The impact of the type of Growth and Value Stocks on the relationship between the tax and capital structure in listed companies in the Tehran Stock Exchange

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Abstract: The aim of this study was to investigate the role of firm size mediator in the relationship between liquidity & fixed investments within the company is listed on the Tehran Stock Exchange. This study is applied and descriptive and correlation. The population is all of the firms listed in the Tehran Stock Exchange between the years 2008 to 2014. The sample includes 253 Co. was selected using systematic elimination. The data collected in the library and mining documents two methods were used. The statistical model, the regression model is used to identify factors were used, among other factors. The data were calculated using Excel software were analyzed by Eviews software. The findings show that the level of liquidity have a positive effect on investment in fixed assets of companies listed on the Tehran Stock Exchange. As well as the negative impact on liquidity level of investment in fixed assets depending on the size of companies listed on Tehran Stock Exchange is different to 5 present significant level.

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Introduction

Investment plays an important key role in economic growth and development. Many studies have proven the relationship between economic growth and development with investment. Investment leads to a better and more efficient use of resources; however, it is very sensitive to changes and reacts immediately. Many factors affect investment, but their effect is not the same at all times and places. Financially constrained firms, in comparison to firms without financial constraints, have a higher investment-cash flow sensitivity and are more emphasized while deciding on investment in domestic cash flows. Liquidity shows the capability to take part in short-term obligations. In other words, the liquidity of the company is the relationship between the cash with which the company will be provided in short term and the cash which the company will need. The cash is of importance in the sense that it allows the company to look for opportunities which increase stock value. The determination of the amount of cash reserves is of especial importance for many corporations.

With regard to the sensitivity of investment capability of corporations respecting their liquidity, the present study seeks to answer the question of whether the amount of the liquidity and the firm size are able to affect the investment in fixed assets. Furthermore, whether the firm size is able to take a mediating role in affecting the amount of liquidity on investment in fixed assets.

Background of the Study

Domestic Studies

Aghaei, et al. (2015), in their study, investigated the non-linear relationship between investment in fixed assets and the performance of companies accepted in Tehran stock exchange. The acquired results show the existence of a non-linear relationship between all of the present corporations in the sample.

Izadinia and Azimi Dastgerdi (2014), in their study, investigated the effect of investment growth on the relationship between profit and the current value of each stock in different levels of profitability. the results show that there is a positive meaningful relationship between profit and the current value of each stock in different levels of profitability; this confirms the importance and information value of accounting variant of the profit of each stock.

Badavarnahandi and Darkhor (2013), in their study, investigated the relationship between financial constraint, cash value and net capital investment. Based on the analyses presented regarding the first hypothesis, it was shown that the cash for financially constrained firms, in comparison to firms without financial constraints, brings about a rise in the value of the company to a greater degree.

Foreign Studies

Lieu (2003), in his paper, studied fixed capital investment, liquidity and access to capital market (new evidence). Findings of the study showed that the relationship between working capital and liquidity is not fixed, but growing.

Eumatlou (2012), in his research, has investigated the connection between financial leverage and investment decisions for manufacturing exchange companies in Turkey. The summary of the research findings indicates that financial leverage affects investment decisions negatively.

Hovakimian and Hovakimian (2009), in their paper, studied investment policies of corporations in the conditions of increase and decrease in cash flows. Considering an optimal investment model, they concluded that managers, in the shortage conditions of the cash, invest less than the real need of the corporation.

Method

Type of the research in the present study, based on the goal, is applied research, and based on the essence and method, is descriptive-correlational. Library research method was used for collecting the data relevant to literature review and document searching method was used for collecting the data relevant to testing research hypotheses. After the needed data collection for research, Excel software was used for data classifying and preparation as well as doing necessary calculations; E-views 7 was also used for model estimation and data analysis.

Research Hypotheses

First hypothesis: the amount of liquidity has a positive effect on the investment in fixed assets of corporations accepted in Tehran stock exchange.

Second hypothesis: the firm size has a positive effect on the amount of investment in fixed assets of corporations accepted in Tehran stock exchange.

Third hypothesis: liquidity has a negative effect on the investment in fixed assets with regard to the firm size.

Population and Sample

The research population is all of the corporations accepted in Tehran stock exchange since 2008 to 2014. In this study, samples were selected by applying systematic deletion method and 253 corporations were selected and analyzed statistically based on this method.

Research Model

The following model is used in this study:

$$I_{it} = \alpha + \beta_1 CFO_{it} + \beta_2 Size_{it} + \beta_3 CFO_{it} * Size_{it} + \beta_4 Lev_{it} + \beta_5 Age_{it} + \varepsilon_{it}$$

Table 2.3: Research variables

Variable Symbol	Variable Name	Variable Type	Manner of Measurement
I	Investment in fixed assets	Dependent variable	Ratio of variation in the net amount of fixed assets during the year to net assets at the beginning of the year
CFO	Cash flow from operating activities	Independent variable	Ratio of Cash flow from operating activities to all assets at the beginning of the period
Size	Firm size	Independent variable	Natural logarithm of total assets of the firm
Lev	Leverage	Control variable	Ratio of total debts to total assets
Age	Firm age	Control variable	The period the corporation has been accepted in the stock exchange
ε	Error coefficient		After the calculation of regression, it is calculated as the remainder of the disturbing components of the model

Descriptive statistics

Descriptive statistics of research variables which have been measured by using the data of 253 active corporations in Tehran stock exchange in the time periods between 2008 to 2014, includes number of observations, mean, standard deviation, skewness coefficient, and kurtosis coefficient which are illustrated in table 1.4. According to the results of table 1.4, the means of investment in fixed asset, liquidity, firm size, and financial leverage are 0.26, 0.92, 13.6, 0.65, and 15.3, respectively, and this shows that the investment in fixed asset, liquidity, firm size, and financial leverage during a year have only been 0.26, 0.92, 13.6, 0.65, and 15.3 on average.

Table 1.4: Descriptive Statistics of Research Variables

AGE	LEV	CFOSIZE	SIZE	CFO	I	
15.30435	0.652980	12.41232	13.60901	0.921741	0.260257	Mean
14.00000	0.643463	10.97731	13.44522	0.821399	0.223789	Median
9.070501	0.259980	7.964716	1.476974	0.577501	0.180451	Std. Dev.
1.221144	2.296053	2.847286	0.755520	2.043657	0.974640	Skewness
4.297260	16.82880	20.86191	3.835440	10.74385	3.684060	Kurtosis
1771	1771	1771	1771	1771	1771	Observations

Also, with regard to kurtosis coefficient which demonstrates the dispersion level of the observed data around the means of data, kurtosis level of research variables means that the dispersion of the data related to these variables is more than the normal distribution. Spearman correlation coefficient was used to investigate the linear relationship between research variables and the results of the aforementioned test are illustrated in table 2.4. As it is seen, the results show a linear relationship between the model variables.

Table 2.4: Correlation

C	AGE	LEV	CFOSIZE	SIZE	CFO	I	
0.821863523	0.704127661	0.747827188	0.688822219	0.81728775	0.696135405	1	I
0.847481531	0.719498831	0.797505766	0.99233363	0.833693619	1	0.696135405	CFO
0.994165503	0.851650025	0.920684496	0.838091628	1	0.833693619	0.81728775	SIZE
0.841698894	0.71111972	0.789189712	1	0.838091628	0.99233363	0.688822219	CFOSIZE
0.92910635	0.817195095	1	0.789189712	0.920684496	0.797505766	0.747827188	LEV
0.860323668	1	0.817195095	0.71111972	0.851650025	0.719498831	0.704127661	AGE
1	0.860323668	0.92910635	0.841698894	0.994165503	0.847481531	0.821863523	C

Regression Pattern Analysis

The following model is used in this study:

$$I_{it} = \alpha + \beta_1 CFO_{it} + \beta_2 Size_{it} + \beta_3 CFO_{it} * Size_{it} + \beta_4 Lev_{it} + \beta_5 Age_{it} + \varepsilon_{it}$$

Table 3.4: Limer and Hasman Test

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Prob.	d.f.	Statistic	Effects Test
0.0000	(252,1513)	28.994830	Cross-section F
0.0000	252	3122.083666	Cross-section Chi-square

Cross-section fixed effects test equation:

Dependent Variable: I

Method: Panel Least Squares

Date: 05/19/16 Time: 15:50

Sample: 1387 1393

Periods included: 7

Cross-sections included: 253

Total panel (balanced) observations: 1771

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0097	2.588248	0.050724	0.131287	CFO
0.0535	1.932526	0.004546	0.008785	SIZE
0.0093	-2.603421	0.003634	-0.009461	CFOSIZE
0.0015	-3.174728	0.016576	-0.052626	LEV
0.9004	-0.125156	0.000475	-5.94E-05	AGE
0.0088	2.623611	0.065708	0.172393	C

0.260257	Mean dependent var	0.009427	R-squared
0.180451	S.D. dependent var	0.006621	Adjusted R-squared
-0.589975	Akaike info criterion	0.179853	S.E. of regression
-0.571411	Schwarz criterion	57.09245	Sum squared resid
-0.583117	Hannan-Quinn criter.	528.4228	Log likelihood
0.532207	Durbin-Watson stat	3.359437	F-statistic
		0.005037	Prob(F-statistic)

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Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Prob.	Chi-Sq. d.f.	Chi-Sq. Statistic	Test Summary
0.0005	5	22.243931	Cross-section random

Cross-section random effects test comparisons:

Prob.	Var(Diff.)	Random	Fixed	Variable
0.6695	0.000471	0.057423	0.066684	CFO
0.1812	0.000047	-0.003171	-0.012354	SIZE
0.3827	0.000003	-0.007837	-0.009320	CFOSIZE
0.4539	0.000024	0.025025	0.028729	LEV
0.3464	0.000002	-0.000936	0.000231	AGE

Cross-section random effects test equation:
Dependent Variable: I
Method: Panel Least Squares
Date: 05/19/16 Time: 15:51
Sample: 1387 1393
Periods included: 7
Cross-sections included: 253

Total panel (balanced) observations: 1771

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	4.114882	0.111862	0.460299	C
0.2243	1.215737	0.054850	0.066684	CFO

0.1708	-1.370289	0.009015	-0.012354	SIZE
0.0236	-2.265190	0.004115	-0.009320	CFOSIZE
0.0486	1.973692	0.014556	0.028729	LEV
0.8762	0.155868	0.001485	0.000231	AGE

Effects Specification

Cross-section fixed (dummy variables)

0.260257	Mean dependent var	0.830069	R-squared
0.180451	S.D. dependent var	0.801205	Adjusted R-squared
-2.068283	Akaike info criterion	0.080457	S.E. of regression
-1.270056	Schwarz criterion	9.794086	Sum squared resid
-1.773385	Hannan-Quinn criter.	2089.465	Log likelihood
1.811275	Durbin-Watson stat	28.75733	F-statistic
		0.000000	Prob(F-statistic)

I, CFO, size, Lev and age stand for investment in fixed assets, liquidity, firm size, financial leverage, and firm age, respectively. F Limer Test is used before estimating for the selection of Panel or Cross-sectional data methods. Acceptance of null hypothesis means to organize the data according to cross-sectional method and rejection of which means to organize the data according to panel method. The result of this test is presented in table 3.4.

Therefore, because the probability of Limer statistic was less than 0.05, the null hypothesis of Limer test which entails the use of cross-sectional data, is rejected; consequently, the panel data regression pattern was used. Because of the aforementioned reason, after confirming the estimation of research pattern based on the panel data method, Hasman test is used. Estimation of the test with the statistic of 22.2 and probability of less than 0.05, has also confirmed the model estimation based on fixed-effects method. The estimation of panel data regression pattern is presented in table 4.4.

Conclusion

Using quantitative methods including the available instruments in descriptive statistics, table 1.4 has illustrated the variables used in the research regarding the central indices, indices of dispersion, and skewness. With regard to the closeness of median and mean, it can be mentioned that all research variables enjoy a favorable statistical distribution. Kurtosis coefficient shows the dispersion level of the observed data around the mean of the data. Correlational coefficient was used to investigate the linear relationship between research variables and the results show that there is a linear relationship between all of the model variables. (Table 2.4)

Findings of the research show that, with the certainty level of 95 percent, the f statistic confirms the model estimation based on panel data method. Consequently, Hasman test is used to determine fixed and random effects, the result of which asserts the model estimation based on the panel data method with fixed effects. (Table 3.4)

In accordance with the acquired results from the research pattern estimation and the statistic value of (f) 2875, the level of error gained equals 0.000 and is less than the error level of 0.05; as a result, it can be mentioned that, with the certainty level of 95 percent, the research pattern has totally enjoyed a high meaningfulness level. The research results indicate that the variable of liquidity does not have a positive meaningful effect on the fixed capital investment (rejection of the first hypothesis). The variable of the firm size does not have a meaningful effect on the fixed capital investment (rejection of the second hypothesis). The moderating variable of the firm size does not have a positive effect in the relation of liquidity and fixed capital investment on the assets, in a way that by increasing one unit in the variable, the fixed capital investment on assets is decreased by about 0.01 of unit (rejection of the third hypothesis). The variable of financial leverage has a positive meaningful effect on the fixed capital investment. The variable of age does not have a meaningful effect on

the fixed capital investment (table 4.4). The results acquired from the investigation of the research hypotheses indicate that all of the hypotheses were not proven (Table 5.4).

- The amount of liquidity does not have a positive effect on the investment in the fixed assets of the corporations accepted in Tehran stock exchange.
- The firm size does not have a positive effect on the amount of investment in the fixed assets of the corporations accepted in Tehran stock exchange.
- The amount of liquidity does not have a positive effect on the investment in the fixed assets, with regard to the size of the corporations accepted in Tehran stock exchange.

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