Relation between Stocks Returns and Financial Ratios Changes

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ABSTRACT

Whereas, annual financial statements and ratios of company is information resource for many persons that thy want to assess and decide in every reason. The aim of this investigation is examination relationship between financial ratios changes and stock returns changes in accepted companies in stock security exchange of Tehran. The statistical community of this investigation are accepted company in stock market of Tehran and the statistical sample is consist of 53 active company of different industries during 2007 until 2011. Hypothesizes/ theories are experimented by Smirnoff – calmogorof tests, independent and parsons cohesiveness. The findings indicate that there is significant and weak cohesiveness between cash ratios changes (current and quick ratios) and profitability ratios changes (grass profit/sail and profit/sail) with stock output in stock exchange. Finally, with attention to variable, the regression model is effective.

KEYWORDS: Common stock returns changes, cash ability, market, profitability ratios.

1. INTRODUCTION

One of principal instrument for development of capital market is promotion of analytic level in this market. He we don't have investigation and comprehensive and expansion. analyses in capital market, we will not expect to grow its position in national economic. the brier examination of changes of stock accepted companies in stock security exchange of Tehran. That it is main foundation of capital market in economic of Iran; indicate lack of analysis is dominant in this market. But, in recent years, hope fall steps are stepped to use indene's and world standard methods to analysis capital market of our countries. yet, we have not reached ideal and desirable analysis level in capital market and there are expansion spaces for working in this field.(Ansari,1988)

If investors invest careless / in attentive of series of factors, they will not attain ideal results of their investment gaining efficiency is a factor that investors consider in their investment, so that, we can say that the main aim of investors (such as common stock investors) is gaining of profit and efficiency stock returns is dependent two factors: the changes of stock price in the end of period in comparison with first period and the range of receiving cash profit (Dustin, 2006). In every type of investment, the investor tries to gain efficiency and try to gain information about stock returns of companies in the future. In the other hand, the profit of every stock is the one of methods that it represents much information content about of inside position of company (Namazi, 2006). the stock output is making effect different factors. with deep attention, we can understand that the change of part of financial ratio is a chief change in stock returns. Finally, with attention to effective factors of stock returns can supply more useful information for investors and managers of companies. Variety of user's information needs cause to analysis their financial information about of financial information of companies by different methods. every user group select special method with attention to type of need. The easy method of calculation ratios with attention to information financial reports that many researchers such as jams lid do to examine relationship between financial ratios and stock features coefficient, stock price, stock returns

Many researches are done about relationship of financial ratios with stock returns

The aim of this investigation is compare of relationship financial ratios changes with stock returns changes of accepted companies in stock accepted companies in stock security exchange of Tehran.

LITERATURE REVIEW

Son and pan examine the relationship between accountancy information and stock returns in a investigation in 1992.They do their investigation over sample of accepted companies in stock security exchange of Tehran during 1971 until 1998. In this investigation, they examine the relationship between accountancy information and stock returns and they use regerson,s several of two variable of linear model. They examine the following cases:

1. Relationship between list of loss and profit and stock returns of company.
2. The relationship between items of balance – sheet and stock returns.
3. The result of Olson and pans investigation is describe as following:

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4. The relationship between income every share and stock returns is stronger by increasing period's time and also cohesiveness coefficient between them.
5. The power of stock out put explaining is assigned by every items of loss and profit statement and it is before explaining by income of every share.
6. The relationship between inventory value and stock out put is less in compare with income of every share.
7. The range of explaining of stock by every items of balance – sheet isles than explaining stock output by inventory value.
8. The range of explaining of explaining of stock out put by items of loss and profit statement and balance – sheet is increasing times periods.

Jonathan bloodline examine this subject in investigation with title ability financial ratios in predicting stock out put whether ratio as every profit stock / price can predict stock returns?

They use regerson, s analyses and loss technique to testing of theories. The information about companies of stock in stock security exchange of network is collected by stock information banks. the result is that this ratio is able eopredict stock returns (Moran and Rayabroot). Examine investigation that called linear and a linear relationship between returns and financial ratios in Egyptian companies in following of lion and niagerajan (1993) and reyahibolokios work. in this investigation, linear and incliner relationship between financial ratios and stock returns are experimented by regerson, s multivariable of cohesiveness analysis. the during of this investigation is 1996 until 2000. the results of linear model by using step by step method of multivariable model indicate that this ratio is important for Egyptian investors to invest. Seen, heirs and Olson examine the relationship between accountancy profit and stock returns. this investigation is done about accepted companies in stock security exchange of Newyork during 1968 until 1986. in this investigation, they assume, if the periods time increase, the ratio of errors will decrease and they will calculate exact accountancy profit only for the whole age of institution. they consider annual profits. Finally, they sum them with each other that they contain the profit of mentioned the end of period time. in this investigation, the independent variable was equip and they conclude, cohesiveness between two variables is increased and explained the more range of returns in the lorgerot periods. board and day examine the role of accountancy profit and cash flows of obtained operations in explaining of stock returns they examine to see which two variable of accountancy profit and cash flows of obtained operations. they explain about of this relationship that person get used to accountancy profit on the basis of historical. There fore, there is not any resent, they change their behavior. seduced Dosteyan examine relationship between nonprofit changes and changes of operation cash flow with stock returns changes. the results of this investigation indicate, only there is a few cohesiveness between net profit and stock profit. So that, are can explain %16 stock returns changes with variable net profit. susanne maharani examines relationship between profitability ratios and stock returns in a article. the investigation was done in the period's time two years 2000 and 2001 and 19 activity was examined. independent and dependent variable such as profitability ratios and stock returns are calculated and relationship between them is examined in mentioned periods. the results indicate that there is significant relationship between some of ratios such as properties returns and salary returns of share holders. whereas, criterion such as the growth of profit, the growth of sale is not suitable criterion to predicting stock returns. also, changes of some variables such as returns of share holders and properties returns solely cannot predict stock output changes well.

Investigation questions

Basic problem of this investigation bring up in as three questions as following:

Is there relationship and cohesiveness between profitability ratios changes and changes of stock returns price of accepted companies in stock security exchange of Tehran:

The hypothesis theories of investigation

Three hypotheses collect to answer to investigation questions as following:
There is significant relationship between cash ability ratios changes and changes of stock returns price.
There is significant relationship between profitability ratios changes and changes of stock returns price.
There is significant relationship between market ratios changes and changes of stock returns price.

4: The method of research

The method of investigation is descriptive and cohesiveness with regerson,s analysis. With respect to aim; this investigation is a applied investigation. So that, managers, financial analyst and even shareholders can use obtained results.

The type of data collection of this investigation is quantitative because we use this information about accepted companies in stock security exchange of Tehran to theories.

Also, the method of reasoning of investigation is deductive – in active. This investigation is deductive because in theatrical from work and background of investigation is used library method. Examination of article and internet.

5. Community and statistical sample

The statistical sample of this investigation is all of accepted companies in stock exchange of Tehran that they have activity in stock exchange during 2007 until 2011.

From between number of accepted companies in stock security exchange of Tehran of Tehran, 250 companies have necessary condition to select them as a statistical community.

With attention to mentioned restriction, there are 250 companies in mentioned statistical community, finally 53 companies have all of necessary information in this investigation and this 53 company remain in this investigation that it is selected as a final sample.

The selection of sample volume is calculated by following formula (Azar,2001)

$$n = \frac{[Z_{\frac{\alpha}{2}}]^2 \times p \times q \times N}{(N-1) \times E^2 + [(Z_{\frac{\alpha}{2}})^2 \times p \times q]}$$

N: the size of statistical community
n: the size of sample volume
P: success ratio
q: filicide ratio
z: standard variable of normal distribution.
E: estimate error
In similar researches, certainty interval is %95 and estimate error is %12.
In this investigation, the estimate error is %12
And certainty interval is %95.
With according to volume of statistical community that equals to 250 company.
The volume of mentioned sample is calculated as following:

$$n = \frac{(1/96)^2 \times 0/5 \times 0/5 \times 250}{249 \times (0/12)^2 + [(1/96) \times 0/5 \times 0/5]} \cong 53$$

Therefore we observe that in %95 certainty level and with %12 error, must select 53 sample that we can obtained results of statistical is generalizable in all of accepted companies in stock security exchange of Tehran of Tehran for test . Experiment period (2007- 2011).

The collection of investigation data:

The necessary information to do this investigation is gain by library method. Also, variable data are collected from financial statement of sample company and information banks of pars portfolio, tidbit and dean.

1: investigation findings:

A: descriptive statistic

In first step, descriptive statistical of studying data are calculated to analysis data.

The descriptive statistics is part of statistic science that it discuss to describe a collection of conservations. With out, elicit it statistically.

In fact, the descriptive statistic is part of statistic the examine the parameters of statistical community by census method.

The table of descriptive statistic come in table 2, indicate the mount of descriptive parameters for every variable and set of years, separately.

Table 1. descriptive statistic

protracting	lonely	The deviation of criterion	mean	Slope of changes	The least	The most	number	The name of variable
1.463	0.889	56.2218	-7.3242	344.83	-140	204.83	265	Current ratio
1.012	0.675	39.7529	-13.085	218.78	-93.91	124.087	265	Quick ratio
1.23	0.354	143.39	-10.176	722.68	-354.4	368.30	265	The grass profit /sale
1.31	0.69	45.36	-6	350.09	-150	200.09	265	Profit/sale
1.62	0.85	90.45	-9.5	425	-265	160	265	Earning per share
0.9	0.285	105.66	-12	554.4	-234.4	320	265	Price/incom
-0.15	0.371	122.38	-11.43	644.36	-295.36	349	265	Stock returns

B: the test of being normal of data

We use colmogrof- Smirnoff experiment to being normal of data. The obstraction of results of this test are comes in table 2.

That indicates: the hypothesis H_0 is rejected with % 95 certainty levels and hypothesis H_1 is accepted.

There fore, we can conclude in significant level, there is significant different between cash ability ratio changes instantaneous and stock returns change.

It means: we can accept obtained result about of three tests.

Hypothesis H_1: there is significant between cash ability ratios changes quick and stock returns change.

There fore, the model as follow:

Stock returns = with from origin + line slope (instantaneous ratio)

$Y = g+bx$

(0.000) = α amount = constant) width from origin

(0.000) = β amount) line slope

(Stock returns) dependent variable = y

(Quick ratio) independent variable = x

3-4 the test of second hypothesis

a) Statistical hypothesis

There is significant relationship between profitability ratios changes (grass profit / sail and profit / sail) and stock returns changes.

For testing of first hypothesis is used model for testing of this hypothesis, we represent it H_0 and H_1.

Hypothesis as a following:

Hypothesis H_0: there is not significant relationship between grass profit / sail ratio changes and stock returns changes.

Hypothesis H_1: there is significant relationship between grass profit / sail ratio changes and stock returns changes.

Hypothesis H_0: there is not significant relationship between profit / sail ratio changes and stock returns changes

Hypothesis H_1: there is significant relationship between profit / sail ratio changes and stock returns changes.

The results of test of second hypothesis.

Table 4. The relationship between profitability ratios changes (the grass profit / sail) and stock returns changes in 2007-2011 years.

Linear relationship	sigf	f	Sit(β)	Sigt(α)	t	Assignment coefficient (r)	Cohesiveness coefficient (r)	Line slope(β)	width from (origin α)	year
has	0.012	60339	0.012	0.450	2.579	0.024	0.153	0.553	0.000	All of years

The clue was 6.339 f that it is bigger than table f. sig f is also 0.12 sigf that less than %5. In certainty level, 0.95 indicate that there is linear relationship between changes of dependent and independent variable. It means: there is linear relationship between grass profit/sail ratio changes and stock returns changes. With attention to analysis of variance, this model is significant and we can design model for it. There fore, we conclude there is significant relationship between grass profit/sail and stock returns changes. The assignment is %24. It means: %24 of stock returns changes explained by grass profit / sail ratio variable.

Sig (β) is %12 that it is less than %5. with in certainty %95 indicate ; β coefficient is significant about of this variable that indicate, the hypothesis is rejected with %95 certainty level and hypothesis H_1 is accepted. There fore, we can conclude in significant level, there is significant between grass profit/sail ratio changes and stock returns changes.

It means: we can accept obtained result about of three tests. It means:

There fore, this model is as following:

Stock returns = with from origin + slope line (grass profit/sail ratio)

$Y = g+bx$

 (0.000) = α amount = constant) width from origin

(0.000) = β amount) line slope

(Stock returns) dependent variable = y

Grass profit/sail independent variable = x

The result of test of second hypothesis,

Table 5. The relationship between profitability ratios changes (profit/sail ratio) and stock returns changes.

Linear relationship	sigf	f	Sit(β)	Sigt(α)	t	Assignment coefficient (r^2)	Cohesiveness coefficient (r)	Slope Line (β)	width from (origin α)
has	0.018	12377	0.018	868	3.171	0.053	0.231	0.855	0.000

The clue was 7.237 f that it is bigger than table f. sig f is %18 that it is less than %5.

In certainty level of %95 indicate that there is linear relationship between changes dependent and independent variable. It means: there is linear relationship between profit/sail ratio changes and stock returns changes.

With attention to analysis of variance, this model is significant and we can design model for it.

There fore, we can conclude, there is significant relationship between profit/sail ratio changes and stock returns changes.

The assignment is %18. It means: %18 of stock out put changes explained by profit / sail ratio variable.

Sig (β) is %12 that it is less than %5.and with certainty %95 indicate ; β coefficient is significant about of this variable that indicate, the hypothesis H_0 is rejected with %95 certainty level and the hypothesis H_1 is accepted.

There fore, we conclude in significant level, there is significant different between profit/sail ratio changes and stock returns changes.

It means: we accept obtained result about of three tests.

Hypothesis H_1: there is significant relationship between profit / sail ratio changes and stock returns changes.

There fore, this model is as following:

=g+bxy Stock returns = with from origin + slope line (profit/sail ratio)

(0.000) = α amount = constant) width from origin

(0.000) = β amount) line slope

(Stock returns) dependent variable = y

(profit/sail) independent variable = x

The test of third hypothesis

A) Statistical hypothesis

There is significant relationship between profitability ratios changes and stock returns changes. It is used model 1 for test of third hypothesis. We present this hypothesis in two H_1 and H_0 hypothesis as a following:

Hypothesis H_0: there is not significant relationship between the changes of earning per ratio and stock returns changes.

Hypothesis H_1: there is significant relationship between the changes of earning per share ratio and stock returns changes.

Hypothesis H_0: there is not significant relationship between price / income ratio changes and stock returns changes

Hypothesis H_1: there is significant relationship between price / income ratio changes and stock returns changes.

The results of test of third hypothesis:

Table 6.The relationship between market ratios changes (earning per share) and stock returns changes.

Linear relationship	sigf	f	Sit(β)	Sigt(α)	t	Assignment coefficient (r^2)	Cohesiveness coefficient	Slope Line (β)	width from (origin α)	year
Has not	0.841	0.26	0.841	0.245	-0.162	0.000	-0.010	0.000	0.000	All of years

In analysis of variance, the clue f that it is describe the model, it was very low and it is less than table f. and the significant level of sig f is bigger than %5. In certainty level of %95, indicate that there is not linear relationship between dependent and independent variable changes. It means: there is not linear relationship between changes of earning per share and stock returns changes.

With attention analysis, the H_0 is accepted and the model is not significant. There fore, we conclude, there is not significant relationship between changes of earning per share.

It means: the changes of every share has not information content and we can not design model for it.

The cohesiveness coefficient that indicate the type of relationship between dependent and independent is very low and assignment coefficient that indicate the percent of justification of dependent changes by independent variable changes is very low and indicate there is not relationship between dependent and independent variable.

It means: there is not relationship between changes of earning per share and stock returns changes.

The clue t that describes a significant relationship between independent and dependent variable and f coefficients is low that indicate, hypothesis H_0 is accepted with certainty level of %95. Sit (β) indicate that coefficient β is possibly zero that it is bigger than %5 and with certainty level of %95, indicate, the coefficient β about of this variable is not significant and the hypothesis is accepted.

Table 7.the result of third hypothesis, the relationship between price/income ratio changes and stock returns changes.

Linear relationship	sigf	f	Sit(β)	Sigt(α)	t	Assignment coefficient (r^2)	Cohesiveness coefficient (r)	Slope Line (β)	width from (origin α)	year
has not	0.812	0.23	0.812	86.7	-1.63	0.000	-0.015	0.000	0.000	All of years

In analysis of variance, the clue f that it describes the model was very low and it was less than table f and significant level of sig f is bigger than %5. In certainty level of %95, indicate that there is not linear relationship between dependent and independent variable changes.

It means: there is not linear relationship between price/income ratio changes and stock returns changes.

With attention to analysis variance, the hypothesis H_0 is accepted and the model is not significant.

There fore, we can conclude, there is not significant relationship between price/income ratio changes and stock returns changes.

It means: price/income ratio change has not information content and we can not design model for it.

The cohesiveness coefficient that indicates type of relationship between dependent and independent variables is very low and assignment coefficient that indicates percent of justification dependent changes by independent variable changes is very low. These indicate; there is not relationship between price/income ratio changes and stock returns changes.

The clue of t indicate the there is significant relationship between independent and dependent variable or β coefficients is very low that indicate, the hypothesis H_0 is accepted with certainty level of %95. Sig (β) indicate that coefficient β is possibly zero that it is bigger than %5 and with certainty level of %95, indicate, β coefficient about of this variable is not variable and indicate the hypothesis H_0 is accepted.

The result of investigation

In this investigation, three hypotheses are tested.

The mentioned of hypothesis is tested about of 53 company with 265 observation in during 2007-2010.

The result of this test is as following.

The first hypothesis: there is significant relationship between cash ability ratios changes (current and instantaneous) and stock returns changes.

The test of this hypothesis is about current and quick ratios and indicates significant and insignificant cohesiveness in rate of 0.208 and 0.109 that it is investigated during 5 years in certainty level of %95.

There is significant relationship between cash ability ratios changes (current and quick) and stock returns changes.

The significant test of this model indicate that current ratio of amount sig %25 < α (%5).

Also the significant test of this model indicate that quick ratio of amount sig (0.004) < α (4.5).

There fore, hypothesis H_0 is rejected for two models.

And it is confirmed that there is significant relationship between cash ability ratios changes and stock returns changes of accepted in stock.

Second hypothesis: there is significant relationship between profitability ratios changes (grass profit/sail and profit/sail) and stock returns changes.

The test of this hypothesis is about grass profit/sail and profit/sail ratios and indicate significant and insignificant cohesiveness in rate of 0.153and 0.231 that it is investigated during 5 years in certainty level %95.

It means: there is a significant relationship between profitability ratios changes (grass profit/sail and profit/sail) and stock returns changes.

The significant test of model indicate that in grass profit/sail ratio, the rate of sig(0.024) < amount α (%5).

Also the significant test of model indicate that in profit/sail ratio, the amount of sig (0.018) < α (%5). There fore, hypothesis H_0 is rejected for two models. There fore, hypothesis H_0 is rejected.

There fore, this theory is confirmed that there is significant relationship between profitability ratios changes (grass profit/sail) and stock returns changes of accepted companies in stock.

Third hypothesis: there is significant relationship between mark ratios changes (earning per share and price/income) and stock returns changes.

The test of this hypothesis indicates the lack of cohesiveness for all of investigated years in certainty level of %95.

There is not significant relationship between market ratios changes (earning per share and price/income).

The significant test of model also indicate that in earning per share ratio, sig(0.871) > α (%5 or 0.5).

Also the significant test of model indicate in price/income ratio of sig (0.812) > α (%5).

There fore, hypothesis H_0 is confirmed for every two model.

In the result, hypothesis H_0 is confirmed.

There fore, the theory is not confirmed that there is significant relationship between market ratios changes (earning per share and price/income) and stock returns changes.

Such as, reason the lack of relationship and weak relationship that are tested by regerson,s two variable, we can express following.

Conclusion

In period of studying investigation, the financial ratios changes have less constant trend in compare with stock returns changes from 2007 until 2011 year and their decreasing and increasing percent have many difference with decreasing and increasing percent of stock returns changes.

In fact world, a phenomenon may make an effect factors and different variable. Group of these factors and variable are obvious for researcher and he can distinguish the effect these factors (independent variable) over studying phenomenon that thy change in effect independent variables.

But there are other factors, or the researcher doesn't know them or it is not impossible to assign their effect over studying dependent variable quantitatively.

There fore, the researcher examine restricted number of these factors in every research.

The result of test examination of relationship of this research variable and lack of significant relationship and weak relationship between them indicate that other important factors can make an effect stock returns commercial unites, such factors are economics status of commercial unites, type of industry, inflation price and the effect of other stimulus in stock returns of Iranian company such as rumor, political affairs and pricing less than fact stock in first supply to public.

Suggestions

1) Financial analyst is active in market to analysis information from different dimensions that stock market of Tehran is near to work market.

2) The stock market is established, so that, necessary information are used by investors, analyst to analysis it and special group does not used this information.

3) We can reach accurate results, by doing similar research or researches about this investigation for longer periods of time.

4) Company and type of property.

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