

The Effect of Growth Opportunities and Stable Profitability on Market Value of Free Cash Flows of Listed Companies in Tehran Stock Exchange

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ABSTRACT

One of the accounting goals is to provide information for investors and analysts to help them predict stock returns for companies. Investors are also looking for most efficient opportunities to invest their additional resources in the capital markets, especially companies that have high free cash flow. The purpose of this study is to investigate the relationship between free cash flow and firm's return of stocks as well as the effect of growth opportunities, sustainable profitability, size, leverage, book value and dividend variables on this relationship. For this purpose, a sample of listed companies in Tehran Stock Exchange between 2002 and 2011 has been randomly selected and studied. Using regression models through combined data and fixed effects model, the results of studying the hypotheses suggest a relationship between free cash flow and stock return of firms; among other variables, only firm size has an impact on this relationship.

KEY WORDS: Stock return, free cash flow, growth opportunities, stable profitability

1- INTRODUCTION

With revealing the determinants of stock price movements, investors' perceptions regarding the factors affecting stock price changes will be modified and because of the well-done pricing, capital market attractiveness will increase and capital market will also develop. Investors and creditors are willing to invest in companies that have high free cash flow because the strength of debt kickback and the definition of financial flexibility of the company are the means for assessing these companies. In addition, cash profits and debts reduction are not possible without possession of cash paying. Financial analysts also reviewed companies' status with analyzing the financial statements of companies. One of the factors affecting the performance of companies is the growth opportunities that are different in various stages of life cycles of company. The company that has more flexibility to use these opportunities appears to have brighter future.

Besides, the reference to earnings per stock in a year is not necessarily an accurate basis for evaluating the performance because next year's profit might be less than the year before. So, the most appropriate criterion for assessing companies is stable profitability. It should be noticed that compared with average or desired profit, the more the deviation of profitability of past or probable future profits, the higher the risk of stock and the less its value will be and vice versa. In this study, the relationship between free cash flow in the companies and return of stocks as well as factors related to growth opportunities facing the company and stable profitability have been investigated.

2 – REVIEW OF THE LITERATURE

Free cash flow is a measure of company performance measurement and shows the cash that the company possesses after spending for maintenance or development of the property. Various explanations have been offered for it that some of them will be as follows: (Habib, 2011): From Hackel et al perspectives (2000), there are two different definitions: 1 - the traditional method that deduces Payments for investments from operating cash flow. The second definition adds discretionary cash outlays (DCO) and discretionary CAPEX (DCAPEX) to the traditional FCF.

Chung et al. (2005): $RCFit = (INCit - TAXit - INTEXPit - PSDIVit - CSDIVit) / TAit_{-1}$

RCF is the retained cash flow; INC is the operating income before depreciation; TAX is the total taxes; INTEXP is the interest expense; PSDIV is the preferred stock dividends; CSDIV is the common stock dividends; and TAis the total assets at the beginning of the fiscal year.

Richardson (2006) : $FCF = CFAIP - I * NEW$

CFAIP= Net Cash flow from Operating Activities - Maintenance Investment Expenditure (IMAINTEANCE) + Research and Development Expenditure(RD) - I*NEW (Expected Investment on New Projects).

Penman and Yehuda (2009) C-I= Cash flow from operations minus the cash component of the investment

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Fresard and Salva (2010): Excess cash is defined as the cash that is not needed for operations or investments. Specifically, excess cash is the cash held above a predicted “normal” (or “optimal”) level. To compute the normal level, total cash is regressed on variables that serve as proxies for genuine motives to hold cash such as hedging needs, growth options, or financing restrictions.

Zerni et al. (2010): $FCF = OCF - \text{dividends on preferred} - \text{common dividends} - CAPEX$

Profit quality is also meant to provide correct economic transactions and events, and various explanations have been provided for it. Schipper defined profit quality based on economic benefit and Hodge defined it as proximity of amount of reported profit to the real benefit. Mikhail et al defined the quality of profit based on past profits to predict future cash flows and according to Penman the quality of profit is checked by the relationship between future profit and current profit, and according to Bellovary et al. quality of profit is a symbol of profits power to report real profit of business unit, the predictability of future profit and stability and invariability of the reported profit. However, profit quality in firms operating in unstable countries and with state economy, and in countries with high investment risk and low-risk economy, is lower than other companies. In the present research studies has been done. In the study of Habib (2008), New Zealand companies were studied and the results indicated that profitability has much explanatory power than cash flow, however there was no significant difference between them. Also, the cash flow and profitability together have high information content related to stock returns, However, the effect of profitability and cash flows are influenced by firm-specific factors. Dimitropoulos (2010), studied the quality of accounting annual profit in financial institutes of Greece over the 10 year period from 1995 to 2004. The results showed that profitability of the firms had the greatest impact on stocks return changes of companies and that this relation is (it's positively related to it). Also when profitability is temporary, investors look for alternative means of performance evaluation of banks. Habib (2011), also in a study surveyed 7,229 companies listed on the Australian stock exchange between 1992 and 2005. He studied the current cash flow, stable profitability and growth opportunities on the stock returns, and to test hypotheses he used the multiple regression method. The results show that firms with greater growth opportunities and free cash flow, will have a higher value price, and additionally free cash flow is positively related to stock return while profitability is short-term (transient). Da (2012), tests whether the capital asset pricing model based on the returns of stocks is appropriate on capital budgeting and for asset cost of capital or not? The study results show that despite numerous evidences for the lack of performance of this criterion for stocks return, it seems reasonable to continue to use this model for companies. In the Dustudy (2012), the factors affecting stock returns using the CFNAL-MA3 were examined. Lischewsky (2012), studied the determinants of stock market price on developed markets in Poland. Hulbert(2013) with examining 20 companies that had the same management and ownership, and tended to develop their company, came to this conclusion that most growth opportunities result from market conditions and not changes in the environment. And traditional measures of market analysis determine these conditions well. Reviewing the nature and sources of growth opportunities used by small and medium enterprises, he showed that for using the opportunities, the managers' trend to develop their attempts and actions to discover these resources, is also required. In the Kashef study (1391), using time and analysis regression series, 41 companies listed in Tehran Stock Exchange for the period of 1375 to 1389 were examined as an example. The results indicated that the operating profit of current year along with book value to market value would be a positive predictor of stock returns in the future. The research hypotheses were defined as follows:

- 1 - There is a significant relationship between the free cash flows and stock returns of companies.
- 2 -Stable profitability have an effect on the relationship between the free cash flow and the stock returns of the companies.
- 3 - Growth opportunities have an effect on the relationship between the free cash flows and the stock returns of the companies.

3 - RESEARCH METHODOLOGY

The present study is of the applied researches type and the aim of applied researches is the development of applied knowledge in particular areas. Also regarding to how to collect data it is descriptive, and because of assisting to a better understanding of the current situation and helping to the decision-making process it is of correlation type as well.

3-1- Community and sample

The current study samples include all firms listed in Tehran stock exchange between years 2002 to 2010, and have the following features:

- 1 –they shall not belong to agent firms, banks and insurance and investment companies.

2 – their financial year shall be ended up on March 20th of each year, and during the studied years shall not have changed their fiscal year. Then from the target population (384 companies) that are eligible of the aforementioned terms, a sample of n = 84, is categorized (including 627 years) with random sampling method, and then is selected and entered into the Eviews software to estimate statistical models and calculations.

3-2–Variables and their calculation method

a) Dependent variable: currently the most important criterion for evaluating the performance of the companies is stock returns that alone has the informative content, and is the ratio of profit(loss) obtained from investments in stocks to the capital that is spent to obtain it in a period of time, and is calculated as follows (Habib, 2011):

The price at the beginning of stock year / (stock price at the beginning of the year - stock price at year-end) = return of stock

b) Independent variable: because the returns of stocks are extremely important for the increase of shareholder wealth, researchers are always looking for variables that they can go through them to predict stock returns in future periods. Since free cash flow derived from cash basis is more desirable and is also considered as an independent variable, It should be noted that cash flow in Iran is provided in the form of five classes, so the following formula is used to calculate free cash flow more accurately (Habib, 2011):

Free cash flow = operating cash flow + stock profits and profits paid on short-term deposits - financial costs - taxes –costs of purchasing tangible and non-tangible assets

C) Control variables: for a closer study of the relationship between the dependent and independent variables, several additional variables have been considered as follows:

net profit last year / (net profit last year - net profit for the current year) = 1- stability of profits

Stability of profits is divided into two parts from the mean, the smaller portion of the mean (for which it is considered 1) is companies with stable profits and the portion that is greater than the median (for which it is considered zero) is companies with uncertainties on profitability (Habib, 2011).

Book value of stock / market value of stock = 2 - Growth opportunities

Growth opportunities also divided into two parts in the mean. We consider zero for portions smaller than the mean that shows companies not having considerable growth opportunities. And 1 is considered for the portion greater than the mean, that shows companies with more considerable growth opportunities. (Habib, 2011)

Number of stocks / total stocks= 3- book value per stock

4 - Dividends profit per stock that have been extracted from the company's financial statements.

5 - The size of the company that is calculated using the total revenues (total sales) in each year.

The total assets / total debt = 6 - leverage

4 - Descriptive Statistics

In table 1, descriptive statistics of variables including mean, median, highest and lowest values and standard deviations are presented:

Table 1. Descriptive Statistics

	BV	DPS	FCF	GROWTH	LEV	RETURN	EP	SIZE
Mean	0.024483	535.7783	-29962.1	31156852	0.693531	28.29726	-0.81619	12.72673
Median	0.001392	270	3076	1417098	0.688584	7.79	0.04	12.50276
Maximum	3.384579	6500	6596692	5.00E+09	3.284909	734.14	109.14	18.49227
Minimum	-0.03757	0	-2.8E+07	-2.47E+09	0.040548	-77.71	-315.58	2.397895
Std. Dev.	0.154017	799.9047	1625781	3.45E+08	0.277982	89.76301	18.86131	1.777643
Observations	627	627	627	627	627	627	627	627

Average centroid is considered a good distribution and index to show the data center. Mean is among central indices that show the population situation and equality of median and mean value represents normal variable. Among the most important parameters of distribution is the standard deviation and the maximum amount of it belong to free cash flow.

Table 2.results of fixed effects

Redundant Fixed Effects Tests			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.377862	-80,556	0000.
Cross-section Chi-square	188.9176	80	0000.

5 - DATA ANALYSIS

5-1- ChowTest

This test is to choose between two alternative methods of model estimation i.e. pooling and panel.

H0 = Pooled model

H1 = Panel model

Table 3. Results of fixed time effects

Redundant Fixed Effects Tests			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.377862	-80,556	0000.
Cross-section Chi-square	188.9176	80	0000.

According to the results presented in Tables 2 and 3, hypothesis 1 is confirmed. So the panel data methods must be used to estimate the model.

2-5- Hausman test

This test is based on the presence or absence of a relationship between the independent variables and the estimated error of the regression model and if there is such a link fixed effect model is used.

H0 = Random Effect

H1 = Fixed Effect

Table No. 4. Hausman test results

Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Test results
Cross-section random	5.388083	5	0.03704	stable effects model

According to Hausman test and the Chow test results, the most appropriate method for parameter estimation and hypothesis testing is the fixed effects model. Then we examine the models and finally we test hypotheses.

3-5- Examining the models

In the first regression model reputation is defined and then examined and if approved we will examine the hypotheses; the results are presented in Table 5 as follows:

Table 5 - Regression models test

Cross-section fixed (dummy variables)	Fist model	Second model	Third model
R-squared	0.6214	0.619567	0.643567
Adjusted R-squared	0.56352	0.559824	0.587593
F-statistic	10.7361	10.37051	11.49757
Prob(F-statistic)	0	0	0
Durbin-Watson stat.	2.292085	2.298808	2.288938

According to the probability of F-statistic (zero) indicates that there is a 99% confidence that defined regression equations are meaningful and testable. Durbin-Watson statistic implies that there is no correlation between the data. The determined and adjusted coefficient shows rate of change of the independent variable related to the dependent variable. The results of the hypotheses examinations are as follows:

6 - RESULTS

For the first hypothesis, we sought to examine the impact of free cash flow to stock returns of company and the following regression model was used for the test; the results are presented in Table6:

RETURN it = a + B1 FCF it + B2 SIZE it + B3 LEV it + B4 DPS it + B5 BV it + E it

Table 6. The first hypothesis test results

Variable	Coefficient	t-Statistic	Prob.	Level of confidence
FCF	2.72E-06	2.462099	0.0141	95%
SIZE	5.065768	3.119999	0.0019	99%
LEV	3.569148	1.652866	0.0989	Not significant
DPS	-0.00458	-1.80924	0.071	Not significant
BV	4.289856	0.679929	0.4968	Not significant

The results confirmed hypothesis 1 i.e. in 95% confidence level, the relation is approved and the only auxiliary variable that affects the relationship is the size of the company.

The factors influencing this relationship are discussed. In the second hypothesis, the impact of growth opportunities and in the third hypothesis stability of profitability was examined in the presence of covariates and the regression equations were used to test the hypotheses:

(1) RETURN it = a + B1 FCF it + B2 SIZE it + B3 LEV it + B4 DPS it + B5 BV it + B6 GROWTH it + B7 FCF it. GROWTH it + E it

(2) RETURN it = a + B1 FCF it + B2 SIZE it + B3 LEV it + B4 DPS it + B5 BV it + B6 EP it + B7 FCF it. EP it + E it

The results are summarized in the following table:

Table 7. Test results of hypotheses 2 and 3

Variable	Coefficient		t-Statistic		Prob.		Confidence level	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
FCF	2.71E-06	2.44E-06	2.464509	2.051409	0.014	0.0407	95%	95%
SIZE	4.999483	5.567891	3.04568	2.849419	0.0024	0.0045	99%	99%
LEV	3.589816	-0.24738	1.692363	-0.2647	0.0911	0.7913	Not significant	Not significant
DPS	-0.00474	-0.00457	-1.861	-1.77146	0.0633	0.077	Not significant	Not significant
BV	4.30569	5.760081	0.676635	1.047786	0.4989	0.2952	Not significant	Not significant
GROWTH	1.224461	--	1.692363	--	0.7646	--	Not significant	--
FCF.GROWTH	2.49E-09	--	0.299652	--	0.6588	--	Not significant	--
EP	---	-2.41752	---	-2.19654	---	0.0285	---	95%
FCF. EP	---	9.98E-07	---	0.527052	---	0.5984	---	Not significant

Our results indicate that growth opportunities don't have effect on stock returns; also they don't have any effect on the relationship between stock returns and free cash flow. In simple terms, the second hypothesis is rejected while stable profitability directly affects the stock returns while it has no effects on stock return and free cash flow relationship; then, finally third hypotheses is rejected. Among the covariates the size of company affects both hypotheses.

7 - CONCLUSION

According to the study analyzed data from three mentioned hypotheses, these results confirm first hypothesis and the second and third hypotheses are rejected. Investigations have revealed that the company's free cash flow could positively impact on stock value and this means that the company's free cash flow provides possibility of finding solutions to enhance corporate value for managers solutions such as product development, business development, paying debts and investing in new projects, none of which is possible without adequate funds. Because cash flow is derived from cash basis and could not be manipulated by management, they are much more reliable. The results of the study are in accordance with Habib's (2011) study.

Theoretically, convenient and high-yield investment plans of companies don't have a lot of excess cash flow because they use their funds to invest. But if growth opportunities are scarce, companies are faced with the problems of representation. The results here suggest the rejection of the growth opportunities effects and one of the reasons is the company's risk level. Due to changing economic conditions, companies are not willing to invest in new projects or to finance projects that require internal resources or we can say that from the perspective of companies the opportunities provided lack of economic justification or grace.

Then the stability of profitability effect on the relationship between free cash flow and stock returns have been studied but have not been confirmed. The quality of profits is profits growth potentials and the realization of future profits; so value of a share is related to profitability power and confidence that have not happened here. Because reported profits stability is a function of accounting standards or their components and the reporting unit and operating environment models, the unstable benefits are results of unbiased application of the accounting standards in the economic environment. But management involvement in the reporting process can transfer the inherent instability flow to apparently stable flow. So, among the reasons for these results is how companies' profit is calculated; these profits are actually calculated using various methods and are manipulated by management

decisions; and this can lead to a lack of confidence in the accuracy and consistency of calculated numbers and its stability. The results are aligned with the results of the study by Habib (2008).

Among other factors that affects company's market value can is its size. It is clear that larger companies may have huge market and would have more impact on the market; therefore, investors are more attracted to these companies. The results also suggest that if the company has more reputation and is larger in size, then the value of its shares will also be higher. The corporate debt and structure of their funds is important according to analyzers, and among other factor, could affect the company's stock price. Thus, the relationship between debt and assets were examined but results showed no effect on the market value in all three hypotheses. So leverage of debt in the presence or absence of growth opportunities and profits stability don't have any role in free cash flow and in value of companies as well. We can assume that companies don't tend to use external resources (liabilities) to develop or enhance their profitability and efficiency. Many theories have been proposed about dividends and results of this study confirm no relationship between impertinence of dividend theory on stock value market. Book value is another factor that has been studied and its impact on the market value has not been approved. Among the possible reasons is huge difference between this and the stock market value because of double-digit inflation in the country.

8 - Pending Applications

According to the results of the Iranian companies, the company's free cash flow is very important. This has been approved by investors who want to buy shares in a company. Managers are also advised to consider this as much as possible and with reasonable thought to keep their place in today's competitive market and preserve value of stock.

It is clear that there is no possibility of firms to survive in the current world without change and progress, and companies will succeed which take advantage of opportunities and growth conditions or potential developments of company but results of the study indicate reluctance or inability between Iranian firms, so we suggested that the factors affecting this matter to be considered according to time, economic conditions and other effective matters and conclusions used in drawing macroeconomic program of Iran.

Because of the size or amount of sales of companies considered as a factor affecting free cash flow and stock returns, it is suggested for investors to consider reputation and size of company in their decision-making. It is also suggested that in the future studies other variables such as company risk and inflation be considered as control variables and examined in longer periods and separated from each other for every industries.

It is also suggested for financial analysts to give serious attention to economic and political matters such as Level of government involvement, level of relations with other countries and security in investment on the way to investigate quality of profits and growth opportunities and examining the results of study.

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