

# Enterprise value variance analysis according to the impact of cash management

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**Abstract:** - *The research aims to determine the pattern of the relationship between one of the most important elements of working capital, which is the management of cash and the impact of this in maximizing the value of the establishment, and therefore the research discusses the problem of the shortcomings suffered by some departments of industrial companies working in the Iraqi environment in the employment of elements of working capital, including cash management, in order to maximize the value of the facilities in the research orbit. On the basis of this was the independent variable in the research by managing cash and representing the variable responding to the value of the enterprise, To achieve this, the above-mentioned search variables have been processed by analyzing their real data, while Microsoft Excel and SPSS Ver.25 have been used for the purpose of calculating standard deviations and computational circles for all search dimensions, as well as testing search hypotheses, in addition to using descriptive statistical analysis. The research sample consisted of 11 industrial companies listed on the Iraqi Stock Exchange, whose data for the period 2008-2019 were collected through their closing accounts. The results resulted in a morally significant correlation and impact of cash management in maximizing the value of the market facilities in the research sample, while the results resulted in the absence of a correlation relationship and a morally significant impact of cash management in maximizing the value of real enterprises.*

**Keywords:** cash management, enterprise value.

## 1. Introduction

Globally, much attention has been paid to long-term financial decisions, while short-term financial decisions such as working capital are necessary to maintain the continuity of work in the enterprise. Working capital is considered to be the difference between short-term assets and short-term liabilities, with the main objective being to obtain the cash required for the day-to-day operations of the enterprise. Thus, this means that if the goal is not achieved in the short term, the long-term goals will be mirages (Olaoye et al, 2019: 44). To prove this, Jason, 2017:338, noted that the companies' financial management was dependent on its short-term operation, which then translates into long-term objectives, as working capital is managed by ensuring that current liabilities do not exceed current assets in order to avoid the liquidity problem to ensure profit and thereby maximize the value of

The enterprise. Gill et al., 2010: 3 (Uremadu et al, 2012:82) noted that working capital management indicates a kind of "balance" between traded assets and current liabilities in order to create a guide against both liquidity and profitability problems. Liquidity and profitability are only two sides of the same currency because they operate in opposite directions, as increasing the companies' liquidity will reduce profitability and vice versa. (Osundina, 2014:102). A 2014 study (John, 2014) that examined the impact of cash management on the profitability of Nigerian manufacturing companies and concluded that there was a positive and important relationship between the CCC cash shift cycle and roe equity return on the one hand, and an insignificant negative relationship between the CCC cash shift cycle and road asset return on the other. Pandey's study, 2019, examined the impact of cash

management on profitability in the small manufacturing organization and found a slight but positive relationship to cash management with profitability, based on data obtained from research sample companies, indicating that good cash management practices slightly affect the profitability of SMEs. In addition, the conversion cycle and cash flows have positive effects on profitability, but this effect is nominal (pictorial or formal). The study also indicated that any customer who delays the cash payment to be made within a certain period of time will directly affect companies. Therefore, the appropriate cash transfer cycle must be implemented for each company to make a profit, which will have a positive impact on maximizing its value.

Based on all that has been mentioned, industrial companies within the Iraqi environment are seen as being divided among three main sectors: the public, private, mixed sector and the many problems they face, as well as the weakness of their financial departments, as it makes it necessary to describe the problem of research, which aims to determine the nature of cash management in the Iraqi business establishment and the extent to which it affects the value of the company. The main problem of the research is the existence of a knowledge debate about the nature of the relationship between the most important elements of working capital (cash,) and the impact on the value of the company, there are those who believe that there is a close relationship between them and this is based on the study (Muller, 2016: 2). When zu, 2017: 324) sees a weak impact of cash management in maximizing the value of the company, hence the problem of research can be formulated by questioning the extent to which the dimensions of cash management (monetary transformation cycle, operating cycle, cash turnover rate) in Iraqi businesses (research sample) in relation to cash management, and how much impact this has on maximizing the value of the company?

The importance of research is highlighted through the role that the Monetary Department can contribute to diagnosing the progress or decline in

the performance of industrial companies operating in the Iraqi private sector, which enables them to continue and progress in light of the competition between Iraqi industrial sector companies, which can maximize the value of the company, hence the importance of research at the theoretical and practical level: At the theoretical level, this research shares the intellectual debate among researchers about the preference of subdivisions for cash management to be followed by the company to maximize its value. In practice, the research provides scientific treatments to the financial decision maker of the Iraqi company in relation to the best combination of the dimensions of cash management (cash shift cycle, operating cycle, cash turnover rate) to be adopted, depending on the circumstances and data of each company. The results of the applied research can also serve as a guiding compass for investors in companies listed on the Iraqi Stock Exchange, because of their great importance in providing insights with important implications for the management of cash in the company's research sample and the concerned authorities in their management, and finally the goal of the research to measure the levels of cash in Iraqi companies research sample, as well as to measure the market value and real of Iraqi companies research sample. In practice, the research provides scientific treatments to the financial decision maker of the Iraqi company in relation to the best combination of the dimensions of cash management (cash shift cycle, operating cycle, cash turnover rate) to be adopted, depending on the circumstances and data of each company. The results of the applied research can also serve as a guiding compass for investors in companies listed on the Iraqi Stock Exchange, because of their great importance in providing insights with important implications for the management of cash in the company's research sample and the concerned authorities in their management, and finally the goal of the research to measure the levels of cash in Iraqi companies research sample, as well as to measure the market value and real of Iraqi companies research sample Seventh: Financial instruments for research: First: independent variables and the

dependent variable: - These are variables that determine the nature of the effect and the correlation with the dependent variable, the independent variable included cash management, while the dependent variable represents the value of the enterprise:

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Table (1) financial search tools

The main variable	Sub-variable	Equation	source
Cash	<b>Average repayment period</b>	$\div$ credit accounts (purchases/360)	(Schaeffer,2018: 101)
	<b>Average collection period</b>	Accounts receiving $\div$ (sales/360)	(Schaeffer,2018: 86)
	<b>Inventory rotation</b>	$\div$ inventory = once = 360/ inventory rotation = day	(Bragg, 2014: 82)
	<b>Monetary transformation cycle</b>	Duration of the goods remaining in stores + collection period of receivables - repayment period	(Pandey, 2019:12)
	<b>Operating cycle</b>	Inventory retention period + average collection period	(Aleux, 2015: 11)
	<b>Cash turnover</b>	365 days $\div$ cash shift cycle	(Purwanti, 2019: 9)
Value of the facility	<b>Market value</b>	Closing prices for company shares search sample	<a href="http://www.isx-iq-net">www.isx-iq-net</a>
	<b>Real value</b>	$P = \frac{D}{K - g}$	(Brigham&Ehrhardt, 2013: 961)
	<b>i<sup>1</sup> Beta Coefficient</b>	$\beta_j = \frac{COV(R_i, R_m)}{\sigma^2 R_m}$	(Levi&Maurice,1994:197)

Source: Preparation of the two researchers based on the above sources

Seventh: Community and sample research:

The research community is determined by industrial facilities operating in the Iraqi environment and listed on the Iraqi Stock Exchange, as the problem of this research will be addressed by identifying a suitable society for them that is appropriate and in line with their variables, so the community of companies operating in the private industrial sector and listed on the Iraqi Stock Exchange as a study society, while the research

sample will represent a group of industrial companies operating within the private industrial sector and 11 companies, Listed on the Iraqi Stock Exchange, these companies were selected to meet the requirements:

Provides all the data and information needed for analysis during the search period.

Choose companies that are not integrated with other companies.

Industrial companies (research sample) must be listed prior to the duration of the analysis and must be in circulation and continuous trading for the duration of the analysis.

Table (2) Summary of industrial companies' research sample

Total assets	Nominal capital	Year of establishment	Electronic code	company	ت
1807599645	160000000	1989	IKHC	Alkhazir	1
6799280381	1500000000	1962	INCP	chemichals	2
4617243593	60000000	1946	IMCI	Alasria	3
19942311853	1267500000	1989	IIDP	Dates	3
6617925577	360000000	1990	IKLV	kindi	4
9504928526	330000000	1989	IMAP	Mansour	5
2814712735	225000000	1986	IHFI	furniture	6
2405392229	4000000000	1964	IMIB	bikes	8
2363197627	360000000	2002	IRMC	clothes	9
1039126621	90000000	1962	IBPM	packaging	10
350255595267	10000000000	1989	IBSD	Pepsi	11

Source: Prepared by the researchers based on ([www.isx-iq-net.net](http://www.isx-iq-net.net))

From table (1-2) it is clear that the oldest company among the sample companies is the modern company (IMCI) founded in 1946, while the newest companies in the sample were the clothing company (IRMC) founded in 2002. With regard to its capital, it ranged from (6,000,000,000) as in the modern company (IMCI) to a minimum of 1,000,000,000,000, as in Pepsi (IBSD). As for total assets as in 2019, they ranged from (1039126621) as in ibpm to 350255595267, as well as IBSD at the highest level.

Description of the characteristics of the search sample:

The researcher relied on Iraqi industrial facilities operating in the private sector according to qualities chosen as a sample for the study, Based on a number of these qualities (the age of the establishment, the size of the facility, the company's capital, the date of listing) achieved during the research period of (10) years, for the period from 1/1/2008 to 31/12/2019, in the preparation and distribution of inspection lists and interviews, as for the quantitative aspect, the research relied on the financial statements of the research sample for the above period.

## 2. Literature Review

### 2.1 cash management

Contemporary enterprises operate on two or more scales (local, regional, global), which have had to collect liquidity or cash in all their forms of cash (local currency, hard currency) and from many sources so that they can later make payments at branches of the establishment scattered around the world. (Lutz, 2010: 176) The importance of cash and cash management is one of the short-term objectives that the financial management of the facility seeks to achieve effectively and efficiently, and cash is an important defensive line for any facility that the financial management resorts to to meet its need and avoid the risk of financial hardship. (Atrill, 2012: 265). Therefore, cash can be defined as the right side of the balance sheet statement as the most important component of working capital because it is fully available and the most liquid if measured by other assets and the preferred means of exchange in the exchange of buying and selling. Das, 2017:1, has been known for its knowledge, art and ingenuity in managing the facility's short-term resources in a way that allows it to improve its financial liquidity and maintain its ongoing activities effectively. Cash has been defined as an element of working capital, which in the contemporary business world performs various functions, the most important of which is payment through bitter cheques, which made it a store of

allocated funds and reserves that can be used for emergencies and the walking of the business and activities of the daily establishment. Or it's a certain form of money. Mweta, 2018:3, gave a holistic definition of cash management, which defined it as a process aimed at improving cash levels as well as maintaining the right balance between profitability and liquidity in the business. Apart from the fact that cash is the latest asset, it is also seen as the common denominator to which all current assets can be reduced.

### **Dimensions of cash management**

As for the dimensions of measuring monetary management, many studies have indicated six dimensions of cash management:

#### **The collection period of accounts receivable:**

To calculate the collection period of accounts owed (Brigham & Ehrhard, 2008: 448) the calculation of this period is the result of (dividing accounts owed by sales  $\div$  360 days). Al-Nuaimi, Tamimi, 2008: 200) have another way of calculating this period that is not much different from the first method (dividing accounts owed by forward sales  $\div$  360). Radhi (2009:22) used a method no less important than the two methods mentioned above (by dividing accounts owed by forward sales  $\times$  360). (Hindi, 2004:78) explained the difference in the methods above using forward sales instead of sales or vice versa in the equation because futures sales are the main feeder of accounts in the city, thus realizing the unit of measurement of the rug and denominator.

#### **Repayment period for credit accounts:**

To calculate the repayment period of the credit accounts, Brigham & Ehrhard, 2008: 745, considers that the calculation of this period is the result of (dividing credit accounts on purchases  $\div$  365 days). (Akl, 2006: 326) sees another way to calculate this period is not much different from the first method (by dividing the average credit accounts by forward purchases  $\times$  360). (Raheman & Nasr, 2007: 284) used a method no less important than the above methods, as their calculation method was (dividing credit accounts by forward purchases  $\times$  360). Al-

Nuaimi, Tamimi, 2008: 201) said that this period is extracted through (dividing credit accounts by the cost of goods sold  $\div$  360). Akl, 2004:81, explained the difference in the above methods using forward purchases instead of purchases or vice versa in the equation, mainly because futures purchases are the main feeder of credit accounts, thus realizing the unit of measurement of the numerator and the denominator.

#### **Inventory rotation period:**

The average length of time required to convert semi-finished goods or raw materials into finished goods that meet the needs of customers. Knowing the number of days it needs to sell its production of goods and services and knowing the amount of cash resulting from the sale of this production, especially after knowing the rate of days when the goods stayed in the company's stores, this knowledge may indicate that the company follows a correct scientific methodology aimed primarily at maximizing its value. (Sangori, 2018: 2). Brigham & Ehrhard, 2005: 744) considers that the calculation of this period is the result of (dividing inventory over sales  $\div$  365 days) and also that if monthly data on extraction of this period cannot be obtained, the average period can be calculated by (collecting first-term inventory with the last period  $\div$  2). Al-Nuaimi and others, 2007: 242, believe that this period is extracted through (dividing inventory by the cost of goods sold  $\div$  360). (Asioti, 2015: 291) explained the difference in the above methods using the cost of goods sold instead of sales in the equation mainly because sales are determined by market prices, while inventory is assessed by the purchase cost. Thus, the unit of measurement of numerator and denominator is achieved.

#### **Period of monetary transformation:**

The cash transfer cycle measures how long the company will be deprived of cash if it increases its inventory investment in order to expand customer sales. It is therefore a measure of the liquidity risks involved in growth (Bassel, 2019: 9). The cash shift cycle is also called the "net operating cycle", a measure that determines the time it takes for the

company to convert inventory and other resources into cash flows as a result of the sale. (Ross et al,2008:630) is one of the most common mathematical methods in calculating the cash shift cycle that can be calculated through (subtracting the operating cycle from the payment period of the credit accounts).

(Brigham & Ehrhard, 2005: 744) is that the calculation of this period is the result of (the sum of the inventory transfer period with the collection period of the receivables minus the repayment period of the credits). Loof, 2018:3) believes that this cycle and the changes that are taking place are an early warning bell warning the company of the problems of collecting debt owed as well as problems of inventory conversion that can be avoided by increasing the repayment period of the credit accounts at the very least. The shorter the monetary shift cycle, the greater the value of the business.

#### **Operating cycle:**

It means the period of time that begins from the purchase of goods and production elements to the sale and collection of sales value. The company's operating cycle indicates the length of time between the time the inventory is purchased and the time it is sold. Or the amount of time the company uses from inventory construction (use of production inputs) to the period during which cash generated from the sale of the company's products and services is collected (Rao, 2015: 564). That is, the period or duration between two points, the first point of the company's use of inputs from (workers, materials, machines) to the second point of collecting cash resulting from the sale of the company's final products containing those inputs (Ameri, 2013: 54). The Business Terminology Dictionary refers to: The operating cycle as the time period needed to convert cash into raw materials, raw materials into finished merchandise stocks, and good inventory ended up with accounts and accounts of a receivable city ending in cash (Scott, 2016: 2). The operating cycle is important because it can tell company owners how quickly the company sells inventory in other words, in other words, the operating cycle

determines the company's efficiency. In contrast, if the industrial business has a longer operating cycle, it means that the company requires more liquidity to maintain its sales (Arssece, 2020:2). Financial management literature indicates that a company with a short operating cycle has the ability to convert raw materials into sales and then to cash in a short period of time from other companies, this is something special for them which helps them to operate with the minimum working capital.

#### **Cash turnover:**

The cash turnover rate is used to determine how effective the company is in managing its cash to generate income or sales. It can be defined as the amount of times cash transfer has been used during the year (Ameri, 2013: 57). Kolb, 2014: 321, defined it as the amount of times the company spent cash during the fiscal year. The cash turnover rate is a measure of the company's cash efficiency because the cash turnover rate describes the speed of cash return invested in working capital (Krida et al, 2016:2). On this basis, the efficiency of this can be measured by (dividing the company's annual cash banks by the cash turnover rate) to determine the minimum required cash balances, the more the company has a cash balance at the beginning of the fiscal year of the minimum balance required, the more it can meet its obligations on maturity dates without resorting to borrowings.

The value of the company can be increased as the company can improve its cash use (3Amanda, 2020 :). Alia uses cash turnover to measure the level of cash availability to pay bills (debt) and sales costs (Claudia & Lusmeida, 2020: 2).

#### **Enterprise value: Concept of the value of the facility:**

The value of the establishment is still controversial among intellectuals and researchers, and this dispute has been widely debated among them, as some have rejected the existence of the influence of the composition of the sources of capital in its value and profitability, while others see the furnishing of the capital structure in the value of the company, by affecting the expected cash flows and the rate at

which these flows are deducted, which is the cost of the funds. Since Modigliani and Miller published their famous assumptions of "irrelevance" in 1954, the value of the company was supposed to be the result of asset performance and therefore the result of the company's investments.

.Value is a multi-meaning term in management that covers several dimensions, each covering a set of concepts or a set of tools or techniques to measure a particular concept with the definitions and theories of value for each field (Derrouiche et al, 2012:3). The value of the business is one of the key metrics used in business evaluation, financial and accounting modelling and portfolio analysis. Previous studies have indicated common performance measures of sales level, total market value, enterprise profits and net margin when comparing companies with each other. The potential impact of the operating/non-operating decision is not only on the companies themselves but on the value of the shareholders, i.e. the financial rewards received by the shareholders of these companies (Bradburd et al., 2015:3). Value is one of the principles guiding any enterprise to achieve its objectives and therefore each organization, if it wishes to achieve those goals, must decide and determine the appropriate values for its objectives based on the current competitive environment (Dakaq, 2017:66).

Interest in the concept of value has continued to this day and research has been numerous in this area to define this concept with the emergence of an agreement that the strategic objective of the project is to create the value that investors are able to succeed in investing in wealth-making companies that ensure them accumulating profits and rising value (Asaad, 2012:58). As is well known, the main objective of any company is to maximize its wealth by maximizing its market value, reflecting the value of its shares, and here the company should focus its investment choices on opportunities that will maximize the value of its shares and thereby maximize their market value (Gitman & Zutter, 2009:32). According to Al-Musawi, 2017:88, the concept of value is embodied in the relationship

between materialism and things where the value of material or objects is estimated as much as the price paid, whether cash as money through the process of exchanges between things, since the prices paid, whether material or in kind, are an intermediate tool for obtaining those materials or things, the more the price of something increases its value.

### **Measuring the value of the facility:**

At first I thought that multiple metrics meant giving one result, and later, I saw an article on the xiaowei\_cqu blog and found that my understanding was wrong. The multiplicity of metrics and methods used helps to accurately take the results from those measures. In the capitalization model introduced by the financial management worlds Miller and Modigliani: 1961) to calculate the value of the company in the current period in which the value of the net cash flows obtained by the Company in the future period as well as the value deducted from the value of the remaining company divided by the cost of capital between the current period and the future period (Thavikulwat, 2004:210). (KmV-Merton: 1974), also known as the structural model of credit risk pricing, comes in because it includes the company's asset structure and liabilities, as well as the KMV-Merton model: 1974). Uses market equity, property rights volatility, and nominal value of debt to deduce the true value of p share (default), the model under consideration recognizes that the market value of debt is not monitor able, and uses equity to deduce the value of debt (Asdriargo, 2012: 14).

This model results through the possibility of defaulting on the company's debt during maturity periods or periods, and to calculate this model mathematically the nominal value of the company's debt is subtracted from the estimate of its market value, after which this difference is divided by the volatility of the company, where the result is the standard degree indicated as the default distance, after which it is changed in the so-called function (cumulative density) to calculate the value of the company, which will inevitably be less than the nominal default forecast value of the debt. This model examined two basic assumptions: (Bharath &

Shumway; 2004:4) the first assumption lies in the question of the possibility of default guaranteed by the Merto model).

The second assumption, which is a sufficient statistic, was to predict bankruptcy. Walter has based his model on a number of assumptions: there is no impact on external financing in the company, but this financing depends on the sources of internal ownership of the company, there is no change in the risk of the company's business, and the cost of capital and the rate of return are stable, and the model assumed that profitability and share per share are fixed from the dividend divider (Gup, 1983: 324). (Payne & Finch, 1999:284) asserts that a profit-divided growth model is widely applied in Gordon & Shapiro's common stock valuation, which can be defined as a securities analysis tool for issuing acquisitions and mergers as well as other related valuation problems, which is how it illustrates the non-linear nature of the DDM model variables. Dastgir, et al;2010: 49) is seen as a model developed and updated by Gordon & Shapiro 1956 by suggesting through this model that the company's profit grows and rises in the future through new investments.

Payne & Finch sees it as a powerful tool for estimating the value of a company from being easily calculated and valued, making it a more user-friendly model, and basing the model on two assumptions: G growth rate will be constant in the future, as well as the difference between  $G - K = Z$ . While the second assumption states that  $G > K$  (Payne & Finch, 1999: 284).

The Fama-French 3-F model, which was a relatively controversial financing tool, although it has significantly outperformed the CAPM model in maximizing the value of the R2 selection factor and reducing p probability, the P-French triangular model is not supported by traditional theory. Paeeey, 2019:3) believes that this model was an asset pricing model created by Eugene Fama and Kenneth French in 1992 based on the traditional CAPM capital asset pricing model, which relied solely on one variable: entire market returns to describe portfolio performance. In the words of Wu

et al, 2021:1) that in 2014, the latest model of the Vama-French pentagram defeated the Vama-French triple model, leading to the humiliation of the market and academia. With more factors, it was believed that the accuracy and risks identified would be controlled on an appropriate scale. As a result, academics now tend to find some indicators to bring the real market return closer, although no significant result has yet been reached.

- The CAPM and Gordon capital asset pricing models will come up with some detail as the models used in the study.

### **Capital asset pricing model (CAPM):**

Markowitz, 1952, was the first to discuss the concept of risk and its association with yield fluctuations and, as a result of this relationship, suggested a means of measuring risk, which was the standard deviation, after which he called in 1959 for the need to link risk to return so that lower-risk investments would be selected if their returns were equal. Sharp developed the Marcotis idea in 1964 by taking into account the relationship between risk and return when calculating the cost of ordinary shares because it added many suggestions, the most important of which is the investor's possibility to borrow at a rate of return equivalent to the risk-free rate of government authorizations (Shapiro, 2010: 477).

The idea was later developed by researchers and writers such as Lintner in 1965, Mossin in 1966, and Hamada in 1972, where they developed the basic concepts of the model and eventually came up with the idea that the capital asset pricing model could be used not in a market Securities only, but in the evaluation of all investment assets of all kinds (Brighama&Ehrhard,2000:270-271) (Gtman,2003,235-245), ( Keown,et.al,2003,295-299) (Keown et. al., 2005,205-207) . This model has become a theory of the balance between return and risk, as well as its ability to combine systemic risk with the required rate of return simultaneously, thus considering the evaluation of investments more objective by relying on the quantitative basis of



risks rather than personal investor estimates (Hindi, 2003:243-245).

This model is based on the premise that there is a relationship between both the return on the investment asset and the market return, while the concept of this model is based on the assumption that (the required return on any investment asset equals the risk-free return plus the risk premium) i.e. the amount of risk present in any investment must be reflected in the desired return, if those risks increase, the rate of return must be high and vice versa, and capm is used on a large scale. As a way to price risky securities and generate estimates of the expected returns of assets, taking into account the risks of those assets and the cost of capital. It can therefore be concluded that the capital asset pricing model is based on three results: (the expected return on the investment asset is a linear function of the general risk index of this asset, beta factor is the appropriate and only measure of asset risk within the market, the higher the overall risk of the asset the higher the expected return on that asset, which means and indicates that the relationship between beta coefficient and expected return (ER<sub>i</sub>) is positive. 2005: 237) to estimate the rate of return required equivalent:

$$R(RR) = RF + (RM - RF) \cdot i$$

As:

**: R (RR) required rate of return**

**RF: Risk-free rate of return**

**RM: Market Risk Premium**

**i: Beta Coefficient**

**Gorden model:**

This model is based on the relationship between the value of the shares and the share divided by the following assumptions: (Gup, 1983: 323) (The company is not taxed, the rate of return on investment is constant, the company's growth rate is constant, the rate of return required on investment is higher than the growth rate, the percentage of profits distributed to shareholders is fixed) (Brigham & Gapenski; 1996:109). This model is based on a way to assess the divided annual profits

(cash flows) generated by the stock, which grow at constant rates over the future period, affecting the value of the required real ordinary stock (Abdul Hakim, Mustafa, 2010: 59-60) and according to this model if the value of a fixed share price represents its real value or in other words represents its fair price in the financial markets, if the price traded per share in question in the market from the investor's point of view is greater than its fair price (real) This indicates that it is valued above its real value, making it vulnerable to sale at an attractive price and vice versa, which makes the stock vulnerable to purchase at a low and attractive price (Bramante et al, 2017: 382).

## **Results and Discussion**

### **Link Analysis:**

In this chapter, the link between all the research variables is studied and trying to find out the relationship between the variables and the knowledge of which variables are stronger and which are less related and whether the relationship is moral or not, and this is done by calculating the simple linear correlation coefficient between variables, as the value of the correlation factor ranges from the positive value to the correlation between the two variables "i.e. one variable increases by increasing the other variable and vice versa" and negative value to the reverse relationship "i.e. decreases the positive value between the two variables" i.e. one variable increases by increasing the other variable and vice versa" and negative value to the reverse relationship "i.e. decreases One of the variables increases the other variable and vice versa" and the closer the linear factor to the one indicated the strength of the relationship and the mark (\*) or (\*\*) indicates a statistical confidence and morale of 95% and 99% in the indicator respectively, and from the analysis of the relationship between the variables of the study using pearson link coefficient and according to the established hypotheses.

### **Regression Analysis Regression Analysis:**

This analysis aims to determine the effect and morale of the explanatory variable on the approved

or dependent variable, and includes the following indicators:

1. Explanation or interpretation factor: The ratio of interpretation of the explanatory variable represents changes in the approved variable and the remaining ratio is due to other factors that the researcher did not take into account.
2. The associated probability of the calculated F value (p-value of F): The test uses the morality of the variables that are generally independent on the approved variable, if they are worth less than 0.05 we reject the hypothesis of nothingness (no moral effect) and accept the alternative hypothesis (the moral effect of the explanatory variable on the adopted variable) and vice versa.

3. Regression Coefficient regression parameter: The amount of change in the variable adopted if the explanatory variable changes by one unit, if the signal is positive, the increase in the explanatory variable causes an increase in the approved variable and if the signal is negative, the increase in the explanatory variable leads to a decrease in the variable adopted and vice versa.
4. The associated probability of the calculated t value (p-value of t): The test uses the morality of the explanatory variables individually on the approved variable, if it is worth less than 0.05 we reject the hypothesis of nothingness (no moral effect) and accept the alternative hypothesis (the moral effect of the explanatory variable on the adopted variable) and vice versa.

First: The explanatory variable is the cycle of monetary shift on the dependent variable market value, and through link analysis shows the following:

Link coefficient	
Illustrative variables	Dependent variable
CCC	-0.383**
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- A weakly strong and statistically moral inverse relationship with a confidence of 99% between the monetary transformation cycle and market value, i.e. we reject the premise of nothingness, which states "there is no moral relationship between the monetary transformation cycle and market value" and accept the alternative hypothesis that "there is a moral relationship between the monetary transformation cycle and market value", where the simple linear correlation coefficient  $**0.383-$

By applying the regression analysis of the illustration variable to the variable adopted according to the following model:

$$(1)..... M = \alpha + \beta_1 CCC + E$$

So:

$M$  : Represents the approved variable (market value)

$\alpha$  : Fixed limit

$\beta_1$ : The marginal tendency of the variable is the monetary shift cycle.

$CCC$  : The explanatory variable is the monetary transformation cycle.

E: Represents random error (including all variables that have not been taken into account). It turns out:

- The illustration variable contributes 15% of the changes in the child variable, while other variables contribute 85%.
- The calculated F value (22.39) was greater than the scheduling F value of (3.91), thus rejecting the premise of nothingness, which states that there is no moral effect of the

illustrative variable on the dependent variable and accept the alternative hypothesis that there is a moral effect.

- The marginal tilt of the illustration variable (-0.152) is estimated to indicate that the more attention is paid to the illustration variable by one unit, the lower the dependent variable at the same value.

The t value calculated for the illustration variable was greater than the table t value of "1.66", i.e. the moral effect of that variable, i.e. we reject the hypothesis of nothingness, which states that there is no moral effect of that variable and accept the alternative hypothesis that there is a moral effect. The results are shown in Table 3.

Table (3)

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduling test value	Result	Fixed limit	Marginal slope b	Calculated t test value	T-tabular test value	Result
M	CCC	15%	22.39	3.91	Moral	28.26	-0.152	-4.73	1.66	Moral

Second: The operating cycle illustration variable on the child variable market value, and through link analysis shows the following:

Link coefficient	
Illustrative variables	Dependent variable
OC	-0.227**
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- A weakly strong and statistically moral inverse relationship with 99% confidence between the operating cycle and market value, i.e. we reject the premise of nothingness, which states "there is no moral relationship between the operating cycle and market value" and accept the alternative hypothesis that "there is a moral relationship between the operating cycle and market value", where the simple linear correlation coefficient  $**0.227$ - By applying the regression analysis of the illustration variable to the variable adopted according to the following model:

$$(2)..... M = \alpha + \beta_1 OC + E$$

So:

$M$  : Represents the approved variable (market value)

$\alpha$  : Fixed limit

$\beta_1$ : The marginal inclination of the operating cycle variable.

$OC$  : The illustration variable is the operating cycle.

$E$ : Represents random error (including all variables that have not been taken into account). It turns out:

- The illustration variable contributes 5% of the changes in the child variable, while other variables contribute 95%.
- The calculated F value (7.09) was greater than the scheduling F value of (3.91), thus rejecting the premise of nothingness, which states that there is no moral effect of the illustrative variable on the dependent variable and accept the alternative hypothesis that there is a moral effect.
- The marginal tilt of the illustration variable (-0.038) indicates that the more attention the

illustration variable increases by one unit, the lower the dependent variable at the same value.

moral effect of that variable, i.e. we reject the hypothesis of nothingness, which states that there is no moral effect of that variable and accept the alternative hypothesis that there is a moral effect. The results are shown in Table 4.

The t value calculated for the illustration variable was greater than the t-table value of "1.66", i.e. the Table 4

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduling test value	result	Fixed limit	Marginal slope b	Calculated t test value	T-tabular test value	result
M	OC	5%	7.09	3.91	moral	29.72	-0.038	-2.6	1.66	moral

Third: The explanatory variable is the cash turnover rate on the subordinated variable market value, and through link analysis it shows:

Link coefficient	
Illustrative variables	Dependent variable
CTR	-0.171
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- The existence of a weak-strength reverse relationship that is not statistically moral between the cash turnover rate and market value, i.e. we accept the premise of nothingness, which states that "there is no moral relationship between the cash turnover rate and market value", where the simple linear correlation factor was 0.171. By applying the regression analysis of the illustration variable to the variable adopted according to the following model:

$$(3)..... M = \alpha + \beta_1 CTR + E$$

So:

$M$  : Represents the approved variable (market value)

$\alpha$  : Fixed limit

$\beta_1$  : The marginal inclination of the cash turnover variable.

$CTR$  : The explanatory variable is the cash turnover rate.

E: Represents random error (including all variables that have not been taken into account). It turns out:

- The illustration variable contributes 3% of the changes in the child variable, while other variables contribute 97%.
- The calculated F value (3.9) was lower than the scheduling F value of (3.91), thus accepting the premise of nothingness, which states that there is no moral effect of the explanatory variable on the dependent variable.
- The marginal tilt of the illustration variable (0.117-) indicates that the more attention the illustration variable increases by one unit, the lower the dependent variable at the same value.

The t value calculated for the illustration variable was less than the table t value of "1.66", i.e. the effect is not moral to that variable, i.e. we accept the hypothesis of nothingness, which states that there is no moral effect of that variable. The results are shown in Table 5.

Table (5)

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduling test value	Result	Fixed limit	Marginal slope	Calculated t test value	T-tabular test value	Result
M	CTR	3%	3.9	3.91	Uneconscd	21.44	-0.117	-1.65	1.66	Uneconscd

First: The explanatory variable is the cycle of monetary shift on the real value dependent variable, and through link analysis it shows the following:

Link coefficient	
Illustrative variables	Dependent variable
CCC	0.017
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- There is a weakly strong and not statistically moral expulsion relationship between the monetary transformation cycle and real value, i.e. we accept the premise of nothingness, which states that "there is no moral relationship between the monetary transformation cycle and real value" with a simple linear correlation factor of 0.017. By applying the regression analysis of the explanatory variable to the variable adopted according to the following model:

$$() \dots V = \alpha + \beta_1 CCC + E$$

So:

$V$  : ► represents the approved variable (real value)

$\alpha$  : Fixed limit

$\beta_1$ : The marginal tendency of the variable is the monetary shift cycle.

$CCC$  : The explanatory variable is the monetary transformation cycle.

E: Represents random error (including all variables that have not been taken into account). It turns out:

- The illustration variable contributes 1% of the changes in the child variable, while other variables contribute 99%.
- The calculated F value (3.91) was lower than the scheduling F value of (3.91) and thus we accept the hypothesis of nothingness that there is no moral effect of the explanatory variable on the child variable.
- The marginal tilt of the illustration variable (0.0001) indicates that the more attention is paid to the illustration variable by one unit, the greater the dependent variable with the same value.

The t value calculated for the illustration variable was less than the table t value of "1.66", i.e. the effect is not moral to that variable, i.e. we accept the hypothesis of nothingness, which states that there is no moral effect of that variable. The results are shown in Table 6.

Table 6

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduling test value	Result	Fixed limit	Marginal slope	Calculated test value	T-table test value	Result
V	CCC	1%	0.036	3.91	غير معنوي	0.218	0.0001	0.189	1.66	Uneconced

Secondly: The dependent variable is the true value, and through correlation analysis it is found that

Link coefficient	
Illustrative variables	Dependent variable
OC	0.21
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- The existence of a weak-strength ejection relationship that is not statistically moral between the operational cycle and the real value, i.e. we accept the hypothesis of nothingness, which states that "there is no moral relationship between the operational cycle and the real value" where the simple linear link coefficient was 0.21. By applying the regression analysis of the illustration variable to the variable adopted according to the following model:

$$V = \alpha + \beta_1 OC + E$$

So:

$V$  Represents the approved variable (real value)

$\alpha$  Fixed limit

$\beta_1$ : The marginal inclination of the variable operating cycle.

$OC$ : the illustration variable is the operating cycle.

E Random error (including all variables not taken into account). It turns out:

- The illustration variable contributes 1% of the changes in the child variable, while other variables contribute 99%.
- The calculated F value (0.056) was lower than the scheduling F value of 3.91, thus accepting the premise of nothingness, which states that there is no moral effect of the explanatory variable on the child variable.
- The marginal tilt of the illustration variable (0.0001) indicates that the more attention is paid to the illustration variable by one unit, the greater the dependent variable with the same value.

The t value calculated for the illustration variable was less than the t-table value of "1.66", i.e. the effect is not moral to that variable, i.e. we accept the hypothesis of nothingness, which states that there is no moral effect of that variable. The results are shown in table 7.

Table 7

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduled test value	Result	Fixed limit a	Marginal slope b	Calculated t test value	T-tabular test value	Result
V	OC	1%	0.056	3.91	Uneconscd	0.176	0.0001	0.236	1.66	Uneconscd

Third: The explanatory variable is the rate of cash turnover on the real value dependent variable, and through link analysis it shows:

Link coefficient	
Illustrative variables	Dependent variable
CTR	-0.086
**. 0.01 Moral attachment at a moral level	
*. 0.05 Moral attachment at a moral level	

- There is a weak-strength inverse relationship that is not statistically moral between the cash turnover rate and the real value, i.e. we accept the hypothesis of nothingness, which states that "there is no moral relationship between the cash turnover rate and the real value", where the simple linear correlation factor was 0.086. By applying the regression analysis of the illustration variable to the variable adopted according to the following model:

$$() \dots V = \alpha + \beta_1 CTR + E$$

So:

$V$  : Represents the approved variable (real value)

$\alpha$  : Fixed limit

$\beta_1$ : Marginal tilt of the cash turnover variable.

$CTR$  : Marginal tilt of the cash turnover variable.

E: Represents random error (includes all variables that have not been taken into account). It turns out:

- The illustration variable contributes 1% of the changes in the child variable, while other variables contribute 99%.
- The calculated F value (0.961) was lower than the scheduled F value of (3.91), thus accepting the premise of nothingness, which states that there is no moral effect of the explanatory variable on the child variable.
- The marginal tilt of the illustration variable (0.004-) indicates that the more attention the illustration variable increases by one unit, the lower the dependent variable at the same value.

The t value calculated for the illustration variable was less than the table t value of "1.66", i.e. the effect is not moral to that variable, i.e. we accept the hypothesis of nothingness, which states that there is no moral effect of that variable. The results are shown in Table 8.

Table 8

Dependent variable	Independent variables	R2 Illustration Coefficient	Calculated F test value	F scheduling test value	Result	Fixed limit a	Marginal slope b	Calculated test value	T-tabular test value	Result
V	CTR	1%	0.961	3.91	Uneconscd	0.329	-0.004	-0.98	1.66	Uneconscd

**Conclusion**

The results show that there is a low-strength morally strong inverse relationship between the dimensions of cash management (cash shift cycle, operating cycle, cash turnover rate) and the book value of the research sample companies, while there was a correlation between those dimensions and the real value of the companies in question. The results also indicate that maximizing the value of industrial companies our research sample depends effectively on the effective management of working capital in general and on cash management in particular, so this study indicates that the managers of industrial companies in Iraq can improve the profitability of their companies, which will have a positive impact on maximizing their value by reducing their cash transfer cycle. Despite limited research, this research has focused mainly on Iraqi industrial companies listed on the Iraqi Stock Exchange, which means that the results of this research cannot be extended to SMEs in other sectors. In the future, comparative research can be conducted between Iraq and other neighboring countries in order to identify the specific factors of each country on the impact of monetary management on maximizing the value of industrial companies operating there.

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