

Identifying the Relationship between Financial Leverage and Cash Flows of the Companies Listed in Tehran Stock Exchange

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Abstract

Given that companies are growing in today's world and have to compete with multiple agents and expand their activities through new financing in order to survive, they turn toward funding. The important thing is that how debt and generated cash flows affect each other. In fact, decisions regarding capital structure affect cash flow and financial leverage. The aim of this study is to find out whether there is a significant relationship between cash flow (other independent variables) and financial leverage. Independent variables included: cash flow, investments, profitability, Tobin's Q ratio, current ratio, tangible assets, cash stock and dividends. Among the companies listed in Tehran Stock Exchange during 2009 to 2013, 91 companies were selected by systematic eliminating sampling method. The statistical method used to test the proposed hypothesis in this study is multivariate regression using panel data. The results show that there is a negative significant relationship between cash flows and other variables and financial leverage.

Keywords: Capital Structure, Cash Flow, Financial Leverage

1. Introduction

Several tools are used for valuation in the financial analysis of firms. One of the common tools for financing, financial condition and business performance that can be used by financial executives, investors, creditors and other authorities and individuals within and outside the organization is the ratio or financial indicators. One of these ratios is the leverage ratio that the balance sheet is used to calculate these ratios. On the other hand, it seems that cash flows will eliminate most cash needs of investors; because it represents a much unbiased way to measure the consumption capacity and resources' direction. In addition, it is not affected by the calculation problems and accelerates the prediction of future cash dividends, equity and efficiency, debt and borrowed loan and is the most comprehensive measure for investors. Moreover, the importance of cash flows in evaluating the long-term performance of

companies has been mentioned by financial analysts in many studies (Dowlatabadi, 2002).

Given that one of the major and important tasks of companies is financial decisions, they have the right to choose their financing needs and they finance either by accepting new partners and transferring ownership of part of the business unit or by borrowing and companies seek to adopt appropriate decisions in this regard and to achieve the most appropriate mix of financing or "financial structure". Because, achieving optimal financial structure is of great importance due to its great impact on company's value and other aspects (Rahimian, 2001). Financial managers are of the opinion that financial leverage is one of the most important types of leverage. As it has a special place in the management of the capital structure. Cash is one of the vital and important sources of any economic unit and forecasting cash flows for future is the most important requisite of economic units' management. Creditors and

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other users of accounting information require information about the cash flows for taking financial and investment decisions (Abzari et al., 2007). Standard number seven adopted by the committee of international standards states that an entity's cash flow information is beneficial for users of financial statements to provide a basis to assess its ability to create cash and needs of the unit in the use of these funds. Access to the expected funds is largely independent from the impact in management decisions and actions taken. But evidence suggests that, for reasons like achieving indicators and forecasts, avoiding waste of resources, achieving greater rewards and more, managers take action to manage their cash flows²⁰.

A company's level of cash flow is an important determinant of dividend payments. Balancing available cash flow and cash needs is one of the factors of economic health of business units and continuation of their activities. Cash flows are central in many financial decisions, securities' valuation models, capital projects' evaluation methods, etc. From the intra-organizational perspective, operational cash flows, especially future operating cash flows, make the administration of affairs possible in its most efficient way and lead to optimal decision in the field of operating, investing and financing. From the perspective of external clients, especially investors and creditors, operating cash flow is of particular importance. The use of future operating cash flows in the new financial analysis is on the rise. Thus, if changes of operating cash flow and its relationship with other variables are properly predicted, it will lead to optimal investment decisions and allocation of resources (Dechoe et al., 2011). Users of financial statements need information about how of creation and use of cash by business unit. Information on the assets, liabilities, equity, revenues, expenses and cash flow together with the information contained in explanatory note help users of financial statements in predicting the entity's future cash flows and in particular the timing and certainty of its ability to generate cash. The results of empirical research can show the effect of cash flow on the decisions of the users and more favorable horizons of financial reporting can be laid out as a guide for correct decisions of users (Samimi et al., 2004).

Leverage contains a warning that managers are aware of investment opportunities. Capital structure theories suggest that managers of companies with good growth opportunities have to choose less leverage, because if they increase their levels of foreign debt, they won't be able to use the benefits of their investment opportunities (Noravesh and Yazdani, 2010).

Leverage means the presence of fixed costs in the company's expense list. Financial leverage is based on fixed costs such as interest or fixed interest of loans. Financial leverage plays an important role in the calculation of pre-tax profit or earnings per share and the company's risk. Capital structure is the combination of long-term sources of funds used in the company and the main aim of capital structure decisions is maximizing the company's market value through the right combination of resources; this right combination is called optimal capital structure⁵. Companies' importance in terms of breadth of performance, profitability, growth opportunities, size and type of activity determines their different financial needs. Meanwhile, the sources obtained from debt while increasing the fixed cost will increase leverage.

According to Article 37 of the conceptual Statement No. 1 of Financial Accounting Standards Board of America, the main purpose of financial reporting is providing useful information to users for assessing the amount, timing and uncertainty of future cash flows of the entity (Financial Accounting Standards Board, 1978). Investors and creditors and other users of accounting require information relating to cash flows for making financial and investment decisions. Making economic decisions by the users of financial statements requires the evaluation of the entity's ability to generate cash and its certainty. Evaluation of the ability to create cash is facilitated by focusing on the financial position, financial performance and cash flows of the entity and using them in anticipation of the expected cash flows and assessing financial flexibility (Technical Audit Committee, 2002).

Funds mean financial resources and the transfer of these resources. For planning, economic activities of units and different activities of a country should be measure, recorded and analyzed in a given set of measurements, which was first noticed by Richard Stone. Cash flow accounting is designed in such a way that includes all the financial and non-financial activities in terms of resources and costs (Sameti, 1986). Cash flow is measured as earnings before deducting extraordinary items and depreciation and is one of the important factors for determining growth opportunities. If the company has sufficient cash flow, it can use them in investment activities. Cash flow may be defined as the amount of money needed to fund all positive net present value of projects. The purpose of allocating money to the project to generate cash flow in the future, which is significantly more than the invested amount, is to create wealth for shareholders (Franklin, 2011).

Cash has two potential effects on leverage adjustment. First, cash should replace low-cost opportunities of market for adjusting leverage. If a company needs to raise external funds and aims to have leverage, it can issue securities or equity according to whether it is less or more than leverage. Likewise, a company with a high positive cash flow tends to distribute the money to investors, but it can affect leverage by choosing to pay debt or equity. Second, the case is if companies face fixed costs of access to capital markets (Faulkender et al., 2012).

In cases where the unit is facing a shortage of operating cash flow, managers try to compensate this shortage through controlling accruals or through increasing the purchase of credit or an increase in depreciation and show it positive and then manage in this way³. One of the first studies in this area can be Aly's studies in 1994; he found that small changes in cash flows are more important to users of financial statements compared to income. Cash flow management refers to conscious measures of management taken in order to manipulate cash flow with the aim of showing optimal and eliminating cash flow fluctuations, which is a tool in the hands of managers to achieve their goals, such as gaining more bonuses or benefits or maintaining their position¹⁰.

High cash flows of a company may indicate a successful company with unusual high profits in the future. Conversely, lower cash flows may be due to the realization and development cost and this, in turn, will be followed by the future economic benefits and abnormal increase of profits in future. Accordingly, the companies within an industry are affected by economic and accounting factors alike (Maham et al., 2009). Because of the priority of bondholders (creditors) to the shareholders in receiving cash flows, if projects' benefits are toward the creditors, managers can predetermine the projects with positive net present value (McConnell and Servaes, 2010). Therefore, financing through the debt supports the company's value and the inefficiency of managers is reduced by restricting their access to free cash flows. Considering this assumption, the present study aims to investigate the relationship between financial leverage and cash flows of the company's listed in the Tehran Stock Exchange.

2. Research Hypotheses

- There is a significant relationship between investment and financial leverage.
- There is a significant relationship between cash flow and financial leverage.

- There is a significant relationship between the stock of cash and financial leverage.
- There is a significant relationship between Tobin's Q ratio and financial leverage.
- There is a significant relationship between profitability and financial leverage.
- There is a significant relationship between current ratio and financial leverage.
- There is a significant relationship between dividend payout ratio and financial leverage.
- There is a significant relationship between tangible assets' ratio and financial leverage.

3. Research Objectives

- Investigating the relationship between investment and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between cash flow and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between cash stock and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between Q ratio and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between profitability and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between current ratio and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between dividend payout ratio and financial leverage in companies listed in Tehran Stock Exchange
- Investigating the relationship between the ratio of tangible assets and financial leverage in companies listed in Tehran Stock Exchange

4. Research Foundations

Samadi et al (2013) have investigated and analyzed the impact of growth opportunities on financial leverage of firms listed in the Tehran Stock Exchange in the period of 2000-2010. To measure growth opportunities, Tobin's Q ratio was used. Findings showed that there is a negative and significant relationship in high and low levels

of investing opportunities and leverage and there is a positive and significant relationship in the average levels of investing opportunities. The intensity of negative correlation in lower levels is much more than in the higher levels of growth opportunities.

Nasiri and Ebrahimpoor (2013) conducted a study and determined and calculated the factors affecting financial leverage in the capital structure of listed companies in Tehran Stock Exchange and stated financial leverage as capital structure. The study sample included 90 companies in the period of 2000 to 2009. In this study, the variables of total debt to total assets, current ratio as a measure of liquidity and the rate of return on equity as a measure of profitability and the ratio of working capital as independent variables and effective in determining a company's financial leverage. Three out of the four variables have a significant relationship with capital structure (financial leverage). The relationship between current ratio and financial leverage is not meaningful. The results showed that there is a significant relationship between independent variables of factors affecting in determining financial leverage and capital structure in general.

Mustafa and Chae (2012) examined the relationship between financial leverage and cash flow during 2008-2011. The results showed a negative relationship between cash flow and financial leverage at companies listed on Bursa Malaysia in accordance with the hierarchical theory. And also a positive relative relationship was found between the investment and leverage among large and small companies. They suggested that companies that do not have internal cash should issue debt bond to finance for positive investment opportunities. However, the company's cash flow and dividend payments are not normally affected by leverage and there is a negative relationship between firm's leverage and dividend payments among small companies. Tangible assets and payment of dividends do not affect the company's leverage levels.

Khalid Alkhatib (2012) examined the lever in companies listed in the stock exchange of Jordan during 2007-2010. The growth rate of profits and the ratio of tangible assets are independent variables and the dependent variable is leverage ratio. In the industrial sector, there is a significant relationship between ratio of tangible assets and leverage and in the service sector, there is also such a relationship between the ratio of assets and leverage.

Thair (2012) investigated the effect of determining financial leverage in the capital structure of services companies in Jordan. In this study, the factors affecting

the services company's capital structure in Jordan during the period of 2002-2008 were investigated. In this study, the variables of debt, working capital, long-term debt, liquidity and profitability were considered as factors affecting determining financial leverage. Results of his study showed that there is a positive relationship between financial leverage and debt, working capital and long-term debt of company at 1% significance level. There is also a significant negative relationship between the financial leverage and liquidity, profitability of the company at 1% significance level. The results showed that the negative relationship between leverage and profitability is due to too much reliance of service companies on retained earnings to finance instead of external financing.

5. Research Method

The population of this study is all the companies listed in Tehran Stock Exchange during the period of 2009 to 2013. The population includes all the companies, during this period of 5 years in different industries and the different groups and hypotheses used in relation to this population will be studied and tested.

The following restrictions are taken into account for the statistical sample. In other words, the companies have been selected from the target population according to the following conditions:

- They should have been listed in Tehran Stock Exchange from the end of March 2008 and their fiscal year should be ended in March.
- Companies should not have changed their fiscal year during the period under consideration.
- Companies should provide financial information required to perform the study in the period of 2009 to 2013.
- They should not be banks, financial institutions (investment companies, financial intermediaries, Holding companies, leasing), i.e. should be manufacturer, because the nature of their activity is different.
- Companies should not have left stock market before 2013.
- Companies should not be among the companies that have been listed in Tehran stock exchange from 2009 onwards.

Imposing the requirements above, the sampling was done and 91 companies were selected from among all the com-

panies listed in the Tehran Stock Exchange in the period of 5 years from 2009 to 2013 using the systematic elimination sampling method. So with the above conditions on the population, necessary precautions should be applied in generalizing the results to the whole population in other situations.

6. Research Methodology

Based on objective, scientific research can be divided into three groups of basic, applied and scientific.

This study is an applied research in terms of its objective and the method is quasi-experimental and ex post facto. This type of research is more focused on effective action and pays less attention to the causes.

Applied research, using cognitive and information context provided by basic research, are used to meet human needs and improve and optimize the tools, methods, objects and models to develop the welfare and improvement of living standards of human (Hafeznia, 2003).

This study is also descriptive- correlational in terms of the research classification based on its method and data collection method and market-based methodology has been used. Descriptive studies examine the existing conditions for the recognition to contribute to the decision-making process (Sakaran, 1992). The library method, i.e. study and review of the literature, theses, articles, books in Persian and English and also information from web sites, has been used in this study to collect the theoretical information as well as the theoretical background of the study.

7. Descriptive Results of Variables

Table 1. Table of descriptive analysis of variables

Variable	Number	Minimum	Maximum	Mean	Mean	SD	Variance	Skewness	Kurtosis
F	455	.0003	.0026	.001	.001	.00012	.120	.312	-.121
CF	455	74706	12397700	1729232	1729232	.178	.123	.246	.241
Q	455	-3.95	3.85	1.012	1.012	.117	.063	.163	.521
CR	455	.004	2.026	.776	.776	.159	.015	.943	.389
P	455	1.132	3.84	2.365	2.365	.142	.025	-.299	.213
T	455	7444000000	30787165300000	11684463517	11684463517	2.143	2.217	.369	.163
I	455	739337000000	36287786000000000	1126478362880	1126478362880	2.123	.165	-.355	.274
CS	455	-7.80	9.36	1.935	1.935	.453	.286	.291	.115
D	455	-4.130	4.55	0.935	0.935	.104	.098	.119	.257
SIZE	455	.13	4.99	2.021	2.021	.156	.327	.306	.209

According to descriptive statistics, dispersion index of these variables in different companies is low. The highest standard deviation (SD) is related to the variable of tangible assets and the lowest is related to the variable of dividend payout ratio. The amount of skewness and kurtosis of each of the variables and in comparison with the normal distribution, it seems that all variables are normally distributed, because when the absolute value of the skewness and kurtosis is large, it can be concluded that it is too much different from normal distribution. High skewness shows the density of numbers towards negative or positive and kurtosis is related to the short and long graph of the distribution of variables.

7.1 Normality Test of Variables

To assess the normality of the variables in this study, "Kolmogorov-Smirnov" test is used.

Table 2. Table of normality test of variables

Variables	Kolmogorov – Smirnov	Significance
F	2.031	.238
CF	1.712	.691
Q	1.450	.299
CR	1.741	.642
P	1.777	.582
T	1.247	.447
I	1.968	.311
CS	1.091	.945
D	2.013	.086
SIZE	1.572	.117

As can be seen, since the significance level in all the variable is more than 0/05; therefore, variables are normally distributed.

7.2 Correlation Test

Table 3. Table of Pearson correlation test of variables

Variable	F	SIZE	D	CS	I	T	P	CR	Q	CF
F	1	-.004	-.391**	-.113	-.064*	-.452*	-.520**	-.432**	-.294**	-.853*
CF	-.853*	.050	.428**	.099*	.093*	.308*	.196**	.407**	.385**	1
Q	-.294**	.010	.229	.073	.096*	.157**	.083*	.180**	1	.385**
CR	-.432**	.030	.426**	.113**	.081*	.371**	.068	1	.180**	.407**
P	-.520**	.038	.136	.003	.027	.311	1	.068	.083*	.196**
T	-.452*	.039	.038	.092*	.087*	1	.311	.371**	.157**	.308*
I	-.064*	.374**	.120**	.137**	1	.087*	.027	.081*	.096*	.093*
CS	-.113	.149**	.156**	1	.137**	.092*	.003	.113**	.073	.099*
D	-.391**	.035	1	.156**	.120**	.038	.136	.426**	.229**	.428**
SIZE	-.004	1	.035	.149**	.374**	.039	.038	.030	.010	.050

** : significant at 1% error level

* : significant at 1% error level

7.3 Co-linearity Test

Co-linearity is a situation that shows that an independent variable is a linear function of other independent variables. If co-linearity is high in regression equation, it means that there is a high correlation between independent variables; despite the high level of R², model may not have a high validity. In other words, though the model looks good but does not have significant independent variables. If co-linearity is confirmed, there are some problems in determining the accuracy of regression equation. Co-linearity test of variables is as follows:

As can be seen, in the eigenvalues near zero the internal correlation of forecasts is large and small changes in values lead to big changes in the estimated coefficient of the regression equation. Eigenvalues indicate the likelihood of internal correlation between variables. Status index of greater than 15 indicates the likelihood of the

co-linearity between independent variables and values over 30 indicate a serious problem in regression use in the status quo (Hassas Yeganeh and others, 2009). Furthermore, all status indices are less than 15, which indicate lack of co-linearity between independent variables.

Table 4. Table of co-linearity test

Variables	Eigenvalues	Status indicators
1	0.948	3.832
2	.983	4.217
3	.973	5.514
4	.916	5.938
5	.892	6.385
6	.907	7.407
7	.932	7.669
8	.885	7.947

7.4 First Hypothesis Testing

Table 5. Results of multivariate regression of company's investment and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	-1/744	-1/648	0/025
Independent variable	X1	Amount of investment	-0/240*	*1/995	0/001
Control variable		Firm size	0/62*	1/80	0/020
		Durbin Watson	1/856*	-	-
		F-statistics	3/742	-	0/003
R		Correlation coefficient	0/443	-	-
R Square		Coefficient of determination	0/197	-	-
Adjusted R Square		Adjusted coefficient of determination	0/196	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between the amount of investment and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than the amount invested. The variable of the amount of investment has a reverse and significant relationship with financial leverage and the

variable of firm size has a direct and significant relationship with financial leverage. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 19.7% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.5 Second Hypothesis Testing

Table 6. Results of multivariate regression of cash flows and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/765	1/544	0/002
Independent variable	X1	cash flows	-0/357*	-1/531	0/040
Control variable		Firm size	0/645*	1/985	0/001
		Durbin Watson	1/775	-	-
		F-statistics	14/002	-	0/003
R		Correlation coefficient	0.668	-	-
R Square		Coefficient of determination	0.446	-	-
Adjusted R Square		Adjusted coefficient of determination	0.445	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between cash flows and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than the cash flows. The variable of the cash flow has a reverse and significant relationship with financial leverage and the variable of firm size has a direct

and significant relationship with financial leverage. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 44.6% of changes of financial leverages.

7.6 Third Hypothesis Testing

Table 7. Results of multivariate regression of cash stock of the company and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/445	1/365	0/000
Independent variable	X1	cash flows	-0/229*	-1/118	0/000
Control variable		Firm size	0/387*	1/254	0/000
		Durbin Watson	1/894	-	-
		F-statistics	6/987	-	0/001
R		Correlation coefficient	0/702	-	-
R Square		Coefficient of determination	0/492	-	-
Adjusted R Square		Adjusted coefficient of determination	0/491	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between cash stock of the company and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than the cash stock of the company. The variable of the cash stock of the company has a reverse and significant relationship with financial leverage

and the variable of firm size has a direct and significant relationship with financial leverage. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 49.2% of changes of financial leverages.

7.7 Fourth Hypothesis Testing

Table 8. Results of multivariate regression of Tobin's Q ratio and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/545	1/405	0/050
Independent variable	X1	Tobin's Q ratio	-0/447*	-1/950	0/003
Control variable		Firm size	0/745*	1/840	0/003
		Durbin Watson	1/921	-	-
		F-statistics	6/950	-	0/001
R		Correlation coefficient	0/645	-	-
R Square		Coefficient of determination	0/416	-	-
Adjusted R Square		Adjusted coefficient of determination	0/415	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between Tobin's Q ratio and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than the Tobin's Q ratio. The variable of the Tobin's Q ratio has a reverse and significant relationship with financial leverage and the variable of firm

size has a direct and significant relationship with financial leverage. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 41.6% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.8 Fifth Hypothesis Testing

Table 9. Results of multivariate regression of profitability and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	2/100	1/050	0/001
Independent variable	X1	profitability	-0/441*	-1/702	0/000
Control variable		Firm size	0/547*	1/535	0/001
		Durbin Watson	1/668	-	-
		F-statistics	8/840	-	0/000
R		Correlation coefficient	0/600	-	-
R Square		Coefficient of determination	0/36	-	-
Adjusted R Square		Adjusted coefficient of determination	0/35	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between profitability and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than profitability. The variable of profitability has a reverse and significant relationship with financial leverage and the variable of firm size has a direct

and significant relationship with financial leverage. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 36% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.9 Sixth Hypothesis Testing

Table 10. Results of multivariate regression of current ratio and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/589	1/113	0/000
Independent variable	X1	current ratio	-0/331*	-1/447	0/002
Control variable		Firm size	0/398*	1/229	0/000
		Durbin Watson	1/796	-	-
		F-statistics	4/546	-	0/000
R		Correlation coefficient	0/581	-	-
R Square		Coefficient of determination	0/337	-	-
Adjusted R Square		Adjusted coefficient of determination	0/337	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between current ratio and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than current ratio. The variable of current ratio has a reverse and significant relationship with financial leverage and the variable of firm size has a

direct and significant relationship with financial leverage. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 33.7% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.10 Seventh Hypothesis Testing

Table 11. Results of multivariate regression of dividend payout ratio and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/560	1/900	0/020
Independent variable	X1	Dividend payout ratio	-0/528*	-1/473	0/002
Control variable		Firm size	0/845	1/795	0/000
		Durbin Watson	2/001	-	-
		F-statistics	42/123	-	0/001
R		Correlation coefficient	0/834	-	-
R Square		Coefficient of determination	0/696	-	-
Adjusted R Square		Adjusted coefficient of determination	0/695	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between dividend payout ratio and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than dividend payout ratio. The variable of dividend payout ratio has a reverse and significant relationship with financial leverage and the

variable of firm size has a direct and significant relationship with financial leverage. With respect to the F-statistic, fitted regression model is significant and according to the coefficient of determination, these variables explain 69.6% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.11 Eighth Hypothesis Testing

Table 12. Results of multivariate regression of tangible assets and financial leverage

Type of the variable	Symbol	Variable	coefficient	t-statistics	significance level
dependent variable	Y	financial leverage	-	-	-
Constant value	α	Alpha	1/945	1/644	0/001
Independent variable	X1	tangible assets	-0/679*	-1/687	0/002
Control variable		Firm size	0/746	2/003	0/001
		Durbin Watson	2/112	-	-
		F-statistics	4/984	-	0/000
R		Correlation coefficient	0/812	-	-
R Square		Coefficient of determination	0/660	-	-
Adjusted R Square		Adjusted coefficient of determination	0/659	-	-

*: Significance level is equal to 0/05.

As this table shows, there is a significant relationship between tangible assets and firm size (p-value <5%) and financial leverage. The coefficient of variables indicates that the relationship between the firm size and financial leverage is greater than tangible assets. The variable of tangible assets has a reverse and significant relationship with financial leverage and the variable of firm size has a direct and significant relationship with financial leverage. With respect to the F-statistic, fitted regression

model is significant and according to the coefficient of determination, these variables explain 66% of changes of financial leverages. Since Durbin-Watson statistic is from 1/5 to 2/5, it can be concluded that there is no autocorrelation problem between the variables.

7.12 Summary of the Results

Summary of the results of hypotheses testing is given in the table below:

Table 13. Table of the summary of the results of hypotheses testing

	Hypothesis	Type of the relationship	Intensity of the relationship	Test result
1	There is a significant relationship between investment amount and financial leverage.	Reverse and significant	-0.240	Confirmed
2	There is a significant relationship between cash flow and financial leverage.	Reverse and significant	-0.357	Confirmed
3	There is a significant relationship between the stock of cash and financial leverage.	Reverse and significant	-0.299	Confirmed
4	There is a significant relationship between Tobin's Q ratio and financial leverage.	Reverse and significant	-0.447	Confirmed

(Continued)

Table 13. Continued

	Hypothesis	Type of the relationship	Intensity of the relationship	Test result
5	There is a significant relationship between profitability and financial leverage.	Reverse and significant	-0.441	Confirmed
6	There is a significant relationship between current ratio and financial leverage.	Reverse and significant	-0.331	Confirmed
7	There is a significant relationship between dividend payout ratio and financial leverage.	Reverse and significant	-0.528	Confirmed
8	There is a significant relationship between tangible assets' ratio and financial leverage.	Reverse and significant	-0.679	Confirmed

8. Discussion and Conclusion

The key findings of the study can be summarized as follows.

- There is a reverse and significant relationship between the company's investment amount and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the research results of Noravesh and Yazdani (2009), Ahmadpoor and Pakdelan (2013), Huijie Bao (2010), Varouj et al. (2005). So it could be argued that companies that are highly leveraged can less use investment opportunities so as not to lose their funds. Financial leverage shows the use of debt in the capital structure. When the amount of debt and financial leverage is high, thus companies cannot take advantage of investment opportunities that lie ahead, because the financial resources are not enough.
- There is a reverse and significant relationship between the company's cash flows and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the research results of Kouch and Shenoy (1995) and Mostafa and Chae (2012). So it could be argued that companies that are highly leveraged have low levels of cash flows. When the amount of debt and financial leverage is high, managers have to move financial resources and cash flows toward the reduction of debt and reduce the cash amount.
- There is a reverse and significant relationship between the company's cash stock and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. So it could be argued that companies that are highly leveraged have low levels of cash stock purchasing. High financial leverage increases

the risk of bankruptcy and this makes managers to act a bit more cautious and have less investment on their stock.

- There is a reverse and significant relationship between the Tobin's Q ratio and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the research results of Mostafa and Chae (2012), Hovakimian & Li (2011) and Montazeri and Hashem Nezhad (2013). So it could be argued that companies that are highly leveraged have low levels of Tobin's Q ratio (which is a measure to evaluate company's performance). Tobin's Q ratio shows the financial performance or in other words, the company's management performance. When bankruptcy risk of a company is high and it is forced use high levels of debts in the capital structure, managers cannot take advantage of the growth opportunities that lie ahead and investments that lead to the increase of the company's value and financial performance are also reduced. Stock of companies that have high leverage may be discounted by investors with a high rate, which explains the negative relationship between growth opportunities (Tobin's Q) and leverage in low growth opportunities.
- There is a reverse and significant relationship between company's profitability and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the research results of Sobia (2013), Thaire (2012), Khrawish (2010), Sinae and Rezaeian (2005), Bauer (2004), Kimiagari and Einali (2009) and Rajan & Zingales (1995) and also it is not consistent with the research results of Mostafa and Chae (2012). So it could be argued that companies that are highly leveraged have low levels of profitability. Companies' profitability requires high financial

resources and deliberate investments and entry of the company to new target markets. High financial leverage prevents the implementation of above factors and thus profitability is reduced.

- There is a reverse and significant relationship between the company's current ratio and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the study of Taire (2012), Sajadi et al. (2011) and Mostafa and Chae (2012), but is not consistent with the results of Nasiri and Ebrahimipour (2013). So it could be argued that companies that are highly leveraged have low levels of current ratio. Companies with high current ratio prefer to use internal created cash for financing investment activities.
- There is a reverse and significant relationship between the company's dividend payout ratio and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the study of Mostafa and Chae (2012) and Franklin and Motosami (2010). So it could be argued that companies that are highly leveraged have fewer tendencies to pay dividend. Dividends payout is implemented when company's activities are profitable and after financing the company, the remaining storage of the company that is acquired from profitable activities are divided. Companies that are facing the risk of bankruptcy and have shortage of financial resources have to pay fewer dividends.
- is a reverse and significant relationship between the company's tangible assets and financial leverage of companies listed in the Tehran Stock Exchange in the period of 2009 to 2013. This is in line with the study of Khalid Alkhatib (2012) and Bauer (2004) and Kimiagari and Einali (2009). So it could be argued that companies that are highly leveraged have fewer tangible assets. Existence of greater constant assets reduces information asymmetry and stock costs that leads to the negative relationship between these two. In other words, in the selected sample companies fixed assets is more important and effective for public investors rather than the company's mortgage index. The advantage of high fixed assets is used to reduce the cost of stock in order to be used as mortgage for short term to long-term loans.

9. Recommendations

- According to the results of the first, second and third hypothesis, managers are recommended to keep the company's financial leverage and debt level down so

that the company can use investment opportunities and buy stock of profitable companies having cash flow and sufficient financial resources. Investors are also recommended to invest in companies that have low financial leverage and the risk of bankruptcy.

- According to the results of the fourth and fifth hypothesis, managers are recommended to hold financial leverage at low and finance from internal resources, because according to the results of this study high financial leverage reduces profitability and the company's performance.
- According to the results of the sixth hypothesis, financial leverage is the company's ability to meet short-term and long-term obligations and thus, by increasing financial leverage, the likelihood of increasing obligations will be higher, while in the current ratio, current obligations will be considered.
- According to the seventh hypothesis, investors are recommended that if the dividend is not important for them, they should not invest in companies with low financial leverage.
- According to the eighth hypothesis, companies with high tangible assets should keep financial leverage at low in order to avoid reduction of the company's stock price.

10. References

1. Soltani KA, Akhlaghi SRH. Investigating the effect of company's special features and tools of corporate governance on the company's capital structure using the Tobit model. *Journal of Financial Accounting*. 2013; 16:112–35.
2. Razeghi MM, Rahimian N. Investigating the financing methods of companies in the automotive industry. [PhD Thesis]. University of Human Sciences of America; 2007.
3. Taleb BA, Irani H. Examining the relationship between the management of cash flows and the cost of debt in companies listed in the Tehran Stock Exchange. *Journal of Financial Accounting and Auditing*. 2010.
4. Mujtahedzade V, Tabari AH, Khodabakhshi N. The relationship between financing and operating performance of listed companies in Tehran Stock Exchange. *Journal of Accounting Research*. 2009; 1:28–49.
5. Fard MM, Gheytsi R, Mousavi MS. The study of the relationship between free cash flow of company and free cash flow of shareholder with market value of stock in companies listed in Tehran Stock Exchange. *Journal of Financial Studies*. 2010.
6. Madine M. Investigating the effect of economic and accounting variables on capital structure: A case study of listed companies in Tehran Stock Exchange. [MA thesis].

- Islamic Azad University of Mobarakeh (unpublished); 2010. p. 26–45.
7. Noravseh I, Yazdani S. Investigating the effect of financial leverage on the investment in the companies listed in Tehran Stock Exchange. *Journal of Financial Accounting*. 2010; 2(4):35–48.
 8. Hashemi A, Samadi S, Sarkisian T. Interaction of factors affecting capital structure and return on equity. *Journal of Stock Exchange*. 2013; 5(17):43–62.
 9. Chung R, Firth M, Kim JB. Earnings Management, Surplus Free Cash Flow, and External Monitoring. *Journal of Business Research*. 2010; 58:766–76.
 10. Cooper S, Starovic D, Davis M. Maximizing Shareholder Value. CIMA. 2010.
 11. Dechow PM, Sloan R, Sweeney A. Detecting Earnings Management. *The Accounting Review*. 2011; 70(2):193–225.
 12. Healy PM, Wahlen JM. A Review of the Earnings Management Literature and its Implication for Standards Setting. *Journal of Accounting Horizons*. 2012; 13(4):365–73.
 13. Jaggi B, Gul A. Evidence of Accrual Management: A Test of the free cash flows and debt Monitoring Hypothesis. Working Paper. 2009. Available from: www.ssrn.com
 14. Michael JC. Agency costs of free cash flow, corporate finance and takeovers. *American economic review*. 2010; 76(2):323–9.
 15. Steward J, Sharma R. The Impact of Free Cash Flow, Financial Leverage and Accounting Regulation on Earnings Management in Australia's 'Old' and 'New' Economies. *Managerial Finance*. 2010; 27(12):18–39.
 16. Kenneth L, Poulsen A. Free Cash Flow and Stock Holder Gains in Gohng Private Transactions. *Journal of Finance*. 2011; 44(3):771–87.
 17. Alfred R. Creating Shareholder Value: A Guide for Managers and Investors Revised and Updated. New York: The Free Press; 2013.
 18. Rina B, Takiah M. Surplus Free Cash Flow, Earning Management and Audit Committee. *Journal of Economics and Management*. 2009; 3(1):204–23.
 19. Stephen VC. Free Cash Flow and Long-Run Firm Value: Evidence from the Value Line Investment Survey. *Journal of Managerial Issues*. 2012; 12(2):188–207.
 20. Ninik Y. The Effect of Investment Opportunity Set and Earnings Management to the Relationship between Free Cash Flow and Shareholder Value. *Journal of Business Research*. 2010; 193–228.