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STUDYING THE RELATION BETWEEN THE CASH FLOW LIST ITEMS AND ORDINARY STOCKS EFFICIENCY CHANGES OF FIRMS ACCEPTED IN TEHRAN STOCK EXCHANGE BOURSE

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ABSTRACT

This research is aimed at studying the relation between the cash flow list items and ordinary stocks efficiency changes of firms accepted in Tehran stock exchange bourse. The stock efficiency changes can be predicted using the changes of cash flow list items. For hypotheses were defined for this purpose. These hypotheses are correlative. Simple and multiple regressions were used for analyzing these hypotheses. None of them were confirmed. The total conclusion is that the Tehran bourse data are not reliable. Therefore the cash flow list can't be used to predict the firms' stock efficiency.

Key Words: Ordinary Stock Efficiency, Cash Flow List, Operational Activities, Investing Activities, Financing Activities

INTRODUCTION

Accurate and efficient decision making for adequate and effective distributions of economical resources is a political and critical issue. Decision makers should have suitable and reliable information. The accounting system is also considered as one of the informational resources.

It should be noted that information must help to confirm, modify, or reject the expectations about the future events of profit unit. Since Ball and Brown (1968), most accounting research has been conducted in a specific framework. In other words, these researches have been conducted by assuming stock efficiency as a dependent variable and accounting data as an independent variable.

As Bernard (1995) believe, since 1990 many empirical works showed the change of important issue in accounting research in such a way that a tendency was created toward the prediction of stocks and its changes in future. The value of accounting information (variables) can be measured by its prediction value and content. Therefore, any research which improves the knowledge about the accounting information as well as predicting the accounting processes is considered as important. Stock efficiency is one of the most important factors for selecting best investing opportunities. Currently, the accounting system evaluation plays an important role in economic systems. Stock efficiency is one of the consequences of accounting systems evaluation. Accounting researchers try to find methods for analyzing the financial lists.

This financial list plays an important role in liquidity and debts payment ability evaluation. The government's economic policies for attracting private section invest forced many people to participate in Tehran stock efficiency bourse. Therefore, the information of cash flow list items and stock efficiency can be used as a guide for investors and firms managers to improve their economic growth. So this research tries to study the relation between the stock efficiency changes and cash flow list items for firms accepted in Tehran stock exchange bourse.

Purposes

In this research, we try to develop the bourse performance by studying the performance of firms accepted in Tehran stock exchange bourse as well as help investors to make better conception about the nature of investing and decision making about selecting suitable investing methods.

The purposes of this research can be summarized as follows:

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- Providing a suitable method for investing in different industries and helping investors to select the most logical criteria.
- Providing a suitable model and pattern for predicting stock efficiency of firms accepted in Tehran stock exchange bourse considering the results of hypothesizes.
- Presenting the pattern to investors in order to use it to predict the stock efficiency.
- Evaluating the effectiveness of current method for predicting the future stock efficiency considering the presented criteria such as past efficiency.

Background

when verifying the M.A thesis and doctoral dissertations of Tehran university, a thesis (the relation between balance sheet items changes and stock efficiency changes of firms accepted in Tehran stock exchange bourse) was found that suggest that there is no significant relation between the stock efficiency changes and balance sheet changes for the firms accepted in Tehran stock exchange bourse in 1994-1999 interval for the reliance level of %95. It should be noted that the balance sheet items including current assets changes, long term assets changes, current debts changes, long term debts changes, and specific value changes, have been selected as the independent variable in this research.

Another research has studied the relation between the profit and loss list items and stock efficiency changes of firms accepted in Tehran stock exchange bourse (Abdullahi Nejad, 1998). This research suggested that there is a significant relation in 1995-1999 duration but not in 1994.

This means that investors pay less attention to profit and loss list for their decision makings in 1994. Finally, this view has been changed by bourse stagnation and moved toward using assets which have been reflected in profit and loss list.

Ingram and Lee (1997) have studied the effectiveness of measuring methods of accounting profit and cash flow for evaluating financing, investing, and operational activities. The concluded that parallel usage of profit and loss and cash flow can be useful for evaluating the firm's performance.

Mc Anrou (1996) has studied the views of financial analyzers, investing consultants, accounting masters, and accountants about the rate of cash flow data disclosure. He concluded that the financial analyzers and investing consultants are more likely to disclosing such data.

Robert Laipe has studied the relation between the accounting profit elements and stock efficiency. He examined 6 of these elements in profit reports. He also examined whether the additional information has relation with time serials of these amounts. He suggested that his variables play important role for the performance of financial users. The significant reaction of stock efficiency against these six elements suggested that each of these elements provide separate information for stock market. Two econometric models were used for hypothesizes testing in his research in order to obtain estimations of the relation between profit elements and efficiency and time series of these elements. This research shows the additional content of profit elements. He believed that his research has two applications for accounting research. One of them is for the role of each stock in financial reporting and another one for providing accounting information for accounting users.

Hypothesizes

Considering the above mentioned purposes, we tried to evaluate whether the independent variable can explain the dependent variables. This is done by testing the following hypothesizes:

H1: there is a significant relation between the net changes of cashes caused by operational activities and the stock efficiency changes.

H2: there is a significant relation between the net changes of cashes caused by investing activities and the stock efficiency changes.

H3: there is a significant relation between the net changes of cashes caused by financing activities and the stock efficiency changes.

In addition to above three hypothesizes tests, there is another test for evaluating the total changes of cash flows list items against the stock efficiency changes in firms accepted in Tehran stock exchange

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bourse. This is performed to examine the relation between the independent variables (changes of cash flows items) and dependent variables (stock efficiency changes).

H4: there is a significant relation between the cash flows items changes and the stock efficiency changes.

Research Methodology

The research methodology here is descriptive and correlation type. It is descriptive because its goal is to describe the conditions or phenomena under investigation and know more about the present situation. It is correlation because the relationship between the variables is investigated. Also the present research is applied because we have studied the relationship between variables in Stock Exchanges.

Statistical Population

The statistical population of this research includes all firm accepted in Tehran stock exchange bourse with no negative stock efficiency in 2005-9 period. In this research, since the samples are the same from legal point of view but different from the activity scope and subject the classified sampling method is used (Zohouri, 1999). First, the firms having preconditions in each industry have been determined. These Industries including 95 Companies have been selected as statistical population among which 73 ones have been selected randomly as samples. These companies are from all a1 industries. In other words, at least one company has been selected from each industry. It should be noted that the pre conditions for sampling are as follows:

1. No negative stock efficiency or no loss in the examined period.
2. Fully active and existence of financial lists

Therefore, 73 firms have selected as the samples. Not it should be examined whether the results of these 73 firms can be generalized to all firms. For answering this question, it can be said that considering the density of statistical population and, the population distribution is considered as normal and the population density is calculated as follows:

$$n = \frac{[Z\alpha/2]^2 \times P \times q \times N}{(N - 1) \times (\epsilon)^2 + [(Z\alpha/2)^2 \times P \times q]}$$

Where:

N: statistical population size

n: sample density

P: position ratio

Z: normal distribution standard variable

E: estimation error

In similar research (Abdullahi Nejad, 1999; Ghader Zadeh, 2007) the confidence degree was considered as %95 and E as %12, while in this research the former is considered as %95 and the letter is considered as %10 to increase the sample numbers. The initial estimations for proving that hypothesizes are considered as 0.5. Considering N (N=295), the sample density is calculated as follows:

$$n = \frac{(1.96)^2 \times .5 \times .5 \times 295}{294 \times (\%10)^2 + [(1.96)^2 \times .5 \times .5]} = 72$$

Therefore it can be seen that, in confidence level of %95 and error of %10, at least 72 companies should be selected for generalizing the results. Therefore the results of this research can be generalized.

1. Research Variables and their Calculation Methods

1.1. Independent Variables

The independent variables of this research can be obtained from the cash flow lists of firms accepted in Tehran stock exchange bourse which presented their financial information as software packages. The changes of independent variables are obtained by subtracting the value of these variables in each year from its value in previous year and divide by its value in the previous year.

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1.2. Dependent Variables

Since the dependent variable of this research (ordinary stock efficiency changes) is not presented clearly in different bourse publications, it is calculated using related equations (Hesami, 1999)

The efficiency is the ratio of total income to total investment in one investing period. Efficiency include the changes of invest value (stock) to divided per share (DPS).

Results of Testing the Hypothesis

The 2005-2009 period has examined and compared with Fisher table for hypothesizes testing. The Ra coefficient is calculated for determining the rate of stock efficiency changes and the results are presented in tables 1(H1), 2 (H2), 3(H3), and 4(H4).

Linear regression is used for hypothesizes testing. Firs the relation between the independent variables and stock efficiency changes is calculated separately for (2005-2006), (2006-2007), (2007-2008), and (2008-2009) periods separately, and then the relation between the changes caused by them and stock efficiency changes is examined for 2005-2009 period.

1.3. Results of Testing the first Hypothesis

Table 1: the results of statistical analysis of testing the first hypothesis

Linear relation	D-W	SIGF	F	R ²	R	AGE
-----	1.44	0.999	0.000	0.00	0.000	(2005-2006)
-----	2.066	0.408	0.693	0.010	0.098	(2006-2007)
-----	2.197	0.702	0.147	0.002	0.045	(2007-2008)
-----	1.861	0.955	0.003	0.000	0.007	(2008-2006)
-----	1.82	0.711	3.342	0.010	0.098	(2005-2009)

As it can be seen from table 1, the correlation coefficient is very week between changes caused by operational cash flow and stock efficiency changes.

Considering that F significance level is higher than 0.05, then is no linear relation between the changes caused by operational cash flow and stock efficiency changes. Also the Watson test index is more or equal to a (table 1) which suggests that there is no correlation between errors and regression can be performed. Therefore, for confidence level of %95, it can be said that there is no significant relation between the changes of net cashes resulted from operational activities and stock efficiency changes. Totally, it can be said that H0 is accepted.

1.4. Results of Testing the Second Hypothesis

Table 2: the results of statistical analysis of testing the second hypothesis

Linear relation	D-W	SIGF	F	R ²	R	AGE
-----	1.453	0.141	2.219	0.30	0.173	(2005-2006)
****	2.31	0.000	18.15	0.201	0.449	(2006-2007)
-----	2.19	0.984	0.000	0.000	0.002	(2007-2008)
-----	1.85	0.630	0.235	0.003	0.057	(2008-2006)
-----	1.96	0.083	3.03	0.008	0.090	(2005-2009)

As it can be seen from table 4, the correlation coefficient is very week between changes caused by investing activities and stock efficiency changes in all years except than a006-a007 period. The F significance level is higher than 0.05 in all years except than a006-a007 period. It should be noted that totally F is higher than 0.05 in all years. Also the Watson test index is more or equal to a (table 1) which suggests that there is no correlation between errors and regression can be performed.

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Therefore, for confidence level of %95, it can be said that there is no significant relation between the changes of net cashes resulted from investing activities and stock efficiency changes. Totally, it can be said that H0 is accepted.

1.5. Results of Testing the Third Hypothesis

As it can be seen from table 3, there is only a significant linear relation for 2005-6 periods. The correlation coefficient is very week between changes caused by financing activities and stock efficiency changes in all years except than a005-a006 period. In other words, The F significance level is higher than 0.05 in all years except than a005-a006 period. It should be noted that totally F is higher than 0.05 in all years. Also the Watson test index is more or equal to a (table 1) which suggests that there is not correlation between errors and regression can't be performed.

Table 3: the results of statistical analysis of testing the third hypothesis

Linear relation	D-W	SIGF	F	R ²	R	AGE
****	1.333	0.010	7.012	0.096	0.310	(2005-2006)
-----	2.051	0.565	0.334	0.005	0.071	(2006-2007)
-----	2.15	0.408	0.693	0.011	0.103	(2007-2008)
-----	1.74	0.631	0.233	0.004	0.060	(2008-2006)
-----	1.85	0.416	0.663	0.002	0.042	(2005-2009)

Therefore, for confidence level of %95, it can be said that there is no significant relation between the changes of net cashes resulted from financing activities and stock efficiency changes. Totally, it can be said that H0 is accepted.

1.6. Results of Testing the Four Hypothesis

Table 4: the results of statistical analysis of testing the four hypotheses

	β	D-W	SIGF	F	R ²	R
β_0	0.143	2.07	0.384	1.031	0.042	0.206
β_1	-2.59					
β_2	-1.027					
β_3	2.56					

As it can be seen from table 4, the correlation coefficient is very week between changes of total cash flow items and stock efficiency changes. The F significance level is higher than 0.05(accepted level). Also the Watson test index is more than a, which suggests that there is no correlation between errors. The regression line coefficients are also shown in this table and can be used if H0 is rejected.

Generally, we have examined the above mentioned hypothesizes in this section. Single and multi-variable regression method was used to determine the significance level of variables. As it is mentioned, none of the research hypothesizes was accepted. Therefore, there is no significant linear relation between the changes of cash flow list items and stock efficiency changes.

CONCLUSION

This can be explained by following reasons:

- During 2005-2009, the changes of cash flow list items had no significant relation with stock efficiency changes. This means that, for example the increase of independent variable didn't result in the increase of dependent variable in one period. In other words, the lack of direct or indirect relation between the variables in different periods results no significant relation between the changes of cash flow list items and stock efficiency changes.
- Considering the results of two other research in this field namely ' the relation between balance sheet items changes and stock efficiency changes, Babaeian 2000' and 'the relation between profit and

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loss items changes and stock efficiency changes, Alipanahi 130)', no significant relation was found between these variables. It can conclude that, the weak performance of investment market in Iran results in week disclosure of existing information and consequently stock efficiency.

- Finally, it should be noted that other important factors such as future periods income making, economical status, profit division policy change, industry type, inflation rate and etc. effect on market and investing efficiency.

Limitations

In this research, we face to following limitations:

In our country, data collecting is one of the ,most important challenges of financial researcher, while this problem doesn't exist in countries with effective or semi effective secondary markets and researchers can use the informational bank of financial data easily.

- In this research, due to the lack of complete information about the stock index, it was needed to determine the investment increasing (before or after holding the general assembly of share division) in addition to deterring the period's primitive and final price and cash interest of each period, that is time consuming and hasn't any relation with the main subject of the research.

- The period of this research include a005-a009 and the selected firms are those which were active in Tehran bourse in this period. Since some firms didn't present their financial list irregularly, the related information was incomplete.

- Considering the information as the main part of our research, the lack of information related to some firms accepted in Tehran bourse prevent performing a comprehensive research.

Recommendations

- We recommend applying modifications in financial and economic systems as well as investing market in order to obtain an effective market as well as to make tools for improving the accounting related research.

- We recommend performing some research about the relation between the cash flow list items and cash stocks interest of firms accepted in Tehran bourse since it seems that this relation is stronger than the relation of stock efficiency.

- We recommend performing research about the relation between entire items of cash flow list items and stock efficiency changes of world effective markets. We think that hypothesizes of this research wasn't confirmed due to the ineffectiveness of Iran's investing market. Although this is an expensive method, but the researchers can obtain this information using internet.

- Considering the reconditions of Olson and Penman which suggested that the relation between the accounting variables and stock efficiency is stronger in long term periods, we recommend to develop this research by considering a longer period for studying the research subject.

Finally we recommend developing the research in this field in order to make various models for predicting accounting events by making significant relations between the accounting information and investors and creditors needs.

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