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Corporate Profitability and its Connection to Liquidity Growth and Stock Return

Negar Khosravi-Pour
Assistant Professor, Department of Accounting, Faculty of Economics and Accounting, Islamic Azad University, Tehran Central Branch, Iran
N_Khosravipour@yahoo.com

Katayoon Tafreshirad
2.PhD Candidate, Department of Accounting, Faculty of Economics and Accounting, Islamic Azad University, Tehran Central Branch, Iran
Radkatayoon@yahoo.com

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ABSTRACT

The study of profit information content has a wide range of theoretical and practical foundations for the academics and professionals in the field of accounting and management, to conduct scientific research to fill the gaps. Consequently, in the present study, the information content was examined for the profitability of companies listed on the Tehran Stock Exchange as the research population, during a time period of 5 years from 1393 to 1397. Using a systematic elimination method, among all listed companies on the Tehran Stock Exchange at the beginning of 1398, 128 companies having the desired conditions were selected to be explored as the research sample. Using a Quantile Regression Model, the results showed different indicators: A) The quarters analyzed, showed a significant relationship between changes in Stock Return and future Profitability, but it was negative only in the first quarter, and positive, in the sub-sequent quarters studied. B) All analyzed quarters, showed a significant relationship between the economic variable of Liquidity Growth and future Profitability, but it was positive in the 1st quarter, and negative in the sub-sequent quarters.

Keywords:

information content, corporate profitability, stock return, liquidity, TSEO.

1. Introduction

Corporate/Economic information disclosure, can be assessed from different aspects, including; A) the content value, and, B) the reliability and quality of the distributed information. An appropriate and relevant information content can be really effective in the decision-making process. As soon as new information about a given company's market conditions is published, it is usually considered by different users such as analysts and investors. Accordingly, decisions will be made to buy or sell stocks.

Efficient information, effects users' behavior, especially, active and potential shareholders, this, can increase or decrease the stock price and volume of transactions. Hence, people's reaction to information contents shapes price fluctuations. Previous studies on the content value of information, have been conducted with the belief that the aforementioned effects depend on the amount of duality in accounting rules; therefore, the main focus of most studies has been on accounting systems and rules, such as, Bars and Landzman, 2008, Needles & Powers, 2013. Yet, in corporate/economic decision making, being in possession of high-content-value information, and, concurrently relevant to the subject, is so important, that, when not properly provided and processed, can have negative effects for decision makers.

Likewise, profit and loss statements, can be regarded as one of the most important basic financial tools, that managers routinely use to inform market participants about the performance of companies. Of course, the purpose of disclosing this information, is mostly to reduce the distribution of incorrect information, essential in decision-making in the capital market; however, there are variables in the profit and loss statements that their proper analysis can help users predict a given company's future profit. On the other hand, Beaver (1972) argued, that a firm's profit report can lead to a change in investors' assessment about future returns (or prices), hence, such report will be informative and valuable. Still, even if the user's expectations and beliefs are formed, based on that same (available) information, they won't necessarily be the same for every investor, as, investors hold different levels of understanding of the markets.

2. Problem Statement

Each research is done to achieve certain goals or solve a specific problem. In today's world of economics, as the economic environment becomes more complex and ambiguous, along with accountants and professionals, investors and other stakeholders – look for factors that can be taken into account in making better and more profitable decisions, hence reduce risk. This approach, which is rooted in beliefs and research by Ball and Brown (1968), has shed much light on financial accounting and applied researches. In this view, it is believed that investors themselves attempt to predict future return on stocks, rather than accountants, who do so under ideal conditions.

In the meanwhile, researchers, who study financial and trading issues, have introduced, defined, and classified the contents of corporate/economic information; this has helped them with various variables to examine their relationship, to explain their prediction capacity, and to find the most effective ones. For instance, a profit and loss statement can include various variables such as income, costs/expenses, net profit, expected profit, sales amount, sales growth, etc.

In general, it seems that in the process of corporate/economic information disclosure, users and analysts pay more attention to the quality of information distribution than its contents and the connection between variables. Just as unbalanced and unequal distribution of information leads to poor decision making by the less informed group, ignorance of the relationship between the disclosed information variables can also have effects on the market.

Keeping these issues in mind, and looking backwards to the past studies done in the same ground by Sadka and Sadka (2006), Safdar (2018), Tafreshirad and Khosravipour (2021), this correlational research was carried out to investigate the relationship between corporate profitability and two key variables found in statements: A) stock return, and B) liquidity growth (as an economic variable). In other words, using a Quantile Regression Model, this study aims to examine the usefulness of this information contents by examining the connections that stock return and liquidity rates can have to corporate profits. So, the following research questions are designed as follows:

1) What is the relationship between changes in stock return and profitability?

2) What is the relationship between liquidity growth (as an economic variable) and future profitability?

3. Research and Theoretical Foundations

The term 'profit,' refers to the revenue left after all expenses and taxes were paid, while 'profitability,' refers to the profit-making capacity of a given company, business, firm, project, etc. Without profitability, no business will survive in the long term. On the other hand, 'return' can be defined as the profit or loss, gained from an investment. Thus, stock return involves any change in the price of a company's free-float shares. A profit and a loss are respectively described as either a positive or a negative return. In economics, 'growth' can be defined as a rise in value, size, strength, number, etc.; 'liquidity,' is instead a condition in which a person or company, can swiftly sell or buy an asset without having to accept a significantly lower price. Given the importance of the connection between corporate/economic concepts and variables, the following studies have been carried out in different capital markets.

Mehrani and Mehrani (2003), examined the relationship between stock returns and profitability ratios in different activities. This research was conducted in a two-year period from the beginning of 2000 to the end of 2001, by using regression method and OLS technique. The average amount of the variables i. e. profitability ratios and stock returns were calculated in the research period, and the relationship between them was examined. The results showed that there was a significant positive correlation between Return on Assets and Stock Returns (r = 0.65), and there also was seen a significant positive relationship between Return on Equity and Stock Returns (r = 0.58).

Sadka and Sadka (2006), in their famous research suggested that changes in market discount rates are negatively correlated with incomes. Their main argument was that the increase in expected profits would reduce the future market discount rate; this indicates that there is a positive relationship between stock market returns and changes in profits in the near future. The “SS mechanism” is based on the theory of aggregate pricing, and suggests that if economic wealth increases, risk aversion will also decrease, and as a result, market risk will decrease. These two researchers provided some evidence for this result and showed that next quarter earnings are positively correlated with current market returns. However, their findings weakened over the next year. However, profitability over a longer period of time, is yet to be studied.

Again, in Iran, another research was done by Kodadi (2009), which its statistical population consisted of companies listed on the Tehran Stock Exchange, and the sample includes 50 companies active during the years 1380 to 1385. The data required for the research, have been collected from the database of the Tadbirpardaz Software. To test the hypotheses in this correlational study, the relationship of stock returns with operating cash-flow and the immediate ratio were measured by regression model using Excel and SPSS software. The results of the hypothesis test, showed that, as expected, there was a positive and significant relationship between operating cash-flow and the immediate ratio of stock returns.

Hashemi and Motalebian's (2013) research, was done to investigate the link between unusual operating cash-flows and stock return of companies listed in Tehran stock exchange. By using the regression model, the financial information of 80 international companies was used from 2002 to 2011. Their findings indicated that there is a significant and negative relationship between unusual operating cash-flows and future stock returns.

Kim (2018), based on the results of his research, argued that because the profit reduction risk indicates the possibility of lower profits or loss in the following year, companies are more likely to raise their finance from equity rather than debt, because financing from debt causes an increase in the cost of capital.

Safdar (2018), studied the information content of aggregate accounting profitability. He found that the stock market return is negatively related to future accounting profitability for several years into the future. He argued further that this connection is presumably due to a positive association between changes in expected returns which impose a negative impact on stock returns and future profitability. These findings indicate that aggregate accounting profitability reflects significant economic content related to the cost of capital.

Huang and Hou (2019), examined the relationship between innovation, research and development costs, and profitability in Taiwan, during the years 2000-2015. The results of this study showed that companies

investing in research and development, follow profitability patterns successfully, and increase their profits.

Taking into account the strategic objectives of banks' activities, Pourmehr et-al (2019), investigated the impact of internal and external factors affecting the three profitability components; including the return on assets (ROA), return on equity (ROE) and the net income margin (NIM) indicators, of 13 private banks in Iran for the period 2006 to 2016; using the structural autoregressive vector panel model. Their findings showed that the percentage of liquidity coverage and the non-performing loans to total loan ratio as internal bank variables have negative effects on the profitability components, while these components are negatively affected by the growth of GDP as the external variable.

Nguyen and Nguyen's (2020) research, aimed to explore the determinants of the financial performance of the Vietnamese companies listed on the Vietnamese Stock Exchange from 2014 to 2017. The determinants were solvency, firm size, liquidity, financial leverage, and financial adequacy. Their considered financial performance was evaluated by three different ratios: return on assets (ROA), return on equity (ROE), and return on sales (ROS). The research results indicated that: (1) Firm size has a positive impact on both ROA and ROS, especially ROA but it has the opposite effect on ROE, (2) Adequacy ratio impacts positively on ROA and ROS, but negatively on ROE, (3) Financial leverage considerably negative influences on ROE and ROS, but positively impacts on ROA, (4) Liquidity has a positive effect on both ROA and ROE but a negative one on ROS, and, (5) Solvency, has a positive impact on ROA and ROS but the negative impact on ROE.

Following Safdar (2018), in recent research by Tafreshirad and Khosravipour (2021), the relationship between profitability, were examined with these two variables of information content: A) changes in expected market returns, and, B) expected changes in sales growth of the companies listed on the Tehran Stock Exchange. The two researchers analyzed the quarterly data of 138 companies from these companies in the fiscal years 1393 to 1397. The results of this study done by the quantile regression model are as follows: 1) There was a significant negative relationship between the changes in expected market returns and profitability in the low quarters, but a positive significant relationship was noted, between these two, in the higher quarters. 2) A positive significant relationship was found, between the expected changes in sales growth and profitability in the upper quarters.

4. Research Hypothesis

Keeping an eye to the results and findings of the previous studies and the stated research questions in section 2, we formulated our research hypothesis as follows:

Hypothesis 1. There is a relationship between changes in stock returns and profitability.

Hypothesis 2. There is a relationship between liquidity growth and profitability.

5. Research Methodology

Research Population and Sampling

This correlational research was performed by the collection and inductively analysis of quantitative data in a longitudinal and retrospective manner. The statistical population was all companies listed in Tehran Stock Exchange during a time period of 5 years from 1393 to 1397. Using a systematic elimination method, among all listed companies at the beginning of 1397, the ones which have the following characteristics were selected to be explored:

a. The companies must be continuously active in the stock market for the 5 chosen years.
b. They should not have a time-out more than 3 months in the research period.
c. Their stock price and quarterly statements should be accessible by the researcher.
d. They should not be included in holdings, mediation agencies, banks or leasing.
e. The companies' financial year should end on March 20.

To collect and analyze the data required for the research, we used the information site of the capital market publishers and the software of Rahavard Novin.

Finally, according to the above conditions, 138 companies (26 % of the population), were selected as our research sample. The Bartlett Test was performed to determine the adequacy of the sample, the results of which are shown in Table 1. According to these results, the KMO value indicating the sample adequacy is 0.503 obtained in the significance level of 0.000; although KMO should be 0.6 and more for a

sample to be adequate, but due to sig. level the obtained value is acceptable.

Table 1: Sample Adequacy Test Results

Criteria	Results
Sample adequacy	KMO = 0.503
Bartlett Sphericity Index	3771.854
Degree of freedom	28
Sig.	.000

Research Model and Variables

To test the two hypotheses, (2) as a Quantile Regression Model is our research method of calculation:

$$[\widehat{ROE_{t+\iota}} - \widehat{ROE_t}] = a + b * [\widehat{ret_t} - \widehat{ret_{t-\iota}}] + c * \widehat{N}_{DR.t} + e_{t+i} \quad (2)$$

Whereas:

$[\widehat{ROE_t} - \widehat{ROE_{t-\iota}}]$ = Future Return (profit) - as the dependent variable of the research

$[\widehat{ret_t} - \widehat{ret_{t-\iota}}]$ = Stock Return - as an independent variable of the research

$\widehat{N}_{DR.t}$ = Liquidity Growth - as an independent variable of the research

e_{t+i} = Model Error

Note A: The variable 'Liquidity Growth' here is an economic factor adopted from Safder (2018) and it is equal to the liquidity growth rate which was gained quarterly from the Central Bank of Iran.

Note B: The variable 'Stock return in this model is obtained from the following formula:

$$\text{Total return} = \frac{Bonus\ share\ benefits + pre{-}emptive\ rights\ benefits + gross\ cash\ dividend\ per\ share + share\ price\ difference}{share\ price\ at\ the\ end\ (beginning) of\ a\ fiscal\ year}$$

Note C: The future profitability of the company was evaluated as the research dependent variable. The independent variables are measured to determine their effect on the independent variable. According to some previous researches, aggregate investment is likely to be a reaction to a change in the discount rate with one year interval or more, suggesting that a change in the capital cost is likely to be followed by an adjustment period before it becomes a profit. This indicates a relationship between changes in the capital cost and future profits; Therefore, the prediction of future profits at time t with investments done in the period t + i (or profit) is written as (3):

$$ROE_{t+i} = r_t + ROE^{xs}_{t+i} \quad (3)$$

Here, r_t stands for the capital cost at time *t*, and *i* is the adjustment interval; ROE_{t+i} can be thought of as the expected return on investment. Considering the difference between the expected future profit ROE_{t+i} and the profit ROE_t at time *t*, we'll have (4) in which the Δ represents change:

$$ROE_{t+i} - ROE_t = (r_t - r_{t-1}) + (ROE^{xs}_{t+i} - ROE^{xs}_t) \quad (4)$$

$$ROE_{t+i} = \Delta r_t + \Delta ROE^{xs}_t$$

Equation (4) represents the relationship in terms of prediction. In order to obtain an empirical explanation using real profit, we suggest that the actual change in profit shown by $\Delta\widehat{ROE_t}$ depends on e_{i+t} , which is the change in predictions plus the unexpected change in profit:

$$\Delta\widehat{ROE_{t+\iota}} = \widehat{ROE_{t+\iota}} - \widehat{ROE_t} = \Delta r_t + \Delta ROE^{xs}_t + e_{i+t} \quad (5)$$

In this study, the asymmetric and nonlinear effects of profitability were investigated in the framework of experimental researches. So, Quantile Panel Method was used to investigate the nonlinear effects of profitability. In the quantitative method, it is assumed that the study population for a sample of companies with the number n for a certain period of time (t = 1,2,… T) is equal to i = 1,2… N, (y_i, x_i). While, x_i defines the two independent variables and /y_i/ is the dependent variable of the research. If the distribution state of the θ^{th} quantum of y_i is linear with respect to x_i, the quantum equation will be as follows:

$$y_i = \acute{X}_{\backslash}\beta_{.} + u_{i\theta}$$

$$\text{Quanty}_{yi}(\theta|X_i) \equiv \inf[y = F_i(y|X) \geq \theta = \acute{X}_{\backslash}\beta_{.}]$$

$$\text{Quanty}_{yi}(\theta|X_i) = \cdot$$

Whereas:

Quantity $_{yi}(\theta/X_i)$ represents the n^{th} quantum of x_i compared to y_i. The β is a vector of unknown parameters that must be calculated for different ɵ values. The $u_{i\theta}$ is the error and $F_i(y/X)$ is a cumulative distribution function in terms of x. By changing the ɵ values between (0,1), a complete distribution of y in terms of x can be obtained. The estimator β is obtained from the following equation:

$$ROE_{t+i} - ROE_t = (r_t - r_{t-1}) + (ROE_{t+i}^{xs} - ROE_t^{xs}) \quad (۱ \text{ و } ۲ \text{ و } ۳)$$

$$\Delta ROE_{t+i} = \Delta r_t + \Delta ROE_t^{xs} \quad (٤)$$

(٥)

is the loss function and is expressed as follows:

$$\Delta\widehat{ROE_{t+\iota}} = \widehat{ROE_{t+\iota}} - \widehat{ROE_t} = \Delta r_t + \Delta ROE_t^{xs} + e_{i+t}$$

Equation (7) calculates the error values and multiplies the result by the values of Equation (8). The Bootstrap Method is a standard method used to estimate the covariance matrix of estimators. Moreover, the calculation process of the collected data was performed by Excel Software and the data analysis was done by SPSS23 and Eviews9.

6. Statistical Results

In this section, the necessary information and data was extracted from the financial statements of the sample companies in the 1393-1397 period. First of all, the descriptive statistics of the research variables are shown in the following tables:

Table 9: descriptive statistics of profitability and stock return variables

Variables	No.	Mean	SD	Skew-ness	Elon-gation	10th Percentile	25th Percent.	50th Percent.	75th Percent.	90th Percent.
Profitability	2760	.2378	.419	2.492	15.81	-.18213	.00742	.19629	.40271	.6524
Actual Profit	2760	.1102	.129	.524	2.795	-.03226	.02873	.09917	.18198	.2724
Stock Return	2760	.1920	.141	.587	1.006	.03661	09836	.17655	.27107	.3758

In reading the data in the table above, the following points are noteworthy: a) Mean, which is the main central indicator, indicates the equilibrium point and the gravity center of distribution. For example, the actual profit statistic, 0.1023 indicates that most of the values for this variable obtained from the sample companies are around this point.

B) Standard Deviation (SD), as one of the scattering indicators, shows the average distance of data from Mean. If the standard deviation of a set of data is close to zero, it indicates that the data is close to Mean and slightly scattered, and vice versa.

C) The statistic shown under each n^{th} percentile shows the maximum value each variable had in the range from zero to that percentile. For example, the tenth percentile for the actual profit variable is -0.03226, meaning that ten percent of the data for the actual profit variable was less than this statistic. The 50th percentile, which is also equal to the second quarter index, was also reported as 0.09917, which means that half of the data were lower than .09917 and the other half were higher than this statistic.

The second independent variable of the present study is liquidity growth the index of which has been shown for 5 years from 1393 to 1397. It should be noted that the relevant data was collected from the economic and financial database.

Table 10: Descriptive statistics of liquidity growth

Year	Liquidity Index (billion Rials)
1393	7823847.9
1394	10172800
1395	12533900
1396	15299800

1397	18828900

As it can be seen in the table, the liquidity index has been growing very fast year by year so that the average growth rate of liquidity was announced 23% in these years by the officials of the Central Bank of Iran.

Before performing the main calculations of this study, it is necessary to make sure that the regression model residuals are normal, which indicates the validity of the regression tests. Therefore, using the Kolmogorov-Smirnov test, the distribution normality of all research variables was investigated to find a suitable solution if the condition is not met.

Table 11: Kolmogorov-Smirnov Test Results of the distribution normality of variables

Variables	Number	Normal parameters		The largest difference			Z value	P value
		Mean	SD	Abs. Value	positive	Negative		
Profitability	**2760**	**.23781**	**.419070**	**.099**	**.099**	**-.060**	**.099**	**0.000**
Actual Profit	**2760**	**.11023**	**.129308**	**.051**	**.051**	**-.041**	**.051**	**0.000**
Stock Return	**2760**	**.19202**	**.141535**	**.053**	**.053**	**-.040**	**.053**	**0.000**

Since the probability value calculated in the Kolmogorov-Smirnov test is less than 0.05 for the variables, especially the dependent variable, their distribution is not normal. Therefore, Johnson Conversion was used to normalize these variables in Minitab Software. The Johnson conversion function for the firms' actual profit variable is defined as (12):

(12) Transformation function equals -0.736031+1.94789*asinh((x-0.0220953)/0.202109)

After normalizing the distribution of variables, to have a general understanding of the study factors, the correlations were calculated between each two research variables and the results were presented in the table below.

Table 13: Correlation coefficients between the variables

	Profitability	Actual profit	Stock return	Liquidity Rate
Profitability	1	.027	.023	-.012
Sig.	.000	.126	.218	.525
Actual profit	.027	1	.107**	-.014
Sig.	.126	.000	.000	.459
Stock return	.023	.107**	1	.006
Sig.	.218	.000	.000	.771
Liquidity rate	-.012	-.014	.006	1
Sig.	.525	.459	.771	.000

**** the correlation is significant at 0.01 level**

The above results illustrate a general picture of the relationships between each two variables. Off course, the only positive significant was seen between the Stock Return and Actual Profit (r = 0.1).

Test reliability of research variables

Having got a whole picture of the connection between the study variables and the related ones, a reliability test was performed between the research variables. It's done to ensure the accuracy of the results, and that the relationships are not artificial in the regression analysis:

Table 14: Reliability test results of the variables

Variables	Z-Hardy Value	Probability Value
Profitability	349097	0.0002
Actual Profit	13.4569	0.0000
Stock Return	8.42170	0.0000
Liquidity rate	2.42074	0.0077

According to the results shown in Table (14), since the gained P values were smaller than 0.05, it is assumed that the research variables are unmovable and do not share a unit root during the research time series i.e., 1393 to 1397.

Testing the research hypotheses

In answer to research questions, two research hypothesis were formulated in section 4 which are rewritten again:

Hypothesis 1. There is a relationship between changes in stock returns and profitability.

Hypothesis 2. There is a relationship between liquidity growth and profitability.

To test these hypotheses, (15) was used as our research model the components of which were separated and identified above:

$$[\widehat{ROE_{t+\iota}} - \widehat{ROE_t}] = a + b * [\widehat{ret_t} - \widehat{ret_{t-\iota}}] + c * \widehat{N}_{DR.t} + e_{t+i} \quad (15)$$

It should be noted that in this model, if b and c are significant, these two hypotheses will be confirmed, otherwise, they will be rejected. Accordingly, the research hypotheses were tested by the regression analysis of the research model and the results are presented in the table below. In addition, in this fit, the dependent variable was the actual profits of companies, which at the same time, was a measure for the future profitability of the companies.

Table (16): the results of research model estimation

Parameters	Percentiles	Coefficients	Error	t Statistic	Probability
$\widehat{ret_t} - \widehat{ret_{t-\iota}}$	0.100	-0.096524	0.017964	-5.373152	0.0000
	0.200	0.076289	0.011468	6.652482	0.0000
	0.300	0.179060	0.010906	16.41887	0.0000
	0.400	0.275738	0.011375	24.23995	0.0000
	0.500	0.384428	0.012514	30.71935	0.0000
	0.600	0.487125	0.013917	35.00332	0.0000
	0.700	0.638442	0.019953	31.99793	0.0000
	0.800	0.855787	0.025895	33.04782	0.0000
	0.900	1.227369	0.037171	33.01987	0.0000
$\widehat{N}_{DR.t}$	0.100	3.25E-06	8.42E-07	3.863886	0.0001

	0.200	4.14E-06	1.11E-06	3.729374	0.0002
	0.300	4.67E-06	1.36E-06	3.430236	0.0006
	0.400	-7.45E-06	1.57E-06	-4.738385	0.0000
	0.500	-6.58E-06	1.71E-06	-3.842128	0.0001
	0.600	-5.75E-06	1.70E-06	-3.376807	0.0007
	0.700	-7.39E-06	1.63E-06	-4.529819	0.0000
	0.800	-6.04E-06	1.54E-06	-3.929740	0.0001
	0.900	-3.73E-06	1.41E-06	-2.646146	0.0082
F value		**6,021487**	**F probability value**		**0.0014421**
Determination Coefficient		**0.573914**	**Watson Camera**		**2,094378**

As it can be seen in Table 16, the value of the "Camera-Watson" statistic is 2.094378, which is between 1.5 and 2.5. Therefore, it can be stated that in this model there is no autocorrelation between observations. Also, the F probability value for the fitted model is 0.0014421, which is less than 0.05. Therefore, it can be concluded that the whole obtained statistical model is significant. However, the F-statistic is equal to 6.021487, which indicates the goodness of the fitted model.

The values of VIF (Variance Inflation Factor) are indicators of the co-linearity between independent variables, so that if its value is higher than 10, there is a possibility of co-linearity between the independent variables. Here, its value for the research variables is less than 3.808.

The determination coefficient of the research regression model is 0.573914, which indicates that 57.3% of the dependent variable changes are expressed under the explanatory independent variables of the model.

The following hypotheses can also be formulated to estimate the coefficients using partial t-statistics. The Hypothesis 0 & 1 for the intercept or constant amount are formulated as 17:

$$\begin{cases} H_0 : \beta_0 = 0 \\ H_1 : \beta_0 \neq 0 \end{cases} \quad (17)$$

And 18 shows the hypotheses for the relationship between the independent and control variables:

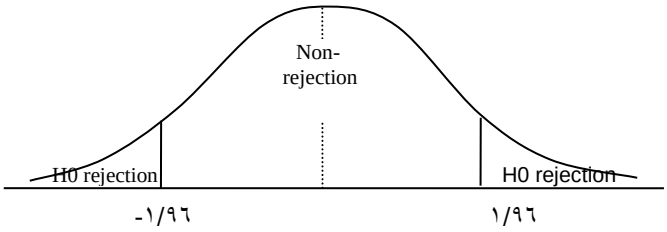
$$\begin{cases} H_0 : \beta_1 = 0 \\ H_1 : \beta_1 \neq 0 \end{cases} \quad (18)$$

In addition, the test statistic value is calculated by the following formula:

$$t_{\beta_i} = \frac{\beta_i - 0}{S_{\beta_i}} \quad i = 0, 1, 2, \ldots, 4 \quad (19)$$

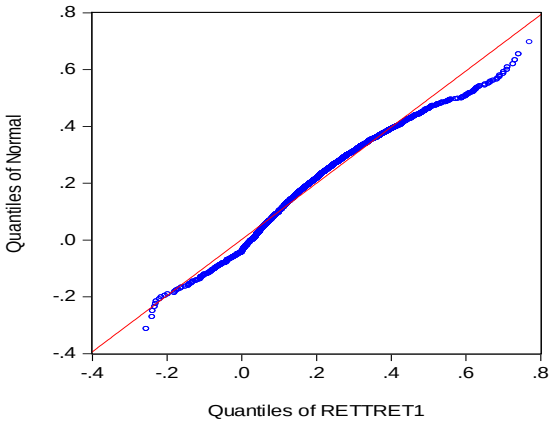
The above statistic distribution is standard for large samples of the normal distribution, so the rejection and non-rejection areas is illustrated by (20). The results of the above calculations and analyzes should be judged and interpreted so that if the t value is in the rejection area, the null hypothesis is rejected.

(20)



Considering the fact that in all the examined quarters, the probability level for the variable $\widehat{ret_t} - \widehat{ret_{t-\iota}}$ is less than 0.05, it can be concluded that there is a significant relationship between changes in Stock Return and future Profitability in all fitted quarters. The diagram 21 also shows the described relationship between the two variables mentioned in Hypothesis 1 of the research.

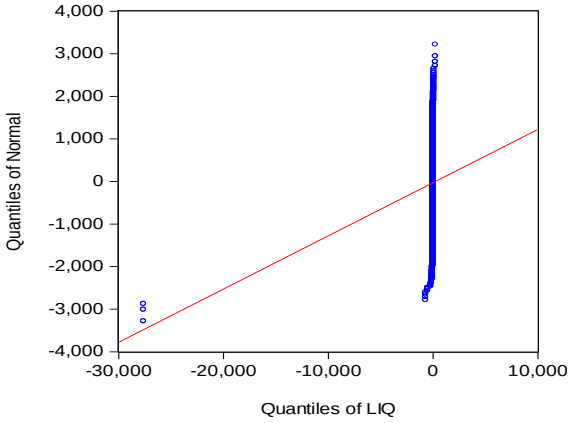
(21)



Also, this relationship (S.Ret. & Profit.) was significant, but it was negative only in the 0.1 percentile included in the first quarter, and positive in other higher percentiles studied. Therefore, the first hypothesis is confirmed with a positive orientation.

Meanwhile, the probability level for variable $\widehat{N}_{DR.t}$ was less than 0.05 in all the quarters studied, so it can be concluded that there is a significant relationship between the economic variable of Liquidity Growth and future Profitability in all fitted quarters. The following diagram shows the described relationship between the two variables mentioned in Hypothesis 2 of the research:

(22)



Although this relationship (Liq. & Profit.) was significant, but it was positive in the percentiles 0.1, 0.2 and 0.3, and negative in the percentiles 0.4 to 0.9. Therefore, the second hypothesis is confirmed with a negative orientation.

5. Discussion

On the other hand, in the current study, the profitability of TSEO companies were reported to be positively influenced by their stock return in the long run. Inflation is believed to be one of the most critical factors influencing stock returns simply by an increase in the price of goods and services leading to a drop in the value of the due currency which results in people's lower power of purchasing. Thus, it will be expected to be a positive relationship between Inflation and stock prices whereby nominal stock values rises along with inflation accordingly, as Tripathi (2014) puts it, to provide investors a hedge against inflation.

Also, Hooshyari and Moghanloo (2015) indicated that a high rate of inflation can have adverse effects on either the long-term real economic growth rate or the long-term level of real activity.

Corporate profitability can be influenced by many factors including the macro-economic conditions, one

of which is inflation in a country like Iran. According to Murni (2016), inflation shows an increase in general prices or an economic phenomenon related to a decrease in the value of money which is characterized by a rise in the cost of almost all goods. In another definition by Arafat (2016) a clearer picture is given for inflation regarding the current situation in this study. He argues, that inflation is a rise in the general price of goods and services, which in turn causes people's buying power to decrease, hence, increasing the cost-of-living.

However, the increase in the production costs resulted from inflation leads to a lower gain from product sales which will have a negative effect on profitability. In addition, inflation can change the modifications accomplished for the allocation of resources in a company, so that the expected financial performance and efficiency will be also affected. Nevertheless, the manufacturers and producers will have to raise their output prices in the market according to the due raise in their production costs. The above pictured condition can have adverse effects on the companies' performance, as also mentioned by Mufidhoh, Andriyanto, and Haerudin (2017) that the higher the inflation rate is - the lower the level of profitability.

The above inference is based on a hypothesis put forward by Irving Fisher in 1930. From Fisher's hypothesis, it can be inferred that real assets returns should move positively with expected inflation rates. However, our finding is not consistent with that of Safdar (2018) done in the United States, which reported a negative relationship between the two mentioned variables; however, due to the fact that the research methods and models were the same in the two studies, their findings were expected to coincide not differ. The inconsistency between the findings of Safdar and the present study can be related to the differences in the statistical populations of the two studies. Safdar collected the data needed for his research from companies listed on the US stock market. Since the statistical populations between the two studies are different, which is the only major difference, it can be concluded that the structural difference of the capital markets in Iran and the United States is the main reason for the discrepancy between the results of these two studies. These structural differences can be related to the following factors:

1) Lack of comprehensive rules and regulations in Iran's capital market.
2) Banking-based system dominancy in the country's financial system and economy.
3) Abundance of financial instruments/assets which is common in global financial markets.
4) Lack of necessary mechanisms for participation of foreign investors in the Tehran Stock Exchange.
5) Inadequacy of tax laws (Tafreshirad, 2020, p. 116).

Nonetheless, opposing views to a positive relation between inflation and stock returns are now considerable. For instance, Fama (1981) explained that negative stock returns-inflation relations are induced by the positive correlation between stock returns and real activity and the negative correlation between inflation and real activity (the Proxy Hypothesis).

Since the first published research on the profitability rate, one of the most important directions of studies in financial accounting, has been to explain and identify different factors affecting the profitability of different companies. On the other hand, it is generally believed that the change in stock prices is consistent with Efficient Market Theory, which means the investors' sensitivity and reaction to the profit announcements can be an indicator of the market efficiency.

In the current study, Table 16 and the following diagrams show the relationship between the independent and dependent variables. In the relationships mentioned in the first research hypothesis i.e., Stock Return & Profitability, a negative coefficient was reported in the 1st quarter, while in the following quarters, the coefficients were going up towards the higher positive values. While, the relationship between Liquidity & Profitability, the second research hypothesis was also significant, but while it was positive in the first quarter, it was negative in the subsequent quarters. A positive significant relationship, means that, as the independent variable increases - the dependent variable also increases; while, in a negative significant relationship, if the independent variable increases, the dependent variable decreases accordingly.

"Profitability" (as our dependent variable) was defined by Susyana and Nugraha as the capability of a company to make income from all its competencies

and sources, including sales activities, cash, capital, employees, branches, etc. (Susyana & Nugraha, 2021). In economics, 'growth' can be defined as a rise in value, size, strength, number, etc. 'Liquidity' instead, is a condition in which a person or company can swiftly sell or buy an asset without having to accept a significantly lower price.

The above results indicate a contradictory positive and negative relationship between the two variables in each hypothesis at the given time period of 5 years. This means, that especially for the 2nd Hypothesis, that as in Iran, the liquidity growth rate increased from 1393 to 1397, the corporate profitability decreased accordingly. This happened in spite of the assumption that most of the mechanisms and concepts such as 'profitability', 'stock return' and 'liquidity growth' would go hand-in-hand for a firm to bear success. This means that the survival of a corporate entity in the capital market relies on its profits, while profit depends on growth in different aspects. However, when it comes to 'liquidity growth', a drastic change can be made in most assets' prices. This is why some scholars use the terms growth and 'inflation' interchangeably; as Bjork (1999, p. 251) argued, growth, is usually calculated, instead of inflation-adjusted, to eliminate the distorting effect of inflation on the prices of goods produced.

A similar adverse effect was shown by another recent study by Tafreshirad and Khosravipour (2021), on companies listed in the Tehran stock Exchange, as its research population in the same country; in this study, the correlation coefficients were calculated between some information content variables, among which two relationships were found significantly at a lower degree, but **unexpectedly** negative. The correlation coefficient between Profitability and Sales Growth was -0.07, and that of Sales Growth and Expected Market Return was - 0.04.

Conclusion

The study of profit information content has a wide range of theoretical and practical foundations for the academics and professionals in the field of accounting and management to conduct scientific research to fill the gaps. Consequently, in the present study, the information content was examined for the profitability of companies listed on the Tehran Stock Exchange as the research population, during a time period of 5 years from 1393 to 1397. Using a systematic elimination method, among all listed companies on the Tehran Stock Exchange at the beginning of 1398, 128 companies which had the desired conditions were selected to be explored as the research sample.

After the data collection from the financial statements of sample companies, this correlational research was accomplished to investigate Corporate Profitability (as Dependent Variable) and its connection to Stock Return (as Independent Variable 1) and Liquidity Growth (as Independent Variable 2). Accordingly, two research hypotheses were formulated and tested by Quantile Regression Model.

Before testing the hypotheses by Quantile Model, the correlation coefficients were calculated between each two research variables to gain a general picture of the study. However, the only positive significant correlation was seen between Stock Return and Actual Profit in a low degree (r = 0.10).

However, the hypotheses test results by Quantile Regression Model showed different indications: a) There was a significant relationship between changes in Stock Return and future Profitability in all fitted quarters, but it was negative only in the first quarter (percentile 0.1) and positive in the other higher quarters studied. Therefore, the first hypothesis is only confirmed with a positive orientation. b) There is a significant relationship between the economic variable of Liquidity Growth and future Profitability in all fitted quarters, but it was positive in the 1st quarter, and negative in the next upper quarters. Therefore, the second hypothesis is confirmed only with a negative orientation.

Suggestions

Each research being done, the need for more research is felt and some ground is also paved for the researchers to carry out other studies. So, the following issues are suggested for future research:

According to the policies of the Tehran Stock Exchange, if the consolidated dividends are less than the dividends allocated by the parent company of a set that submit consolidated financial statements, this profit will be the basis for the decisions related to the dividends. Therefore, it is suggested that research can be conducted a) to explain the impact of these decisions on the usefulness of consolidated financial statements, b) to consider the possibility of obtaining

abnormal returns using consolidated information in different industries, and c) to do comparative researches by applying different methods and instruments such as questionnaires, and non-linear models.

Comparative studies between different stock markets can help researchers/investors to identify the weaknesses preventing the stock exchange organizations play their major roles in economy. Also, these researches can help shareholders make right decisions so that the economic resources can be allocated more favorably and the investment situation get better.

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