Analyze the influence of liquidity on profitability and Stock Returns (using a group of Jordanian companies working in the Food& Beverage sector ("F&B") listed in Amman Stock Exchange)

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Abstract - The primary objective of this research is to verify the tradeoff between liquidity & profitability over the short run, in order to determine how the change in liquidity strategies can either positively or negatively affect the company's profitability. This study has been processed to analyze the influence of liquidity on profitability using a group of Jordanian companies working in the Food& Beverage sector ("F&B") during the period from 2013 to 2016. The companies are listed and traded on the Amman Stock Exchange ("ASE"). Based on the companies' published financial data, the relationship was observed & determined with the help of statistical procedures. The observations are presented as follows: It was observed a significant positive correlation between liquidity (assessing by the Current Ratio) & profitability (assessing by Return on Assets) on the short period of time, contrasting the most literature. It was observed a correlation between liquidity (measured by Cash Conversion Cycle) & profitability (measured by Return on Assets) a significant negative correlation on the short run, supporting the main literature.

Index Terms - Profitability, liquidity, Stock Returns, Jordanian companies.

INTRODUCTION

Management of current assets (working capital) is a significant and critical structure of corporate finance because of its clear and direct impact on both liquidity and profitability objectives. Management of current assets (working capital)relates to current liabilities and current assets and is of major importance in financial research and studies for the acquisition of current assets on more than half of the total assets of industrial companies and distribution companies (Nasr&. Raheman, 2007).

Holding excess levels of current assets undoubtedly leads to unprofitable financial returns on the sum of its short-term investments. On the other hand, it is noted that the Company's holding of relatively few current assets makes it susceptible to difficulties and problems and perhaps to failures in managing its operations more smooth and smooth, and then reduce their ability to face their short-term current financial liabilities and increase their exposure to liquidity risk. (Wachowicz, 2000) Based on the above, efficient management of working capital mitigates the risk of being unable to meet current financial liabilities and credit risk and avoids excess investment in current assets (Eljelly, 200),.

Related Articles and Main Questions

This paper is focusing on the effect of liquidity on profitability over the short run. Selected articles that are directly/indirectly related to the subject of this study are presented below:

The working capital management is a very influential part management of Balance Sheet. working capital is the cash and cash equivalent available for operation s of companies accountable for managing cash and other current assets, such as the company's cash, account receivables, and inventories, (Beranek, 1966).

The Cash Conversion Cycle is an overall assessing of the company's current assets (working capital) management, it is the time period between the payment of commodity inventory and the collection of debt sales is minus Including the average repayment period of accounts payable Gitman, 2009)

Justification

From our point of view, the mechanism of this paper different from other previous papers in the aspects of using/utilizing more recent data, a different group of companies, different business segment/sector. The main purpose of this study is to determine how the change in liquidity strategies can either positively or negatively affect the company's profitability over the short term. To do that, the relationship between these two indicators over the short term will be empirically tested by calculating the correlation between these two independent variables using two different measuring tools *(in terms of liquidity)* as presented below:

Tool 1: Calculating the correlation between liquidity *(measured by Current Ratio)* & profitability *(measured by Return on Assets).*
Tool 2: Calculating the correlation between liquidity *(measured by Cash Conversion Cycle)* & profitability *(measured by Return on Assets).*

Research consideration:

Scientific Method

That is used to investigated and answer inquiries, (www.wikipedia.org).

Steps for the execution of this include:

Step 1: Providing and preparing the Data. Making observations.

Step 2: Developing and drafting the hypothesis. Formulating a hypothesis. Step 3: Testing the hypothesis through the experiment.

Step 4: Accepting or modifying the hypothesis. Step 5: Development in law and/or theory. (www.teacher.pas.rochester.edu).

How the Scientific Method would be reflected in this Study?
The answer to this question can be presented through the following steps:
The observed fact of this study will be the financial ratios of a set of firms that are working in the F&B sector,
Then supported by the financial literature; a hypothesis will be formulated to interpret these ratios and the relationship among them, and
Lastly, the hypothesis will be tested by the execution of statistical procedures.

LITERATURE REVIEW

Main variables used in this study can be defined as follows:

A. The Profitability
Profitability is a key objective for all companies and is essential for their survival and sustainability. This is an important goal for investors and an important indicator for customers. It is also an important tool for measuring the efficiency of management. This is the relationship between the profits achieved by the company and the investments that contributed to it (Al- Shanti,& Others, 2010).
Profitability: Measurement of the firm's ability to earn an adequate return (Pimentel et al, 2005 p.86). Based on the finance concept "the primary goal for a company is to maximize the shareholder's wealth", earning is the main objective of firms operating is computed through the Net Income on Total Assets, Net Income on Invested capital (Equity) & Net Income on Total Sales. Taking into consideration, profitability can be also assessed by other measures, (i.e. P/E & EPS).
(Yahya & Husni, 2009). This study aimed at identifying the methods used by Islamic banks to provide short term financing for the business sector (working capital financing methods), in addition to identifying the factors influencing the ability of Islamic finance institutions to finance operations in business institutions and the nature of their obstacles in the field of finance Short term, where the study was applied to a sample of Islamic banks in the world for the fiscal years 2006 and 2007, The most important findings of this study are that Islamic banks use very heavily the forms of commodity finance, "sale of Murabaha and sale of installment", while the forms of cash financing "Mudaraba& Musharaka" are of little importance in practical application. However, there is no relationship with relative weight of the Murabaha contract for purchase orders and the working capital financing granted by Islamic banks and the range of variables considered, the type of contract used in financing, the nature of the activity of the institution financed, the profitability of the bank and the volume of its deposits. The second proposal was to meet the legal requirements first and the second funding requirement. The study proposed activating the use of Al Salam or Istisna'a contracts in conjunction with the supply contract as well as funding through variable capital and Mudaraba Sukuk to provide the required financing in its monetary form.

B. The Liquidity
The importance of liquidity for a company is very important as important of blood for the human to survive. If companies do not have cash flows that will not survive, as they invest most of their money in fixed assets such as buildings, cars, machinery, etc. However, if there is not enough liquidity which the company can provide its operating requirements. And If the companies do does not have sufficient liquidity to meet their due dates on time, they will face a financial difficulty soon, and if they continue, they will eventually lead to bankruptcy ، (Ebenzer & Asiedu, 2013).
For this, the current ratio & the quick ratio are measures the Liquidity & the firm's ability to meet current obligations using its highest liquidity assets. It can be also measured by the Cash Conversion Cycle in days. (Financial-dictionary.thefreedictionary.com).
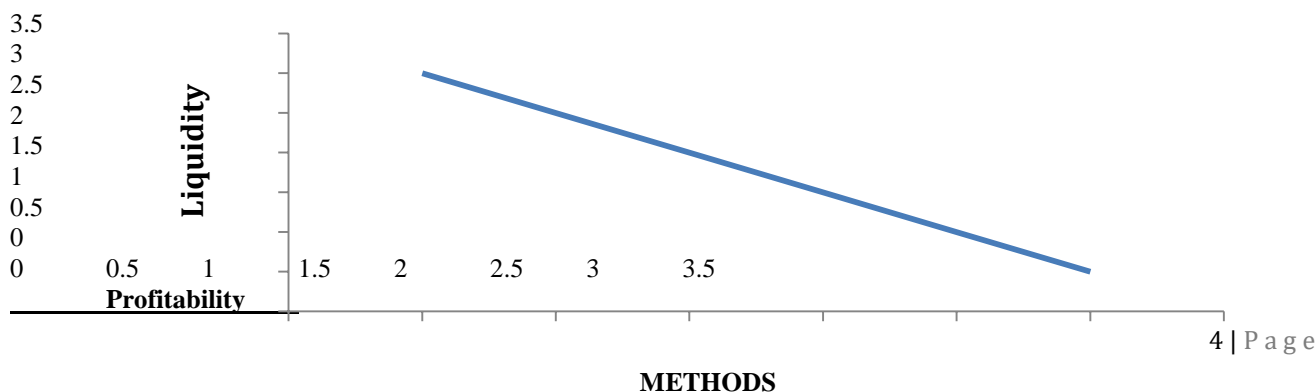
C. The tradeoff liquidity-profitability
The relationship between liquidity and profit: Profit is the primary objective of the establishment, and in order to achieve that all decisions are taken; cash is the means to achieve this goal, as liquidity cannot be an end in itself, because the investor seeks to profit rather than achieve
Liquidity. Liquidity is profit-making, In other words, it is profit-making that provides liquidity while liquidity can contribute to profit growth and may not contribute at times, such as cash being held in the fund. The balance between liquidity and profitability: it is the goal of achieving adequate liquidity and achieving adequate profit are two conflicting objectives. Profit from the recruitment of funds and investing, should not draw attention to the liquidity target. It is known that the liquidity of the asset is inversely proportional to its profitability. But it is futile in the sense that it does not achieve any profit, and the liquidity of the asset falls in a step away from cash ready in cash. Hence, the problem of balancing the factors of profit and liquidity factors. There is no equation to achieve this balance. Therefore, the equilibrium between profitability & liquidity depends on the skill of the financial manager in directing investments and exploiting surplus funds and employing them without prejudice to the reputation of the credit institution and without an unnecessary freeze on these funds. Current assets(working capital) management is a crucial

part of financial management, it is the capital of a business which is used in its day-to-day trading operations, Net Working Capital calculated as (current assets - current liabilities), (Pass & Pike, 1984).

(Saleem, & Rehamn, 2011), This study found that the percentage of cash has a Statistical significance impact on the Return On Assets(ROA) but not relatively Statistical significance impact on the Return on Equity(ROE) and the rate of return is not affected by the return on investment. The study also showed that the Return on Equity does not impact of the Current Ratio and Quick Current Rati while having a Statistical significance impact on the Return on Investment. The study also revealed that there are many interested in liquidity ratios, such as shareholders, suppliers, and employees, and stressed that liquidity and profitability are closely intertwined.

The Inverse Relationship Between Liquidity & Profitability

METHODS

D.   Construction of Hypothesis

As previously indicated, the main question at hand is as follow:

On the short-term, is there a negative/inverse relation exists between liquidity & profitability?

In order to answer this question and on a count on the previous studies, we will formulate the hypothesis that will be tested in this study:

The proposed hypothesis is:

"over the short run, there is a negative/inverse relationship between liquidity and profitability".

E.   Overview of Variables

In this paper the indicator variables: The profitability & the liquidity of the firms.

The profitability

To measure return on assets, we will use the ROA. On this study, because of the firms of the sample in the same industry. ROA can be computed by dividing the earnings(net income) after tax over the total assets.

> **ROA=Net Income/Total Assets**

"you get the financial data easily from the financial statements"

F.   The Liquidity

We will use the Current Ratio to measure the liquidity on the firms them. as the first measuring tool and the Cash Conversion Cycle ("CCC") was chosen as the second measuring tool.

The Current Ratio, which is a liquidity ratio that expresses the company's power to pay the current debt, the math formula to compute this ratio as follows:

Total Current Assets/Total Current Liabilities

> **CR=Current Assets/Current Liabilities**

Cash Conversion Cycle is an overall assessment of the Current Assets management (working capital management) of the firm, which represents the time period between the payment of commodity inventory and the collection of the value of futures sales, less the average repayment period of accounts payable: (Gitman, 2009).

The math formula to compute it as shown below:

$$CCC = DIO + DSO - DPO$$

Where:

DIO: the day's inventory outstanding. (The day's Inventory turnover).

DSO: day's receivable outstanding. (Average collection period).

DPO: day's payable outstanding. (Average repayment period).

Sample Selection

We use the Food & Beverage sector for this study because this sector is considered to be a very dynamic and active sector in the whole Jordanian economy and easy to find the data. In addition to that, the rate calculated a current ratio for the selected firms are more than 1.5, which supposed to provide us with more accurate results regarding the relationship between liquidity and profitability.

The selected sample consists of **(7) seven** firms that are working in the F&B sector as presented in the table below:

Company Name	Ticker
UNIVERSAL MODERN INDUSTRIES	UMIC
JORDAN VEGETABLE OIL INDUSTRIES	JOVI
SINIORA FOOD INDUSTRIES	SNRA
JORDAN DAIRY	JODA
JORDAN POULTRY PROCESSING & MARKETING	JPPC
NATIONAL POULTRY	NATP
NUTRI DAR	NDAR

The company's historical financial statements have been downloaded from the Amman Stock Exchange site
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RESULTS AND DISCUSSIONS

A.   Data Analyses

The following two tables summarize the observed statistical data obtained from the selected sample:

"Table (1): The Observed Statistical Data Using the CR as a measuring tool for Liquidity"

Ta	Liquidity CR (X)				Profitability ROA (%)			
	2013	2014	2015	2016	2013	2014	2015	2016
Mean	3.1	1.7	2.3	3.2	0.9	-4.9	-3.7	2.6
Median	1.6	1.5	1.7	2.0	2.3	0.2	1.7	5.2
Maximum Value	11.9	3.2	8.0	11.1	4.6	3.1	7.9	8.6
Minimum Value	0.8	1.0	0.6	1.1	-9.8	-30.1	-46.3	-14.9
Standard Deviation	4.0	0.8	2.6	3.5	4.9	11.6	19.0	8.2
Variance	15.6	0.6	6.5	12.6	0.2	1.3	3.6	0.7

"Table (2): The Observed Statistical Data Using the CCC as a measuring tool for Liquidity"

Liquidity CCC (Days)					Profitability ROA (%)			
	2013	2014	2015	2016	2013	2014	2015	2016
Mean	163	168	143	167	0.9	-4.9	-3.7	2.6
Median	118	136	108	115	2.3	0.2	1.7	5.2
Maximum Value	389	371	397	445	4.6	3.1	7.9	8.6
Minimum Value	59	52	52	54	-9.8	-30.1	-46.3	-14.9
Standard Deviation	119	108	118	131	4.9	11.6	19.0	8.2
Variance	14,136	11,651	13,854	17,108	0.2	1.3	3.6	0.7

B.   Liquidity

Liquidity Measured by CR

During the last four years, the average current ratios for the selected companies were higher than 2x. Concurrently, the median current ratios were also higher than 1.5x. This indicates that the selected companies had a high & solid level of liquidity, during this period and they were able to pay current obligations and payables in a very safety and healthy way.

The average liquidity measured by CR recorded a noticeable decrease in 2011 reaching 1.7x compared to 3.1x in 2010 *(also considered a high ratio)*. Meanwhile, during the latest two years, the average liquidity returned back to its recorded level in 2010 reaching 2.3x &3.2x in 2012 & 2013 respectively.

C. Liquidity Measured by CCC

During the last (4) four years the average& median CCC periods for the selected companies were recorded positive values. This implies that the selected companies have been paying their payables faster than they are collecting their receivables.

It is worth noting that the average contribution of the accounts payable to the total current liabilities for the selected companies during the last (4) four years is around 29.8%. Meanwhile, the average contribution of the sum of the gross accounts receivables & gross inventory to the total current assets for the selected companies during the same period is around 84.1%. This explains the reasons for the positive cash conversion cycle. The average liquidity measured by CCC recorded a decrease in 2012 reaching 142 Days compared to 168 Days in 2011 and 163 in 2013. However, it was increased to 167 in 2013 returning back to its recorded levels in 2013.

D. Profitability

The average ROA recorded a sharp decrease in 2014 reaching -4.9% compared to 0.9% in 2013. This decrease was mainly attributed to the recorded net losses for (3) three companies- *two of which, the increase in total assets were outweighed by the recorded net losses.* The average ROA recorded a minimal increase in 2015 reaching -3.9% compared to -4.9% in 2016. This minimal increase was mainly due to the large net loss incurred by one of the selected companies which outweighed the recorded improvement in the performance of the remaining companies. The average ROA recorded a noticeable increase in 2013 reaching 2.6% which was mainly due to the improvement in the companies' performance during that year.

E. Testing the Proposed Hypothesis

As previously indicated the proposed hypothesis is:
"Over the short period of time, there is a negative/inverse relationship between liquidity and profitability".
First test: To examine the hypothesis we will investigate the current ratio & return on assets ratio correlation coefficients between them for the years of 2013, 2014, 2015 and 2016.
Second test: To examine the hypothesis we will investigate Cash Conversion Cycle & Return on Assets
Ratio correlation coefficients between them for the years of 2013, 2014, 2015 and 2016.
The correlation coefficient is a value between +1.0 and −1.0 inclusive.

F. The First Test Result

As we can notice, the correlation coefficients for the first test of the proposed hypothesis are all recorded positive values. This indicates that there is a significant positive correlation between liquidity and profitability in the short run, but this relationship is opposed to the proposed hypothesis statement and contradicts most of the studied literature. Accordingly, we can clearly reject the proposed hypothesis, to be as follows:
"The relationship between liquidity and profitability in the short term is not negative/inverse"

G. The Second Test Result

As we can notice, the correlation coefficients for the second test of the proposed hypothesis are all recorded negative values -with the exception of the correlation coefficient for FY 2015 which recorded a positive correlation.
With the exception of FY 2015, this indicates that there is a significant negative correlation between liquidity and profitability in the short run, which asserts the proposed hypothesis statement and supports most of the studied literature.
Accordingly, we can clearly accept the proposed hypothesis, to be as follows:
"On the short-term, there is a negative/inverse relation existing between liquidity & profitability"

CONCLUSION

According to the first test, the proposed hypothesis was completely rejected for the entire studied sample. For all years the correlation between the two variables-liquidity *(is calculated by current assists divided by current liabilities)* and profitability *(it is calculated by return divided by assets)* -was significantly positive. This result contradicts the main literature.

According to the second test, the proposed hypothesis was accepted by the majority of the entire studied sample- with the exception of the correlation coefficient for FY 2015 which recorded a positive correlation. For the FY 2013, FY 2014, & FY 2016 the correlation between the two variables-liquidity *(is calculated by Cash Conversion Cycle)* and profitability *(it is calculated by return divided by assets)* -was significantly negative. This result supports the main literature.

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