

# THE RELATIONSHIP BETWEEN WORKING CAPITAL RATIOS AND CORPORATE RETURN ON ASSETS: APPLIED STUDY OF INDUSTRIAL JORDANIAN COMPANIES

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## Abstract

The aim of the study to examine the effect of working capital management ratio (receivables turnover ratios , accounts payable turnover ratios , inventory turnover ratios and the cycle of cash transfer) on the financial performance( Return on assets) of Jordanian industrial listed companies on the Amman Stock Exchange. The study sample consisted of 60 industrial companies. To achieve the objectives of the study, the descriptive approach and the analytical method were followed using the (Stata) program for the years 2010-2018. The result shows a statistically significant positive effect at the level of (0.000), which is less than (0.05) for the receivable turnover ratios and accounts payable turnover ratios, inventory turnover ratios and return on assets. While there was negative relationship between cycle of cash transfer and return on assets

**Keywords:** working capital ratios, financial performance, industrial listed companies, Jordan

## 1. Introduction

The goal of maximizing the wealth of owners is one of the most important financial goals that companies seek to achieve, and to achieve this goal the administration makes several decisions to maximize profitability by making investment decisions (long and short-term decisions). Liquidity is another important goal no less important than the goal of maximizing profitability. Therefore, the administration seeks to maintain liquidity in a way that ensures it meets its needs and pays its financial obligations.

The goal of maximizing profitability at the expense of liquidity causes serious problems for the company and vice versa, where one cannot achieve the two goals at the expense of the other, and if management does not pay attention to profitability it will not be able to continue and if management does not pay attention to liquidity it will face insolvency and bankruptcy (Ahmad et.al, 2014).

From here, the role of working capital management emerged that is concerned with decisions related to short-term assets and liabilities, and the reason for interest in the components of working capital is due to the direct correlation with the buying and selling operations of the company through which the operating profits are generated, but the increase in long-term sale

is aimed at increasing profits. Also, the companies' compulsion to increase the stock to meet urgent orders and potential obligations, has formed additional financing burdens on these companies, which led to increased interest in working capital components as it is one of the main reasons for measuring the effectiveness and efficiency of the company to ensure its continuity (Muhamad et al, 2016).

The decisions and policies related to the assets and liabilities in the enterprise constitute the management of working capital, which in turn greatly affects profitability and liquidity. It will adversely affect the entity, as it leads to the establishment's delay in increasing production to keep pace with the growth in sales, which misses the establishment's sales and potential profits, in addition to the establishment's delay in paying its financial obligations (financing by borrowing). Increasing working capital improves an enterprise's liquidity and reduces risk, but increases the cost of financing that weakens profits. The management's responsibility is to reduce the cost of working capital without reducing liquidity.

The management of working capital that is concerned with decisions related to assets and liabilities, and the aim of this is to provide sufficient liquidity to cover all obligations to ensure continuity, so the working capital is of great importance to management, due to the fact that the largest percentage of its failure cases is due to weak decisions related Managed by (Lazaridis and Tryfonidis, 2006)

The weakness of financial managers led to the failure of a large number of large companies due to poor planning in controlling the assets and liabilities of these companies (Smith, 1973).

Therefore, the purpose of the study is to know the relationship between the working capital management ratios in its dimensions (receivables turnover rate, payables turnover rate, stock turnover rate, and cash transfer cycle) on the financial performance of companies listed on the Amman Financial Market.

Working capital management is related to the decisions and policies related to managing the assets and liabilities circulating in the facility, either the net working capital is the current assets minus the current liabilities, i.e. that part of the investment in the current assets that was funded with long-term sources of financing. There are two concepts about working capital:

**First:** The total concept of working capital: The total working capital is defined as the total investment of the institution in the current assets, that is, those assets that are converted into cash within a year, and these assets include cash, securities, accounts receivable and goods. This definition ignores current liabilities, and is based on dividing the assets into fixed assets, which are characterized by the slow movement, and current assets, which are characterized by the speed of movement, as it passes through each commercial cycle in the case of cash, goods, debt, and cash, to start a new cycle and so on.

**Second:** The net concept of working capital is defined as the surplus of current assets over current liabilities, in other words it is current assets minus current liabilities. The importance of this definition lies in giving it a quantitative measure of the degree of confidence in the ability of current assets to meet short-term liabilities.

Working capital management aims to maintain sufficient liquidity while achieving profitability and avoiding risks. If profitability increases, risk increases, and if risk decreases, there will be a sacrifice in the level of profitability. On the other hand, the main goal of any company is to maximize profit, and since working capital is related to financing costs through financing decisions, therefore the main objective of working capital is attributable to reducing financing costs that are reflected in financial performance (Teruel and Solano, 2007).

The components of working capital are the current assets that can be converted into cash easily, as components of working capital have been defined as the elements of liquidity that consist of cash and assets that can be sold and converted into money without loss, which are cash and semi-cash assets (Brain, 2009). It was also known as an investment of a portion of the entity's resources in short-term assets to maintain and develop the money either through periodic profits or an increase in the value of the funds (Gitman, 2012). The components of working capital are as follows:

### 1) Accounts Receivables Turnover

It is indicated by the turnover rate of receivables, where the receivables turnover rate is used as an indicator to judge the efficiency of the administration in collecting project debt (the number of times the debt is collected during the year). It is an accounting measure to measure the efficiency and effectiveness of the company in providing credit and collecting debts. It was also known as the period of time from the date of the sale transaction until the value of future sales is collected (the period required to collect the debts) (Raheman & Nasr, 2007).

Where the debtor's turnover ratio is calculated by dividing the net sales during a certain period by the average accounts receivable during that period, and as expressed by the following formula:

$$\text{Debt collection period} = (\text{Accounts Receivable Balance} * 365) / \text{future sales}$$

### 2) Accounts Payable Turnover

Accounts payable turnover, payables turnover, creditors turnover, average payment period or obligations turnover rate, or payables turnover, or is the measure of financial liquidity with companies in the short term, meaning that it is a measure to assess how quickly a company is facing and paying off its obligations towards The creditors. This percentage represents the average number of cash turnover during the financial year, and provides information about the amounts paid by the company and the number of payments or times that the company pays to its suppliers during certain periods of time, which can be called administrative efficiency in the face of obligations and payment of suppliers. This percentage is calculated by dividing the total amount of future purchases by the average of accounts receivable or payable during the same period. Also known as the time period provided by suppliers to the company in order to pay the price of future purchases (Raheman & Nasr, 2007).

### 3) Inventory Turnover

Inventory is a key component of the entity's primary assets, as inventory management (raw materials, running goods and final goods) is an important factor in short-term liquidity situations and the company's long-term profitability. The importance of the stock turnover rate for the company lies in the fact that it is a very important financial indicator to assess the effectiveness of the company's stock control, as this low percentage shows that the project maintains large quantities of unwanted and stagnant goods and the company must dispose of them, as it reflects the stock turnover rate. The time it takes to convert inventory into sales (Rehn, 2012). It is expressed by the following equation

$$\text{Inventory turnover} = (\text{Average stock balance} / \text{cost of sales}) * 365 \text{ days.}$$

### 4) Cash Transfer Cycle

The cash cycle is an indicator that is dealt with to measure the efficiency and effectiveness of the project, and thus the financial health of the company, as the cash cycle reflects the speed of the project in transferring cash to accounts payable and inventory through sales and then back to cash again. The cash transfer cycle depends mainly on the working capital cycle, which is governed by several factors, the most important of which are the length of the production process, the level of sales, inventory policies, term sales policies, and supplier terms. (Yazdanfar & Öhman, 2014)). And it is expressed by the following equation:

$$\text{Cash transfer cycle} = \text{operational cycle} - \text{supplier credit period}$$

### 5) Financial Performance

Financial performance indicators are one of the most important elements on which all corporate operations are based, and following up on financial performance is one of the most important topics that reflect the outcome of the business. The work also seemed to be directed towards evaluating financial performance indicators as a basic requirement in proving and addressing financial events in order to be more accurate and reliable to the actual and real reality, in a way that achieves the reliability and relevance of the financial statements, which called for the issuance of accounting standards that coincide with the great development and whose content formed the basis for indicators Financial performance at the international level.

## 2. HYPOTHESIS DEVELOPMENT OF THE WORKING CAPITAL MANAGEMENT

There are many studies (e.g. ahmad et al, 2014; Yazdanfar and Öhman, 2014; alrababiea, 2013; Goncalves, et al 2018: Chand, et al 2019: Anwear, 2018: Ajanaku and Ekundayo, 2017) which have examined the relationship between the components of working capital management and corporate performance. Based on our debate in the literature the result clearly show mixed results on the relationship between working capital ratios and corporate performance.

The current research following the previous studies of developing the hypothesis by using the null hypothesis to be examine later on statistically as follow:

- H0:** Working capital ratios has insignificant and negative relationship with return on assets.
- H0-1:** Inventory Turnover ratios have insignificant and negative relationship with return on assets.
- H0-2:** Receivables Turnover ratios have insignificant and negative relationship with return on assets.
- H0-3:** Payable Turnover ratios have insignificant and negative relationship with return on assets.
- H0-4:** Cycle of Cash Transfer ratios has insignificant and negative relationship with return on assets.

### 3. METHODOLOGY

To achieve the goals of the study in knowing to measure the effect of working capital management ratios on the financial performance in Jordanian companies listed on the Amman Stock Exchange, a descriptive approach and an analytical approach were used as mentioned in previous studies where data related to the study variables will be collected from the annual reports regarding capital management ratios Factor and financial performance during the period (2010 - 2018), then the data will be treated statistically, classified and analyzed, test assumptions and results, interpreted and know their significance to reach the results.

### 4. RESULTS AND DISCUSSIONS

This paper investigates the relationship between the components of working capital management and corporate performance in the annual reports of Jordanian listed companies in Amman stock exchange (ASE). Table 1 reports the correlation coefficients have no value above 0.8 which can lead to linear correlation (Judge et al, 1988).

**Table 1: Pearson Correlation Analysis**

Var/ Var	Cycle Of Cash Transfer	Turnover Of Receivables	Turnover Of Payable	Turnover Of Inventory	ROA
Cycle Of Cash Transfer	1				
Receivables Turnover	-0.03	1			
Payable Turnover	0.04	0.52	1		
Inventory Turnover	0.21	-0.04	-0.021	1	
ROA	-0.06	0.09	0.15	0.25	1

In order to confirm that the results are free of the multiple linear correlation problem that only affects parameter estimates for these linear variables, the values of the contrast inflation factor (VIF) are examined. Whereas, variables with an ADV value of more than 10.0 are considered to be the cause of the multiple linear correlation problem (Tu et al, 2005).

**Table 2: Variance Inflation Factor**

VAR	VIF	1/VIF
Turnover Of Receivables	1.29	0.77519
Turnover Of Payable	1.40	0.71428
Cycle Of Cash Transfer	1.50	0.66666
Turnover Of Inventory	1.43	0.69930
Mean VIF	1.405	

Table (2) shows that there is no multiple linear correlation problem in the model where the variance inflation factor was found less than 10.0 and thus the multiple regression was used.

**Table 3: Fixed Effects**

DV	Coef.	Std. Err.	t	P>t	[95% Conf.	Intervl
FIX	-268.9424	27.98527	-9.61	0.000	-323.9932	-213.89
ART	0.62559	0.0036817	169.92	0.000	0.61835	0.63283
APT	-0.92980	0.0012943	-764.73	0.000	-0.98725	0.79234
IT	6.59105	1.550938	4.25	0.000	3.5401	9.64195
CTC	1.19376	2.217211	0.54	0.591	-3.1677	5.55531

Table (3) shows that the turnover rate of receivables and the stock turnover rate have a positive effect of statistically significant level of significance (0.000) which is less than (0.05) on the return on assets, but the rate of turnover of payables has a negative effect of statistically significant level of significance (0.000) which is less than (0.05) on the return on assets, while for the cash transfer cycle there is no statistically significant effect with the level of significance (0.591) and it is greater than (0.05) on the return on assets.

#### 4. CONCLUSIONS

The results of the study showed that the receivables **Turnover** and inventory turnover ratios have a significant positive effect with a return on assets. In addition accounts payable ratios has a negative impact with statistically significant level of (0,000) which is less than (0.05) on the return on assets, and therefore companies must give more attention on the subject of turnover rates and financial performance. Beside that the current results found there is negative relationship between cycle of cash and return on assets

The findings showed that need to increase interest in managing working capital in industrial companies because of their importance in supporting the growth and increasing profitability of these companies. Thus, the results can be considered beneficial to establish a system whereby industrial companies strive to increase negotiating capacity with suppliers by increasing the repayment period.

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