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The Impact of Liquidity, Solvency on Profitability: An Analysis of Jordanian Pharmaceutical Industries Sector

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ABSTRACT

This study is attempted to explore the effect on profitability of liquidity and solvency in the pharmaceutical sector of Jordan. Profitability is considered to be one of the key metrics representing the performance of the management of its properties in profit generation, so as to maintain the company's business continuity and its market share since an increase in profits can raise the company's market share, thus leading to capital profits. The impact of management decisions regarding liquidity and solvency and their impact on operational processes and asset management. The Profitability ratios reflect the impact of liquidity and debt on operational results and assets management. The significance of this study stems from analyzing the country`s economic conditions, liquidity problems, and solvency risk and the impact of firms` profitability. For the period between 2005-2018, the data were collected from Amman Stock Exchange financial reports for the pharmaceutical sector. SPSS software has been used for data descriptive analysis procedures and hypotheses testing using simple linear regression test. The study concluded that profitability calculated by ROA (Return on Assets), as the dependent variable, has a negative relationship with liquidity calculated by CR (Current Ratio) and a positive relationship with solvency calculated by (DE) Debt/ Equity ratio. Both are the independent variables of this study. The researcher recommends the companies in the pharmaceutical Industries Sector to follow policies of liquidity to achieve balance between the performance indicators.

Keywords: Debt to Equity Ratio (DE), Solvency, Liquidity, Current Ratio (CR), Profitability, Return on Equity (ROE), Amman Stock Exchange

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INTRODUCTION

The pharmaceutical industry is one of the most important Jordanian industrial sectors, which is known as the capital of Arab medicine. Because it employs thousands of Jordanians and many sectors benefit indirectly from this sector. Jordanian pharmaceutical companies export medicine to many countries. Profitability is a product of a number of management practices and decisions that are considered the consequence of a number of policy actions taken by the management of the company. The impact of management decisions regarding liquidity and solvency and their impact on operational processes and asset management. The Profitability ratios reflect the impact of liquidity and debt on operational results and assets management. The significance of this study stems from analyzing the country`s economic conditions, liquidity problems, and solvency risk and the impact of firms` profitability For the period between 2005-2018, the data were collected from Amman Stock Exchange financial reports for the pharmaceutical sector. SPSS software has been used for descriptive procedures and hypotheses testing using a simple linear regression test. The study concluded that the profitability calculated by ROA (Return on Assets), as the dependent variable, has a negative relationship with liquidity calculated by CR (Current Ratio) and a positive relationship with solvency calculated by (DE) Debt/ Equity ratio. Both are the independent variables of this study. The researcher recommends the companies in the pharmaceutical Industries Sector to follow policies of liquidity to achieve balance between the performance indicators.

Profitability is measured by financial ratios that provide useful evidence of the effectiveness of the company's operations, policies and decisions. Profitability ratios illustrate the impact of asset and liability management on the results of an operating activity, which in turn generates profits that generate liquidity that increases the company's ability to meet its financing and investment activities. Subsequently, a company that has an appropriate extent of liquidity will share the profit with the shareholders in cash (Rizka, 2018).

Furthermore, if the company encounters liquidity problems, it can raise funds in several ways such as more long-term or short-term liabilities. Companies always seek to meet their obligations during the specified period because it affects their reputation, and in turn affects their value and market share, which is a controversial matter. The debt-to - equity ratio is an important risk ratio and an important measure of the weighted average capital cost of the company, which is an important determinant of the company's ability to pay or debt to the company. This study therefore has an influence on profitability of companies in the Jordanian pharmaceutical industry by examining the effect of liquidity and solvency on their important role in supporting the local economy.

LITERATURE REVIEW

(Iftikhar, 2017) Analysis of Influencing factors of the companies` cash holdings in Kuwait. The study showed that companies increase their cash holdings due to uncertainty in cash flow. Between cash and profitability is a good correlation. The study found that a strict liquidity strategy decreases profitability (ROA).

In Indonesia, (Hutabarat, 2017) conducted a study on cosmetic products. The study presented a significant correlation between its variables, non-debt taxes, the growth opportunities, profitability of tangible, the firm size and the financial leverage model.

The study concluded in Jordan by (Al Nimer, et al, 2015) indicated that the rapid ratio as an independent asset factor (ROA) variable has a substantial impact on returns on assets (ROA). This indicates that the profitability of the Jordanian banks through return on assets is affected substantially by liquidity by quick ratio.

The effect of liquidity management on the non-financial performance of the company at the Karachi Boursen was investigated in Pakistan by (Khidmat 2014). The study showed that the impact of liquidity represented by the current ratio (CR) on profitability (ROA) was noticeable positive, and that increased current ratio and longest cash conversion cycle lead to better companies' performance.

In Ghana Lartey V., et al. (2013) study. banks were studied. Related liquidity and profitability relationships have been measured and the bank's financial results are analyzed. The liquidity and profitability pattern have been calculated. Time series analysis used for the research. It was also found that liquidity and income had a poor positive relationship. The study by (Hassan et al, 2014) in Bangladesh has concluded that there is no significant correlation between ROE and Tobin Q of the corporate capital structure and its results. In Kenya, the study of (Nyabwanga et al, 2013) demonstrated a major effect on income calculated by Return on Accounts (ROA) of liquidity by the current ratio, fast ratio and solvency as measured by debt to total assets ratio. In the study of (Abu Mouamer, 2011) in Palestine, it was found that the use of long-term liability, or short-term responsibility of the four sectors of his study does not vary statistically significant. This analysis study found that the corporations in the sectors under the study have a noteworthy positive relationship between assets and debt ratios. The key findings of Adebayo O. et al. (2011) in his study were that the liquidity and profitability are significantly related, which suggests that liquidity significantly affects profitability in commercial banks and vice versa? The study also found that commercial banks should not de-mask efficient and successful liquidity management for the purpose of improving their operations and maintaining high productive management.

In U.S. and Canadian

The study on the impact of liquid assets on U.S. and Canadian banks by Bordeleau E., et al. (2010) shows that profitability has improved in U.S. and Canadian banks keeping some liquid actives, but other liquid assets have minimised the profitability of U.S. and Canadian banks, all the same. And it depends on the economic model of a bank and the state economy. These findings help to create a suitable new liquidity level for banks.

METHODOLOGY

This section explains the followed methods. It shows sample selection criteria, study variables, and hypotheses.

Research Sample

The researcher obtained primary data from the financial reports of Jordanian pharmaceutical industry sector companies recorded in the Amman Stock Exchange in 2005-2018.

Variables of the Study

Dependent Variable

Return on Equity (ROE) is calculated by dividing income by shareholder equity.

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholders equity}}$$

. (Brigham & Ehrhardt, 2005).

Independent Variable

Current Ratio

Current Ratio (CR): is calculated by dividing current assets (CA) by current liabilities (CL):

$$\text{Current ratio (CR)} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The current ratio is an important indicator of the company`s capacity to meet its current obligations (short-term liabilities) from the existing assets. This ratio is most used in measuring current liability (short-term) solvency (Brigham & Ehrhardt, 2005).

$$\text{Debt to Equity Ratio (DE)} = \frac{\text{Total liabilities}}{\text{(Total assets − Total liabilities)}}$$

Debt to Equity Ratio (DE): is calculated by dividing total liabilities by owner equity, note the owner equity equal total assets minus total liabilities in financial position statement. (Brigham & Ehrhardt, 2005).

Statistical Analysis

Model Summary b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	a 713.	.508	.409	4.70934

a. Predictors: (Constant), DE, CR

b. Dependent Variable: ROE

Correlation coefficient was(R)equal (0.713) and (R^2) of the dependent variable variance profitability which is measured by the return on equity. The ratio of this interpretation reached (50.8%) which is considered relatively high. This demonstrates a high proportion of the effect on the independent v by the dependent variable.

Hypothesis

H01: There is no significant impact of independent variable current ratio (CR), Debit to equity ratio (DE) on dependent variable return on asset (ROE).

ANOVA a

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	228.715.	2	114.357	5.156	b 029.
1	Residual	221.778	10	22.178		
	Total	450.493	12			

a. Dependent V: ROE
b. Predictor: (Constant), DE, CR

The findings of the regression analysis show that liquidity and solvency are statistically significant in terms of profitability, as the value of (F) was (5.156), in statistical significance less than (5%), and this was confirmed by the (T) test. The correlation coefficient was R (0.713) and (R2) of the dependent variable variance profitability which is measured by the return on equity with independent variables, the liquidity and solvency. This ratio of this interpretation reached (50.8%) which is considered relatively high. This revealed that the model describes a high percentage of the effect on the dependent variable of the independent variable (liquidity and solvency).That is, the percentage of the effect of comparative advantage reached (40.9%), and the beta value of the independent variable, the liquidity measured in the current ratio, reached (-2,188). The beta of the independent variable is equal to the solvency measured by debt to equity (477. +). In the above table, the P-value (0.029) is less than 5 percent, which rejects this null hypothesis. 'No major effects on dependent variable return on asset (ROE) are achieved by an independent variable current ratio (CR) and by an alternative hypothesis which states that: There is significant impact on the dependent variable return on asset (ROE) by an independent variable current ratio (CR) and a debt-to - equity ratio (DE).

The study model resulting from the hypotheses testing was as follows:

Return on Equity (ROE) = -22.482-2.188 CR +.477DE +e

RESULTS AND RECOMMENDATIONS

liquidity, profitability are important indicators of the financial performance of corporate companiesIn order to assess the capacity of companies to meet their existing bonds, the current ratio as one of the cash ratios is used. When the current ratio is high, the safety margin increases. The profitability ratio indicates the business resource usage efficiency. This study aims at examining the impact of independent variables (the liquidity presented by the current ratio and the solvency presented by debit to equity ratio) on the dependent variable, profitability, in the Jordanian pharmaceutical sector. The study has concluded that return on equity, which is considered as a dependent variable measured the profitability, Return on equity is deliberated a quota of the management`s ability to generate profits from the resolutions taken related to operational processes. Return on equity is considered one of the stock valuation factors related to the increase in shares price. Indeed, the prediction of a company's share value depends on equity returns (ROE), while the positive relationship between equity returns is a positive thing (ROE)., which measures profitability, and debt to equity ratio (DE), which measures solvency, reflecting the capacity of shareholders` equity to meet all liabilities.

The study also concluded a negative correlation between liquidity and profitability. This result is inconsistent with Khidmat, Iftekar, Hutabarat, Chukwunweike,alNimer, Lartey V and Nyabwanga, that measured profitability by return on assets. On the contrary, the results of this study are consistent with Abu Muammar, which concluded that the relationship between profitability and solvency is a positive relationship. Profitability is the management decisions, the solvency financial source for the implementation of these decisions, and liquidity is the means of implementing decisions.

Based on the results of the report, the researchers recommend companies in pharmaceutical companies to maintain an appropriately balanced degree of liquidity that does not intimidate their concerns.

The researcher also suggests that additional researchers carry out further studies on the liquidity and profitability relationship, determine the cause and see if a causal relationship occurs between them or whether there is another causing factor. They may also perform comparative studies on the subject. The researcher also recommends conducting more studies on relations between the three important subjects liquidity, solvency, and profitability in other economic sectors due to the great importance of this issue at the present time of the severe losses of worldwide economic pertinent to Covid-19 pandemic.

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RECOMMENDATION FOR FURTHER STUDY

Based on this study, results, and recommendations, other researchers have to execute further studies on the solvency ratio which shows the degree of financial risk the companies might expose to. In order to be aware of the company's ability to fulfill long-term obligations, more research should be carried out in other economic sector and on the long-term solvency and stability ratio.

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