The study of the effect of liquidity management on return on assets and return on rights of the share holders of the firms listed on Tehran stock exchange.

Alireza Zamanpour[1], Shahroch Bozorgmehrian[2]

[1.] Department of Accounting, Masjed Soleyman Branch, Islamic Azad University, Masjed Soleyman, Iran
[2.] Department of Accounting, Masjed Soleyman Branch, Islamic Azad University, Masjed Soleyman, Iran
Shahrokhbazorgmehryan@yahoo.com

Abstract: the purpose of this research is to study the effect of liquidity management on return on assets and return on rights of the share holders of the companies listed on Tehran stock exchange. In order to test the hypothesizes of study and investigation of the relation ship between liquidity management and return on assets, data related to 92 companies listed on Tehran stock exchange, as statistical samples, have been analyzed in tow methods including the analysis of the annual data and combined data for a period of time between the years 1382 to 1388. Also in studying experimental models of research, least-squares regression test was used. Results of the study have indicated that there is a positive meaningful relation ship between liquidity management and return on rights share holders of the sample companies.

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1- Introduction

When the liquidity analysis is discussed, information on cash flows statement is for more reliable than information on the balance sheet. The balance sheet data is static and measures the condition of the firm in a section of time, while the cash flows statement reports changes in other financial statements, and removes optional appropriations focusing on what share holders really care about.

Nowadays, industrial and service compqnies perform their production and business activities under the conditions that changes in business communities are fast and the level of competition is very high. Financial manager's ability in understanding and responding properly and quickly to the market condition and it's changes is considered as an advantage of a firm.

In order for the managers to Make decisions and conduct a business unit, they should be fully aware of different aspects and dimensions of the company's activity including liquidity management and assessment of the company's performance. Furthermore, common role of the financial reports based on information recorded in the accounts, the company's activity, efficiency as wall as liquidity management. Shortage of liquidity means that the company (business) is unable to pay its debts and other commitments, which in turn can lead to forced sale and buy of the company's capital and asset. And even in more severe cases can lead to bankruptcy. Financial managers have realized that it will lead to the liquidity ratios of the company (such as current ratio, quick ratio and net working capital)- in terms of how much capital cash in needed to be used in a certain time so as to meet the existing commitments (jangwang,2002).

Liquidity management is an aspect of financial management which has attracted most of the time and attention of financial managers. Shortage of liquidity managers. Shortage of liquidity makes the company (business) unable to use the advantages of discounts or profitable factors. Liquidity management may seem very simple and elementary. But in fact credibility, esteem and success owe to strong liquidity management.

In fact if a company has a lot of cash but dose not use it for investment, actually it won't have any efficiency. In other words, no more than the amount of cash and assets initially acquired by the company will be added. And may be faced with failure. In fact. Liquidity by itself is not much important, rather as the oil makes the wheels of a car smoother, liquidity as well flow and accelerates the company's business activities.

Liquidity management, in fact is like a process based on which in emergent situations- the awount of grease needed for the company is prepared and controlled (Einabadi,1381).

Financial managers interfere directly in implementation of development plans which somehow affect the company's liquidity. This research significantly stresses the role played by liquidity management on performance results and returns in the stock, and by using the information of the listed companies in Tehran stock exchange, relatedness of operating cash flow, net profit accrual items. Historic current and instant ration, and their anticipation power have been studied. General purpose of this research is to liquidity management on return on assets and return on rights of the share holders of the listed companies in Tehran stock exchange. This study seeks for an answer to the following question : whether liquidity management can affect return on assets and return on rights of the share holders?

2- background of the research :

Various investigations have been done on this subject of interest at home and abroad. We mention some of them here.

(Jangwang2002) in his research studied the relation ship between liquidity management and performance results and value of the company in companies in Taiwan and Japan in a period of 11 years. Liquidity management of the companies implemented in there two countries has been different.

The results of his study indicated that there was a significant meaningful relationship between liquidity management and return on assets and return on rights of the share holds generally, severe liquidity management increases the performance results and value of the companies in both countries. In addition statistical results showed that liquidity management for overall Japanese and Taiwanese companies, which are divided based on type of industry, has been the minimum amount of liquidity in food industry and the maximum amount of liquidity in service industry.

The results of the study by wer them and (Rovinson1993) titled as "profit Vs cash flow" indicates that profit before extraordinary items and working capital due to operation, each one alone, are significant in describing changes in current ratio.

Also, measuring the additional information load of the accounting variables show that profit before extraordinary items describes the working capital due to the operation of the current ratio changes well. However, it does not offer cash flow form the operation of the additional information load related to the current ratio.

Hager (1986) indicates that companies a low liquidity cycle often have better performance results. He says that low liquidity cycle allows managers to minimize keeping non-profitable assets, and maintain the company's debt capacity. Also, low liquidity leads to the net value of the future cash flow of the company's assets.

Bowen et all(2001) studied the role of cash flow and accrual flows in decision making of the users of financial statements from two points of view. The results of their study showed that profits present a more powerful description than variable of cash flow, and also accrual accounting data have a more powerful description ability than cash flow.

Dechow (2002) studied the relatedness of accounting variable and the amount of the cash flow's power of anticipation. He concluded that operating cash flow is a more appropriate standard for anticipating profits and inflows to a firm.

Gitman(2003) points out that there are limitations in the shares ratio, and recommends using the executive operation of cash conversion cycle (ccc) in analyzing liquidity. Since the concept of liquidity is re presented by the development, and harmony, and analysis of balance sheet on liquidity value, including measurement of the amount of income for the company's operating activities. Be rear et all (2002) studied the relatedness of cash component of earnings (profit) to the company's value.

Fran sice and chen(2005) cite in their research that the quality of the accrual items is the criteria on which the ambiguity about the company's future cash flow is distinguished. Kerr, sad ka , and sad ka(2011) in their study concluded that non-liquidity in the studied companies, have a meaningful relation ship with anticipation capability of future propits. In other words, problems of liquidity management in companies decrease the capability of anticipation.

Loffi sarikhani(1379) in his study, investigated the problem of liquidity and financial in companies in Mashhad stock exchange region and concluded that in the years1372.

1374 and 1376 measures taken to eliminate liquidity shortages did not have an effect on the total return of the companies.

But in 1373 , 1375 , financing the companies listed on Tehran stoke exchange has been effective in their total return.

3- variables of the study [re search]

Variables studied in this research include, liquidity management as an independent variable, and return on assets and return on rights of the share holders as independent variables. In addition, variable of debt ratio, company's size, and operating cash flow as control variables have been considered in this study.

A- Dependant variable :

1- return on assets :

As we mentioned above, in this study, return on assets is used as dependent variables. Return on assets is one the measurement criteria of the company's financial performance, and show how much output has been produced by the firm from it's total assets. This variable is obtained by dividing the net profit on total assets (Shaba hang, 1383. Tom et all, 2008).

*Equation(1)→ROA= $\frac{NI}{TA}$

Here, Ni is net profit and TA represents total assets. Return on assets is one of the mast important ratios which is obtained from the analysis of financial statements. Many financial analysts consider this ratio an important index to distinguish adequacy and efficiency of the management in administering a business unit [firm].

2- Return on equities :

Another criterion for measuring performance in firms is return of equities, this variable is obtained by dividing net profit by total equities.

*Equation(2)→ROA= $\frac{\mathrm{NI}}{\mathrm{TA}}$

Here in Eq(2), NI is not profit and e represents equity or total rights of the share holders, know as "equity" measures the profitability of each vial capital provided by share holders (Dastgir,1384)

B- In de pendent variable : Liquidity management : In this study, the independent variable is "liquidity management". Liquidity management is one of the aspects of financial management, which attracts most time and attention of financial managers. Shortage of liquidity makes the company unable to use discount advantages or profitable factors. Liquidity management may seem very simple and elementary. But in fact the company owes its credibility, esteem, and success to store liquidity management.

In fact if a company has a lot of cash, but it does not use it for investment actually it won't have any efficiency (Ein Abadi, 1381).

*Equation(4)→CCC=Inventory conversion period + Receivable conversion period- payable Deffered period.

Here in Eq(4), inventory conversion period is added to receivable conversion period, and payable deffered period is deducted form it.

This calculated variable indicates the liquidity management. the less this value is, mens that liquidity has been managed more properly (jangwang,2002).

Inventory conversion period (ICP), Receivable conversion period(RCP) , and payable deffered period(PDP)- respectively- are calculated as follow:

$$\mathrm{ICP} = \frac{\frac{\text{Inventory at the beginning of the period+ inventory at the end of the period}}{2}}{\frac{\text{cost of Goods sold}}{365}}$$

$$\mathrm{RCP} = \frac{\frac{\text{Account receivable at the beginning of the period+account receivable at the end of the period}}{2}}{\frac{\text{sales}}{365}}$$

$$\mathrm{PDP} = \frac{\frac{\text{Account receivable at the beginning of the period+account receivable at the end of the period}}{2}}{\frac{\text{cost of Goods sold}}{365}}$$

C- Control variable :

Control variables are variable that may have an effect on dependent variable, however their study is not urgently needed. In this study, there variables have been used as control variables in regression model.

1- Debt ratio :

The first variable is debt, which is obtained from total debts de vided by total assets $\left[\frac{\text{total debts}}{\text{total assets}}\right]$ at the beginning of the current period (Fransice and chan,2005).

*Equation(5)→DE_{it}= $DEBT_{it}/A_{it}$

2- company's size :

Company's size is calculated in the form of natural logarithm of total assets at the end of the period (jangwang,2003).

*Equation(6)→$SIZE_{it}$= $\log(A_{it})$

3- Cash flow of operation [operating cash flow] :

Cash flow of operation that can be extracted from cash flow statement, is considered as the third control variable in this study.

4- Research hypo these :

Current research hypotheses- according to theoretical basics and background of the subject- include two hypotheses that have been developed as follow : first hypotheses : there is a meaningful relationship between liquidity management and return on assets.

Second hypotheses : there is a meaningful relationship between liquidity management and return on equities.

5- Statistical L community and sample :

Statistical community in this study includes all companies that have been listed on Tehran stoke exchange between the years 1382-1389 and maintained their membership during this period. The reason for easier and studying stoke firms is the possibility of easier access to financial reports of these firms and having more homogenous data due to the regulations of Tehran stoke exchange organization.

Total number of firms listed on Tehran stoke exchange amounts to 440 firms. The sampling method in this study is systematic elimination method. Based on this method, among all listed firms, the ones that are not eligible for any of the following conditions have been eliminated, and finally all remaining firms[companies] were selected for testing.

- Firms should have full information for all financial statements such as balance sheet, profit and loss statement, and cash flow statement.
- Their fiscal [financial] year should be ended in Esfand.
- Companies [firms] should be working on the stoke exchange during the time period of the research.
- Firms should not cange fiscal year during the period.
- Firms should not be the type of investment or brokerage.
- In this study, give to the mentioned limitations, 92 Firms have been selected and studied as samples.

6- Estimating model and testing of hypotheses :

In this study, according to the type of data and existing models of statistical analysis, econometric method of combined data (in the entire study period) has been used to estimate models of studying and investing hypotheses testing. In this study, quantitative value of independent and dependent variables - on one side- is related to 92 different firms, and on the other side, Involves a period between the years 1382 to 1388.

Empirical model based on the research (jandwang,2002) has been used to test research hypotheses, there for the first research hypothesis model has been formulated in the form of model(7) in order to study the relationship between liquidity management and return on assets :

* Equation(7) → $ROA_{it} = a_0 + a_1CCC + a_2DE_{it} + a_3Fsize_{it} + a_4CFO_{it} + e_{it}$

There in this model, CCC represents cash conversion cycle or period (independent variable) and ROA indicates return on assets (First dependent variable). DE, F size, and CFO represent debt ratio, company's size and cash flow of operation (control variable) respectively.

The second research hypothesis model is formulated in the form of model(8), so as to study the relation ship between liquidity management and return on equities :

* Equation(8) → $ROE_{it} = a_0 + a_1CCC + a_2DE_{it} + a_3Fsize_{it} + a_4CFO_{it} + e_{it}$

In this model, CCC represents cash conversion cycle or period (independent variable) and ROE indicates return on equities (second dependent variable). DE, F size, and CFO are debt ratio, firm size and cash flow of operation (control variable) respectively.

7- the analysis of data and the results of hypotheses testing :

In order to better understand the subject of study and learn more about the variables of the study, it's necessary to describe statistical data before analyzing them. Statistical description of data is step to identify the pattern dominating them and a base for explaining the relationship between the variables which are used in the study (Hafez nia,1389).

Therefore, before testing research hypotheses, we investigate descriptive statistics of variable used in the study. They are presented in table(1) :

* Table (1) : Results of descriptive statistics of research variable :

CFO	SIZE	DE	CCC	RE	ROE	ROA	description
0/8191	5/5386	0/7450	4/3329	1/1158	1/1478	-14548	Average
0/1780	5/4671	0/7014	4/8201	3/5310	- 0/0146	- 0/0732	Middle
1/0187	0/5685	0/5879	2/8934	1/4695	0/0862	3/2960	Standard eviation
-0/9962	3/9554	0/0596	-1/6290	- 0/3383	- 0/3383	- 4/2059	Minimum
2/7755	7/8657	9/3774	12/3390	5/0953	0/9827	2/3485	Maximum

* source : calculations by the researcher

In this study[research] the number of observations for each section is 92 observations (the number of sample firms), and includes a period of 7 years. In other words, the relationship between independent and dependent variables of the research on the side, among 92 different firms, and on the other side, in a period of time between the years the 1382 to 1388 are tested.

Results of testing the first hypothesis for the years 1382 to 1388 in the form of data combination are described in table (2) :

* table(2) : Results of testing the first hypothesis* in combination level

confirm or veject the hypothesis	prod (F)	F-static	adjusted R-squared	R-squared	-p value	coefficient	description
confirmed	0/000	5/6623	0/5007	0/5252	0/0274	5/9912	CCC
					0/0221	-0/0494	DE
					0/0070	0/0249	F size
					0/1877	0/0185	COF

* source : calculations by the researcher

According to the estimation results in combination form, statistic F become meaning in a confidence level of 99 per cents. in addition, coefficient CCC is positive and meaningful, which denotes direct relationship between liquidity management and return on assets. Thus, first hypothesis of the research is confirmed concerning this hypothesis are consistent with the results of the study by (Jangwang,2002), (Hager1986) and (Gitman2003). In their study they too state that liquidity management has a meaningful relation ship with return on assets. Results of the second hypothesis for the years 1382 to 1388 in the 1388 in the form of data combination are described in table(3) :

* table(3) : Results of testing second hypothesis

confirm or veject the hypothesis	prod (F)	F-static	adjusted R-squared	R-squared	-p value	coefficient	description
confirmed	0/000	23/4083	0/5693	0/5717	0/000	0/0699	CCC
					0/000	298/536	DE
					0/00050	188/360	F size
					0/000	-488/323	COF

* source : calculations by the researcher

According to table (3), which is abut the estimation of model in the form of data combination, coefficient CCC is positive and meaningful. static F as wall is meaningful in a confidence level of 99 percent. There fore, second hypothesis that is a meaningful relationship between liquidity management and return on equities, is confirmed in a confidence level of 99 percent.

The results from testing this hypothesis are consistent with the results of study by (Jangwang,2002) and (Hager,1986).

8- Conclusion and suggestion:

Actual and potential investors need to anticipate future cash flows and return on firm's stoke in order to determine the value of their stoke and investment, and also decide the time to buy or sell them.

According to the results of this study, liquidity management in the firm-which is the responsibility of financial management- can have a big effect on return on stoke an profitability indexes. In this study, the relationship was tested empirically.
The research hypothesis were studied by the method of analyzing combined data using a sample including 92 firms listed on Tehran stoke exchange and results of analyzing combined data of the research have confirmed first and second hypothesis.

In other words, results in an error level of 1 percent indicates that liquidity management in the studied firms had a positive and meaningful relationship whit return on assets and return equities as profitability indexes. performing any study or research opens way to new routes, and further study is needed to continue the way.

So, we suggest doing the following studies :
A- studying the relationship between liquidity management tools (other liquidity management measures) and other variables including the reported current year profit of the firms.
B- studying the effect of liquidity management on Firm's Future operating profits, and investigating the anticipation ability of these profits.
C- studying the effect of liquidity management on "return on assets" and return on equities divided into various industries and combining these industries.
D- Because firms have been required to issue the statement of cash flow since1381, and also we have used data inserted in this financial statements, so time territory of this study includes a short period.
There fore, it is recommended that study be done in future for longer periods period of time.

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