \) is rejected. Thus, there is a positive correlation between variables which is statistically insignificant at 95%.

Fourth hypothesis

\( H_0 \). There is no significant correlation between profitability and GDP growth.
Hypothesis 1. There is a significant correlation between profitability and profitability and GDP growth.

Fourth hypothesis suggests a correlation between profitability and GDP growth. According to extant literature, a positive correlation is expected. Since the coefficient of independent variable is negative (-0.112) and t-statistics’ likelihood is over 5% (0. 853), $H_0$ is accepted at 95% confidence level and $H_1$ is rejected. Thus, there is a negative correlation between variables. But, this correlation is statistically insignificant. Based on the results, when the return of stockholders’ equity is selected as profitability criterion, economic equation of profitability is as follows:

$$PF = 0.041411 + 0.364606 CR - 0.304473 LTDC + 0.036021 REVG - 0.012288 GDP$$

6. Conclusion

While most recent studies have shown the adverse correlation between liquidity and profitability, this study confirms a direct correlation between them. The reason for such inconsistency can be difference in economic systems (high inflation rate in Iran) and selecting specific industries. The results of this paper on the correlation of financial leverage and profitability agree with previous findings. Using two different measures, two different results were obtained. But, eventually the finding of Leen and Roo (2005) was achieved, implying that there is correlation between debt rate and profitability depending on profitability measure criterion. The sign of this correlation agreed with previous studies. Finally, using a micro economic index such as GDP in economic equation differentiates this study from its counterparts. This can be for economic structure of Iran dependent on oil in which GDP growth has negative effect on firms’ profitability in Iran. The only extant study in this field belongs to Pakistan, revealing a direct correlation between GDP and profitability.
References