



Study on the Role of Financial Constraints on the Changes in the Policies of Corporates Listed in Tehran Stock Exchange

Hussein Zarnegar*, Ali Asghar Mahmoodzadeh and Mohammad Reza Abdoli

Department of Accounting, Shahrood Branch, Islamic Azad University, Shahrood, Iran

*Corresponding Author: h.zar.64@gmail.com

Abstract: The financial restrictions refer to those restrictions that prevent providing all the funds needed for desired investment. Determination of the exact cause or causes of the financial constraints and financial problems in any particular case is not easy. In most cases, several reasons together lead to the financial constraints phenomenon. Changes in corporates' policies refer to the determination of objectives and the amount of potential wealth to invest as well as the identification of potential kinds of financial assets, in order to put in the reference portfolio. The main objective of this study is to examine the role of financial constraints on corporates' policies change. In the present study, WW has been used to measure the financial constraints. For this purpose, a sample of 100 corporates listed in Tehran Stock Exchange for the 5-year period 2008 to 2012 has been investigated. To verify the hypotheses, the multiple regression method has been used. The results of hypotheses testing show that there is no significant difference between the presence and absence of a relationship between financial constraints and liquidity management, as well as capital structure and financing policies. However, there is a significant difference between existence and non-existence of financial constraints and policies of corporates investment.

Keywords: Financial constraints, Liquidity management, Capital structure, Financing.

INTRODUCTION

Are the corporates, which are facing the financial constraints, able to invest? The term financial constraints refer to those restrictions that prevent providing all the funds needed for desired investment. Inability to provide funds for investment may be caused by bad credit condition and the inability to take out loan or inability to release new shares or the existence of non-cash assets. However, financial constraints cannot be synonymous with financial pressure. This is synonymous with neither economic hardship nor bankruptcy risk, although these are undoubtedly related to financial constraints. Variance of stock prices of corporates that are facing financial constraints can logically be reflected in their stock returns. If financial constraints are particular sign of a corporate value, then changes in their intensity should be reflected in the performance of the corporate stock returns. However, if corporates with financial constraints are faced with shock, then there will be variance in stock returns of the corporate with similar levels of financial constraints. For example, if credit conditions are so that some of the corporates are in trouble for providing funds for investment, then the expected future cash flows of these corporates as well as their stock prices will decrease¹.

Study on the Role of Financial Constraints on the Changes in the ...

Business units are always faced with great investment opportunities and they require rational decision-making for an optimized investment. Indeed, given the limited resources and their efficiency, the investment of each business unit should be done. However, the main problem is selecting projects and making decisions about investment opportunities by business units' managers. A basic assumption in the financial management literature is that every corporate is established aimed at maximizing its shareholders' wealth. In order to achieve the above objective, the corporate management must constantly try to invest in projects with positive present net value to maintain the process of shareholders wealth increase. Corporates provide their required financial resources for investment in projects from internal resources of the corporate, borrowing or raising capital. However, not all corporates are able to provide all the funds needed for investment in their own projects. They face constraints in providing the required resources. These constraints are called financial constraints. The financial restrictions are those restrictions that prevent achieving and providing all the funds needed for desired investment of the corporate².

The politics of corporates, such as policies related to capital expenditure, maintenance of cash and liquidity amount, capital structure and financing will be likely affected by corporates locating in the state of financial constraints. Therefore, the present research will try to assess the role and impact of financial constraints on policies of liquidity, investment, capital structure, and financing.

Research theoretical bases and literature

One of the main issues all corporates are faced with is financial constraints. Conventional method for studying the relationship between financial constraints, the value of cash and investment is to classify the corporates into two groups of corporates with financial constraints and corporates without financial constraints. Corporates that have severe financial constraints, give more emphasis on cash flow while making investment decisions. In other words, by increasing the difference between internal and external financing costs, the investment sensitivity towards interior cash flow will be increased. Some theories also express cash holding in the corporate and the amount of it. These theories include exchange theory and hierarchical theory. According to the exchange theory, the corporates set the optimal level of cash holding based on the balance between benefits and costs of cash holding. Three primary motivations for holding cash can be transactional motivation, speculative motivation and precautionary motivation. Corporates often use the cash held in the corporate for speculative motivation and utilizing investment opportunities. Among

precautionary motivation goals, dealing with the crisis and avoiding liquidity problems as well as reducing financing costs can be noted. According to the hierarchical theory it is also suggested that financing procedures follow a hierarchical approach and internal sources are preferred to external sources.

Kanaani Amiri examined the relationship between financial constraints and stock returns in the Iranian capital. Based on the results of the research, some evidences have been found on the relationship between financial constraints, as the dependent variable, and stock returns. However, there is no evidence on the relationship between different levels of financial constraints and stock returns of corporates listed in Tehran Stock Exchange².

Tehrani and Hesarzadeh in their research have studied the effect of free cash flow and financing constraints on overinvestment and underinvestment. The results have shown that the relationship between free cash flow and overinvestment is statistically direct and significant. However, the results indicate no significant relationship between financial constraints and underinvestment in listed corporates on the Stock Exchange of Tehran¹.

Kashani-Poor and Naginejad examined the impact of financial constraints on the fluctuations of cash holding levels in lieu of changes in cash flows. The results have suggested that cash flows have no significant impact on cash holding levels and also there is no significant difference between the sensitivity of cash flow in corporates with financial constraints and corporates without financial constraints. The findings also show that the sensitivity of investment cash flow compared to cash flow sensitivity of cash is a more appropriate criterion for determining the existence of financial constraints³.

Dennis and Sibilkov found that cash holding for corporates with financial constraints compared to corporates without financial constraints, is highly valuable. The results are consistent with the hypothesis that the high holding of cash by corporates with financial constraints, in contrast to the costly external financing, increases the value⁴.

Dongmi Li in a study has investigated two forms of assets pricing through interrelationships between financial constraints and investment in research and development. The first type of pricing shows mixed evidence on the relationship of the returns of financial constraints. The second economic source is beyond the additional returns for corporates that have carried out research and development. Unlike capital investment, research and development investments are more inflexible. One of the findings is that, corporates that are financially constrained and are doing research and development are more likely to stop or

Study on the Role of Financial Constraints on the Changes in the ...

suspend their research and development projects. Therefore, the risk of research and development based corporates, with the presence of financial constraints, will increase. In terms of theoretical and observational, this study has showed that there is a great relationship between financial constraints and stock returns among research and development based corporates⁵.

Based on the research done by Lamont et al. financial constraints can affect the stock returns. They concluded that corporates with financial constraints can have an influence on stock returns. In fact, they have lower returns than corporates without financial pressure. Contrary to popular belief that small firms have more potential and higher efficiency, these firms are less able to use credit. Research has shown that corporates that have financial constraints will not achieve greater returns.

Hypotheses

In order to achieve the objectives of the research, the hypotheses are formulated as follows:

The main hypothesis: With the change in the amount of financial constraints, the corporate policies are subject to change.

The first sub-hypothesis: With the change in the amount of financial constraints, the corporate's liquidity management policies are subject to change.

The second sub-hypothesis: With the change in the amount of financial constraints, the corporate's investment policies are subject to change.

The third sub-hypothesis: With the change in the amount of financial constraints, the policies of the corporate are capital structure are subject to change.

The fourth sub-hypothesis: With the change in the amount of financial constraints, the corporate's financing policies are subject to change.

MATERIAL AND METHODS

Descriptive correlational method is the applied method of the present study. In this method, the relationship between the independent variable of financial constraints and the dependent variable of changes in cash flows, changes in capital expenditures, changes in equity and changes in long-term liabilities is studied in the corporates listed on the Tehran Stock Exchange. The multiple regression analysis has been applied to test the hypotheses and to evaluate the effects of variables. This study is a quasi-experimental study, or post-event (using past data) research, which is carried out based on the actual data of stock market and financial statements of corporates listed in Tehran Stock Exchange. With respect to the fact that this research studies the data associated with a specific period and five successive years, it is in the form of time series and cross-

sectional studies, and since the results obtained can be used in the decision-making process, this research is an applied study. Research variables include the dependent variables and independent variables, which will be explained:

Dependent variables:

Changes in liquidity: This variable is obtained from the difference between the ratio of cash to total assets of the corporate relative to its similar figure in the previous period. The changes in this variable reflect changes in corporate policies in terms of the purchase, sale (the manner of products sale) and all operating policies which relate to cash.

Changes in capital expenditures (cash paid for new investments, purchase of properties, machinery and new equipment, etc.) are mainly associated with the investment policies of the corporate. To assess the impact of financial constraints on corporate's investment policies, this variable is used. Capital expenditures are measured as follows: $Capex = ((total\ assets_t - total\ assets_{t-1}) - (total\ liability_t - total\ liability_{t-1})) / total\ assets_t$

Changes in equity are resulted from changes in the profitability of the corporate, changes in dividend policies and changes related to policy of capital increase, etc. Changes in equity are always considered by shareholders. This variable is operationally defined as the difference between the ratio of equity to total assets related to the previous period.

Changes in long-term liabilities reflect the policies of long-term finance through borrowing. Changes in this strategy are always considered by creditors and even shareholders. This variable is measured using the difference of the ratio of long-term liabilities to equity relative to the previous period.

Independent variable:

Financial constraints

Different methods and variables are applied for measuring the corporates' financial constraints. In this study, the WW index is used to measure them:

WW index

According to the research done by Waited and Wu (2006) WW index will be handled as follows:

$$WW_{i,t} = -0.062TLTD_{i,t} + 0.010Div_{i,t} + 0.067SG_{i,t} + 0.060LnTA_{i,t} + 0.053CF_{i,t}$$

In which:

$TLTD_{i,t}$: is the ratio of long-term liabilities to total assets of the corporate

$Div_{i,t}$: is a dummy variable. If the corporate has a cash dividend, number one is awarded to it, otherwise zero.

$SG_{i,t}$: is the growth of corporate sales

Study on the Role of Financial Constraints on the Changes in the ...

$LnTA_{i,t}$: is the natural logarithm of corporate assets

$CF_{i,t}$: is the ratio of operating cash flow to total assets of the corporate.

In the above model, the lower is WW index level, the greater is the financial pressure that corporate is faced with and vice versa. The expressed formula is a criterion for measuring financial pressure. So that the DIV, SG_i , $LnTA_{i,t}$ and CF_i are higher and assuming all other variables held fix, indicate that the corporate faces less financial pressure. Considering the four variables listed above fix, $TLTD_{i,t}$ variable being higher represents more financial pressure.

The research statistical population and sample and study period

The research population includes listed corporates in Tehran Stock Exchange for the fiscal years from 2008 to 2012. In order to estimate the sample size and sampling the targeted deletion method is used. In other words, those corporates of the population that have the following conditions have been selected as sample and the rest has been omitted:

1. Corporates activities are ongoing during the financial year.
2. The fiscal year end is March.
3. Corporates are not among investment firms and financial intermediation.
4. Research required information of the corporates is available.

Due to the restrictions imposed, among the number of corporates listed in Tehran Stock Exchange, 100 corporates have been selected as sample using systematic elimination method. The corporates' information is obtained from the Stock Exchange of Tehran, Tehran Stock Exchange website, Rah Avard Novin and Tadbir Pardaz software.

RESULTS

When a mass of quantitative data are collected for the study, the organization and summarization of them in ways that are significantly understandable and communicative is essential. Descriptive statistics are applied to achieve this purpose. In a conclusion, with an appropriate use of descriptive statistics, the characteristics of a set of data can be expressed precisely. Descriptive statistics are always used to identify and describe the characteristics of research information.

Table 1: Descriptive statistics of research variables

Statistics	Liquidity management	Investment	Capital structure	Financing	WW index
Mean	0.0021	0.0003	0.0096	0.0016	1.3014
Standard deviation	0.01273	0.15638	0.05862	0.04106	1.08210
Variance	0.000	0.024	0.003	0.002	1.171
Skewness	2.554	-5.221	1.085	2.483	-1.816

Skewness standard error	0.201	0.201	0.201	0.201	0.201
Max.	0.04	-1.18	0.027	0.10	-3.49
Min.	0.09	0.24	0.39	0.27	3.11

The study on descriptive results of research variables shows that the mean of the variable of liquidity management policies is obtained (0.0021), the mean of investment policies is (-0.0003), the mean of capital structure policies (0.0096) and financing policies mean is equal to (-0.0016). In addition, the mean of the independent variable of WW index is 1.301. The review of the variables means shows that the investment policies of corporates has a negative mean, however, the other variables have positive means. In terms of conformity with normal curve, the coefficients of skewness indicate that the variable of capital structure (1.085) is in conformity more and in terms of symmetry (0.5) does not differ much from the normal distribution. Elongation coefficients of variables indicate that all variables have positive elongation coefficient. This means that they are higher than normal curve.

Hypotheses testing and analysis

The first sub-hypothesis: With the change in the amount of financial constraints, the corporate's liquidity management policies are subject to change.

Table 2: The results of the first sub-hypothesis (liquidity management policy of the corporate)

Independent variable	Correlation coefficient	Determination coefficient	F	sig	Regression significance	B	Statistic t	Hypothesis acceptance or rejection	Durbin-Watson
WW index	0.013	0.005	1.61	0.207	Rejection	0.116	1.269 (0.207)	Rejection	1.868

The number in parentheses indicates the significance level

The study of regression model significance shows that the statistic F (1.61) is not significant at 95% confidence level and the assumption of fitted model linearity is rejected. This means that there is no significant relationship between WW index, and the liquidity of corporates at 5% error level. Therefore, H₀ hypothesis is accepted and H₁ hypothesis is rejected. Furthermore, the results of the regression coefficient of WW index variable (0.116) show that the coefficient of the independent variable has significant influence on corporate liquidity (0.05 <sig) at 5% error level. However, due to its coefficient positiveness it can be expressed that WW index somehow leads to an increase in corporate liquidity.

The second sub-hypothesis: With the change in the amount of financial constraints, the corporate's investment policies are subject to change.

Study on the Role of Financial Constraints on the Changes in the ...

Table 3: Results of the second sub-hypothesis test (investment policy of the corporate)

Independent variable	Correlation coefficient	Determination coefficient	F	sig	Regression significance	B	Statistic t	Hypothesis acceptance or rejection	Durbin-Watson
WW index	0.401	0.161	25.078	0.000	Acceptance	0.038	5.008 (0.000)	Acceptance	1.764
The number in parentheses indicates the significance level									

The study of regression model significance shows that the statistic F (25.078) is significant and smaller than 5%, at 95% confidence level and the assumption of fitted model linearity is accepted. This means that there is a significant relationship between WW index, and the investment of corporates at 5% error level. Therefore, H_0 hypothesis is rejected and H_1 hypothesis is accepted. Furthermore, the results of the regression coefficient of WW index variable (0.038) show that the regression coefficient of the independent variable has a positive significant influence on corporate investment ($0.05 > \text{sig}$) at 5% error level. That is to say, if WW index increases one unit, the investment of corporates will change or increase 0.038 unit. This means that the more WW index increases, the higher will be the corporates investment.

$$(\text{Capital expenditure}) = -0.028 + 0.038 (\text{WW index})$$

The third sub-hypothesis: With the change in the amount of financial constraints, the policies of the corporate capital structure are subject to change.

Table 4: The third sub-hypothesis test results (the corporate's capital structure policy)

Independent variable	Correlation coefficient	Determination coefficient	F	sig	Regression significance	B	Statistic t	Hypothesis acceptance or rejection	Durbin-Watson
WW index	0.05	0.003	0.321	0.572	Rejection	0.003	0.566 (0.572)	Rejection	2.036
The number in parentheses indicates the significance level									

The study of regression model significance shows that the statistic F (0.321) is higher than 5% and not significant at 95% confidence level and the assumption of fitted model linearity is rejected. This means that there is no significant relationship between WW index, and the capital structure of corporates at 5% error level. Therefore, H_0 hypothesis is accepted and H_1 hypothesis is rejected. Furthermore, the results of the regression coefficient of WW index variable (0.003) show that the coefficient of the independent variable is higher than 5% and has no significant influence on corporate capital structure ($0.05 < \text{sig}$) at 5%

error level. However, due to its coefficient positiveness it can be expressed that the dependent variable can be affected by WW index very little.

The fourth sub-hypothesis: With the change in the amount of financial constraints, the corporate’s financing policies are subject to change.

Table 5: The fourth sub-hypothesis test results (financing policy of the corporate)

Independent variable	Correlation coefficient	Determination coefficient	F	sig	Regression significance	B	Statistic t	Hypothesis acceptance or rejection	Durbin-Watson
WW index	0.086	0.007	0.909	0.342	Rejection	0.002	0.953 (0.342)	Rejection	2.605
The number in parentheses indicates the significance level									

The results of the fourth sub-hypothesis show that the determination coefficient of WW index in fitted model is equal to 0.007 and regard to the significance level of statistical F (0.909) it is larger than 0.05 (sig =0.342). Thus, we can safely assume that with the confidence higher than 95%, H_0 , which explains that with the change in the amount of financial constraints (WW index), the corporate’s financing policies are not subject to change, is accepted and the hypothesis H_1 is rejected. This means that WW index has no significant influence on the policies of the corporate financing. The regression coefficient of the variable of WW index (0.002) shows that it has no positive and significant impact on the financing of corporates at 5% error level ($0.05 < sig$). However, regard to the independent variable coefficient positives, the dependent variable will change or increase positively under the impact of independent variable.

CONCLUSION

In this study, the role of financial constraints on the corporate's policies has been discussed. All hypotheses, except for the second hypothesis, in relation to financial constraints in change of the corporates policies in multivariate regression test failed. This means that, on the basis of empirical evidence, in a general conclusion it can be stated that there is no significant difference between the presence and absence of a relationship between financial constraints and liquidity management, as well as capital structure and financing policies. However, there is a significant difference between existence and non-existence of financial constraints and policies of corporates investment. The research results show that corporates with financial constraints, compared to corporates without

Study on the Role of Financial Constraints on the Changes in the ...

financial constraints have higher investment cash flow sensitivity. In other words, when making investment decisions, internal cash flows are highly stressed.

According to the hypotheses results and comparison of them with previous works, it seems that other factors are contributing to financial constraints. Therefore, parameters and variables other than liquidity management, capital structure and financing policies must be reviewed for the evaluation of financial constraints. More research is needed to identify these factors.

Suggestions

Caution should be used when the measures of cash holding level and desired cash models are applied to identify corporates with financial constraints and corporates without financial constraints. Cash holding levels can be interpreted as a direct representative of the presence of severe financial constraints.

Strategies of timely cash managing on hand and holding appropriate level must be formulated and implemented, on one hand, in order to prevent liquidity crisis faced by the corporate and on the other hand to prevent the stagnation of cash. Strategies regard to the financing methods must be formulated and implemented to reduce the cost of liabilities and the use of financial leverage.

Some of these strategies include diversification of funding sources and the use of methods such as credit in the current account, the issuance of bonds and the move towards securities to support mortgage loans.

The topics within the scope of this research that can be suggested for future research include:

1. Evaluation of the relationship between financial constraints and the cash value in listed corporates in Tehran Stock Exchange
2. Evaluation of the relationship between financial constraints and stock market returns of listed corporates in Tehran Stock Exchange
3. Conducting research in periods different from the present study periods or longer periods.
4. Evaluation of the effect of other factors prevailing financial constraints, such as financial leverage, volatility of stock returns, sensitivity of cash flows on the corporate.

REFERENCES

1. Tehrani, R., Hesarzadeh, R. (2009). The effect of free cash flow and financing constraints on overinvestment and underinvestment, *Journal of Accounting Research*; 2: 50-67.
2. Kanaani Amiri, M. (2007). The relationship between financial constraints and stock returns in the Iranian capital. *Daneshvar Raftar Journal, Shahed University*; 14(26):17-30.

3. Kashani-Poor, M., & Naqinejad, B. (2009). Effects of financial constraints on cash flow sensitivity of cash, *Journal of Accounting Research*; 2: 72-93.
4. Denis, J., David, S.V. (2007). Financial constraint, investment and the Value of Cash Holding. Working Paper.
5. Dongmi, L. (2010). Financial constraints: R&D investment, and stock returns. Rady School of Management University of Colifornia San Diego; 1(6): 22-24.
6. Lamont, O., polk, Ch., saa- Reguejo. (2001). Financial constraints and stock returns, *Review of financial Studies*; 14: 524- 554.