

THE INVESTIGATION OF RELATIONSHIP BETWEEN FREE CASH FLOW AND EVALUATION INDICATORS OF FINANCIAL PERFORMANCE

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Abstract: *On the eve of the twenty first century AD, the majority of countries in the privatization of the economy and contribute to society to provide the necessary capital firms led by, In such a way that it creates, national and multinational companies is also sent. The aim of this study was to determine the effect free cash flow on change in evaluation indicators of financial performance. This research in addition to the existing theories external research, trying to certain conditions considered Iran's capital market and The investigation of relationship between free cash flow and evaluation indicators of financial performance listed in the Tehran Stock Exchange firms over a period of 8 years (2008 until 2015) was conducted. The population consisted of all companies listed on the Stock Exchange in Tehran after the imposition of restrictions, including 406, company. Test hypotheses using linear regression analysis and correlation software SPSS version 16 has been analyzed.*

The results indicate that, between free cash flow and evaluation indicators of financial performance, relationship is. But not with the approval of all the hypotheses, the general relationship between free cash flows with three variables, the rate of return on equity, investment opportunities and quality profitable disapproved and relationship between free cash flow and variables earnings before interest and tax, and Market value added were confirmed. Namely an increase in free cash flow, earnings before interest and taxes and market value added increases.

Key Word: *Free cash flow, Earnings before interest and tax, Market value added, Return on equity, Investment opportunities, Earnings quality.*

INTRODUCTION

Investing in the stock requires precise knowledge listed companies which according to scientific criteria, are evaluated. Development corporations the passage of time led to the emergence and increasing cortical capital owners who did not directly participate in the management of companies and via the board of directors,

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corporate guidance and supervision were decided. This new development created a new group of professional managers who ruled in its capital, has no share or have a small share. Thus, the institution's management of their owners were, separated (Shabahang et al., 1998). Free cash flow benchmark for measuring the performance of the company and cash to show that, after the necessary funding for the maintenance or development of the company's assets at its disposal. Free cash flow is important in this respect, will allow firms to seek opportunities and increase shareholder value. Without having cash, development of new products, payment of cash benefits to shareholders and debt reduction is not possible. On the other hand, the cash should be kept at a level which, between the opportunity cost of holding cash and the cost of insufficient cash flow balance. On the other hand, firm performance is no individual interest and the interests of the majority of the affected individuals. Profit entities and organizations as well as all man-made phenomena, with their life cycle, Investment opportunities at different stages with different life cycles and the company is high flexibility to use this opportunity to have a clear vision of the future is imagined and Including effective policies in the creation of investment opportunities the use of cash flows is appropriate. In fact, the study is that, if between the free cash flow and evaluation indicators of financial performance in firms listed on the Stock Exchange indices, there is relationship or not?. And if there is relationship, what is?

RESEARCH BACKGROUND

Lille 2010, Srbynz-Oxley Act, a significant impact on earnings quality the companies listed on the stock exchange, not. Srbynz Oxley Act, more effect on quality of earnings American companies (in comparison with other companies listed on US stock) is. Earnings quality in surrounding Srbynz Oxley legislation has not changed. Oxley Srbynz legal costs, the benefits in the decision regarding the acceptance of the exchange have been more.

Dey 2005, for companies that have the highest agency costs shareholder rights have a significant positive correlation with earnings quality. But for companies that have the least amount of Agency costs, the rights of shareholders with earnings quality, no significant relationship.

Wang 2006, family owned with earnings quality the relationship is nonlinear. The family-owned with accruals quality, content profit and conservatism associated.

Katz et al, 2008, the shareholders of the companies the private sector compared with other companies the earnings quality have more. Less earnings management and use more conservative approach characteristic of these companies.

Jiang and Anandarajan 2009, shareholder rights, Was positively associated with earnings quality. But this positive relationship, the case of institutional investors, short-term perspective, has undermined or neutral.

Prgvla et al., 2009, by the shareholders of the managers, not the interests of owners and managers together. As well as opportunistic managers can help good governance structures altered.

Effendi et al 2007, the possibility of restating earnings for companies with restrictions in debt agreements and the companies which have recently increased their capital more.

Hashim and Devy 2007, between the family owned and the earnings quality, there is a significant positive relationship. As well as between institutional ownership and earnings quality there is a significant positive relationship.

RESEARCH THEORETICAL

Separation of management from ownership creates a conflict of interest between managers and shareholders and the emergence of the problem the agency theory. Agency Theory of ownership and control in the company's separate, causing a conflict of interest between shareholders and managers of companies. One of the cleanest forms of fundamental analysis portfolios, evaluate the entity's cash flows because the style of a company's value and the economic efficiency of its assets the direct connections.

Free cash flow measure today by many analysts and investors are concerned;for a company with major long-term free cash flow expected growth, positive cash flows due to the reinvestment of funds for new projects create shareholder value is reflected. No doubt, determine the price of the stock market and the factors affecting it, has long been one of the most controversial issues in the field of idea financial, and accounting was considered and primarily due to the importance of the issue according theorists and thinkers have attracted many and in many ways from them on how to calculate the market value and factors that may be appropriate, it is useful in determining value and play a major role and suggested design. Also evaluate the performance of business units the past few decades the scientific and technical more than has been done and much of the literature of management finance and accounting forms. Many efforts to compare metrics and performance assessment and which of more credit, have been made. Performance evaluation process to assess, measure, evaluate and judge the performance during certain deals and organizationally, synonymous with the effectiveness of the activities (in achieving the goals and programs),The performance evaluation, performance measurement by comparing the current situation with the desired or ideal based on predetermined criteria which given its characteristics, is eligible.

Free cash flows (the independent variable): Free cash flow measure corporate performance and cash to show that, The Company after expenses for maintenance or development of assets at its disposal. Free cash flow by subtracting capital expenditures from operating cash flow is calculated as (Jensen, 1986).

Cash from operating activities - Investments (deducted from total assets)=FCF

Evaluation indicators performance (the dependent variable): Variable evaluation indicators performance with five criteria, earnings before interest and tax, market value added, investment opportunities, return on equity and earnings quality was assessed. Each of these variables, are measured as follows:

1. **Earnings before interest and tax:** The profit of the companies surveyed before deduction of interest expenses and taxes.
2. **Market value added:** In theory, market value added can be determined at any moment, the market gained. Market value added the difference between the value of the entity's total market and economic capital ie the difference between market value and capital employed and adjustment of the company. Shareholder wealth by maximizing the difference between the market value of shares and the amount of capital supplied by shareholders is maximized. The difference the market value added (MVA) is called (Stern and Shayly, 2001).

(MVA) = Stock market value – shareholders equity

(MVA) = (number of shares outstanding) (Stock price) – share holders equity

3. **Investment opportunities:** Investment opportunities, tangible and intangible capital assets are when the company continues its existence the company adds value and when the company goes into bankruptcy destroyed. Or in other words, the opportunity (chance) to the company to invest up to increase production capacity, new lines of production, maintenance and replacement of existing assets and reduce costs, gain, say investment opportunities (Gul, 1999). Variable investment opportunities through the following alternative criteria, can be measured.

$$MBA = \frac{\text{market value of assets} - (\text{book value of equity} + \text{book value of assets})}{\text{book value of assets}} = \frac{(\text{stock price}) \times (\text{number of shares outstanding}) - (\text{book value of equity} + \text{book value of assets})}{\text{book value of assets}}$$

4. **Return on equity:** Return on equity one of the financial ratios that by dividing the earnings before taxes on equity calculated (Jahankhani and Sajjad, 1995).

5. **Earnings quality:** Quality of earnings which is an accounting terminology definitions have been provided for, many of the researchers as the quality of earnings reported earnings close to economic benefits have defined (Shiper and Vincent, 2003). In other words as much as earnings are closer to economic benefits greater quality. The concept of earnings quality can be based on usefulness criteria to decide to four of the quality of earnings based on characteristics of time series of profit, earnings quality based on the relationship between earnings, accruals and cash, Quality of earnings based on the quality of the conceptual framework and earnings quality classified according to influence decisions. Quality of earnings, measured using the following method (Ghasem Blue, 2010).

$$TA_t = (\Delta CA_t - \Delta Cash_t - \Delta Cl_t - \Delta STD_t - DEP_t)^*$$

* ΔTA_t : Total accruals in year t

ΔCA : Changes in current assets in cash out

ΔCl : Changes in current liabilities

DEP: Depreciation expense

$\Delta Cash$: Change in cash

ΔSTD : Change in current portion long-term debt

As the amount of accruals higher, earnings quality is lower.

RESEARCH METHODS

This study is a kind of applied research. Statistical population of all the companies listed in the Tehran Stock Exchange and the total study sample of 406 companies. To test the hypothesis regression and correlation analysis was used and the significance level (0.05) relationship between the variables assessed. To check data normality test (Kolmogorov - Smirnov) is used. To determine the significance of the regression model the statistic F and to determine the influence of the independent variable on the dependent variable, t-test was used.

In explaining the model assumptions to determine whether the independent variables the ability to explain the dependent variable, the amount by R² (coefficient of determination) is measured. In regression analysis should error (difference between observed and predicted) are independent of each other in this regard, the Durbin-Watson test taken helps.

Test Hypotheses Using Regression Model

The first hypothesis testing

Between free cash flow and earnings before interest and taxes, there is a significant positive relationship.

H_0 : Between free cash flow and earnings before interest and taxes, there is no significant positive relationship.

H_1 : Between free cash flow and earnings before interest and taxes, there is a significant positive relationship.

Table 1
The results of the regression the first hypothesis

$Y = 111272.94 + 0.674X_1$					
Type variable	Symbol	Variable name	Coefficients	t-Statistic	prob
Dependent	Y	Earnings before interest and tax	–	–	–
Constant	α	Intercept	111272.94	2.439	0.015
Independent		Free cash flow	0.674	34.196	0.0
		F-statistic	1169	–	0.0
		R2	0.86	–	–
		Adjusted R Square	0.74	–	–

Source: Calculations Research

The significant level of statistic F, less than 5% then the assumption is significant, with 95% confirmed linear relationship and H_0 is rejected. According to the coefficient of determination adjusted, 74 percent of the independent variable the changes are described in the dependent variable. For variables associated with the dependent variable was significant, the relationship is as follows:

$$Y = 111272.94 + 0.674X_1$$

The absence of any factor, earnings before interest and taxes 111272.94 units, with a unit increase in free cash flow, earnings before interest and taxes 0.674, the unit will rise. Thus, the first hypothesis of the study stating that between free cash flow and earnings before interest and taxes, a significant relationship was confirmed and this relationship is linear and, is direct, which means the alignment

of streams rising or falling, is two variables. In other words, the companies listed on the stock exchange managers in order to provide better performance and appeal to shareholders with the division of profits more and with different objectives, such as; Providing job security and compensation management to opportunistic behavior with most showing a profit and also maintain liquidity and lack of investment in the projects are profitable.

The second hypothesis test

Between free cash flow and market value added, there is a significant positive relationship.

H_0 : Between free cash flow and market value added, there is no significant positive relationship.

H_1 : Between free cash flow and market value added, there is a significant positive relationship.

Table 2
The results of the regression the second hypothesis

$$Y = 720402.26 + 1.903X_2$$

Type variable	Symbol	Variable name	Coefficients	t-Statistic	prob
Dependent	Y	Market value added	-	-	-
Constant	α	Intercept	720402.26	3.07	0.002
Independent		Free cash flow	1.903	18.78	0.0
		F-statistic	352.74	-	0.0
		R2	0.68	-	-
		Adjusted R Square	0.47	-	-

Source: Calculations Research

The significant level of statistic F, less than 5% then the assumption is significant, with 95% confirmed linear relationship and H_0 is rejected. According to the coefficient of determination adjusted, 47 percent of the independent variable the changes are described in the dependent variable. For variables associated with the dependent variable was significant, the relationship is as follows:

$$Y = 720402.26 + 1.903X_2$$

The absence of any factor, market value added 720402.26 units, with a unit increase in free cash flow, market value added 1.903, the unit will rise. Thus, the

second hypothesis of the study stating that between free cash flow and market value added, a significant relationship was confirmed and this relationship is linear and, is direct. According to the results in the first hypothesis increased dividends and also the desirability of attracting investors resulting in an unrealistic increase in market shares, which increased the market value, it would be. These management decisions although in the short term lead to show a positive image of the company performance and its management and increase the price of its shares on the market and ensure compliance to the shareholders, But in the long term due to the withdrawal of liquidity and reduces flexibility as well as losing the ability to take advantage of profitable projects which provide stability for the company and its growth in the future, devaluation and bankruptcy the company will follow.

The third hypothesis test

Between free cash flow and investment opportunities, there is a significant positive relationship.

H_0 : Between free cash flow and investment opportunities, there is no significant positive relationship.

H_1 : Between free cash flow and investment opportunities, there is a significant positive relationship.

Table 3
The results of the regression the third hypothesis

<i>Type variable</i>	<i>Symbol</i>	<i>Variable name</i>	<i>Coefficients</i>	<i>t-Statistic</i>	<i>prob</i>
Dependent	Y	Investment opportunities	–	–	–
Constant	α	Intercept	1.76	25.49	0.0
Independent		Free cash flow	0.00000003	0.09	0.929
		F-statistic	0.008	–	0.929
		R2	0.004	–	–
		Adjusted R Square	0	–	–

Source: Calculations Research

The significant level of statistical F is greater than 5% then the assumption is not significant, with 95% a linear relationship cannot be confirmed H_1 is rejected. According to the adjusted coefficient of determination the independent variable 0 percent describes changes the dependent variable. Therefore, the third hypothesis of this study which concluded that between free cash flow and investment

opportunities there is a significant relationship with 95% probability will not be approved. Because it may be considered in the following cases:

First, investors because of inflation and other factors high dividends on less preferred then the other to keep and attract investors their cash flows rather than investment, spending a dividend as well. Second, the managers companies surveyed less than free cash flow for investment opportunities, use or do not use, and that the companies surveyed in its policy investment opportunities are not on its agenda. According to the companies listed in Tehran Stock Exchange do not follow the policy of equal and uniform, between free cash flow and investment opportunities there is no significant relationship.

The fourth hypothesis test

Between free cash flow and return on equity, there is a significant positive relationship.

H_0 : Between free cash flow and return on equity, there is no significant positive relationship.

H_1 : Between free cash flow and return on equity, there is a significant positive relationship.

Table 4
The results of the regression the fourth hypothesis

<i>Type variable</i>	<i>Symbol</i>	<i>Variable name</i>	<i>Coefficients</i>	<i>t-Statistic</i>	<i>prob</i>
Dependent	Y	Return on equity	-	-	-
Constant	α	Intercept	0.493	2.86	0.004
Independent		Free cash flow	0	-0.001	0.999
		F-statistic	0	-	0.999
		R2	0	-	-
		Adjusted R Square	0	-	-

Source: Calculations Research

The significant level of statistical F is greater than 5% then the assumption is not significant, with 95% a linear relationship cannot be confirmed H1 is rejected. According to the adjusted coefficient of determination the independent variable 0 percent describes changes the dependent variable

Thus, the fourth hypothesis of the study stating that between free cash flow and return on equity there is a significant positive relationship, not approved. The

flows decrease and increase two variables do not impact on each other. This can be due inflammatory condition of the economy and representation theory, because the return on equity the most popular accounting performance measures among analysts and shareholders. Since profit is one of the main factors in the calculation of return on equity. This measure may be subject to change managers.

The fifth hypothesis test

Between free cash flow and earnings quality, there is a significant positive relationship.

H_0 : Between free cash flow and earnings quality, there is no significant positive relationship.

H_1 : Between free cash flow and earnings quality, there is a significant positive relationship.

Table 5
The results of the regression the fifth hypothesis

Type variable	Symbol	Variable name	Coefficients	t-Statistic	prob
Dependent	Y	Earnings quality	–	–	–
Constant	α	Intercept	0.84	1.57	0.117
Independent		Free cash flow	-0.00000003	-0.112	0.911
		F-statistic	0.012	–	0.911
		R2	0.006	–	–
		Adjusted R Square	0.0	–	–

Source: Calculations Research

The significant level of statistical F is greater than 5% then the assumption is not significant, with 95% a linear relationship cannot be confirmed H_1 is rejected. According to the adjusted coefficient of determination the independent variable 0 percent describes changes the dependent variable.

Thus, the fifth hypothesis of the study stating that between free cash flow and earnings quality there is a significant positive relationship with 95% not approved. Particular environmental conditions and specific policies to directors based on management and earnings smoothing cause this is the result.

CONCLUSIONS

This study aimed to study the effect of free cash flow on the change in the size of evaluation indicators of financial performance to assess this relationship is. The

results of hypotheses suggest a relationship between free cash flow as a measure of cash and evaluation indicators of financial performance (standard accounting and economics). But with the approval of all the hypotheses, the general hypotheses of the rate of return on equity, investment opportunities and earnings quality were not confirmed. That the main reason it may be does not comply with the firms listed in the Tehran Stock Exchange of a uniform policy and that most of the surveyed companies in the Tehran Stock Exchange with free cash flows have been negative. As well as representation theory and the role of managers of legal intervention most of the criteria has changed, considered. And should not be the measure of free cash flow due to the lack conjunction with measures the rate of return on equity, investment opportunities and earnings quality to be used. Earnings before interest and tax assumptions as an accounting measure and market value added as an economic measure were approved, namely an increase in free cash flow, earnings before interest and taxes and market value added also increased. This could indicate that it can be free cash flow as a measure of cash as well as measures of profit and value-added market as a complement, be used in decision making. Therefore it can be concluded that the free cash flow as a measure of objective and supplements in the capital market of Iran to make good decisions be used to reduce information asymmetry. The results do not match with none of the research.

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