DOI : 10.36347/sjebm.2015.v02i04.007

Scholars Journal of Economics, Business and Management e-ISSN 2348-5302

Khajavi S *et al.*; Sch J Econ Bus Manag, 2015; 2(4):362-368 p-ISSN 2348-8875

(An International Publisher for Academic and Scientific Resources)

The Impact of Financial Constraints on Investment: Empirical Evidence from Tehran Stock Exchange Market

Shokrolah Khajavi[1]*, Behzad Rezazadeh[2]

[1]Associate Professor of Accounting, Department of Accounting, Shiraz University, Iran

[2]M.A in Accounting, Department of Accounting, Islamic Azad University, Neyshabur Branch

*Corresponding Author
Shokrolah Khajavi
Email: shkhajavi@gmail.com

Abstract: The main objective of this study it to evaluate the impact of financial constraints resulting from dividends on investment policies in working capitaland fixed assets of listed companies in Tehran Stock Exchange Market. The research population firms listed in Tehran Stock Exchange Market during the years 2006 to 2011 was, the sample size of 110 companies after the screening. In this study, the financial constraints arising from dividends as independent variables were considered as policies in order to examine their impact on investment in working capital and fixed assets of the companies. This study employs combined data; the results of multiple regression analysis using the 95% confidence level show that the effected financial constraints resulting to the dividend on investment policy of investment in working capital and fixed assets of the company have a counter effect, the magnitude of this reverse effect on investment in working capital policies is higher..

Keywords: financial constraints, dividend payout, investment policies in working capital, investment policies fixed assets.

INTRODUCTION

If for any reason the Company is unable at the proper time needed to access restricted cash or in other words a “Financial constraint ". Despite financial constraints on the ability of long-term profitability, growth and thus affect the company's financial situation and contexts may fall behind in the competition and even removal from the market to provide. So companies have limited access to the cash flows of financial assets to raise cash is considered a critical issue. So it is expected that in the event of fluctuations in operating cash flows, cash reserves in corporate financial constraints affected. The division participated in the financing constraints, financial constraints must be defined. Complete and most outspoken defined in this case, is that when companies are in the range of financing between internal costs and external costs allocated funds are faced with a gap.

The other main reason is that the volatility of capital investment helps in understanding the business cycle. Another reason is that the investment costs can be dramatically affected by fiscal policy. Investment in the capital market, there is tendency for performance evaluation for performance evaluation of the performance evaluation of investment companies, investment professionals, one of the issues raised will be invested in the area. Managers are trying to invest in programs and project the company's future profitability and cash flow supply. So, sometimes excessive investment managers to take part causes problems such as a reduction in the company's cash holdings and can lead to the problem of representation, too. Moreover, a major objective of financing investments in companies is more profitable. Corporate managers to maximize the value of the company are pursuing a profitable investment. Profitable projects requiring financing for the projects. It should be noted that financial resources are not unlimited companies and companies in this regard are limited financing [1]. Hence, this study aims to answer the question was whether financial constraints ratio (dividends) investment policy (fixed investment and working capital) firms listed in Tehran Stock Exchange Market is the effect?

REVIEW OF LITERATURE

Arab Salehi and Ashrafi perspective[2] when companies are limited financing between internal costs and external costs allocated funds are faced with a gap. The main reason for the difference between internal and external financing costs, asymmetric information and agency problems can be named. In the presence of information asymmetry, investors have little information about the company's capital projects, therefore, to invest in such companies, to seek higher

returns. Agency problems also caused distrust between managers and investment. The higher returns for investors to finance investment projects of the company they charge. In the literature, studies that have examined the impact of financial constraints on investment mainly revolves around a meaningful analysis of cash flow as an alternative to investment funds are companies have been classified according to financial constraints. In a comprehensive study Fazzari et al[3] claimed that the investment has a significant correlation with changes in internal funds and predicted positive relationship between investment and cash flow is uniform. With this interpretation, we can examine the role of financial constraints and investment by comparing the sensitivity of cash flows - investments in group companies have been classified on the basis of financial constraints. Experimental study of the sensitivity of cash flows - investment - has been considered as a criterion in research in which the effect of the investment fund market has been shrinking. Despite these measures, Kaplan and Zingales [4] companies with financial constraints were defined as firms access to capital markets to finance temporarily or completely denied. This strategy is based on both qualitative and quantitative information included in the financial statements and operating companies. Almeida and Campello [5] tangible assets as a measure to assess the impact on cash flow sensitivity of investment firms and financial companies have no constraints in terms of their financial constraints. It seems that the tangible assets of the companies in the group of companies is significant the high sensitivity of cash flows - are invested[6].

Most research has been done on the relationship between investment and domestic investment have relied the existence and importance of corporate finance are examined. However, given the available literature, it is not clear whether the greater sensitivity of investment - cash flow to the evidence is interpreted as evidence that the company has financial constraints is high or low. For example, Fazzari et al [3] argued that such sensitivity coupled with the increasing constraints in increases Company's finance. On the other hand, Kaplan and Zingales [4] with commentaries Fazzari et al[3] were opposed. According to Kaplan and Zingales [4], the company has a strong financial position, greater sensitivity investment - cash flow compared with companies show a weaker financial position [7].

RESEARCH HYPOTHESES

In order to achieve the objectives of the research considering the theoretical background of the proposed research, hypotheses have been formulated as follows:

First hypothesis: financial constraints due to the dividend policy of investment in fixed capital have a significant impact.

The second hypothesis: financial constraints due to the dividend policy of investment in working capital have a significant impact.

RESEARCH METHODOLOGY

The population and sample selection. The research included all of the companies listed in Tehran Stock Exchange Market. The data include information on companies listed in Tehran Stock Exchange Market the years 2006 till 2011 the sample was selected based on the following criteria:

1. investment companies, banks, insurance, financial intermediation and holding due to differences in the nature and classification of items in the financial statements of the manufacturing companies have been excluded.
2. The Company's fiscal year ending in March.
3. Shares with a book value are negative.
4. No stop trading for a period of not more than 3 months.

Measurement of variables

Independent variable

Financial constraints are independent variable in this study. Whited and Wu indicators to measure financial constraints (WW) [8] are used. Lower operating cash flows and cause to receive payments of principal and interest of the creditors feel all the credit. The absence or reduction in the amount of dividends paid to the credit of the cash position of the company sent out negative symptoms[9]. Lower sales growth and the company's high debt ratio of those factors will increase the risk of failure to fulfill obligations [8]. Thus, on the one hand, companies that have operating cash flows, dividends, sales growth and size fraction and on the other hand has a higher debt ratios are highest WW and consequently have more limited financing[10].

Dependent variables

Cash flow sensitivity of investment in fixed capital and the company's cash flow sensitivity of investment capital are dependent variables of the study. To measure the company's cash flow sensitivity of investment in fixed capital ($FKS_{i,t}$), the following formula is used:

$$FKS_{i,t} = \sum_{t=1}^{n} \left(\frac{\left(\frac{cashflow}{k}\right)_{it}}{\sum_{t=1}^{n}\left(\frac{cashflow}{k}\right)_{it}} * \left(\frac{I}{K}\right)_{it} \right) - \frac{1}{n}\sum_{t=1}^{n}\left(\frac{I}{K}\right)_{it}$$

Where:

$cashflow$ = Cash flows, which are equal to net income minus depreciation.

= Equivalent to fixed investment firm i in year t. The calculation is as follows:

I_{it}_) Book value of fixed assets at end of year t) - (Book value of fixed assets at end of year t-1) + (Depreciation for the year t)

K_{it}= Is the stock of fixed capital (Fixed capital stock), which is calculated as follows:

Book value of tangible fixed assets (includes land and buildings, furniture and accessories, installations and equipment). In addition, the company's cash flow sensitivity of investment capital variable ($WKS_{i,t}$) is calculated through the following:

$$WKS_{i,t} = \sum_{t=1}^{n} \left(\frac{\left(\frac{cashflow}{k}\right)_{it}}{\sum_{t=1}^{n}\left(\frac{cashflow}{k}\right)_{it}} * \left(\frac{IWK}{K}\right)_{it} \right) - \frac{1}{n}\sum_{t=1}^{n}\left(\frac{IWK}{K}\right)_{it}$$

Where:

IWK_{it} = Investment in working capital is measured as follows:

The company's assets that is equal to the sum of a company's inventory, accounts receivable, companies, cash and other current assets. It should be noted that other similar cases before.

Control variables

Control variables in this study are:

Cash flow ($CF_{i,t}$): Extraordinary items are deducted from income before depreciation plus tangible and intangible fixed assets.

Sales growth rate ($SGR_{i,t}$) is the rate of sales in the current year minus the rate of sales in the previous year divided by the rate of sales in the prior year.

Financial leverage ratio ($LEV_{i,t}$): the company's debt divided by the book value of the assets acquired.

The company's debt ratio ($D_{i,t}$): the division of non-current liabilities to current liabilities is obtained.

Inventory to sales ratio ($Inven/Sa_{i,t}$): the ratio of inventories to sales division of the company that the company achieved sales.

Accounts receivable to sales ratio ($DSO_{i,t}$) is computed as follows:

$$DSO_{i,t} = \left(\frac{Accounts\ Receivable}{Totall\ sale} \right) \times 365$$

Payables compared to the cost of goods sold ($DPO_{i,t}$) is computed as follows:

$$DPO_{i,t} = \left(\frac{Accounts\ payable}{Cost\ of\ \ goods\ sold} \right) \times 365$$

Company inventory turnover ratio ($ITO_{i,t}$) of the inventory is calculated by dividing the cost of goods sold.

Cash conversion cycle ratio ($CCC_{i,t}$) is computed as follows:

$$CCC_{i,t} = \left(\frac{Invetory - Accounts\ payable}{Cost\ of\ \ goods\ sold} + \frac{Accounts\ Receivable}{sale} \right) \times 365$$

Proportion of the cost of goods sold ($ITO_{i,t}$) is computed as follows:

$$DSO_{i,t} = \left(\frac{Invetory}{Cost\ of\ \ goods\ sold} \right) \times 365$$

Regression model used

To test this hypothesis, first and second respectively in the regression models were used: First model:

$$FKS_{i,t} = \beta_0 + \beta_1 DIV_{i,t} * FCDUMMY_{i,t} + \beta_4 CF_{i,t} + \beta_5 SGR_{i,t} + \beta_6 LEV_{i,t} + \beta_7 D_{i,t} + \beta_8 Inven/Sa_{i,t} + \beta_9 DSO_{i,t} + \beta_{10} DPO_{i,t} + \beta_{11} ITO_{i,t} + \beta_{12} CCC_{i,t} + \beta_{13} DSI_{i,t} + \varepsilon_{i,t}$$

Second model:

$$WKS_{i,t} = \beta_0 + \beta_1 DIV_{i,t} * FCDUMMY_{i,t} + \beta_4 CF_{i,t} + \beta_5 SGR_{i,t} + \beta_6 LEV_{i,t} + \beta_7 D_{i,t} + \beta_8 Inven/Sa_{i,t} + \beta_9 DSO_{i,t} + \beta_{10} DPO_{i,t} + \beta_{11} ITO_{i,t} + \beta_{12} CCC_{i,t} + \beta_{13} DSI_{i,t} + \varepsilon_{i,t}$$

RESULTS

Table 1 Descriptive statistics of the variables in the study shows. Descriptive statistics of variables using data from research firms listed in Tehran Stock Exchange Market during the test period (between 2006-2011) were measured, including mean, median, standard deviation, minimum and maximum provided.

DOI : 10.36347/sjebm.2015.v02i04.007

Table 1 Descriptive statistics of variables

Description of Variables		Average	Middle	Standard deviation	Minimum	Maximum
FKS	The ratio of investment in fixed assets	0.3229	0.3190	0.0600	0.2200	0.4288
WKS	The ratio of investment in working capital	0.3263	0.3266	0.0602	0.2201	0.4287
DIV	Dividend ratio	0.3267	0.3276	0.0590	0.2202	0.4289
FCDUMMY	Financial constraints	0.3443	0.0000	0.4754	0.0000	1.0000
CF	Cash Flows	0.2758	0.2752	0.0321	0.2200	0.3289
SGR	Sales growth	0.1047	0.1180	0.1907	-0.2198	0.4270
LEV	Financial Leverage	0.6906	0.6875	0.1894	0.1803	0.9378
D	The ratio of short-term debt to long-term	0.4751	0.4763	0.0316	0.4198	0.5287
Inven/Sa	The ratio of inventories to sales	1.3385	1.3341	0.1237	1.1199	1.5499
DSO	Accounts receivable to sales ratio	0.5375	0.5377	0.0677	0.4198	0.6506
DPO	Payable in relation to the overall cost of goods carpet	1.4672	1.4711	0.1454	1.2199	1.7281
ITO	Materials inventory of goods to cost of goods used carpet	1.1282	1.1313	0.0616	1.0203	1.2286
CCC	Cash conversion cycle	179.6273	179.5000	30.2777	128.0000	234.0000
DSI	Inventory turnover ratio	3.1304	3.1406	0.6444	2.0205	4.2222

According to the IPS test results listed in Table 2, the null hypothesis is rejected for all variables (level of significance is less than 0.05). The outcome variables were stable during the study period. In other words, IPS test results show that, the mean and the variance-covariance over time and between different years have been fixed and use these variables in the regression model creates is not false.

Table 2 Results of testing the reliability of variables

Variable		W-stat	p-value
FKS	The ratio of investment in fixed assets	112/567	0/000
WKS	The ratio of investment in working capital	33/832	0/009
DIV	Dividend ratio	59/543	0/0001
FCDUMMY	financial constraints	21/003	0/0015
CF	Cash Flows	21/809	0/000
SGR	Sales growth	43/128	0/002
LEV	Financial Leverage	77/111	0/008
D	The ratio of short-term debt to long-term	21/109	0/027
Inven/Sa	The ratio of inventories to sales	32/121	0/036
DSO	Accounts receivable to sales ratio	10/854	0/042
DPO	Payable in relation to the overall cost of goods carpet	18/131	0/012
ITO	Materials and finished goods inventories of goods used carpet	8/534	0/026
CCC	Cash conversion cycle	6/128	0/043
DSI	Inventory turnover ratio	14/732	0/017

The results of the Chow and Hausman tests for regression model in this study are shown in Table 3 and 4. The first and second models according to the Chow test results show significant assumption (integrated model) cannot be verified. In other words, individual or group work there and to the panel data approach (panel) to estimate the regression model applied research.

Hausman test results listed in Table 4 also shows that the Hausman test statistic for the model to be achieved 281.012 which is significant at a confidence level of 99%, which means that the hypothesis is confirmed; since this is the first study of Ammon Hausman regression models using panel data with fixed effects would be appropriate. The results of the Hausman test for the second model represent the use of panel data model with random effects models for parameter estimation.

After testing the assumptions of regression and ensure their establishment, the results of the regression model used is presented. F-statistic for the regression model associated with the first hypothesis stated in Table 5 (14.765) indicates that the model is significant.As shown below in Table 5, the coefficient of determination and adjusted coefficient of determination are the percentage 52.8 and 48.1 percent. Thus, we can conclude that in the regression equation, about 48.1 of the variable changes in fixed asset investment policy review by the independent variables and the control are explained. The Othello positive (negative) coefficient indicates a direct impact on the column (reverse) of each of the variables on the proportion of investment in fixed assets of companies.

Table 5, the level of significance (sig) changing financial constraints caused by the ratio of dividends (DIV * FCDUMMY) (0.046) was significantly lower than the levels considered in this study (5%) is therefore, the hypothesis H0 is rejected at the 95% confidence level.

Table 3 the results of the Chow test

Regression model	F statistics	Possibility	Results	
First	284/001**	0/000	Reject the null hypothesis	Panel model
Second	243/872	0/000	Reject the null hypothesis	Panel model

** Significant at 99% level

Table 4 The results of the Hausman test

Regression model	χ^2 Statics	Possibility	Results	
First	281/012**	0/000	Reject the null hypothesis	Panel with fixed effects
Second	2/982	0/378	Accept the null hypothesis	Panels with random effects

H1 hypothesis that financial constraints due to the significant impact of dividend policy of investment in fixed assets has been approved. The second hypothesis after hypothesis testing, regression and ensure their establishment, the results of the fit of the regression equation is presented in Table 6. Value and F (10.342) also suggests that the regression model is significant. As shown below in Table 4.11, the coefficient of determination and adjusted coefficient of determination are the percentage 67.8 and 58.9 percent.

Thus, we can conclude that in the regression equation, about 58.9 of the investment policy changes in working capital companies surveyed by the independent variables and the control are explained. The Othello positive (negative) coefficient indicates a direct impact on the column (reverse); each variable is the policy of investment in working capital.

Table 5 The results of the fit of the regression equation first hypothesis

Variable name		Variable coefficients	Coefficient	T-statistics	Significant level
Constant		β0	1/522	2/873	0/004
DIV*FCDUMMY	Financial constraints caused by the ratio of dividends	β_1	-0/968	-2/231	0/046
CF	Cash Flows	β_2	1/156	3/111	0/028
SGR	Sales growth	β_3	0/843	2/909	0/031
LEV	Financial Leverage	β_4	-0/743	-2/921	0/016
D	The ratio of short-term debt to long-term	β_5	-0/911	-2/129	0/041
Inven/Sa	The ratio of inventories to sales	β_6	121/1	3/273	0/0027
DSO	Accounts receivable to sales ratio	B_7	-0/728	-3/121	0/046
DPO	Payable in relation to the overall cost of goods carpet	β_8	-1/012	-2/965	0/028
ITO	Materials and goods inventories of finished goods, carpets gone	β_9	0/929	2/873	0/031
CCC	Cash conversion cycle	β_{10}	-0/593	-2/532	0/016
DSI	Inventory turnover ratio	β_{11}	-0/908	129/2-	0/041
The coefficient of determination		0/528	F statistics		14/765
Adjusted coefficient of determination		0/481	Significant (P-Value)		0/000
			Watson statistic		2/018

Table 6 Results of the fit of the regression equation of the second hypothesis

Variable name		Variable coefficients	Coefficient	T-statistics	Significant level
Constant		β0	-0/651	-0/223	0/823
DIV*FCDUMMY	Financial constraints caused by the ratio of dividends	B1	-1/709	-2/987	0/032
CF	Cash Flows	B2	0/922	3/711	0/001
SGR	Sales growth	B3	1/034	3/073	0/013
LEV	Financial Leverage	B4	-1/081	-3/838	0/0017
D	The ratio of short-term debt to long-term	B5	-0/631	-2/388	0/041
Inven/Sa	The ratio of inventories to sales	B6	0/753	2/141	0/048
DSO	Accounts receivable to sales ratio	B7	-0/639	-2/678	0/031
DPO	Payable in relation to the overall cost of goods carpet	B8	-0/718	-2/432	0/044
ITO	Materials and goods inventories of finished goods, carpets gone	B9	1/008	2/643	0/036
CCC	Cash conversion cycle	B10	-0/803	-3/432	0/011
DSI	Inventory turnover ratio	B11	-0/941	-3/956	0/0093
The coefficient of determination		0/678	F statistics		10/342
Adjusted coefficient of determination		0/589	Significant (P-Value)		0/014
			Watson statistic camera		2/134

According to Table 6, the level of significance (sig) changing financial constraints caused by the ratio of dividends (DIV * FCDUMMY) (0.032) was significantly lower than the levels considered in this study (5%) is therefore, the hypothesis H0 is rejected at the 95% confidence level and H1 hypothesis that financial constraints due to the dividend policy of investment in working capital has a significant impact, is confirmed.

CONCLUSION

The results of this study indicated that financial constraints on theories of dividend policy of investment in fixed assets has a significant impact this finding is consistent with results from studies Fazzari et al [3], Arabsalehi and Ashrafi [3] , Kashanipour et al [11]. Companies are making profits and the dividend re-investment in operating assets or for the purchase of securities to be used, or be used to pay debt and may be distributed among the shareholders. In deciding on the distribution of profits to shareholders, financial managers must always keep in mind the purpose of the company which is to maximize shareholders' wealth. The financial constraints caused by the ratio of dividends, capital available for investment (whether fixed or circulating) will decrease the results of this study can be explained in this way. Second hypothesis test results also showed that financial constraints due to the dividend policy of investment in working capital was a significant effect ($p < 0.05$) and this finding is consistent with results from studies Fazzari et al [3] , Arab Salehi and Ashrafi [3], Kashanipour et al[11].

Research proposals

1. The Tehran Stock Exchange Market, which is inversely related to the financial constraints arising from dividends policies and investments in fixed assets and working capital companies note.
2. The exchange offer will be provided with indicators related to financial constraints and lack of liquidity, increased transparency in decision making.
3. Based on the findings of this study, capital market participants, decision-makers, financial analysts and potential investors and the actual exchange will be offered the choice of the optimal portfolio with minimum risk and maximum efficiency have to be more careful in this regard, the results of this study will be helpful.

Suggestions for future research

During the study, more recent broader dimensions of the issue appear to be a starting point for further research. Thus, according to the results of the study and its limitations, the following suggestions for future research are suggested:

1. It is recommended that the impact of corporate governance mechanisms on policy study done by Investment Companies.
2. It is recommended that research be conducted to study the industry and the results were compared with the results of the present study.
3. It is suggested that a comparative study the samples were separated according to size of listed companies the Tehran Stock Exchange Market in both large and small, must be done.
4. It is recommended that a separate comparison of the samples based on the life cycle (growth, maturity and decline) Listed companies in Tehran Stock Exchange Market done.

REFERENCES

1. Karimi F, Sadeghi M; Internal and external financial constraintsand its relationship with Investment in capital assets Companies listed in Tehran Stock Exchange, Financial Accounting, 2009; 1(4):43-58.
2. Arabsalehi M, Ashrafi M; The Role of Cash Reserves in Determining Investment-Cash Flow Sensitivity of Listed Companies in TSE. Financial Accounting Research, 2011; 3(3):75-94.
3. Fazzari S, Hubbard RG, Petersen B; Financing constraints and corporate investment. Brooking Papers on Economic Activity, 1988; 1:141-95.
4. Kaplan SN, Zingales L; Do financing constraints explain why investment is correlated with cash flow? Quarterly Journal of Economics, 1997;112:169-215.
5. Almeida H, Campello M; Financial constraints, assets tangibility, and corporate investment. Review of Financial Studies, 2007; 20(5):1429-1460.
6. Abubakr S, Esposito F; Bank concentration and financial constraints on firm investment in UK. Studies in Economics and Finance, 2012; 29(1):11-25.
7. Marhfor A, M'Zali B, Cosset JC; Firm's financing constraints and investment- cash flow sensitivity: Evidence from country legal institutions. ACRN Journal of Finance and Risk Perspectives, 2012; 1(1):50-66.
8. Whited TM, Wu G; "Financial Constraints Risk". Review of Financial Studies, 2006; 19 (2):531-559.
9. Wang T;. Financial Constraints and the Risk-Return Relation." Economics Bulletin, 2007; 7(12):1-12.
10. Dongmei L; "Financial Constraints, R&D Investment, and Stock Returns: Theory and Evidence".Working Paper. The Wharton School, University of Pennsylvania, 2006.
11. Kashanipour M, Rasekhi S, TagiNejad B, Resaiyan A; Financial constraints and investments sensitivity to cash flow in Tehran Stock Exchange. Advances in Accounting, 2011; 5(2):51-74.