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Effect of working capital and financial decision making management on profitability of listed companies in Tehran's securities exchange

Masoomeh SHAHNAZI[1*], Keyhan AZADI[2]

[1]*Accounting group, Rasht Branch, Islamic Azad University, Rasht, Iran, senior student*
[2]*Faculty member of university, Accounting group, Rasht Branch, Islamic Azad University, Rasht, Iran*

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Abstract. Working capital management is one important part of financial management, because it directly affects corporate profitability and its goal is to establish a critical equivalence between maintaining liquidity for supporting daily operations and maximization of short- term investment opportunities. So, managers should consider decisions related to finance and effects that these factors have on capital structure up to can acquire enough earnings for securing appropriate return for investors and trusters. Present research is searching for studying effect of working capital and financial decision making management on profitability of listed companies in Tehran's securities exchange. In this direction, all listed companies in bourse during time period 2009-2013, were investigated that after systematic deletion of some corporate, regarding contracted defaults, numbers of 141 companies were studied as a sample. Research findings show that there is a meaningful relation between decision making about corporate finance and working capital composition .And also combination of working capital and decision making for corporate finance, each independently has effect on corporate profitability, but combinational reaction of working capital and corporate debt ratio does not have meaningful relation on corporate profitability.

Keywords: Working capital management, financial decision-making, profitability, Financing

1. INTRODUCTION

Working capital management is one important part of financial management, because it directly affects corporate profitability and its goal is to establish a critical equivalence between maintaining liquidity for supporting daily operations and maximization of short- term investment opportunities. Thus for many corporates, working capital management is one of the important subjects of financial management and managers can increase their corporate values through maintaining optimal level of working capital. So, in this direction, duties of corporate' financial management are separable to three groups of investment decisions, finance and division of earnings. Finance decisions that ultimately determine corporate' financial structure, possess remarkable importance, because such decisions lead to corporate access to capital optimal structure. Management financial decisions are important and vital for improving corporate financial position, but unreasonable decisions can ultimately lead in corporate bankruptcy, so managers are forced to use different factors, like economic factors and corporate characteristics during decision making about optimal combination of capital structure and should consider decisions related to finance and effects that these factors have on capital structure.

2. PROBLEM DESCRIPTION

Today, capital management is considered among attractive and debatable subjects in accounting researches, because investors as among important factors of decision making have special consideration to figure of acquired earnings. Also profitability and financial decisions are

* Corresponding author. *Email address: (Shahnazi1393@gmail.com)*

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important subjects that management of each commercial unit should consider study and thinking about them as the most important duty of himself. Evaluation and estimation of corporate' financial operation ever have been considered by beneficiaries. Profitability criterion and earnings management are among considered criterions of managers and financial analyzers. If there are not any earnings, there is no reason for accomplishing that activity. There are different perspectives in relation to optimal goal of corporate: Some say optimal goal of corporate is profitability.

One of the methods that sometimes are used for attiring news transmission of optimal position of corporate is investment proper management and optimal use of investments in inside and outside of corporate. Thereupon we want answer to this question that what is the effect of capital management and financial decision making on profitability of listed companies in Tehran's' securities exchange. Thus in this research, capital management and financial decision making has been considered as an independent variable; corporate profitability as dependent variable; and corporate size as control variable.

3. SURVEY HISTORY

- Sharma & Kuma in 2011, studied effect of working capital management profitability of Indian corporate. Research results imply positive relation between receipt periods of receivables and corporate profitability, also negative relation between turnover period of inventories and payment period of debts with profitability.
- Smith & Anderson studied relation between capital structure and competitive power of New Zealand corporate during 1993 till 2006.They dealt with this subject in their research that whether use of long- term debt influences capital structure and competitive power? Research results showed that use of long-term debts in capital structure increases corporate sale. And also with sale growth, corporate apply daring strategies and use more leverage for competition continuation.
- Reza Zadeh in 2009 has studied the effect of working capital management on Iranian corporate profitability. Results obtained from research show management can give value to corporate through decreasing inventories amount and number of days for receivables receipt. Moreover, also shortening cash conversion cycle cause improvement of corporate profitability.
- Samadi in 2011, in his research dealt with studying growth and development and finance tools of listed companies in Tehrans' securities exchange that in this research, evaluation of growth and development has been accomplished with three criterions of dividends, share price and earnings divisions. Results imply existence of meaningful relation between finance tools and their dividends, there is no relation between finance tools and earnings division and share price criterions, also there is a meaningful relation between finance tools with growth and development of corporate.

4. RESEARCH HYPOTHESES

1. There is a meaningful relation between decisions about corporate finance and working capital composition.
2. There is a meaningful relation between working capital composition and corporate profitability.
3. Decision for corporate finance is effective on its profitability.
4. Combinational interaction of working capital and corporate debt ratio has meaningful effect on its profitability.

5. RESEARCH METHOD

Research method is a collection of rules, tools and valid (reliable) and systematic ways for realities study, unknowns discovery, and access to problems solution ,kind of present research from goal aspect is applied researches. Accomplishing this research is in deductive-inductive reasoning framework, thus theoretical basis and research background via library studies, articles and Sites are in deductive format and information collection for confirming or rejecting hypotheses is in inductive format. Type of the present research method is descriptive and correlation.

Survey society and research statistical sample

Statistical society of this research is all listed companies in Tehran's' securities exchange organization that have necessary information for computing research variables during studied period, and also each of these companies form a special industry. In this direction, all listed companies in Bourse were studied during time period2009-2014, that after systematic deletion of some companies regarding contracted defaults, numbers of 141 companies were studied as sample.

Definition of research variable and way of their measurement

First step for research hypothesis test is presenting appropriate and accurate definition of variable that provide possibility of measuring considered features in research. Key variables of this research for hypotheses test includes working capital ratio (WCR), debt ratio (DR), profitability ratio (π)and SIZE, corporate size that in one of the models, has been considered as control variable.Therefore,research independent variables are working capital management and financial decision making , dependent variable is corporate profitability , and control variable is corporate size .For research proposed relations about corporate working capital ratio , debt and profitability ratio, three models have been specified . That first model relates to hypothesis 1 test, and third relates to hypothesis 4.

$$WCR_{it} = \beta_0 + \beta_1 DR_{it} + \varepsilon_{it} \qquad ......(1)$$

$$\pi_{it} = \beta_0 + \beta_1 WCR_{it} + \beta_2 DR_{it} + \beta_3 SIZE_{it} + \varepsilon_{it} \qquad ......(2)$$

$$\pi_{it} = \beta_0 + \beta_1 WCR_{it} + \beta_2 DR_{it} + \beta_3 (WCR*DR)_{it} + \varepsilon_{it} \qquad ......(3)$$

WCR_{it} indicates working capital ratio, DR_{it} is debt ratio; and $(WCR*DR)_{it}$ is a combination of these ratios.π_{it} indicates corporate profitability , and $SIZE_{it}$ is corporate size i in period t , ε_i is error term , and $\beta_0,\beta_1,\beta_2,\beta_3$ are variables coefficients and intersection.

Working Capital

Working capital of a company is a sum total that is invested in current property. Also according to Schilling, generally working capital word relates to organization investment in current properties, current debts, cash, short- term securities, receivable accounts and inventory, and also working capital management consists in volume determination and resource combination and working capital consumptions in a way that shareholders wealth is increased .

Working capital is measured with different measures and components that here is mentioned under title of working capital indexes .Cash conversion cycle (CCC) is considered a basic component of working capital management that includes receivables receipt time period , time period of inventory maintenance , and time period of payable accounts payment. Also Johnson and Soenen in studying successful corporate indexes have considered CCC (cash conversion cycle) as an operation criterion.

Many factors like cash management, risk control tools, debt ratio, operational cash flow and ete influence working capital that if successfully is identified and used by organizations, could be useful in promoting working capital operation .Also Polak and Kocurek have expressed that cash management goals are liquidity increase, cash control , capital value increase and capital cost decrease.

In this study, this ratio by using acid-test (Quick ratio) as index has been measured. That it has been computed in form of current properties minus inventory, divided by current debts (CA-S/CL) and generally assumption is that necessary parameter for evaluating productivity of this ratio is 01:01.

Financial decision making

Management financial decisions for improving corporate financial position are important and vital, but unreasonable decisions can ultimately lead to corporate bankruptcy .Thus managers are forced to use different factors, like economic factors and corporate features, and deciding about optimal composition of capital structure, and should consider decisions related to finance and effects that these factors have on capital structure.

Mainly finance is accomplished through share publication, debenture sale, loan and credit. Accomplished researches about methods of financing big profit- making unit in an industrial countries show that at first degree, base resource finance is retained earnings, at second degree and after retained earnings; borrowing is primary resource for necessary cash of profit-making units. Although ordinary shares and preferred stock as compared with two first resources, are financing less cash, but these two resources from aspect of profit-making unit are memorable in a given period.

For reaching to goal of this study, DR has been measured by using total debt –equity ratio (long-term and short-term debts), that its logic is on basis of presented logic in hierarchical default , that is to say that corporate capital does not has exclusive composition.

Profitability

Earnings are among the best indexes for measuring corporate valuation and operation. Earnings consists in margin of cost item's current cost minus income resulted from current sales. Profitability implies corporate ability in acquiring income and earnings .Income or net earnings is only measure for profitability measurement .Earnings is defined from different aspects, and on this basis, it gets special concepts. This matter caused that accounting subjects present different approaches for earnings identification.

Data analysis

This research by using collected data has dealt with studying and analyzing data and estimating introduced model by using Eviews software, and with estimating considered equation, relation between variables has been studied. In this research, indexes such as mean, median, standard deviation, and maximum, minimum have been used. In present research, before hypotheses test and analysis, variables durability of studies research is measured by unit root test.Jark-Bera test has been used for studying normality; Durbin-Watson has been used for discovering data auto-correlation, collinear test has been used for discovering correlation between independent variable and for hypotheses meaningfulness, Fisher test has been used. After that, research results are presented, that by using them, we can access to considered results, and we can test accuracy and falsity of our hypotheses.

Descriptive analysis of research variables

Descriptive statistics is that part of statistics that deals with collection, summarization, information display and processing without attempting any kind of conclusion besides that statistical information.

Table 1. Variables descriptive statistics.

Index / Variable	Mean	Median	Most	Least	Standard deviation	Skewness	extension
Working capital ratio	0/927	0/791	30/77	0/084	1/3	17/52	387/58
Financial decision making	0/651	0/658	1/84	0/017	0/250	0/875	6/52
Profitability ratio	4/17	0/648	709/7	0/0096	37/82	15/31	249/85
Corporate size	13/3	13/26	18/49	7/31	1/52	-0/06	4/98

Results obtained from hypotheses

1- First hypothesis: There is a meaningful relation between decision about corporate finance and working capital composition.

H0: There is no meaningful relation about corporate finance and working capital composition.

H1: There is a meaningful relation between decision about corporate finance and working capital composition.

Limer test results for first hypothesis show that its meaningful level is less than 5 percent, thus combinational method is used for estimating model of this hypothesis. Also as a result of meaningfulness of Hasmen test, constant effect is used for estimation. Therefore, in this hypothesis, Panel Least Squares method is used for estimating model coefficients. Acquired rate of Durbin Watson for this hypothesis is placed between 1/5 till 2/5, so error independence has been accepted. In other words, variable error is independent from each other. Also acquired determination coefficient was equal to 0/785 percent that this amount shows that independent variables have ability to predict dependent variable; in other words, model has been specified by independent variables. At one hand, meaningful level of Fisher test (F-test) is less than 5 percent. Therefore, a linear relation has been formed between variables in this hypothesis, that this means that model has become meaningful. Also it is seen in this hypothesis that meaningful level of t-test for financial decision variable is less than 5 percent (0/001), so hypothesis H0 is rejected and hypothesis H1 is confirmed. Therefore, we can conclude that there is a meaningful relation between decisions about corporate finance and working capital composition.

Table 2. Results of hypothesis test.

$WCR_{it}=a+\beta_1 DR_{it}+\beta_2 SIZE_{it}+\varepsilon$				
Description	Coefficient	Std.Error	t-Statistic	Prob.
Financil decision	-1/47	0/0918	-16/07	0/001
Corporate size	0/927	0/238	3/88	0/001
Constant amount	-140/09	79/14	-1/77	0/077
Adjusted R-squared	0/785			
F-statistic	14/45			
Prob(F-statistic)	0/001			
D.W	2/11			

Operational equation: Working capital ratio = -1/47(financial decision) +0/927(corporate size)

2- Second hypothesis: There is an important meaningful relation between working capital composition and profitability.

H0: There is no important meaningful relation between working capital and corporate profitability.

H1: There is an important meaningful relation between working capital composition and corporate profitability.

Limer test results for second hypothesis show that its meaningful level is less than 5 percent, thus combinational method is used for estimating model of this hypothesis .Also as a result of non meaningfulness of Hasman test, constant effect is used for estimation. Therefore, in this hypothesis, cross-section random effects method is used for estimating model coefficients. Acquired rate of Durbin Watson for this hypothesis is placed between 1/5 till 2/5, so error independence has been accepted. In other words, variables error is dependent from each other. Also acquired determination coefficient was equal to 0/125 percent that these amounts show that independent variables have ability to predict dependent variable; in other words, model has been specified by independent variables. At one hand, meaningful level of Fisher test (F-test) is less than 5 percent. Therefore, a linear relation has been formed between variables in this hypothesis, that this means that model has became meaningful .Also it is seen in this hypothesis that meaningful level of t-test for working capital composition variable is less than 5 percent(0/001), so hypothesis H0 is rejected and hypothesis H1 is confirmed. Therefore, we can conclude that there is an important meaningful relation between working capital composition and corporate profitability.

Table 3. Results of hypothesis test.

$\pi_{it}=a+\beta_1 WCR_{it}+\beta_2 SIZE_{it}+\varepsilon$				
Description	Coefficient	Std.Error	t-Statistic	Prob.
Working capital composition	0/714	0/072	9/84	0/001
Corporate size	0/948	0/335	2/82	0/0048
Constant amount	-279/46	109/49	-2/55	0/010
Adjusted R-squared	0/125			
F-statistic	50/13			
Prob(F-statistic)	0/001			
D.W	1/5			

Operational equation: Profitability= -279/46+0/714(working capital composition) + 0/948(corporate size)

3-Third hypothesis: Decision for corporate finance is not effective (has no effect) on its profitability

H0: Decision for corporate finance is not effective on its profitability.

H1: Decision for corporate finance is effective on its profitability.

Limer test results for third hypothesis show that its meaningful level is more than 5 percent, thus integrative method is used for estimating model of this hypothesis. Therefore, in this hypothesis, Least Squares method is used for estimating model coefficients. Acquired rate of Durbin Watson for this hypothesis is placed between 1/5 till 2/5, so error independence has been accepted. In other words, variables error is independent from each other .Also acquired determination coefficient was equal to 0/092 percent that although this amount is low, but shows that independent variables have ability to predict dependent variables, in other words, model has been specified by dependent variables .At one hand, meaningful level of Fisher test (F-test) is less than 5 percent. Therefore, a linear relation has been formed between variables in this hypothesis, that this means that model has become meaningful. Also it is seen in this hypothesis that meaningful level of t-test for financial decision variable is less than 5 percent (0/001), so hypothesis H0 is rejected and hypothesis H1 is confirmed. Therefore, we can conclude that decision for corporate finance is effective on its profitability.

Table 4. Results of hypothesis test.

$\pi_{it}=a+\beta_1 DR9_{it}+\beta_2 SIZE_{it}+\varepsilon$				
Description	Coefficient	Std.Error	t-Statistic	Prob.
Financial decision	-1/32	0/156	-8/41	0/001
Corporate size	0/335	0/267	1/25	0/209
Constant amount	0/541	0/873	0/620	0/535
Adjusted R-squared	0/092			
F-statistic	35/57			
Prob(F-statistic)	0/001			
D.W	1/76			

Operational equation: profitability = -1/32(financial decision)

4- Fourth hypothesis: Combinational interaction of corporate debt and working capital ratio has meaningful effect on its profitability.

H0: Combinational interaction of corporate debt and working capital ratio does not have meaningful effect on its profitability.

H1: Combinational interaction of corporate debt and working capital ratio has meaningful effect on its profitability.

Limer test results for fourth hypothesis show that its meaningful level is less than 5 percent, thus combinational method is used for estimating model of this hypothesis .Also as a result of non meaningfulness of Hasmen test, constant effect is used for estimation. Therefore, in this hypothesis, cross-section random effects method is used for estimating model coefficients. Acquired rate of Durbin Watson for this hypothesis is placed between 1/5 till 2/5, so error independence has been accepted. In other words, variables error is independent from each other. Also acquired determination coefficient was equal to 0/139 percent, that this amount shows that independent variables have ability to predict dependent variable, in other words, model has been specified by independent variables. At one hand, meaningful level of Fisher test (F-test) is less than 5 percent. Therefore, a linear relation has been formed between variables in this hypothesis, that this means model has become meaningful .Also in is seen in this hypothesis that meaningful level of t-test for working capital composition variable is less than 5 percent (0/001), but it is more than 5 percent for financial decision and combination of two variables . So hypothesis H0 is confirmed and hypothesis H1 is rejected. Therefore, we can conclude that combinational interaction of corporate debt and working capital ratio does not has meaningful relation on its profitability.

Table 5. Results of hypotheses test

$\pi_{it}=a+\beta_1 WCR_{it}+DR_{it}+WCR*DR_{it}+\beta_2 SIZE_{it}+\varepsilon$				
Description	Coefficient	Std.Error	t-Statistic	Prob.
Working capital composition	0/968	0/134	7/2	0/001
Financial decision maker	0/475	0/249	1/9	0/057
Working capital composition*financial decision maker	-0/333	0/264	-1/26	0/207
Corporate size	0/813	0/312	2/6	0/0094
Constant amount	-267/13	102/8	-2/6	0/0095
Adjusted R-squared	0/139			
F-statistic	28/45			
Prob(F-statistic)	0/001			
D.W	1/47			

Operational equation: Profitability= -267/13+0/968(working capital composition) +0/813(corporate size)

6. CONCLUSION

Working capital is among important subjects in provision chain management from financial glance, and if it is managed well, big interests are gotten to organizations. Many factors like cash management, risk control tools, debt ratio, operational cash flow and ete influence organizations ' working capital , that if properly are identified and used by organizations , could be useful in promoting working capital operation of an organization. Thus, working capital management and adopted policies in this regard and also decisions related to corporate required finance have abundant importance. Research findings show that there is a meaningful relation about corporate finance and working capital composition. And also working capital composition and decision about corporate finance, each independently are effective on corporate profitability, but combinational interaction of corporate debt and working capital ratio does not has meaningful relation on corporate profitability. Also Reza Zedeh in 2011, Eizadi Nia and Taki in 2011, Sharma and Kumar in 2011 have studied effect of working capital management on profitability of Iranian companies. Results obtained from their research show that management cay make value for corporate through decreasing inventories rate and number of days of receivables receipt period, and also high investment in inventory and receivable accounts lead to profitability decrease. Given that adopted working capital policies in an organization can be effective on an organizations' financial operation and leads to organizations' profitability increase, and provides an optimal liquidity position for it. Therefore, it is suggested that for identifying that investors, financial decisions can be used. Also for identifying profitability rate of investors companies, working capital composition can be used, and since earnings is considered among the best indexes for measuring operation and evaluation and motivation for accomplishing the most research efforts of accounting, therefore, it is suggested that investors inspect corporate financial decisions for realizing this important.

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