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INVESTGATION RELATIONSHIP BETWEEN CASH CONVERSION CYCLE (CC) AND COMPANY VALUE

*Hosna Ghahremani Saghir[1]
[1] Department of Accounting, Rasht Branch, Islamic Azad University, Rasht, Iran
*Author for Correspondence

ABSTRACT
Cash Conversion Cycle (CCC) means time period that cash has exited from company until be received again.CCC is considered as one of the most important criterions for evaluating company's liquidity ability against traditional criterions. Also CCC is powerful evaluation criterion for investigating this issue that how company manages its floating capital. Consequently, CCC indirectly relate to company value. And in this research, we try to deal with investigating reactions of investors and other users of financial statements to CCC. And for this purpose, relationship between CCC and company value has been tested empirically through regression models during 5 years (2006-2010) in Iran market. And test results indicate that there is a reverse relationship between CCC and company value, but standarized coefficients of models indicate a weak relationship. Also in continuation of research, relationship between CCC elements (receivables receipt period, turnover period of goods stock and turnover period of payable accounts) with company value has been investigated that also results of this investigation suggest a reverse and weak relation.

Keywords: Cash Conversion Cycle, Company Value, Working Capital

INTRODUCTION
Main goal of financial statements and giving financial information is to help desired decision- making process by investors and consequently, optimal allocation of resources towards successful industries. Whereas the most important function of capital market that is the same fair distribution of resources is accomplished by financial statements analysis and information presented to market by investors and industries. Among these information, profitability and liquidity are two considered subjects by companies' analysts and financial managers. And investors use profit as a criterion for evaluating company's function and use liquidity as criterion for company ability for paying debts, stock dividend distribution and company financial flexibility. Analyzers for these evaluations take full advantage of financial ratios and liquidity ratios are one of the traditional and profitable criterions for evaluating company liquidity. That in recent years and during accomplished researches; it was observed that liquidity ratios cannot evaluate company liquidity desirably, because they are stable. And a criterion as "Cash Conversion Cycle" for desired evaluation has presented by researches and also relation of this criterion with companies' profitability, return and risk has been confirmed. Consequently, it is assumed that also CCC is effective for company value that in this research in Iran capital market, this hypothesis is investigated empirically.

THEORETICAL AND EXPLANATION:
Profitability and liquidity are two considered subjects by companies 'analysts and financial managers. When companies accomplish their operational activities, they should keep balance between profitability and liquidity. Liquidity is a prerequisite that ensure that company is able to meet necessities and actually announce continual course in basis of continuation of company work. That is if a company is not profitable, it is sick and if it has not liquidity, it is amort.
Cash is considered as one of the most important current assets for companies' desired function and activity continuation and durability of an industrial unit mostly depend on cash turnover. In auditing organization standards board, this issue about importance of cash has expressed in this way:

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"Cash are vital resources in profit- making unit and making balance between available cash and cash needs is the most important economic health factor of each profit- making unit and input- output current of cash in each profit- making unit reflect management decision about operational short- term and long-term programs and investment and finance plans". Importance of cash has increased such that without knowing its status, management is not able to make effective decision, because making any decision depends on available cash rate and cash that is predicted to be available in future. Also liquidity status is basis of many persons' judgments, such as stockholders, investors and recommenders about status of profit- making unit. Importance of cash has led that management consider it necessity. Not only management on cash is not separated from management system that governs profit-making unit, but also in some aspects is located on row of the most important operations, because managers by using cash status, judge about various issues and decide consciously and choose the most suitable solution among different solutions. So it is necessary that they manage liquid assets (Nikumaram, 2008)

Rate of receivable accounts, goods stock and short- term debts affect available cash. Current and quick ratios are traditional ratios that have been known for measuring company liquidity. Although each of these ratios is constant, according to the opinions of Estikeni (1980) and Lasen (1990), these ratios alone do not seem sufficient for liquidity analysis. And also traditional focus of finance in stock company is on long- term financial decisions, such as investment, budgeting, making long- term debts, profit appropriation and ete .During two past decades, financial institutions and universities for providing financial resources, showed interest in floating capital management and investigating liquidity by cash conversion. CCC is a suitable way for evaluating company cash turnover, because also in the way, time that is spent for floating capital become distinct; in contrast to traditional ways of evaluating liquidity, including current and quick rate that only rely on balance sheet figures, this way is more powerful and complicated. Also CCC consider time dimension of liquidity and evaluate company total ability in liquidity (Uyar, 2009)

As regards many intellectuals, two main parts that can lead to company profitability are capital structure and floating capital management that in many cases, for accessing to profit, these two items have been exposed to changes. Floating capital management as a result of its effect on risk, profitability and finally company vale has especial importance. Floating capital management is accessible through different ways. We can imply to goods stock management, receivable accounts management and payable accounts management as its main parts (Deloof, 2003).In other words, CCC consists of measuring time space of each net input rial that before cash conversion has been acquired in production and sale process via customers. This cycle pays attention to time required for goods stock sale and time required for receiving receivable accounts and time- span length that provide for clearing payable account or speed that company can convert its production to cash. Usually when a company acquires goods stock on credit form, its result is made in payable accounts. Also a company can sell its productions on credit that its result is exerted in receivable accounts. Thus time- span that this company clears payable accounts and receives receivable accounts is called cash conversion cycle (Deloof, 2010)

As it was said, CCC influences company profitability, risk and value.

Investigating between two companies that have similar capital structure, but in first company, CCC is 61 days and in second company, CCC is 40 days , determined that first company has to faces finance cost for the sum of 198 million dollar in each year, consequently weak floating capital management of this company helped its bankruptcy (Shin,Soenen,1998)

Optimal floating capital management has been based on this principle that company receivables as much as possible be accelerated and its payables as much as possible be done slowly. And for this managerial principle, CCC hypothesis was expressed by Richard and Luglain. CCC is a powerful evaluation criterion for investigating this subject that how a company manages its floating capital. CCC indirectly relate to company value. Receipt speed in receivable accounts and delay in payable accounts leads to increase in company value net (Jenry, 1990).

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Cash and current assets are considered as one of the resources of short- term finance provision for company .Also CCC show degree that a company relies on external financial resources provision.

There are two completely different policies in relation to short- term financial resources provision that consist of flexible short- term finance policy and limited finance policy (Vakili Fard, 2009)

Flexible short- term finance policy has the following characteristics:

Keeping large amount of cash, much investments in stocks and accomplishing much credit sales that lead to increase in receivable accounts level.

Limited short-term finance policy is exactly unlike the above- mentioned items.

Keeping small amount of cash, little investments in stocks and preventing credit sales and minimizing receivable accounts.

Keeping current assets with flexibility policy is more expensive than limited finance policy, but causes much sale and decrease in production pause.

Regarding above- mentioned matters, shortening CCC causes improvement in company profitability, because prolongation of CCC requires spending external expensive financial amounts. With decreasing time period of floating capital, company can have more desirable function. CCC become shorter with decreasing time period of stock conversion and quicker sale of goods, or with decreasing time period of collecting receivable accounts via accelerating collection operations, or with increasing time period of payable accounts usance via decelerating payment process to sellers. On the other hand, shortening CCC can damage company function and causes profitability decrease and cash turnover. When company takes action to decrease time period of stock conversion, should completely be awake of stock deficiency, because this matter causes customers absorption from competitors; when time period of collecting receivable accounts is increased, company should be careful that do not miss its good credit customers and also in case of time period increase of payable accounts usance, company should look after of its reputation and esteem.

Regarding effect that CCC can has in companies' success, this article deals with investigating CCC in accepted companies in Tehran exchange and investors' reactions in relation to CCC is investigated. And for this purpose, company value is used for empirically determining CCC relation with company value.

Research empirical background:

Katrin Li Rudi and Laziraids (2000): They dealt with investigating CCC evaluation in food industry of accepted companies in Egypt and tried to investigate its relation with current and quick ratio of company and with elements of CCC variables and relation of CCC with company profitability and size. In this research, regression and correlation coefficient methods have been used. Results show that there is a meaningful positive relation between CCC and liquidity traditional criterions. And a meaningful relation has been observed between CCC and assets return and profit margin, but any relation has not been observed between it with leverage ratios. On the other hand, a negative relation is observed between current and quick ratio with debt ratio and stockholders' equity. And finally there is not any difference between liquidity ratios in big companies with small companies.

In research that along Shin and Soenen research was done by Delaf, he investigated 9681 companies during years 9115 to 9119 in Belgium. In this research, CCC, receivables receipt period, stock turnover period and creditor's settlement period were used as floating capital management criterions and gross profit ratio to total assets was used as company profitability criterion and also sale growth, company size , financial assets ratios to total assets and financial debt ratios to total assets were used as control variable. Results of this research that was done base on Pierson correlation coefficient and regression analysis implied that there is a meaningful reverse relation between CCC and its elements, including receivables receipt period, stock turnover period and creditors' settlement period with companies' profitability.

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Padachi (2004): In this research, Kison Padachi investigated small production companies in five industries , food and beverage products, furniture and equipment, clothing , prefabricated products and papery products during years 9113- 2228. In this research, 53 companies were selected as sample. Research results implied that excessive investment in stocks and receivable accounts decrease companies' profitability. Also with operational efficiency, profitability and liquidity analysis of five mentioned industries, they found that main changes has been occurred in printing industry, propagation and selecting different ways can have important effect on companies' profitability.

Laziraids and Tri Fundais (2006): They investigated stock companies' profitability and floating capital management. In this study, sample of 131 companies that have been accepted in Athens Exchange have been used. Results of time period 2001-2004 show that there is a meaningful relationship between company profitability (that has been calculated by operational profit) and CCC and managers can make profit for company through controlling CCC and its elements.

Rahman and Naser (2007): They investigated relationship between floating capital management and companies' liquidity with companies' profitability in their research. In this research, 94 companies were investigated during years 9111-2004. In this research, CCC, stock turnover period, creditor's settlement period, operational net profit, company size, debt ratio and financial assets ratio were used. Results of this research that was done base on Pierson correlation coefficient and regression analysis implied that there is a meaningful reverse elation between CCC and its elements, including stocks turnover period, creditors' settlement period and receivables receipt period with companies' profitability

Also research results showed that there is meaningful reverse relationship between companies' liquidity and debt with their profitability. Also as well as these results, research implied that there is a direct meaningful relationship between company size and its profitability.

Haitam and Nobani (2007): Also they investigated relationship between floating capital and company operation and CCC .Synthetic data method has been used for this investigation. In this analysis, 5802 accepted companies in New York Stock Exchange have been used as sample. Results imply that companies 'profitability and operational cash current are increasing through shortening CCC and shortening receivable accounts receipt period. Also results show that shortening stock conversion period and increasing payable accounts period decrease profitability and operational cash current.

Ali Yoyar(2009): He deals with investigating relationship between CCC with company size and profitability . Goal of this article is to present a model industry from productive and commercial companies in CCC and in continuation; relationship between CCC with company size and profitability has been investigated. Research statistical method is ANOVAs and Pierson correlation analysis. Research findings show that lowest CCC relate to retail industry. And in continuation, a negative relationship has been observed between CCC with company size and profitability.

Research hypothesizes
According to abov explanations based on importance of CCC as one of the powerful criterions for evaluating floating capital management, in this research, we investigate this issue that whether CCC influence company value or not?
The following hypothesis has been compiled for answering to considered question:
1- There is a relationship between CCC and company value.

METHODOLOGEY
Current research is an empirical research in field of descriptive researches and because it is based on companies financial statements, so it is applied and regarding using research past information, it is post-

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event. And research method is correlation type and regression models have been used for investigating relationship between variables. In current research, member companies of Tehran stock exchange were selected as statistical society and also intended sample is selected from above society. Sampling method of the current research is in form of eliminative sampling and includes all members of statistical society, except companies that their information for calculating variables are not accessible for them, so all members companies of Tehran stock exchange have been selected as statistical society. That finally after investigating financial statements, they only accessed to information of 128 companies and these numbers of companies were investigated as research sample. Conditions for selecting samples were on basis of the following characteristics:

1- They should be active in Tehran stock exchange during 84-89 periods.
2- End of their financial period should conform to XX/12//29.
3- In research period, they should have lack of change in financial period.
4- They should not be a part of financial intermediation, investment, Helding companies, insurance, banking and monetary institutions

Regarding above subjects and low volume of statistical society, number of 128 companies and in sum 600 observations for each variable has been selected as sample during investigation period.

Independent variable

In this research, effect of CCC on company value is investigated. Consequently, CCC criterion and its constituent elements are as independent variables of this research that are calculated as follows:

$CCC = DIO^1 + DSO^2 - DPO^3$

Cash conversion cycle = uncollected sales days+ inventory sale waiting days, delayed payment days.

1- Uncollected sales days= receivable accounts / (sale/ 365)
2- Inventory sale days= inventory/ (cost of sold goods/ 365)
3- Delayed payable account days= payable accounts/ (cost of sold goods /365)

Dependent variable

In this research that we search for investigating CCC in users' evaluations, company value criterion has been used as investigating users' reaction.

So in this research, company value is a   dependent variable that is calculated as follows:

$V = D + PS + CS$

V is company total value , D is received loan rate , PS is preferred stock value , CS is ordinary shares market value

For normalizing this variable with other model variables, after calculating it, divide it up total assets.

As it was explained, method of this research is correlation type and its methodology is post- event and data analysis method is done through multiple regression and correlation analysis.

First as it was explained, independent variable that was the same CCC was calculated in Excel and then for investigating its relation with company value, the following model has been tested by SPSS software.

$V = \delta + \delta_1 CCCit + \delta_2 EPS + \delta_3 BVE + \delta_4 DE + \delta_5 Ever + \psi$

DE is debt ratio. EPS is profit of each stock prior to unforeseen items, BE is clerical value of each stock to stockholders equity, V is company total value.

In above model, CCC coefficient is intended by us. And in continuation of this research, for investigating relation of CCC elements with company value, each of three elements of CCC (receivables receipt period, goods stock turnover period and payable accounts turnover period) separately put instead of CCC in above model and has been tested in SPSS software.

RESULTS ANALISIS

In order to analyze data, first descriptive statistics of under study data was calculated and has been presented in central and dispersion indexes of table1. Among presented indexes, the most useful central

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index is mean and also the most useful dispersion index is standard deviation that is acquired from variance square root.

Investigating research hypothesis
There is no relationship between CCC with company value.
First, information relate to CCC of 128 companies were investigated and companies value with control variables for 5 year period was calculated in Excel software and then Ehelson regression model has been done in SPSS software that is as follows:

$V_{it} = \delta_0 + \delta_1 CCC + \delta_2 EPS + \delta_3 BVE + \delta_4 DE + \delta_5 EVER + \psi$

We can summarize results of statistical analyses of above hypothesis as follows

As it is observed in table2, statistic F is one percent higher than standard statistic F and assumption that this model is linear has been confirmed. Consequently, estimated regression model in level 99% is meaningful and also R^2 and regression model adjusted R^2 show that model processing has been done desirably. And also Durbin Watson value with number1/952 show lack of correlation between errors and VIF statistic values (variance inflation factor) that has been done for investigating lack of collinear between independent variables are smaller than 5, so there is not any collinear problem.

Table 1- Descriptive statistic

smallest	largest	Standard deviation	Variance	median	mean	Utilized variables in research
635	34922	5545	30747488	3042/50	5111/70	V
-932/53	57365/09	5232/63	27384779	156/06	832/83	CCC
-1124/33	5914/11	1009/57	1019232	494/48	735/21	EPS
-881/14	5900/5	944/85	944/85	1431/48	1632/77	BE
-30/87	17/58	4/1621	17/32	1/88	2/3913	DE
-579/13	71/77	52/8120	2789/114	-0/11	-3/566	EVER
-0/69	76902/91	7063/90	49898813	150/87	1090/75	DIO
0	40298/70	3666/99	13446861	137/68	631/04	DSO
1	59835/81	5518/941	30452881	122/62	888/96	DPO
N= 128						

Table 2 Results of statistical analyses of first hypothesis

Meaningful level	Kind of relation	p- value	t statistic	Vif	Standard error	Coefficient β	Independent variable
%95	Positive	0.03	2.392			1529.42	constant
%99	Negative	0.001	-0.352	1.003	-0.021	-0.022	CCC
%99	Positive	0.000	9.776	1.679	0.744	4.088	EPs
Meaningless	Positive	0.532	0.627	1.658	0.047	0.278	BVe
Meaningless	Positive	0.494	0.687	1.025	0.041	54.396	De
%95	Negative	0.041	-0.467	1.022	-0.028	-2.913	Ever
34.349		F-Statistic			0.77		R
0.000		P- Value(F- statistic)			0.593		R^2
1.72		Durbin Watson			0.575		ADJ

Investigating relationship between CCC elements with company valu
In continuation of this research, relationship between company value with CCC element that is the same receivables receipt period, goods stock turnover period and payable accounts turnover period has been investigated separately.

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Investigating relationship between receivables receipt period with company value

For investigating this subject, regression model of research hypothesis has been used and only instead of CCC variable, one of its elements, DIO (receivables receipt period) has been considered as follows:

$V_{it} = \delta_0 + \delta_1 DIO + \delta_2 EPS + \delta_3 EVE + \delta_4 DE + \delta_5 EVER + \psi$

Table3- Results of statistical analysis of receivables receipt period and company value

Meaningful level	Kind of relation	P-value	t statistic	Vif	Standard error	Coefficient β	Independent variable
%95	Positive	0.03	2.392			1529.42	Constant
%99	Negative	0.001	-0.363	1.004	-0.021	-0.017	Dio
%99	Positive	0.000	9.776	1.679	0.744	4.088	Eps
Meaningless	Positive	0.532	0.627	1.658	0.047	0.278	Be
Meaningless	Positive	0.491	0.690	1.025	0.041	54.702	De
%95	Negative	0.041	-0.467	1.022	-0.028	-2.913	Ever
34.353	F- statistic			0.77		R	
0.000	P-Value(F-statistic)			0.593		R^2	
1.72	Durbin Watson			0.575		Adj	

Investigating relationship between inventory turnover with company value (table 4)

Also regression model has been used for investigating this subject and only instead of CCC, one of its elements, DSO (inventory turnover period) has been considered as follows:

$V_{it} = \delta_0 + \delta_1 DSO + \delta_2 EPS + \delta_3 BVE + \delta_4 DE + \delta_5 EVER + \psi$

Investigating between payable accounts turnover period with company value (table 5)

Also regression model of research hypothesis has been used for investigating this subject and only instead of CCC variable, one of its elements, DPO (payable accounts turnover period) has been considered as follows:

$V_{it} = \delta_0 + \delta_1 DPO + \delta_2 EPS + \delta_3 BVE + \delta_4 DE + \delta_5 EVER + \psi$

Table 4 Results of statistical analysis of inventory turnover period with company value

Meaningful level	Kind of relation	P-value	t statistic	Vif	Standard error	Coefficient β	Independent variable
%95	Positive	0.03	2.392			1529.42	Constant
%99	Negative	0.001	-0.238	1.003	-0.014	-0.021	Dio
%99	Positive	0.000	9.777	1.679	0.745	4.089	Eps
Meaningless	Positive	0.529	0.631	1.658	0.048	0.28	Be
Meaningless	Positive	0.493	0.688	1.025	0.041	54.500	De
%95	Negative	0.041	-0.469	1.022	-0.028	-2.929	Ever
34.353	F- statistic			0.77		R	
0.000	P-Value(F-statistic)			0.593		R^2	
1.72	Durbin Watson			0.575		Adj	

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Table5 Results of statistical analysis of payable accounts turnover period with company value

Meaningful level	Kind of relation	P-value	t statistic	Vif	Standard error	Coefficient β	Independent variable
%95	Positive	0.03	2.392			1529.42	Constant
%99	Negative	0.001	-0.289	1.003	-0.017	-0.01	Dio
%99	Positive	0.000	9.776	1.679	0.744	4.089	Eps
Meaningless	Positive	0.530	0.630	1.658	0.048	0.280	Be
Meaningless	Positive	0.491	0.691	1.025	0.041	54.781	De
%95	Negative	0.041	-0.467	1.022	-0.028	-2.913	Ever
34.330	F statistic			0.77		R	
0.000	P-Value(F-statistic)			0.593		R^2	
1.72	Durbin Watson			0.575		Adj	

In above tests, for investigating relationship between receivables period and payable accounts turnover period with company value, as it is observed in table 3, 4,5, in each three tables, F statistic is one percent higher than standard table F and assumption that these three models are linear has been confirmed. Consequently, estimated regression model in level %99 is meaningful and also R2 and regression model adjusted R2 show that model processing has been done desirably. And also Durbin Watson value respectively with number 1/72 show lack of correlation between errors and VIF statistic values that has been done for investigating lack of collinear between independent variables are smaller than 5, so there is not and collinear problem.

Investigating t- test show that DIO, DSO, DPO coefficient in three models are meaningful, because their t is higher than t standard table statistic and DIO, DSO, DPO coefficients that are our intended coefficients are -0/017,-0.02,-0.017 respectively that regarding t statistic, we can reject assumption β=0 with %99 confidence, so acquired value is meaningful with %99 confidence.DPO, DSO, DIO coefficients show us that reversely there is a meaningful relationship between CCC with company value. That is whatever receivables receipt period length, goods stock turnover period and payable accounts turnover period in company is decreased, also company value is increased. And in other words, management can make positive value for stockholders through shortening receivables receipt period, goods stock turnover period and payable accounts turnover period to possible minimum level.

CONCLUSION
Acquired results from investigating research hypothesis show that CCC can reversely influence company value in market. But considerable issue in this investigation is weak relationship between CCC and company value. As it was presented in previous chapter, CCC coefficient in coefficients standardized value column that indicate change rate in dependent variable in life of a change to the extent of one standard deviation in independent variable is low and this show weak relationship between independent variable (CCC) and dependent variable (company value)

Also investigating CCC element in company value like research hypothesis indicate very weak relationship between receivables receipt period, stock turnover period and payable accounts turnover period with company value and only %2 of changes in company value is influenced by receivables receipt period , goods turnover period and payable accounts turnover that coefficients standardized column show this issue. Also in contrast to research theory, in investigating CCC elements with company value, this conclusion has been acquired that whatever company shorten its creditors' payment period, company value is increased .

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