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Investigation the effect of free cash flow and operating cash flow on cash flow distribution among the shareholders of the companies listed in Tehran Stock Exchange

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ABSTRACT

Objective: The main goal of this study is investigation of free cash flow and operating cash flow effects on cash flow distribution among the shareholders of the companies listed in Tehran Stock Exchange. **Methodology:** Statistical population of this study were Tehran Stock Exchange listed companies from 2006 to 2013 that sample volume was 151 company after eliminating outlier observations and considering to screening method. **Results:** In this study free cash flow and operational cash flow are considered as independent variables for examining their impact on the company distributed cash. We have been used from data panel with fixed effect. **Conclusion:** Consequently, results of the analysis of corporate data points out that by using multiple regression (at 95% confidence interval) on one hand there is a direct relationship between the amount of free cash flow and operating cash flow with the amount of cash flow distributed among the shareholders and on the other hand there is a significant difference with the amount of cash flow distributed among the shareholders in large and small companies.

1. Introduction

The cash produced by operational activities is one of the most important evaluating and ability criteria of company in cash flow creation. Kimble et all 2004 believed that not only cash produced by operational activities should be invest in fixed new assessments to preserve flow level of operational activity in company, but also some of these funds should be distributed among the shareholders as dividends to their satisfaction. So cash flow obtained from operating activities can't be considered as the ability of an entity to generate cash flow individually. Therefore, it is necessary that beside cash flow from operating activities, free cash flow be calculated in order to evaluate the ability of business units. Also Martin & Peti believe the old accounting standards such as EPS and returns of assets can't mention the performance of business units lonely. But these criteria should be used beside measures such as free cash flow of business units. Because conceal and manipulate the free cash flow is very difficult while profits are manipulated by managers of business units frequently (Afiser, 2014). In the present study, the effects of changes in free cash flow and operating cash flows on the cash flow distributed among the shareholders is explored with an emphasis on the size of the companies. Therefore, in this chapter outline research includes hypotheses, research objectives, variables and the definition of their operational and statistical methods used are described to test the hypothesis (Khodadadi et al., 2003).

1.1 Describe the issue and problem expression

There are different views about free cash flow calculation method in different studies. Jensen, 1986 were the first people who explain the free cash flow theory. From his perspective free cash flow of business units obtained from operating activities is positive in projects with net present value after deduction of funds in order to investment (Discount rate based on reliable cost of capital). So it is necessary that projects be evaluate in terms of net present value by applying reliable capital cost rate and if it was positive, the necessary funds to invest in such projects deducted from available cash flow of business unit and something that remains will be deemed as free cash flow (Yan, 2005). Free cash flow theory described company behavior which was

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not justified by previous economic theory. Following the issue of operating cash flow and free cash flow dividend policy is a topic that is often overshadowed by these concepts while it is well known that profit sharing decisions are irrelevant in full capital market. There are many arguments between directors, shareholders, scholars and other commentators on the importance of these decisions (Chey & Sao, 2009).

1.2 Literature

Borhani (2013) in his dissertation entitled "Useful information of dividend about future profits" presented new evidence for validity of dividend signaling hypothesis using a new method and approach. According to the research results stated that market received pay dividends as a mark of profit next year and to show the right reaction. In addition the amount of dividend also contains useful information about future profits for market that this information is received by the market.

Mohsen Sayyah Raziany has investigated the relationship between earnings quality and cash dividend policy in companies listed in the Tehran Stock Exchange. The main purpose of this study, is answer to the question, is evaluate the cash dividend policy possible with regard to the quality of earnings? To this end, 97 companies have been investigated over the period 2004-2013 (Banimahd & Mohammad-Asghari, 2013).

To test the first hypothesis we used from the multivariate regression and for the second and third hypotheses from Logit regression 8 and the quality of earnings is measured by two replaced variables (be close to profit to operating cash flow and changes in discretionary accruals). The results indicate in case evaluate the quality of the profit based on the changes in discretionary accruals, there is a significant reverse relationship between earnings quality and poor pay more dividends. Also, if the quality of earnings is determined based on the near of profit to operating cash flow, can be seen a significant positive relationship and relatively strong between the quality of earnings and the possibility of increased dividend. The results suggest that changes in the quality of corporate profits, contains information about the possibility of changes in the cash profit (Mazar-izdy-Arab & Safar-Zadeh, 2006).

2. Materials and methods

2.1 Methods

The present study from classification on the basis of objective is a type of applied research. The aim of applied research is the development of practical knowledge in a particular field. As well as present study is a correlation study in terms of technique and nature. In this study the purpose is to determine the relationship between variables. In terms of kind of argument the present study is deductive – inductive. Means that in theory and literature of research articles are in the deductive framework through study library, and other sites and data collection is carried out to confirm or deny a priori hypotheses (Chotkunakitti, 2005).

2.2 Research hypotheses

First hypothesis: There is a significant relationship between the amount of free cash flow in the company and the amount of cash flow distributed among the shareholders.

Second hypothesis: There is a significant relationship between the amount of operational cash flow in the company and the amount of cash flow distributed among the shareholders.

Third hypothesis: There is a significant relationship between the amount of free cash flow and the amount of cash flow distributed among the shareholders in the small and large companies.

Forth hypothesis: There is a significant relationship between the amount of operational cash flow and the amount of cash flow distributed among the shareholders in the small and large companies.

2.3 The research model and operational definition of its variables

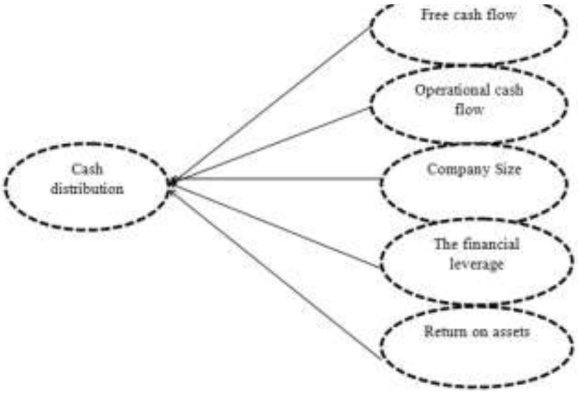

Figure 1. The dependent variable, Independent and control variables

In other words, this model can be stated as follows:

$$Dividend_{it} = \beta_0 + \beta_1 CFO_{it} + \beta_3 FCF_{it} + \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (1)$$

β_0 as constant coefficient, intercept or fixed amount β_i indicate the effect of each variable on the dependent variable, in other words, represents the slope of the equation. i represent the companies studied and t represents the year. Dividend will be used as the dependent variable and represents the amount of profit distributed among shareholders per share divided by the earnings per share calculated as follows:

$$Dividend_{it} = \frac{DPS\ (Distribution\ Per\ Share)}{EPS\ (Earn\ per\ share)} \quad (2)$$

CFO considered as independent variable of research and indicating cash obtained from company operating activities and is extractable from the first part of the cash Flow statements in direct or indirect method. FCF considered as independent variable of research and Representing cash derived from operating activities after deducting the necessary funds in order to investments. Free cash flow is a quantitative for measuring performance and shows cash that company has available after the necessary funding for the maintenance or development of assets and obtained the following equation:

FCF= [(Net profit- Changes in fixed assets- Net changes of working capital)]/ Total assets

MTB is control variables of model and represents a growth opportunity that is obtained by dividing the market value of shareholders equity on the book value of equity. According to Fama the MTB has been used to evaluate investment opportunities that based on hypothesis of free cash flow and lifecycle expected that there will be a negative relationship between investment opportunities and dividend policy. ROA is considered as a control variable model and represents the ratio of Return on equity on the company's capital which is calculated as follows (Chalaki, 2003):

$$ROA_{it} = \frac{Net\ profit}{Book\ value\ of\ total\ assets} \quad (3)$$

SIZE is also considered as control variables in the model and calculated through the natural logarithm of the book value of assets (Chalaki, 2003).

LEV considered as control variables in the model and defined as financial leverage that comes from the book value of debt to book value of total assets. It is calculated as follows (Chalaki, 2003):

$$LEV_{it} = \frac{book\ value\ of\ debts}{book\ value\ of\ total\ assets} \quad (4)$$

εit reflect random error of company i at the end of the year t.

2.4 The statistical population and sample

The statistical population consists of all companies listed on the Stock Exchange in Tehran that screening sampling method applied with the following conditions: Since the period of this study is from the beginning of 2006 until the end of 2013, therefore statistical population consists of all companies listed on the Stock Exchange in Tehran. FA systematic sampling applied with the following conditions:

1. The information needed to calculate the operational variables research is available to them.
2. At least have been accepted in the Stock Exchange from 2006 and be active in this market until the end of the investigation.
3. 29th March is the end of their fiscal year.
4. Not be part of financial intermediation industry, investment, banking, insurance and leasing.

Ultimately, the final sample size is 151 companies considering to screening method based on the above criteria.

3. Discussion and results

3.1 The research findings

3.1.1 Descriptive statistics of data

Table 1 shows the descriptive statistics of the variables during the studied period. Descriptive statistics of variables are included mean, median, standard deviation, minimum and maximum, which have been measured using the corporate data during the test period (between 2006-2013).

Table 1. Descriptive statistics variables

Description of variables	Mean	Median	SD	Min	Max
Dividend	0. 36937	0. 35848	0. 20365	0. 00183	0. 76295
CFO	0. 17744	0. 15580	0. 11758	-0. 23044	0. 67888
FCF	0. 12174	0. 10827	0. 08040	-0. 16701	0. 46161
MTB	1. 33060	1. 16333	0. 61718	0. 62325	7. 74386
ROA%	0. 10024	0. 07682	0. 12228	-0. 31270	0. 91445
SIZE	27. 22762	26. 99493	1. 33229	24. 54484	32. 25314

Leverage	0. 69057	0. 68719	0. 18949	0. 18028	1. 93775

3.2 Research Hypotheses Test

As described in Chapter 3, in this study, the regression model was used to test hypotheses:

$$Dividend_{it} = \beta_0 + \beta_1 CFO_{it} + \beta_3 FCF_{it} + \beta_4 MTB_{it} + \beta_5 ROA_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \varepsilon_{it}$$

After regression test assumptions and ensure their establishment, the results of the fit of the regression equation are presented in Table 6. Also value of F statistics (11.276) indicated that this model is significant. As specified in table 8 below, coefficient of determination and adjusted coefficient of determination of the above models are 64.2 percent and 61.7 percent respectively. Thus, we can conclude that in mentioned regression equation, only about 61.7 percent of dividends distributed to companies studied changes are explained by independent variables and mentioned control. In this table positive number (negative) in coefficient column is indicative of the amount of direct impact (reverse) of each of variables on dividends distributed by companies under investigation.

The method of judgment: If the value of sig calculated by the software be less than the intended confidence level (equivalent to 5% in this study) confirm that are significant the desired variables and its associated assumptions. Also if t statistics be greater than its equivalent statistics in the student t table with the same confidence level (5%) its related hypothesis is confirmed. According to the above description can be said that all the variables in the equation are significant at the 95% confidence level.

Table 2. The results of the fit of the regression equation

Variables	Variable coefficient	Coefficient value	t statistics	sig
Fixed number	β0	1.522	2.873	0.004
CFO	β 1	3.234	2.908	0.0038
FCF	β 2	2.467	3.838	0.000
MTB	β 3	2.311	2.987	0.0031
ROA%	β 4	1.241	2.347	0.034
SIZE	β 5	2.051	2.034	0.041
Leverage	β 6	1.231	4.541	0.000
The coefficient of determination	0.642	F statistics		11.276
		P-Value		0.000
Adjusted coefficient of determination	0.617	Durbin-Watson statistics		1.811

3.3 Hypotheses Test

3.3.1 The first hypothesis

There is a significant relationship between the amount of free cash flow in the company and the amount of cash flow distributed among the shareholders.

Test result: in accordance with Table 2 significant level of free cash flow variable is lower than level considered significant in this study (5%); Also absolute values of t-statistics related to this variable (3.838) is greater than the t-statistic from the table with the same degree of freedom. So the H0 hypothesis was rejected at the 95% confidence level and H1 confirmed and explain that there is a significant relationship between free cash flow and cash flow distributed in the company among shareholders. In analyzing the results, we can say that internal cash flow more allows administrators to avoid market control. In this case, they do not require the approval of shareholders and are free to make decisions about investments in their possession. Managers are not willing to pay cash (including dividends); they are motivated to invest, even when there is no investment with a positive net present value. According to this theory, agency cost of free cash flow is defined as investing cash flows in projects with negative net present value. This is linked to the issue of moral hazard; in other words, in the situation of information asymmetry managers may invest cash flows in non-profitable projects**.** Such projects will be to reduce shareholder wealth; but may provide private benefits for managers. Therefore, according to this view, it is expected that in the situation of information asymmetry there is a direct relationship between the remaining cash and policy division (Yoder, 2006).

3.3.2 The second hypothesis test

There is a significant relationship between the amount of operational cash flow in the company and the amount of cash flow distributed among the shareholders**.**

Test result: according to Table 2 the significant level of variable cash from operating activities is considered less than 5% in the present study. Also absolute value of the t-statistic for this variable (2.908) is greater than the t-statistic from the table with the same degree of freedom. So the H0 hypothesis was rejected at the 95% confidence level and H1 confirmed and explain that there is a significant relationship between operational cash flow and cash flow distributed in the company among shareholders. In analyzing the results, we can say that internal cash flow more allows to administrators to avoid market control. In this case, they do not require the approval of shareholders and are free to make decisions about investments in their possession. Managers are not willing to pay cash (including dividends); they are motivated to invest, even when there is no investment with a positive net present

value. According to this theory, managers have an incentive to accumulate the cash to increase the resources under their control and take advantage of judgment and diagnosis regarding to the company's investment decisions for this reason they work with cash of company so that they do not provide detailed information on the capital market. According to this theory, agency cost of free cash flow is defined as investing cash flows in projects with negative net present value. This is linked to the issue of moral hazard; in other words, in the situation of information asymmetry managers may invest cash flows in non-profitable projects**.** Such projects will be to reduce shareholder wealth; but may provide private benefits for managers. Therefore, according to this view, it is expected that in the situation of information asymmetry there is a direct relationship between the remaining cash and policy division (Al-Attar, 2004).

3.3.3 The third hypothesis test

There is a significant relationship between the amount of free cash flow and the amount of cash flow distributed among the shareholders in the small and large companies.

Test results: according to Table 2 the significant level of variable, free cash flow, is considered less than 5% in the present study. Also absolute value of the t-statistic for this variable (2.838) is greater than the t-statistic from the table with the same degree of freedom. On the other hand significant level of variable, size of company is less than the considered significant level in this study (5%); so the hypothesis is confirmed and explaining that there is a significant difference between the amount explaining that the free cash flow and cash flow distributed among shareholders in companies large and small. In analyzing the results, we can say that internal cash flow more allows administrators to avoid market control. In this case, they do not require the approval of shareholders and are free to make decisions about investments in terms of their possession. According to this theory, agency cost of free cash flow is defined as investing cash flows in projects with negative net present value**.** This is the problem of moral hazard; in other words, in the situation of information asymmetry managers may invest cash flows in nonprofitable projects, such projects will be to reduce shareholder wealth; But may provide private benefits of managers. Therefore, according to this view, it is expected that in the situation of information asymmetry is a direct relationship between the remaining cash and dividend policy that there are significant differences in the intensity of the relationship between large and small companies so that the intensity of the relationship is stronger in larger companies due to the availability of more funds and having adequate financial resources (Sheng-Lan, 2011).

3.3.4 The forth hypothesis

There is a significant relationship between the amount of operational cash flow and the amount of cash flow distributed among the shareholders in the small and large companies.

Test result: According to Table 2 significant level (sig) changing the company's operating cash flow is less than considered significant level of study (5%); Also absolute value of the t-statistic for this variable (2.908) larger than the t-statistic from the table with the same degree of freedom. The H0 hypothesis was rejected at the 95% confidence level and H1 confirmed and explaining that there is a significant relationship between the ratio of debt to total assets and future returns on equity. On the other hand, variable, size of the company is less than the significance level considered in this study (5%); also absolute value of the t-statistic for this variable (2.034) is greater than the t-statistic from the table with the same degree of freedom. So the hypothesis is confirmed and explaining that there is a significant difference between operating cash flow and cash flow distributed among shareholders in large and small companies**.** In analyzing the results, we can say that internal cash flow more allows administrators to avoid market control. In this case, they do not require the approval of shareholders and are free to make decisions about investments in terms of their possession. According to this theory, agency cost of free cash flow is defined as cash flows investment in projects with negative net present value. This is the problem of moral hazard; in other words, in the situation of information asymmetry managers may invest cash flows in non-profitable projects. Such projects will lead to a reduction in shareholder wealth, but may provide private benefits of managers. Therefore, according to this view, it is expected that in the situation of information asymmetry is a direct relationship between the remaining cash and dividend policy that this intensity of the relationship have significant differences between large and small companies. So that this intensity of the relationship is stronger than larger companies Due to greater access to financial resources and access to adequate financial resources.

4. Conclusion

4.1 Research applied suggestions

According to the findings of this study we suggest to the capital market participants, decision-makers, financial analysts and potential investors and actual stock exchange that pay particular attention to factors affecting cash flow, which are distributed among the shareholders of companies in the analysis of investment projects in financial assets and securities which we mentioned in the study; because consideration of these important factors leads to select the optimal portfolio with minimum risk and maximum return while makes environmental decision-making more transparent and the results will also be doubled.

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