

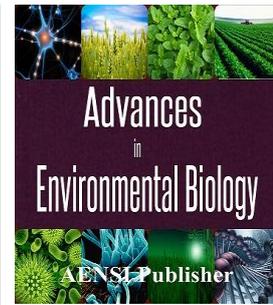


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# The Relationship between Cash Conversion Cycle and Economic Value Added in Tehran Stock Exchange

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### ABSTRACT

The cash conversion cycle is a liquidity measure and the economic value added is a profitability measure. These measures attempt to capture management effectiveness and the true economic profit of a company respectively. The purpose of this article is to identify the relationship between cash conversion cycle and economic value added in companies listed on Tehran stock exchange. The research period is from 2008 to 2013. Using systematic sampling method, 87 companies were selected as a sample. Panel data, multiple regressions, Durbin-Watson statistic, F-statistic and Hasman test were used to test hypotheses. According to the research findings, there is no meaningful relationship between variables such as inventory turnover, accounts receivable collection period and accounts payable payment period with cash conversion cycle. Finally, the research findings show there is no meaningful relationship between cash conversion cycle and economic value added.

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## INTRODUCTION

Development of business activities, leads to the quantitative and qualitative development of "Financial Management"; hence makes management complex. Since operational activities in the ordinary course, usually annually, depends on the optimal management and working capital, so that the expected results to be achieved and to sustain long-term activity; continuation of enterprises to a great extent depends on short-term resource management. Thus the "working capital" is considered as an important asset in units and enterprises, which has a prominent role in financial decisions. Managers need to choose appropriate strategies to their working capital management unit in different situation, with regard to internal and external factors and taking into account the risk and return. Therefore, leading to increased efficiency, the liquidity, solvency and the continuation of the profit. "Working Capital" sources of financing, especially for small and medium and growing businesses. Financial managers of business units, face decisions related to "working capital" every day. For example, a high volume of inventories decreased maintenance costs of a possible interruption in the production cycle, or commercial losses caused by the shortage of products ,reduce costs and offer protection against price fluctuations. On the other hand, makes good commercial reputation for the company sales from different directions. Although a lot of investment in inventories and trade credit reduces risk, but it also reduces the profitability [1].

The investment in current assets and working capital management; is of management concerns. So that on the one hand, maintain its market share and brand reputation acquired between customers and suppliers and, on the other hand, increase your profitability. The management of these assets and short-term debt requires special attention, because the management of working capital plays an important role in the company profitability and liquidity as well as the risks and returns. The ultimate goal of any company, "creating value for stakeholders" and "profitability" considered as main components of the target. Capital management has plentiful impact on company's profitability and risk and resulting on the value of the company. In fact, the management of working capital can be defined as the balance between benefit and risk. Because the decision to increase corporate profits, leading to increase risk and decision to reduce risk leading to reduce the company's profits. Decide on

the amount of investment in receivable accounts and inventory of the goods and services covered by the credit from suppliers, compromise main component of working capital management. Since the term "cash conversion cycle" can be used [2]. The cash conversion cycle represents period or the number of days during which the cash is spend on inventory. Then transferred to the receivable accounts through the sale and is converted back into cash. Despite the importance of working capital for organizations, organizational literature has traditionally focused on the study of long-term financial decisions. Most researchers studied in the field of investment analysis, capital structure, dividend policy, evaluation of the organization and determine which factors have been similar. But it should be noted that companies invest on short-term assets, resources which are used with a maturity of less than one year, form a major part of the company's balance sheet items [3] working capital is considered as an important resource for improving financial performance, in challenging economic environment in which international organizations search for new ways to thrive and improve their financial performance and reduce risk [4].

Assess the performance of managers and organizations is the topics of interest to creditors, and the owners with the presence of large companies and the emergence of the phenomenon of separation of ownership and management of conflicts of interest between managers and owners. An assessment of manager's attitude and government attitude in terms of their performance is important to reach 3 main goals: 1) allocating resources 2) equitable distribution of income 3) to stabilize the economic situation.

Economic added value criteria are most recent assessment criteria to measure of the company. This is one of the newest and most efficient measures. And it is accepted by the community and companies from the start. Because it is an innovative way to find the true value of companies and managers and examines the company's profitability. Generally, economic value added shows performance within an organization. In the case of economic value added is equal to zero, this means that the profits of the investment funds is equal to the cost of the supplier.

EVA Analytical tools for the first time created and presented by Stern Stewart Institute in 1982 in New York. Big companies like Coca-Cola and SPX use the economic value added as a guide to create value. EVA is also commonly used in the investment community. Investment firms use the economic value of stock options, portfolio construction and risk control process. In 1993, Fortune magazine explicitly defines the real key to creating wealth.

Liquidity management also reflects in asset management and short-term debt and plays a vital role in the success of the enterprise management. If the company fails to manage their cash assets in optimal way of the company may be unable to meet its current liabilities. As a result, companies have to find external resources to pay its short-term debt maturities at the time. About the importance of "cash management" Jose et al [5] believes that: "companies have a long bright history and clean balance sheets, if do not have good liquidity management will not be able to pay its debts". "Cash conversion cycle" is an appropriate method for evaluating the company's liquidity that calculates time between the payment for the purchase of merchandise or raw materials to collect receivables from sales to customers. Cash conversion cycle is a Scale dynamic for "managing cash flow" that makes time- oriented scale simultaneously using the balance sheet and profit and loss figures. Although the cash conversion cycle analysis can be useful alone, industry index to evaluate the performance of the cycle and anticipate opportunities to improve it is crucial for companies. Since the duration of this cycle is different for different industries, so comparing the companies that operate in the industry is considered accurate way. Books of Finance Science, the cash conversion cycle is mentioned as the criteria for "working capital" is [6].

Therefore, this study aims to examine the relationship between the cash conversion cycle and economic value added in Tehran Stock Exchange.

### *1.1 The importance of research:*

Decision-making process about financial issues is difficult and highly specialized. Thus providing useful information to decision makers in order to make optimal decisions can be the purpose of scientific research. Creditors and investors are two main groups for providing company's finance resource. Each of these two groups is always looking for quick profits. Creditors is always looking to grant interest of loans. And shareholders seeking, their expected return of company's activities and changes in stock prices per the company's growing activities [7].

Maximizing the profit of the company in the long term is one of the ultimate goals of every company, but it is also an important goal to maintain the company's liquidity. The problem is that to get profit at the expense of loss of liquidity could create serious problems for a company. Therefore, a balance must be established between the objective and one objective should be achieved at the expense of other objectives because both of them have their own importance. If a company does not pay attention to profitability, it can be tough to survive much longer period if money is not concerned with the problems may be encountered bankruptcy or failure to pay debts on time. Due to the above reasons, special consideration should be placed on working capital management and finally affects the profitability and performance of the company [8].

In today's Competitive market, creating value and wealth creation is one of the main goals of the individual and the firm's investment in the investee. Following this, they want to know that which of investment opportunities, creating value for them and increase their wealth more than others. To achieve this goal, they need tools and criteria for measuring the value of identifying potential investment opportunities which are available in each of the investment opportunities. These criteria must be reliable enough to enable investors to make decisions based on their own capital to their business activities. That is where the knowledge of financial management and accounting is to help investors to assist them in decision. Accounting and financial professionals, experts in this field, many studies have been done to provide various standards have Of course, these criteria do not predict the future, but it is definitely not just information, provide advice for investors to make them eat their economic decision making to help. Economic opportunities, various measures have been proposed for the evaluation activities that are most important economic value accounting earnings.

### *1.2 Theoretical Principles:*

Investment constitutes the basis of financial management issues. It can be claimed that all businesses activities need capital .Capital consists of funds that will be used by the company. In this regard, financial management framework will detect relationships between investment and companies [9]. Its management is based on the mechanisms of Supply chain which is of importance. Working capital of a company is the collection of amounts invested in current assets and working capital management is to determine the composition of expenditure, working capital resources in a way that increases shareholder wealth [9]. Managers of businesses in different situations with regard to internal and external factors and market profitable unit with respect to the risks and returns, current assets and current liabilities must choose appropriate strategies. Assessing, controlling and planning on working capital items in order to select an appropriate management strategy is exploitative at the level of cash holdings of profit. If working capital management not to be done properly, the company may be unable to pay its debt and commitment and confront problems for continuing to work [10]. However, according to the paradigm of the modern enterprise, financial management objective is creating value for its owners. Value and value creation for shareholders and business owners occurs by maximizing their wealth. Investors always consider evaluating corporate performance in order to identify suitable investment opportunities. Industry's optimal performance is what pushes shareholders to invest in a particular activity. Thus, it leads to increase the value of the company and ultimately increasing shareholders wealth [11]. The appropriate criterion for evaluating the performance should be linked with shareholders return, and on the other hand, should be able to introduce their created wealth. [12]. Economic value added is one of the evaluating criteria's performances under risk and return. Therefore, the present study sought to examine this issue that how effective are the management of working capital due to the effects of risk on the company's earnings on the firm performance.

According to the aforementioned study, the main study objectives are reviewing and explaining the relationship Nia between the cash conversion cycle and economic value added in Tehran Stock Exchange.

### *Literature Review:*

Aghayi et al [13] studied the factors affecting cash stock maintenance firms listed in Tehran Stock Exchange. In this study, the effect of 10 factors on keeping cash by companies were examined, using data from financial statements for the period from mid-1980 to 2005 using multivariate linear regression model. Evidence indicates that the receivables, net working capital, inventories and short-term debt, are respectively the most important factors that have a negative effect on cash inventories.

On the other hand, growth opportunities for the company, dividends, net earnings and earnings volatility, are respectively the most important factors in maintaining a positive impact on cash inventories, but no sufficient evidence of the negative effects of long-term debt and the size of the company, on maintaining inventories of cash exist. Fakhari and Taghavy [14] evaluated the quality of accruals and cash balance at Tehran's stock. Evidence shows that there is negative and significant correlation between the qualities of financial reporting with cash and cash VA. The growing attention to the quality of financial reporting by companies, is essential for reducing financing costs resulting from excess and inefficient cash holdings. The results also show growth opportunities variable, assets, cash flow, cash and cash balance had a positive effect on cash balance; and measured variables, debt maturities, the opportunity cost, has negative effect on cash balance.

Izadi Nia and Taki [15] studied entitled "Effect of working capital management on profitability". The purpose of this paper is to provide empirical evidence about the impact of working capital management on profitability sample of Iranian companies' with small and large sizes. The data collected in this study, is derived from the financial statements of companies listed in Tehran Stock Exchange for the period 2001 to 2008. The dependent variable, the total return on assets which is considered as a measure of the potential profitability. The regression analysis shows: cash conversion cycle, with return on assets has created a significant and reverse relationship. And high investment in inventory and accounts receivable, leading to lower profitability. Inventory period, the accounts receivable, payables and cash conversion cycle are considered as the key variables used in

this analysis. Bahar Moghaddam et al [16] research on the effects of working capital management of the firms listed in Tehran Stock Exchange. In this study, the 5-year data (2008-2004) for the 53 companies listed in Tehran Stock Exchange were collected and analyzed using Pearson correlation and multiple regression hypotheses. For this purpose, the working capital is divided into four components (average collection period, inventory turnover period, and the average term debt and cash conversion cycle); the effect of these elements on the profitability in the presence of liquidity control variables of the company is examined. In theory, the effect of these two damping variables on the profitability is considered. The findings indicate that there is a significant positive relationship between management operational efficiency and profitability in this sample. A significant positive correlation between the control variables, liquidity and company size and profitability were found. Hormuzi and Aliahmadi [17] have conducted research related to the management of working capital. This study examined the relationship between working capital management with corporate governance and hierarchical theory of and finance companies listed on the Tehran Stock Exchange. This is done in the period 2001 to 2009. The results indicate that there is no significant relationship between debt variables, the percentage of state ownership and institutional ownership percentage of the capital. Also, the results showed that companies listed in Tehran Stock Exchange follow financing hierarchy theory. Moradi et al [18], are carried out research entitled "the relationship between working capital management strategies with the company's market value". The results showed there is a significant difference between average market value of different strategies for working capital. This result also suggests that the aggressive strategy has the most market value added industries among other strategies in industry. The overall conclusion of the study indicate that the impact of working capital management policies consider different approaches in order to maximize shareholder wealth and value of the company.

Samiloglu and Demirgunes [19] in their study on a sample taken by the Turkish manufacturing firms over the period 1998-2002 to examine the relationship between profitability and working capital management indicated that the accounts receivable, inventory of goods has negative effect on profitability. While the growth of the firm (in terms of sales), emphasis positively affecting on profitability. However, the cash conversion cycle, company size, financial holding has no important impact on the profitability of firms statistically. Results suggest that profitability increases through reduction of accounts receivable and inventory. Teruel & Solano [3], tested the relationship between working capital management and profitability of small and medium-size companies by examining an 8872 survey of small and medium Spanish company during the period 1996 to 2002. Research results showed that management can create value for the company by reducing the number of working days in accounts receivable and inventory of materials and goods. Shortening the cash conversion cycle also leads to improved profitability. Padachy [20] also participated in the study of 58 small and medium-sized Mauritania companies, over a period of 5 years and came to the conclusion that a strong relationship between profitability and working capital management variables. His results show that the increase in the cash conversion cycle, leading to reduced profitability and management can create value for its shareholders by reducing this cycle. Dong and Su [21] did a research titled "relationship between profitability and cash conversion cycle (working capital) and its components in stock market listed companies in Vietnam" during the period (2006 to 2008). The results showed that there is strong and negative correlation between the cash conversion cycle and profitability. Yeboah and Kwaku Agyei [22] examined the impact of working capital management on profitability and liquidity of the Bank of Ghana for the period 1999-2008. The results show that the collection of receivables, cash conversion cycle, capital structure, the banks sizes had significant negative correlation with the bank's cash position; and positive and significant relationship between course credits and benefits paid in cash by the Bank of Ghana exists.

Gill and Shah [23] study the determinants of the amount of cash paid in Canada. The results show that the level of cash holdings and cash flow, leverage, board size, CEO duality industry are positively correlated, and negatively correlated with working capital. Anandasayana [24] examined the relationship between working capital management and corporate profitability in Sri Lanka. This study conducted during 2003 to 2009 in 80 companies using panel data. The results show that there is significant inverse relationship between the average net operating profit of choice, and the average inventory turnover period and cash conversion cycle. The proposed research is to reduce inventory cycle, for increasing value for shareholders. Yogendrarajah [25] have done a research titled "impact of working capital management on the financial performance of the company". This research was done with SPSS software during 2004 and 2009 on 8 trading company in Colombo. The results suggest that high levels of investment in inventory and accounts receivable to financial performance (ROA) has been linked to poor company. Nobanee and Haddad [26] did a research on Japanese companies titled "the company's working capital management and profitability". The sample consisted of 2,123 non-financial companies listed on the Tokyo Stock Exchange which were reviewed during 1990 to 2004. Research results showed that the conversion to cash and return significantly and inversely affected on investment. Their research had suggested that shortening the cash conversion cycle will increase the profitability of Japanese companies.

*Research Hypotheses:*

To achieve the research objectives, this study has the following four hypotheses:

**First hypothesis:** the cash conversion cycle and economic value.

**Second hypothesis:** there is no significant relationship between Inventory turnover period economic values added.

**Third hypothesis:** there is no significant relationship between the collection of accounts receivable and economic added value.

**Fourth hypothesis:** there is no significant relationship between the payments of accounts payable and added economic value.

*Data and Methods:**4.1 Sampling:**Realm of time and space research:*

The spatial scope of the present study is the company is listed in Tehran Stock Exchange.

Realm of time research is period between the years 2008 to 2013(a period of 6 years).

*The population and sample:*

For this study, the Tehran Stock Exchange listed companies as population and sample were determined according to a systematic method.

*4.2. Defined variables and how to measure them:**1-dependent variables:*

The dependent variable is the main variable that appears to be a subject of research.the answers can be found by analyzing dependent variable.Economic value added is the dependent variable in this study which can be calculated by the following formula:

$$EVA = NOPAT - C\% (TC)$$

EVA= Economic Value Added

**NOPAT** =Net operating profit after tax

**C%** = Capital cost rate (in percent)

**TC** =The total cost has been used

$$NOPAT = EBIT_t (1 - T)$$

Net operating profit after tax is calculated using the following equation:

**EBIT<sub>t</sub>** =Net operating profit before interest and taxes

**T** =Tax rate

The cost of capital is calculated as follows:

$$C\% = \left(\frac{D}{D + E}\right)K_d + \left(\frac{E}{D + E}\right)K_e$$

D: The market value of interest-bearing liabilities

E: The market value of equity

K<sub>d</sub>: Cost-rate interest-bearing liabilities

K<sub>e</sub>: rate of cost of equity

*2- The independent variable:*

Independent variable effects on the dependent variable positively or negatively.The reason of independent variable changes must be searched in the dependent variable. Independent variables and how they are measured in this study are as follows:

- Accounts Receivables period (ARP)

$$\text{Accounts Receivable Period (ARP)}_{it} = \frac{\text{Accounts Receivable}_{it} * 365}{\text{Total Assets}_{it}}$$

**ARP<sub>i,t</sub>** : Accounts Receivables period of firm i in year t

**Average Inventory<sub>i,t</sub>**: Average inventory of firm i in year t

**Net Sales<sub>i,t</sub>** : Net sales of firm i in year t

- Inventory Conversion Period

$$\text{Inventory Conversion Period (ICP)}_{it} = \frac{\text{Average Inventory}_{it} * 365}{\text{Net Sales}_{it}}$$

**ICP<sub>i,t</sub>** = Inventory Conversion Period Of firm I in year t

**Average Inventory<sub>i,t</sub>** = Average inventory if firm I in year t

**Net Sales**<sub>*i,t*</sub> = Net sale of firm I in tear t

- Accounts payable period

$$\text{Accounts Payable Period (APP)}_{it} = \frac{\text{Accounts Payable}_{it} * 365}{\text{Net Purchases}_{it}}$$

**APP**<sub>*i,t*</sub> = Accounts payable period of the firm i in year t

**Accounts Payable**<sub>*i,t*</sub> =Accounts Payable firm i in year t

**Net Purchases**<sub>*i,t*</sub> = Net purchases of firm i in year t

- The cash conversion cycle

$$\text{Cash Conversion Cycle (CCC)} = \text{ARP} + \text{ICP} - \text{APP}$$

CCC=cash conversion cycle

### 3- Control variables:

Variables are set in the model to modify the findings; and they show a closer relationship. Control variables in this study include the size of the company and the company's financial leverage. The calculation of each is as follows:

Company size:

Size = Natural Logarithm of Net Sales

- Financial Leverage:

DAR = Total Debt/Total Assets

### 5. Research Model:

#### 5.1 To test the first hypothesis:

economic value added as the dependent variable, cash conversion cycle as the independent variable ,and variable size and financial leverage as control variables considered are as follows

$$\text{Model 1-3: } EVA_{it} = \beta_0 + \beta_1(CCC_{it}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$$

**EVA**<sub>*it*</sub>: Gross operating profit of firm i in year t

**CCC**<sub>*it*</sub> : Cash conversion cycle of firm i in year t

**SIZE**<sub>*i,t*</sub> : Size of firm i in year t

**DAR**<sub>*i,t*</sub>: Financial leverage of firm i in year t

#### 5.2 To test the second hypothesis:

To test the second hypothesis, the economic value added as the dependent variable,Cash conversion cycle as the independent variable and the variables of firm size and financial leverage as control variables considered are as follows:

$$\text{Model 2-3: } EVA_{it} = \beta_0 + \beta_1(ICP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$$

**ICP**<sub>*i,t*</sub>: Inventory turnover of firm i in year t

#### 5.3 Model to test the third hypothesis:

To test the third hypothesis, changing economic value as the dependent variable, the variable collection of variables as independent variables and firm size and financial leverage as control variables considered are as follows:

$$\text{Model 3-3: } EVA_{it} = \beta_0 + \beta_1(ARP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$$

**ARP**<sub>*i,t*</sub> =Accounts receivable period of firm i in year t

#### Model to test the fourth hypothesis:

To test the fourth hypothesis, the economic value added is considered as dependent variable, Payment of accounts payable considered as the independent variable and variable size and financial leverage as Control variables considered are as follows:

$$EVA_{it} = \beta_0 + \beta_1(APP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$$

**APP**<sub>*i,t*</sub> = Accounts of payable periods of the firm i in year t

*Data normalization using Jarque-Bera test:*

Our data normalization based on the null hypothesis that the data is normally distributed, we test at 5% error. Statistical test for normality assumptions are as follows:

**Table 4-2:** normality test data

DAR	SIZE	APP	ARP	ICP	CCC	EVA	Variables
8.13	1.54	95.33	2.58	2.44	1.91	2.11	Jarko-Brstatistics
0.54	0.74	0.09	0.71	0.93	0.74	0.13	Significance level

From the results above, since all variables level of significance is greater than 0.05, thus the frequency distribution is normally distributed.

*Correlation coefficient test:*

To verify the existence of correlation between variables, Pearson's correlation coefficient test was conducted and the results are provided in Table (4-3).

The results presented show that the coefficient of correlation between EVA and variable cash conversion cycle (-0.029) is negative and significant at the 1%, the Inventory turnover (-0.039) is negative and significant at 1% significant collection period (-0.024) negative and significant at the 5% level, debt settlement period (-0.040) is negative and significant at the 1% level. The correlation coefficient between the EVA-sized Enterprises (0.13) is positive and significant at the 1% level of financial leverage (0.50) is positive and significant at the 1% level.

**Table 4-2:** The correlation coefficient table

Variables	EVA	CCC	ICP	ARP	APP	SIZE	DAR
EVA	1						
CCC	0/0-29**	1					
ICP	**	**0/74	1				
ARP	*-0/024	**0/98	**0/61	1			
APP	**_-0/040	**0/25	**0/29	**0/21	1		
SIZE	**0/13	*-0/10	**_-0/14	*-0/08	**_-0/40	1	
DAR	**0/50	-0/01	-0/01	-0/01	**_-0/08	**0/23	1

\* Significant at 1% level, \*\* significant at 5% level shows.

*Test research hypotheses:*

To investigate the hypothesis testing, using regression, we estimated the research model using dependent variable. To test the hypothesis we used of cumulative data of 87 companies listed in Tehran Stock Exchange for the years 2008 to 2013 and Eviews6 software is used.

First, we examine the results of the test Lymr:

**Table 4-3:** F test results Lymr

Hypothesis0	Statistic F	P-Value	Lymr test results
x-intercept in all section is the same	0/00	5/92	H <sub>1</sub> accepted

Hausman test results are summarized in table (4.4):

**Table 4-4:** The Hausman test (choice between fixed and random effects)

Hypothesis0	Static- X <sup>2</sup>	P-Value	Hausman test result
There is no correlation between personal influence and descriptive variables	0/31	0/95	H <sub>0</sub> accepted

The above table shows that the reported results are significant (P-value = 0/95) indicates accept the hypothesis H<sub>0</sub> and H<sub>1</sub> hypothesis at 95% for the model, which implies the use of random effects.

*5.1 Testing the first hypothesis:*

First hypothesis: there is a significant relationship between the cash conversion cycle and economic value added.

To test the first hypothesis, the model (3-1) with the combined approach has been estimated and the results are given in Table (4-4).

Table (4-5): The results (3-1)

$$EVA_{it} = \beta_0 + \beta_1(CCC_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$$

Variables		<i>coefficient</i>	<i>T- student static</i>	<i>significance</i>
X-intercept		-11/04	-0/31	0/75
<b>CCC</b>		-1/06	-0/87	0/38
<b>SIZE</b>		0/89	0/67	0/49
<b>DAR</b>		0/14	12/31	0/00
Damping identification Coefficient		28%		
Fisher Statistic		(0/00) 26/45		
Watson camera (D-W)		2/04		

Table (4-3) presented the results of the multiple regression models. Given that the statistics record for camera Watson matches for 2/04 has been achieved, an error in the values of the autocorrelation is rejected. The coefficient of determination adjusted to the model equals 0/28 and show that the independent variables explain 28% of the variability. Fisher F test is significant to the 26/45 show that the model is significant.

Cash conversion cycle variable coefficient (-1/06) with the P-value equal to 0/75, is not significant. And showed no significant relationship between the cash conversion cycle and economic value added. So, the hypothesis H0 assumption is confirmed and first hypothesis "there is a significant relationship between the cash conversion cycle and economic value added" Rejected.

### 5.2 Second hypothesis testing:

The second hypothesis: there is a significant relationship between the inventory cycle and the economic value added.

**Table 4-3:** F test results Lymr

Hypothesis 0	F statistic	P-Value	Lymer test result
x-intercept in all section is the same	0/00	5/92	H <sub>1</sub> accepted

Hausman test results are summarized in table (4-4):

**Table 4-4:** The Hausman test (choice between fixed and random effects)

Hypothesis 0	Static X <sup>2</sup>	P-Value	Hausman test result
There is no correlation between descriptive variables and personal effects	0/91	0/82	H <sub>0</sub> accepted

The results showed that the above table reported significant (P-value = 0/82) indicates acceptance of the hypothesis H0 and H1 hypothesis is rejected at the 95% confidence interval for the model, which implies the use of random effects.

To test the second hypothesis of the study, the model (3-2) with the combined approach has been estimated and the results are given in Table (4-6).

**Table 4-6:** The results (3-2)  $EVA_{it} = \beta_0 + \beta_1(ICP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$

variables	<i>coefficient</i>	<i>t-student statics</i>	<i>Significant</i>
x-	-11/97	-0/34	0/73
<b>ICP</b>	-1/04	-0/73	0/46
<b>SIZE</b>	0/93	0/70	0/47
<b>DAR</b>	0/14	12/33	0/00
Identification coefficient	28%		
Fisher static(significant)	(0/00) 26/49		
Watson camera (D-W)	2/04		
**Significant at level 5%			

According to the statistics of Watson cameras which is equal 2/04, existence of autocorrelation in the error values result in rejected. The coefficient of determination adjusted model (19%) and shows that the independent variables explain about 28% of variability. Fisher F test is significant and equal to 26/49 and shows that the model is significant.

Period Inventory turnover ratio (-1/04) with the P-value equal to 0/46, was not significant, suggesting the existence of a significant relationship between the Inventory turnover and value added in the economy. So H0

hypothesis assumption is confirmed and the second hypothesis as "there is a significant relationship between the cycle of economic value added and "rejected.

### 5.3 The third hypothesis testing:

The third hypothesis: there is a significant relationship between the collection of accounts receivable and economic value added.

**Table 4-3:** F test results Lymr

Hypothesis <sub>0</sub>	F statistic	P-Value	Lymer test result
X-inter in all the section on all section	5/84	0/00	

Hausman test results are summarized in table (4-4):

**Table 4-4:** The Hausman test (choice between fixed and random effects)

Hypothesis <sub>0</sub>	Static X <sup>2</sup>	P-Value	Hausman test result
There is no correlation between personal effect and descriptive variables	0/31	0/95	H <sub>0</sub> accepted

The above table shows that the significant reported results (P-value = 0/95) indicates accept the hypothesis H<sub>0</sub> and rejecting H<sub>1</sub> at 95% for the model, which implies the use of random effects.

**Table 4-7:** The results (3-3)  $EVA_{it} = \beta_0 + \beta_1(ARP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$

Variable	coefficient	T-student static	significance
X-intercept	-14/73	-0/42	0/67
<b>ARP</b>	-6/30	-0/45	0/65
<b>SIZE</b>	1/03	0/78	0/43
<b>DAR</b>	0/14	12/34	0/00
Identification coefficient	28%		
Fisher static	(0/00) 26/43		
Watson camera (D-W)	04/2		
**significance at level 5%			

According to the statistics of cameras Watson which has been obtained 2/04, the existence of autocorrelation in the error values is rejected. Adjusted coefficient of determination equal to 28% shows that the independent variables explain about 19% of variability. Fisher F test is significant to the 26/43 show that the model is significant.

Variable rate debt settlement period (-6/30) with the P-value equal to 0/65, was not significant, indicating the absence of a significant correlation between the collection of accounts receivable and economic value added. So H<sub>0</sub> assumption is confirmed and the third hypothesis as "there is a significant relationship between the collection of accounts receivable and economic value added" rejected.

### Fourth hypothesis testing:

The fourth hypothesis: there is a significant relationship between the payment of accounts payable and economic value added.

**Table 4-3:** F test results Lymer

Hypothesis <sub>0</sub>	Static F	P-Value	Hausman test result
X-inter in all the section on all section	6/1	0/00	H <sub>1</sub> accepted

Hausman test results are summarized in table (4-4):

**Table 4-4:** The Hausman test (choice between fixed and random effects)

Hypothesis <sub>0</sub>	Static X <sup>2</sup>	P-Value	Hausman test result
There is no correlation between personal effect and descriptive variables	6/87	0/07	H <sub>0</sub> accepted

The above table shows that the reported results are significant (P-value = 0/07) indicates acceptance of the hypothesis H<sub>0</sub> and H<sub>1</sub> hypothesis is rejected at the 95% confidence interval for the model, which implies the use of random effects.

**Table 4-8:** The results (3-4)  $EVA_{it} = \beta_0 + \beta_1(APP_{i,t}) + \beta_2(SIZE_{i,t}) + \beta_3(DAR_{i,t}) + \varepsilon_{i,t}$

variables	coefficient	T-student static	significance
X-intercept	-6/96	-0/19	0/84
<b>APP</b>	-0/006	-0/88	0/37
<b>SIZE</b>	0/76	0/56	0/57
<b>DAR</b>	0/14	12/36	0/00
Identification coefficient	28%		
Fisher static	(0/00) 26/53		
Watson camera (D-W)	2/05		
**significance at level 5%			

According to the statistics of Watson cameras which has been obtained as 2/05, existence of autocorrelation in the error values is rejected. Adjusted determination coefficient equal to 67%, indicates that the independent variables explain about 28% of variability. Fisher F test is significant to the 26/53 which shows that the model is significant.

Variable rate cash conversion cycle (-0/006) with the P-value equal to 0/37, was not significant, indicating the absence of a significant correlation between the payment of payables and economic value added. So  $H_0$  assumption is confirmed and fourth hypothesis as "there is a significant relationship between the payment of accounts payable and economic value added" rejected.

## 5. Results:

### 5.1 Results of the first hypothesis Analysis:

The first hypothesis test results also show that there is a sufficient relationship between the cash conversion cycle and corporate profitability. Behavior of firms doesn't indicate significant relationship between working capital management policies and the economic value added. So we can conclude that in the case of companies, directors don't use the cash conversion cycle management to increase the economic value, and possibly other variables are considered too.

### 5.2 The second hypothesis test result:

The second hypothesis test results show that there is no significant relation between the inventory cycle and economic value added. Bold or conservative working capital policy has failed to direct economic added value.

### 5.3 The third hypothesis test result:

The results of hypothesis testing indicated that there is no significant relationship between the collection period and economic value added.

Therefore, this study cannot find pattern between pay the debt, and economic value added.

## Conclusion:

From financial point of view, Working capital is one of important issues in Supply Chain Management, and if well managed, organizations are earning huge profits. Particularly for smaller size organizations with large amounts of capital assets and current liabilities comprise them, the working capital management policies adopted are in this area of great importance, since the financial policy of interaction with suppliers and buyers manages the supply chain.

Many factors, such as cash management, risk control tools, debt ratio, operating cash flow, working capital, etc., impact on the working capital, and if it can be recognized and used properly by organizations, can be useful in enhancing the performance. In turn, working capital management, working capital policies adopted organization can affect an organization's financial performance and cause an increase in profitability in terms of its organization and provide an optimal liquidity position.

The results of the research hypothesis indicate that there is no significant relation between the cash conversion cycle, cycle inventory, the collection and payment of debts with economic value added. In other words, working capital management policies in relation to economic value added company failed to direct economic value added, this means that policies on working capital, has no impact on economic value added. Therefore, the first and fourth research hypothesis will be rejected. The results of the research can address important economic decisions for various interest groups, especially investors. Because the determinants derived from the roots, Not only helps to explain the behavior of companies in the past, but rather provides a tool to predict the future direction in this area.

### 6.1 Limitations of the study:

The main limitation of the study is as follows:

A) selection of some measures (such as fiscal year ending March, unchanged fiscal year, etc.) in selected companies and incomplete data for some companies, eliminating the banks and financial institutions and corporations financial investment (due to the nature of their activities from other business units), the number of companies surveyed 87 companies declined. So to generalize these results to other companies in the industry should be made with caution.

B) Special features of the experimental study of non-controlling factors affecting the results of the influence of variables such as economic factors, political conditions, and the global economy is one of the limitations of this study, which are beyond the reach of the researchers and may affect the results.

### 6.2 Research recommendations:

Suggestions as practical suggestions and recommendations for future research are discussed during the investigation, the investigation of sources of information related to the subject and according to the results of the research.

#### Application recommendations:

Those who can benefit from the research are as follows:

1. The organization shall identify the factors influencing capital flows and working capital policies and by attention to these factors would improve the performance of the organization's working capital.

2. To achieve optimal working capital management, organizations shall forward to the proper management of the supply chain (buyers) that includes time inventory collection and storage time and the proper management of supply chain backward (suppliers) that does not include accounts payable payment period and keep hold cash cycle optimal.

3. Companies should control cash cycle by using risk management tools, time of collection, storage time inventory, accounts payable payment period, and then bring positive effects on the financial performance for the company.

4. Companies must choose policies by Factors affecting corporate policy of working capital required by your policy (policies eliminate invasive, conservative and balanced) and follow operational tactics of working capital management as policies of the previous defined.

#### Investors:

Investors and creditors as major users of financial information is always trying to get the right information to make good decisions, so factors affecting the economic value added, is a favorite of investors and creditors to different decisions and investment contracts. Moreover, it can be said that the view of the drafters of accounting standards, the quality of financial reports indirectly indicate the quality of financial reporting standards.

#### The framers of accounting standards:

When the drafters of accounting standards seeking standards feedback in this field, whether standards have been effective? The findings of this study can help to regulate the standards which lead to increase the predictability of economic value added, as well as evaluating the efficiency of previously proposed standards regarding the reporting of value and performance.

### 6.3 Suggestions for future research:

The findings of this study can provide guidance for new areas of research, including:

1- Study the relationship between management of working capital and other corporate performance assessment criteria.

2- Investigate the relationship between working capital management and performance evaluation criteria according to industry.

3- Repeat this on the other exchange companies and compare the results with results.

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